Attachment I

ADDENDUM

ENVIRONMENTAL IMPACT REPORT FOR THE BELMONT POOL REVITALIZATION PROJECT

(SCH NO: 2013041063)

FOR THE

MODIFIED BELMONT POOL REVITALIZATION PROJECT

CITY OF LONG BEACH, CALIFORNIA

December 2019

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(SCH NO: 2013041063)

FOR THE

MODIFIED BELMONT POOL REVITALIZATION PROJECT

CITY OF LONG BEACH, CALIFORNIA

Submitted to:

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Project No. CLB1904.06

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

The City of Long Beach (City) is located in the southern portion of the County of Los Angeles. The Project site is located in the Belmont Shore Beach Park Area in southeast Long Beach. The Project site is bound by Olympic Plaza and Ocean Boulevard to the north; surface parking lot to the east; the Pacific Ocean and beach shoreline areas to the south; and a surface parking lot, Surf Terrance Apartments, and Termino Avenue to the west (refer to Figure 2.1, Project Location, in Chapter 2.0, Project Description).

The Belmont Pool Revitalization Project (Approved Project) proposed the development of an approximately 125,500 square-foot (sf) pool complex that included indoor and outdoor pool components and an approximately 1,500 sf outdoor café. The Approved Project also included permanent indoor seating for approximately 1,250 spectators to view competitive events at the 50-Meter Competition Pool and the Dive Pool. Temporary outdoor seating would be provided for larger events at the Outdoor 50-Meter Competition Pool with a maximum temporary seating capacity of up to 3,000 spectators. The Approved Project did not include any permanent outdoor seating designed for spectator viewing. The City, as Lead Agency, prepared an Environmental Impact Report (EIR) for the Approved Project in 2016. The EIR found that no significant unavoidable impacts would remain after implementation of the specific mitigation measures prescribed in the EIR. The City Council certified the EIR in August 2016, adopted the Mitigation Monitoring and Reporting Program (MMRP), and approved the project. The EIR was challenged in court. The court ruled that the EIR was fully compliant with CEQA.

The currently proposed Modified Project is a less intense pool facility as compared to the previously Approved Project. Specifically, the Modified Project would remove the roof structure (i.e., the bubble structure) over the 50-Meter Competition Pool, eliminate the café, establish the existing temporary pool east of the Project site (the Myrtha Pool) as a permanent pool with the addition of restrooms and a shower facility in this area, relocate the proposed new pool facility further north (away from the shoreline on the site), reduce the size of the support building, increase permanent seating, and reduce temporary seating. Access to the site would continue to be provided by Ocean Boulevard via Termino Avenue and Bennett Avenue. Although the Modified Project is substantially smaller in scale than the Approved Project, due to the project changes, additional environmental analysis and review is required under the California Environmental Quality Act (CEQA).

Pursuant to the provisions of CEQA and the *State CEQA Guidelines*, the City is the Lead Agency charged with the responsibility of deciding whether to approve the Modified Project, in consideration of the potential environmental effects that could result from construction and operation of the Modified Project.

The City's review of the changes made to the Approved Project, which comprise the Modified Project, is limited to examining environmental effects associated with differences between the Modified Project and the Approved Project reviewed in the 2016 Certified EIR. Pursuant to CEQA and the *State CEQA Guidelines*, the City has prepared this Addendum to provide decision-makers with a factual basis for evaluating the specific environmental impacts associated with Modified Project and to determine whether there are changes in circumstances or new information of substantial importance that would require preparation of a subsequent or supplemental EIR.

According to Section 21166 of CEQA and Section 15162 of the *State CEQA Guidelines*, a subsequent EIR is not required for the proposed changes unless the City determines on the basis of substantial evidence that one or more of the following conditions are met:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

   a. The project will have one or more significant effects not discussed in the previous EIR;

   b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

   c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

   d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The Belmont Pool Revitalization Project EIR remains valid and is the certified CEQA document for future development on the site. As such, the certified EIR along with this Addendum, will be used to determine whether future development of the Modified Project falls within the size and type of uses analyzed in the certified EIR.

This Addendum reviews changes to the project and to existing conditions that have occurred since the 2016 EIR was certified and compares environmental effects of the construction and operation of the Modified Project with those of the Approved Project previously disclosed. It also reviews new information of substantial importance that was not known and could not have been known with exercise of reasonable diligence at the time the 2016 EIR was certified and evaluates whether there are new or more severe significant environmental effects associated with changes in circumstances under which project development is being undertaken. It further examines whether, as a result of any changes or any new information, a subsequent or supplemental EIR may be required. This examination includes an analysis of provisions of Section 21166 of CEQA and Section 15162 of the *State CEQA Guidelines* and their applicability to the project.

Section 15164 of the *State CEQA Guidelines* states that an Addendum to an EIR shall be prepared "if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred." Thus, if none of the above conditions are met, the City may not require preparation of a subsequent or supplemental EIR. Rather, the City can decide that no further environmental documentation is necessary or can require that an Addendum be prepared.

Based upon review of the facts as presented in the analysis contained in this document, the City finds that an Addendum to the previous 2016 Certified EIR is the appropriate documentation to comply with CEQA. The rationale and the facts for this finding are provided in the body of this Addendum.

1.2 EVALUATION OF ENVIRONMENTAL IMPACTS

1.2.1 Approved Project and 2016 Certified EIR

Consistent with Section 15063 of the *State CEQA Guidelines*, an Initial Study was prepared for the Approved Project. The analysis contained in the Initial Study found that the Approved Project may have a significant effect on the environment unless mitigation is included to lessen or avoid the environmental effects of the project. The City staff determined that an EIR was the appropriate environmental document to be prepared for the Approved Project. The Initial Study was prepared and circulated, along with a Notice to Prepare (NOP) an EIR, for public review from April 18 to May 17, 2013. Subsequent to issuance of the IS/NOP, changes were made to the site design that required the City to revise and reissue the IS. The revised Initial Study was recirculated for public review from April 9 to May 8, 2014.

Following preparation and circulation of the revised IS, the City prepared and circulated the 2016 EIR. The certified EIR found that the Approved Project would not result in any significant unavoidable impacts. The effects of the Approved Project are discussed briefly in Chapter 1.0 in the Impact Summary Table, of the 2016 Certified EIR, which was challenged in Court. The Court found that the EIR complied with CEQA and rejected the challenges.

1.2.2 Modified Project and Addendum

This Addendum compares anticipated environmental effects of the Modified Project, as revised, with those disclosed in the certified 2016 Certified EIR to review whether any conditions set forth in Section 15162 of the *State CEQA Guidelines* requiring preparation of a subsequent or supplemental EIR are met. Potential environmental effects of the Modified Project are addressed for each of the following areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Global Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

The City had determined that the Approved Project required the preparation of an EIR. Following preparation and circulation of the revised IS, the City had determined the following issues would not be addressed: Agricultural Resources, Mineral Resources, Public Services, and Population and Housing. These impacts are discussed briefly in the Initial Study that was prepared for the Approved Project and is included as Appendix A to the certified EIR. The Modified Project does not necessitate a change in these determinations as the existing site conditions and nature of the project have not substantially changed from those identified for the 2016 Certified EIR. Therefore, these effects, which were found to have no impacts, are not addressed further in this Addendum.

1.3 PREVIOUS PROJECT APPROVALS

In May 2016, the City certified the Belmont Pool Revitalization EIR and approved the project, including the following actions:

- Certification of the EIR
- Adoption of an MMRP
- Adoption of Findings of Fact
- Site Plan Review Approval
- Conditional Use Approval (Food and Beverage Concession)
- Standards Variance Approval (Height)

Additionally, the Approved Project required issuance of a Coastal Development Permit (CDP) by the California Coastal Commission and issuance of a Section 401 Permit Water Quality Certification National Pollutant Discharge Elimination System (NPDES) Permit by the Regional Water Quality Control Board.

1.4 FINDINGS OF THIS ADDENDUM

The City is the Lead Agency for the Modified Project. The City has determined that analyses of project environmental effects are best provided through use of an Addendum and that none of the conditions set forth in Public Resources Code Section 21166 or Section 15162 of the *State CEQA Guidelines* requiring preparation of a subsequent or supplemental EIR have been met.

1. There are no substantial changes to the project that would require major revisions of the 2016 EIR due to new significant environmental effects or a substantial increase in severity of impacts identified in the 2016 EIR;
2. Substantial changes have not occurred in the circumstances under which the project is being undertaken that will require major revisions to the 2016 EIR to disclose new significant environmental effects or that would result in a substantial increase in severity of impacts identified in the 2016 EIR; and
3. There is no new information of substantial importance that was not known at the time the 2016 EIR was certified, indicating any of the following:
    - The project will have one or more new significant effects not discussed in the 2016 Certified EIR;
    - There are impacts determined to be significant in the 2016 EIR that would be substantially more severe;
    - There are additional mitigation measures or alternatives to the project that would substantially reduce one or more significant effects identified in the 2016 EIR; and
    - There are additional mitigation measures or alternatives rejected by the project proponent that are considerably different from those analyzed in the 2016 EIR that would substantially reduce a significant impact identified in that EIR.

The complete evaluation of potential environmental effects of the project, including rationale and facts supporting the City's findings, is contained in Chapter 3.0 of this Addendum.

1.5 FORMAT OF ADDENDUM

This Addendum has been organized into three chapters, as described in the sections below.

1.5.1 Chapter 1.0: Introduction

Chapter 1.0 includes a description of the purpose and scope of the Addendum, previous environmental documentation, project approvals, findings of the Addendum, and existing documents to be incorporated by reference.

1.5.2 Chapter 2.0: Project Description

Chapter 2.0 describes the location and setting of the site, the necessary City discretionary actions to implement the Modified Project, and an overview of the Modified Project. Modified Project components that have the potential to have a physical effect on the environment are addressed in Chapter 3.0 of this Addendum.

1.5.3 Chapter 3.0: Comparative Evaluation of Environmental Impacts

Chapter 3.0 contains the environmental analyses of the Modified Project's impacts compared to the impacts of the Approved Project analyzed in the certified 2016 Certified EIR. This comparative analysis has been undertaken pursuant to the provisions of CEQA to provide the City of Long Beach decision-makers with a factual basis for determining whether the Modified Project, changes in circumstances, or new information since the 2016 EIR was certified, require additional environmental review or preparation of a subsequent or supplemental EIR. Chapter 3.0 also contains findings for each environmental topic to determine whether conditions set forth in Public Resources Code Section 21166 or Section 15162 of the *State CEQA Guidelines* requiring preparation of a subsequent or supplemental EIR have been met.

1.6 EXISTING DOCUMENTS TO BE INCORPORATED BY REFERENCE

As permitted in Section 15150 of the *State CEQA Guidelines*, this Addendum has referenced several technical studies, analyses, and reports. Information from the documents that have been incorporated by reference has been briefly summarized in the appropriate section(s) of this Addendum. Documents incorporated by reference are available for review at the City of Long Beach Public Works Department, located at 411 W. Ocean Boulevard, Long Beach, CA 90802. Contact Joshua Hickman, Program Manager, at (562) 570-5714 for additional information.

Documents incorporated by reference include, but are not limited to, the following:

- City of Long Beach; Final Environmental Impact Report, Belmont Pool Revitalization Project, August 2016.
- City of Long Beach; General Plan, as amended.
- The Court's decision of July 2018 upholding the EIR.

1.7 CONTACT PERSONS

The Lead Agency for the Addendum for the Modified Project is the City of Long Beach. Questions regarding preparation of this Addendum, its assumptions, or its conclusions should be referred to the following:

Joshua Hickman, Program Manager
City of Long Beach, Public Works
411 W. Ocean Boulevard
Long Beach, CA 90802
(562) 570-5714

2.0 PROJECT DESCRIPTION

2.1 BACKGROUND

The City of Long Beach is proposing the replacement of the former Belmont Pool facility with a larger and more modern pool complex. The proposed pool facility would provide opportunities for public swimming, as well as a venue for swimming, diving and aquatic sports training, and competitive events. These activities are very similar to the activities that have occurred during the past 45 years at the former pool facility, and meet the spirit and intent of the site's original acquisition and development, which was intended for public use. The former Belmont Pool facility was in operation from 1968 to 2013 and served over 200,000 visitors annually at its peak. In December 2014, the former Belmont Pool facility was demolished due to structural instability.

The Belmont Pool Revitalization Project (Approved Project) proposed the development of a 125,500 sf pool complex that included indoor and outdoor pool components and an approximately 1,500 sf outdoor café. The Approved Project was proposed on parcels of land within the jurisdiction of the City and the California Coastal Commission, and therefore, proposed uses of the Approved Project were required to demonstrate consistency with the California Coastal Act (CCA) and required issuance of a Coastal Development Permit (CDP). An EIR was prepared for the Approved Project and was certified by the City in 2016. The EIR was challenged in Court. The Court found that the EIR was fully compliant with CEQA. A more detailed description of the Approved Project is provided, below.

Following certification of the 2016 EIR, the City initiated changes to the Approved Project design in response to input from stakeholders in the aquatics community, as well as construction cost considerations and comments and direction received from the California Coastal Commission staff. The currently proposed Belmont Pool facility, which includes changes to the Approved Project design, is referred to throughout this Addendum as the Modified Project. Although pool facilities have been reduced and relocated inland further away from the shoreline, all components of the Modified Project are located on the same site as the Approved Project. In addition, the Modified Project would convert the temporary Myrtha Pool to a permanent pool and add a landscaped area. This would add approximately 1.6 acres to the Project site as compared to the Approved Project. It should be noted that this area is already currently in use as a public pool facility. The Modified Project characteristics are described in more detail below in Section 2.3, Modified Project.

2.2 APPROVED PROJECT

2.2.1 Project Site Location and Setting

The City of Long Beach encompasses approximately 52 square miles of land within Los Angeles County. The City is bordered on the west by the Cities of Carson and Los Angeles (including Wilmington and the Port of Los Angeles); on the north by the Cities of Compton, Paramount, and Bellflower, and the unincorporated community of Rancho Dominguez; and on the east by the Cities of Lakewood, Hawaiian Gardens, Cypress, Los Alamitos, and Seal Beach, and the unincorporated community of Rossmoor. The Pacific Ocean borders the southern portion of the City of Long Beach, and as such, portions of the City are located within the California Coastal Zone.

The Project site is an approximate 5.8-acre undeveloped parcel located along the coastline of the City. As illustrated by Figure 2.1, Project Location, the Project site is bound by Olympic Plaza to the north; an existing temporary pool and surface parking lot to the east; the Pacific Ocean and beach shoreline areas to the south; and a surface parking lot, Surf Terrance Apartments, and Termino Avenue to the west.

The temporary outdoor pool located immediately east of the Approved Project site in the western portion of the Beach Parking Lot was constructed in 2013 in order to provide aquatic services during the planning and construction of the permanent facilities. After construction of the Approved Project, the temporary pool was to be removed and the Beach Parking Lot resurfaced and restored as a part of a separate project, pursuant to the conditions set forth in Categorical Exemption CE 10-13 prepared for the temporary pool.

The environmental setting of the Approved Project as described in the 2016 Certified EIR has remained essentially unchanged since that time. Namely, the portion of the Project site that contained the former Belmont Pool facility remains as an undeveloped lot with sand, landscaping, and hardscaping located throughout the site. This backfilled sand area on the site is temporary and is the location where the proposed Belmont Pool facility (both previously proposed as part of the Approved Project and currently proposed as part of the Modified Project) will be constructed.

2.2.2 Approved Project Characteristics

The Approved Project, as analyzed in the 2016 Certified EIR, provided for the replacement of the former Belmont Pool facility with a revitalized and modern pool complex. The Approved Project proposed the construction and operation of an approximately 125,500 sf pool complex that included indoor and outdoor pool components and an approximately 1,500 sf outdoor café. The Approved Project also allowed for permanent indoor seating for approximately 1,250 spectators to view competitive events at the 50-Meter Competition Pool and the Dive Pool. Temporary outdoor seating was proposed for larger events at the Outdoor 50-Meter Competition Pool with a maximum outdoor seating capacity of up to 3,000 spectators. The following discussion provides a more detailed description of each of the project components of the Approved Project.

The Approved Project included clearing and grading of the majority of the site, including the removal of the two existing outdoor pools during the construction phase. The Approved Project consisted of three main areas: the pool facility; the open space/park area; and the outdoor café area, including a public restroom facility. The pool facility consisted of the recreational and competitive aquatic components and was the main component of the Approved Project. The passive park area was situated along the western and northern portions of the Project site, and near the outdoor café on the east side, and was intended for general park uses, similar to the uses at the existing passive park. A pick-up and drop-off area was proposed along the eastern boundary, adjacent to the outdoor restaurant/café and restroom area at the southeastern corner of the Project site. As part of the Approved Project, East Olympic Plaza was proposed to be closed to vehicular traffic.

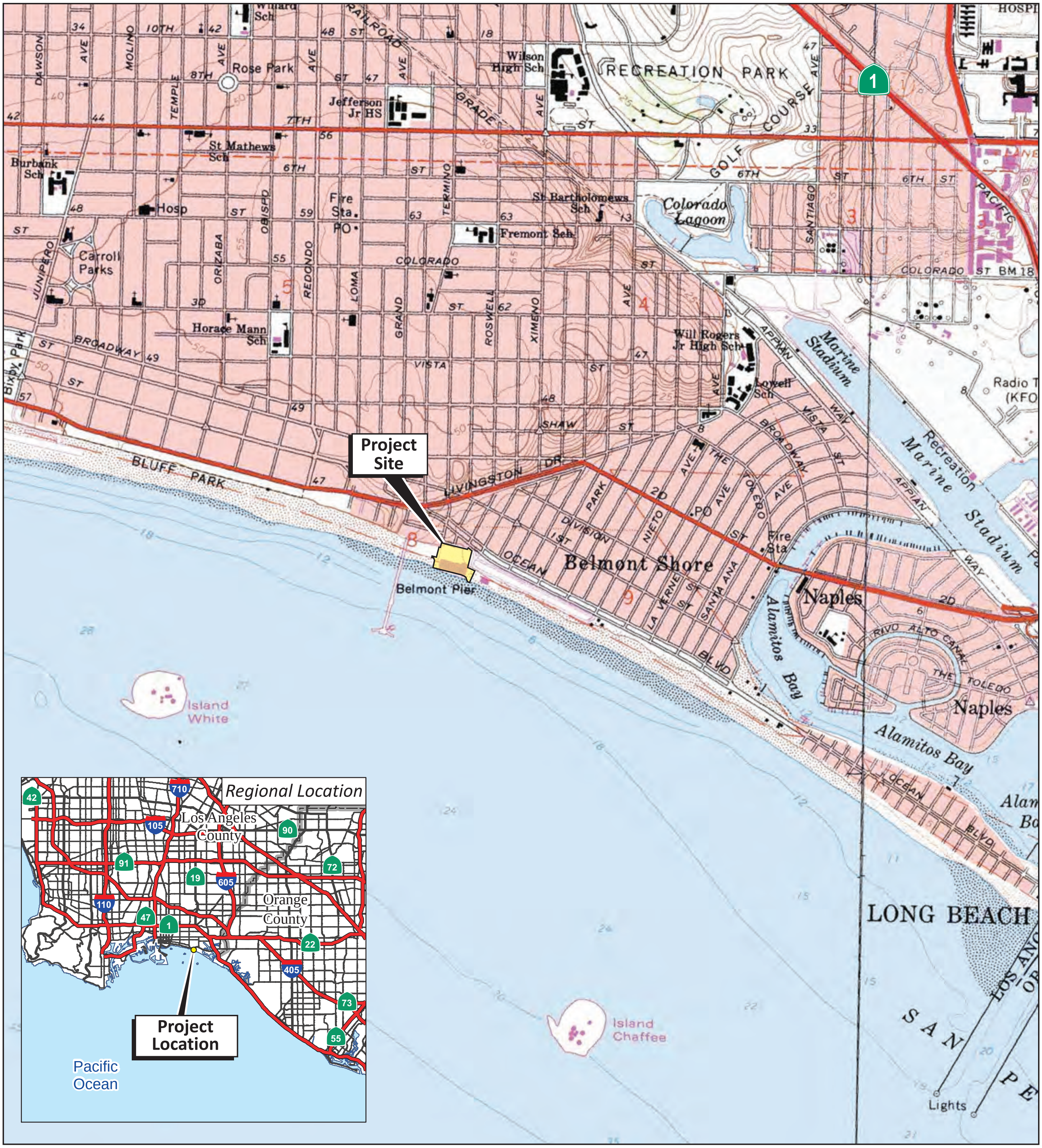

FIGURE 2.1

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SOURCE: USGS 7.5' Quad - Long Beach, California

Modified Belmont Pool Revitalization Project

Project Location

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Under the Approved Project, the proposed Belmont Pool facility was designed to be a landmark structure showcasing a state-of-the-art facility intended to reflect the community's commitment to recreational and competitive aquatics. Structural components of the Approved Project included the following:

1. **The Bubble:** The Bubble was proposed as a translucent cover to serve as the main arena and to house the indoor pools and permanent indoor bleachers. The structure was proposed as an elliptical shaped dome, comprised of a web of structural steel, infilled with ethylene tetrafluoroethylene (ETFE) plastic, creating a continuous shell over the competition pool. The Bubble structure was proposed to have a maximum height of 71 feet (ft) above the adjacent grade. A height variance would have been required because the building was proposed in the portion of the Project site zoned as "Park," which has a height limitation of 30 ft. The former Belmont Pool facility was approximately 60 ft above the adjacent grade on the same location.
2. **Level 1: The Plinth:** The Plinth was proposed as the foundation of the entire structure, consisting of a concrete platform at the pool decks and support functions for the indoor and outdoor pools, including lockers, offices, supply rooms, storage, stairs, and elevators. This level was to be raised approximately 7 ft above the surrounding beach and existing site based on the anticipated maximum ocean high-water mark to protect the pools, buildings, and structures from a high-water event. Below the pool deck level, utility spaces would house the pool equipment, water chambers, chemical storage, and other utilities required to operate the aquatic components.
3. **Level 1 Mezzanine:** The Level 1 Mezzanine was proposed adjacent to the outdoor pool deck and would allow for additional outdoor patio space separate from the Plinth. The Level 1 Mezzanine was proposed to be used by visitors and summer swim programs and was to include public toilet facilities and mechanical rooms. The exterior patio space was proposed to total 6,000 sf.
4. **Level 2:** This level was intended primarily for visitor spectating and would have included access to the indoor bleacher seating, concession area, and toilet facilities. This level was proposed to total 14,300 sf, including the bleacher seating.
5. **Level 2 Mezzanine:** Located at the highest publicly accessible level of the facility, the Level 2 Mezzanine included proposed indoor and outdoor spaces for flexible programming. This level was proposed to total 4,850 sf.
6. **Café:** This element was proposed as a 1,500 sf building located at the southwest corner of the Project site and separate from the other structural components. The outdoor cafe would have been occupied by an independent tenant and would serve cafe food and beverages to the visitors of the pool facility, bicyclists, walkers, and beach-goers. A proposed visitor drop-off location in this area was intended to provide a safe and unobtrusive way for both passenger cars and buses to drop off visitors to the pool complex. A proposed gathering area adjacent to the cafe included bicycle parking and interactive pedestrian features such as sandboxes, outdoor seating, landscaping, and public art opportunities.
7. **Public Restrooms:** A public restroom facility was proposed directly east of the café building totaled approximately 600 sf.

The Approved Project also included two outdoor pools with approximately 17,840 sf of water surface. Specifically, the outdoor pools included a 50-Meter Competition Pool (14,120 sf of surface area) and an Outdoor Recreation Pool (3,270 sf of surface area). These pools were proposed directly adjacent to the indoor pools for utilization of the common support facilities. Viewing of the outdoor competition pool was to take place from Level 1 of the Mezzanine or from the pool deck along the western side of the pool. The outdoor pool area did not include permanent spectator seating, but had the potential to provide a maximum temporary seating capacity for 3,000 spectators in bleachers. A public address system was also proposed during special events.

Landscaping included as part of the Approved Project included a passive park area proposed along the western and northern portions of the Project site and landscaping throughout the site. In total, the Approved Project included approximately 127,085 sf of open space and 55,745 sf of landscaped areas.

Chapter 4.0, Environmental Analysis, of the certified 2016 EIR found all potential impacts associated with the Approved Project to be less than significant with implementation of prescribed mitigation measures. Therefore, the certified 2016 EIR determined that there would be no significant and unavoidable adverse impacts associated with implementation of the Approved Project. Additionally, no significant growth-inducing impacts were identified as a result of implementation of the Approved Project.

The 2016 Certified EIR remains the valid CEQA documentation for future development on the site (or any portion of the site), and is used to determine whether future development falls within the size and type of uses analyzed in the 2016 Certified EIR.

2.3 MODIFIED PROJECT

The City proposes to construct a new, state-of-the-art facility located on the same 5.8-acre Project site as the former Belmont Pool facility. The Project site is an undeveloped parcel, located along the City's shoreline in the Belmont Shores area. The Modified Project would also incorporate the temporary Myrtha Pool, currently located to the east of the former Belmont Pool facility, converting it to a permanent pool. Including additional landscaping located adjacent to the Myrtha Pool, this would add approximately 1.6 acres to the Project site, although this area is currently already in use as a public pool facility. Access would be provided by Ocean Boulevard via Termino Avenue and Bennett Avenue. Figure 2.2, Conceptual Site Plan, depicts the proposed overview of the Project site. Although the Modified Project is substantially smaller in scale than the Approved Project, additional environmental analysis in the form of an Addendum is appropriate pursuant to Section 15164 of the *State CEQA Guidelines*. Therefore, the Modified Project is the subject of the analysis in this Addendum. Refer to Table 2.A, Comparison of Project Components, below, for a brief comparison between the former Belmont Pool Facility, the Approved Project, and the Modified Project.

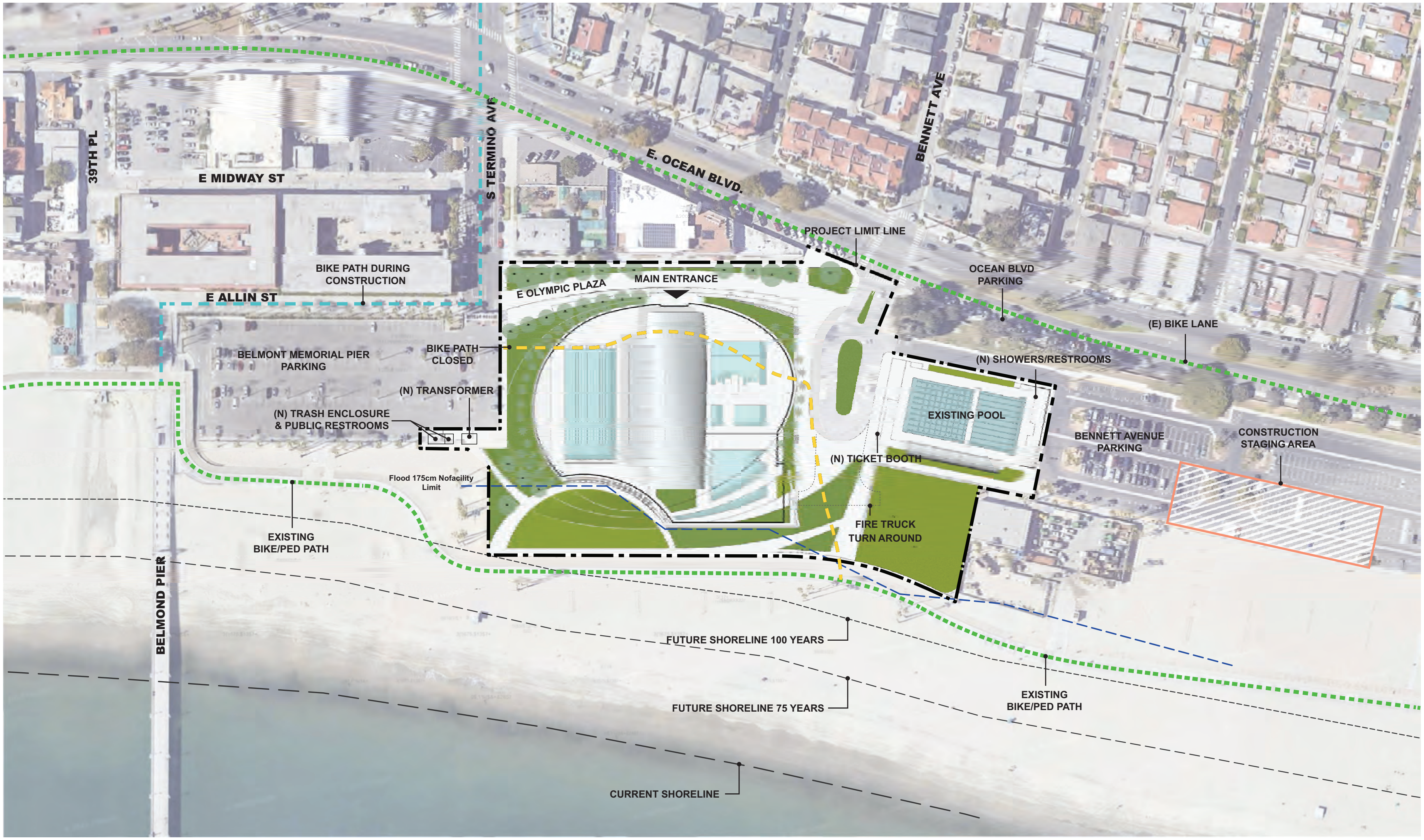
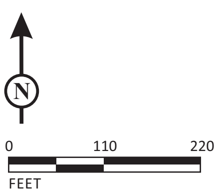


FIGURE 2.2



SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Conceptual Site Plan

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Table 2.A: Comparison of Project Components

Project Component	Former Belmont Pool Facility	Approved Project	Modified Project	Change from Approved Project to Modified Project
Lot Size	5.8 acres	5.8 acres	7.4 acres	+1.6 acres
Building Size	45,595 sf	125,500 sf	18,075 sf	-107,425 sf
Maximum Building Height from Plinth	60 ft	71 ft	Shade Structure: 48 ft, 10 inches Support Columns: 60 ft	-11 ft to -22 ft
Indoor Pool Surface Area	14,010 sf	18,610 sf	None proposed	-18,610 sf
Outdoor Pool Surface Area	4,400 sf	17,840 sf	40,314 sf	+22,474 sf
Open Space Area	118,790 sf	127,085 sf	141,558 sf	+14,473
Passive Park/Landscaped Area	45,160 sf	55,745 sf	88,876 sf	+33,131
Seating	2,500 seats	4,250 seats*	1,865 seats**	-2,385 seats
Outdoor Cafe	5,665 sf	1,500 sf	None proposed	-1,500 sf
Public Restrooms	0 sf	600 sf	108 sf	-492 sf

Source: Belmont Beach Aquatics Center (Hastings and Chivetta, November 2019).
* Permanent indoor seating = 1,250; Temporary outdoor seating = 3,000
**Permanent seating = 1,555; Temporary outdoor seating = 310
ft = foot/feet
sf = square feet

2.3.1 Project Characteristics

Overall, the Modified Project represents a less intense development as compared to the Approved Project. The support building has been significantly reduced to now encompass the minimum area required for administrative, showering, and changing purposes. The height of the building has been reduced significantly by removing the roof structure from over the pools. The shade structure and support columns over the bleachers represent the tallest point of the facilities. The shade structure is 48 ft, 10 inches high, with the support columns being approximately 60 ft high from the Plinth level and 67 ft high above grade. The dive tower is the next tallest component at approximately 40 ft high above Plinth level and 47 ft high above grade, followed by the locker rooms and support areas at just under 30 ft above the Plinth level and just under 37 ft above grade. Unlike the former Belmont Pool facility and the Approved Project, the Modified Project does not include an enclosed pool facility and all pool surfaces are now located outdoors. A shade structure would cover the bleachers adjacent to the main pool complex. While a roof structure would cover the support building, the majority of the facility is not enclosed. The lack of an enclosed facility allows for more expansive views of the coastline from areas adjacent to the Project site.

Open space and park areas have been preserved and increased by locating the facility further inland, away from the shoreline. The redesign allowed for an increase in permanent seating but, at the same time, a large reduction in temporary seating. The outdoor café has been removed from the project and the public restrooms have been relocated to the west side of the project adjacent to the Belmont Memorial Pier parking lot. Bicycle racks are provided at several locations throughout the Project site.

2.3.1.1 Demolition

Implementation of the Modified Project would include demolition of two pools, as well as the removal of showers and bathrooms on the southeasternmost portion of the Project site. Additionally, wood piles remaining from the demolition of the former Belmont Pool facility would be removed. A trash enclosure along the bike path on the westernmost portion of the Project site would be demolished. Refer to Figure 2.3, Demolition Plan, for the proposed demolition plan.

2.3.1.2 The Plinth

The Plinth level is still proposed as the foundation of the main pool complex, consisting of a concrete platform at the pool decks. Below the pool deck level, utility spaces would house the pool equipment, water chambers, chemical storage, and other utilities required to operate the aquatic components. The Plinth would be raised approximately 7 ft above the surrounding ground surface and 10 ft above sea level to protect the pools, buildings, and structures from a high-water event. A 10 ft high glass wall would be located on the Plinth level and extend around the main pool complex, separating the pool area from the landscaping and open space.

2.3.1.3 The Pools and Seating

Development proposed as part of the Modified Project includes approximately 40,314 sf of pool surface area, which would allow for recreational and competitive activities to occur simultaneously, if necessary. Specifically, new pool spaces proposed as part of the Modified Project include: a 50 meter by 25 meter pool (14,459 sf) with a moveable floor; a recreation pool that would include play features and a zero entry design (4,560 sf), a teaching pool (1,500 sf); a spa (600 sf); and a dive well (5,660 sf) with two 1-meter springboards, three 3-meter springboards, and five dive platforms (1, 3, 5, 7.5 and 10-meters). The Modified Project would also incorporate the temporary Myrtha Pool, currently located to the east of the former Belmont Pool facility, as part of the project, converting it to a permanent pool (13,535 sf). Features associated with the permanent Myrtha pool include a new ticket booth, restrooms, and showers. See Table 2.B for a summary of the Modified Pool characteristics.

Table 2.B: Pool Characteristics of the Modified Project

Project Component	Dimensions	Area	Capacity of Pool
Existing to Remain			
Myrtha Pool	82 ft x 170 ft	13,535 sf	592,000 gal
	Total Existing	**13,535 sf**	**592,000 gal**
Proposed			
Main Pool	50 m x 25 m	14,459 sf	756,602 gal
Recreation Pool	varies	4,560 sf	48,000 gal
Teaching Pool plus Spa	varies	2,100 sf (1,500 sf + 600 sf)	43,593 gal
Dive Well	21 m x 25 m	5,660 sf	688,267 gal
	Total Proposed	**26,779 sf**	**1,536,462 gal**

Source: Belmont Beach Aquatics Center (Hastings and Chivetta, November 2019).
ft = foot/feet m = meter(s)
gal = gallons sf = square feet

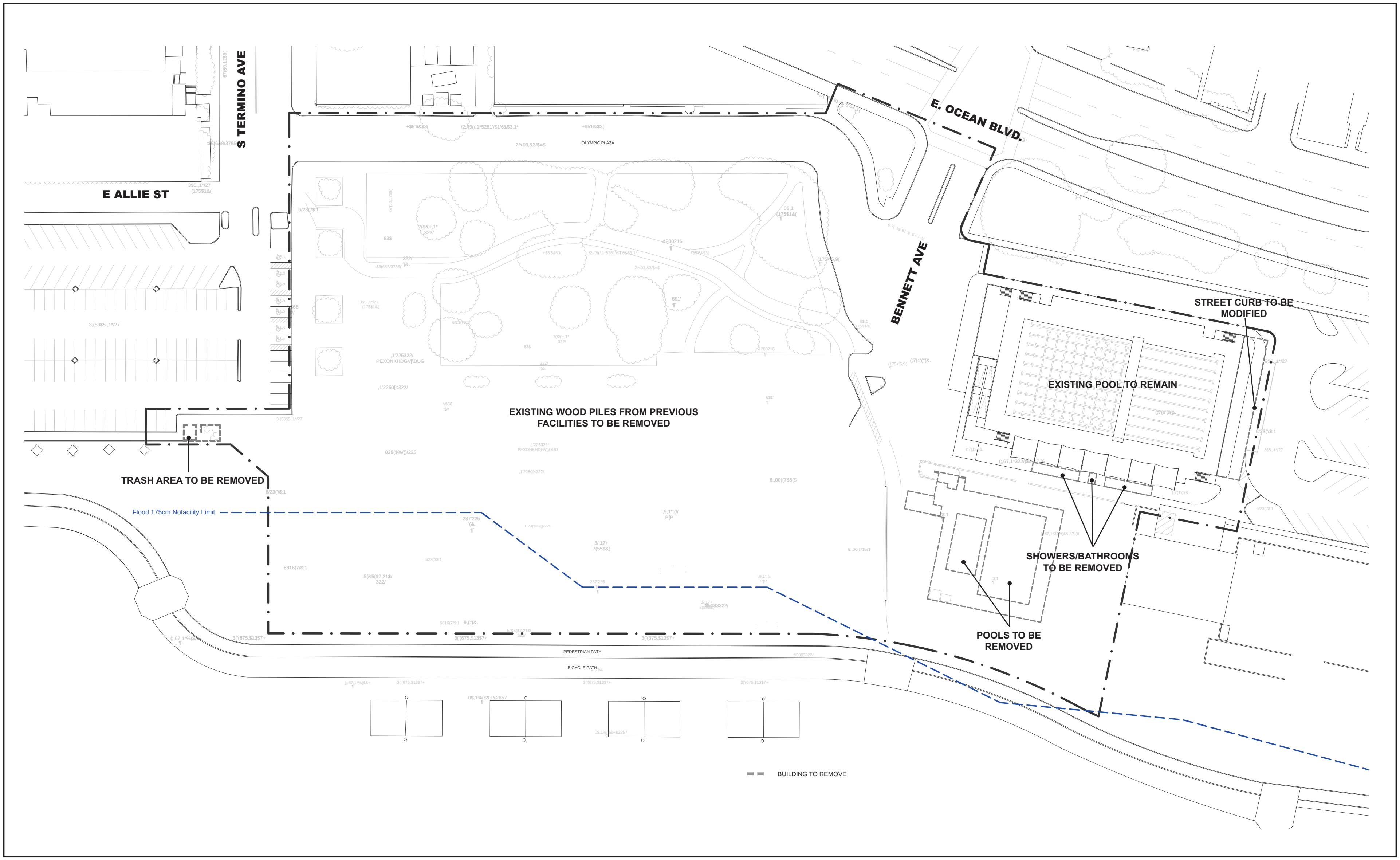

FIGURE 2.3

SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Demolition Plan

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The Modified Project would include 1,555 permanent prefabricated aluminum seats adjacent to the 50-Meter Competition Pool and 310 temporary bleacher seats south of the Myrtha Pool. Figures 2.4 and 2.5 show the proposed floor plan and bleacher plan, respectively.

A lightweight translucent shade structure with a corrosion-resistant powder-coated steel support system is proposed over the adjacent permanent seating area, which would be the highest point of the proposed facility. The shade structure would be 48 ft, 10 inches high, with support columns approximately 60 ft high from the Plinth level. This represents a decrease of 11 to 22 ft compared to the Approved Project. Figure 2.6, Project Elevations, depicts the proposed north, south, east, and west elevation views of the Modified Project.

2.3.1.4 The Support Building

Proposed at the center of the pool facilities, the support building would include locker rooms, restrooms, storage for pool equipment, mechanical and electrical rooms, office space for staff, and a concession area. The support building would be approximately 18,075 sf. The roofing for the support building would be a steel structure with an insulated corrosion-resistant metal roof.

2.3.2 Landscaping and Open Space

The Modified Project would include the addition of trees, shrubs, groundcover, and ornamental vegetation throughout the Project site. The Modified Project would also include vegetated lawn areas near the entrance to the Project site and near the southernmost portion of the site adjacent to the site's boundary with the shoreline. The Modified Project includes 141,558 sf of open space area and 92,297 sf of landscaped area. Figure 2.7 depicts the conceptual landscape plan.

2.3.3 Lighting

Figure 2.8, Lighting Plan, contains the lighting plan produced for the Modified Project. Twelve light poles would be installed throughout the Project site. Light poles would be installed around the perimeter of the Plinth level near the glass wall, as well as east and west of the support building.

2.3.4 Parking

Figure 2.9, Parking Plan, shows existing and proposed parking in the vicinity of the Project site. Existing parking is located at the Belmont Veteran's Memorial Pier parking lot and Bennett Avenue public beach parking lots, along Olympic Plaza Drive, and along the eastbound lane of Ocean Boulevard. Currently, there are a total of 933 parking spaces that serve the Project site and surrounding uses including the Belmont Veteran's Memorial Pier, the beach, and Olympic Plaza. Following implementation of the Modified Project, a total of 1,288 parking spaces would service the Project site, representing a net increase of 355 parking spaces. According to the Parking Plan, the Modified Project would require 539 parking spaces per the City's Municipal Code. As such, implementation of the Modified Project would result in a surplus of 749 parking spaces to serve the Project site and surrounding vicinity, including the Belmont Memorial Pier, the beach areas, and the adjacent Olympic Plaza.

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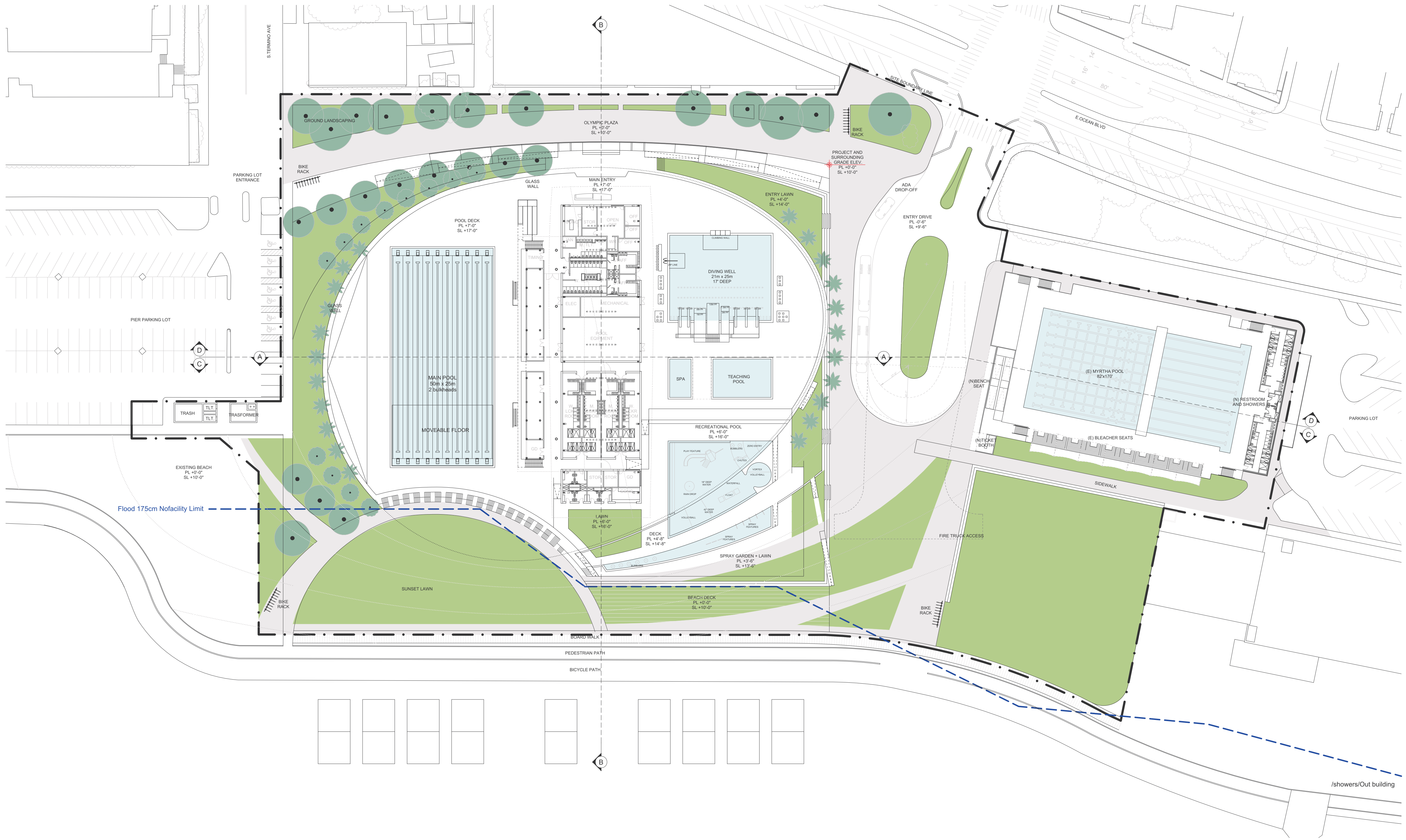

FIGURE 2.4
Page 1 of 2

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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Conceptual Floor Plan

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BEACH ACCESS RESTROOMS & TRASH

ENLARGED MAIN FACILITY BUILDING PLAN

MYRTHA POOL (N) TICKET BOOTH

MYRTHA POOL (N) RESTROOM/SHOWERS

LSA

FIGURE 2.4
Page 2 of 2

Modified Belmont Pool Revitalization Project

Conceptual Floor Plan

SOURCE: Hastings+Chivetta

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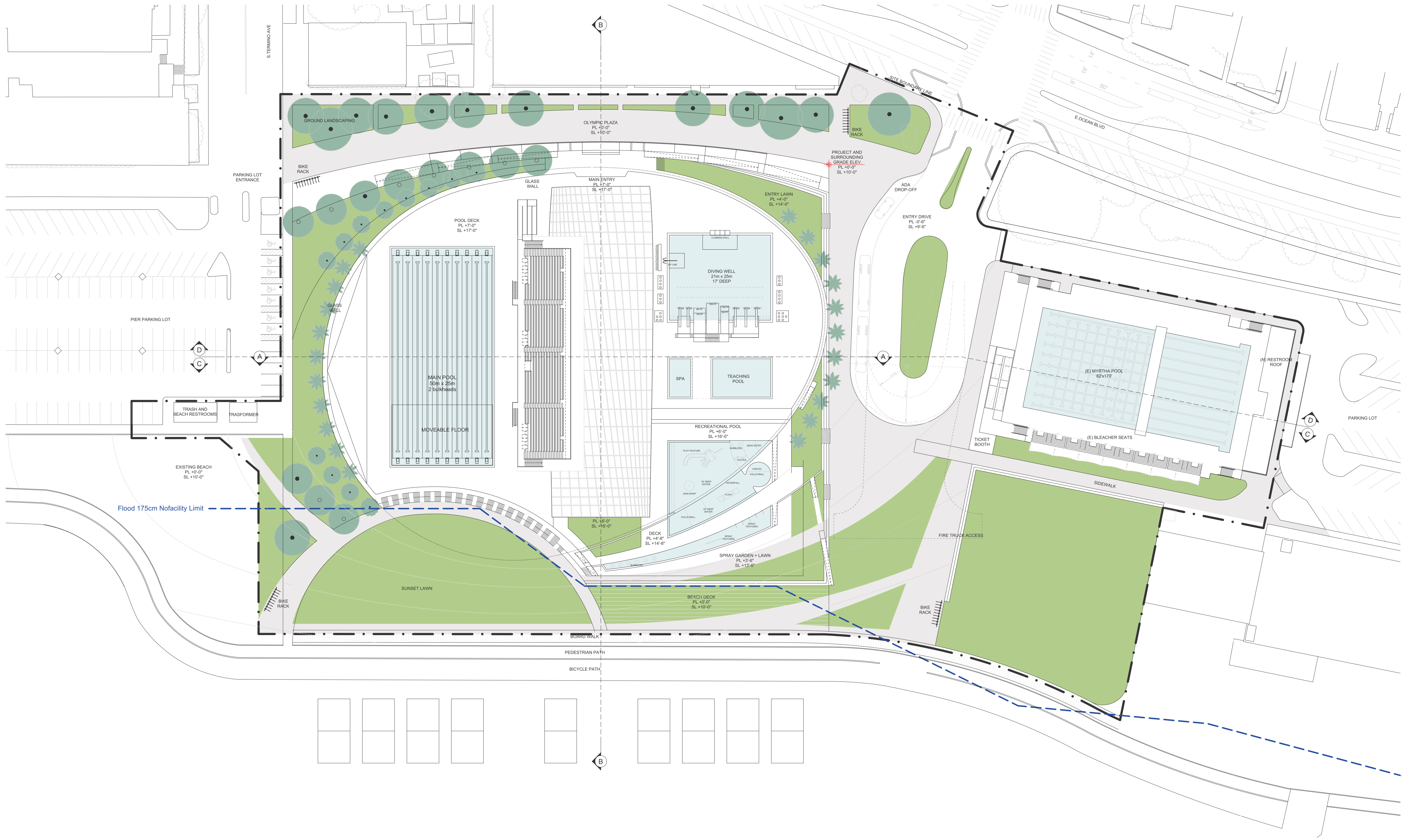

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FIGURE 2.5

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SOURCE: Hastings+Chivetta

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Modified Belmont Pool Revitalization Project

Conceptual Bleacher Plan

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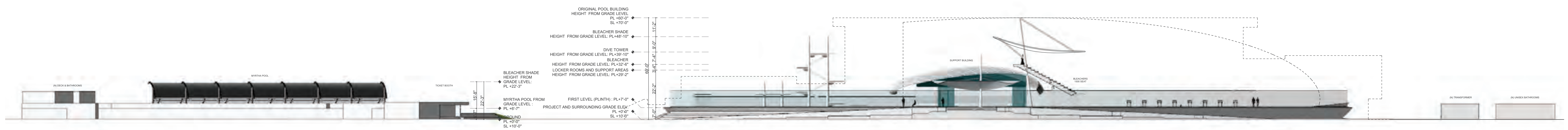
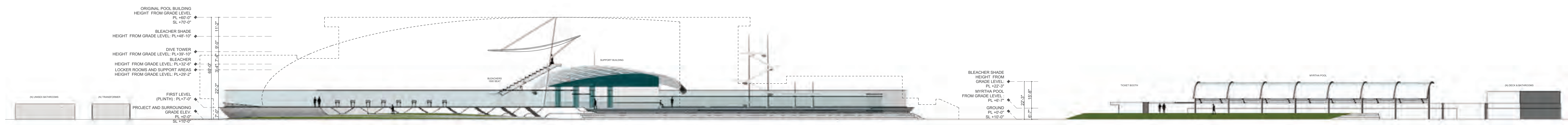


OVERALL NORTH ELEVATION



OVERALL SOUTH ELEVATION

LSA

FIGURE 2.6
Page 1 of 5

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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project
Project Elevations

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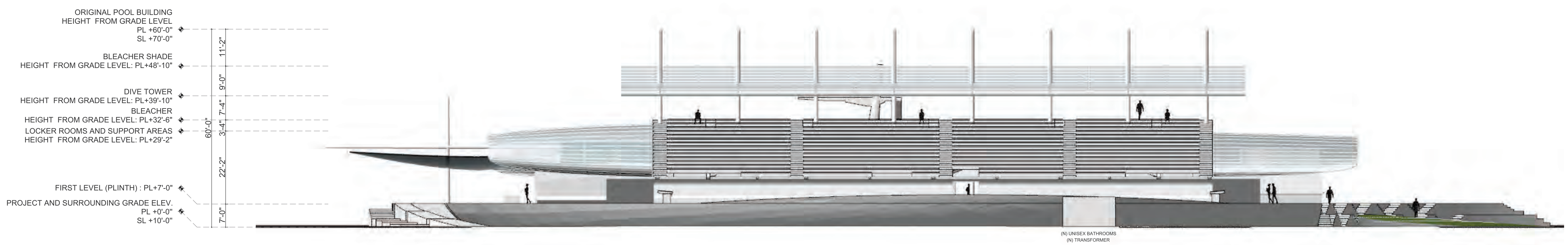
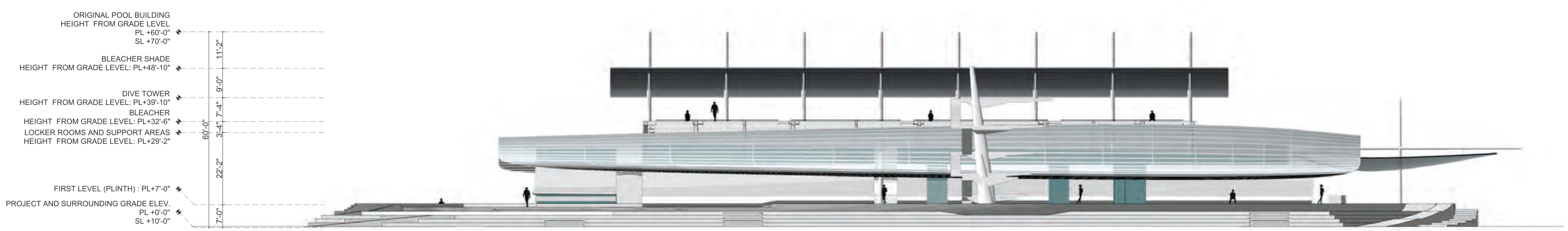


WEST ELEVATION



EAST ELEVATION

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FIGURE 2.6
Page 2 of 5

0 30 60
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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Project Elevations

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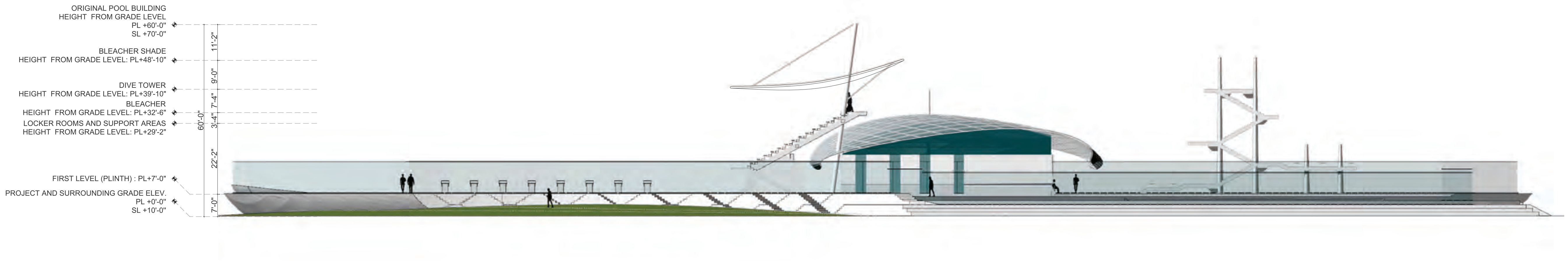
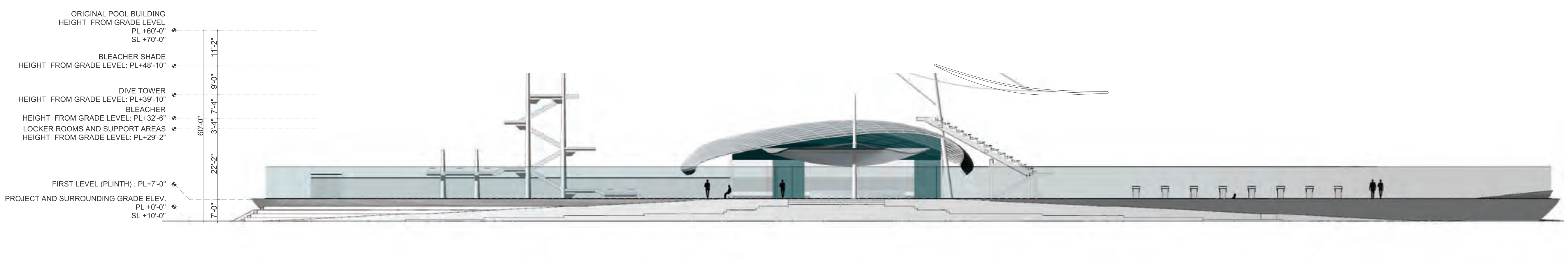


SOUTH ELEVATION



NORTH ELEVATION

LSA

FIGURE 2.6
Page 3 of 5

0 30 60
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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Project Elevations

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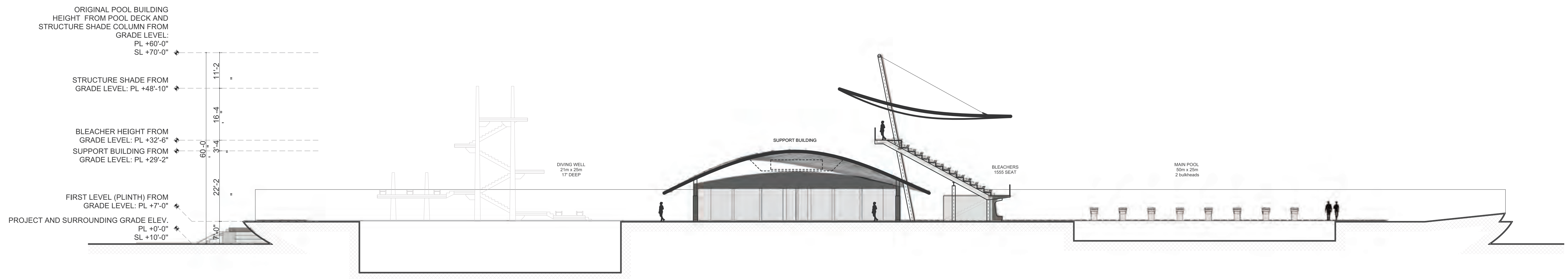
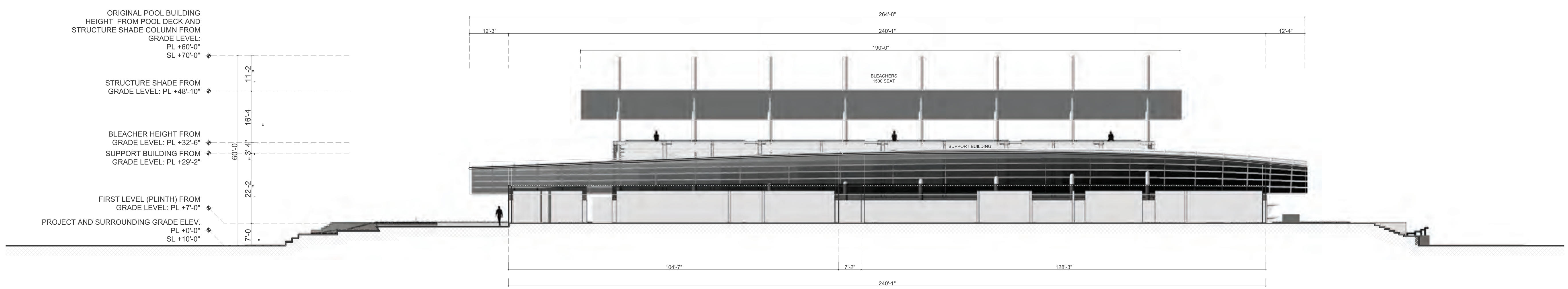


A-SECTION



B-SECTION

LSA

FIGURE 2.6
Page 4 of 5

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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Project Elevations

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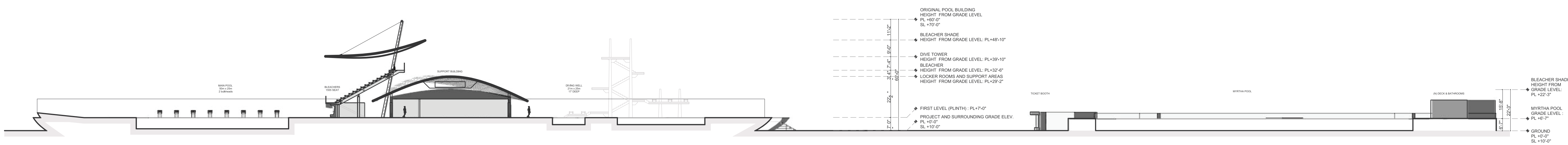
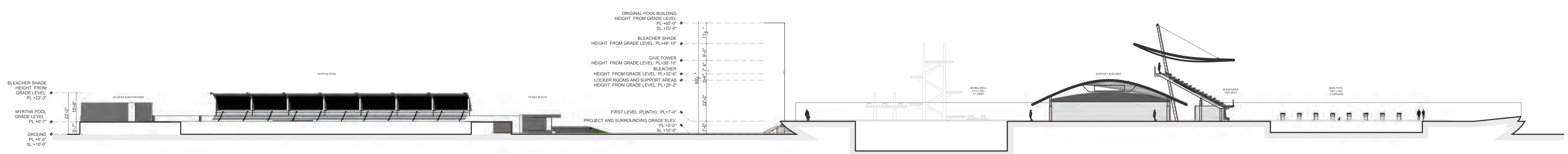


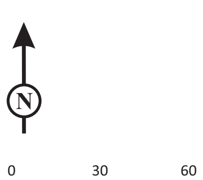
OVERALL SECTION - D



OVERALL SECTION - C

LSA

FIGURE 2.6
Page 5 of 5



SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Project Elevations

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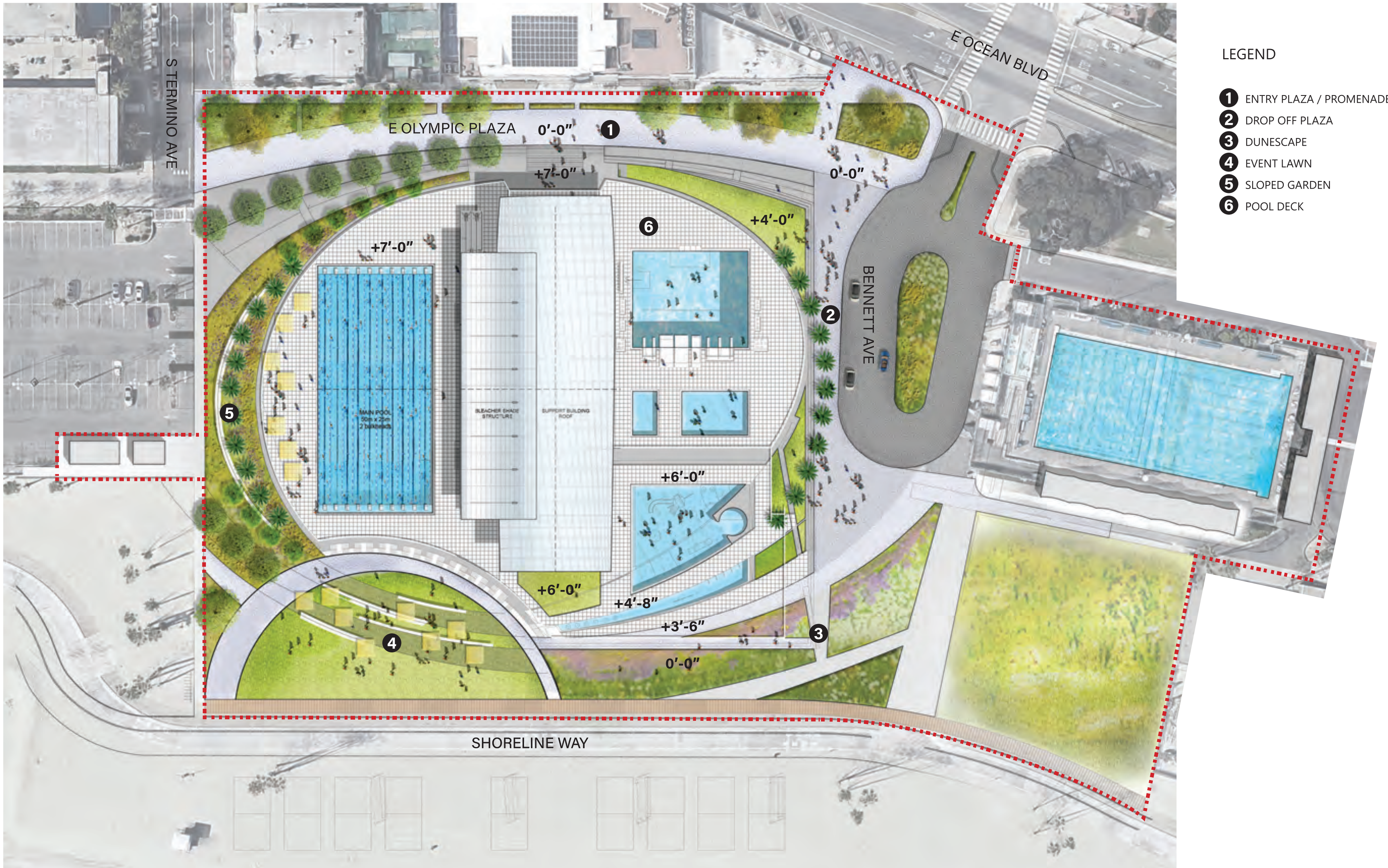

FIGURE 2.7

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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Conceptual Landscape Plan

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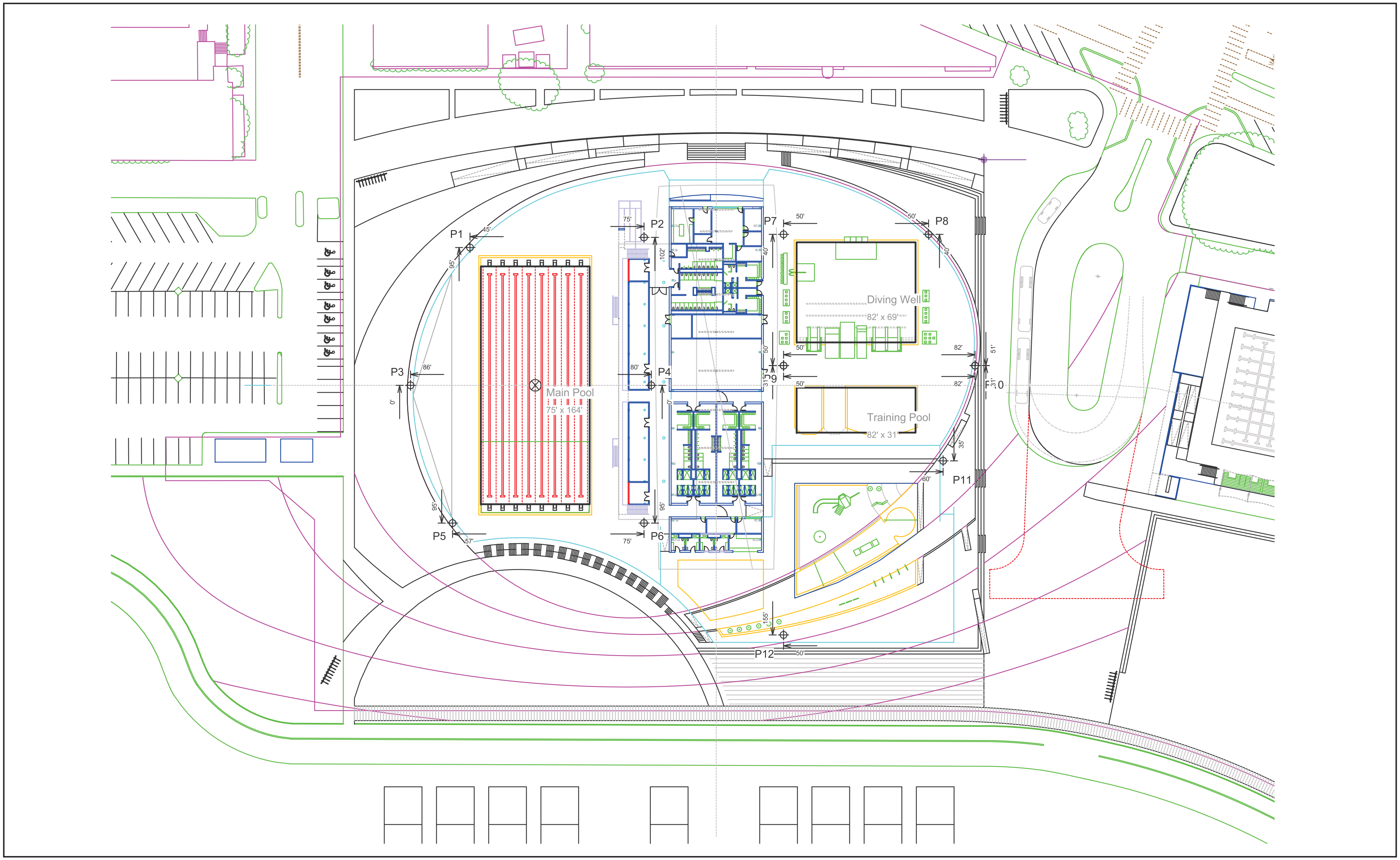

FIGURE 2.8

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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Conceptual Lighting Plan

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2.3.5 Site Preparation and Grading

In its existing condition, the Project site is flat. As stated previously, site preparation for the Modified Project will require removal of wood piles remaining from the demolition of the former Belmont Pool facility. Additionally, two temporary pools and a trash enclosure would be demolished. Figure 2.9 shows the Conceptual Grading Plan. Implementation of the Modified Project would require approximately 8,500 cubic yards (cy) of export from the Project site, comprised of 17,500 cy of cut and 9,000 cy of fill. The maximum cut and fill depths would be 10 ft and 7 ft, respectively.

2.3.6 Construction Schedule

Construction of the Modified Project is anticipated to occur from May 2021 to October 2022, with project opening scheduled in November 2022.

2.3.7 General Plan, Zoning, and Local Coastal Program

As described in the 2016 Certified EIR, the zoning classifications for the Project site are Park (P) and Belmont Pier Planned Development District (PD-2, Subarea 1), which also allow for recreational uses. As such, the Approved Project was deemed consistent with existing zoning classifications on the Project site. The Modified Project would include an amendment to the zoning standards to specifically reference the pool facility. As a result of the amendment to the zoning standards, and because the PD-2 zoning is an implementing ordinance of the Local Coastal Program (LCP), an LCP Amendment would be required as part of the Modified Project.

The LCP Amendment would establish the Belmont Beach and Aquatics Center (Modified Project) as a new subarea – PD-2, Subarea 5. Subarea 5 would include the Modified Project complex on an expanded site that was the former location of the Belmont Olympic Plaza Pool; allow a height limit up to the 60 ft[1] (the height of the former Belmont Pool building); and would exempt new, rebuilt, or remodeled public facilities from a requirement to provide additional parking, notwithstanding the requirements of Municipal Code Chapter 21.41.

In December 2019, the City Council approved a new Land Use Element (LUE), which is intended to guide future development in the City through the year 2040. The new LUE introduces the concept of "PlaceTypes," which replace the traditional land uses designations and zoning classifications utilized in the previous LUE. The LUE establishes 14 primary PlaceTypes that divide the City into distinct neighborhoods, allowing for greater flexibility and a mix of compatible land uses within these areas. The proposed 14 PlaceTypes are as follows: (1) Open Space, (2) Founding and Contemporary Neighborhood, (3) Multi-Family Residential—Low, (4) Multi-Family Residential—Moderate, (5) Neighborhood-Serving Centers and Corridors—Low, (6) Neighborhood-Serving Centers and Corridors—Moderate, (7) Transit-Oriented Development-Low, (8) Transit-Oriented Development-Moderate, (9) Community Commercial, (10) Industrial, (11) Neo-Industrial, (12) Regional-Serving Facility, (13) Downtown, and (14) Waterfront. Under the updated LUE, the Project site is designated

[1] The shade structure support columns would be a maximum height of 60 ft above Plinth level and 67 ft above grade; the shade would be a maximum height of approximately 49 ft above Plinth level and 56 ft above grade.

as Waterfront, which encourages high-intensity, compact, and diverse uses. The Project site and surrounding vicinity is specifically targeted as an area with significant opportunities for improvements that would revitalize this area and improve recreational opportunities for residents and visitors to the City utilizing the proposed Belmont Pool facility.

2.4 PROJECT OBJECTIVES

The Modified Project would result in the construction and implementation of the Belmont Pool facility, which would be generally consistent with the goals and objectives established for the Approved Project. Some goals and objectives have changed slightly due to changes between the Approved Project and the Modified Project design.

The primary goal of the Modified Project is to replace the former Belmont Pool facility with a state-of-the-art aquatic facility that will continue to serve as a recreational and competitive venue for the community, City, region, and State. In addition, the design scope requires that the facility be designed to meet Leadership in Energy and Environmental Design (LEED) Gold certification standards. The specific objectives of the Modified Project are to:

- Redevelop the City-owned site of the former Belmont Pool with similar aquatic recreational purposes, consistent with the original ballot measure;
- Replace the former Belmont Pool with a more modern facility that better meets the needs of the local community, region, and State's recreational and competitive swimmers, divers, aquatic sports participants, and additional pool users due to the tremendous demand for these services in the local community, region, and State;
- Minimize the time period that the community is without a permanent recreation and competitive pool facility;
- Provide a facility that supports recreation, training, and competitive events for up to 1,865 spectators (1,555 permanent seats, and up to 310 temporary exterior seats);
- Increase programmable water space for recreational swimming to minimize scheduling conflicts with team practices and events;
- Provide a signature design in a new pool complex that is distinctive, yet appropriate for its seaside location;
- Accommodate swimming, diving, and water polo national/international events by reflecting current competitive standards, in accordance with FINA regulations;
- Operate a pool facility that would generate revenue to help offset the ongoing operations and maintenance costs;
- Implement the land use goals of Planned Development PD-2;

- Provide a facility that maximizes sustainability and energy efficiency through the use of selected high performance materials;
- Minimize view disruptions compared to the former Belmont Pool facility;
- Maximize views to the ocean from the facility;
- Locate the pool in an area that serves the users of the former Belmont Pool facility;
- Design the passive open space with drought tolerant and/or native landscaping and include areas suitable for general community use; and
- Maintain or increase the amount of open space compared to the former Belmont Pool facility.

2.5 DISCRETIONARY ACTIONS

Discretionary approvals required for the Modified Project include the following:

1. Approval of this Addendum to the 2016 Belmont Pool Revitalization Project Certified EIR to address potential environmental effects as a result of changes made to the project since the original City Council approval and EIR certification in 2016.
2. Site Plan Approval consisting of plans illustrating the Project site, as well as architecture and landscaping proposed as part of the project.
3. Amendment to the zoning standards for PD-2.
4. Local Coastal Program (LCP) Amendment to establish Subarea 5, Belmont Beach and Aquatics Center, in PD-2.
5. Issuance of a Coastal Development Permit (CDP) by the California Coastal Commission to allow for the development and operation of the Modified Project along the City's coastline.
6. Issuance of a Section 401 Permit – Water Quality Certification National Pollutant Discharge Elimination System (NPDES) Permit by the Regional Water Quality Board.

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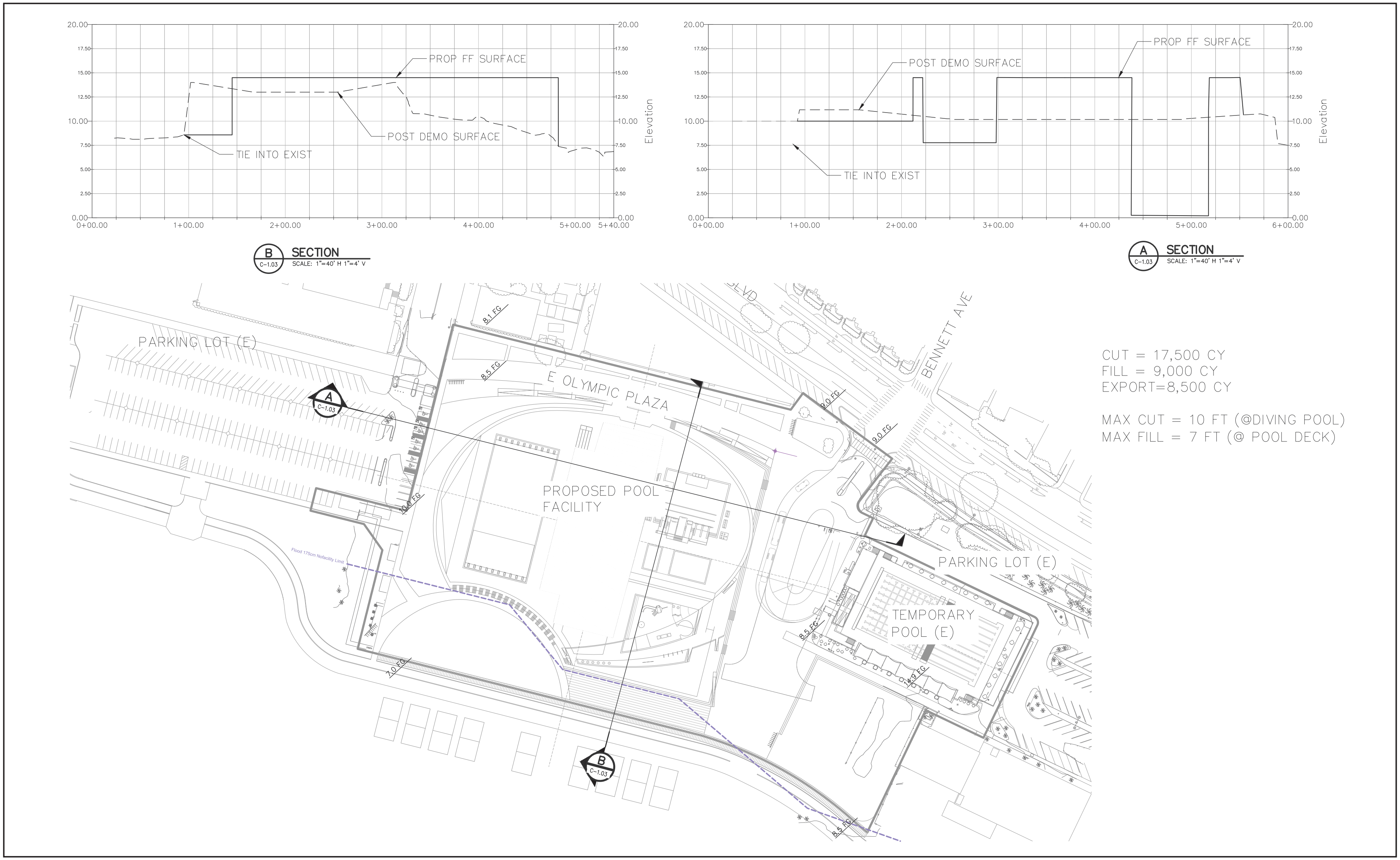

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FIGURE 2.9

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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Conceptual Grading Plan

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3.0 COMPARATIVE EVALUATION OF ENVIRONMENTAL IMPACTS

The following discussion contains an analysis of the potential impacts of the changes to the Approved Project in relation to the Modified Project. The potential impacts of the Modified Project are compared to impacts identified for the Approved Project analyzed in the 2016 Final EIR, which the City certified in August 2016. As explained in Chapter 1.0, this comparative analysis has been undertaken pursuant to CEQA and to provide City decision-makers with a factual basis for determining whether the proposed changes to the Approved Project, changes in circumstances, or new information since the certification of the 2016 Final EIR require additional environmental review. Potential impacts associated with the Modified Project are evaluated using the same thresholds applied in the 2016 Final EIR. The basis for each finding is explained in the analysis that follows.

3.1 IMPACTS IDENTIFIED IN THE 2016 FINAL EIR

As discussed in Chapter 2.0, Project Description, modifications to the project plans have been made in response to input from the California Coastal Commission staff as well as concerns regarding construction costs. Because of this, new analysis for impacts is provided in this Addendum. The environmental analysis provided in the 2016 Final EIR remains relevant and applicable to the Modified Project in areas unaffected by changes in existing conditions and changes in the Modified Project for the environmental topics as listed below.

As required by *State CEQA Guidelines* Section 15128, an EIR must identify the effects of the proposed Project determined not to be significant. Per *State CEQA Guidelines* Section 15063, the City prepared an Initial Study (IS) to determine whether the Project could have a significant effect on the environment. The IS also identified effects determined not to be significant consistent with *State CEQA Guidelines* Section 15063(c)(3)(B). Impacts that were determined to be less than significant were discussed and evaluated in the Initial Study contained in Appendix A of the 2016 Final EIR. The analysis determined that the Approved Project would result in no impacts to agricultural resources, mineral resources, population and housing, or public services.

- **Agricultural Resources.** The IS prepared for the 2016 Final EIR determined that there would be no impacts to agricultural resources. The Project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and is not in a Williamson Contract. The site has not been and is not currently used for agricultural purposes. The conditions of the Project site have not changed since certification of the 2016 Final EIR. Due to these conditions, the Modified Project would not result in any impacts to agricultural resources.

- **Mineral Resources.** The 2016 Final EIR determined that no impacts would occur to mineral resources because the proposed Project site does not contain oil extraction operations and has no other known mineral resources. The proposed project was not anticipated to interfere with resource recovery from other sites that are identified in any general, specific, or land use plan. The conditions of the Project site have not changed since certification of the 2016 Final EIR, and the Modified Project would not have any impacts on mineral resources.

- **Population and Housing.** The 2016 Final EIR determined that no impacts would occur to population and housing because it would not provide new homes, new businesses, or generate a substantial number of new jobs. The project would not result in the removal of any existing housing or displace any existing housing units and, therefore, would not require the construction of replacement housing elsewhere. The conditions of the Project site have not changed since certification of the 2016 Final EIR, and the Modified Project would not have any impacts on population and housing.

- **Public Services.** The 2016 Final EIR determined that the proposed project would have less than significant or no impacts related to public services. The proposed project would not provide any residential uses and would not result in population growth that would generate an increased demand for police or fire services. Further, the proposed project would not result in population growth that would generate an increased demand for public school services or public facilities such as libraries. The conditions of the Project site have not changed since certification of the 2016 Final EIR, and the Modified Project would not have any impacts on public services.

A discussion of all topics not mentioned above will be further discussed in this Addendum to the certified 2016 Final EIR.

3.2 AESTHETICS

3.2.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to the regional visual character or light and glare since the 2016 Certified EIR was prepared. Refer to Section 4.1, Aesthetics, of the 2016 Certified EIR for an in-depth discussion of these features of the existing environmental setting and potential impacts with regard to aesthetics. The analysis contained in Section 4.1 is based on information compiled from aerial photographs and ground-level photographs of the site and surrounding areas.

The Approved Project site in the 2016 Final EIR was an approximately 5.8-acre site; the Modified Project includes the temporary Myrtha Pool, which will be converted to a permanent pool, and associated landscaping. Therefore, the Project site has expanded to include an additional 1.6 acres for a total of 7.4 acres. The site formerly contained the Belmont Plaza Olympic Pool, which was operated by the City Department of Parks, Recreation and Marine. The Project site is characterized by a temporary pool, passive park space containing grassland, and sand placed on site to temporarily cover the location of the former pool facility. The Project site is located in a heavily urbanized coastal area, and is fully surrounded by residential, commercial, and recreational uses (such as public beaches and the Belmont Pier).

There are no locally designated scenic vistas on or surrounding the Project site, but expansive ocean views from public rights-of-way and from the Project site can generally be considered to have aesthetic value. Existing residential and commercial development along Termino Avenue and Ocean Boulevard is visible within the immediate vicinity of the Project site. Two commercial uses (Yankee Tavern Bar and retail space) on East Olympic Plaza were replaced with a new fitness club (Olympix Fitness Center) in 2017. However, the new use occupies the same space as the prior businesses in the existing commercial development and has a comparable mass, scale, and height as the former structure.

In its existing condition, the Project site generates nighttime light via two streetlights along East Olympic Plaza, 18 pole-mounted lights along pathways in the passive park, and lighting for the outdoor pool. In its existing condition, the Project site does not contain any reflective surfaces which generate glare. Existing light sources in the immediate vicinity include streetlights, vehicle headlines, interior illumination from residential and commercial uses, business signage, and security lighting.

3.2.2 2016 Certified EIR

Please refer to Section 4.1 of the Certified EIR for analyses of the potential effects of the Approved Project related to aesthetics. The Certified EIR concluded that impacts related to aesthetics would be less than significant or less than significant with mitigation incorporated.

3.2.2.1 Scenic Vistas

Less than Significant Impact. As described in the 2016 Certified EIR, there are no locally designated scenic vistas on or surrounding the Project site. However, expansive ocean views from public rights-of-way can generally be considered to have aesthetic value. The proposed pool complex would have been located generally on the same building footprint as the former Belmont Pool facility. The proposed placement and alignment of the building's cover (the "Bubble") would have allowed for increased views of the coastline that were previously blocked by the former Belmont Pool structure. Additionally, it was determined that the curved elliptical shape of the Bubble would reduce the structural scale and mass, when compared to a traditional rectangular building, by eliminating the corners of the building, allowing for an increase in viewable area. Therefore, the 2016 Certified EIR determined that the change in the building alignment on the site, in combination with the reduced structural mass from the Bubble's elliptical design, would result in less than significant impacts on scenic vistas. No mitigation was required.

3.2.2.2 Scenic Resources within a State-designated Scenic Highway

Less than Significant Impact. While Ocean Boulevard adjacent to the Project site is not a designated State Highway, the portion of Ocean Boulevard adjacent to the Project site was identified as a designated scenic route associated in the City's General Plan Scenic Routes Element. While implementation of the Approved Project would have modified the views to and from the Project site by replacing the former Belmont Pool facility with a new pool complex, the 2016 Certified EIR determined that the Approved Project would not substantially alter the existing character of the surrounding area. Motorists along Ocean Boulevard would have also experienced increased views of the coastline following implementation of the Approved Project. Therefore, the 2016 Certified EIR determined that potential impacts on the Recreational Scenic Route would be less than significant, and no mitigation was required.

3.2.2.3 Visual Character

Less than Significant Impact with Mitigation Incorporated. Construction of the Approved Project would have involved on-site grading and construction activities that would be visible to travelers along Ocean Boulevard and other adjacent roadways. However, construction activities would have been short-term and temporary fencing would have been placed along the perimeter of the site to screen construction activities from the street level. Construction fencing could serve as a potential target for graffiti if not appropriately monitored. As such, the 2016 Certified EIR required implementation of Mitigation Measure 4.1.1, which itself required the maintenance of the Project site fencing to ensure that impacts associated with unwanted debris and graffiti would be less than significant.

Operation of the Approved Project would have altered the existing visual character of the site because the design style of the previously proposed structure would have been dramatically different than the former Belmont Pool facility. However, the design of the Approved Project had a comparable mass, scale, and height to the former facility and was aligned to provide for increased coastal views. Additionally, the Approved Project would have replaced one large recreational pool complex with another recreational pool complex and although the design of the Approved Project would have been different, the visual character of the Project site would not have been substantially degraded with implementation of the Approved Project.

With implementation of Mitigation Measure 4.1.1, the 2016 Certified EIR determined that the Approved Project's impacts with respect to the visual character and quality of the site and surrounding area would be less than significant.

3.2.2.4 Light and Glare

Less than Significant Impact. The 2016 Certified EIR determined that lighting required during construction of the Approved Project would generate light that may spillover in the vicinity of the Project site. However, construction activities would have occurred only during daylight hours, and construction-related illumination would have been used for safety and security purposes only (in compliance with Long Beach Municipal Code [LBMC] light intensity requirements), and would have occurred for the duration required for the temporary construction process. Minor glare from sunlight on construction equipment and vehicle windshields was not anticipated to impact visibility in the area because the construction site would have been fenced and shielded from pedestrian and passenger vehicle views. In addition, construction vehicles would not have been operating at night and thus would not have created nighttime sources of glare. Therefore, the 2016 Certified EIR determined that construction of the Approved Project would not create a new source of substantial light or glare that would have adversely affected day or nighttime views in the area, and light impacts associated with construction would be less than significant.

The Approved Project included the installation of new lighting for the pool, which would have replaced existing lighting for the outdoor pools, park, and associated streetlights. Nighttime lights were determined to be necessary for the safety and security of the visitors and employees on site and along the park pathways, but outdoor light fixtures would have been shielded and directed in compliance with the existing LBMC. Project signage would have been illuminated by light-emitting diode lights in conformance with the LBMC, and would have required Site Plan Review and approval. The Bubble cover would have been made from a low reflective material. While the Approved Project's building accents may have included metal or other highly polished surfaces around building entrances, such accents would have been small relative to the size of the facade and would have been partially blocked by landscaping buffers. Additionally, daytime glare and nighttime glare would have been reduced from the proposed landscaping in the interior portions of the Project site. The nighttime glare produced by the signage, exterior lighting, and vehicular headlights would have been similar to existing nighttime glare produced by the surrounding residential and commercial uses and would not have resulted in enough glare to be considered substantial or affect nighttime views. In addition, the interior lighting of the Bubble was not considered a glare-producing light because the structure would have been illuminated from the inside, which would have produced a glow and not a direct light. Additionally, the lighting of the Bubble structure would have been limited and would have ended at 10:00 p.m., consistent with the operational hours of the facility, and would not have been lit throughout the night. Therefore, the 2016 Certified EIR determined that impacts due to light and glare generation and interference with the performance of an off-site activity or adverse effects on views would be less than significant during operation of the Approved Project, and no mitigation was required.

3.2.2.5 Cumulative Aesthetic Impacts

Less than Significant Impact. The 2016 Certified EIR noted that the Approved Project was located in an urban area with a number of existing sources of light and glare. Additionally, because the Approved Project would have replaced the former Belmont Pool with a modernized pool complex, light and glare associated with the Approved Project would be consistent with both the prior and existing conditions in the area and would not have impacted views in the area. The potential aesthetic impacts to scenic vistas, scenic resources, and existing visual character were evaluated and found to be less than significant. Therefore, the contribution of the Approved Project to potential cumulative visual/aesthetic impacts in the Project area were considered less than cumulatively considerable. No mitigation was required.

3.2.3 Analysis of the Modified Project

3.2.3.1 Scenic Vistas

The project changes included in the Modified Project would not result in changes to impacts to scenic vistas or scenic resources because the Project site is not within or in close proximity to a scenic vista. However, there are expansive ocean views from public rights-of-way, which can generally be considered to have aesthetic value. The Approved Project was a covered pool facility; other than the support building (which contains restrooms, changing rooms, and offices), all of the pools associated with the Modified Project are located outside. Therefore, the Modified Project would allow for increased views of the coastline as compared to the Approved Project as there is no large building mass to block potential views. Impacts would remain less than significant.

3.2.3.2 Scenic Resources within a State-designated Scenic Highway

The development proposed under the Modified Project would be located on the same portion of the Project site as the Approved Project but further northeast (inland), and would include the adjoining Myrtha pool site. There are no State-designated Scenic Highways in the vicinity of Project site. While Ocean Boulevard adjacent to the Project site is not a State-designated Scenic Highway, the portion of Ocean Boulevard adjacent to the Project site was identified as a designated scenic route associated in the City's General Plan Scenic Routes Element. As compared to the Approved Project, motorists along Ocean Boulevard would have increased views of the coastline following implementation of the Modified Project as the project does not include the bubble roof. Further, the height of the proposed shade structure, which is the tallest point of the development under the Modified Project that could obstruct views, would be approximately 49 ft above Plinth level and 56 ft above grade, which is 14 ft shorter than the bubble roof proposed under the Approved Project. It should be noted that the proposed shade structure support columns would be approximately 60 ft above the Plinth level and 67 ft above grade; however, the support columns do not have any significant mass and would not obstruct views. Therefore, the Modified Project would allow for increased views of the coastline as compared to the Approved Project. Impacts would remain less than significant.

3.2.3.3 Visual Character

Similar to the Approved project, the Modified Project would modify the views to and from the Project site by developing the site with a new pool complex. Similar to the Approved Project, construction activities would be visible to travelers along Ocean Boulevard and other adjacent roadways. However, construction activities would be short-term and temporary fencing would be placed along the perimeter of the site to screen construction activities from the street level. Because construction fencing could serve as a potential target for graffiti, similar to the Approved Project, implementation of Mitigation Measure 4.1.1, requiring the maintenance of the Project site fencing, would be required for the Modified Project to ensure that impacts associated with unwanted debris and graffiti would be less than significant.

Operation of the Modified Project, similar to the Approved Project, would alter the existing visual character of the site because the proposed pool complex would be constructed on the site of the former Belmont Pool facility. The Modified Project is largely uncovered and would have significantly less mass, scale, and height than the Approved Project. Refer to Figure 2.6, Project Elevations, in Section 2.0, Project Description, which illustrates the elevations and heights of the Approved Project as compared to the Modified Project. As shown, the Approved Project had a maximum building height of 71ft from the Plinth; the Modified Project has a maximum building height from the Plinth of just under 49 ft for the shade structure and 60 ft for the shade structure support columns. The support columns do not have any significant mass and do not obstruct views; therefore, the Modified Project has a significantly reduced height and mass as compared to the Approved Project.

Visual simulations[2] have been created to illustrate what the Modified Project would look like from public viewpoints as compared to the Approved Project. A photograph location key map (refer to Figure 3.2.1) indicates the vantage point from which each key view photograph was taken. Four of the view locations (Key Views 1 through 4) are the same view locations as included for the Approved Project in the 2016 Certified EIR. Three additional locations, one from Ocean Avenue (Key View 5), one from the public bike path on the beach (Key View 6), and one from the water of the Pacific Ocean (Key View 7), have been added at the request of the California Coastal Commission staff.

Key View 1 from southbound Termino Avenue (Figure 3.2.2) shows views of the Approved Project and the Modified Project looking south at the intersection of Termino Avenue and Midway Street at the corner of the Jack in the Box parking lot. As illustrated, the only portion of the Modified Project that is visible from this location is the 10 ft high glass wall on the Plinth that extends around the main pool complex, separating the pool area from the landscaping and open space. The Bubble roof structure of the Approved Project is no longer present, and therefore views of the open sky are increased with the Modified Project. There is a substantial reduction in the mass of any structure obstructing views from this location.

Key View 2, from westbound Ocean Boulevard at Bennett Avenue (Figure 3.2.3), shows views of the Approved Project and the Modified Project facing southwest from the intersection of Ocean Boulevard and Bennett Avenue. As illustrated, the glass wall, diving platforms, support building, and shade structure over the bleachers of the Modified Project are visible from this location. The Bubble roof structure associated with the Approved Project is no longer present, and the overall mass is reduced under the Modified Project. Due to the significant reduction in building height under the Modified Project, views of the open sky are increased as compared to the Approved Project.

Key View 3, from westbound Ocean Boulevard at Prospect Avenue (Figure 3.2.4), shows views of the Approved Project and the Modified Project from west on Ocean Boulevard at the intersection with Prospect Avenue, approximately 450 ft from the eastern boundary of the Project site. The primary features of the Modified Project visible from this location are the support building and the shade structure. As compared to the Approved Project, there is a reduction in the overall mass and scale with the Modified Project.

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2 Visual Simulations were prepared by RoTo Architects in November 2019. The visual simulations were prepared by importing computer-aided design (CAD) drawings of the Modified Project plans and overlaying them onto photographs.

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FIGURE 3.2.1

LEGEND

- Project Site
- Key View Location

N

0 200 400

FEET

SOURCE: Google Earth, 2019

Modified Belmont Pool Revitalization Project

Key View Locations Map

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Approved Project View

Modified Project View

LSA

FIGURE 3.2.2

Modified Belmont Pool Revitalization Project

Key View 1

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Approved Project View

Modified Project View

LSA

FIGURE 3.2.3

Modified Belmont Pool Revitalization Project

Key View 2

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Approved Project View

Modified Project View

LSA

FIGURE 3.2.4

Modified Belmont Pool Revitalization Project

Key View 3

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Key View 4, from Belmont Memorial Veteran's Pier (Figure 3.2.5), shows views of the Approved Project and the Modified Project facing northeast from the midway point on the Pier. The primary features of the Modified Project visible from this location are the bleachers and shade structure. As compared to the Approved Project, there is a significant reduction in the visible mass, scale, and height with the Modified Project. The visual presence of the facility's structure is significantly reduced under the Modified Project from this view location.

Key View 5 (Figure 3.2.6) is a new visual simulation and shows existing views and views of the Modified Project looking south from Ocean Boulevard and Termino Avenue. The only features of the Modified Project visible from this location are small portions of the top of the diving platforms and shade structure, and a partial view of the glass wall on the northwest boundary of the site. Although this is a new view location, there is no significant visual presence of a large pool facility. Impacts to the visual character of the site and immediate vicinity would be less than significant from Key View location 5.

Key View 6 (Figure 3.2.7) is a new visual simulation and shows existing views and views of the Modified Project looking northwest from the public bike path on the beach. The primary features of the Modified Project visible from this location are the diving platforms, support building, and shade structure. The presence of the Modified Project is apparent from this location; however, the structures do not block any views of the beach and are consistent with the scale of other development in the Project vicinity. The architecture and scale of the proposed Project would not degrade the visual character of the site and surrounding area. Impacts to the visual character of the site and immediate vicinity would be less than significant from Key View location 6.

Key View 7 (Figure 3.2.8) is a new visual simulation and shows existing views and views of the Modified Project looking north from the waters of the Pacific Ocean. The primary features visible of the Modified Project from this location are the shade structure, bleachers, support building, and glass perimeter wall. The presence of the Modified Project is apparent from this location; however, the structures do not block any views and are consistent with the scale of other development in the Project vicinity. The architecture and scale of the proposed Project would not degrade the visual character of the site and surrounding area. Impacts to the visual character of the site and immediate vicinity would be less than significant from Key View location 7.

As illustrated in the above figures and descriptions, the Modified Project has a significantly reduced mass, scale, and height as compared to the Approved Project. Although the Modified Project would introduce a new physical facility in the Project area, the visual quality of the site and surrounding would not be significantly impacted. Similar to the Approved Project, the Modified Project would not degrade the visual character of the Project site, and visual impacts are considered reduced for the Modified Project.

Overall, impacts to the visual character of the Project site and surrounding area are substantially reduced for the Modified Project as compared to the Approved Project. Similar to the Approved Project, with implementation of Mitigation Measure 4.1.1, the Modified Project's impacts with respect to the visual character and quality of the site and surrounding area would be less than significant.

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Approved Project View


Modified Project View

LSA

FIGURE 3.2.5

Modified Belmont Pool Revitalization Project
Key View 4

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Existing View

Modified Project View

LSA

FIGURE 3.2.6

Modified Belmont Pool Revitalization Project

Key View 5

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Existing View

Modified Project View

LSA

FIGURE 3.2.7

Modified Belmont Pool Revitalization Project

Key View 6

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Existing View

Modified Project View

LSA

FIGURE 3.2.8

Modified Belmont Pool Revitalization Project
Key View 7

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3.2.3.4 Light and Glare

Similar to the Approved Project, lighting required during construction of the Modified Project would generate light that may spillover in the vicinity of the Project site. However, construction activities would occur only during daylight hours, and construction-related illumination would be used for safety and security purposes only (in compliance with LBMC light intensity requirements), and would only occur during the temporary construction process. Construction vehicles would not be operating at night and thus would not create nighttime sources of light and glare. Therefore, similar to the Approved Project, the Modified Project would not create a new source of substantial light or glare that would have adversely affect day or nighttime views in the area, and light impacts associated with construction would be less than significant.

Similar to the Approved Project, the Modified Project includes the installation of new lighting for the pools, which would replace existing lighting for the park and associated streetlights. Similar to the Approved Project, nighttime lights would be necessary for the Modified Project for the safety and security of the visitors and employees on site and along the park pathways, but outdoor light fixtures would be shielded and directed downward in compliance with the existing LBMC. Similar to the Approved Project, the Modified Project signage would be illuminated by light-emitting diode lights in conformance with the LBMC, and would require Site Plan Review and approval.

The interior lighting of the Bubble cover for the Approved Project was not considered a glare-producing light because the structure would have been illuminated from the inside, which would have produced a glow and not a direct light. In contrast, the Modified Project would not require the lighting of a large pool building, and light for the outdoor pools and bleachers would be directed downward so as not to spill light and glare off site (similar to parking lot lighting in adjacent public parking lots). All pool and bleacher lighting would be turned off at 10 p.m., consistent with the operational hours for the pool facility for the Approved Project. While the lighting for the Modified Project’s outdoor pools would be similar to the adjacent parking lot lighting, it would be different from the illumination of the Approved Project’s Bubble structure. However, compliance with the regulations in the LBMC would ensure that the Modified Project’s lighting would have less than significant impacts, similar to the Approved Project’s lighting.

Similar to the Approved Project, the Modified Project’s exterior lighting and vehicular headlights would be similar to existing nighttime glare produced by the surrounding residential and commercial uses and would not result in enough glare to be considered substantial or affect nighttime views. Therefore, impacts due to light and glare generation and interference with the performance of an off-site activity or adverse effects on views would be less than significant during operation of the Modified Project, similar to the Approved Project, and no mitigation is required.

3.2.3.5 Cumulative Aesthetic Impacts

Similar to the Approved Project, the Modified Project would develop the Project site with a modernized pool complex that would contribute to the visual character of the Project area. However, the Modified Project has a significantly reduced mass, scale, and height as compared to the Approved Project and would therefore result in fewer changes to the visual character of the Project site and the Project area.

The Modified Project is located on the same site as the Approved Project in an urban area with a number of existing sources of light and glare. Similar to the Approved Project, light and glare associated with the Modified Project would be consistent with both the prior and existing conditions in the area. Similar to the Approved Project, the potential aesthetic impacts to scenic vistas, scenic resources, and existing visual character for the Modified Project were found to be less than significant. Because there are no other current or reasonably foreseeable future projects within the cumulative study area (the immediately adjacent area within view of the Project site), the Modified Project, like the Approved Project, would not contribute to cumulative aesthetic impacts. Further, the reduced scale, height, and mass of the Modified Project would result in less visual impacts as compared to the Approved Project. Therefore, the contribution of the Modified Project to potential cumulative visual/ aesthetic impacts in the Project area is considered comparable to, or less than, the Approved Project and is less than cumulatively considerable. No mitigation is required.

3.2.4 Findings Related to Aesthetics

3.2.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to aesthetics, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.2.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the record or otherwise available that indicates that there are substantial changes in circumstances pertaining to aesthetics that would require major changes to the 2016 Certified EIR.

3.2.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to aesthetics requiring major revisions to the 2016 Certified EIR.

3.2.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR.

There is no new information, mitigation, or alternatives to the project that would substantially reduce one or more significant impacts pertaining to aesthetics identified and considered in the 2016 Certified EIR.

3.2.5 Standard Conditions

There are no standard conditions pertaining to aesthetics that are applicable to either the Approved Project or the Modified Project.

3.2.6 Mitigation Measures

The following mitigation measure pertaining to aesthetics that was included in the 2016 Certified EIR is also applicable to the Modified Project.

Mitigation Measure 4.1.1 **Maintenance of Construction Barriers.** Prior to issuance of any construction permits, the Development Services Director, or designee, shall verify that construction plans include the following note: During construction, the Construction Contractor shall ensure, through appropriate postings and daily visual inspections, that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways, and that any such temporary barriers and walkways are maintained in a visually attractive manner. In the event that unauthorized materials or markings are discovered on any temporary construction barrier or temporary pedestrian walkway, the Construction Contractor shall remove such items within 48 hours.

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3.3 AIR QUALITY

3.3.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to air quality. As such, refer to Section 4.2, Air Quality, of the 2016 Certified EIR for an in-depth discussion of the existing environmental setting.

The Project site is located within the South Coast Air Basin (Basin) and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD has established an Air Quality Management Plan (AQMP) that contains policies and measures to achieve federal and State standards for improved air quality.

The Project site is characterized by a temporary pool, passive park space containing grassland, and sand placed on site to temporarily cover the location of the former pool facility.

3.3.2 2016 Certified EIR

3.3.2.1 Conflicts with Air Quality Plans

Less than Significant Impact. The 2016 Certified EIR determined that emissions associated with the Approved Project were not anticipated to exceed the General Plan projections or contribute to air quality deterioration beyond South Coast Air Quality Management District (SCAQMD) thresholds. The Approved Project was also consistent with the site's General Plan land use designation. Therefore, since the Air Quality Management Plan (AQMP) is based on local General Plans and the Approved Project was consistent with the General Plan, the 2016 Certified EIR determined that the Approved Project would not conflict with the AQMP. However, the Approved Project was required to adhere to SCAQMD's Standard Conditions 4.2.1 and 4.2.2, which included a variety of measures aimed at controlling dust during construction, consistent with the City's General Plan Air Quality Element Policy 6.1. In addition, the Approved Project would have been built to meet Leadership in Energy and Environmental Design (LEED) Gold (or higher) certification standards and would have implemented a variety of conservation and sustainability features aimed at reducing energy consumption, consistent with General Plan policies. Furthermore, the Approved Project would have been compliant with all Mandatory Measures outlined in the California Green Building Standards Code (CALGreen Code) aimed at the improvement of air quality. Therefore, because the Approved Project was consistent with the City's General Plan Air Quality Element, the CALGreen Code, and the Final 2012 AQMP, the Certified EIR determined that the Approved Project would have a less than significant impact related to conflict with applicable goals and policies, and no mitigation would be required.

3.3.2.2 Violate or Contribute to an Air Quality Standard Violation

Less than Significant Impact.

Construction Emissions. Construction activities produce combustion emissions from various sources (i.e., construction of pool area improvements and motor vehicle transport of the construction crew). Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The 2016 Certified EIR determined that the use of construction equipment on the site would result in localized exhaust emissions. However, the Approved Project would have been required to adhere to SCAQMD's measures aimed at controlling dust during construction (Standard Conditions 4.2.1 and 4.2.2). Therefore, with incorporation of these SCAQMD Rules and emission control measures, the 2016 Certified EIR determined that construction emissions would not exceed any of SCAQMD's thresholds.

Operation Emissions. Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The Approved Project would have resulted in net increases in both area and mobile-source emissions over existing conditions; however, the 2016 Certified EIR determined that the Approved Project's emissions (from both stationary sources and vehicular sources) would not exceed SCAQMD daily emissions thresholds. Therefore, the long-term air quality impacts of the Approved Project were determined to be less than significant, and no mitigation was required.

For the Approved Project, the appropriate Source Receptor Area (SRA) used to analyze Localized Significance Thresholds (LST) was South Coastal Los Angeles County. The sensitive land uses within the vicinity of the Approved Project included the existing Belmont Shores Children's Center (Preschool/Child Care) facility located within 25 feet (ft) from the northern Project construction boundary, residences across East Ocean Boulevard to the northeast located approximately 100 ft from the northern Project construction boundary, and residences across Termino Avenue to the northwest located approximately 80 ft from the western Project construction boundary. LST emissions of criteria pollutants as a result of the Approved Project were determined to be below the emissions thresholds established for the region. No mitigation was required.

3.3.2.3 Result in a cumulatively considerable net increase of any criteria pollutant

Less than Significant Impact. The Approved Project's projected construction, operational, and LST emissions of criteria pollutants were projected to be below the emissions thresholds established for the region. Cumulative emissions are part of the emission inventory included in the AQMP for the Project area. Therefore, the 2016 Certified EIR determined that there would be no cumulatively considerable net increase of the criteria pollutants that are in "nonattainment" status in the South Coast Air Basin, and impacts would have a less than significant impact; no mitigation was required.

3.3.2.4 Expose sensitive receptors to substantial pollutant concentrations

Less than Significant Impact. At the time the Certified EIR was prepared, sensitive land uses within the vicinity of the Project site included the existing Belmont Shores Children's Center (Preschool/Child Care) facility to the north, and residences to the west and northeast of the Project site. Fugitive dust emissions would have occur during construction of the Approved Project; however, the Project was be required to comply with SCAQMD Standard Conditions and Rule 403, as specified in Standard Conditions 4.2.1 and 4.2.2. Therefore, with implementation of Standard Conditions 4.2.1 and 4.2.2, the Certified EIR determined that the Approved Project would not result in significant impacts to sensitive receptors related to fugitive dust during construction. The Certified EIR also determined that carbon monoxide (CO) and nitrogen oxides (NOX) emissions during construction would not exceed SCAQMD thresholds. Therefore, the construction of the Approved Project would result in less than significant air quality impacts related to CO and NOX emissions, and no mitigation was required.

Long-term operational criteria pollutant emission impacts are those associated with stationary and mobile sources. The maximum emissions from operation of the Approved Project would not cause or contribute to an exceedance of applicable federal or State ambient air quality standards. Therefore, the Certified EIR determined that long-term operation of the Approved Project would result in less than significant air quality impacts related to CO, NOx, or other criteria pollutants and would not expose sensitive receptors to substantial pollutant concentrations, and no mitigation was required.

Long-Term Microscale (CO Hot Spot) Analysis. Vehicular trips associated with the Approved Project would have contributed to traffic at intersections and along roadway segments in the vicinity of the Project site. Localized air quality impacts would have occurred when emissions from vehicular traffic increased as a result of the Approved Project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions.

The 2016 Certified EIR concluded that potential impacts related to localized mobile-source CO emissions would be less than significant based on the average daily trips anticipated at build out of the Approved Project, and because the intersections evaluated for the Approved Project had low background CO levels. Therefore, the 2016 Certified EIR found that potential impacts related to localized mobile-source CO emissions for the Approved Project would be less than significant, and no mitigation was required.

3.3.2.5 Cumulative Air Quality Impacts

Less than Significant Impact. The 2016 Certified EIR determined project-related construction activities, in combination with those from other projects in the area, would not substantially deteriorate local air quality with the implementation of Standard Conditions 4.2.1 through 4.2.2 and adherence to applicable SCAQMD rules and regulations. Additionally, project-related operational impacts would not result in a cumulatively considerable net increase in any criterial pollutant with the implementation of Standard Conditions 4.2.1 through 4.2.2 and adherence to applicable SCAQMD rules and regulations. Therefore, cumulative operational impacts associated with proposed operation of the Approved Project were determined to be less than significant; no mitigation was required.

3.3.3 Analysis of the Modified Project

As part of the Modified Project, revised air quality modeling has been completed. As such, the analysis of the Modified Project changes and the findings related to Air Quality are based on the *Belmont Plaza Pool Revised Air Quality and Greenhouse Gas Emissions Analysis* (LSA, November 2019) contained in Appendix A. To quantify air quality emissions, LSA utilized the California Emissions Estimator Model (CalEEMod, Version 2016.3.2)[3] and compared the net change in air quality and GHG emissions between the Approved Project and the Modified Project.

3.3.3.1 Conflicts with Air Quality Plans

Similar to the Approved Project, the Modified Project is consistent with the Waterfront (WF) PlaceType designation for the Project site and its surrounding area, which is designated by the City's *General Plan*. The City's *General Plan* is consistent with SCAG's 2008 *Regional Comprehensive Plan*[4] guidelines and the SCAQMD's 2016 AQMP. Pursuant to the methodology provided in Chapter 12 of SCAQMD's 1993 *CEQA Air Quality Handbook*, consistency with the 2016 AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation, and (2) is consistent with the growth assumptions in the AQMP.

The Modified Project would result in short-term construction and long-term pollutant emissions that are less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated in the following threshold discussion (3.3.3.2); therefore, the Modified Project would not result in an increase in the frequency or severity of any air quality standards violation and will not cause a new air quality standard violation. Furthermore, because the Modified Project would not require an amendment to the City's General Plan and does not meet the definition of a "significant project," as defined in the *CEQA Air Quality Handbook*, the Modified Project would be consistent with the growth assumptions in the South Coast Air Basin 2016 AQMP.

In addition, the Modified Project, similar to the Approved Project, would be built to meet LEED Gold (or higher) certification standards and would implement a variety of conservation and sustainability features aimed at reducing energy consumption, consistent with General Plan policies. Furthermore, the Modified Project would be compliant with all Mandatory Measures outlined in the CALGreen Code aimed at the improvement of air quality. Therefore, like the Approved Project, because the Modified Project is consistent with the City's General Plan Air Quality Element, the CALGreen Code, and the Final 2012 AQMP, the Modified Project would have a less than significant impact related to conflict with applicable goals and policies, and no mitigation would be required.

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3 South Coast Air Quality Management District (SCAQMD). 2017. California Emissions Estimator Model, Version 2016.3.2. Developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts. November. Website: https://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4 / (accessed November 2019).

4 Southern California Association of Governments (SCAG). 2008. Regional Comprehensive Plan. Website: http://www.scag.ca.gov/NewsAndMedia/Pages/RegionalComprehensivePlan.aspx (accessed November 2019).

3.3.3.2 Violate or Contribute to an Air Quality Standard Violation

Construction Emissions. Construction activities produce combustion emissions from various sources (i.e., construction of pool area improvements and motor vehicle transport of the construction crew). Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. A comparison of the short-term construction emissions associated with the Modified Project and the Approved Project is shown in Table 3.3.A, below. As shown in Table 3.3.A, the Modified Project's regional construction emissions would be less than the Approved Project and less than SCAQMD thresholds. Therefore, the Modified Project, similar to the Approved Project, would not result in a cumulatively considerable increase in emissions due to construction-related emissions. No mitigation is required.

Table 3.3.A: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	ROG	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Approved Project Peak Daily Emissions	**41.0**	**52.0**	**40.0**	**0.1**	**12.0**		**6.4**	
Modified Project								
Site Preparation	4.0	40.6	21.8	0.0	7.2	2.0	3.9	1.9
Grading	2.8	38.4	19.4	0.1	3.7	1.2	1.6	1.1
Building Construction	2.5	21.6	21.5	0.0	1.4	1.0	0.4	0.9
Paving	1.2	11.2	15.1	0.0	0.2	0.6	0.0	0.5
Architectural Coatings	10.4	1.5	2.5	0.0	0.2	0.1	0.1	0.1
Modified Project Peak Daily Emissions	**10.4**	**40.6**	**21.8**	**0.1**	**9.3**		**5.8**	
SCAQMD Thresholds	**75.0**	**100.0**	**550.0**	**150.0**	**150.0**		**55.0**	
Exceed SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (November 2019).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROG = reactive organic gas
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides

Dust generated during construction varies substantially on a project-by-project basis, depending on the level of activity, the specific operations, and weather conditions at the time of construction. Similar to the Approved Project, the Modified Project will be required to comply with SCAQMD Rule 403 to control fugitive dust (see Standard Conditions 4.2.1 through 4.2.2, below). Architectural coatings contain volatile organic compounds (ROGs) that are ozone (O_3) precursors. Application of architectural coatings for the proposed peak construction day is estimated to result in a peak of 10.4 lbs/day of ROGs, which is lower than the peak daily ROG emissions for the Approved Project. The ROG emissions associated with the Modified Project would not exceed the SCAQMD ROG threshold of 75.0 lbs/day. Therefore, the Modified Project would result in lower peak daily ROG emissions than the Approved Project, and it would not contribute to new significant construction-related air quality impacts that were not identified in the 2016 EIR.

Operation Emissions. The Modified Project would result in net increases in both area and mobile-source emissions over existing conditions; however, based on trip generation factors as provided in the *Belmont Plaza Pool Revised Traffic Analysis* (Revised Traffic Analysis) (LSA, November 2019), the Modified Project would generate 900 peak-hour weekend trips, similar to the 900 peak-hour weekend trips identified for the Approved Project. A comparison of the long-term operational emissions associated with the Modified Project and the Approved Project is shown in Table 3.3.B.

Table 3.3.B: Opening Year Regional Operational Emissions

Source	Pollutant Emissions (lbs/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Total Approved Project Peak Daily Emissions	**10.0**	**18.0**	**68.0**	**0.2**	**12.0**	**3.4**
Modified Project						
Area	0.4	<0.1	<0.1	0	<0.1	<0.1
Energy	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Mobile	3.8	18.9	43.4	0.2	12.9	3.5
Total Project Emissions	**4.3**	**19.0**	**43.4**	**0.2**	**12.9**	**3.5**
SCAQMD Thresholds	**55.0**	**55.0**	**550.0**	**150.0**	**150.0**	**55.0**
Exceed SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2019).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROG = reactive organic gas
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides

As shown in Table 3.3.B, project-related increases of all criteria pollutants would not exceed the corresponding SCAQMD daily emission thresholds for any criteria pollutants. The Modified Project would result in lower peak daily emissions of ROGs and CO than the Approved Project. The default vehicle fleet mix has changed in the newer version of CalEEMod model (v.2016.3.2) compared to the older version (v.2013.2.2) reported for the Approved Project in the 2016 Certified EIR. As a result, the NO_X, PM_{10}, and $PM_{2.5}$ emissions would increase slightly (between 1 to 2 lbs/day) for the mobile sources associated with the Modified Project. However, emissions of NO_X, PM_{10}, and $PM_{2.5}$ would still remain below SCAQMD daily emission thresholds and would not contribute to new significant operation-related air quality impacts that were not identified for the Approved Project.

Similar to the Approved Project, the localized operational emissions from the Modified Project would not exceed the LSTs. As such, the Modified Project would not contribute to new significant construction-related air quality impacts that were not identified in the 2016 EIR. No mitigation is required.

3.3.3.3 Result in a cumulatively considerable net increase of any criteria pollutant

Similar to the Approved Project, the Modified Project's projected construction, operational, and LST emissions of criteria pollutants are projected to be below the emissions thresholds established for the region (see threshold discussion in 3.3.3.2, above). Since certification of the 2016 EIR, no new projects have been proposed in the Project area that would combine with the Modified Project to create a cumulatively considerable net increase of criteria pollutants. Further, cumulative emissions are part of the emission inventory included in the AQMP for the Project area. Therefore, the Modified Project would not contribute to a cumulatively considerable net increase of the criteria pollutants that are in "nonattainment" status in the South Coast Air Basin, and impacts would have a less than significant impact, similar to the Approved Project. No mitigation is required.

3.3.3.4 Expose sensitive receptors to substantial pollutant concentrations

The sensitive land uses within the vicinity of the Modified Project include the existing Belmont Shores Children's Center (Preschool/Child Care) facility located within 25 feet (ft) of the northern boundary of the Project site, residences approximately 80 ft to the west, and residences across East Ocean Boulevard approximately 100 ft to the northeast of the Project site. As shown on Table 3.3.C below, the localized construction emissions would not exceed the LSTs that apply to the closest receptor locations on the Project site. Therefore, the Modified Project would not contribute to new significant construction-related air quality impacts that were not identified in the 2016 Certified EIR.

Table 3.3.C: Construction Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
On-Site Emissions	40	21	9	6
LST Thresholds	**123**	**1,530**	**14**	**8**
Exceed LST Thresholds?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2019).
Note: Source Receptor Area – South Coastal Los Angeles County, 5 acres, receptors at 25 meters
CO = carbon monoxide
lbs/day = pounds per day
LST = local significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

For a worst-case scenario assessment of operational localized impacts, the emissions shown in Table 3.3.D, below, include all on-site project-related area sources and the project-related regional mobile sources, which are estimated at 5 percent of the total project-related vehicle traffic that will occur for the Modified Project on-site.

Table 3.3.D: Long-Term Operational Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
On-Site Emissions	1	2	<1	<1
LST Thresholds	**123**	**1,530**	**4**	**2**
Exceed LST Thresholds?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2019).
Note: Source Receptor Area – South Coastal Los Angeles County, 5 acres, receptors at 25 meters, on-site traffic 5 percent of total.
CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance thresholds
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

The 2016 EIR concluded that the localized emissions from operational activities would be less than significant. Table C shows that the localized operational emissions from the Modified Project would not exceed the LSTs; therefore, the existing Belmont Shores Children's Center (Preschool/Child Care) facility, which is located approximately 25 ft (7.6 m) to the west of the Project site would not experience localized effects associated with the project. As such, the Modified Project would not contribute to new significant construction-related air quality impacts that were not identified in the 2016 Certified EIR.

CO Hot Spot Analysis. As shown in the Revised Traffic Analysis (LSA 2019), the Modified Project would result in 900 weekend peak-hour trips, similar to the Approved Project. Given the extremely low level of CO concentrations in the Project area, project-related vehicles are not expected to contribute significantly to CO concentrations exceeding the State or federal CO standards. Because no CO hot spot would occur, there would be no project-related impacts on CO concentrations associated with implementation of the Modified Project, similar to the conclusions for the Approved Project. No mitigation is required.

3.3.3.5 Cumulative Air Quality Impacts

As indicated in the discussion above, the Modified Project would not substantially deteriorate local air quality or result in a cumulatively considerable net increase in any criteria pollutant with implementation of Standard Conditions 4.2.1 and 4.2.2 requiring adherence to applicable SCAQMD rules and regulations. Since certification of the 2016 EIR, no new projects have been proposed in the Project area that would combine with the Modified Project to create a cumulatively considerable net increase of criteria pollutants. Therefore, similar to the Approved Project, cumulative operational impacts associated with proposed operation of the Modified Project are determined to be less than significant; no mitigation is required.

3.3.4 Findings Related to Air Quality

3.3.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to air quality, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.3.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the record or otherwise available that indicates that there are substantial changes in circumstances pertaining to air quality that would require major changes.

3.3.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to air quality requiring major revisions to the 2016 Certified EIR.

3.3.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR.

There is no new information, mitigation, or alternatives to the project that would substantially reduce one or more significant impacts pertaining to air quality identified and considered in the 2016 Certified EIR.

3.3.5 Standard Conditions

The following standard conditions pertaining to air quality that were identified in the 2016 Certified EIR are applicable to the Modified Project.

Standard Condition 4.2.1 **Construction Emissions.** The proposed Project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. The South Coast Air Quality Management District (SCAQMD) Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rules 403 and 402 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the particulate matter less than 10 microns in diameter [PM10] component).

Standard Condition 4.2.2 **Applicable Rules 403 and 402 Measures.** The Project construction contractor shall develop and implement dust-control methods that shall achieve this control level in a SCAQMD Rule 403 dust control plan, designate personnel to monitor the dust control program, and order increased watering, as necessary, to ensure a 55 percent control level. Those duties shall include holiday and weekend periods when work may not be in progress. Additional control measures to reduce fugitive dust shall include, but are not limited to, the following:

- Apply water twice daily, or nontoxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces or as needed to areas where soil is disturbed.
- Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.

- During earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering or other dust-preventive measures using the following procedures:
  - All material excavated shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day.
  - All earthmoving or excavation activities shall cease during periods of high winds (i.e., winds greater than 20 miles per hour [mph] averaged over 1 hour).
  - All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
  - The area disturbed by earthmoving or excavation operations shall be minimized at all times.
- After earthmoving or excavation operations, fugitive dust emissions shall be controlled using the following measures:
  - Portions of the construction area to remain inactive longer than a period of 3 months shall be revegetated and watered until cover is grown.
  - All active portions of the construction site shall be watered to prevent excessive amounts of dust.
- At all times, fugitive dust emissions shall be controlled using the following procedures:
  - On-site vehicle speed shall be limited to 15 mph.
  - Road improvements shall be paved as soon as feasible, watered periodically, or chemically stabilized.
- At all times during the construction phase, ozone precursor emissions from mobile equipment shall be controlled using the following procedures:
  - Equipment engines shall be maintained in good condition and in proper tune according to manufacturers' specifications.
  - On-site mobile equipment shall not be left idling for a period longer than 60 seconds.

- Outdoor storage piles of construction materials shall be kept covered, watered, or otherwise chemically stabilized with a chemical wetting agent to minimize fugitive dust emissions and wind erosion.

3.3.6 Mitigation Measures

No mitigation measures were required for air quality in the 2016 Certified EIR, and no mitigation is required for the Modified Project.

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3.4 BIOLOGICAL RESOURCES

3.4.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to biological resources. Refer to Section 4.3, Biological Resources, of the 2016 Certified EIR for an in-depth discussion of the existing environmental setting for biological resources.

The site lacks significant topographic features, such as hillsides or slopes, and lacks native and critical habitat. Vegetation is limited to a few mature ornamental trees, a manicured lawn, and ornamental landscaping. The portion of the Project site that contained the former Belmont Pool facility remains as an undeveloped lot with a sand covering. This backfilled sand area is temporary and is the location where the proposed Belmont Pool facility will be constructed.

The Project site is a previously developed property in a heavily urbanized coastal area, and is fully surrounded by residential, commercial, and recreational uses (such as public beaches and the Belmont Pier). Therefore, the Project site and surrounding areas are not subject to any Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). The Project site is located within the Coastal Zone.

3.4.2 2016 Certified EIR

Please refer to Section 4.3 of the Certified EIR for analysis of the potential impacts of the Approved Project related to biological resources.

The Certified EIR concluded that the following biological impacts would be less than significant with the implementation of mitigation measures.

3.4.2.1 Effects on Candidate, Sensitive, or Special-Status Species

Less than Significant Impact. As described in the 2016 Certified EIR, no sensitive natural community or special-status plant species were identified on the Project site, and no designated critical habitat was identified in the Project site. On-site vegetation was identified as non-native vegetation utilized by bird species that would be able to relocate to other hunting and foraging habitats. The removal of on-site vegetation was not expected to have a significant adverse effect on candidate, sensitive, or special-status species, as defined by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS). Therefore, the 2016 Certified EIR determined that potential impacts to candidate, sensitive, or special-status species would be less than significant, and no mitigation was required.

3.4.2.2 Interfere with Migratory Wildlife Corridors

Less than Significant Impact with Mitigation Incorporated. As described in the 2016 Certified EIR, the Project site was not determined to be a highly functioning movement corridor for wildlife species and no significant high-value nursery habitat sites were identified. However, because of the presence of several mature ornamental trees on the Project site, implementation of the Approved Project had the potential to interfere with native resident or migratory bird species. Under the

Approved Project, a total of 30 trees would have been removed or relocated. Twenty-four canopy trees would have been removed, along with five palms. Four to five of the canopy trees were being considered for relocation, to accommodate the expansion of pool facilities. The *Biological Survey Memorandum and Preconstruction Nesting Bird and Bat Roost Surveys Memorandum* prepared for the Approved Project identified ten nesting/roosting sites in total. The nesting bird and bat roost surveys conducted on August 18, 2014 for the Approved Project found no active bird nests but did identify evidence of recent roosting in two locations and one roosting black-crowned night heron. In addition, no bats were observed emerging from the former Belmont Pool building complex at any time during the emergence survey; no bats were observed flying or foraging in the vicinity; and no bats were detected with acoustic equipment. Therefore, based upon the daytime building inspection and the nighttime emergence survey, there was no evidence that bats were roosting on or around the Project site. Therefore, the 2016 Certified EIR determined that no impacts to day-roosting bats or bat colonies on the Project site or in the vicinity of the Project site are expect to occur.

Construction activities associated with the Approved Project may have resulted in some temporary disruptions to the roosting activities of the bird species utilizing these locations. In addition, construction of the pool facilities and renovations to the passive park areas had the potential to cause a direct loss of nesting trees or the abandonment of nests in those trees. However, the bird species present in the Project area were coexisting with pool and park users, accustomed to human intrusion and noise, and anticipated to be able to reestablish to the relocated trees and adapt to the additional trees installed as a part of the Approved Project. Therefore, the 2016 Certified EIR determined that long-term operation of the Approved Project would have less than significant impacts on nesting and/or roosting birds.

The 2016 Certified EIR required the implementation of Mitigation Measure 4.3.1, which would restrict the removal of trees and vegetation during the nesting season and require surveys, as necessary, prior to construction to ensure that potential construction impacts to migratory birds are reduced to a less than significant level.

With implementation of Mitigation Measure 4.3.1, the 2016 Certified EIR determined that the potential impacts to native resident and migratory wildlife species and corridors would be less than significant.

3.4.2.3 Conflict with any Local Policies or Ordinances Protecting Biological Resources

Less than Significant Impact with Mitigation Incorporated. As described in the 2016 Certified EIR, the Approved Project would have been constructed within an existing developed area that contains ornamental landscaping and non-native vegetation. The Approved Project would have complied with the Tidelands Area Tree Trimming policy by restricting tree trimming within 300 ft of any tree containing an active nest or nesting activity during the period from January 15 through September 1. The construction of the pool facilities would have resulted in removal or relocation of 30 trees. A total of 4–5 canopy trees were slated for relocation, to accommodate the expansion of pool facilities. In accordance with the City's Municipal Code, Chapter 14.28, a ministerial permit from the Director of Public Works would be required before the removal of any trees on City-owned property. The City's Tree Maintenance Policy requires a 1:1 replacement ratio and payment of a fee that is equivalent to a City-approved 15-gallon tree. The 2016 Certified EIR required the implementation of Mitigation Measure 4.3.2, which addresses this ordinance and outlines the requirement for the replacement of trees.

With implementation of Mitigation Measure 4.3.2, the Certified EIR determined that impacts related to the City's tree protection ordinance would be reduced to a less than significant level.

3.4.2.4 Cumulative Biological Resource Impacts

Less than Significant Impact with Mitigation Incorporated. The Certified EIR analyzed a cumulative Project area of the immediate Project site and the Greater Belmont Shore area for cumulative impacts on biological resources. Although the Approved Project had a limited potential to result in a cumulative impact to nesting migratory bird species or biological resources, with the implementation of Mitigation Measures 4.3.1 and 4.3.2, potential impacts to migratory bird species would have been reduced to a less than significant level. Therefore, overall adverse impacts to nesting migratory bird species would not have been cumulatively significant.

The Project site does not contain any native habitat, and is in an area with substantial urban development and limited native habitat. Therefore, loss of potential habitat on the Project site would not have been a substantial impact. As a result, when considered with the potential effects of other development on biological resources in this part of the City of Long Beach, the Approved Project would not have contributed appreciably to cumulative adverse impacts on biological resources. Therefore, the 2016 Certified EIR determined that the contribution of the Approved Project to cumulative adverse impacts on biological resources would not be cumulatively significant.

3.4.3 Analysis of the Modified Project

As part of the Modified Project, revised biological resources reports have been completed. As such, the analysis of the Modified Project changes and the findings related to Biological Resources are based on the *Biological Nest and Nesting Bird Survey for the Belmont Plaza Pool Revitalization Project* (Nesting Bird Survey) (LSA, November 2019), and *Results of Preconstruction Focused Bat Survey for the Belmont Plaza Pool Revitalization Project* (Bat Survey) (LSA, November 2019), both of which are contained in Appendix B of this Addendum.

3.4.3.1 Effects on Candidate, Sensitive, or Special-Status Species

The development proposed under the Modified Project would be located on the same portion of the Project site as the Approved Project but further northeast (inland). Under the Approved Project, no sensitive natural community or special-status plant species were identified on the Project site, and no designated critical habitat was identified in the Project site. Since the Project site has remained substantially the same, it is reasonable to conclude that the Project site under the Modified Project would also not contain sensitive natural communities, special-status plant species, or designated critical habitat.

On November 25, 2019, the CDFW's California Natural Diversity Database (CNDDB) was queried for records and information of potentially occurring species and vegetation communities documented within a 1-mile radius of the Project site. The records search identified the following four nonsensitive animal species: bank swallow (*Riparia riparia*), sandy beach tiger beetle (*Cicindela hirticollis gravida*), Western beach tiger beetle (*Cicindela latesignata latesignata*), and California least tern (*Sternula antillarum browni*). The records search identified the Western tidal-flat tiger beetle (*Cicindela gabbii*) as a sensitive animal species within a 1-mile radius of the Project site. The following plant species were also identified within a 1-mile radius of the Project site: Coast woolly-heads (*Nemacaulis denudata* var. *denudata*) and Estuary Seablite (*Suaeda esteroa*). There are no records for federally threatened species within a 1-mile radius of the Project site. However, the California least tern is considered endangered at the federal and State levels. Additionally, the Bank Swallow is considered threatened at the State level. Although these species were identified within 1-mile of the Project site, none are known to be occurring within the site.

Existing on-site vegetation is non-native and utilized by bird species that would be able to relocate to other hunting and foraging habitats. The removal of on-site vegetation is not expected to have a significant adverse effect on candidate, sensitive, or special-status species, as defined by the CDFW or the USFWS. Therefore, the Modified Project would have similar impacts to candidate, sensitive, or special-status species as the Approved Project. Impacts would remain less than significant, and no mitigation is required.

3.4.3.2 Interfere with Migratory Wildlife Corridors

The development proposed under the Modified Project would be located on the same portion of the Project site as the Approved Project but further northeast (inland). Under the Approved Project, the Project site was not determined to be a highly functioning movement corridor for wildlife species, and no significant high-value nursery habitat sites were identified. Since the Project site has remained substantially the same, it is reasonable to conclude that the Project site under the Modified Project would also not be recognized as a highly functioning movement corridor for wildlife species and would not contain significant high-value nursery habitat sites. However, because of the presence of several mature ornamental trees on the Project site, implementation of the Modified Project has the potential to interfere with native resident or migratory bird species. Under the Modified Project, a total of 27 trees would be removed, none of which would be relocated. Under the Approved Project, a total of 30 trees would have been removed or relocated. As such, this represents a decrease in the amount of trees that would have been removed or relocated as compared to the Approved Project. A total of 16 canopy trees and 11 palms would be removed, and none of the trees are being considered for relocation. As such, implementation of the Modified Project has the potential to interfere with native resident or migratory bird species.

The Nesting Bird Survey (LSA 2019) prepared for the Modified Project identified 15 locations (1 structure and 14 trees) with evidence of nesting and/or roosting for the years 2013, 2014, 2015, and 2019. It should be noted that nests were not identified in each location in each year surveyed. In the most recent survey conducted on September 30, 2019, nests were identified in five locations, all of which were in trees along sidewalks within the Project site. Construction activities associated with the Modified Project may result in temporary disruptions to the roosting activities of the bird species utilizing these locations. In addition, construction of the pool facilities and renovations to the passive park areas would result in a direct loss of nesting trees or potentially the abandonment of nests in those trees. However, the bird species present in the Project area coexist with pool and park users, are accustomed to human intrusion and noise, and are anticipated to be able to reestablish to the relocated trees and adapt to the additional trees installed as a part of the Modified Project. Therefore, the Modified Project would have similar impacts on nesting and/or roosting birds as compared to the Approved Project.

The Modified Project would require implementation of Mitigation Measure 4.3.1, which would restrict the removal of trees and vegetation during the nesting season and require surveys, as necessary, prior to construction to ensure that potential construction impacts to migratory birds remain at a less than significant level. While hummingbirds are not known to nest on the site, hummingbird species have the potential to nest during the non-breeding season. Therefore, Mitigation Measure 4.3.1, as included in the 2016 Certified EIR, has been expanded to require surveys during the non-breeding season, in order to avoid any possible impact to hummingbirds. With implementation of Mitigation Measure 4.3.1, as expanded, the potential impacts to native resident and migratory wildlife species and corridors would remain less than significant, similar to the Approved Project.

According to the Bat Survey conducted for the Modified Project, no bats were observed emerging from any of the trees, nor were any bats visually observed anywhere during the emergence period. However, two echolocation sequences identified as belonging to Mexican free-tailed bat (*Tadarida brasiliensis mexicana*) were recorded with the acoustical equipment. Because these two calls were detected less than 10 seconds apart on two acoustic detectors placed in the eastern portion of the Project area, it is likely that these calls belong to the same individual passing over the Project site. No other bat species were detected during the survey. Therefore, based upon the nighttime emergence survey, there is no evidence that bats were roosting on or around the Project site. Therefore, no impacts to bats on the Project site or in the vicinity of the Project site are expected to occur, and no mitigation is required.

3.4.3.3 Conflict with any Local Policies or Ordinances Protecting Biological Resources

Similar to the Approved Project, the Modified Project would be constructed within an existing developed area that contains ornamental landscaping and non-native vegetation. The Modified Project would also comply with the Tidelands Area Tree Trimming policy by restricting tree trimming within 300 ft of any tree containing an active nest or nesting activity during the period from January 15 through September 1. Implementation of the Modified Project would result in the removal of 27 trees, representing a decrease in the amount of trees that would have been removed or relocated under the Approved Project. None of the trees are planned to be relocated.

In accordance with the City's Municipal Code, Chapter 14.28, a ministerial permit from the Director of Public Works would be required before the removal of any trees on City-owned property. The City's Tree Maintenance Policy requires a 1:1 replacement ratio and payment of a fee that is equivalent to a City-approved 15-gallon tree. Similar to the Approved Project, the Modified Project would require implementation of Mitigation Measure 4.3.2, which addresses this ordinance and outlines the requirement for the replacement of trees. With implementation of Mitigation Measure 4.3.2, the potential impacts resulting from conflicts with local policies or plans protecting biological resources would remain less than significant.

As stated previously, the Nesting Bird Survey identified 15 locations with evidence of nesting and/or roosting for the years 2013, 2014, 2015, and 2019. Trees within the Project area that have been used for breeding and nesting or have a nest that has been used within the past 5 years are protected under an existing Coastal Development Permit (CDP 5-08-187) and in compliance with the existing requirements, shall not be removed or disturbed during the breeding and nesting season unless a health-and-safety danger exists. Pursuant to the existing requirement in CDP 5-08-187, the removal of any breeding and nesting tree requires replacement at a 1:1 ratio. Each tree to be replaced must specify the replacement tree location, tree type, tree size (no less than 36-inch box size), planting specifications, and include a five-year monitoring program inclusive of specific performance standards. Project compliance with the existing requirements of CDP 5-08-187 would ensure impacts would remain less than significant.

3.4.3.4 Cumulative Biological Resource Impacts

As indicated in the discussion above, the Modified Project is located on the same site as the Approved Project in an urban area with limited native habitat. The Modified Project has limited potential to result in a cumulative impact to nesting migratory bird species or biological resources. With the implementation of Mitigation Measures 4.3.1 and 4.3.2, as required for the Approved Project, potential impacts to migratory bird species would be reduced to a less than significant level for the Modified Project. Further, implementation of the Modified Project would result in the removal or relocation of fewer tress than proposed under the Approved Project. Therefore, the contribution of the Modified Project to potential cumulative impacts to nesting migratory bird species in the Project area is considered comparable to the Approved Project and is less than cumulatively considerable. No mitigation is required.

3.4.4 Findings Related to Biological Resources

3.4.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to biological resources, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.4.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the record or otherwise available that indicates that there are substantial changes in circumstances pertaining to biological resources that would require major changes to the 2016 Certified EIR.

3.4.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to biological resources requiring major revisions to the 2016 Certified EIR.

3.4.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR.

There is no new information, mitigation, or alternatives to the project that would substantially reduce one or more significant impacts pertaining to biological resources identified and considered in the 2016 Certified EIR.

3.4.5 Standard Conditions

There are no standard conditions pertaining to biological resources applicable to either the Approved Project or the Modified Project.

3.4.6 Mitigation Measures

The following mitigation measures pertaining to biological resources and included in the 2016 Certified EIR are applicable to the Modified Project. Although hummingbirds are not known to nest on the site, Mitigation Measure 4.3.1 has been expanded to require surveys during the non-breeding season, in order to avoid any possible impact to hummingbirds. Additions are indicated in redline text and deletions in strikeout.

Mitigation Measure 4.3.1 **Migratory Bird Treaty Act.** Tree and vegetation removal shall be restricted to outside the likely active nesting season (January 15 through September 1) for those bird species present or potentially occurring within the proposed Project area. That time period is inclusive of most other birds' nesting periods, thus maximizing avoidance of impacts to any nesting birds. ~~If construction is proposed between January 15 and September 1, a~~ A qualified biologist familiar with local avian species and the requirements of the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code shall conduct a preconstruction survey for nesting birds during both the non-breeding and breeding seasons and no more than 3 days prior to construction. The survey shall include the entire area that will be disturbed. The results of the survey shall be recorded in a memorandum and submitted to the City of Long Beach (City) Parks, Recreation and Marine Director within 48 hours. If the survey is positive, and the nesting species are subject to the MBTA or the California Fish and Game Code, the memorandum shall be submitted to the California Department of Fish and Wildlife (CDFW) to determine appropriate action. If nesting birds are present, a qualified biologist shall be retained to monitor the site during initial vegetation clearing and grading, as well as during other activities that would have the potential to disrupt nesting behavior. The monitor shall be empowered by the City to halt construction work in the vicinity of the nesting birds if the monitor believes the nest is at risk of failure or the birds are excessively disturbed.

Mitigation Measure 4.3.2 **Local Tree Removal Ordinances.** Prior to the start of any demolition or construction activities, the City of Long Beach Parks, Recreation and Marine Director, or designee, shall obtain a tree removal permit from the City's Director of Public Works. A City-approved Construction Plan shall be submitted with the permit to remove tree(s). The City-approved Plan shall show that the existing City (parkway) tree has a direct impact on the design and function of the proposed Project. The City shall incur all removal costs, including site cleanup, make any necessary repair of hardscape damage, and replace the tree. The removed tree shall be replaced with an approved 15-gallon tree and payment of a fee that is equivalent to a City-approved 15-gallon tree.

3.5 CULTURAL RESOURCES

3.5.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to cultural resources. As such, refer to Section 4.4, Cultural Resources, of the 2016 Certified EIR for an in-depth discussion of the existing environmental setting for cultural resources and potential impacts to cultural resources.

3.5.2 2016 Certified EIR

Please refer to Section 4.4 of the 2016 Certified EIR for analysis of potential effects of the Approved Project related to cultural resources.

3.5.2.1 Unique Paleontological Resource or Unique Geologic Feature

Less than Significant Impact with Mitigation Incorporated. As described in the 2016 Certified EIR, the results of the locality search and field survey conducted for the Approved Project indicated that Artificial Fill, Very Young Beach Deposits, Very Young Estuarine Deposits, and Young Alluvial Floodplain Deposits have the potential for being encountered within the Project site. Artificial Fill, Very Young Beach Deposits, and Very Young Estuarine Deposits do not have significant potential to support paleontological resources. However, Young Alluvial Floodplain Deposits do have the potential to contain fossils of paleontological significance once a depth of 23 ft below the ground surface is reached. Therefore, the 2016 Certified EIR determined that there would be the potential for significant fossil remains to be encountered during excavation activities at depths of 23 ft or greater. The 2016 Certified EIR required the implementation of Mitigation Measure 4.4.1, which required a qualified paleontologist to be retained to monitor excavation activities once a depth of 23 ft is reached. With implementation of Mitigation Measure 4.4.1, impacts to paleontological resources would be less than significant for the Approved Project.

3.5.2.2 Cumulative Cultural Resource Impacts

Less than Significant Impact with Mitigation Incorporated. The 2016 Certified EIR analyzed a cumulative Project area of the City of Long Beach, which is the geographical area covered by the City's General Plan, including all goals and policies therein. The Approved Project, in conjunction with other developments in the City, had the potential to cumulatively impact archaeological and paleontological resources; however, each development proposal received by the City undergoes environmental review pursuant to CEQA. If there was a potential for significant impacts to occur to archaeological or paleontological resources, an investigation would be required to determine the nature and extent of the resources and to identify appropriate mitigation measures. If subsurface cultural resources are assessed and/or protected as they are discovered, impacts to these resources would be less than significant. In addition, applicable City ordinances and General Plan policies would have been implemented as appropriate to reduce the effects of additional development within the City.

With the implementation of Mitigation Measure 4.4.1, potential project impacts to cumulative resources would have been reduced by ensuring avoidance, evaluation, and, as applicable, scientific recovery and study of any resources encountered. As such, the 2016 Certified EIR determined that with implementation of Mitigation Measure 4.4.1, the contribution of the Approved Project to the cumulative loss of known and unknown cultural resources throughout the City would be less than cumulatively significant.

3.5.3 Analysis of the Modified Project

3.5.3.1 Unique Paleontological Resource or Unique Geologic Feature

The Modified Project would be constructed on the same site as the Approved Project and the adjoining Myrtha pool site, and as such, all site-specific paleontological and geologic conditions would continue to apply. Although the temporary pool and associated landscaping is now included as a part of the project, no substantial construction or excavation is required to convert the pool to a permanent pool. However, similar to the Approved Project, during excavation and grading activities, there would be the potential for unknown fossil remains to be encountered during excavation activities at depths of 23 ft or greater. Therefore, the Modified Project would be required to implement Mitigation Measure 4.4.1 from the 2016 Certified EIR, which requires a qualified paleontologist to be retained to monitor excavation activities once a depth of 23 ft is reached. With the implementation of Mitigation Measure 4.4.1, the Modified Project's impacts related to impacts to paleontological resources would remain less than significant, similar to the Approved Project.

3.5.3.2 Cumulative Cultural Resource Impacts

Similar to the Approved Project, the Modified Project, in conjunction with other developments in the City, has the potential to cumulatively impact archaeological and paleontological resources. However, each development proposal received by the City undergoes environmental review pursuant to CEQA. Therefore, if potential significant impacts to archaeological or paleontological resources are identified, an investigation would be required to determine the nature and extent of the resources and to identify appropriate mitigation measures for other developments within the City. Additionally, applicable City ordinances and General Plan policies would also be implemented as appropriate to reduce the effects of additional development within the City. As such, with the implementation of Mitigation Measure 4.4.1 from the 2016 Certified EIR, the contribution of the Modified Project to the cumulative loss of known and unknown cultural resources throughout the City would remain less than cumulatively significant.

3.5.4 Findings Related to Cultural Resources

3.5.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to cultural resources, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.5.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the record or otherwise available that indicates that there are substantial changes in circumstances pertaining to cultural resources that would require major changes to the 2016 Certified EIR.

3.5.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to cultural resources requiring major revisions to the 2016 Certified EIR.

3.5.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR.

There is no new information, mitigation, or alternatives to the project that would substantially reduce one or more significant impacts pertaining to cultural resources identified and considered in the 2016 Certified EIR.

3.5.5 Standard Conditions

There are no standard conditions pertaining to cultural resources applicable to either the Approved Project or the Modified Project.

3.5.6 Mitigation Measures

The following mitigation measure pertaining to cultural resources and included in the 2016 Certified EIR is applicable to the Modified Project.

Mitigation Measure 4.4.1

Paleontological Resources Impact Mitigation Program. Prior to commencement of any grading or excavation activity on site, the City of Long Beach (City) Development Services Director, or designee, shall verify that a paleontologist has been retained on an on-call basis for all excavation from the surface to depths of 23 feet (ft) below the surface. Once a depth of 23 ft is reached, the paleontologist shall visit the site and determine if there is a potential for the sediments at this depth to contain paleontological resources.

A paleontologist shall not be required on site if excavation is only occurring in depths of less than 23 ft, unless there are discoveries at shallower depths that warrant the presence of a paleontological monitor. In the event that there are any unanticipated discoveries, the on-call paleontologist shall be called to the site to assess the find for significance, and if necessary, prepare a Paleontological Resources Impact Mitigation Program (PRIMP) as outlined below.

If excavation will extend deeper than 23 ft, exclusive of pile-driving and vibro-replacement soil stabilization techniques, the paleontologist shall prepare a PRIMP for the proposed Project. The

PRIMP should be consistent with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1995 and 2010) and shall include but not be limited to the following:

- Attendance at the pre-grade conference or weekly tailgate meeting if the PRIMP is initiated after the commencement of grading, in order to explain the mitigation measures associated with the Project.

- During construction excavation, a qualified vertebrate paleontological monitor shall initially be present on a full-time basis whenever excavation shall occur within the sediments that have a high paleontological sensitivity rating. Based on the significance of any recovered specimens, the qualified paleontologist may set up conditions that shall allow for monitoring to be scaled back to part-time as the Project progresses. However, if significant fossils begin to be recovered after monitoring has been scaled back, conditions shall also be specified that would allow increased monitoring as necessary. The monitor shall be equipped to salvage fossils and/or matrix samples as they are unearthed in order to avoid construction delays. The monitor shall be empowered to temporarily halt or divert equipment in the area of the find in order to allow removal of abundant or large specimens.

- The underlying sediments may contain abundant fossil remains that can only be recovered by a screening and picking matrix; therefore, these sediments shall occasionally be spot-screened through 1/8 to 1/20-inch mesh screens to determine whether microfossils exist. If microfossils are encountered, additional sediment samples (up to 6,000 pounds) shall be collected and processed through 1/20-inch mesh screens to recover additional fossils. Processing of large bulk samples is best accomplished at a designated location within the Project that shall be accessible throughout the Project duration but shall also be away from any proposed cut or fill areas. Processing is usually completed concurrently with construction, with the intent to have all processing completed before, or just after, Project completion. A small corner of a staging or equipment parking area is an ideal location. If water is not available, the location should be accessible for a water truck to occasionally fill containers with water.

- Preparation of recovered specimens to a point of identification and permanent preservation. This includes the washing and picking of mass samples to recover small invertebrate and vertebrate fossils and the removal of surplus sediment from around larger specimens to reduce the volume of storage for the repository and the storage cost.

- Identification and curation of specimens into a museum repository with permanent retrievable storage, such as the Natural History Museum of Los Angeles County (LACM).
- Preparation of a report of findings with an appended itemized inventory of specimens. When submitted to the City Development Services Director, or designee, the report and inventory would signify completion of the program to mitigate impacts to paleontological resources.

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3.6 GEOLOGY AND SOILS

3.6.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 and was included as part of the baseline conditions for the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to geology and soils. Refer to Section 4.5, Geology and Soils, of the 2016 Certified EIR, for an in-depth discussion of the existing environmental setting and potential impacts to geology and soils.

The site lacks significant topographic features, and there are no significant elevation differences within the vicinity of the Project site.

3.6.2 2016 Certified EIR

Please see Section 4.5 of the Certified EIR for a detailed analysis of the potential effects of the Approved Project related to geology and soils. The 2016 Certified EIR concluded that the following impacts would be less than significant related to geology and soils with implementation of mitigation measures. The information and analyses provided in this section are summarized from the following reports prepared for the Approved Project:

- *Report of Preliminary Geotechnical Investigation for the Proposed Belmont Plaza Olympic Pool Revitalization Project* (Preliminary Geotechnical Investigation), prepared by MACTEC (April 14, 2009);

- *Geotechnical Investigation for the Temporary Myrtha Pool and Associated Improvements, Belmont Plaza Revitalization*, prepared by GMU Geotechnical, Inc. (April 3, 2013);

- *Preliminary Geotechnical Report for the Belmont Plaza Pool Rebuild-Revitalization Project* (Preliminary Geotechnical Report), prepared by AESCO (April 24, 2014); and

- *Soil Corrosivity Evaluation for the Belmont Plaza Pool Facility Rebuild/Revitalization Project,* prepared by HDR Schiff (April 23, 2014).

These reports are collectively referred to as the Geotechnical Evaluations and are included in Appendix E of the Certified EIR.

3.6.2.1 Rupture of an Earthquake Fault

Less than Significant Impact. According to the Geotechnical Evaluations prepared for the Approved Project, there are no known active faults or fault traces crossing the Project site. Additionally, the Project site is not located within a designated Alquist-Priolo Earthquake Fault Zone, nor is it located within zones of either primary or secondary co-seismic surface deformation. As such, the 2016 Certified EIR determined that the site was not expected to experience primary surface fault rupture or related ground deformation, and no mitigation was required.

3.6.2.2 Strong Seismic Ground Shaking

Less than Significant with Mitigation Incorporated. As described in the 2016 Certified EIR, the closest mapped active faults to the Project site are the Newport-Inglewood and Palos Verdes Fault Zones. Since the Project site is located approximately 1.5 miles northeast of the Newport-Inglewood Structural Zone, significant ground shaking or secondary seismic ground deformation effects could occur at the site should a major seismic event occur along the Newport-Inglewood Structural Zone. The City demolished the pool building within the former Belmont Pool facility under an emergency permit (Statutory Exemption SE14-01) after it was determined to have a higher probability of collapse than acceptable standards. The Approved Project was intended to provide both the City and the public with a new seismically sound structure.

Because the Project site lies within the seismically active region of Southern California, the 2016 Certified EIR determined that with the implementation of Mitigation Measure 4.5.1, which requires the City to comply with the recommendations of the Geotechnical Evaluations and the most current California Building Code (CBC), impacts associated with strong seismic ground shaking would be reduced to less than significant levels.

3.6.2.3 Liquefaction

Less than Significant with Mitigation Incorporated. Refer to Section 3.6.2.5, below, for discussion on liquefaction and lateral spreading. The 2016 Certified EIR required the implementation of Mitigation Measure 4.5.1, which requires compliance with the recommendations contained in the Geotechnical Evaluations and the Final Geotechnical Report to ensure that potential impacts related to lateral spreading are reduced to less than significant levels.

3.6.2.4 Soil Erosion

Less than Significant with Mitigation Incorporated. As described in the 2016 Certified EIR, construction of the Approved Project included excavation of soils to install the proposed pools, trenching for utilities, and finish grading and site preparation for the proposed structures and hardscaping, which could potentially result in erosion and loss of topsoil. However, the Approved Project was required to adhere to all applicable construction standards with regard to erosion control and the Storm Water Pollution Prevention Plan (SWPPP) requirements for erosion and sedimentation control during construction. The 2016 Certified EIR required the implementation of Best Management Practices (BMPs) to control runoff and erosion from any earthmoving activities such as excavation and compaction. Additionally, the 2016 Certified EIR required the implementation of Standard Condition 4.2.2 (refer to Section 3.3.2 of this Addendum) and Mitigation Measure 4.8.1 (refer to Section 3.9.2 of this Addendum) to reduce potential significant impacts related to soil erosion to levels considered less than significant by reducing the amount of fugitive dust and the transport of soil. The 2016 Certified EIR determined that with implementation of these measures, soil erosion potential related to construction activities would be reduced to less than significant levels.

3.6.2.5 Unstable Slopes Related to Landslides, Lateral Spreading, Subsidence, Liquefaction, and Collapse

Landslides and Unstable Slopes.

Less than Significant with Mitigation Incorporated. As described in the 2016 Certified EIR, because the site is located in a relatively flat area, landslides or other forms of natural slope instability do not represent a significant hazard to the Project site. In addition, the Project site is not within a State-designated hazard zone for earthquake-induced landsliding. Therefore, potential impacts related to landslides were determined to be less than significant, and no mitigation was required.

Although no indications of landslide activity or slope instability were observed at the Project site, grading activities during construction would produce temporary construction slopes in some areas. Unstable cut-and-fill slopes could create significant short-term and long-term hazards, and proper shoring or bracings are needed for vertical or steeply sided trench excavations. As such, the 2016 Certified EIR required the implementation of Mitigation Measure 4.5.1, which requires planned grading and shoring to adhere to the recommendations of the Preliminary Geotechnical Investigation, which contains specific recommendations for addressing potential slope instability during construction. With implementation of these recommendations in accordance with Mitigation Measure 4.5.1, the 2016 Certified EIR determined that potential impacts related to slope instability during construction would be reduced to a less than significant level.

Lateral Spreading and Liquefaction.

Less than Significant with Mitigation Incorporated. As stated above, the Project site is located within a Liquefaction Hazard Zone as designated by the California Geological Survey (CGS). The Geotechnical Evaluations prepared for the 2016 Certified EIR concluded that the Approved Project would experience a high liquefaction or lateral spreading potential due to its location, historical high groundwater levels, and the presence of soil conditions common to liquefaction areas. As a result, the Project site and the development proposed for the Project site would be subject to impacts related to liquefaction of the on-site soils as a result of seismic shaking, and the implementation of mitigation was required. Mitigation Measure 4.5.1 was required the City to ensure compliance with the recommendations of the Geotechnical Evaluations prepared for the Approved Project, as well as the requirements of the City's Municipal Code (Title 18) and the CBC applicable at the time of grading. Mitigation Measure 4.5.1 also required the City to review and approve a Final Geotechnical Report prior to the commencement of grading. The 2016 Certified EIR determined that Project impacts related to liquefaction would be reduced to a less than significant level with the implementation of Mitigation Measure 4.5.1.

The Geotechnical Evaluations prepared for the Approved Project determined that several feet of lateral spreading towards the Pacific Ocean could occur in the event of earthquake ground motions. The movement of the soils due to lateral spreading would not be expected to be uniform. Therefore, seismically induced differential lateral spreading of approximately 9 to 80 inches should be expected to occur during an earthquake event. However, the Geotechnical

Evaluations concluded that the Approved Project is feasible with implementation of the final engineering design recommendations and compliance with the most current CBC. Therefore, the 2016 Certified EIR required the implementation of Mitigation Measure 4.5.1, which requires compliance with the recommendations contained in the Geotechnical Evaluations and the Final Geotechnical Report to ensure that potential impacts related to lateral spreading are reduced to less than significant levels.

Subsidence.

Less than Significant Impact. Although subsidence has occurred in the City of Long Beach in the past, the area has been stabilized and, therefore, is not expected to result in subsidence on the Project site. As such, the 2016 Certified EIR determined subsidence-related impacts to be less than significant, and no mitigation was required.

Corrosive Soils.

Less than Significant with Mitigation Incorporated. As described in the 2016 Certified EIR, laboratory testing indicated that on-site soils contain a negligible concentration of sulfates and severe concentrations of chlorides. Thus, the on-site soils should be considered severely corrosive to ferrous metals. The 2016 Certified EIR required the implementation of Mitigation Measure 4.5.2, which requires protection of ferrous metals and copper against corrosion. With implementation of Mitigation Measure 4.5.2, potential impacts related to corrosive soils were determined to be less than significant.

3.6.2.6 Expansive Soil

Less than Significant Impact. As discussed in the 2016 Certified EIR, the on-site granular soil depths of at least 8 ft are non-expansive while the underlying clay can be classified as having a moderate expansion potential based on the assessment of the soil classifications and results of expansion index testing contained in the Geotechnical Evaluations. Therefore, the 2016 Certified EIR determined that a non-expansive potential should be assumed for planning purposes of the proposed structures. As such, impacts related to expansive soils were determined to be less than significant, and no mitigation was required.

3.6.2.7 Cumulative Geology and Soils Impacts

Less than Significant with Mitigation Incorporated. The 2016 Certified EIR analyzed a cumulative study area of the Project site and the immediately adjacent properties that physically abut the Project site. The Project site is in a fully built out area in which new development is infrequent. Any new development projects would be required to meet applicable engineering standards to reduce their own potential geologic impacts to a less than significant level. Additionally, there were no other known activities or projects with activities that would affect the geology and soils at the Project site.

As described in the 2016 Certified EIR, there were no geotechnical conditions on site that would prohibit construction and no activities associated with the Approved Project that would contribute to any cumulative geological effects such as risk of ground failure, slope failure, or settlement problems in the Project vicinity. The 2016 Certified EIR required the implementation of Mitigation Measure 4.5.1 and Mitigation Measure 4.5.2 to ensure that the Approved Project would have a less than significant impact on geology and soils. The 2016 Certified EIR determined that with implementation of these mitigation measures, the Approved Project's geological impacts would have been less than cumulatively considerable.

3.6.3 Analysis of the Modified Project

The Modified Project is located on the same site as the Approved Project. Therefore, the Geotechnical Evaluations prepared for the Approved Project's site conditions are applicable to the Modified Project. In addition, as required in the Geotechnical Evaluation, a project-specific Final Geotechnical Report is required to be reviewed and approved by the City prior to commencement of grading. Therefore, the Final Geotechnical Report will evaluate and make recommendations based on the Modified Project's specific design.

3.6.3.1 Rupture of an Earthquake Fault

The Modified Project would be located on the same site as the Approved Project but development would be located further northeast (inland). According to the Geotechnical Evaluations prepared for the Approved Project, there are no known active faults or fault traces crossing the Project site. Additionally, the Project site is not located within a designated Alquist-Priolo Earthquake Fault Zone, nor is it identified as being located within zones of either primary or secondary co-seismic surface deformation. Therefore, the Project site is not expected to experience primary surface fault rupture or related ground deformation. Impacts would remain less than significant for the Modified Project, and no mitigation is required.

3.6.3.2 Strong Seismic Ground Shaking

The Modified Project would be located on the same site as the Approved Project but development would be located further northeast (inland). The closest mapped active faults to the Project site are the Newport-Inglewood and Palos Verdes Fault Zones. Since the Project site is located approximately 1.5 miles northeast of the Newport-Inglewood Structural Zone, significant ground shaking or secondary seismic ground deformation effects could occur at the site should a major seismic event occur along the Newport-Inglewood Structural Zone.

Similar to the Approved Project, the Modified Project would require implementation of Mitigation Measure 4.5.1, which would ensure compliance with the recommendations of the Geotechnical Evaluations and the most current CBC. Implementation of Mitigation Measure 4.5.1 would be required to reduce impacts associated with strong seismic ground shaking because the Project site lies within the seismically active region of Southern California. Therefore, with implementation of Mitigation Measure 4.5.1, impacts would remain less than significant.

3.6.3.3 Liquefaction

Refer to Section 3.6.3.5, below, for discussion on liquefaction and lateral spreading. Similar to the Approved Project, the Modified Project would require implementation of Mitigation Measure 4.5.1, which would ensure compliance with the recommendations contained in the Geotechnical

Evaluations and the Final Geotechnical Report. Implementation of Mitigation Measure 4.5.1 would ensure that potential impacts related to lateral spreading would remain less than significant.

3.6.3.4 Soil Erosion

Construction of the Modified Project would include excavation of soils in order to install the proposed pools, trenching for utilities, and finish grading and site preparation for the proposed structures and hardscaping, which could potentially result in erosion and loss of topsoil. These are the same construction activities that would have occurred for the Approved Project on the same Project site. Therefore, the Modified Project, like the Approved Project, would be required to adhere to all applicable construction standards with regard to erosion control and the SWPPP requirements for erosion and sedimentation control during construction as specified in Mitigation Measure 4.8.1 (refer to Section 3.9, Hydrology and Water Quality, of this Addendum, below). Similar to the Approved Project, the Modified Project would be required to comply with Construction BMPs to control runoff and erosion from any earthmoving activities such as excavation and compaction. Additionally, the Modified Project would be required to comply Standard Condition 4.2.2 (refer to Section 3.3, Air Quality), which would require implementation of dust control methods during construction. With the implementation of Standard Condition 4.2.2 and Mitigation Measure 4.8.1, impacts related to soil erosion potential during construction activities would remain less than significant for the Modified Project.

3.6.3.5 Unstable Slopes Related to Landslides, Lateral Spreading, Subsidence, Liquefaction, and Collapse

Landslides and Unstable Slopes. The Modified Project would be located on the same site as the Approved Project but development would be located further northeast (inland). Since the Project site is located in a relatively flat area, landslides or other forms of natural slope instability do not represent a significant hazard to the site. In addition, the Project site is not within a State-designated hazard zone for earthquake-induced landsliding. Similar to the Approved Project, the Modified Project's impacts related to landslides would remain less than significant. No mitigation is required.

During construction of the Modified Project, grading activities would produce temporary construction slopes in some areas. Unstable cut-and-fill slopes could create significant short-term and long-term hazards, and proper shoring or bracings are needed for vertical or steeply sided trench excavations. As such, like the Approved Project, the Modified Project would be required to implement Mitigation Measure 4.5.1, which requires planned grading and shoring to conform to the recommendations of the Preliminary Geotechnical Investigation. Specifically, the Preliminary Geotechnical Investigation contains specific recommendations for addressing potential slope instability during construction. With implementation of these recommendations in accordance with Mitigation Measure 4.5.1, impacts related to slope instability during construction would remain less than significant.

Lateral Spreading and Liquefaction. The Modified Project would be located on the same site as the Approved Project but development would be located further northeast (inland). As stated above, the Project site is located within a Liquefaction Hazard Zone as designated by CGS. The Geotechnical Evaluations concluded that the Approved Project would experience a high liquefaction or lateral spreading potential due to its location, historical high groundwater levels, and the presence of soil conditions common to liquefaction areas. Since the Project site has remained substantially the same, it is reasonable to conclude that the Project site under the Modified Project would also experience a high liquefaction or lateral spreading potential. As a result, the Project site and the development proposed for the site have the potential to experience liquefaction of the on-site soils as a result of seismic shaking. Similar to the Approved Project, the Modified Project would be required to implement Mitigation Measure 4.5.1, which requires compliance with the recommendations of the Geotechnical Evaluations, as well as requirements of the City's Municipal Code (Title 18) and the CBC applicable at the time of grading. Mitigation Measure 4.5.1 also requires the City to review and approve a Final Geotechnical Report prior to commencement of grading. With implementation of Mitigation Measure 4.5.1, impacts related to liquefaction would remain less than significant.

The Geotechnical Evaluations prepared for the Approved Project determined that several feet of lateral spreading towards the Pacific Ocean could occur in the event of earthquake ground motions. The movement of the soils due to lateral spreading would not be expected to be uniform. In addition, differential lateral spreading of approximately 9 to 80 inches was expected to occur in the building area during an earthquake event. However, the Geotechnical Evaluations concluded that the Approved Project was feasible with implementation of the final engineering design recommendations and compliance with the most current CBC. Since the Project site has remained substantially the same and the proposed development has been reduced in size, it is reasonable to conclude that the Project site under the Modified Project would also be considered feasible with implementation of the final engineering design recommendations and compliance with the most current CBC. Mitigation Measure 4.5.1 requires preparation of a project-specific Final Geotechnical Report prior to commencement of grading. Therefore, the Final Geotechnical Report will evaluate and make recommendations based on the Modified Project's specific design. Therefore, implementation of Mitigation Measure 4.5.1 would ensure that potential impacts related to lateral spreading would remain less than significant.

Subsidence. The Modified Project would be located on the same site as the Approved Project but development would be located further northeast (inland). Although subsidence has occurred in the City of Long Beach in the past, the area has been stabilized and, therefore, is not expected to result in subsidence on the Project site. As such, subsidence-related impacts of the Modified Project, similar to the Approved Project, would remain less than significant, and no mitigation is required.

Corrosive Soils. The Modified Project would be located on the same site as the Approved Project but development would be located further northeast (inland). According to the Geotechnical Evaluations, laboratory testing indicated that on-site soils contain a negligible concentration of sulfates and severe concentrations of chlorides. Thus, the on-site soils should be considered severely corrosive to ferrous metals. Similar to the Approved Project, the Modified Project would require implementation of Mitigation Measure 4.5.2, which requires protection of ferrous metals and copper against corrosion. With implementation of Mitigation Measure 4.5.2, potential impacts related to corrosive soils would remain less than significant.

3.6.3.6 Expansive Soil

The Modified Project would be located on the same site as the Approved Project but development would be located further northeast (inland). According to the Geotechnical Evaluations, the on-site granular soil depths of at least 8 ft are non-expansive, while the underlying clay can be classified as having a moderate expansion potential. As such, the Geotechnical Evaluations determined that a non-expansive soil potential should be assumed for planning purposes of the proposed structures on the Project site. Since the Project site has remained substantially the same, it is reasonable to conclude that, similar to the Approved Project, the expansive soils would not impact the Project site under the Modified Project. As such, impacts related to expansive soils would remain less than significant, and no mitigation is required.

3.6.3.7 Cumulative Geology and Soils Impacts

As indicated in the discussion above, the Modified Project is located on the same site as the Approved Project. The Project site is in a fully built out area in which new development is infrequent. Any new development projects would be required to meet applicable engineering standards to reduce their own potential geologic impacts to a less than significant level. Additionally, no other known activities or projects with activities that would affect geology and soils are currently occurring at or near the Project site.

According to the Geotechnical Evaluations, there are no geotechnical conditions on the Project site that would prohibit construction and no activities that would contribute to any cumulative geological effects such as risk of ground failure, slope failure, or settlement problems in the Project vicinity. With implementation of Mitigation Measures 4.5.1 and 4.5.2, as required for the Approved Project, impacts to geology and soils for the Modified Project would remain less than significant. Therefore, the contribution of the Modified Project to potential cumulative impacts to geology and soils in the study area is considered comparable to the Approved Project and would be less than cumulatively considerable.

3.6.4 Findings Related to Geology and Soils

3.6.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to geology and soils, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.6.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to geology and soils that would require major changes to the 2016 Certified EIR.

3.6.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to geology and soils requiring major revisions to the 2016 Certified EIR.

3.6.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR.

There is no new information, new alternatives to the Project, or additional mitigation measures that would substantially reduce one or more significant impacts pertaining to geology and soils identified and considered in the 2016 Certified EIR.

3.6.5 Standard Conditions

The following Standard Condition included in the 2016 Certified EIR pertaining to geology and soils is applicable to the Modified Project.

Standard Condition 4.2.2 **Applicable Rules 403 and 402 Measures.** The Project construction contractor shall develop and implement dust-control methods that shall achieve this control level in a SCAQMD Rule 403 dust control plan, designate personnel to monitor the dust control program, and order increased watering, as necessary, to ensure a 55 percent control level. Those duties shall include holiday and weekend periods when work may not be in progress. Additional control measures to reduce fugitive dust shall include, but are not limited to, the following:

- Apply water twice daily, or nontoxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces or as needed to areas where soil is disturbed.
- Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- During earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering or other dust-preventive measures using the following procedures:
  - All material excavated shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day.

   - All earthmoving or excavation activities shall cease during periods of high winds (i.e., winds greater than 20 miles per hour [mph] averaged over 1 hour).
   - All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
   - The area disturbed by earthmoving or excavation operations shall be minimized at all times.

- After earthmoving or excavation operations, fugitive dust emissions shall be controlled using the following measures:
   - Portions of the construction area to remain inactive longer than a period of 3 months shall be revegetated and watered until cover is grown.
   - All active portions of the construction site shall be watered to prevent excessive amounts of dust.

- At all times, fugitive dust emissions shall be controlled using the following procedures:
   - On-site vehicle speed shall be limited to 15 mph.
   - Road improvements shall be paved as soon as feasible, watered periodically, or chemically stabilized.

- At all times during the construction phase, ozone precursor emissions from mobile equipment shall be controlled using the following procedures:
   - Equipment engines shall be maintained in good condition and in proper tune according to manufacturers' specifications.
   - On-site mobile equipment shall not be left idling for a period longer than 60 seconds.

- Outdoor storage piles of construction materials shall be kept covered, watered, or otherwise chemically stabilized with a chemical wetting agent to minimize fugitive dust emissions and wind erosion.

3.6.6 Mitigation Measures

The following mitigation measures included in the 2016 Certified EIR pertaining to geology and soils are applicable to the Modified Project.

Mitigation Measure 4.5.1 **Conformance with the Project Geotechnical Studies.** All grading operations and construction shall be conducted in conformance with the recommendations included in the Report of Preliminary Geotechnical Investigation for the Proposed Belmont Plaza Olympic Pool Revitalization Project, prepared by MACTEC (April 14, 2009); the Geotechnical Investigation for the Temporary Myrtha Pool and Associated Improvements, Belmont Plaza Revitalization, prepared by GMU Geotechnical, Inc. (April 3, 2013); the Preliminary Geotechnical Report for the Belmont Plaza Pool Rebuild-Revitalization prepared by AESCO (April 24, 2014); and the Soil Corrosivity Evaluation for the Belmont Plaza Pool Facility Rebuild/ Revitalization Project, prepared by HDR Schiff (April 23, 2014), which together are referred to as the Geotechnical Evaluations. Design, grading, and construction shall be performed in accordance with the requirements of the City of Long Beach (City) Municipal Code (Title 18) and the California Building Code (CBC) applicable at the time of grading, appropriate local grading regulations, and the requirements of the Project geotechnical consultant as summarized in a final written report, subject to review and approval by the Development Services Director, or designee, prior to commencement of grading activities.

Specific requirements in the Final Geotechnical Report shall address:

1. Seismic design considerations and requirements for structures and nonstructural components permanently attached to structures

2. Foundations including ground improvements (deep soil mixing and stone columns) and shallow foundation design

3. Earthwork, including site preparation for structural areas (building pad) and sidewalks, pavements, and other flatwork areas; fill material; temporary excavations; and trench backfill

4. Liquefaction

5. Site drainage

6. Slabs-on-grade and pavements

7. Retaining walls

Additional site testing and final design evaluation shall be conducted by the Project geotechnical consultant to refine and enhance these requirements, if necessary. The City shall require the Project geotechnical consultant to assess whether the requirements in that report need to be modified or refined to address any changes in the Project features that occur prior to the start of grading. If the Project geotechnical consultant identifies modifications or refinements to the requirements, the City shall require appropriate changes to the final Project design and specifications.

Grading plan review shall also be conducted by the City's Development Services Director, or designee, prior to the start of grading to verify that the requirements developed during the geotechnical design evaluation have been appropriately incorporated into the Project plans. Design, grading, and construction shall be conducted in accordance with the specifications of the Project geotechnical consultant as summarized in a final report based on the CBC applicable at the time of grading and building and the City Building Code. On-site inspection during grading shall be conducted by the Project geotechnical consultant and the City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans.

Mitigation Measure 4.5.2

Corrosive Soils. Prior to issuance of any building permits, the City of Long Beach (City) Development Services Director, or designee, shall verify that structural design conforms to the requirements of the geotechnical study with regard to the protection of ferrous metals and copper that will come into contact with on-site soil. In addition, on-site inspections shall be conducted during construction by the Project geotechnical consultant and/or City Building Official to ensure compliance with geotechnical specifications as incorporated into Project plans.

The measures specified in the geotechnical study for steel pipes, iron pipes, copper tubing, plastic and vitrified clay pipe, other pipes, concrete, post tensioning slabs, concrete piles, and steel piles shall be incorporated into the structural design and Project plans where ferrous metals (e.g., iron or steel) and/or copper may come into contact with on-site soils.

3.7 GLOBAL CLIMATE CHANGE

3.7.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 and was included as part of the baseline conditions for the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to global climate change. As such, refer to Section 4.6, Global Climate Change, of the 2016 Certified EIR for an in-depth discussion of the existing environmental setting.

The Project site is located within the South Coast Air Basin (Basin) and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD has established an Air Quality Management Plan (AQMP) that contains policies and measures to achieve federal and State standards for improved air quality.

The Project site is characterized by a temporary pool, passive park space containing grassland, and sand placed on site to temporarily cover the location of the former pool facility.

3.7.2 2016 Certified EIR

Please see Section 4.6 of the Certified EIR for detailed analysis of potential effects of the Approved Project related to global climate change.

3.7.2.1 Generate Greenhouse Gas Emissions

Less than Significant Impact. The 2016 Certified EIR concluded that the Approved Project would result in 2,900 metric tons of carbon dioxide equivalent (MT of CO_2e) per year during the operational phase not including the offset of existing emissions. In comparing the Approved Project to the SCAQMD's tiered draft interim greenhouse gas (GHG) significance criteria, emissions would be below the screening threshold of 3,000 MT of CO_2e per year for the Approved Project and would be considered to have a less than significant impact related to GHG emissions. No mitigation was required.

3.7.2.2 Conflict with an Applicable GHG Reduction Plan, Policy, or Regulation

Less than Significant Impact. The GHG emissions reduction goals in the California Air Resources Board's (CARB) *California's 2017 Climate Change Scoping Plan*[5] are scoped to manage total statewide GHG emissions of approximately 496.95 million MT of CO_2e per year. The Approved Project was estimated to produce approximately 2,900 MT of CO_2e per year over existing conditions, representing approximately 0.001 MT of CO_2e per year of the City's reduction goals. Therefore, the Approved Project was not considered to result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals under the City's *Sustainable City Action*

5 California Air Resources Board (CARB). 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf?_ga=2.83321494.1464349424.1513296974-446607795.1484971874 (accessed November 2019).

Plan[6], CARB's *California's 2017 Climate Change Scoping Plan*, Assembly Bill (AB) 32, Senate Bill (SB) 32, or other State regulations. Therefore, the Approved Project was determined to have a less than significant impact related to potential conflicts with regulations outlined in the City's *Sustainable City Action Plan* and GHG emissions reduction goals. No mitigation was required.

3.7.2.3 Sea Level Rise

Less than Significant Impact. The *Wave Uprush Study* prepared for the Approved Project[7] analyzed potential impacts at the Project site from sea level rise and a 100-year storm for a range of scenarios resulting from the potential changes to the Long Beach Breakwater. According to the *Wave Uprush Study,* wave run-up for the high 2060 and 2100 sea level rise scenarios (a 2.6 ft and 5.5 ft increase in sea level, respectively), would result in a run up elevation up to 8.2 ft and 10.4 ft (or greater) at the Project site. Without preventative measures, the upper 2100 sea level rise estimate would not only inundate much of the pool facility, but much of the Long Beach Peninsula and Belmont Shore as well. However, the 2016 Certified EIR noted that this 2100 condition is not a result of the Approved Project but rather the result of the projected worst-case sea level rise and erosion. The modeled scenarios did not account for shore protection measures, which are not required by, or a responsibility of, the Approved Project, as the Approved Project does not exacerbate these conditions. Additionally, under the Approved Project, the main pool deck would have been elevated 17 ft above mean sea level (amsl) and the pool decks would have been set 8.8 ft and 6.6 ft above the projected high water levels in 2060 and 2100, respectively. Furthermore, additional GHG reduction strategies implemented at the State, national, and international levels could reduce sea-level rise between now and the year 2100. Therefore, the 2016 Certified EIR determined that the Approved Project would not be adversely impacted by sea level rise due to climate change, and no mitigation was required.

3.7.2.4 Cumulative Global Climate Change Impacts

Less than Significant Impact. The 2016 Certified EIR noted that the project-specific analysis summarized above is essentially already a cumulative analysis because it takes into consideration statewide GHG reduction targets and demonstrates that the Approved Project would be consistent with those targets. As summarized above, the Approved Project emphasized energy efficiency and water conservation and would have been consistent with AB 32's goals for 2020; would not have generated GHG emissions that exceed any applicable threshold of significance; and would not have conflicted with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As a result, the Approved Project's climate change impacts with regard to GHG emissions would not be considered cumulatively considerable because they would not contribute to GHG emissions that exceed AB 32's statewide goals.

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6 City of Long Beach. Sustainable Long Beach. *Sustainable City Action Plan*. Website: http://www.longbeach.gov/globalassets/sustainability/media-library/documents/nature-initiatives/action-plan/scap-final (accessed November 2019).

7 *Wave Uprush Study* prepared by Moffatt & Nichols, October 2014, and included as Appendix B to the 2016 Certified EIR.

3.7.3 Analysis of the Modified Project

As part of the Modified Project, revised technical work has been completed. As such, the analysis of Modified Project changes and the findings related to global climate change are based on the *Belmont Plaza Pool Revised Air Quality and Greenhouse Gas Emissions Analysis* (LSA, November 2019), included as Appendix A of this Addendum. Additionally, the analysis of Modified Project changes and the findings related to sea level rise as a result of GCC are based on the *Belmont Beach and Aquatics Center Amendment to Wave Uprush and Sea Level Rise Study* (Moffatt and Nichol, September 2019), included as Appendix A of this Addendum.

3.7.3.1 Generate Greenhouse Gas Emissions

During construction of the Modified Project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. Table 3.7.A lists the annual carbon dioxide equivalent (CO_2e) emissions for each of the construction phases based on the results from the California Air Pollution Control Officers Association's (CAPCOA) California Emissions Estimator Model (CalEEMod). Total construction emissions amortized over 30 years would be 25.7 MT of CO_2e per year.

Table 3.7.A: Modified Project Construction GHG Emissions

Construction Phase		Total Regional Pollutant Emissions (MT/yr)			
		CO_2	CH_4	N_2O	CO_2e
2021	Site Preparation	17.6	<0.01	0	17.7
	Grading	67.1	0.0	0	67.4
	Building Construction	314.0	0.0	0	315.1
2022	Building Construction	342.9	0.1	0	344.2
	Paving	21.4	<0.01	0	21.6
	Architectural Coating	4.5	<0.01	0	4.5
Total Construction Emissions		**767.5**	**0.1**	**0**	**770.5**
Amortized over 30 years		**25.6**	**<0.01**	**0**	**25.7**

Source: Compiled by LSA (November 2019).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
MT/yr = metric tons per year
N_2O = nitrous oxide

Long-term operation of the Modified Project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. The majority of energy consumption (and associated generation of GHG emissions) would occur during the Project's operation (as opposed to during its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings and less than 20 percent of energy is consumed during construction.

Based on trip generation factors provided in the Revised Traffic Analysis (LSA 2019) prepared for the Modified Project, the trip generation rate would not change for the Modified Project from that in the Approved Project. The GHG modeling incorporated Project design features in accordance with the 2020 California Green Building Standards Codes such as the use of low-flow water fixtures and water-efficient irrigation systems.

The GHG emission estimates presented in Table 3.7.B, below, show the emissions associated with the Modified Project at Project opening in comparison to the GHG emissions estimates for the Approved Project, as reported in the 2016 Certified EIR. Area sources include consumer products and landscaping. Energy sources include natural gas consumption for pool heating. As shown in Table 3.7.B, the Modified Project is estimated to result in GHG emissions of approximately 2,586.7 MT of CO_2e per year.

Table 3.7.B: Operational GHG Emissions

Source	Pollutant Emissions (MT/yr)					
	Bio- CO_2	**NBio- CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Total Approved Project Emissions						**2,900**
Modified Project Construction Emissions						
Construction emissions amortized over 30 years	0	25.6	25.6	<0.1	0	25.7
Modified Project Operational Emissions						
Area Sources	0	<0.1	<0.1	0	0	<0.1
Energy Sources	0	56.2	56.2	<0.1	<0.1	56.4
Mobile Sources	0	2,367.6	2,367.6	0.1	0	2,370.6
Waste Sources	48.9	0	48.9	2.9	0	121.1
Water Usage	0.6	10.1	10.7	0.1	<0.1	12.8
Total Modified Project Emissions	**49.5**	**2,459.4**	**2,508.9**	**3.1**	**0**	**2,586.7**

Source: Compiled by LSA (November 2019).
Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.

Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
MT/yr = metric tons per year
N_2O = nitrous oxide
NBio-CO_2 = Non-biologically generated CO_2

By comparison, the 2016 Certified EIR estimated the GHG emissions associated with the Approved Project to be 2,900 MT of CO_2e per year. Therefore, the Modified Project would generate fewer GHG emissions than the Approved Project and would not impede or interfere with achieving the State's emission reduction objectives in CARB's *California's 2017 Climate Change Scoping Plan* and the City's working draft *Climate Action and Adaptation Plan* (CAAP). The Modified Project's impacts related to GHG emissions would remain less than significant, and no mitigation is required.

3.7.3.2 Conflict with Applicable GHG Reduction Plans, Policies, or Regulations

The City has released a working draft of the Climate Action and Adaptation Plan (CAAP) to manage total citywide GHG emissions of approximately 3.1 million MT of CO_2e per year. Based on the City's population growth estimates, the 2030 target emissions level is 2.1 million MT of CO_2e per year, and will require GHG reductions of approximately 980,000 MT of CO_2e to achieve this target. As indicated above, the Modified Project would generate fewer GHG emissions than the Approved Project and would not impede or interfere with achieving the State's emission reduction objectives in CARB's *California's 2017 Climate Change Scoping Plan* and the City's working draft CAAP. Therefore, the Modified Project's impacts related to conflicts with GHG reduction plans, policies, and regulations would remain less than significant, similar to the Approved Project, and no mitigation is required.

3.7.3.3 Sea Level Rise

Effects from GCC may arise from temperature increases, climate-sensitive diseases, extreme weather events, and air quality. Sea level rise as a result of GCC can be expected in California over the course of the next century. The 2016 Certified EIR noted that the 2100 sea level rise condition is not a result of the Approved Project but rather the result of the projected worst-case sea level rise and erosion. Similarly, neither the Approved Project nor the Modified Project would exacerbate these conditions.

The main pool deck for the Modified Project will be elevated 17 ft amsl, the same as the Approved Project. However, the new pool complex for the Modified Project has been moved further northeast (away from the shoreline on the site) in order to further reduce potential impacts associated with sea level rise and storm surge.

The Belmont Beach and Aquatics Center Amendment to Wave Uprush and Sea Level Rise Study was prepared to reflect the Modified Project and update the sea level rise projections and incorporate the findings and recommendations from the *State of California Sea-Level Rise Guidance* report (NRA and OPC, 2018)[8] for assessment of the Modified Project. The updated sea level rise projections for year 2100 for the Los Angeles Area are 5.4 ft under a low GHG emissions scenario, and 6.7 ft under a high GHG emissions scenario. The Approved Project was not anticipated to alter natural rates of shoreline retreat. With the Modified Project, the shoreline setback of the main structure has increased by at least 40 ft, and up to 100 ft on the northwest end of the structure. Therefore, the Modified Project would have fewer impacts on the natural shoreline processes as compared to the Approved Project. Consequently, the need for adaptation to shoreline retreat is not expected throughout the design life of the Modified Project. Therefore, similar to the Approved Project, the effects of sea level rise on the Modified Project would be fewer than those identified for the Approved Project; the Modified Project would not be adversely impacted by sea level rise due to climate change, and no mitigation is required.

3.7.3.4 Cumulative Global Climate Change Impacts

Similar to air pollution, GHG emissions are inherently a cumulative type of impact measured across a region. The discussion above includes an analysis of the Modified Project's contribution to cumulative GHG emissions. The Modified Project would be consistent with the statewide targets and applicable regional air quality standards of significance. In addition, the Modified Project's estimated GHG emissions would be less than the GHG emissions estimated for the Approved Project. The Approved Project demonstrated compliance with the reductions target established by the CARB to satisfy compliance with the mandates of AB 32 and SB 32. The Modified Project would

[8] California Natural Resources Agency and California Ocean Protection Council. 2018. *State of California Sea-Level Rise Guidance, 2018 Update*. Website: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf (accessed December 2019).

generate fewer GHG emissions; as such, the Modified Project would also be in compliance with CARB's *California's 2017 Climate Change Scoping Plan* and the City's *Sustainable City Action Plan*. Because the Modified Project is consistent with the GHG emissions reduction target from CARB and the City, and because its impacts alone would not cause or significantly contribute to global climate change, project-related GHG emissions would not be considered cumulatively considerable. Therefore, the Modified Project would not result in a new or worsening GHG impact. Therefore, the Modified Project would not have a cumulatively considerable increase in emissions, and the Modified Project's cumulative GHG emissions impacts would remain less than significant. No mitigation is required.

3.7.4 Findings Related to Global Climate Change

3.7.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to GHG emissions, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.7.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

The Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to GHG emissions that would require major changes to the 2016 Certified EIR.

3.7.4.3 No New Information Showing Greater Significant Effects than in the 2016 Certified EIR

This analysis has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact to GHG emissions requiring major revisions to the 2016 Certified EIR.

3.7.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR

There is no new information, new alternatives to the Project, or additional mitigation measures that would substantially reduce one or more significant impacts pertaining to GHG emissions identified and considered in the 2016 Certified EIR.

3.7.5 Standard Conditions

There are no standard conditions pertaining to GHG emissions applicable to either the Approved Project or the Modified Project.

3.7.6 Mitigation Measures

No mitigation measures were required for global climate change in the 2016 Certified EIR, and no mitigation is required for the Modified Project.

3.8 HAZARDS AND HAZARDOUS MATERIALS

3.8.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 and was included as part of the baseline conditions for the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to hazards and hazardous materials. As such, refer to Section 4.7, Hazards and Hazardous Materials, of the 2016 Certified EIR for an in-depth discussion of the existing environmental setting and project-related impacts with regard to hazards and hazardous materials.

As described in the 2016 Certified EIR, the Project site consisted of commercial properties from 1928 until 1956. By 1968, the site appeared to be redeveloped with the Belmont Pool structure and outdoor pool area; the site remained relatively unchanged from 1968 through February 2015, when the demolition of the prior Belmont Pool structure was completed. The temporary pool and immediate area, which is now a part of the Modified Project site, was developed with the Beach Parking lot by 1956. No structures other than the surface parking lot had occupied this area until the temporary pool was constructed in 2013.

Site surveys and a *Phase I Hazardous Materials Assessment* (HMA) (Ninyo and Moore, June 2013) were included as part of the 2016 Certified EIR to determine the potential for on-site Recognized Environmental Concerns (RECs) at the former Belmont Pool facility. The demolition of the former Belmont Pool facility was not a part of the analysis contained in the 2016 Certified EIR. The site reconnaissance did not identify or observe any RECs associated with any of the following: significant evidence of releases or spills; electrical transformers or polychlorinated biphenyl (PCBs); evidence of staining or release near storage containers; or chlorofluorocarbons (CFCs) or mercury-containing equipment. The HMA did identify the potential for asbestos-containing materials (ACMs) and lead to be present in some building products remaining on site.

3.8.2 2016 Certified EIR

Please see Section 4.7 of the 2016 Certified EIR, for detailed analysis of potential effects of the Approved Project related to hazards and hazardous materials.

3.8.2.1 *Routine Transport, Use, Disposal or Accidental Release of Hazardous Materials*

Construction: Less than Significant with Mitigation Incorporated. As discussed in the 2016 Certified EIR, construction activities associated with the Approved Project would have involved the limited use and storage of hazardous materials during construction of the Approved Project. However, all potentially hazardous materials would have been contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with existing federal, State, and local regulations to ensure that the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.1, as prescribed in Section 4.8, Hydrology and Water Quality, of the 2016 Certified EIR, requiring the construction contractor to implement standard best management practices (BMPs) regarding hazardous materials storage, handling, and disposal during construction in compliance with the State Construction General Permit to protect water quality. With the implementation of Mitigation Measure 4.8.1, the 2016 Certified EIR determined that potential impacts associated with the routine transport, use, or disposal of potentially hazardous materials during construction of the Approved Project would be less than significant.

The Project site is located within the Wilmington Oil Field, and plugged and abandoned oil wells or dry holes are located in the site vicinity. Based on the distance to known oil wells in the vicinity of the Project site, the potential presence of methane at the Project site is low. However, the 2016 Certified EIR required the implementation of Mitigation Measure 4.7.1, which required compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities that would be approved by City of Long Beach Fire Department (LBFD). With implementation of Mitigation Measure 4.7.1, the Certified EIR determined that impacts related to the potential to encounter methane during construction would be less than significant.

A site reconnaissance survey of the site conducted for the Approved Project revealed that ACMs may be present in subsurface building materials at the site. Several remnants of the prior Belmont Pool subsurface foundation structures, which may contain ACMs, are present on the site. The 2016 Certified EIR required the implementation of Mitigation Measure 4.7.2, which required the preparation of predemolition surveys to identify the presence of ACMs in the existing on-site structures and outlines precautions to ensure the materials are properly removed. With the implementation of Mitigation Measure 4.7.2, the Certified EIR determined that hazardous impacts associated with ACMs would be reduced to a less than significant level.

The site reconnaissance survey prepared for the Approved Project also indicated that the tile liners of the two outdoor pools currently present on the site might contain lead. Because the Approved Project included the demolition of these existing pools, the Certified EIR required the implementation of Mitigation Measure 4.7.2, which requires the preparation of predemolition surveys and appropriate procedures to be followed in the unlikely event that unknown hazardous materials are encountered in order to reduce potentially significant health hazards associated with potential lead on the Project site. With implementation of Mitigation Measure 4.7.2, the Certified EIR determined that potential hazardous impacts associated with lead would be reduced to a less than significant level.

Two gas stations (ARCO No. 163 and UNOCAL No. 5939) listed on the leaking underground storage tank (LUST) database were included in the Phase I HMA prepared for the Approved Project. However, the UNOCAL LUST has a case-closed status and the ARCO station was preparing a closure plan at the time of the preparation of the 2016 Certified EIR. Groundwater sampling conducted at the ARCO site in November 2014 did not detect a petroleum impact in the monitoring well closest to the Project site, and groundwater sampling conducted at the Project site in July 2014 did not report detectable constituents of gasoline. Compliance with the applicable National Pollutant Discharge Elimination System (NPDES) permit or the Los Angeles Regional Water Quality Control Board's (RWQCB) Groundwater Discharge Permit would have addressed the potential to encounter dissolved metals levels in groundwater in excess of the allowable limits for discharge to the storm drain system. The potential for groundwater impacted by petroleum hydrocarbons beneath the site was also determined to be low. The 2016 Certified EIR required the implementation of Mitigation Measure 4.7.1, which addressed the low potential for encountering petroleum hydrocarbons in groundwater during excavation for the pool through compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities that would be approved by the LBFD. With implementation of Mitigation Measure 4.7.1, the Certified EIR determined that impacts related to the potential to encounter petroleum hydrocarbons in groundwater during construction would be less than significant.

Operation: Less than Significant Impact. Operation of the Approved Project would not have included uses with the potential to generate large quantities of hazardous and/or toxic materials. Therefore, the 2016 Certified EIR determined that the Approved Project would have less than significant impacts related to the potential to result in serious accidents from hazardous materials and substances. Pool and building maintenance associated with the Approved Project may have included the use of chemicals that can be hazardous if not properly used, stored, or disposed. However, the use, storage, and handling of these pool maintenance hazardous materials is regulated by the United States Environmental Protection Agency (EPA), the California Building Code (CBC), the County of Los Angeles Department of Environmental Health, the LBFD and the California Occupational Safety and Health Administration (Cal/OSHA). The Certified EIR determined that compliance with applicable regulations would ensure that potential hazardous material impacts associated with the operation of the Approved Project would be less than significant. Therefore, no mitigation was required.

3.8.2.2 Emit Hazardous Emissions or Handle Hazardous Materials within One-Quarter Mile of an Existing or Proposed School

Less than Significant with Mitigation Incorporated. As described in the 2016 Certified EIR, the private school, Belmont Shore Children's Center, is located within 0.25 mile of the Project site. There were no proposed schools within 0.25 mile of the Project site.

Construction. Construction activities for the Approved Project would have involved the use of small amounts of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids. All potentially hazardous materials would have been contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with existing federal, State, and local regulations to ensure that the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. Furthermore, the 2016 Certified EIR required the implementation of Mitigation Measure 4.8.1 (refer to Section 4.8, Hydrology ad Water Quality, of the 2016 Certified EIR), which required the construction contractor to implement standard BMPs regarding hazardous materials storage, handling, and disposal during construction in compliance with the State Construction General Permit to protect water quality. Additionally, the 2016 Certified EIR required the implementation of Mitigation Measure 4.7.2, which required the preparation of predemolition surveys to reduce potentially significant impacts associated with the presence of ACMs or lead on the site. With the implementation of Mitigation Measures 4.8.1 and 4.7.2, the Approved Project's limited use and storage of hazardous materials during construction would not have posed a significant hazard to the public or the environment, including the Belmont Shore Children's Center.

Operation. As described in the 2016 Certified EIR, proper routine use of chemicals associated with pool and building maintenance would not have resulted in a significant hazard to the school, residents, or workers in the vicinity of Approved Project. The Approved Project would not have produced any significant amounts of hazardous emissions, and any hazardous materials on site would have been handled in accordance with all applicable regulations, including containment, reporting, and remediation requirements, in the event of a spill or accidental release. Therefore, operation of the Approved Project would not have resulted in a significant impact associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and no mitigation was required.

3.8.2.3 Located on a Hazardous Materials Site as Identified in Government Code Section 65962.5

Less than Significant Impact. The HMA prepared for the Approved Project determined that the Project site is not included on any hazardous materials sites pursuant to Government Code Section 65962.5, including the Cortese List, and would not create a significant hazard to the public or the environment. No mitigation was required.

3.8.2.4 Cumulative Hazards and Hazardous Materials

Less than Significant with Mitigation Incorporated. The 2016 Certified EIR determined that combined hazardous materials effects from past, present, and reasonably foreseeable projects within the City would not be significant. The Approved Project would have involved the use of potentially hazardous materials related to pool and building maintenance but these products would have been used in small amounts and any spills would have been cleaned up when they occurred, in compliance with applicable regulations. Proper and routine use of these products would not have resulted in a significant hazard to residents or workers in the vicinity of the Approved Project.

The 2016 Certified EIR determined that impacts associated with encountering hazardous materials during construction and operation would be controlled through application of the procedures set forth in Mitigation Measures 4.7.1 and 4.7.2. No known projects were identified adjacent to or in the vicinity of the Project site that could be affected by on-site handling of hazardous materials or that could result in significant hazards or hazardous materials impacts on site. Accordingly, the Approved Project's contribution to cumulative impacts related to hazardous materials was considered to be less than cumulatively significant with implementation of mitigation.

3.8.3 Analysis of the Modified Project

3.8.3.1 The Routine Transport, Use, Disposal or Accidental Release of Hazardous Materials

Construction. Although the Modified Project is smaller in scale and size than the Approved Project, construction activities associated with the Modified Project, similar to the Approved Project, would involve the limited use and storage of hazardous materials. However, all potentially hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with existing federal, State, and local regulations to ensure that the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. Mitigation Measure 4.8.1, as prescribed in the Section 4.8, Hydrology and Water Quality, of the 2016 Certified EIR, requiring the construction contractor to implement standard BMPs regarding hazardous materials storage, handling, and disposal during construction in compliance with the State Construction General Permit to protect water quality would be applicable to the Modified Project. With the implementation of Mitigation Measure 4.8.1, the potential impacts associated with the routine transport, use, or disposal of potentially hazardous materials during construction of the Modified Project would be less than significant, similar to the Approved Project.

The Project site remains the same and is located within the Wilmington Oil Field. However, as determined in the 2016 Certified EIR, the potential presence of methane at the Project site is low. The implementation of Mitigation Measure 4.7.1, which required compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities to be approved by the LBFD, would still be applicable to the Modified Project. With implementation of Mitigation Measure 4.7.1, impacts related to the potential to encounter methane during construction of the Modified Project would be less than significant, similar to the Approved Project.

The Project site remains the same and remnants of the prior Belmont Pool subsurface foundation structures, which may contain ACMs, are still present on the site. Therefore, implementation of Mitigation Measure 4.7.2, which requires the preparation of predemolition surveys to identify the presence of ACMs in the existing on-site structures and outlines precautions to ensure the materials are properly removed, would still be applicable to the Modified Project. With the implementation of Mitigation Measure 4.7.2, hazardous impacts associated with ACMs for the Modified Project would be reduced to a less than significant level, similar to the Approved Project.

Because the Modified Project still includes demolition of the two existing outdoor pools that may contain lead in the tile liners, Mitigation Measure 4.7.2, which requires the preparation of predemolition surveys and appropriate procedures to be followed in the unlikely event that unknown hazardous materials are encountered, is still required for the Modified Project. With implementation of Mitigation Measure 4.7.2, potential hazardous impacts associated with lead for the Modified Project would be reduced to a less than significant level, similar to the Approved Project.

The potential for groundwater impacted by petroleum hydrocarbons beneath the site was determined to be low for the Approved Project and would remain the same for the Modified Project which is located on the same site. However, Mitigation Measure 4.7.1, which addresses the low potential for encountering petroleum hydrocarbons in groundwater during excavation through compliance with a Contingency Plan that addresses the potential to encounter unknown hazards or hazardous substances during construction activities, would still be applicable to the Modified Project. With implementation of Mitigation Measure 4.7.1, impacts related to the potential to encounter petroleum hydrocarbons in groundwater during construction of the Modified Project would be less than significant, similar to the Approved Project. Furthermore, like the Approved Project, the Modified Project would be required to comply with the applicable NPDES permit or the Los Angeles RWQCB's Groundwater Discharge Permit, which would address the potential to encounter dissolved metals levels in groundwater in excess of the allowable limits for discharge to the storm drain system. Impacts resulting from hazardous materials in the groundwater would remain less than significant for the Modified Project, similar to the Approved Project.

Operation. Operation of the Modified Project, like the Approved Project, would not include uses with the potential to generate large quantities of hazardous and/or toxic materials. Therefore, the Modified Project would have less than significant impacts related to the potential to result in serious accidents from hazardous materials and substances. Similar to the Approved Project, the pool and building maintenance associated with the Modified Project may include the use of chemicals that can be hazardous if not properly used, stored, or disposed. However, the use, storage, and handling of these pool maintenance hazardous materials is regulated by the EPA, the CBC, the County of Los Angeles Department of Environmental Health, the LBFD and Cal/OSHA. Therefore, compliance with applicable regulations would ensure that potential hazardous material impacts associated with the operation of the Modified Project would be less than significant, similar to the Approved Project. No mitigation is required.

3.8.3.2 Emit Hazardous Emissions or Handle Hazardous Materials within One-Quarter Mile of an Existing or Proposed School

Less than Significant Impact Mitigation Incorporated. The Modified Project is located on the same site as the Approved Project and the private school, Belmont Shore Children's Center, remains located within 0.25 mile of the Project site. There are no proposed schools within 0.25 mile of the Project site.

Construction. Similar to the Approved Project, construction activities for the Modified Project would include the use of small amounts of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids. All potentially hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with existing federal, State, and local regulations to ensure that the amounts of these materials present during construction would be limited and would not pose a significant adverse hazard to workers or the environment. Furthermore, Mitigation Measure 4.8.1 (refer to Section 4.8, Hydrology ad Water Quality, of the 2016 Certified EIR), which requires the construction contractor to implement standard BMPs regarding hazardous materials storage, handling, and disposal during construction in compliance with the State Construction General Permit to protect water quality would still be applicable to the Modified Project. Because the Modified Project will remove the subsurface remnants of the former Belmont Pool building as well as two outdoor pools, Mitigation Measure 4.7.2, which requires the preparation of predemolition surveys for ACMs or lead would still be applicable to the Modified Project, similar to the Approved Project. With the implementation of Mitigation Measures 4.8.1 and 4.7.2, the Modified Project's limited use and storage of hazardous materials during construction would not pose a significant hazard to the public or the environment, including the Belmont Shore Children's Center.

Operation. The proper routine use of chemicals associated with the Modified Project's pool and building maintenance would not result in a significant hazard to the school, residents, or workers in the Project vicinity. Similar to the Approved Project, the Modified Project would not produce any significant amounts of hazardous emissions, and any hazardous materials on site would be handled in accordance with all applicable regulations in the event of a spill or accidental release. Therefore, operation of the Modified Project, like the Approved Project, would not result in a significant impact associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. No mitigation is required.

3.8.3.3 Located on a Hazardous Materials Site as Identified in Government Code Section 65962.5

Because the Project site for the Modified Project remains the same and because the Project site is not included on any hazardous materials sites pursuant to Government Code Section 65962.5, including the Cortese List, the Project site would not create a significant hazard to the public or the environment. Similar to the Approved Project, impacts related to a hazardous materials site for the Modified Project would be considered less than significant, and no mitigation is required.

3.8.3.4 Cumulative Hazards and Hazardous Materials

The Modified Project is located on the same site as the Approved Project and as identified in the 2016 Certified EIR, combined hazardous materials effects from past, present, and reasonably foreseeable projects within the City would not be significant. Similar to the Approved Project, the Modified Project would involve the use of small amounts of potentially hazardous materials related to pool and building maintenance but any spills would be cleaned up when they occurred, in compliance with applicable regulations. Proper and routine use of these products would not result in a significant hazard to residents or workers in the vicinity of the Modified Project, which is located on the same site as the Approved Project.

Construction activities for the Modified Project would be similar to, but smaller in scale than the Approved Project; therefore, impacts associated with encountering unknown hazardous materials during construction would still be controlled through application of the procedures set forth in Mitigation Measures 4.7.1 and 4.7.2. No known projects have been identified adjacent to or in the vicinity of the Project site, which remains the same, that could be affected by on-site handling of hazardous materials or that could result in significant hazards or hazardous materials impacts on the site. Accordingly, the Modified Project’s contribution to cumulative impacts related to hazardous materials would be considered less than cumulatively significant with implementation of mitigation, similar to the Approved Project.

3.8.4 Findings Related to Hazards and Hazardous Materials

3.8.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to hazards or hazardous materials, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.8.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to hazards or hazardous materials that would require major changes to the 2016 Certified EIR.

3.8.4.3 No New Information Showing Greater Significant Effects than in the 2016 Certified EIR

This analysis has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact to hazards or hazardous materials requiring major revisions to the 2016 Certified EIR.

3.8.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR

There is no new information, new alternatives to the Project, or additional mitigation measures that would substantially reduce one or more significant impacts pertaining to hazards or hazardous materials identified and considered in the 2016 Certified EIR.

3.8.5 Standard Conditions

There are no standard conditions pertaining to hazards or hazardous materials applicable to either the Approved Project or the Modified Project.

3.8.6 Mitigation Measures

The following mitigation measures were required for hazards and hazardous materials in the 2016 Certified EIR, and are required for the Modified Project. In addition, Mitigation Measure 4.8.1, as included in Section 4.8, Hydrology and Water Quality, of the 2016 Certified EIR, is also required for both the Approved Project and the Modified Project.

Mitigation Measure 4.7.1 **Contingency Plan.** Prior to issuance of any excavation or grading permits or activities, the City of Long Beach (City) Fire Department (LBFD), or designee, shall review and approve a contingency plan that addresses the potential to encounter on-site unknown hazards or hazardous substances during construction activities. The plan shall require that if construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the contractor shall stop work, cordon off the affected area, and notify the LBFD. The LBFD responder shall determine the next steps regarding possible site evacuation, sampling, and disposal of the substance consistent with local, State, and federal regulations.

Mitigation Measure 4.7.2 **Predemolition Surveys.** Prior to commencement of demolition and/or construction activities, the City LBFD, or designee, shall verify that predemolition surveys for asbestos-containing materials (ACMs) and lead (including sampling and analysis of all suspected building materials) shall be performed. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., American Society for Testing and Materials E 1527-05, and 40 Code of Federal Regulations [CFR], Subchapter R, Toxic Substances Control Act [TSCA], Part 716). If the predemolition surveys do not find ACMs or lead-based pipes (LBPs), the inspectors shall provide documentation of the inspection and its results to the City LBFD, or designee, to confirm that no further abatement actions are required.

If the predemolition surveys find evidence of ACMs or lead, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). Air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers. The City shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the LBFD showing that abatement of any ACMs or lead identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations Title 8, Article 2.6). An Operating and Maintenance Plan shall be prepared for any ACM or lead to remain in place and shall be reviewed and approved by the LBFD.

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3.9 HYDROLOGY AND WATER QUALITY

3.9.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 and was included as part of the baseline conditions for the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to hydrology and water quality. As such, refer to Section 4.8, Hydrology and Water Quality, in the 2016 Certified EIR, for an in-depth discussion of the existing environmental setting for hydrology and water quality.

3.9.1.1 Regional Hydrology and Watershed

The Project site is located within the Los Cerritos Channel and Alamitos Bay Water Management Area (WMA) of the San Gabriel River watershed. As designated by the Los Angeles RWQCB, the Project site is located within the Los Angeles-San Gabriel Hydrologic Unit (HU), which covers most of Los Angeles County and drains a 1,608-square-mile area.

The Project site is within the vicinity of the two major drainage systems in the City of Long Beach: the San Gabriel River, located approximately 2 miles southeast of the Project site, and the Los Angeles River, located approximately 3.5 miles west of the Project site. The Project site does not contain any surface water bodies, and the nearest surface water body is the Pacific Ocean, which is located adjacent to the beach on the southern boundary of the Project site.

3.9.1.2 On Site Drainage Pattern

The majority of surface runoff from the Project site is generated on site, with almost no surface flow entering from other areas. The northern half of the Project site contains grassland that allows for rainfall to filter into the ground. The remaining stormwater runoff from the site flows over asphalt pavement and concrete gutters to curb opening inlets located at various points surrounding the property boundary, which convey the flow to the beach and to a storm drain outlet the empties onto the beach, immediately to the north of the Belmont Pier. The existing site contains approximately 2.1 acres of impervious surfaces with the pervious areas accounting for approximately 3.7 acres.

3.9.1.3 Water Quality

Surface water quality in the San Gabriel River Watershed has been affected in a way that is consistent with the high level of surrounding urban development. In urban areas during dry weather, runoff can occur as a result of landscape irrigation, the draining of swimming pools, car washing, and various commercial activities. Along the coast of Southern California, where summers are dry, dry-weather runoff is the most common cause of advisories issued due to elevated bacteria levels.[9]

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[9] California State Water Resources Control Board (SWRCB). 2018. California Beach Water Quality Background Information. Website: www.swrcb.ca.gov/water_issues/programs/beaches/beach_water_quality/background.shtml (accessed October 21, 2019).

Currently, the City tests the ocean water quality at 15 various locations along the coast. The western sides of Belmont Pier and Prospect Street Beach are two sampling sites located near the Project site. In the 2018–2019 sampling year, the Belmont Pier earned a B and A grade in summer dry weather and winter dry weather, respectively. In the same sampling year, the Prospect Street Beach earned a C and an A grade in summer dry weather and winter dry weather, respectively. However, all locations in the City, including Belmont Pier, received F grades in wet weather.[10] After substantial rainfall (0.10 inch or more), high levels of bacteria from storm drains, rivers, and polluted runoff enter the ocean, and the City issues an advisory for beach-goers to avoid all ocean water contact for at least 72 hours after rainfall, per Los Angeles County regulations for all beaches.

3.9.1.4 Groundwater

The Project site is located in the Coastal Plain of the Los Angeles Groundwater Basin and overlies the West Coast Subbasin (Basin No. 4-11.03).[11] The West Coast Subbasin covers an area of 142 square miles and is bound by the Ballona Escarpment to the north, the Newport-Inglewood Fault Zone to the east, and the Pacific Ocean and Palos Verdes Hills to the south and west. Groundwater recharge occurs primarily as a result of underflow from the Central Subbasin. Water spread in the Central Subbasin percolates into aquifers and eventually crosses through and over the Newport-Inglewood Fault Zone, supplementing the groundwater supply in the West Coast Subbasin. The general regional groundwater flow pattern is southward and westward from the Central Coastal Plain toward the Ocean.[12]

According to the 2016 Certified EIR, groundwater was encountered in boring samples at depths of 6 to 9 ft below the existing grade. However, fluctuations in groundwater levels may occur due to tidal fluctuations, variations in precipitation, ground surface topography, subsurface stratification, irrigation, and other factors.

3.9.1.5 Groundwater Quality

The West Coast Basin consists of recent alluvium that forms the semi-perched aquifer, the Bellflower aquitard, and the Gage aquifer. Regional groundwater beneath the Project site is believed to be affected by seawater intrusion. The uppermost aquifer beneath the site is the Gage Aquifer. The general quality of groundwater within the Los Angeles Coastal Plain has been substantially degraded from background levels. The groundwater in the surrounding area has experienced seawater intrusion, which is currently under control in most areas. Groundwater in the lower aquifers of this basin is generally of good quality. However, the quality of groundwater in parts of the upper aquifers is degraded by seawater intrusion and organic pollutants from a variety of sources, such as leaking tanks and leaking crude oil pipelines.

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10 Heal the Bay, *2018-2019 Beach Report Card*. Website: https://healthebay.org/wp-content/uploads/019/06/BRC_2019_FINAL2.pdf (accessed October 21, 2019).

11 California Department of Water Resources. 2004. *Groundwater Bulletin 118*, Coastal Plain of Los Angeles County Groundwater Basin, West Coast Subbasin. Website: https://water.ca.gov/LegacyFiles/ubs/roundwater/bulletin_118/basindescriptions/4-11.03.pdf (accessed October 21, 2019).

12 Ibid.

3.9.1.6 Floodplains/Inundation Zones

According to the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Map (FIRM) No. 06037C1970F (September 26, 2008), the eastern portion of the Project site is located within Zone A, Special Flood Hazard Area (SFHAs) subject to inundation by the 1-percent annual chance flood. The western half of the Project site is located within Zone X, an area determined to be outside the 0.2-percent chance (500-year) floodplain.

As identified in the 2016 Certified EIR, the Project site is located within a Tsunami Inundation Area. Damage from a tsunami wave generated from a large offshore earthquake also has the potential to occur in the Long Beach Harbor areas.

3.9.2 2016 Certified EIR

Please see Section 4.8, Hydrology and Water Quality, of the 2016 Certified EIR for detailed analyses of the potential effects of the Approved Project on both hydrology and water quality.

3.9.2.1 Violate Water Quality Standards or Waste Discharge Requirements or Substantially Degrade Water Quality

Less than Significant with Mitigation Incorporated.

Construction. As described in the 2016 Certified EIR, pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, there would have been an increased potential for soil erosion from existing conditions due to grading and/or excavation activities resulting in exposed soil. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may have been spilled or leaked and transported via storm runoff into downstream receiving waters. The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.1, which required the Approved Project to comply with the requirements of the Construction General Permit. Under the Construction General Permit, the Approved Project was required to prepare a SWPPP and implement Construction BMPs detailed in the SWPPP during construction activities to minimize erosion and prevent spills.

The Approved Project required excavation of up to 13 ft below the existing grade during the removal of the existing wooden piles and construction of the pools. Groundwater depths ranged from approximately 6 to 9 ft below existing grades. Due to the anticipated depth of excavation and the depth of groundwater, it was anticipated that groundwater would be encountered during excavation, which would require groundwater dewatering. Because groundwater may contain high levels of total dissolved solids and other constituents that could be introduced to surface waters, the 2016 Certified EIR required the implementation of Mitigation Measure 4.8.2, which required any groundwater dewatering during excavation to be conducted in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit.

With implementation of Mitigation Measures 4.8.1 and 4.8.2, potential construction impacts related to violation of water quality standards or waste discharge requirements and degradation of water quality would be less than significant for the Approved Project.

Operation. As described in the 2016 Certified EIR, pollutants of concern during operation of the proposed on-site uses potentially included pathogens, metals, nutrients, pesticides, organic compounds, sediment, trash and debris, oxygen-demanding substances, and oil and grease. The Approved Project would have resulted in a permanent decrease in impervious surface area of approximately 0.5 acre, which would have decreased the volume of runoff during a storm.

The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.3, which requires the implementation of a Standard Urban Stormwater Mitigation Plan (SUSMP). The SUSMP would incorporate Site Design, Source Control, and Treatment BMPs into the design of the Project to treat pollutants of concern in stormwater runoff prior to discharge into the storm drain system. Implementation of Mitigation Measure 4.8.3 would reduce potential operational impacts related to violation of water quality standards or waste discharge requirements and degradation of water quality to less than significant levels for the Approved Project.

3.9.2.2 Substantially Deplete Groundwater Supplies or Interfere Substantially with Groundwater Recharge

Less than Significant Impact.

Construction. Due to the depth of groundwater and the anticipated depth of excavation, the 2016 Certified EIR anticipated that groundwater dewatering would be required during removal of the existing wooden piles and construction of the pools. However, groundwater dewatering activities would have been temporary, and the volume of groundwater removed would not have been substantial. Any reduction in infiltration due to compaction during construction would also be temporary and would not be substantial. Therefore, the 2016 Certified EIR determined that construction of the Approved Project would not substantially deplete groundwater or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, construction impacts related to groundwater supplies were determined to be less than significant, and no mitigation was required.

Operation. As discussed in the 2016 Certified EIR, operation of the Approved Project would not have required groundwater extraction. The Approved Project would have used water from the local municipal supply. Additionally, the Approved Project would have decreased impervious surface by 0.5 acre, which would increase infiltration. As a result, the 2016 Certified EIR determined that the Approved Project would not result in an interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Operational impacts related to groundwater supplies were determined to be less than significant, and no mitigation was required.

3.9.2.3 Substantially Alter the Existing Drainage Pattern Resulting in Substantial Erosion, Siltation, or Flooding

Less than Significant with Mitigation Incorporated.

Construction. Construction activities associated with the Approved Project had the potential to temporarily alter the drainage pattern on the Project site. As previously described, the Project site would have been graded and excavated soil would be exposed, and there would be an increased potential for soil erosion and flooding compared to existing conditions. During a storm event, soil erosion and sedimentation could occur at an accelerated rate. In addition, grading and construction activities would compact soil, which could have increased runoff during construction. There are no on-site streams or rivers; therefore, the Approved Project would not have altered the course of a stream or river.

The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.1, which required preparation of a SWPPP to identify Construction BMPs to be implemented as part of the Project to reduce impacts to water quality and drainage during construction, including those impacts associated with soil erosion, siltation, and increased runoff. With implementation of Mitigation Measure 4.8.1, potential construction impacts related to erosion, siltation, and flooding for the Approved Project would have been reduced to less than significant levels.

Operation. The Approved Project would have changed on-site drainage patterns by adding impervious surface areas and structures. However, flows from the Project site would have continued to discharge to the existing off-site storm drain system. There are no on-site streams or rivers; therefore, the Approved Project would not have altered the course of a stream or river.

The Approved Project would have decreased the overall impervious area by 0.5 acre and increased the pervious area by 0.5 acre, resulting in an increase in filtration. The Approved Project would have also included a comprehensive drainage system to convey on-site storm flows, including on-site detention and infiltration BMPs. The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.4, which required the preparation of a detailed hydrology report to be prepared for the Approved Project to ensure that the on-site storm drain facilities are appropriately sized to prevent on-site or off-site flooding. Under the Approved Project, the impervious surface areas would not be prone to erosion or siltation. Additionally, the 2016 Certified EIR required the implementation of treatment BMPs to convey storm water and minimize on-site erosion and siltation that could reach downstream receiving waters. With implementation of Mitigation Measures 4.8.3 and 4.8.4, the 2016 Certified EIR determined that impacts related to increases in downstream erosion, siltation, or flooding would be less than significant for the Approved Project.

3.9.2.4 Create Runoff that would Exceed the Capacity of Storm Water Systems or Provide Substantial Additional Sources of Polluted Runoff

Less than Significant with Mitigation Incorporated.

Construction. As discussed above, construction of the Approved Project had the potential to introduce pollutants into the stormwater drainage system from erosion, siltation, and accidental spills. In addition, grading and construction activities would compact soil, which can increase runoff during construction. However, the 2016 Certified EIR required Mitigation Measure 4.8.1 to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, spills, and increased runoff. As discussed above, it was anticipated that groundwater dewatering would be required during the removal of the existing wooden piles and construction of the pools. However, groundwater dewatering activities would have been temporary, and the volume of groundwater removed would not have been substantial. The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.2, which required testing and treatment (as necessary) of groundwater encountered during groundwater dewatering prior to release to the storm drain system.

With implementation of Mitigation Measures 4.8.1 and 4.8.2, construction impacts related to exceeding the capacity of, and providing additional sources of polluted runoff to, stormwater drainage systems would be reduced to less than significant levels for the Approved Project.

Operation. As discussed above, the Approved Project would have decreased impervious surface area by 0.5 acre, decreasing the volume and velocity of runoff on the site. The Approved Project would have also included a comprehensive drainage system to convey on-site storm flows. The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.4, which required a detailed hydrology report to be prepared to ensure that the on-site storm drain facilities are appropriately sized to prevent on-site flooding. The 2016 Certified EIR also required the implementation of Mitigation Measure 4.8.3, which required the implementation of treatment BMPs, including biofiltration swales (bioswales), filtration strips, an underground detention basin, and a drywell to convey storm water and the reduction of potential pollutants and the volume of runoff reaching downstream receiving waters.

With the implementation of Mitigation Measures 4.8.3 and 4.8.4, impacts to stormwater drainage systems would be reduced to a less than significant level for the Approved Project.

3.9.2.5 Place Structures within a 100-year Flood Hazard Area

Less than Significant with Mitigation Incorporated. As described in the 2016 Certified EIR, the eastern half of the Project site is located within Zone A, a Special Flood Hazard Area (SFHA) subject to inundation by the 1-percent annual chance flood, and the western half of the Project site is located within Zone X, areas determined to be outside the 0.2-percent chance (500-year) floodplain. FEMA requires that all projects within Zone A enforce National Flood Insurance Program (NFIP) floodplain management regulations and purchase mandatory flood insurance, and the regulations require that a project not increase the base flood elevation of a 100-year floodplain by more than 1 ft. The 2016 Certified EIR included Mitigation Measure 4.8.5, which required a floodplain report to be prepared in order to reduce impacts to the floodplain. With implementation of Mitigation Measure 4.8.5, the 2016 Certified EIR determined that the Approved Project would not expose people or structures to the risk of flooding, create floodplains, or result in an increase in the base flood elevation. Therefore, impacts associated with flood hazard areas were determined to be less than significant with the implementation of Mitigation Measure 4.8.5.

3.9.2.6 Expose People or Structures to a Significant Risk Involving Flooding

Less than Significant Impact. As described in the 2016 Certified EIR, three flood control dams lie upstream of the City: Sepulveda Basin, Hansen Basin, and Whittier Narrows Basin. Sepulveda and Hansen Basins lie more than 30 miles upstream from where the Los Angeles River passes through the City, which is north of the Project site. The Project site is not located within the dam inundation area of either of the Sepulveda and Hansen Dam Failure Inundation Maps. In addition, flood waters from these dam failures are expected to dissipate before reaching the City, due to low and flat ground and their distances from the City.

The 2016 Certified EIR determined that the Project site is located within the dam inundation area for the Whittier Narrows Dam. However, because the Project site's location is at the furthest point away from the Whittier Narrows Dam within the inundation area, most of the flooding would dissipate by the time it reaches the site. In addition, the City would have ample time to notify on-site users to evacuate and on-site users would have ample time to evacuate before waters reached the Project site. Additionally, the Approved Project did not propose the development of habitable structures on site, thereby further minimizing the risk to life and property in the event of a dam failure. Furthermore, the United States Army Corps of Engineers has implemented Interim Risk Reduction Measures to reduce impacts to life and property in the event of dam failure, and the City has also developed emergency preparedness plans that would help the public be prepared for these types of emergency situations. In addition, the County of Los Angeles has regional catastrophic preparedness planning and regional evacuation routes. Therefore, because the City and County have implemented mitigation plans, emergency preparedness plans, and evacuation routes, impacts associated with the failure of a dam or levee were considered less than significant for the Approved Project, and no mitigation was required.

3.9.2.7 Result in Inundation by Seiche, Tsunami, or Mudflow

Less than Significant Impact. The Project site is not located in the vicinity of any large enclosed bodies of water that could adversely affect the site in the event of earthquake-induced seiches. Therefore, the 2016 Certified EIR determined that the risk associated with possible seiche waves is not considered a potential constraint or a potentially significant impact of the Approved Project, and no mitigation was required.

The Project site is located adjacent to the beach and the Pacific Ocean and is within a Tsunami Inundation Zone. For the Approved Project, up to 900 patrons were anticipated over the course of the typical daily operation of the Belmont Pool. Although there could be an increase in visitors to the site during special events, the Approved Project will be replacing an existing use and would operate similarly. Additionally, the Approved Project would not have an increased risk of a tsunami occurring. Furthermore, as stated above, the City has implemented the *2017 Hazard Mitigation Plan* for the purpose of protecting the lives, property, and facilities of citizens, employees, businesses, industry, infrastructure, and the environment from natural hazards. In addition, the County of Los Angeles has developed regional catastrophic preparedness planning and regional evacuation routes. Therefore, because the Approved Project was not introducing a new risk to tsunami exposure, and with the implementation of the City and County mitigation plans, emergency preparedness plans, and evacuation routes, risks associated with tsunamis were considered less than significant. No mitigation was required.

Mudslides and mudflows are described as a shallower type of slope failure, usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. A typical mudslide or mudflow is a failure of the upper 4 ft of saturated hillside material. The 2016 Certified EIR concluded that the Project site is relatively level, and the absence of nearby slopes precludes any slope stability hazards. Furthermore, the Project site is not in a state of California Earthquake-Induced Landslide Hazard Zone. Therefore, the Approved Project would have resulted in less than significant impacts related to exposure of people or structures to risk of loss, injury, or death involving flooding as a result of inundation by mudflow, and no mitigation was required.

3.9.2.8 Cumulative Hydrology and Water Quality Impacts

Less than Significant with Mitigation Incorporated. The 2016 Certified EIR analyzed a cumulative study area of Los Cerritos Channel and Alamitos Bay WMA. This area is essentially built out; therefore, future development would involve redevelopment of existing properties. Although each of the cumulative projects could potentially increase the volume of stormwater runoff and contribute to pollutant loading in stormwater runoff reaching both the City's storm drain system and the San Gabriel River, and ultimately the Pacific Ocean, each of the cumulative projects would be subject to NPDES and MS4 Permit requirements for both construction and operation. Additionally, each project would be required to develop both a SWPPP and an SUSMP that target site-specific pollutants of concern and that would be evaluated individually to determine appropriate BMPs to minimize impacts to surface water quality.

Although there is the potential for cumulative projects, individually and cumulatively, to result in an encroachment into the 100-year flood zone, as with the Approved Project, each of the cumulative projects would be required to comply with City and FEMA regulations and prepare a Floodplain Report during final design to address any potential impacts to the floodplain, and if required, reduce those impacts. In addition, the City Development Services Director reviews all development projects on a case-by-case basis to ensure that sufficient local and regional drainage capacity is available. Thus, the 2016 Certified EIR determined that the Approved Project's contribution to cumulative impacts to hydrology and water quality would be less than cumulatively significant.

3.9.3 Analysis of the Modified Project

3.9.3.1 Violate Water Quality Standards or Waste Discharge Requirements or Substantially Degrade Water Quality

Construction. During construction, pollutants of concern include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction of the Modified Project, there would be an increased potential for soil erosion from existing conditions due to grading and/or excavation activities resulting in exposed soil. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste have the potential to be spilled or leaked and transported via storm runoff into downstream receiving waters. Similar to the Approved Project, the Modified Project would require the implementation of Mitigation Measure 4.8.1, which requires Project compliance with the requirements of the Construction General Permit. Under the Construction General Permit, the Modified Project would be required to prepare a SWPPP and implement Construction BMPs detailed in the SWPPP during construction activities to minimize erosion and prevent spills.

Similar to the Approved Project, the Modified Project would require excavation of up to 13 ft below the existing grade during the removal of the remaining wooden piles and construction of the pools. Groundwater depths range from approximately 6 to 9 ft below existing grades. Due to the anticipated depth of excavation and the depth of groundwater, it is anticipated that groundwater would be encountered during excavation, which would require groundwater dewatering. Because groundwater may contain high levels of total dissolved solids and other constituents that could be introduced to surface waters, the Modified Project would require implementation of Mitigation Measure 4.8.2, which requires any groundwater dewatering during excavation to be conducted in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit.

With implementation of Mitigation Measures 4.8.1 and 4.8.2, potential construction impacts related to violation of water quality standards or waste discharge requirements and degradation of water quality would remain less than significant, similar to the Approved Project.

Operation. Pollutants of concern during operation of the proposed on-site uses would potentially include pathogens, metals, nutrients, pesticides, organic compounds, sediment, trash and debris, oxygen-demanding substances, and oil and grease. The Approved Project would have resulted in a permanent decrease in impervious surface area of approximately 0.5 acre, which would have decreased the volume of runoff during a storm. The Modified Project would involve an expanded Project site of approximately 1.6 acres due to the addition of the Myrtha Pool area as part of the site. Although a majority of the Myrtha Pool area is considered impervious area, this area does not represent a change in the existing conditions because the Myrtha Pool is an existing feature on the Project site. Further, compared to the Approved Project, implementation of the Modified Project would result in an increase of 33,131 sf of passive park and open space area (for a total passive park and landscaped area of 141,558 sf). With the increased park and open space area on the site, there is an increase in pervious area; therefore, it is reasonable to conclude that the Modified Project would result in the substantially the same, or even a decrease in, volume of runoff during a storm as compared to the Approved Project.

Similar to the Approved Project, the Modified Project would require implementation of Mitigation Measure 4.8.3, which requires the implementation of a SUSMP. The SUSMP would include Site Design, Source Control, and Treatment BMPs to be incorporated into the design of the Project to treat pollutants of concern in stormwater runoff prior to discharge into the storm drain system. Implementation of Mitigation Measure 4.8.3 would ensure that potential operational impacts related to violation of water quality standards or waste discharge requirements and degradation of water quality remain less than significant.

3.9.3.2 Substantially Deplete Groundwater Supplies or Interfere Substantially with Groundwater Recharge

Construction. As stated previously, groundwater dewatering would be required during removal of the existing wooden piles and construction of the pools due to the depth of groundwater and the anticipated depth of excavation. However, groundwater dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. Any reduction in infiltration due to compaction during construction would also be temporary and would not be substantial. Therefore, similar to the Approved Project, construction of the Modified Project would not substantially deplete groundwater or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, construction impacts related to groundwater supplies would remain less than significant, and no mitigation is required.

Operation. Operation of the Modified Project would not require groundwater extraction. Instead, the Modified Project would use water from the local municipal supply. Additionally, the Approved Project would have decreased impervious surface by 0.5 acre, which would increase infiltration. The Modified Project would involve an expanded Project site of approximately 1.6 acres due to the addition of the Myrtha Pool area as part of the site. Although a majority of the Myrtha Pool area is considered impervious area, this area does not represent a change in the existing conditions because the Myrtha Pool is an existing feature. Further, compared to the Approved Project, implementation of the Modified Project would result in an increase of 33,131 sf of passive park and open space area (for a total passive park and landscaped area of 141,558 sf). With the increased park and open space area on the site, there is an increase in pervious area; therefore, it is reasonable to conclude that the Modified Project would result in substantially the same, if not an increase in, infiltration as compared to the Approved Project. As a result, the Modified Project would not constitute interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Operational impacts related to groundwater supplies would remain less than significant, and no mitigation is required.

3.9.3.3 Substantially Alter the Existing Drainage Pattern Resulting in Substantial Erosion, Siltation, or Flooding

Construction. Construction of the Modified Project has the potential for the drainage pattern to be altered temporarily. As previously stated, the Project site would be graded and excavated soil would be exposed, and there would be an increased potential for soil erosion and flooding compared to existing conditions. During a storm event, soil erosion and sedimentation could occur at an accelerated rate. In addition, grading and construction activities would compact soil, which could have increased runoff during construction. There are no on-site streams or rivers; therefore, the Modified Project would not have altered the course of a stream or river.

Similar to the Approved Project, the Modified Project would require the implementation of Mitigation Measure 4.8.1, which requires preparation of a SWPPP to identify Construction BMPs to be implemented as part of the Project to reduce impacts to water quality and drainage during construction, including those impacts associated with soil erosion, siltation, and increased runoff. With implementation of Mitigation Measure 4.8.1, potential construction impacts related to erosion, siltation, and flooding for the Modified Project would remain less than significant.

Operation. Operation of the Modified Project would change on-site drainage patterns by adding impervious surface areas and structures. However, flows from the Project site would continue to discharge to the existing off-site storm drain system. There are no on-site streams or rivers; therefore, the Modified Project would not alter the course of a stream or river.

As stated previously, the 2016 Certified EIR concluded that implementation of the Approved Project would result in a decrease in the overall impervious area by 0.5 acre and increased the pervious area by 0.5 acre, resulting in an increase in infiltration. The Modified Project would involve an expanded Project site of approximately 1.6 acres due to the addition of the Myrtha Pool area as part of the site. Although a majority of the Myrtha Pool area is considered impervious area, this area does not represent a change in the existing conditions because the Myrtha Pool is an existing feature. Further, compared to the Approved Project, implementation of the Modified Project would result in an increase in 33,131 sf of passive park and open space area (for a total passive park and landscaped area of 141,558 sf). With the increased park and open space area on the site, there is an increase in pervious area; therefore, it is reasonable to conclude that the Modified Project would result in substantially the same, if not an increase in, infiltration as compared to the Approved Project. The Modified Project would also include a comprehensive drainage system to convey on-site storm flows, including on-site detention and infiltration BMPs. Similar to the Approved Project, the Modified Project would require the implementation of Mitigation Measure 4.8.4, which requires the preparation of a detailed hydrology report to be prepared to ensure that the on-site storm drain facilities are appropriately sized to prevent on-site or off-site flooding. Under the Modified Project, the impervious surface areas would not be prone to erosion or siltation. Additionally, as required by Mitigation Measure 4.8.3, treatment BMPs would be implemented to convey storm water and minimize on-site erosion and siltation that could reach downstream receiving waters. With the implementation of Mitigation Measures 4.8.3 and 4.8.4, impacts related to increases in downstream erosion, siltation, or flooding would remain less than significant.

3.9.3.4 Create Runoff that would Exceed the Capacity of Storm Water Systems or Provide Substantial Additional Sources of Polluted Runoff

Construction. Construction of the Modified Project has the potential to introduce pollutants into the stormwater drainage system from erosion, siltation, and accidental spills. In addition, grading and construction activities would compact soil, which could result in an increase in runoff during construction. However, similar to the Approved Project, the Modified Project would require implementation of Mitigation Measure 4.8.1 to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, spills, and increased runoff. As discussed above, it is anticipated that groundwater dewatering would be required during the removal of the existing wooden piles and construction of the pools. However, groundwater dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. The Modified Project would also require the testing and treatment (as necessary) of groundwater encountered during groundwater dewatering prior to release to the storm drain system (refer to Mitigation Measure 4.8.2).

With implementation of Mitigation Measure 4.8.1 and 4.8.2, construction impacts related to exceeding the capacity of, and providing additional sources of polluted runoff to, stormwater drainage systems would remain less than significant.

Operation. As discussed above, the Approved Project would have decreased impervious surface area by 0.5 acre, decreasing the volume and velocity of runoff on the site. The Modified Project would involve an expanded Project site of approximately 1.6 acres due to the addition of the Myrtha Pool area as part of the site. Although a majority of the Myrtha Pool area is considered impervious area, this area does not represent a change in the existing conditions because the Myrtha Pool is an existing feature. Further, compared to the Approved Project, implementation of the Modified Project would result in an increase in 33,131 sf of passive park and open space area (for a total passive park and landscaped area of 141,558 sf). With the increased park and open space area on the site, there is an increase in pervious area; therefore, it is reasonable to conclude that the Modified Project would result in substantially the same, if not a further decrease in, volume and velocity of runoff on the site as compared to the Approved Project. The Modified Project would also include a comprehensive drainage system to convey on-site storm flows. Similar to the Approved Project, the Modified Project would require implementation of Mitigation Measure 4.8.4, which requires a detailed hydrology report to be prepared to ensure that the on-site storm drain facilities are appropriately sized to prevent on-site flooding. The Modified Project would also require the implementation of treatment BMPs, including biofiltration swales (bioswales), filtration strips, an underground detention basin, and a drywell to convey storm water and the reduction of potential pollutants and the volume of runoff reaching downstream receiving waters (refer to Mitigation Measure 4.8.3).

With the implementation of Mitigation Measures 4.8.3 and 4.8.4, impacts to stormwater drainage systems would remain less than significant.

3.9.3.5 Place Structures within a 100-year Flood Hazard Area

The eastern half of the Project site is located within Zone A, a Special Flood Hazard Area (SFHA) subject to inundation by the 1-percent annual chance flood, and the western half of the Project site is located within Zone X, which are areas determined to be outside the 0.2-percent chance (500-year) floodplain. FEMA requires that all projects within Zone A enforce NFIP floodplain management regulations and purchase mandatory flood insurance and the regulations require that a project not increase the base flood elevation of a 100-year floodplain more than 1 ft. Similar to the Approved Project, the Modified Project would be required to implement Mitigation Measure 4.8.5, which requires a floodplain report to be prepared in order to reduce impacts to the floodplain. With the implementation of Mitigation Measure 4.8.5, the Modified Project would not expose people or structures to the risk of flooding, create floodplains, or result in an increase in the base flood elevation. Therefore, impacts associated with flood hazard areas would remain less than significant.

3.9.3.6 Expose People or Structures to a Significant Risk Involving Flooding

Three flood control dams lie upstream of the City: Sepulveda Basin, Hansen Basin, and Whittier Narrows Basin. Sepulveda and Hansen Basins lie more than 30 miles upstream from where the Los Angeles River passes through the City, which is north of the Project site. The Project site for the Modified Project remains in the same location and is not located within the dam inundation areas of the Sepulveda and Hansen Dam Failure Inundation Maps. In addition, flood waters from these dam failures are expected to dissipate before reaching the City, due to low and flat ground and their distances from the City.

The 2016 Certified EIR determined that the Project site is located within the dam inundation area for the Whittier Narrows Dam. However, because the Project site's location is at the furthest point away from the Whittier Narrows Dam within the inundation area, most of the flooding would dissipate by the time it reaches the Project site. In addition, the City would have ample time to notify on-site users to evacuate, and on-site users would have ample time to evacuate before waters reached the Project site. The Modified Project, similar to the Approved Project, does not propose the development of any habitable structures on site, thereby further minimizing the risk to life and property in the event of a dam failure. Furthermore, the United States Army Corps of

Engineers has implemented Interim Risk Reduction Measures to reduce impacts to life and property in the event of dam failure, and the City has also developed emergency preparedness plans that would help the public be prepared for these types of emergency situations. The County of Los Angeles also has regional catastrophic preparedness planning and regional evacuation routes. Further, the Modified Project does not involve any changes in Project design as compared to the Approved Project that would increase exposure of people or structures to a significant risk involving flooding. Therefore, impacts would remain less than significant, and no mitigation is required.

3.9.3.7 Result in Inundation by Seiche, Tsunami, or Mudflow

As determined by the 2016 Certified EIR, the Project site is not located in the vicinity of any large enclosed bodies of water that could adversely affect the site in the event of earthquake-induced seiches. The Modified Project is located on the same site and does not involve any changes in Project design as compared to the Approved Project that would increase the likelihood of inundation by seiche. Therefore, impacts associated with the risk of possible seiche waves would remain less than significant, and no mitigation is required.

The Project site is located adjacent to the beach and the Pacific Ocean and is within a Tsunami Inundation Zone. However, the Modified Project is expected to serve a similar number of daily patrons as the Approved Project during typical operations, and has a lower capacity than the Approved Project for special events, due to the reduction in seating capacity by 2,385 seats. Additionally, the Modified Project would not increase the risk of a tsunami occurring as compared to the Approved Project. Furthermore, as stated above, the City has implemented the 2015 Natural Hazards Mitigation Plan for the purpose of protecting the lives, property, and facilities of citizens, employees, businesses, industry, infrastructure, and the environment from natural hazards. In addition, the County of Los Angeles has developed regional catastrophic preparedness planning and regional evacuation routes. Therefore, because the Modified Project is not introducing a new risk to tsunami exposure, risks associated with tsunamis would remain less than significant, and no mitigation is required.

The 2016 Certified EIR concluded that the Project site is relatively level, and the absence of nearby slopes precludes any slope stability hazards. The Modified Project does not involve any changes in Project design as compared to the Approved Project that would increase the likelihood of mudflows on the Project site. Therefore, impacts associated with the risk of possible mudflows would remain less than significant, and no mitigation is required.

3.9.3.8 Cumulative Hydrology and Water Quality Impacts

The Project site falls within the Los Cerritos Channel and Alamitos Bay WMA. This area is essentially built out; therefore, future development would involve redevelopment of existing properties. Although each of the cumulative projects could potentially increase the volume of stormwater runoff and contribute to pollutant loading in stormwater runoff reaching both the City's storm drain system and the San Gabriel River, and ultimately the Pacific Ocean, each of the cumulative projects would be subject to NPDES and MS4 Permit requirements for both construction and operation. Additionally, each project would be required to develop both a SWPPP and an SUSMP that target site-specific pollutants of concern and that would be evaluated individually to determine appropriate BMPs to minimize impacts to surface water quality.

Although there is the potential for cumulative projects, individually and cumulatively, to result in an encroachment into the 100-year flood zone, as with the Modified Project, each of the cumulative projects would be required to comply with City and FEMA regulations and prepare a Floodplain Report during final design to address any potential impacts to the floodplain, and if required, reduce those impacts. In addition, the City Development Services Director reviews all development projects on a case-by-case basis to ensure that sufficient local and regional drainage capacity is available. Therefore, the contribution of the Modified Project to potential cumulative impacts to hydrology and water quality in the Project area is considered comparable to the Approved Project and would be less than cumulatively considerable.

3.9.4 Findings Related to Hydrology and Water Quality

3.9.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to hydrology and water quality, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.9.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to hydrology and water quality that would require major changes to the 2016 Certified EIR.

3.9.4.3 No New Information Showing Greater Significant Effects than in the 2016 Certified EIR

This analysis has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact to hydrology and water quality requiring major revisions to the 2016 Certified EIR.

3.9.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR

There is no new information, new alternatives to the Project, or additional mitigation measures that would substantially reduce one or more significant impacts pertaining to hydrology and water quality identified and considered in the 2016 Certified EIR.

3.9.5 Standard Conditions

There are no standard conditions pertaining to hydrology and water quality applicable to either the Approved Project or the Modified Project.

3.9.6 Mitigation Measures

The following mitigation measures were required for the Approved Project's impacts to hydrology and water quality in the 2016 Certified EIR, and are required for the Modified Project. Portions of the following measures have been revised to reflect current permit numbers under the Construction General Permit and Groundwater Discharge Permit. Deletions are shown with ~~strikethrough~~ and additions are shown with <u>underline</u>.

Mitigation Measure 4.8.1 **Construction General Permit.** Prior to issuance of a grading permit, the City of Long Beach (City) shall obtain coverage for the proposed Project under the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. ~~2009-0009-DWQ~~ <u>R4-2014-0024</u>, Permit No. ~~CAS000002~~<u>CAS004003</u>), as amended by Order No~~s.~~ ~~2010-0004-DWQ and 2012-0006-DWQ~~<u>R4-2014-0024-A01</u> (Construction General Permit), or subsequent issuance. For projects with a disturbed area of 5 or more acres, a Storm Water Pollution Prevention Plan (SWPPP) with construction Best Management Plans (BMPs) is required to be submitted to both the Los Angeles Regional Water Quality Control Board (RWQCB) and the City.

The City shall provide the Waste Discharge Identification Numbers to the Development Services Director to demonstrate proof of coverage under the Construction General Permit. A SWPPP shall be prepared and implemented for the proposed Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify Construction BMPs to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in stormwater runoff as a result of construction activities.

Mitigation Measure 4.8.2 **Dewatering During Construction Activities.** During project construction, the City of Long Beach Development Services Director, or designee, shall ensure that any dewatering activities during construction shall comply with the requirements of the *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties* (Order No. ~~R4-2013-0095~~<u>R4-2018-0125</u>, Permit No. ~~CAG994004~~<u>CAG994004</u>) (Groundwater Discharge Permit) or subsequent permit. This Groundwater Discharge Permit shall include submission of a Notice of Intent (NOI) for coverage under the permit to the Los Angeles RWQCB at least 45 days prior to the start of dewatering and compliance with all applicable provisions in the permit, including water sampling, analysis, and reporting of dewatering-related discharges. If dewatered groundwater cannot meet the discharge limitations specified in the Groundwater Discharge Permit, a permit shall be obtained from the Los Angeles County Sanitation District (LACSD) to discharge groundwater to the sewer per LACSD's Wastewater Ordinance.

Mitigation Measure 4.8.3 **Standard Urban Stormwater Mitigation Plan.** Prior to issuance of grading permits, the City shall submit a Final Standard Urban Stormwater Mitigation Plan (SUSMP) for the proposed Project to the Development Services Director for review and approval. Project-specific site Design, Source Control, and Treatment Control BMPs contained in the Final SUSMP shall be incorporated into final design. The BMPs shall be consistent with the requirements of the *Low Impact Development (LID) Best Management Practices (BMP) Design Manual*. Additionally, the BMPS shall be designed and maintained to target pollutants of concern and reduce runoff from the Project site. The SUSMP shall include an operations and maintenance plan for the prescribed Treatment Control BMPs to ensure their long-term performance.

Mitigation Measure 4.8.4 **Hydrology Reports.** Prior to issuance of grading permits, the City shall submit a final hydrology report for the proposed Project to the City Development Services Director, or designee, for review and approval. The hydrology report shall demonstrate, based on hydrologic calculations, that the proposed Project's on-site storm conveyance and detention and infiltration facilities are designed in accordance with the requirement of the Los Angeles County Department of Public Works Hydrology Manual.

Mitigation Measure 4.8.5 **Floodplain Report.** During final design, the Project engineer shall prepare and submit a floodplain/hydrology report to the City Development Services Director, or designee, to address any potential impacts to the floodplain and, if required, reduce those impacts. The report shall comply with City and Federal Emergency Management Agency (FEMA) regulations and shall not increase the base flood elevation by more than 1 foot. Detailed analysis shall be conducted to ensure that the Project design specifically addresses floodplain issues so that the proposed Project complies with local and FEMA regulations on floodplains.

3.10 LAND USE

3.10.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 and was included as part of the baseline conditions for the 2016 Certified EIR. With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, there have been no major changes to the existing setting of the Project site with respect to the existing land use. Refer to Section 4.9, Land Use, in the 2016 Certified EIR, for an in-depth discussion of the existing environmental setting.

The Project site is an approximately 7.4-acre site in the Belmont Shore Beach Park in the City of Long Beach (City). The site formerly contained the Belmont Plaza Olympic Pool, which was operated by the City Department of Parks, Recreation and Marine. In its existing setting, the Project site contains the temporary pool and passive park space, and a temporary sand covering in the location of the former Belmont Pool. The Project site is bounded by the Pacific Ocean to the south; the City's Beach Maintenance Yard, a large parking lot that provides parking for beach visitors, the beach area, volleyball courts, Rosie's Dog Beach, and a boat launch to the southeast; East Olympic Plaza and passive park space to the north; and the Belmont Veterans Memorial Pier parking lot and an apartment complex to the northwest.

At the time of the preparation of the 2016 Certified EIR, the 1998 General Plan Land Use Element designated the Project site as Open Space/Parks and Mixed Uses. The areas immediately south and southeast of the Project site were designated as Open Space/Parks, and the areas northeast of the Project site were designated as Moderate Density Residential and Mixed Style Homes Districts. The areas north and west of the Project site were designated as Mixed Uses. These designations are consistent with existing land uses; the area surrounding the Project site contains beach uses to the south and southeast, residential uses to the north and the east, and commercial uses to the north and west.

3.10.2 2016 Certified EIR

Please refer to Section 4.9 of the 2016 Certified EIR for a detailed analysis of potential effects of the Approved Project related to land use and planning. The 2016 Certified EIR concluded that the following impacts would be less than significant related to land use and would require no mitigation.

3.10.2.1 Conflict with any Land Use Plan, Policy, or Regulation

Less than Significant Impact. As described in the 2016 Certified EIR, the Project site is under the land use planning and regulatory jurisdiction of both the City and the California Coastal Commission (CCC). The existing Project site is owned and operated by the City, which has the primary authority for development, maintenance, and operation of uses on the Project site. The City's Department of Parks, Recreation and Marine is responsible for the daily operations at the existing and future pool facilities. The proposed replacement of the Belmont Pool facilities was intended to enhance the public's access and recreational opportunities and was a continuation of existing/previous land uses, consistent with existing land use plans, policies, and regulations in place at the time the 2016

Certified EIR was prepared. The 2016 Certified EIR determined that the Approved Project would be consistent with these applicable City and CCC land use plans and policies.

The 2016 Certified EIR determined that the Approved Project is not a project of regional significance, and therefore, the Approved Project would not have resulted in impacts related to regional planning issues. Additionally, because the Approved Project was a replacement/expansion of previous recreational facilities and would not alter the previous land uses on the Project site, the Southern California Association of Governments (SCAG) Regional Comprehensive Plan (RCP) strategies were not applicable to the Approved Project.

The Approved Project was also determined to be consistent with applicable General Plan Land Use Element (1993) goals and policies and with land use designations on the Project site. At the time of the preparation of the 2016 Certified EIR, the City was in the process of updating its General Plan Land Use Element. As discussed in the 2016 Certified EIR, under the new Land Use Element, the Project site would be in an area designated for waterfront uses, which among other things, would allow for redevelopment of the Belmont Pier and Pool Complex. Therefore, the 2016 Certified EIR determined that the Approved Project would not result in significant land use compatibility issues with the City's updated General Plan Land Use Element (although it should be noted that the updated Land Use Element was not approved at the time the 2016 Certified EIR was certified). Furthermore, the 2016 Certified EIR determined that the Approved Project would be consistent with, and would further the intent of, the policies within the General Plan Open Space and Recreation Element (2002). Therefore, the 2016 Certified EIR determined that impacts would be less than significant, and no significant conflict with the General Plan would occur.

Although the Approved Project was consistent with the zoning designation of the Project site, as established by the City's Zoning Code, the maximum allowable height of building structures within the Park zoning district is 30 ft. As such, the Approved Project required the approval of a variance to allow for the proposed maximum height of 71 ft. The Approved Project would have also required a Conditional Use Permit (CUP) to allow food and beverage sales at the proposed café on the Project site. Therefore, following approval of the requested height variance and CUP, no impacts related to consistency with zoning standards were expected to occur with implementation of the Approved Project.

The City-certified Local Coastal Program (LCP) that governs land uses within the City was adopted by the City Council on February 12, 1980, and certified by the Coastal Commission on July 22, 1980. After the Coastal Commission has certified an LCP, the primary responsibility for issuing Coastal Development Permits (CDPs) is transferred from the Coastal Commission to the local government for all nonshore/nonwater projects in the Coastal Zone. A portion of the site per the Approved Project was within the City's jurisdiction to issue a CDP, while the tidelands and shoreline areas of the site were under the CDP jurisdiction of the Coastal Commission. The 2016 Certified EIR determined that the Approved Project was consistent with applicable California Coastal Act policies, as well as with the policies and guidelines contained in the City-certified LCP. The Approved Project was determined to be consistent with applicable Coastal Act policies, and impacts were considered less than significant.

Overall, the 2016 Certified EIR determined that the Approved Project would not conflict with any applicable planning documents following City-approval of the height variance and CUP for food and beverage sales proposed under the Approved Project. Impacts associated with conflicts with applicable City and CCC land use plans, policies, and regulations were determined to be less than significant. No mitigation was required.

3.10.2.2 Cumulative Land Use Impact

Less than Significant Impact. The 2016 Certified EIR analyzed a cumulative study area of the City of Long Beach. As discussed in the 2016 Certified EIR, development of the Approved Project would have been consistent with the existing General Plan Land Use designations. The Approved Project involved the replacement of a former pool facility and would have been compatible with development in the immediate area surrounding the Project site. Therefore, the 2016 Certified EIR determined that the construction of the Approved Project would not have resulted in a potential inconsistency with the City General Plan or other land planning documents, nor would the Approved Project result in significant land use compatibility issues. Therefore, the implementation of the Approved Project would not have resulted in, or contributed to, a cumulatively significant land use impact. No mitigation was required.

3.10.3 Analysis of the Modified Project

3.10.3.1 Conflict with any Land Use Plan, Policy, or Regulation

The Modified Project's proposed replacement of the previous pool facilities is intended to enhance the public's access and recreational opportunities and is a continuation of existing/previous land uses, like the Approved Project.

While the Modified Project would be consistent with the General Plan Land Use Element (1993) goals and policies and with land use designations on the Project site regulating land use at the time the 2016 Certified EIR was prepared,. the City adopted an updated Land Use Element, the 2040 General Plan LUE (October 2019), in December 2019. The updated LUE identifies the Project site's PlaceType as Waterfront (WF). The Waterfront PlaceType applies to three major waterfront activity areas in the City, including the Project site (Belmont Pier and Pool Complex), the Downtown Shoreline, and the Alamitos Bay Marina. As described in the updated LUE, the Waterfront PlaceType explicitly allows for redevelopment of the Belmont Pier and Pool Complex. Therefore, similar to the Approved Project, the Modified Project would implement the City's General Plan and would not result in significant land use compatibility issues with the City's General Plan. Furthermore, similar to the Approved Project, the Modified Project would be consistent with, and would further the intent of, the policies within the General Plan Open Space and Recreation Element (2002). Therefore, impacts would remain less than significant, and no significant conflict with the General Plan would occur.

The Modified Project includes an amendment to the zoning standards (PD-2 zone) to specifically allow for the pool facility. Due to a reduction in the scale and height of the Modified Project's design, including a maximum height of 60 ft and the removal of the cafe, the Modified Project would not require a height variance or a CUP. With approval of the zoning amendment, the Modified

Project would be consistent with the site's zoning regulations and impacts would be less than significant, similar to the Approved Project.

As a result of the requested amendment to the zoning standards, and because the PD-2 zoning is an implementing ordinance of the Local Coastal Program (LCP), an LCP Amendment would also be required as part of the Modified Project. The LCP Amendment would establish the Belmont Beach and Aquatics Center (Modified Project) as a new subarea – PD-2, Subarea 5. Subarea 5 would include the Modified Project complex on an expanded site that was the former location of the Belmont Olympic Plaza Pool; allow a height limit up to the 60 ft (the height of the former Belmont Pool building); and would exempt new, rebuilt, or remodeled public facilities from a requirement to provide additional parking, notwithstanding the requirements of Municipal Code Chapter 21.41. Approval of the LCP Amendment would ensure that the Modified Project is consistent with the policies and guidelines in the City's LCP. The CCC would also be required to approve the LCP Amendment. With Coastal Commission's approval of the LCP Amendment, the Modified Project would be consistent with the LCP.

The 2016 Certified EIR determined that the Approved Project was consistent with applicable Coastal Act policies, as well as with the policies and guidelines contained in the City-certified Local Coastal Program (LCP). The Modified Project has been relocated further inland on the same Project site, thus further reducing any possible impact from sea level rise, and the overall scale of the facility has been reduced. However, the Project site has remained substantially the same, and because the Modified Project also proposes the same recreational uses (a replacement pool complex), it is reasonable to conclude that the Modified Project would also be considered consistent with Coastal Act policies and the policies and guidelines contained in the LCP.

Similar to the Approved Project, the Modified Project is not a project of regional significance, and therefore, would not result in impacts related to regional planning issues.

Overall, the Modified Project would not conflict with any applicable planning documents following City-approval of the amendments to the Zoning Code and LCP, and CCC approval of the LCP Amendment. Impacts associated with conflicts with applicable land use plans, policies, and regulations would remain less than significant. No mitigation is required.

3.10.3.2 Cumulative Land Use Impact

Like the Approved Project, the Modified Project involves the replacement of a former pool facility and would be compatible with development in the immediate area surrounding the Project site. Similar to the Approved Project, development of the Modified Project would be consistent with the existing General Plan Land Use designations under the updated LUE. With approval of the zoning and LCP amendments, the Modified Project would also be consistent with the zoning and Coastal Act policies and regulations. Therefore, similar to the Approved Project, construction of the Modified Project would not result in a potential inconsistency with the City's General Plan or other land planning documents, nor would the Modified Project result in significant land use compatibility issues. The previous land uses of a recreational pool facility would be continued with the implementation of the Modified Project. Therefore, the contribution of the Modified Project to potential cumulative land use impacts in the Project area is considered comparable to the Approved Project and is less than cumulatively considerable. No mitigation is required.

3.10.4 Findings Related to Land Use and Planning

3.10.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to land use and planning, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.10.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to land use and planning that would require major changes to the 2016 Certified EIR.

3.10.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to land use and planning requiring major revisions to the 2016 Certified EIR.

3.10.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR

There is no new information, mitigation, or alternatives to the Project that would substantially reduce one or more significant impacts pertaining to land use and planning identified and considered in the 2016 Certified EIR.

3.10.5 Standard Conditions

There are no standard conditions pertaining to land use and planning that are applicable to either the Approved Project or the Modified Project.

3.10.6 Mitigation Measures

There are no mitigation measures pertaining to land use and planning that are applicable to either the Approved Project or the Modified Project.

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3.11 NOISE

3.11.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 and was included as part of the baseline conditions for the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to noise. As such, refer to Section 4.10, Noise, in the 2016 Certified EIR for an in-depth discussion of the existing environmental setting for noise.

At the time the Notice of Preparation (NOP) was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building. The temporary outdoor pool is currently used by clubs, local high schools, and the general public, and creates noise associated with spectators, whistles, and recreational activities. The activities associated with the temporary outdoor pool therefore represent aan accurate portrayal of the existing noise conditions for the site. The temporary outdoor pool is part of the baseline condition because it was opened prior to the release of the NOP issued the Approved Project.

3.11.1.1 Sensitive Receptors in the Project Vicinity

The sensitive land uses within the vicinity of the Project site include the Belmont Shores Children's Center, which is located approximately 25 ft from the northern Project boundary and residences to the north, east, and west of the Project site across East Ocean Boulevard and Termino Avenue.

3.11.1.2 Overview of the Existing Noise Environment

The primary existing noise sources in the Project area are from vehicle traffic on adjacent roadways, and noise associated with the use of the temporary outdoor pool. Other existing noise sources in the Project area include activity associated with the temporary outdoor pool, which is used by clubs, local high schools, and the general public.

3.11.2 2016 Certified EIR

Please see Section 4.10 of the Certified EIR for detailed analyses of the potential effects of the Approved Project regarding noise. To remain conservative, any impacts related to interior noise standards assume a windows and doors open condition. When windows and door remain closed, the impacts discussed further below would be reduced.

3.11.2.1 Exposure of Persons to or Generation of Noise Levels in Excess of Applicable Standards

Less than Significant with Mitigation Incorporated.

Traffic Noise. The 2016 Certified EIR utilized the Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) to evaluate traffic-related noise conditions in the vicinity of the Project site. As described in the 2016 Certified EIR, project-related traffic noise levels were estimated to increase by up to 2.4 A-weighted decibels (dBA), except along Bennett Avenue south of Ocean Boulevard. Although traffic noise levels along Bennett Avenue south of Ocean Boulevard were estimated to increase by up to 7.2 dBA, this roadway segment is the entrance to the Approved Project, and there were no off-site noise-sensitive land uses adjacent to this segment of the road. The traffic noise increases of up to 2.4 dBA along other roadway segments in the vicinity of the Approved Project were less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment. Therefore, the 2016 Certified EIR determined that no significant traffic noise impacts would occur on off-site noise-sensitive land uses. No mitigation was required.

Long-Term Operation. Without a substantial number of spectators or without the use of a public address sound system, noise levels generated from the outdoor pool under normal operations were expected to be less than 50 dBA equivalent continuous sound level (L_{eq}) at the perimeter of the facility. Therefore, noise generated from the outdoor pool during practices and regular events would not have had the potential to impact nearby noise-sensitive uses under the Approved Project. However, noise levels generated from the outdoor pool during special events had the potential to impact nearby noise-sensitive uses because these events would involve a substantial number of spectators, whistles from officiating water polo games, starting horns, and the use of a public address sound system. Noise levels generated from the indoor pool would not have impacted the closest residences at the Belmont Shore Condominiums, which was located approximately 180 ft from the building edge of the Approved Project, because the combination of building attenuation and distance attenuation would have resulted in exterior noise levels of 46 dBA. Therefore, the Certified EIR determined that long-term operation noise impacts would be less than significant. No mitigation was required.

Crowd/Spectator Noise.

Exterior Noise. The Approved Project's outdoor seating was located approximately 190 ft from the Belmont Shores Children's Center to the north, 325 ft from the existing residences to the northeast (across from Ocean Boulevard), and 320 ft from existing residences to the northwest (across from Termino Avenue). Proposed building structures on the west side of the Approved Project provided partial shielding for the Belmont Shores Children's Center in addition to an existing block wall surrounding the Children's Center outdoor uses. Existing buildings to the north and proposed structures on the west side of the Approved Project also provided partial shielding for the two residential locations. The playground associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest were subject to exterior noise levels from crowd noise reaching 48.9, 47.3, and 47.4 dBA L_{eq} (1-hour), respectively. Spectator noise levels from the outdoor seating would not have exceed any of the City's daytime exterior L_{50}, L_{25}, L_8, L_2, and L_{max} standards of 50, 55, 60, 65, and 70 dBA, respectively, at the Belmont Shores Children's Center or the closest residences. Therefore, spectator noise impacts on exterior uses were determined to be less than significant. No Mitigation was required.

Interior Noise. According to the 2016 Certified EIR, classrooms associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest were subject to interior noise levels from crowd noise reaching up to 36.9 dBA L_{eq}, 35.3 dBA L_{eq}, and 35.4 dBA L_{eq} (1 hour), respectively, assuming that windows and doors would remain open. Spectator noise levels at the outdoor seating areas would not have exceed any of the City's daytime interior L_8, L_2, and L_{max} standards of 45 dBA, 50 dBA, and 55 dBA, respectively, at either the Belmont Shores Children's Center or the two residential locations. Since the Approved Project was not expected to be used after 10:00 p.m. and no nighttime operational noise would occur, the 2016 Certified EIR determined that no violation of the City's nighttime noise standards would occur. Impacts were determined to be less than significant and no mitigation was required.

Public Address System Noise. The outdoor pool proposed under the Approved Project had four different outdoor speaker locations with a total of thirteen speakers, seven of which would have been permanently installed and six of which would be installed during special events.

Exterior Noise. The playground associated with the Belmont Shores Children's Center, outdoor living areas associated with residences to the northeast (across from Ocean Boulevard), and residences to the northwest (across from Termino Avenue) were potentially subject to exterior noise levels from speaker noise reaching up to 54.2, 54.5, and 54.3 dBA L_{eq} (1-hour), respectively. Therefore, under the Approved Project, speaker noise levels would have potentially exceed the City's daytime exterior L_{50} standard of 50 dBA at the playground of the Belmont Shores Children's Center, at the outdoor living areas of the residences to the northeast (across from Ocean Boulevard) and the residences to the northwest (across from Termino Avenue). Therefore, the 2016 Certified EIR required the implementation of Mitigation Measure 4.10.1 to ensure impacts were less than significant.

Interior Noise. Classrooms associated with the Belmont Shores Children's Center, the residences to the northeast, and the residences to the northwest were subject to interior noise levels from crowd noise reaching up to 42.2, 42.5, and 42.3 dBA L_{eq} (1 hour), respectively, with windows and doors open. Therefore, speaker noise levels would not have exceed the City's daytime interior noise standard at Belmont Shores Children's Center and the two residential locations. Since the Approved Project was not expected to be used after 10:00 p.m., no nighttime operational noise would have occurred and, therefore, no violation of the City's nighttime noise standards would have occurred.

Combined Noise Levels.

Exterior Noise. The combined noise levels from the crowd and speaker noise were expected to result in an exterior noise level of 55.3 dBA L_{eq} (1-hour) at the playground associated with the Belmont Shores Children's Center, 55.3 dBA L_{eq} (1-hour) at the outdoor living areas of the residences to the northeast (across from Ocean Boulevard), and 55.1 dBA L_{eq} (1-hour) at the outdoor living areas of the residences to the northwest (across from Termino Avenue). The combined noise levels at the Belmont Shores Children's Center and the two residential locations could have potentially exceeded the City's daytime exterior L_{50} and L_{25} standard of 50 and 55 dBA, respectively. Therefore, the 2016 Certified EIR required the implementation of Mitigation Measure 4.10.1, which requires measures to reduce noise levels from the speakers, would reduce the combined noise level to less than the City's exterior noise standards. Therefore, this impact was determined to be less than significant after mitigation.

Interior Noise. As described in the 2016 Certified EIR, combined interior noise levels with windows and doors open were expected to be 43.3 dBA L_{eq} (1 hour) in the classroom at the Belmont Shores Children's Center, 43.3 dBA L_{eq} (1 hour) at the residences to the northeast (across from Ocean Boulevard), and 43.1 dBA L_{eq} (1 hour) at the residences to the northwest (across from Termino Avenue). The combined noise levels at the Belmont Shores Children's Center and the two residential locations would not have exceeded the City's daytime interior standard. Since the Approved Project was not expected to be used after 10:00 p.m., no nighttime operational noise would occur, and no violation of the City's nighttime noise standards would occur. Therefore, impacts were determined to be less than significant, and no mitigation was required.

3.11.2.2 Expose Persons to or Generate Excessive Groundborne Vibration or Groundborne Noise Levels

Less than Significant Impact. As described in the 2016 Certified EIR, the estimated vibration level at the closest residence to the northeast and northwest of the Project site were 0.049 inch/sec and 0.097 inch/sec, respectively. The estimated vibration levels at the Belmont Shores Children's Center and other commercial buildings were 0.101 inch/sec. These construction vibration levels are below the damage threshold of 0.3 inch/sec for older residential buildings and 0.5 inch/sec for modern industrial commercial buildings. Therefore, the Certified EIR determined that the Approved Project would result in a less than significant impact related to this issue, and no mitigation was required.

3.11.2.3 Permanent Increase in Ambient Noise Levels

Less than Significant Impact. The Approved Project's traffic noise levels would have had a traffic noise increase of up to 2.4 dBA, except for Bennett Avenue south of Ocean Boulevard. Although traffic noise levels along Bennett Avenue south of Ocean Boulevard would have increased by up to 7.2 dBA, this roadway segment was the entrance to the Approved Project and there were no off-site noise-sensitive land uses adjacent to it. The traffic noise increases of up to 2.4 dBA along other roadway segments in the Project area were less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment. Therefore, no significant traffic noise impacts or permanent increase in ambient noise levels would have occurred in the Project vicinity or to off-site noise-sensitive land uses. No mitigation measures were required.

3.11.2.4 Temporary or Periodic Increase in Ambient Noise Levels

Less than Significant with Mitigation Incorporated. The Approved Project was expected to generate short-term construction noise from construction crew commutes and the transport of construction equipment and materials to the Project site. A high single-event noise exposure potential at a maximum level of 84 dBA L_{max} from trucks passing at 50 ft was expected. However, the projected construction traffic would have been minimal when compared to existing traffic volumes on Ocean Boulevard and other affected streets, and its associated long-term noise level change would not have been perceptible. Therefore, the 2016 Certified EIR determined that short-term construction-related worker commutes and equipment transport noise impacts would be less than significant.

Short-term noise impacts were also expected from noise generated by heavy construction equipment operating at the Project site. Typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receiver, were utilized to analyze the Approved Project. Noise associated with the use of construction equipment was estimated to be between 75 and 85 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. The 2016 Certified EIR estimated the worst-case composite noise level at the nearest residence during this phase of construction to be 87 dBA L_{max} (at a distance of 50 ft from an active construction area). In addition to standard construction equipment, the Approved Project was anticipated to utilize hydraulic hammer pile drivers. If pile driving was conducted concurrently with site preparation, the construction site could have potentially generated noise levels of 96 dBA L_{max} at a distance of 50 ft.

The closest residences to the northeast and northwest are located approximately 100 ft and 80 ft from the construction boundary and could have been subjected to short-term noise reaching 90 and 92 dBA L_{max}, respectively, generated by the Approved Project construction activities.

The Belmont Shores Children's Center is located approximately 25 ft from the construction boundary and could have been subjected to short-term noise reaching 102 dBA L_{max} or higher generated by the Approved Project's construction activities.

Under the Approved Project, the closest existing sensitive receptors would be subject to short-term noise levels that would be higher than existing ambient noise levels in the Project area but would no longer occur once construction of the Approved Project is completed. In addition, noise generated from construction activities would be intermittent and temporary. Section 8.80.202 of the City's Municipal Code allows elevated construction-related noise levels as long as the construction activities are limited to the hours specified. The 2016 Certified EIR determined that, with adherence to the City's noise regulations and implementation of Mitigation Measures 4.10.2 and 4.10.3, temporary increases in ambient noise levels in the Project vicinity associated with Project construction would be reduced to less than significant levels.

3.11.2.5 Cumulative Noise Impacts

Less than Significant Impact.

Construction. The 2016 Certified EIR analyzed a cumulative study area of the Project site and properties immediately adjacent to construction activities. At the time of the preparation of the 2016 Certified EIR, there were no proposed or approved projects within the cumulative noise study area for the Approved Project. Cumulative construction activities at other Project sites along with the Approved Project would not have resulted in a noticeable increase in noise to sensitive receptors adjacent to the proposed Project site. Furthermore, all related projects would be required to comply with the City Noise Control Ordinance. Therefore, the 2016 Certified EIR determined cumulative construction impacts to be less than significant. No mitigation was required.

Operation. Operational activities associated with the Approved Project were not anticipated to lead to a substantial increase in the number of visitors and vehicles to the Project site. Therefore, the long-term ambient noise levels associated with increased traffic were not anticipated to be significant as a result of the Approved Project, would not have contributed substantially to cumulative roadway noise impacts, and would have had a less than cumulatively considerable impact. In addition, since no cumulative projects were identified for the cumulative noise study area, the Approved Project would not have contributed to off-site cumulative noise impacts from on-site activities. Therefore, the 2016 Certified EIR determined that the Approved Project would have a less than cumulatively considerable impact. No mitigation was required.

3.11.3 Analysis of the Modified Project

As part of the Modified Project, revised noise modeling and calculations have been completed. The analysis of the Modified Project changes and the findings related to noise are based on the *Noise and Vibration Impact Analysis: Modified Belmont Pool Revitalization Project* (LSA, December 2019, included as Appendix C to this Addendum.

3.11.3.1 Exposure of Persons to or Generation of Noise Levels in Excess of Applicable Standards

Traffic Noise. Like the analysis in the 2016 Certified EIR, the noise analysis for the Modified Project utilized the Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) to evaluate traffic-related noise conditions in the vicinity of the Project site. Existing traffic volumes in the updated *Belmont Plaza Pool Revised Traffic Analysis* (LSA 2019) prepared for the Modified Project were used to assess traffic noise impacts.

Traffic noise levels for the Modified Project would have a traffic noise increase of up to 2.6 dBA, except for Bennett Avenue south of Ocean Boulevard. The traffic noise increases of up to 2.6 dBA along roadway segments in the Project area are only slightly greater than the traffic noise levels of up to 2.4 dBA projected for the Approved Project, but are less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment and are therefore considered less than significant, similar to the Approved Project. The small increase in noise along these roadway segments is due to new existing baseline traffic counts which show some decreased traffic volumes on some study area segments. Because the trips associated with the Modified Project are the same as those presented in the 2016 Certified EIR, the overall Project-related trips represent larger percentage of overall trips; the 0.2 dBA increase is still far below the 3.0 dBA threshold of perceptible noise and remains less than significant. Although traffic noise levels along Bennett Avenue south of Ocean Boulevard would increase by up to 7.0 dBA, this roadway segment is the entrance to the proposed project, and there are no off-site noise-sensitive land uses adjacent to this segment of the road. The increase for the Modified Project of 7.0 dBA along Bennett Avenue south of Ocean Boulevard is slightly less than the projected increase to 7.2 dBA at this location under the Approved Project Because no significant traffic noise impacts would occur on off-site noise-sensitive land uses adjacent to this location, impacts would be considered less than significant for the Modified Project, similar to the Approved Project. No mitigation measures for off-site uses would be required.

Crowd/Spectator Noise. The 2016 Certified EIR provided an assessment of the operational impacts associated with daily operations of the Approved Project including crowd and spectator noise as well as the public address system. For purposes of the updated noise analysis, the same reference noise levels[13] were utilized to calculate the potential impacts associated with the Modified Project operations. Each loudspeaker was estimated to generate an hourly equivalent (L_{eq}) noise level of 71.3 dBA at a distance of 50 ft. Crowd noise was measured to be 65 dBA L_{eq} at 75 ft.

While the Modified Project has a larger footprint than the Approved Project due to the conversion of the existing temporary pool to a permanent pool under the Modified Project, the improvements in the expanded footprint would not add any new noise sources in the Project area. This is because the current activities that occur at the temporary pool would continue and be the same once the pool is made permanent. Further, as stated above, the temporary pool was part of the baseline conditions in the 2016 Certified EIR and noise associated with activities at that pool were occurring at that time. Therefore, the conversion of this temporary pool to a permanent facility would not change the noise environment.

The primary design change for the Modified Project is removal of a roof structure, thereby resulting in all pools and seating being located outside. While this may increase noise levels on the western side of the project site, the source of noise associated with outside activities is based on the same reference noise levels used in the 2016 Certified EIR to estimate crowd noise at maximum capacity. The Approved Project proposed to have 3,000 outdoor seats, along with 1,250 indoor seats, whereas the Modified Project proposes to have 1,865 outdoor seats. Since the number of outdoor seats is reduced (nearly by 50 percent) for the Modified Project, noise levels will likely decrease as compared to the Approved Project. However, to remain conservative, noise levels are projected to remain the same as identified within the 2016 Certified EIR. Therefore, similar to the Approved Project, Mitigation Measure 4.10.1 would be required for the Modified Project and would mandate measures to reduce noise from outdoor sound systems, such as speakers.

Finally, operational noise will be further reduced due to the 10 ft high glass wall to be placed around the aquatic center containing the new pools and associated ancillary uses. Like the Approved Project, the Modified Project would not operate past 10:00 p.m.; therefore, consistent with the findings in the 2016 Certified EIR, the Modified Project would not violate the City's nighttime noise standards.

The combined noise levels from the crowd and speaker noise could, similar to the Approved Project, potentially exceed the City's daytime exterior at the Belmont Shores Children's Center and the two nearest residential locations. However, the substantial reduction in the number of spectator seats would result in a reduction of exterior noise levels. With implementation of Mitigation Measure 4.10.1, which requires measures to reduce noise levels from the speakers, the exterior noise levels would be reduced to below the City's exterior noise standards. Therefore, this impact would be less than significant after mitigation, similar to the Approved Project.

The combined noise levels at the Belmont Shores Children's Center and the two residential locations would not have exceeded the City's daytime interior standards under the Approved Project.

[13] Reference noise levels from a public address sound system were obtained from a noise level measurement conducted by RECON Environmental, Inc., at a high school championship football game (RECON 2003).

Therefore, the Modified project, which would have a significantly lower maximum crowd capacity, including fewer total outdoor spectator seats, would not exceed these interior standards. Similarly, because the Modified Project would not be operated after 10:00 p.m., no nighttime operational noise would occur, and no violation of the City's nighttime noise standards would occur. Therefore, interior noise impacts would be less than significant and no mitigation is required.

With the implementation of Mitigation Measure 4.10.1 from the certified 2016 EIR, the Modified Project would result in a less than significant impact, and the potential impacts would likely be less than those identified for the Approved Project.

3.11.3.2 Expose Persons to or Generate Excessive Groundborne Vibration or Groundborne Noise Levels

Bulldozers and trucks used for construction of the Modified Project would generate the highest ground-borne vibration levels, similar to the Approved Project. The Modified Project's estimated vibration levels at the closest residence to the northeast and northwest of the Project site would be 0.049 inch/sec and 0.097 inch/sec, respectively; the same levels as identified for the Approved Project. The Modified Project's estimated vibration levels at the Belmont Shores Children's Center and other commercial buildings are 0.101 inch/sec, also the same as for the Approved Project. These construction vibration levels are all below the damage threshold of 0.3 inch/sec for older residential buildings and 0.5 inch/sec for modern industrial commercial buildings. Therefore, the Modified Project, like the Approved Project, would result in a less than significant impact related to this issue, and no mitigation is required.

3.11.3.3 Permanent Increase in Ambient Noise Levels

As described above, traffic noise levels for the Modified Project would have a traffic noise increase of up to 2.6 dBA, except for Bennett Avenue south of Ocean Boulevard. The traffic noise increases of up to 2.6 dBA along roadway segments in the Project area are only slightly greater than the traffic noise levels of up to 2.4 dBA projected for the Approved Project, but are less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment and are therefore considered less than significant, similar to the Approved Project. Although traffic noise levels along Bennett Avenue south of Ocean Boulevard would increase by up to 7.0 dBA, this roadway segment is the entrance to the proposed project, and there are no off-site noise-sensitive land uses adjacent to this segment of the road. The increase for the Modified Project of 7.0 dBA along Bennett Avenue south of Ocean Boulevard is slightly less than the projected increase to 7.2 dBA at this location under the Approved Project, and is due to a reduced Project size. Because no significant traffic noise impacts would occur on off-site noise-sensitive land uses adjacent to this location, impacts would be considered less than significant for the Modified Project, similar to the Approved Project. No mitigation is required.

3.11.3.4 Temporary or Periodic Increase in Ambient Noise Levels

The Modified Project, similar to the Approved Project, would generate short-term construction noise from construction crew commutes and the transport of construction equipment and materials to the Project site. The Modified Project's single-event noise from equipment trucks passing at a distance of 50 ft from a sensitive noise receptor would reach a maximum level of 84 dBA L_{max} which is the same level estimated for the Approved Project. Heavy equipment for grading and construction activities would be moved on site just one time and would remain on site for the duration of each construction phase. This one-time trip, when heavy construction equipment is moved on and off site, would not add to the daily traffic noise in the Project vicinity. The total number of daily vehicle trips would be minimal when compared to existing traffic volumes on the affected streets, and the long-term noise level change associated with these trips would not be perceptible. Therefore, equipment transport noise and construction-related worker commute impacts associated with the Modified Project would be short term and would not result in a significant off-site noise impact, similar to the Approved Project. No mitigation is required.

Short-term noise impacts are also expected from noise generated by heavy construction equipment operating at the Project site. Although the Modified Project would require less construction due to the reduction of the buildings to be constructed (no large roof as all pools are now located outdoors), construction equipment required would be similar to the Approved Project and is expected to include the use of graders, bulldozers, water trucks, and pickup trucks. Noise associated with the use of construction equipment is estimated to be between 75 and 85 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. Each doubling of the sound source (more than one piece of construction equipment) with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source.

In addition to standard construction equipment, the Modified Project, like the Approved Project, anticipates the use of hydraulic hammer pile drivers. Noise generated by a hydraulic hammer pile driver was evaluated to be similar to a typical pile driver, which generates noise levels of approximately 95 dBA L_{max} at 50 ft. If pile driving is conducted concurrently with site preparation, the construction site could potentially generate noise levels of 96 dBA L_{max} at a distance of 50 ft. This is the same maximum construction noise level as projected for the Approved Project.

The closest residences to the northeast and northwest are located approximately 100 ft and 80 ft from the construction boundary and may be subjected to short-term noise reaching 90 and 92 dBA L_{max}, respectively, generated by the Modified Project's construction activities. The Belmont Shores Children's Center is located approximately 25 ft from the construction boundary and may be subjected to short-term noise reaching 102 dBA L_{max} or higher generated by the Modified Project's construction activities.

The closest existing sensitive receptors would be subject to short-term noise levels that would be higher than existing ambient noise levels in the Project area but would no longer occur once construction of the Project is completed. In addition, noise generated from construction activities would be intermittent and temporary. Section 8.80.202 of the City's Municipal Code allows elevated construction-related noise levels as long as the construction activities are limited to the hours specified. These impacts for the Modified Project are the same as the impacts identified in the 2016 Certified EIR for the Approved Project; thus, no additional impacts would occur.

Adherence to the City's noise regulations and implementation of Mitigation Measures 4.10.2 and 4.10.3 from the 2016 Certified EIR, which require standard conditions for construction and a preconstruction community meeting, would reduce construction noise impacts to sensitive receptors to a less than significant level. Therefore, temporary increases in ambient noise levels in the proposed Project vicinity associated with the Modified Project would be the same as for the Approved Project.

3.11.3.5 Cumulative Noise Impacts

Construction. The cumulative study area for construction noise of the Modified Project is the Project site and properties immediately adjacent to construction activities. Similar to conditions at the time the 2016 Certified EIR was prepared, there no proposed or approved projects within the cumulative construction noise study area for the Modified Project. Therefore, cumulative construction activities at other project sites along with the Modified Project would not result in a noticeable increase in noise to sensitive receptors adjacent to the proposed Project site. Furthermore, all related projects would be required to comply with the City Noise Control Ordinance. Therefore, construction impacts for the Modified Project would be less than cumulatively significant, like the Approved Project. No mitigation is required.

Operation. Operational activities associated with the Modified Project are not anticipated to lead to a substantial increase in the number of visitors and vehicles to the Project site, the same as for the Approved Project. Therefore, the long-term ambient noise levels associated with increased traffic are not anticipated to be significant as a result of the Modified Project, would not contribute substantially to cumulative roadway noise impacts, and would have a less than cumulatively considerable impact, similar to the Approved Project. In addition, since no cumulative projects were identified for the cumulative noise study area, the Modified Project would not contribute to off-site cumulative noise impacts from on-site activities. Therefore, the Modified Project would have a less than cumulatively considerable impact, like the Approved Project. No mitigation is required.

3.11.4 Findings Related to Noise

3.11.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to noise, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.11.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to noise that would require major changes to the 2016 Certified EIR.

3.11.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to noise requiring major revisions to the 2016 Certified EIR.

3.11.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR

There is no new information, mitigation, or alternatives to the Project that would substantially reduce one or more significant impacts pertaining to noise identified and considered in the 2016 Certified EIR.

3.11.5 Standard Conditions

There are no standard conditions pertaining to noise that are applicable to either the Approved Project or the Modified Project.

3.11.6 Mitigation Measures

The following mitigation measures pertaining to noise that were included in the 2016 Certified EIR are also applicable to the Modified Project. A minor editorial revision has been made to Mitigation Measure 4.10.3, below. Deletions are shown with ~~strikethrough~~ and additions are shown with <u>underline</u>.

Mitigation Measure 4.10.1 Prior to issuance of the occupancy permit, the City of Long Beach's (City) Development Services Director, or designee, shall verify that a sound engineer has designed the permanent and temporary sound systems such that the City's exterior noise standards (daytime exterior noise level of 50 dBA L50) are not exceeded at the surrounding sensitive land uses. Measures capable of reducing the noise levels include, but are not limited to:

- Reducing the source levels;
- Reducing the speaker elevations;
- Directing the speakers away from adjacent noise-sensitive land uses; and
- Using highly directional speakers.

Mitigation Measure 4.10.2 Prior to issuance of demolition or grading permits, the City of Long Beach's (City) Development Services Director, or designee, shall verify that construction and grading plans include the following conditions to reduce potential construction noise impacts on nearby sensitive receptors:

- During all site excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards;

- The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site;
- The construction contractor shall locate equipment staging to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction;
- The construction contractor shall ensure that engine idling from construction equipment (i.e., bulldozers and haul trucks) is limited to a maximum of 5 minutes at any given time; and
- The construction contractor shall ensure that all construction activities are scheduled to avoid operating several pieces of heavy equipment simultaneously.
- Construction, drilling, repair, remodeling, alteration, or demolition work shall be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday. In accordance with City standards, no construction activities are permitted outside of these hours.

Mitigation Measure 4.10.3 Prior to issuance of a grading permit, the City of Long Beach Tidelands Capital Improvement Division shall hold a community preconstruction meeting in concert with the construction contractor to provide information to the public regarding the construction schedule. The construction schedule information shall include the duration of each construction activity and the specific location, days, frequency, and duration of the pile driving that will occur during each phase of the Project construction. Public notification of this meeting shall be undertaken in the same manner as the Notice of Availability mailings for ~~this~~ the 2016 Draft Environmental Impact Report.

3.12 RECREATION

3.12.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 was included as part of the baseline conditions for the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to recreation. As such, refer to Section 4.11, Recreation, of the 2016 Certified EIR for an in-depth discussion of the existing environmental setting and potential impacts to recreational resources.

The Project site is a City-owned beach-front parcel, which currently contains the passive park, temporary pool, and a sandy area temporarily covering the location of the former Belmont Pool structure. Both the passive park and the temporary pool remain open to the public and are operated by the City's Department of Parks, Recreation and Marine (Department). The Department operates three other public pool facilities within the City: Martin Luther King Jr. Pool, located at 1910 Lemon Avenue; Silverado Park pool, located at 1540 West 32nd Street; and Will J. Reid Scout Pool, located at 4747 Daisy Avenue. The pools at Millikan High School and Jordan High School are utilized during the summer months to meet demand for aquatic recreational resources. Additionally, Long Beach City College and California State University at Long Beach contain a total of three additional public-use pools.

3.12.2 2016 Certified EIR

Please see Section 4.11 of the 2016 Certified EIR for detailed analysis of the potential effects of the Approved Project regarding recreational resources.

3.12.2.1 Physical Deterioration of Park Facilities

As described in the 2016 Certified EIR, the Approved Project included the construction and operation of an aquatics facility that would replace the former Belmont Pool Facility with a new, modern pool complex. The Approved Project included approximately 36,450 sf of pool surface area, thereby increasing the surface water area of the 18,410 sf former Belmont Pool by 18,040 sf, which would allow for recreational and competitive activities to occur simultaneously, if necessary.

The Approved Project would not have altered or impeded access to the beaches, and would not have increased the population or use of off-site recreational facilities. The Approved Project was not expected to substantially affect any of the existing off-site, adjacent recreational uses such as the surrounding beach area, dog park, and associated pedestrian and bicycle paths surrounding the Project site.

Less than Significant with Mitigation Incorporated.

Construction (Short-Term) Impacts. Under the Approved Project, construction was anticipated to be completed in approximately 18 months. Access to the Belmont Veteran's Memorial Pier, parking lots, beach areas, and the pedestrian/bicycle path were subject to disruption during the construction of the Approved Project. As such, the 2016 Certified EIR required the Implementation of Mitigation Measure 4.12.2, which required that a Construction Traffic

Management Plan be implemented to ensure that construction activities do not prevent access to the Belmont Veteran's Memorial Pier, beach access, and nearby pedestrian/bicycle path facilities in the Project vicinity. With the implementation of Mitigation Measure 4.12.2, short-term construction-related impacts on recreational resources were determined to be less than significant for the Approved Project.

Less than Significant Impact.

Operational (Long-Term) Impacts. The Approved Project would have replaced the previous facility with a more modern pool complex to better meet the needs of recreational and competitive swimmers, divers, and recreational pool users. The Approved Project would have also redesigned the existing passive park and open space areas to be situated along the western and northern portions of the Project site. The Approved Project proposed to increase the passive park and open space areas from approximately 118,790 sf and 45,160 sf of the site to approximately 127,085 sf and 55,745 sf respectively. The passive park and open space areas were intended for general park uses, similar to the uses at the existing passive park. The passive park and open space areas would have also provided for linkages from the beach to East Olympic Plaza area and other surrounding pathways, including the rerouted bicycle and pedestrian path. The modifications to the passive park and open space areas would have maintained the site's open space and recreational benefits while accommodating the Approved Project. Therefore, the 2016 Certified EIR determined no long-term significant recreational impacts related to the operation of the Approved Project were anticipated, and no mitigation was required.

California Coastal Act Policies. As described in the 2016 Certified EIR, the Approved Project was required to be approved as part of a Coastal Development Permit (CDP) issued by the Coastal Commission prior to Project construction. An application for a CDP would have been submitted following certification of the EIR and approval of the Approved Project by the City. As described in the 2016 Certified EIR, several policies included in the Coastal Act within Coastal Act Article 2, Public Access, and Coastal Act Article 3, Recreation, were applicable to the Approved Project. The applicable policies within the Coastal Act were intended to ensure adequate public access to recreational resources and to provide protection for suitable oceanfront lands to be used for water-oriented and recreational purposes. The Approved Project was consistent with these policies. As such, the 2016 Certified EIR determined that the Approved Project was consistent with applicable Coastal Act policies related to recreation. Therefore, impacts were considered to be less than significant and no mitigation was required.

City of Long Beach General Plan, Open Space and Recreation Element. The 2016 Certified EIR determined that the Approved Project was consistent with the Element's objectives and policies because the Approved Project would have enhanced the existing recreation and open space uses within the Project site. Specifically, the Approved Project would have replaced the previous pool and recreational facilities in in order to continue meeting the recreational needs of existing and future residents. The Approved Project was also consistent with making recreational resources "environmentally friendly" and sustainable because the Approved Project was designed to meet Gold Leadership in Energy and Environmental Design (LEED) certification standards. Therefore, the 2016 Certified EIR determined that no adverse impacts would result, and no mitigation was required.

The City Department of Parks, Recreation and Marine Strategic Plan. The 2016 Certified EIR determined that the Approved Project was consistent with the Plan's strategies because the Approved Project would ensure the continuation of the previous recreational uses within the Project site. The Approved Project would not have disrupted any existing recreational facilities or recreational activities currently available in the vicinity of the Project site. The Approved Project would have also redesigned the existing passive park to maintain the same park uses, and it would have rerouted the bicycle and pedestrian path to East Olympic Plaza and would have included bicycle and pedestrian enhancements. The Approved Project proposed the construction of a modern pool complex and supporting infrastructure to improve the level of safety and access at the facility, and would have ensured the continued operation of a pool facility on the site, pursuant to the needs of the aquatics community. Therefore, the 2016 Certified EIR determined that the Approved Project was consistent with the City's Department of Parks, Recreation and Marine Strategic Plan Strategies and impacts were considered less than significant. No mitigation was required.

3.12.2.2 Cumulative Recreation Impact

Less than Significant Impact. As the replacement of a recreational facility, the Approved Project, in conjunction with the cumulative projects in the City, would have contributed to the recreational opportunities in the City. The Approved Project was not anticipated to significantly increase the use or need for additional City park facilities. Compliance with City and Coastal Commission policies demonstrated that the Approved Project would have no cumulatively considerable impacts on parks and recreational facilities.

In addition, the Approved Project did not include any residential housing or a substantial increase in long-term employment opportunities that would increase the population in the City. Therefore, the 2016 Certified EIR determined that the Approved Project would not, with any other planned or proposed projects, cumulatively contribute to the increased use of or need for additional or expanded recreational facilities in the City. Based on these factors, the Approved Project would not contribute to adverse cumulative impacts related to recreation when combined with other foreseeable projects that are planned or expected to occur in Long Beach or the region. Therefore, the 2016 Certified EIR determined that the implementation of the Approved Project was considered to have less than cumulatively significant impacts related to recreational resources. No mitigation was required.

3.12.3 Analysis of the Modified Project

3.12.3.1 Physical Deterioration of Park Facilities

Similar to the Approved Project, the Modified Project includes the construction and operation of an aquatics facility that would replace the former Belmont Pool Facility with a new, modern pool complex. Similar to the Approved Project, the Modified Project would not alter or impede access to the beaches, nor would it increase the population or use of off-site recreational facilities.

Construction (Short-Term) Impacts. Similar to the Approved Project, the Modified Project is anticipated to be completed in approximately 18 months, during which access to Belmont Veteran's Memorial Pier, the Shoreline Beach Bike Path, and the beach are subject to temporary disruption due to construction activities. As such, the Modified Project would also be required to implement Mitigation Measure 4.12.2 as identified in the 2016 Certified EIR. With the implementation of Mitigation Measure 4.12.2, which requires that a Construction Traffic Management Plan be implemented to ensure that construction activities do not prevent access to the Belmont Veteran's Memorial Pier, beach access, and nearby pedestrian/bicycle path facilities in the Project vicinity, short term construction-related impacts on recreation resources would remain less than significant, similar to the Approved Project.

Operational (Long-Term) Impacts. Compared to the Approved Project, the Modified Project includes an overall increase in pool surface of 3,864 sf, an increase in open space area of 14,473 sf, and an increase in passive park/landscaped area of 33,131 sf. The passive park and open space areas are intended for general park uses, similar to the uses at the existing passive park. The passive park and open space areas would provide for linkages from the beach to East Olympic Plaza area and other surrounding pathways. Modifications to the passive park and open space areas proposed under the Modified Project would accommodate the proposed Belmont Pool facilities while maintaining the site's open space and recreational benefits. Therefore, long-term impacts to recreational resources would remain less than significant, and no mitigation is required.

California Coastal Act Policies. Similar to the Approved Project, the Modified Project would be required to be approved as part of a Coastal Development Permit (CDP) issued by the Coastal Commission prior to Project construction. An application for a CDP would be submitted following certification of the EIR and approval of the Modified Project by the City. Similar to the Approved Project, the Modified Project would also be consistent with the applicable policies of the Coastal Act. Therefore, the Modified Project would be consistent with the California Coastal Act and impacts would remain less than significant. No mitigation is required.

City of Long Beach General Plan, Open Space and Recreation Element. Similar to the Approved Project, the Modified Project is also consistent with the Element's objectives and policies because the Modified Project would also enhance the existing recreation and open space uses within the Project site. The Modified Project would also replace the previous pool and recreational facilities in in order to continue meeting the recreational needs of existing and future residents. The Modified Project is also consistent with making recreational resources "environmentally friendly" and sustainable because the design scope of the Modified Project requires the facility to be designed to Gold LEED certification standards. Therefore, impacts would remain less than significant. No mitigation is required.

The City Department of Parks, Recreation, and Marine Strategic Plan. Similar to the Approved Project, the Modified Project is consistent with the Strategic Plan's strategies because the Modified Project would also ensure the continuation of the previous recreational uses within the Project site. The Modified Project would not disrupt existing recreational facility or recreational activities currently available in the vicinity of the Project site. Additionally, the Modified Project would redesign the existing passive park to maintain the same park uses. Similar to the Approved Project, the Modified Project would construct a modern pool complex and supporting infrastructure to improve the level of safety and access at the facility, and would ensure the continued operation of a pool facility on the site, pursuant to the needs of the aquatics community. Therefore, the Modified Project is consistent with the City's Department of Parks, Recreation, and Marine Strategic Plan Strategies, and impacts remain less than significant. No mitigation is required.

3.12.3.2 Cumulative Recreation Impact

As the replacement of a recreational facility, the Modified Project, in conjunction with the cumulative projects in the City, would contribute to and expand the recreational opportunities in the City. Compliance with City and Coastal Commission policies demonstrates that the Modified Project would have no potential cumulatively considerable impacts on parks and recreational facilities.

Similar to the Approved Project, the Modified Project does not include any residential housing or create a substantial increase in long-term employment opportunities that would increase the population in the City. Therefore, the Modified Project would not, with any other planned or proposed projects, cumulatively contribute to the increased use of or need for additional or expanded recreational facilities in the City. Based on these factors, the Modified Project would not contribute to adverse cumulative impacts related to recreation when combined with other foreseeable projects that are planned or expected to occur in Long Beach or the region. Impacts related to recreational resources would remain less than cumulatively significant. No mitigation is required.

3.12.4 Findings Related to Recreation

3.12.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to recreation, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.12.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to recreation that would require major changes to the 2016 Certified EIR.

3.12.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to recreation requiring major revisions to the 2016 Certified EIR.

3.12.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR

There is no new information, mitigation, or alternatives to the Project that would substantially reduce one or more significant impacts pertaining to recreation identified and considered in the 2016 Certified EIR.

3.12.5 Standard Conditions

There are no standard conditions pertaining to recreation that would be applicable to either the Approved Project or the Modified Project.

3.12.6 Mitigation Measures

Mitigation Measure 4.12.2, as included in the Transportation and Traffic section of the 2016 Certified EIR was required for recreation impacts associated with the Approved Project and is required for the Modified Project. Refer to Mitigation Measure 4.12.2 in Section 3.13.5 (Transportation and Traffic) of this Addendum.

3.13 TRANSPORTATION AND TRAFFIC

3.13.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 and was included as part of the baseline conditions for the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to transportation and traffic. As such, refer to Section 4.12, Transportation and Traffic, of the 2016 Certified EIR for an in-depth discussion of the existing environmental setting.

The Belmont Pool Plaza is located in the Belmont neighborhood in the southeastern portion of the City of Long Beach. The Project site is generally bounded by Olympic Plaza to the north; an existing temporary pool and surface parking lot to the east; the Pacific Ocean and beach shoreline areas to the south; and a surface parking lot, Surf Terrance Apartments, and Termino Avenue to the west. Regional access to the Project site is provided by State Route 1 (SR-1, Pacific Coast Highway [PCH]), which is located approximately 1.7 miles northeast of the Project site, State Route 22 (SR-22), located approximately 1.8 miles northeast of the Project site, and Interstate 710 (I-710), located approximately 3.5 miles west of the Project site.

The former Belmont Pool was located near the intersection of Ocean Boulevard and Livingston Drive. A temporary outdoor pool (opened in December 2013) is located south of the previous pool facilities in the Beach Parking Lot[14]. Access to and parking for the temporary pool is provided from Ocean Boulevard via Termino Avenue and Bennett Avenue. Public transportation in the vicinity of the Project is provided by Long Beach Transit. Long Beach Transit Routes 121 and 131 stop near the intersection of Termino Avenue/Ocean Boulevard. The Shoreline Beach Bike Path provides a Class I off-street bike path from the Los Angeles River to 54th Place and provides access to the Belmont Pool for bicycles.

As part of the Modified Project, revised traffic modeling and calculations have been completed. The analysis of the Modified Project changes and the findings related to Transportation and Traffic is based on the *Belmont Plaza Pool Revised Traffic Analysis* (Traffic Analysis) (LSA, December 2019).

3.13.2 2016 Certified EIR

Please refer to Section 4.12 of the 2016 Certified EIR for detailed analysis of the potential effects of the Approved Project related to transportation and circulation.

At the time the Notice of Preparation (NOP) for the 2016 Certified EIR was issued, the Project site contained the Belmont Pool facilities. However, the former Belmont Pool facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building. The former pool facility was included in the baseline in the assessment of traffic impacts because the former facility was present on the site for approximately 45 years and represented the historic uses and historic traffic conditions for the site.

[14] The temporary pool will be converted to a permanent pool as part of the Modified Project.

3.13.2.1 Conflict with an Applicable Plan, Ordinance, or Policy Establishing Measures of Effectiveness for the Performance of the Transportation System

Less than Significant with Mitigation Incorporated.

Construction Traffic. As discussed in the 2016 Certified EIR, construction traffic was not anticipated to exceed the 100 inbound and 200 outbound trips already analyzed in the a.m. peak hour or the 200 inbound and 130 outbound trips already analyzed in the p.m. peak hour expected with operation of the completed pool facility. Therefore, intersection operations were expected to remain at an acceptable Level of Service (LOS) during construction. Therefore, the Certified EIR determined that the Approved Project would not result in a significant impact related to construction traffic, and no mitigation was required.

Operational Traffic. As described in the 2016 Certified EIR, all study area intersections were anticipated to operate at an LOS that is considered acceptable by the City of Long Beach (LOS D or better) in the future with implementation of the Approved Project. Therefore, the Approved Project was not anticipated to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Because the Approved Project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, the 2016 Certified EIR determined it would have a less than significant impact relative to this threshold, and no mitigation was required.

Special Event Traffic. The Approved Project has the potential to result in significant traffic congestion and parking impacts during large special events (defined as more than 450 spectators). Therefore, the 2016 Certified EIR included Mitigation Measure 4.12.1, which required the City to prepare and implement an Event Traffic Management Plan that includes traffic control measures for special events to be reviewed and approved by the City of Long Beach Traffic Engineer. With the implementation of Mitigation Measure 4.12.1, the 2016 Certified EIR determined traffic impacts to the surrounding residences and businesses would be reduced to less than significant levels.

3.13.2.2 Conflict with a Congestion Management Program (CMP)

Less than Significant Impact. As discussed in the Certified EIR, none of the arterial monitoring stations identified the 2010 CMP for Los Angeles County are located near the Project site, and the Approved Project was not anticipated to conflict with standards established for designated roads or highways. Therefore, the 2016 Certified EIR determined that the Approved Project would have a less than significant impact relative to the adopted CMP and no mitigation was required.

3.13.2.3 Result in Inadequate Emergency Access

Less than Significant with Mitigation Incorporated.

Construction. During construction of the Approved Project, temporary lane closures had the potential to restrict access for emergency vehicles. The 2016 Certified EIR required the implementation of Mitigation Measure 4.12.2, which required that a Construction Traffic

Management Plan be prepared for the Approved Project, which would ensure that emergency vehicles would be able to navigate through streets adjacent to the Project site that may experience congestion due to construction activities. With implementation of Mitigation Measure 4.12.2, the 2016 Certified EIR determined that potential impacts related to emergency access during construction would be less than significant.

Operation. The emergency access to/from the site was required to meet all applicable City Codes and standards and was subject to review by the City Fire and Police Departments for compliance with fire and emergency access standards and requirements. As part of the site plan review process, the redesign of Olympic Plaza was also required to meet fire access lane standards. The final site plan would be subject to Site Plan Review by all relevant City Departments, and Site Plan Review approval by the Planning Commission. Therefore, the 2016 Certified EIR determined that operational impacts of the Approved Project to emergency access were considered less than significant, and no mitigation was required.

3.13.2.4 Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities

Less than Significant Impact. The Approved Project proposed to reconstruct the previous Belmont Pool facilities at the existing location, which is near a public transit stop and a Class I bike path. Existing pathways through the passive park would have been rerouted to East Olympic Plaza to allow for utilization of the proposed pedestrian and bicycle enhancements. The facility would have continued to be accessible for users of transit, bicycle, and pedestrian modes of travel because the site design allows for pedestrian linkages. The Approved Project would have continued to be accessed via Long Beach Transit bus service (Routes 121 and 131) as well as sidewalks and the Shoreline Beach Bike Path (Class I off-street bike path). Therefore, the Approved Project did not conflict with adopted plans supporting alternative transportation. The 2016 Certified EIR determined that the Approved Project would have less than significant impacts relative to public transit, bicycle, or pedestrian facilities, and no mitigation was required.

3.13.2.5 Cumulative Traffic and Transportation Impacts

Less than Significant Impact. At the time the 2016 Certified EIR was prepared, one project was identified within the cumulative project study area for the Approved Project: the Leeway Sailing Center Pier Replacement. The City of Long Beach proposed to demolish and rebuild the existing Leeway Sailing Pier, Dock, and Gondola Shed Structure in its general same location and footprint. This project was proposing to reconstruct the existing pier without expanding the size of the existing operation. Therefore, the 2016 Certified EIR determined that this project would not contribute new traffic to any of the study area intersections. Because no additional traffic from the cumulative project was anticipated at the study area intersections, no additional cumulative operational traffic impacts would have occurred. No mitigation was required.

3.13.3 Analysis of the Modified Project

As part of the Modified Project, revised traffic modeling and calculations have been completed. The analysis of the Modified Project changes and the findings related to Transportation and Traffic is based on the *Belmont Plaza Pool Revised Traffic Analysis* (Traffic Analysis) (LSA, December 2019) as contained in Appendix D.

3.13.3.1 Methodology

The impacts of the added vehicle trips generated by the Modified Project were evaluated in comparison to the existing traffic conditions. The study intersection LOS analysis was conducted for the weekday a.m. peak hour, the weekday p.m. peak hour, and the Saturday midday peak hour. The study area was expanded for the Modified Project and includes the following 12 intersections:

1. Redondo Avenue/Ocean Boulevard
2. Loma Avenue/Ocean Boulevard
3. Ocean Boulevard/Livingston Drive
4. Termino Avenue/Livingston Drive
5. Bennett Avenue/Livingston Drive (stop-controlled intersection)
6. Ximeno Avenue/Livingston Drive
7. 2nd Street/Livingston Drive
8. Termino Avenue/Ocean Boulevard
9. Bennett Avenue/Ocean Boulevard (stop-controlled intersection)
10. Granada Avenue/Ocean Boulevard (stop-controlled intersection)
11. Pacific Coast Highway/2nd Street
12. Studebaker Road/2nd Street

The Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street intersections were not included in the certified 2016 EIR, because project trips at these intersections were below the threshold for inclusion in the study area (i.e., 50 or more trips in the peak hour). While that remains true, they were added as part of the expanded study area in an effort to provide as much information about the Modified Project as possible.

Existing Level of Service. Traffic volumes were collected in February 2016 and analyzed to determine the existing LOS at the 10 study intersections included in the Final EIR during the weekday a.m. peak hour, the weekday p.m. peak hour, and the weekend midday peak hour. The previously disclosed existing (2016) LOS is shown in Table 3.13.A. Updated traffic volumes were collected in October 2019 for the same 10 study intersections. Due to ongoing construction in the vicinity of the additional two intersections, previously collected traffic volumes were used, and an ambient growth rate of 3 percent was added to approximate existing conditions. The existing (2019) LOS is shown in Table 3.13.B. Table 3.13.B shows that the intersection of Studebaker Road/2nd Street operates worse than the City's performance standard during the p.m. peak hour. A comparison of Tables 3.13.A and 3.13.B shows that all intersections previously operating at a satisfactory LOS continue to operate within the City's acceptable standards.

Table 3.13.A: Existing (2016) Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.70	C	0.72	C	0.59	A
2. Loma Avenue/Ocean Boulevard	0.61	B	0.65	B	0.46	A
3. Ocean Boulevard/Livingston Drive	0.49	A	0.58	A	0.45	A
4. Termino Avenue/Livingston Drive	0.40	A	0.63	B	0.47	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.14	A	0.19	A	0.17	A
7. 2nd Street/Livingston Drive	0.69	B	0.62	B	0.65	B
8. Termino Avenue/Ocean Boulevard	0.30	A	0.40	A	0.34	A
9. Bennett Avenue/Ocean Boulevard	9.6 sec	A	11.2 sec	B	10.8 sec	B
10. Granada Avenue/Ocean Boulevard	8.6 sec	A	9.6 sec	A	9.5 sec	B

Source: Traffic Analysis, Table D1 (LSA, December 2019),
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Table 3.13.B: Existing (2019) Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.67	B	0.70	B	0.52	A
2. Loma Avenue/Ocean Boulevard	0.55	A	0.65	B	0.40	A
3. Ocean Boulevard/Livingston Drive	0.49	A	0.60	B	0.48	A
4. Termino Avenue/Livingston Drive	0.42	A	0.63	B	0.51	A
5. Bennett Avenue/Livingston Drive	8.3 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.46	A	0.40	A
7. 2nd Street/Livingston Drive	0.54	A	0.60	A	0.62	B
8. Termino Avenue/Ocean Boulevard	0.40	A	0.50	A	0.45	A
9. Bennett Avenue/Ocean Boulevard	10.9 sec	B	14.9 sec	B	12.2 sec	B
10. Granada Avenue/Ocean Boulevard	9.8 sec	A	12.3 sec	B	10.9 sec	B
11. Pacific Coast Highway/2nd Street	0.86	D	0.87	D	0.78	C
12. Studebaker Road/2nd Street	0.87	D	**0.98**	**E**	0.77	C

Source: Traffic Analysis, Table D2 (LSA, December 2019),
Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Existing Trip Generation. As described above, the inclusion of the former pool facility in the assessment of traffic impacts is appropriate because the former facility was present on the site for approximately 45 years and represents the historic uses and historic traffic conditions for the site.

On weekends, the former Belmont Pool facility was open for recreation and fitness of the general public during the midday peak hour. During the weekend midday peak hour between 12:00 p.m. and 2:00 p.m. it is estimated that up to 300 patrons could have arrived at the facility and 150 patrons could have departed from the facility. Families arriving for recreational swimming typically travel in one car. Patrons swimming laps for fitness could have arrived at the pool by bicycle on weekends. Again, to be consistent with the conservative methodology used to calculate traffic in the 2016 Certified EIR, each patron was analyzed as traveling in a single-occupant vehicle. The resulting historic trip generation is displayed in Table 3.13.C.

Table 3.13.C: Belmont Pool Project Trip Generation

	AM Peak Hour			PM Peak Hour			Weekend Midday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Existing Belmont Pool	50	100	150	100	65	165	300	150	450

Source: Traffic Analysis, Table E (LSA, December 2019),

3.13.3.2 Conflict with an Applicable Plan, Ordinance, or Policy Establishing Measures of Effectiveness for the Performance of the Transportation System

Construction Traffic. Construction of the Modified Project is anticipated to commence in 2021 at the earliest and be completed within approximately 18 months. Similar to the Approved Project, construction traffic is not anticipated to exceed the 100 inbound and 200 outbound trips anticipated in the a.m. peak hour or the 200 inbound and 130 outbound trips anticipated in the p.m. peak hour that would be expected with operation of the completed pool facility. Also similar to the Approved Project, intersection operation is expected to remain at an acceptable LOS during construction. Therefore, impacts related to construction traffic would remain less than significant, and no mitigation is required.

Operational Traffic. Similar to the Approved Project, the Modified Project involves the construction of a new pool facility. When compared to the Approved Project, the Modified Project includes a small increase in water surface area but a decrease in overall building area. The Modified Project no longer includes a stand-alone 1,500 sf cafe, but instead includes a concession stand within the locker room/ restroom building. As with the Approved Project, multiple user groups could be programmed concurrently throughout the day. In addition, one of the pools could remain open to the general public while a special event is being held. However, because events are scheduled throughout the day, increased concurrent programming would not necessarily affect traffic during the peak hours.

Two full-size outdoor pools could serve twice as many users as currently patronize the pool in the a.m. peak hour, the p.m. peak hour, and the weekend midday peak hour. To analyze this scenario, the operational traffic discussed above (refer to Table 3.13.C) was doubled. Travel to Belmont Pool is possible by public transit, bicycle, and carpool but each patron was analyzed as traveling by single-occupant vehicle to present a conservative ("worst-case") scenario. The resulting trip generation—identical to that analyzed under the Approved Project —is shown in Table 3.13.D.

Table 3.13.D: Future with Project Trip Generation

	AM Peak Hour			PM Peak Hour			Weekend Midday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Modified Project	100	200	300	200	130	330	600	300	900

Source: Traffic Analysis, Table G (LSA, December 2019).

Table 3.13.E shows the previously disclosed Existing (2016) Plus Project LOS, and Table 3.13.F shows the updated Existing (2019) Plus Project LOS. A comparison of Tables 3.13.E and 3.13.F reveals that all intersections previously operating at a satisfactory LOS continue to operate within the City's acceptable standards, similar to the Approved Project.

Table 3.13.E: Existing (2016) Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.73	C	0.75	C	0.68	B
2. Loma Avenue/Ocean Boulevard	0.65	B	0.69	B	0.56	A
3. Ocean Boulevard/Livingston Drive	0.52	A	0.61	B	0.50	A
4. Termino Avenue/Livingston Drive	0.41	A	0.65	B	0.52	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.15	A	0.19	A	0.17	A
7. 2nd Street/Livingston Drive	0.69	B	0.62	B	0.66	B
8. Termino Avenue/Ocean Boulevard	0.34	A	0.44	A	0.48	A
9. Bennett Avenue/Ocean Boulevard	10.7 sec	A	12.3 sec	B	16.4 sec	C
10. Granada Avenue/Ocean Boulevard	8.8 sec	A	10.1 sec	A	11.0 sec	B

Source: Traffic Analysis, Table G1 (LSA, December 2019).
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Table 3.13.F: Existing (2019) Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.71	C	0.74	C	0.60	B
2. Loma Avenue/Ocean Boulevard	0.59	A	0.69	B	0.52	A
3. Ocean Boulevard/Livingston Drive	0.53	A	0.63	A	0.53	A
4. Termino Avenue/Livingston Drive	0.44	A	0.66	B	0.58	A
5. Bennett Avenue/Livingston Drive	8.3 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.47	A	0.42	A
7. 2nd Street/Livingston Drive	0.58	A	0.61	B	0.65	B
8. Termino Avenue/Ocean Boulevard	0.47	A	0.56	A	0.63	B
9. Bennett Avenue/Ocean Boulevard	12.9 sec	B	18.1 sec	C	21.1 sec	C
10. Granada Avenue/Ocean Boulevard	10.4 sec	B	13.6 sec	B	14.8 sec	B
11. Pacific Coast Highway/2nd Street	0.86	D	0.87	D	0.79	C
12. Studebaker Road/2nd Street	0.87	D	**0.98**	**E**	0.78	C

Source: Traffic Analysis, Table G2 (LSA, December 2019).
Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

As Table 3.13.F shows, all study intersections are anticipated to operate at LOS D or better in the Existing Plus Project condition except for the intersection of Studebaker Road/2nd Street, which already operates at unsatisfactory LOS E in existing conditions. The Modified Project would increase the volume-to-capacity (v/c) ratio at this intersection by less than 0.02. According to the City's *Traffic Impact Analysis Guidelines*, the Modified Project's impact would therefore be less than significant. Thus, impacts would remain less than significant, and no mitigation is required.

Special Event Traffic. Similar to the Approved Project, the Modified Project has the potential to result in significant traffic congestion and parking impacts during large special events (defined as more than 450 spectators). The Modified Project, like the Approved Project, would require Mitigation Measure 4.12.1, which requires the City to implement an Event Traffic Management Plan with traffic control measures for special events to be reviewed and approved by the City of Long Beach Traffic Engineer. With the implementation of Mitigation Measure 4.12.1, traffic impacts to the surrounding residences and businesses during special events would remain less than significant for the Modified Project.

3.13.3.3 Conflict with a Congestion Management Program

Similar to the Approved Project, none of the arterial monitoring stations identified in Appendix A of the 2010 CMP for Los Angeles County are located near the Project site, and the Modified Project is not anticipated to conflict with standards established for designated roads or highways. Therefore, impacts would remain less than significant, and the Modified Project would not conflict with the adopted CMP. No mitigation is required.

3.13.3.4 Result in Inadequate Emergency Access

Construction. During construction of the Modified Project, temporary lane closures would have the potential to restrict access for emergency vehicles. Similar to the Approved Project, the Modified Project would require the implementation of Mitigation Measure 4.12.2, which requires that a Construction Traffic Management Plan be prepared. Implementation of Mitigation Measure 4.12.2 would ensure that emergency vehicles be able to navigate through streets adjacent to the Project site that may experience congestion due to construction activities. With implementation of Mitigation Measure 4.12.2, impacts related to emergency access during construction would remain less than significant.

Operation. Similar to the Approved Project, emergency access to/from the site under the Modified Project would be required to meet all applicable City Codes and standards and would be subject to review by the City Fire and Police Departments for compliance with fire and emergency access standards and requirements. The Modified Project would also be required to meet fire access lane standards due to the reconfiguration of Olympic Plaza. The final site plan would be subject to Site Plan Review by all relevant City Departments, and Site Plan Review approval by the City's decision making body. Therefore, operational impacts related to emergency access would remain less than significant, and no mitigation is required.

3.13.3.5 Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities

Similar to the Approved Project, the Modified Project proposes to reconstruct the Belmont Pool at the existing Project site, which is near a public transit stop and a Class I bike path. Following implementation of the Modified Project, existing pathways through the passive park would be rerouted to East Olympic Plaza to allow for utilization of the proposed pedestrian and bicycle enhancements. Additionally, the facility will continue to be accessible for users of transit, bicycle, and pedestrian modes of travel because the Project site design includes pedestrian linkages. Similar to the Approved Project, the Modified Project will continue to be accessible via Long Beach Transit bus service (Routes 121 and 131), as well as sidewalks and the Shoreline Beach Bike Path (Class I off-street bike path). Therefore, impacts would remain less than significant and the Modified Project would not conflict with adopted policies, plans, or programs supporting alternative transportation. No mitigation is required.

3.13.3.6 Cumulative Traffic and Transportation Impacts

According to the City, three additional projects were identified within the Modified Project's cumulative Project study area: a new condominium and hotel use at 2010 Ocean Boulevard, a commercial development at 6398 Pacific Coast Highway, and the 2nd and PCH commercial development at 6400 Pacific Coast Highway.[15]

[15] The Approved Project included the Leeway Sailing Center Pier Replacement as a cumulative project. This Project has been completed and is reflected in the 2019 traffic volume data.

LSA identified the traffic volumes for the 2nd and PCH project from that project's traffic study (*2nd and PCH Project Traffic Impact Analysis*, April 2017). LSA manually generated and distributed potential traffic volumes for the other two cumulative projects using trip generation rates published in Institute of Transportation Engineers (ITE) *Trip Generation Manual*, Tenth Edition. The cumulative traffic volumes were added to existing conditions to produce the cumulative baseline conditions. Table 3.13.G shows the intersection LOS conditions in the cumulative baseline condition.

Table 3.13.G: Project Buildout Year (2022) Plus Cumulative Projects Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.67	B	0.71	C	0.52	A
2. Loma Avenue/Ocean Boulevard	0.56	A	0.65	B	0.40	A
3. Ocean Boulevard/Livingston Drive	0.48	A	0.60	B	0.46	A
4. Termino Avenue/Livingston Drive	0.42	A	0.64	B	0.51	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.47	A	0.41	A
7. 2nd Street/Livingston Drive	0.57	A	0.65	B	0.59	A
8. Termino Avenue/Ocean Boulevard	0.40	A	0.52	A	0.48	A
9. Bennett Avenue/Ocean Boulevard	10.9 sec	B	14.9 sec	B	12.2 sec	B
10. Granada Avenue/Ocean Boulevard	9.8 sec	A	12.3 sec	B	10.9 sec	B
11. Pacific Coast Highway/2nd Street	**0.90**	**E**	**0.97**	**E**	**0.96**	**E**
12. Studebaker Road/2nd Street	**0.90**	**E**	**1.00**	**F**	**0.90**	**E**

Source: Traffic Analysis, Table F (LSA, December 2019).
Note: Shaded cells indicate unsatisfactory LOS
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

As Table 3.13.G shows, the 10 intersections closest to the Project site that were originally included in the study area for the Approved Project are anticipated to operate at LOS D or better. However, cumulative Project traffic volume is anticipated to degrade the LOS at Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street without the Modified Project.

Project traffic volumes were added to the cumulative baseline conditions and analyzed to determine the Modified Project's potential impacts in the Project Buildout Year Plus Cumulative Projects Plus Project conditions, as shown in Table 3.13.H.

Table 3.13.H: Project Buildout Year (2022) Plus Cumulative Projects Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.71	C	0.74	C	0.61	B
2. Loma Avenue/Ocean Boulevard	0.59	A	0.69	B	0.53	A
3. Ocean Boulevard/Livingston Drive	0.52	A	0.62	A	0.51	A
4. Termino Avenue/Livingston Drive	0.44	A	0.66	B	0.58	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.50	A	0.47	A	0.43	A
7. 2nd Street/Livingston Drive	0.57	A	0.65	B	0.61	B
8. Termino Avenue/Ocean Boulevard	0.48	A	0.59	A	0.63	B
9. Bennett Avenue/Ocean Boulevard	12.9 sec	B	18.1 sec	C	21.1 sec	C
10. Granada Avenue/Ocean Boulevard	10.3 sec	A	13.6 sec	B	14.8 sec	B
11. Pacific Coast Highway/2nd Street	**0.90**	**E**	**0.97**	**E**	**0.97**	**E**
12. Studebaker Road/2nd Street	**0.90**	**E**	**1.00**	**E**	**0.91**	**E**

Source: Traffic Analysis, Table H (LSA, December 2019).
Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

As shown in Table 3.13.H, all study intersections are anticipated to operate at LOS D or better in the Project Buildout Year Plus Cumulative Projects Plus Project condition except for the intersections of Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street, which operate at unsatisfactory LOS in the cumulative baseline condition (without the Modified Project). The Modified Project would increase the v/c ratio at these intersections by less than 0.02.[16] According to the City's Traffic Impact Analysis Guidelines, the Modified Project's cumulative impact would be less than significant. Therefore, the contribution of the Modified Project to potential cumulative transportation and traffic impacts in the Project area is considered comparable to the Approved Project and is less than cumulatively considerable. No mitigation is required.

3.13.4 Findings Related to Transportation and Traffic

3.13.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to transportation and traffic, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

[16] While these intersections were not analyzed in the 2016 EIR, the Approved Project would have had exactly the same effect on these intersections since the Modified Project is expected to generate the same amount of traffic as the Approved Project.

3.13.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to transportation and traffic that would require major changes to the 2016 Certified EIR.

3.13.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to transportation and traffic requiring major revisions to the 2016 Certified EIR.

3.13.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR

There is no new information, new alternatives to the Project, or additional mitigation measures that would substantially reduce one or more significant impacts pertaining to transportation and traffic identified and considered in the 2016 Certified EIR.

3.13.5 Standard Conditions

There are no standard conditions pertaining to transportation and traffic that are applicable to either the Approved Project or the Modified Project.

3.13.6 Mitigation Measures

The following mitigation measures pertaining to transportation and traffic that were included in the 2016 Certified EIR are also applicable to the Modified Project.

Mitigation Measure 4.12.1 **Event Traffic Management Plan.** In the event that a large special event (defined as more than 450 spectators) is held at Belmont Pool, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop an Event Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles) during the large special event.

Mitigation Measure 4.12.2 **Construction Traffic Management Plan.** Prior to the issuance of any demolition permits, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop a Construction

Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address traffic control for any street closure, detour, or other disruption to traffic circulation and public transit routes and shall ensure that emergency vehicle access is maintained. The plan shall identify the routes that construction vehicles shall use to access the site, the hours of construction traffic, traffic controls and detours, and off-site staging areas. The plan shall also require that a minimum of one travel lane in each direction on Ocean Boulevard be kept open during construction activities. Access to Belmont Veterans' Memorial Pier, the Shoreline Beach Bike Path, and the beach shall be maintained at all times. The Construction Traffic Management Plan shall also require that access to the pier, the bike path, and the beach be kept open during construction activities. The plan shall also require the City to keep all haul routes clean and free of debris including, but not limited to, gravel and dirt.

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3.14 UTILITIES AND SERVICE SYSTEMS

3.14.1 Existing Environmental Setting

No significant changes to the Belmont Pool Project site have occurred since the preparation of the 2016 Certified EIR. The temporary pool that is currently located on the Project site was erected in 2013 and was included as part of the baseline conditions for the 2016 Certified EIR. There have been no major changes to the existing setting of the Project site with respect to utilities and service systems. As such, refer to Section 4.13, Utilities and Service Systems, of the 2016 Certified EIR for an in-depth discussion of the existing environmental setting for utilities and service systems.

3.14.1.1 Electricity

Southern California Edison (SCE) provides electrical service throughout the City of Long Beach, including the Project site.

In February 2018, the California Energy Commission (CEC) published the Final Forecast for California Energy Demand for the years 2018 through 2030. According to the CEC, the electricity consumption in the SCE service area was estimated to be 109,000 GWH (gigawatt-hours) in the low-demand scenario and 111,000 GWH in the high-demand scenario in 2017. [17] According to the CEC, electricity consumption in the SCE service area is projected to reach between 119,000 GWH in the low-demand scenario and 125,000 GWH in the high-demand scenario in 2024.[18]

3.14.1.2 Natural Gas

Natural gas is provided to the Project site by Long Beach Gas and Oil (LGBO), a natural gas provider for the Cities of Long Beach and Signal Hill through over 1,800 miles of LGBO pipelines. According to the 2018 California Gas Report, Long Beach's customer load profile is 53 percent residential and 47 percent commercial/industrial. The City's gas usage is expected to decline slightly, from 9 billion cubic feet (bcf) in 2017 to 8 bcf by 2035.[19]

3.14.1.3 Water

The Long Beach Water Department (LBWD) provides water service to the entire City, including the Project site, through a system of underground pipelines. Over 900 miles of water mains are maintained within LBWD's service area. LBWD's potable water lines are located in the streets surrounding the Project site. According to the City's 2015 Urban Water Management Plan, the major sources of water from the LBWD include groundwater from the LBWD Central Basin and imported water from the Metropolitan Water District of Southern California (MWDSC).

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17 California Energy Commission (CEC). February 2018. California Energy Demand 2018-2030 Revised Forecast.

18 Ibid.

19 Southern California Gas and Electric Utilities. *2018 California Gas Report*. Website: https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf (accessed October 15, 2019).

3.14.1.4 Wastewater

The LBWD operates and maintains nearly 765 miles of sanitary sewer lines and delivers over 40 million gallons per day (mgd) of wastewater to Los Angeles County Sanitation District (LACSD) facilities located on the north and south sides of the City. Currently, a majority of the City's wastewater is delivered to the Joint Water Pollution Control Plant (JWPCP) of LACSD. The remaining portion of the City's wastewater is delivered to the Long Beach Water Reclamation Plant of LACSD.

3.14.1.5 Storm Water

Storm water runoff from the Project site currently drains to a 12-inch reinforced concrete pipe (RCP) that runs under Olympic Plaza Drive, and then connects to an 18-inch RCP that transitions to a 24-inch RCP in Bennett Drive flowing northeast. The majority of the Project site sheet flows into Olympic Plaza Drive or one of the adjacent parking lots to the west or east of the Project site.

3.14.1.6 Solid Waste

The City is a member of the LACSD. Within the City and at the Project site, solid waste collection services are provided by the City's Environmental Services Bureau. The Southeast Resource Recovery Facility (SERRF) is the closest active solid waste facility operated by LACSD that could be used to dispose of waste generated at the Project site. Solid waste from the existing Project site is collected and trucked to the SERRF where it is processed through one of three boilers. In addition, the SERRF performs "front-end" and "back-end" recycling by recovering items such as white goods prior to incineration and collecting metals removed from the boilers after incineration.

3.14.2 2016 Certified EIR

3.14.2.1 Exceed Waste Water Treatment Requirements

Less than Significant with Mitigation Incorporated.

Construction. As discussed in the 2016 Certified EIR, there is a potential for the groundwater table to be encountered during excavation, and groundwater dewatering may be required. As such, the 2016 Certified EIR required the implementation of Mitigation Measure 4.8.2 (refer to Section 3.9.6 of this Addendum) which requires any groundwater dewatering during excavation to be conducted in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit. If groundwater used during construction of the Approved Project could not meet discharge limitations specified in the Ground Water Discharge Permit, a permit was required to be obtained from LACSD to dispose of the groundwater to the sewer system. The groundwater would have to meet LACSD discharge limitations prior to discharge to the sewer system and the LACSD would have ensured they have adequate capacity to accommodate the discharged groundwater prior to issuing a permit. Therefore, since the capacity and discharge limitations of the treatment facility that serve the Approved Project would not be exceeded, the 2016 Certified EIR determined impacts regarding the ability of the treatment facility to treat and dispose of wastewater would be less than significant with implementation of mitigation.

Operation. As discussed in the 2016 Certified EIR, wastewater from the Project site would be treated at LACSD's JWPCP. The Approved Project would have complied with all applicable sections of Title 15, Public Utilities, of the LBMC, and as such, would have generated wastewater flows typical of similar uses in the City. In addition, the Project site was previously developed with a recreational pool facility for approximately 45 years and provided wastewater service during that time. Although the Approved Project proposed to expand the size of the existing pool structure, the Approved Project would not have produced wastewater atypical of flows received at the LACSD's JWPCP previously received from the Project site. Since the capacity of the treatment facility that serves the Project site would not have been exceeded with Project implementation, the 2016 Certified EIR determined impacts related to exceeding wastewater treatment requirements of the applicable RWQCB to be less than significant, and no mitigation was required.

3.14.2.2 Water Supplies

Less than Significant Impact. No new off-site water mains or laterals were required to serve the Approved Project. However, Project development would have resulted in both short-term and long-term increases in water demand.

Construction. A short-term demand for water would have occurred during construction associated with excavation, grading, and other construction-related activities on the Project site. However, construction activities would have occurred in phases and would have been temporary in nature. Overall, the Approved Project's demolition and construction activities were not expected to have any adverse impacts on the existing water system or availability of water supplies. Therefore, impacts associated with short-term construction activities were determined to be less than significant, and no mitigation was required.

Operation. Based on water use estimates obtained from the California Emissions Estimator Model (CalEEMod), operation of the Approved Project was anticipated to result in a water demand of 38.23 acre-feet per year (af/yr), which was an increase of 18.62 af/yr compared to the previous Belmont Pool Facilities. The increase in water demand associated with the Approved Project represented approximately 0.027 percent of the LBWD water supply in 2015. Given that the Approved Project did not propose a change in land use on the Project site and the relatively small increase in expected water demand, it was anticipated that the increase in water demand attributable to the Approved Project would fall within the available and projected water supplies of the 2010 Urban Water Management Plan (UWMP). Therefore, the Approved Project would not have necessitated new or expanded water entitlements or infrastructure as significant increases in water demands would not result from the Approved Project. In addition, like all new development in California, the Approved Project was required to comply with California State law regarding water conservation measures, including pertinent provisions of Title 24 of the California Government Code (Title 24) regarding the use of water-efficient appliances. Furthermore, the Approved Project was designed to meet standards associated with the LEED Gold rating, which includes features that would greatly enhance water conservation. Therefore, the 2016 Certified EIR determined that impacts associated with the long-term operation of the Approved Project would be less than significant, and no mitigation was required.

Fire Flow. In order to comply with the requirements of the Long Beach Fire Department (LBFD), the Approved Project was required to implement the minimum requirements for fire flow. Prior to the issuance of building permits, the approval of final building design, including all fire prevention and suppression systems, by the LBFD was required. Approval of the final building design would have ensured that the Approved Project was constructed pursuant to California Fire Code (CFC) requirements. With the payment of fees pursuant to Chapter 18.23 of the Fire Code and the implementation of applicable building code requirements in accordance with the CFC, including fire flow requirements, applicable performance ratios and fire flow requirements for the LBFD would have been maintained without the construction of a new fire protection facility or expansion to the existing fire protection facility. Therefore, the 2016 Certified EIR determined that potential impacts related to fire flow would be less than significant, and no mitigation was required.

3.14.2.3 Wastewater Treatment Capacity

Less than Significant Impact. Wastewater collection for the Project site would have been provided by LBWD, and the JWPCP would have provided treatment of wastewater generated by the Approved Project. The Approved Project would have utilized the existing connections to the sewer main, and no new off-site sewer lines or laterals were required to serve the Approved Project.

Construction. No significant increase in wastewater flows was anticipated as a result of construction activities on the Project site. Sanitary services during construction were likely to be provided by portable toilet facilities, which transport waste off site for treatment and disposal. As discussed previously, if dewatered groundwater could not have been disposed of in the storm drain system, a permit would have been obtained from LACSD to dispose of the groundwater to the sewer system. Groundwater dewatering activities would have been temporary, and the volume of groundwater removed would not have been substantial. Therefore, the 2016 Certified EIR determined that during construction, potential impacts to wastewater treatment and wastewater conveyance infrastructure would be less than significant, and no mitigation was required.

Operation. The 2016 Certified EIR determined that the previous uses on the Project site generated approximately 30,756 gallons per day (gpd) of wastewater. The Approved Project facilities were expected to generate approximately 77,160 gpd of wastewater.

Wastewater Conveyance. As described in the 2016 Certified EIR, sanitary sewer lines along the perimeter of the Project site included two 6-inch vitrified clay pipes (VCP) along the east and west sides of the former building. There were six connections to the 8-inch VCP sewer main located under East Olympic Plaza. No new off-site sewer lines or laterals were required to serve the Approved Project.

As described in the 2016 Certified EIR, wastewater originating at the Project site is conveyed by City sewer lines to either the LACSD's Anaheim Street Trunk Sewer or the LACSD's Joint Outfall C Unit Trunk Sewer. The anticipated increase in daily wastewater flow from the Approved Project was anticipated to require approximately 0.33 percent of the existing available design capacity of the Anaheim Street Trunk Sewer and 0.27 percent of the existing available design capacity

Joint Outfall C Unit Trunk Sewer. Both trunk sewers had sufficient capacity to accommodate anticipated wastewater flows from the Approved Project. As such, the 2016 Certified EIR determined that the Approved Project would not cause a substantial increase in wastewater flows where a sewer's capacity is already constrained, or that would cause a sewer's capacity to become constrained. Impacts upon the local wastewater infrastructure system were determined to be less than significant, and no mitigation was required.

Wastewater Treatment. It was anticipated that wastewater from the Project site would be treated at the JWPCP located in the City of Carson, which has a design capacity of 400 mgd and that treated on average a wastewater flow of 280 mgd at the time of preparation of the 2016 Certified EIR. The anticipated increase in daily wastewater flow that would result from Project implementation represented .06 percent of the anticipated available daily capacity of the JWPCP. Therefore, the anticipated increase in daily wastewater flow from the Approved Project was expected to be accommodated within the existing design capacity of the JWPCP. The Approved Project would not have substantially or incrementally exceeded the current or future scheduled capacity of the JWPCP by generating flows greater than those anticipated.

In addition, the projected wastewater flow calculations for the Approved Project did not account for the implementation of water conservation measures proposed by the City, which would further reduce wastewater flows beyond the projections. Therefore, the 2016 Certified EIR determined that potential impacts related to wastewater treatment would be less than significant and no mitigation was required.

3.14.2.4 Construction or Expansion of Storm Water Drainage Facilities

Less than Significant with Mitigation Incorporated. As described in the 2016 Certified EIR, the Approved Project would have resulted in a permanent decrease in impervious surface area and would have therefore decreased the volume of runoff during a storm. The Approved Project would have also included a comprehensive drainage system to convey on-site storm flows, including on-site detention and infiltration systems. The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.4 (refer to Section 3.9.6 of this Addendum), which requires a detailed hydrology report to be prepared to ensure that the on-site storm drain facilities are designed in accordance with the requirements of the *Los Angeles County Department of Public Works Hydrology Manual* (2006) and that runoff from the Project site does not exceed existing conditions. With implementation of Mitigation Measure 4.8.4, runoff from the Project site would not have exceeded the capacity of the existing storm water drainage system and the Approved Project would not have required or resulted in the construction of new stormwater drainage facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, the 2016 Certified EIR determined that impacts related to new or expanded stormwater facilities would be less than significant with implementation of mitigation.

3.14.2.5 Landfill Capacity/Solid Waste Regulation

Less than Significant Impact. The 2016 Certified EIR assumed construction and operational solid waste would be disposed of at the SERRF because it was the closest active solid waste facility to the Project site. Any solid waste considered unprocessable by the SERRF would have been taken to landfills in Orange, San Bernardino, and Riverside Counties.

Construction. Construction of the Approved Project would have generated construction and demolition (C&D) waste. However, the Project was required to comply with the City's 2007 Ordinance requiring that at least 60 percent of construction and demolition waste be recycled. In order to comply with the City's Ordinance, the City would have implemented a project-specific C & D Debris Recycling Program. In accordance with the C&D Debris Recycling program, a Waste Management Plan (WMP) would have been completed for the Approved Project detailing how the Approved Project would meet the requirement to divert 60 percent of construction and demolition waste through recycling, salvage, or deconstruction.

At the time the 2016 Certified EIR was prepared, the SERRF was accepting approximately 1,320 tons per day with a permit authorizing the disposal of a maximum of 2,240 tons per day. It was expected that the SERRF would continue to operate at the permitted daily capacity during the planning period of 2012 through 2027. Construction of the Approved Project was anticipated to commence in 2017 and be completed within approximately 18 months. Therefore, solid waste generated by construction of the Approved Project would have been served by SERRF, which had sufficient permitted capacity. Solid waste generated during construction of the Approved Project would not have resulted in significant impacts related to landfill capacity or have prevented compliance with federal, State, and local statutes and regulations related to solid waste. Therefore, the Certified EIR determined impacts related to short-term construction and demolition waste would be less than significant and no mitigation was required.

Operation. Based on the CalEEMod outputs prepared for the Approved Project, it was determined that the former Belmont Pool facilities generated approximately 1 ton of solid waste per day and the total solid waste that would be generated during operation of the Approved Project was estimated to be 2.01 tons per day, which represented an increase of 1.01 tons per day. The anticipated increase in solid waste disposal attributable to the Approved Project would have required 0.11 percent of the available daily disposal capacity at SERRF. The Mesquite Landfill was authorized to accept approximately 20,000 tons of waste per day. The anticipated increase in solid waste disposal attributable to the Approved Project would have required 0.005 percent of the daily disposal capacity at the Mesquite Landfill. Therefore, both SERFF and the Mesquite Landfill had adequate capacity to serve the Approved Project, and impacts related to operational solid waste were determined to be less than significant. No mitigation was required.

Compliance with Federal, State, and Local Statutes and Regulations related to Solid Waste. Waste diversion for the Approved Project was anticipated to be consistent with other similar development within the City and would divert a high percentage of trash from landfills based on compliance with standard City practices and regulations. Additionally, the Approved Project included on-site recycling containers and adequate storage area for such containers. All containers and storage areas on the Project site would be sized in accordance with the applicable provisions in the LBMC. Therefore, the Approved Project would have complied with applicable regulations related to solid waste. Impacts were determined to be less than significant and no mitigation was required.

3.14.2.6 Storm Water Treatment

Less than Significant with Mitigation Incorporated. As discussed in the 2016 Certified EIR, BMPs for the Approved Project were anticipated to include biofiltration swales (bioswales), filtration strips, an underground detention basin, and a drywell. The BMPs were required to be designed in accordance with the Low Impact Development (LID) Best Management Practices (BMP) Design Manual requirements. The 2016 Certified EIR required the implementation of Mitigation Measure 4.8.3 (refer to Section 3.9.6 of this Addendum), which required a Standard Urban Storm Water Mitigation Plan (SUSMP) to be prepared. The SUSMP would include an operations and maintenance plan for the bioswales, drywell, filtration strips, and underground detention basin to ensure their long-term performance and to prevent odor and vector issues from developing. Because the BMPs would have been designed, inspected, and maintained as specified in Mitigation Measure 4.8.3 to prevent vectors and odors, impacts related to operation of stormwater BMPs were determined to be significant with the implementation of mitigation.

3.14.2.7 Energy Transmission Facilities

Less than Significant Impact.

Electricity. The Approved Project would have resulted in an increased building area and would have created an increase in long-term demand for electricity compared to the previous Belmont Pool facility. However, because the Project site is served by all utilities and has operated with the same land use for almost 45 years, no new off-site service lines or substations were required to serve the Approved Project. In addition to the requirements of Title 24, the Approved Project incorporated additional energy conservation measures. The Approved Project was expected to result in an increase in capacity and usage of 895,215 kilowatt-hours per year (kWh/yr), which is 473,871 kWh/yr greater than the electricity usage of previous pool facilities on the Project site.

Based on CEC projections for the SCE service area in 2024, the anticipated increase in project-related annual electricity consumption represented approximately 0.0004 percent of the forecasted net energy load. Based on these estimates, sufficient transmission and distribution capacity existed, and off-site improvements were not necessary.

The supply and distribution of electricity to the Approved Project would not have disrupted power to the surrounding area or adversely affected service levels because the Approved Project involved the continuation of a previous land use. Therefore, impacts related to the provision of electricity services to the Approved Project were determined to be less than significant. Similarly, no significant impacts to local or regional supplies of electricity were determined as a result of the Approved Project, and no mitigation was required.

Natural Gas. Because the Approved Project proposed a larger building area than the previous pool complex, an increase in long-term demand for natural gas was expected. Connections for natural gas would have been located in a joint trench in order to connect to the existing service connections located in the northeastern portion of the Project site. No new off-site service lines or substations were required to serve the Approved Project. The Approved Project was expected to generate an annual natural gas demand of 0.00229 bcf per year, which is an increase of 0.00133 bcf per year compared to the previous Belmont Pool facility. According to the 2014

California Gas Report, the City's gas use was expected to remain relatively constant, increasing from 9.0 bcf in 2014 to 9.6 bcf by 2035. Therefore, the increase in annual natural gas demand associated with the Approved Project was a negligible percent of the estimated available capacity of the LBGO in 2035. Furthermore, the Approved Project would have reduced natural gas consumption through the installation of high-efficiency direct fire heating, and pool blankets. Therefore, impacts related to the provision of natural gas services to the Approved Project were determined to be less than significant, and the Approved Project would not require new or physically altered transmission facilities. Similarly, no significant impacts to local or regional supplies of natural gas would have occurred as a result of the Approved Project, and no mitigation was required.

3.14.2.8 Consistency with Appendix F of the *State CEQA Guidelines*

Less than Significant with Mitigation Incorporated. As discussed previously, the Approved Project would have complied with Title 24 requirements which would preclude the inefficient, wasteful, and unnecessary consumption of energy. Additionally, as indicated previously, the Approved Project's green features and LEED Gold design standards would have resulted in the Approved Project exceeding the requirements of the California Building Energy Efficient Standards contained in Title 24. Because the Approved Project incorporated a variety of energy conservation measures and sufficient regional energy supplies existed to serve the Project area, related impacts were determined to be less than significant. Additionally, because the Approved Project was located in an urban area served by public transportation and a coastal bike trail, potential transportation energy use requirements were determined to be less than significant with the implementation of mitigation identified in Section 3.13.2 of the 2016 Certified EIR (refer to Section 3.13.6 of this Addendum). Therefore, the 2016 Certified EIR determined that the Approved Project would not result in the wasteful, inefficient, and unnecessary consumption of energy; would not cause the need for additional electrical energy or natural gas production facilities; and, therefore, would not create a significant impact on energy resources.

3.14.2.9 Cumulative Utilities Impacts

Electricity. The 2016 Certified EIR analyzed a cumulative study area for analysis of impacts to the provision of electricity of the service territory of SCE. The CEC estimated that both the net peak demand and the net energy load within SCE's service territory will continue to grow annually by 1.4 percent and 1.2 percent, respectively. Although the Approved Project had the potential to increase electrical demand in the area, SCE has identified adequate capacity to handle increases in electrical demand. Compliance with Title 24 of the California Administrative Code regulates energy consumption in new construction and regulates building energy consumption for the Approved Project and all future projects. In addition, the Approved Project was designed to meet LEED Gold standards, including a number of energy-efficient measures. Therefore, in relation to the cumulative study area, the 2016 Certified EIR determined that the Approved Project's incremental contribution to increased demand for electricity would not be cumulatively considerable, and no mitigation was required.

Natural Gas. The 2016 Certified EIR analyzed a cumulative study area for impacts to the provision of natural gas of the service territory for the LBGO. According to the 2014 California Gas Report, the City's gas use was expected to remain relatively constant, increasing from 9.0 bcf in 2014 to 9.6 bcf by 2035 and the City's locally supplied deliveries are expected to decline from 0.4 bcf in 2014 to 0.1 bcf by 2035. Therefore, sufficient gas supplies and infrastructure capacity were available, or have already been planned to serve past, present, and reasonably foreseeable projects. Further, all future projects were subject to Title 24 requirements and would be evaluated on a case-by-case basis to determine the need for specific distribution infrastructure improvements. Therefore, the 2016 Certified EIR determined that the Approved Project's contribution to natural gas impacts would be considered less than cumulatively significant and no mitigation was required.

Solid Waste. The 2016 Certified EIR analyzed a cumulative study area for impacts to solid waste disposal capacity of the County of Los Angeles. The Approved Project in combination with other past, present, and reasonably foreseeable projects within the County would have created an increased demand on landfills and solid waste services for the County. The construction and operation of the Approved Project would have been served by the SERRF, a refuse-to-energy waste facility with sufficient permitted capacity to accommodate the Approved Project's solid waste disposal needs. It was expected that the SERRF will continue to operate at current permitted daily capacity during the planning period from 2012 through 2027. The SERRF did not exceed its daily maximum permitted disposal capacity. Solid waste that SERRF is not able to process would be taken to landfills in Orange, San Bernardino, and Riverside Counties.

Therefore, the Approved Project would not have had a significant project-specific or cumulative impact on waste disposal capacity at County transformation facilities and landfills. Therefore, impacts were considered less than cumulatively significant, and no mitigation was required.

Wastewater. The 2016 Certified EIR analyzed a cumulative study area for wastewater treatment of the City and the LACSD service territory. Because LACSD anticipates that their existing and planned wastewater treatment capacity would be sufficient to accommodate the growth within its service area, development that is generally consistent with growth forecasts can be adequately served by LACSD facilities. The Approved Project proposed to replace and improve the previous Belmont Pool Facilities and no change in land use was proposed. Therefore, the 2016 Certified EIR determined that the Approved Project would not significantly contribute to or cause cumulative impacts to wastewater services, and no mitigation was required.

Water. The 2016 Certified EIR analyzed a cumulative study area for impacts to water services of the service territory of the City. According to the City's UWMP, the MWDSC's future water supplies were fairly reliable as documented in its 2010 Regional UWMP; the MWDSC current allocation plan guaranteed an amount of water close to the LBWD's need for water, and the LBWD had a preferential right to the MWDSC supplies in excess of its need for that water. In addition, LBWD, which provides the groundwater supply to the City, projected that there are sufficient groundwater supplies to meet any future demand requirements in the City. Therefore, existing water systems were expected to have sufficient capacity to meet the additional maximum day and peak-hour domestic water demand and fire flow demand from the Approved Project and other proposed projects within the City's service territory through 2020. Therefore, the 2016 Certified EIR determined that potential cumulative impacts from past, present, and reasonably foreseeable projects related to water supply within the City would be less than significant. No mitigation was required.

3.14.3 Analysis of the Modified Project

3.14.3.1 Exceed Waste Water Treatment Requirements

Construction. Similar to the Approved Project, wastewater from the Modified Project would be treated at LACSD's JWPCP. Due to the depth to groundwater and the anticipated depth of excavation, there is a potential for the groundwater table to be encountered during excavation, which may require groundwater dewatering. As such, the Modified Project would also implement Mitigation Measure 4.8.2 (refer to section 3.9.2 of this Addendum) from the 2016 Certified EIR, which requires any groundwater dewatering during excavation to be conducted in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit. If groundwater used during construction of the Modified Project cannot meet discharge limitations specified in the Ground Water Discharge Permit, a permit would be obtained from LACSD to dispose of the groundwater to the sewer system, similar to the requirements for the Approved Project. The groundwater would have to meet LACSD discharge limitations prior to discharge to the sewer system and the LACSD would ensure they have adequate capacity to accommodate the discharged groundwater prior to issuing a permit. Therefore, since the capacity and discharge limitations of the treatment facility that serve the Modified Project would not be exceeded, impacts regarding the ability of the treatment facility to treat and dispose of wastewater remain less than significant with the incorporation of Mitigation Measure 4.8.2.

Operation. Similar to the Approved Project, the Modified Project would be required to comply with all applicable sections of Title 15, Public Utilities, of the LBMC. In addition, the Project site was previously developed with a recreational pool facility for approximately 45 years and was provided wastewater service during that time. The Modified Project significantly reduces the overall building size and eliminates the café; therefore, the Modified Project is anticipated to produce wastewater flows similar to, or less than, the Approved Project. Since the capacity of the treatment facility that serves the Project site would not be exceeded with implementation of the Modified Project, Project impacts related to exceeding wastewater treatment requirements of the applicable RWQCB would remain less than significant. No mitigation is required.

3.14.3.2 Water Supplies

The Modified Project is located on the same site as the Approved Project and similar to the Approved Project, no new off-site water mains or laterals would be required to serve Modified Project.

Construction. Short-term demand for water would occur during construction associated with excavation, grading, and other construction-related activities on the Project site. However, similar to the Approved Project, construction activities for the Modified Project would occur in phases and would be temporary in nature. Overall, the Modified Project's demolition and construction activities are not expected to have any adverse impacts on the existing water system or availability of water supplies. Therefore, impacts associated with short-term construction activities would remain less than significant and no mitigation is required.

Operation. Based on water use estimated from CalEEMod outputs, operation of the Modified Project is anticipated to result in a water demand of 14.40 af/yr without conservation measures, which is a reduction of 23.83 af/yr compared to the Approved Project (38.23 af/yr without conservation measures). With the implementation of water conservation measures (low-flow bathroom faucets, low-flow kitchen faucet, low-flow toilets, low-flow showers, and water-efficient irrigation system), the Modified Project is anticipated to result in an even lower water demand of 12.28 af/yr. With the implementation of water conservation measures, the increase in water demand associated with the Modified Project represents approximately 0.016 percent of the LBWD's projected water supply in 2020. Given that the Modified Project would not propose a change in land use on the Project site and the relatively small increase in expected water demand, it is anticipated that the increase in water demand attributable to the Modified Project would fall within the available and projected water supplies of the 2015 UWMP. Further, the Modified Project is projected to have a lower water demand than the Approved Project. Therefore, similar to the Approved Project, the Modified Project would not necessitate new or expanded water entitlements or infrastructure as significant increases in water demands would not result from the Modified Project. Furthermore, similar to the Approved Project, the Modified Project would be required to comply with pertinent provisions of Title 24 of the California Government Code (Title 24) regarding the use of water-efficient appliances and would be designed to meet standards associated with the Leadership in Energy and Environmental Design (LEED) Gold rating, which may result in further reductions in water use and would ensure impacts related to water use would remain less than significant. No mitigation is required.

Fire Flow. Similar to the Approved Project, in order to comply with the requirements of the LBFD, the Modified Project is required to implement the minimum requirements for fire flow. As part of the site plan review process, the LBFD would review and approve final building design, including all fire prevention and suppression systems. Approval of the final building design as required for both the Approved Project and the Modified Project, would ensure that the Modified Project is constructed pursuant to California Fire Code (CFC) requirements. With the payment of fees pursuant to Chapter 18.23 of the Fire Code and the implementation of applicable building code requirements in accordance with the CFC, including fire flow requirements, the LBFD would be able to maintain acceptable performance ratios and fire flow requirements without the construction of a new fire protection facility or expansion to the existing fire protection facility. Therefore, the potential impacts related to fire flow would remain less than significant, similar to the Approved Project, and no mitigation is required.

3.14.3.3 Wastewater Treatment Capacity

Similar to the Approved Project, wastewater collection for the Modified Project would be provided by LBWD, and the JWPCP would provide treatment of wastewater generated by the Modified Project. The Modified Project is located on the same site as the Approved Project and would utilize the existing connections to the sewer main, and no new off-site sewer lines or laterals were required to serve the Modified Project.

Construction. Similar to the Approved Project, no significant increases in wastewater flows are anticipated as a result of construction activities on the Project site for the Modified Project. In addition, the Modified Project involves less construction activity than the Approved Project due to the reduction in the size of the buildings. Similar to the Approved Project, sanitary services during construction are likely to be provided by portable toilet facilities, which transport waste off site for treatment and disposal. As discussed previously, if dewatered groundwater cannot be disposed of in the storm drain system, a permit would be obtained from LACSD to dispose of the groundwater to the sewer system. Groundwater dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. Therefore, potential impacts to wastewater treatment and wastewater conveyance infrastructure during construction would remain less than significant for the Modified Project, and no mitigation is required.

Operation. The proposed facilities under the Modified Project would include approximately 18,183[20] sf of building space. Utilizing the LACSD wastewater generation factor of 600 gpd per 1,000 sf for a gymnasium with shower/locker room and public restroom facilities, the Modified Project is expected to generate approximately 10,910 gpd of wastewater, which is a reduction of 66,250 gpd compared to the Approved Project. The Approved Project was located within a much larger building structure and was therefore estimated to generate substantially more wastewater because generation factors are based on building area. The large reduction is primarily due to the reduction in building size and removal of the separate cafe use.

Wastewater Conveyance. Similar to the Approved Project, the Modified Project would utilize existing sanitary sewer lines along the perimeter of the Project site. No new off-site sewer lines or laterals are required to serve the Modified Project as it is located on the same site as the Approved Project. Similar to the Approved Project, wastewater originating from the Modified Project would be conveyed to either the LACSD's Anaheim Street Trunk Sewer or the LACSD's Joint Outfall C Unit Trunk Sewer. The anticipated increase in daily wastewater flow from the Modified Project would require approximately 0.06 percent of the available design capacity of the Anaheim Street Trunk Sewer and 0.04 percent of the available design capacity of the Joint Outfall C Unit Trunk Sewer based on design capacities last measured in 2012 and provided by the LACSD in May, 2014. This represents a reduction compared to the available design capacities required for the Approved Project (0.33 percent of the Anaheim Street Trunk Sewer and 0.27 percent of the Joint Outfall C Unit Trunk Sewer). Therefore, impacts upon the local wastewater infrastructure system would remain less than significant, and no mitigation is required.

Wastewater Treatment. Similar to the Approved Project, wastewater from the Modified Project would be treated at the JWPCP located in the City of Carson, which has a design capacity of 400 mgd and currently treats on average, a wastewater flow of 260 mgd.[21] The anticipated increase in daily wastewater flow that would result from implementation of the Modified Project would represent .007 percent of the anticipated available daily capacity of the JWPCP. Therefore, the anticipated increase in daily wastewater flow from the Modified Project is less than that of the Approved Project and is expected to be accommodated within the existing design capacity of the JWPCP. The Modified Project would not substantially or incrementally exceed the current or future scheduled capacity of the JWPCP by generating flows greater than those anticipated. Therefore, potential impacts related to wastewater treatment remain less than significant and no mitigation is required.

20 The proposed facilities include 18,075 sf in building space + 108 sf in public restroom space.

21 Los Angeles County Sanitation District. Joint Water Pollution Control Plant (JWPCP) Webpage. Available at: https://www.lacsd.org/services/wastewater/wwfacilities/wwtreatmentplant/jwpcp/default.asp (accessed 12/26/2019)

3.14.3.4 Construction or Expansion of Storm Water Drainage Facilities

As described in the 2016 Certified EIR, existing storm water drainage exists on the Project site. As discussed in Section 3.9.3 of this Addendum, as compared to the Approved Project, the Modified Project would result in an increase of 33,131 sf of passive park and open space area (for a total passive park and landscaped area of 141,558 sf). With the increased park and open space area on the site, there is an increase in pervious area; therefore, it is reasonable to conclude that the Modified Project would result in substantially the same, or even a decrease in, volume of runoff during a storm as compared to the Approved Project.

The Modified Project would also include a comprehensive drainage system to convey on-site storm flows, including on-site detention and infiltration systems. Similar to the Approved Project, the Modified Project would implement Mitigation Measure 4.8.4 (refer to Section 3.9.6) from the 2016 Certified EIR, which requires a detailed hydrology report to be prepared to ensure that the on-site storm drain facilities are designed in accordance with the requirement of the *Los Angeles County Department of Public Works Hydrology Manual* (2006) and that runoff from the Project site does not exceed existing conditions. With implementation of Mitigation Measure 4.8.4, runoff from the Project site would not exceeded the capacity of the existing storm water drainage system and the Modified Project would not require or result in the construction of new storm water drainage facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects. Therefore, impacts would remain less than significant with the implementation of mitigation.

3.14.3.5 Landfill Capacity/Solid Waste Regulation

Similar to the Approved Project, under the Modified Project, construction and operational solid waste would be disposed of at the SERRF and any solid waste that SERRF is not able to process would be taken to landfills in Orange, San Bernardino, and Riverside Counties.

Construction. Similar to the Approved Project, construction of the Modified Project would generate C&D waste. The Modified Project is also required to comply with the City's 2017 Ordinance requiring that at least 65 percent of construction and demolition waste be recycled. In order to comply with the City's Ordinance, the City would implement a C&D Debris Recycling Program. In accordance with the C&D Debris Recycling program, a Waste Management Plan (WMP) would be completed detailing how the Modified Project would meet the requirement to divert 65 percent of construction and demolition waste through recycling, salvage, or deconstruction. As described above, the SERRF is accepting approximately 1,127 tons per day with a permit to accept a maximum of 2,240 tons per day. It is expected that the SERRF would continue to operate at its current average daily rate during the planning period of 2017 through 2032.[22] Construction of the Modified Project is anticipated to commence in 2021 and be completed within approximately 18 months. Therefore, solid waste generated by construction of the Modified Project would be served by the SERRF, which currently has sufficient permitted capacity. Solid waste generated during construction of the Modified Project, like the Approved Project would not result in significant impacts related to landfill capacity or prevent compliance with federal, State, and local statutes and regulations related to solid waste.

[22] County of Los Angeles. Countywide Integrated Waste Management Plan. 2017. Website: https://pw.lacounty.gov/epd/swims/ShowDoc.aspx?id=6530&hp=yes&type=PDF (accessed 11/26/2019).

Therefore, short-term construction and demolition waste would remain less than significant and no mitigation would be required.

Operation. Based on the CalEEMod outputs, total solid waste that would be generated during operation of the Modified Project is estimated to be approximately 0.66 tons per day, which represents a decrease of approximately 0.35 tons per day compared to the Approved Project. The anticipated increase in solid waste disposal resulting from operation of the Modified Project requires 0.06 percent of the available daily disposal capacity at SERRF. The Mesquite Landfill was authorized to accept approximately 20,000 tons of waste per day and the anticipated increase in solid waste disposal attributable to the Modified Project would require 0.003 percent of the daily disposal capacity at the Mesquite Landfill. Therefore, both SERFF and the Mesquite Landfill have adequate capacity to serve the Modified Project, and impacts related to operational solid waste would remain less than significant. No mitigation is required.

Compliance with Federal, State, and Local Statutes and Regulations related to Solid Waste. Similar to the Approved Project, waste diversion for the Modified Project would be consistent with other similar development within the City and would divert a high percentage of trash from landfills based on compliance with standard City practices and regulations. Additionally, the Modified Project would include on-site recycling containers and adequate storage area for such containers. All containers and storage areas on the Project site would be sized in accordance with the applicable provisions in the LBMC. Based on these considerations, the Modified Project would also be consistent with the State of California Solid Waste Reuse and Recycling Access Act of 1991. Therefore, the Modified Project would comply with applicable regulations related to solid waste, similar to the Approved Project. Impacts would remain less than significant, and no mitigation is required.

3.14.3.6 Storm Water Treatment

Similar to the Approved Project, BMPs for the Modified Project are required to be designed in accordance with the Low Impact Development (LID) Best Management Practices (BMP) Design Manual requirements. The Modified Project also requires the implementation of Mitigation Measure 4.8.3 (refer to section 3.9.6 of this Addendum), which requires a SUSMP to be prepared. The SUSMP would include an operations and maintenance plan for the operational BMPs to ensure their long-term performance and prevent odor and vector issues from developing. Because the BMPs would be designed, inspected, and maintained as specified in Mitigation Measure 4.8.3, similar to the Approved Project, impacts related to operation of storm water BMPs would remain less than significant.

3.14.3.7 Energy Transmission Facilities

Electricity. Because the Project site is served by all utilities and has operated with the same land use as proposed in the past, no new off-site service lines or substations are required to serve the Modified Project. In addition, the Modified Project is smaller in scale than the Approved Project and will comply with Title 24 related to energy conservation measures. The Modified Project is expected to result in the usage of 171,828 kWh/yr, which is a decrease of 723,387 kWh/yr compared to expected electricity usage under the Approved Project.

Based on CEC projections for the SCE service area in 2024, the anticipated increase in project-related annual electricity consumption represents approximately 0.0002 percent of the forecasted net energy load. Based on these estimates, sufficient transmission and distribution capacity exists, and off-site improvements are not necessary.

The supply and distribution of electricity to the Modified Project would not disrupt power to the surrounding area or adversely affect service levels because, similar to the Approved Project, the Modified Project involves the continuation of a previous land use. Therefore, impacts related to the provision of electricity services to the Modified Project and impacts to local and regional supplies of electricity would remain less than significant. No mitigation is required.

Natural Gas. Similar to the Approved Project, the Modified Project would connect to the existing service connections located in the northeastern portion of the Project site. No new off-site service lines or substations are required to serve the Modified Project. The Modified Project is expected to generate an annual natural gas demand of 0.00029 bcf per year, which represents a decrease of 0.0020 bcf per year compared to the Approved Project. The Approved Project was located within a much larger building structure and was therefore estimated to generate substantially more natural gas demand because calculations are partially based on building area. Moreover, while the City's overall gas use was projected to increase over time at the time the 2016 EIR was prepared, according to the 2018 California Gas Report, the City's gas use is expected to decline slightly from 9 bcf in 2017 to 8 bcf by 2035. The natural gas demand associated with the Modified Project is a negligible percent of the estimated available withdrawal capacity of the LBGO in 2035. Furthermore, the Modified Project would reduce natural gas consumption through the installation of high-efficiency direct fire heating, and pool blankets. Therefore, impacts related to the provision of natural gas services to the Modified Project would remain less than significant, similar to the Approved Project, and the Modified Project would not require new or physically altered transmission facilities. Similarly, no significant impacts to local or regional supplies of natural gas would occur as a result of the Modified Project, and no mitigation is required.

3.14.3.8 Consistency with Appendix F of the *State CEQA Guidelines*

As discussed previously, the Modified Project would comply with Title 24 requirements which ensure that projects would preclude the inefficient, wasteful, and unnecessary consumption of energy. Additionally, as indicated previously, the Modified Project's green features and LEED Gold design standards would result in the Modified Project exceeding the requirements of the California Building Energy Efficient Standards contained in Title 24. Similar to the Approved Project, because the Modified Project incorporates a variety of energy conservation measures and sufficient regional energy supplies exists to serve the Project area, related impacts were determined to be less than significant. Additionally, similar to the Approved Project, because the Modified Project is located in an urban area currently served by public transportation and a coastal bike trail, potential transportation energy use requirements would remain less than significant with the implementation of mitigation measures identified in Section 3.13.2 of the Certified EIR (refer to Section 3.13.6 of the Addendum). Therefore, the Modified Project, like the Approved Project, would not result in the wasteful, inefficient, and unnecessary consumption of energy; would not cause the need for additional electrical energy or natural gas production facilities; and, therefore, would not create a significant impact on energy resources.

3.14.3.9 Cumulative Utilities Impacts

Wastewater. Similar to the Approved Project, the cumulative study area for wastewater treatment for the Modified Project is the City and the LACSD service territory. Because LACSD projects that its existing and planned wastewater treatment capacity would be sufficient to accommodate the growth forecasted by the United States Census Bureau within its service area, development that is generally consistent with this forecast can be adequately served by LACSD facilities. Similar to the Approved Project, the Modified Project proposes to replace and improve the previous Belmont Pool Facilities and no change in land use is proposed. Therefore, the Modified Project would not significantly contribute to or cause cumulative impacts to wastewater services. Therefore, impacts would remain less than cumulatively significant, and no mitigation is required.

Water. Similar to the Approved Project, the cumulative study area for impacts to water services for the Modified Project is the service territory of the City. According to the City's UWMP, the MWDSC's current water supply allocation plan guarantees an amount of water close to the LBWD's need for water, and LBWD has a preferential right to the MWDSC supplies in excess of its need for that water. Therefore, existing water supplies and systems are expected to have sufficient capacity to meet the additional maximum day and peak-hour domestic water demand and fire flow demand from the Modified Project and other proposed projects within the City's service territory. Therefore, potential cumulative impacts from past, present, and reasonably foreseeable projects related to water supply within the City would remain less than significant, similar to the Approved Project. No mitigation is required.

Solid Waste. Similar to the Approved Project, the cumulative study area for impacts to solid waste disposal capacity for the Modified Project is the County of Los Angeles. The Modified Project, in combination with other past, present, and reasonably foreseeable projects within the County would create an increased demand on landfills and solid waste services for the County. The Modified Project would generate less solid waste than the Approved Project. Similar to the Approved Project, the construction and operation of the Modified Project would be served by the SERRF, a refuse-to-energy waste facility with sufficient permitted capacity to accommodate the Modified Project's solid waste disposal needs. The SERRF does not currently exceed its daily maximum permitted disposal capacity. Therefore, similar to the Approved Project, the Modified Project would not have a significant project-specific or cumulative impact on waste disposal capacity at County transformation facilities and landfills. Therefore, cumulative impacts related to solid waste would be less than cumulatively significant, and no mitigation is required.

Electricity. Similar to the Approved Project, the cumulative study area for analysis of impacts to the provision of electricity for the Modified Project is the service territory of SCE. Although the Modified Project has the potential to increase electrical demand in the area, SCE has identified adequate capacity to handle increases in electrical demand. Compliance with Title 24 of the California Administrative Code regulates energy consumption in new construction and regulates building energy consumption for the Modified Project, the Approved Project, and all future projects. In addition, the projected electrical demand is reduced under the Modified Project as compared to the Approved Project. Therefore, in relation to the cumulative study area, the Modified Project's incremental contribution to increased demand for electricity would not be cumulatively considerable, and no mitigation is required.

Natural Gas. Similar to the Approved Project, the cumulative study area for impacts to the provision of natural gas for the Modified Project is the service territory for the LBGO. According to the 2018 California Gas Report, the City's gas use was expected to decline slightly from 9 bcf in 2017 to 8 bcf by 2035. Therefore, sufficient gas supplies and infrastructure capacity are available, or have already been planned to serve past, present, and reasonably foreseeable projects. Further, all future projects would be subject to Title 24 requirements and would be evaluated on a case-by-case basis to determine the need for specific distribution infrastructure improvements. The projected natural gas demand is reduced under the Modified Project as compared to the Approved Project. Therefore, the Modified Project's contribution to cumulative natural gas impacts would remain less than cumulatively significant, and no mitigation is required.

3.14.4 Findings Related to Utilities and Service Systems

3.14.4.1 No New Significant Effects Requiring Major Revisions to the 2016 Certified EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 Certified EIR. The Modified Project would not result in new significant environmental impacts related to utilities and service systems, and there would not be a substantial increase in the severity of impacts described in the 2016 Certified EIR.

3.14.4.2 No Substantial Change in Circumstances Requiring Major Revisions to the 2016 Certified EIR

With the exception of the new fitness club on East Olympic Plaza that occupies the same location as previous commercial uses, the Project site and surrounding area have not been further developed or altered since the 2016 Certified EIR was prepared. There is no information in the administrative record or otherwise available that indicates that there are substantial changes in circumstances pertaining to utilities and service systems that would require major changes to the 2016 Certified EIR.

3.14.4.3 No New Information Showing Greater Significant Effects than the 2016 Certified EIR

This Addendum has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 Certified EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact related to utilities and service systems requiring major revisions to the 2016 Certified EIR.

3.14.4.4 No New Information Showing Ability to Reduce Significant Effects in the 2016 Certified EIR

There is no new information, mitigation, or alternatives to the Project that would substantially reduce one or more significant impacts pertaining to utilities and service systems identified and considered in the 2016 Certified EIR.

3.14.5 Standard Conditions

There are no standard conditions pertaining to utilities and service systems that are applicable to either the Approved Project or the Modified Project.

3.14.6 Mitigation Measures

Mitigation Measures 4.8.2, 4.8.3, and 4.8.4, as included in the Hydrology and Water section of the 2016 Certified EIR were required for reducing impacts to utilities and service systems associated with the Approved Project and are required for the Modified Project. Refer to Mitigation Measures 4.8.2, 4.8.3, and 4.8.4 in Section 3.9.6 (Hydrology and Water Quality) of this Addendum.

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APPENDIX A

AIR QUALITY AND GREENHOUSE GAS EMISSIONS ANALYSIS

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LSA

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PALM SPRINGS
POINT RICHMOND
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SAN LUIS OBISPO

MEMORANDUM

DATE: December 2, 2019

TO: Christopher Koontz, AICP, Planning Bureau Manager, City of Long Beach

FROM: Michael Slavick, Senior Air Quality Specialist, LSA

SUBJECT: Belmont Plaza Pool Revised Air Quality and Greenhouse Gas Emissions Analysis

This memorandum compares the air quality and global climate change analysis presented in the August 2016 Final EIR to a revised air quality and greenhouse gas (GHG) emissions analysis prepared in November 2019 for the proposed Modified Project. The November 2019 air quality and GHG emissions analysis was prepared with updated existing (2019) conditions and the proposed Modified Project consistent with the South Coast Air Quality Management District's (SCAQMD) *CEQA Air Quality Handbook* (1993, currently being revised).[1] The following memorandum summarizes the Modified Project description and the regulatory setting and provides a quantitative assessment of the potential long-term and short-term air quality and GHG impacts associated with construction and operation of the Modified Project.

PROJECT DESCRIPTION SUMMARY

The Approved Project proposed the development of an approximately 125,500-square-foot (sf) pool complex that included indoor and outdoor pool components and an approximately 1,500 sf outdoor café. The Approved Project also included permanent indoor seating for approximately 1,250 spectators to view competitive events at the 50-Meter Competition Pool and the Dive Pool. Temporary outdoor seating would be provided for larger events at the Outdoor 50-Meter Competition Pool with a maximum temporary seating capacity of up to 3,000 spectators. The Approved Project did not include any permanent outdoor seating designed for spectator viewing. The 2016 certified EIR for the Approved Project found no significant unavoidable impacts would remain after implementation of the specific mitigation measures prescribed in the EIR. The City Council certified the EIR in August 2016, adopted the Mitigation Monitoring and Reporting Program (MMRP), and approved the project.

The currently proposed Modified Project is a less intense pool facility as compared to the previously Approved Project. The Modified Project would remove the roof structure over the 50-Meter Competition Pool, eliminate the café, establish the existing temporary pool east of the project site as a permanent Myrtha pool with the addition of restrooms and a shower facility, relocate a proposed new pool facility further north (away from the shoreline on the site), reduce the size of

[1] South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*, currently being revised to the Air Quality Analysis Guidance Handbook). Website: https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook (accessed November 2019).

the support building, increase permanent indoor seating, and reduce temporary outdoor seating. Access to the site would continue to be provided by Ocean Boulevard via Termino Avenue and Bennett Avenue. Although the Modified Project is substantially smaller in scale than the Approved Project, due to the project changes, additional air quality and GHG analysis and review is required under CEQA.

AIR QUALITY

A brief summary of the air quality impacts from the 2016 EIR is provided below.

2016 EIR

Consistency with Air Quality Plans

The Approved Project was consistent with the goals, objectives, and assumptions of the SCAQMD's *Final 2012 Air Quality Management Plan* (AQMP)[1] and would not have exceeded the SCAQMD's thresholds for short-term impacts, asbestos impacts, and long-term (operational) impacts with the incorporation of short-term construction and long-term construction mitigation measures. Additionally, the Approved Project would be consistent with the development concept and goals, objectives, and policies of the City of Long Beach *General Plan*[2]. Therefore, the Approved Project would not have conflicted or obstructed the implementation of the applicable air quality plan. Impacts were determined to be less than significant, and no mitigation was required.

Air Quality Standard Violation

The 2016 EIR considered construction air quality impacts during an approximate 18-month period anticipated to commence in early 2017. The 2016 EIR determined that fugitive dust emissions from construction activities would result in maximum levels of particulate matter emissions of 10.0 pounds per day (lbs/day) for particulate matter less than 10 microns in size (PM_{10}) and 6.4 lbs/day for particulate matter less than 2.5 microns in size ($PM_{2.5}$), respectively, which are below the SCAQMD's thresholds of 150 lbs/day and 55 lbs/day, respectively. In addition, ozone (O_3) precursor emissions of reactive organic gas (ROG) and nitrogen oxides (NO_X) from construction activities would result in a less than significant impact. Mitigation measures were not required for the 2016 EIR Approved Project.

The 2016 EIR assessed impacts to nearby sensitive receptors through the use of SCAQMD's localized significance thresholds (LST) analysis and concluded, based on the LST results, that ozone precursors and particulate matter emissions would be below the SCAQMD LST thresholds during construction. Therefore, the Approved Project would have resulted in less than significant impacts during construction activities.

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1 SCAQMD. 2013. *Final 2012 Air Quality Management Plan* (AQMP), February 2013.Website: https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan (accessed November 2019).

2 City of Long Beach Development Services. *Long Beach General Plan.* Website: http://www.longbeach.gov/lbds/planning/advance/general-plan/ (accessed November 2019).

The 2016 EIR analyzed long-term air quality impacts from mobile source emissions generated from project-related traffic and from area source emissions generated directly from the pool facility. The 2016 EIR concluded that the Approved Project would not have resulted in exceedances of SCAQMD thresholds for ROG, NO_X, carbon monoxide (CO), sulfur oxides (SO_X), PM_{10}, or $PM_{2.5}$ from mobile or area sources.

Localized operational emissions were also determined to be within SCAQMD thresholds for NO_X, CO, PM_{10}, and $PM_{2.5}$. The quantitative assessment of CO hot spots determined that CO concentrations would be well below the State and federal standards. Therefore, impacts related to localized operational emissions and CO hot spots would have been less than significant. In summary, impacts related to air quality standard violations were determined to be less than significant.

Cumulatively Considerable Net Increase in Criterial Pollutants

The 2016 EIR determined project-related construction activities, in combination with those from other projects in the area, would not substantially deteriorate local air quality with the implementation of Standard Conditions 4.2.1 through 4.2.2 and adherence to applicable SCAQMD rules and regulations. Additionally, project-related operational impacts would not result in a cumulatively considerable net increase in any criterial pollutant with the implementation of Standard Conditions 4.2.1 through 4.2.2 and adherence to applicable SCAQMD rules and regulations. Therefore, cumulative operational impacts associated with proposed operation of the Approved Project were determined to be less than significant; no mitigation was required.

Expose Sensitive Receptors

The 2016 EIR identified locations of sensitive receptors in the vicinity of the project site and determined that project construction and operational emissions would not exceed SCAQMD thresholds or exceed localized significance thresholds. The implementation of Standard Conditions 4.2.1 through 4.2.2 would further reduce project-related emission impacts. As previously mentioned above, the air quality impacts associated with the Approved Project would have been less than significant, and mitigation measures were not required for the Approved Project analyzed in the 2016 EIR.

Nuisance Odors

Potential nuisance odors generated during construction activities were determined to be short term in nature and less than significant given the project size. The Approved Project did not include any land uses identified by SCAQMD as being associated with odors. However, potential airborne odors could result from pool treatments and trash receptacles. These odors would have been confined to the immediate vicinity of the project and minimized by SCAQMD odor regulation and lids on trash receptacles. Therefore, impacts related to short-term and long-term operation odors would be less than significant, and no mitigation was required.

Analysis of the Modified Project

To quantify air quality and GHG emissions, LSA utilized the California Emissions Estimator Model (CalEEMod, Version 2016.3.2)[1] and compared the net change in air quality and GHG emissions between the Approved Project and the Modified Project. CalEEMod model output worksheets are provided as an attachment to this analysis.

Construction Emissions

Construction activities produce combustion emissions from various sources (i.e., construction of pool area improvements and motor vehicle transport of the construction crew). Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The tentative 18-month construction schedule for the Modified Project is based on a probable start date of May 2021 and a planned completion date of October 2022. The project site is mostly flat in elevation and ready for site preparation and construction. As shown in Table A, below, the Modified Project's regional construction emissions would be less than the SCAQMD thresholds. Specifically, all peak daily construction emissions are lower for the Modified Project as compared to the Approved Project, except for SO_X emissions which remain the same. Therefore, the Modified Project would also not result in a cumulatively considerable increase in emissions due to construction-related emissions.

Table A: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	ROG	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Approved Project Peak Daily Emissions	**41.0**	**52.0**	**40.0**	**0.1**	**12.0**		**6.4**	
Modified Project								
Site Preparation	4.0	40.6	21.8	0.0	7.2	2.0	3.9	1.9
Grading	2.8	38.4	19.4	0.1	3.7	1.2	1.6	1.1
Building Construction	2.5	21.6	21.5	0.0	1.4	1.0	0.4	0.9
Paving	1.2	11.2	15.1	0.0	0.2	0.6	0.0	0.5
Architectural Coatings	10.4	1.5	2.5	0.0	0.2	0.1	0.1	0.1
Modified Project Peak Daily Emissions	**10.4**	**40.6**	**21.8**	**0.1**	**9.3**		**5.8**	
SCAQMD Thresholds	**75.0**	**100.0**	**550.0**	**150.0**	**150.0**		**55.0**	
Exceed SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (November 2019).

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROG = reactive organic gas
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides

[1] South Coast Air Quality Management District (SCAQMD). 2017. California Emissions Estimator Model, Version 2016.3.2. Developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts. November. Website: https://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4 / (accessed November 2019).

Fugitive dust emissions are generally associated with land clearing and site preparation, which will expose the disturbed soils to the air and wind, as well as cut-and-fill grading operations. Dust generated during construction varies substantially on a project-by-project basis, depending on the level of activity, the specific operations, and weather conditions at the time of construction. Similar to the Approved Project, the Modified Project will be required to comply with SCAQMD Rule 403 to control fugitive dust (see Standard Conditions 4.2.1 through 4.2.2, below). Architectural coatings contain ROG that are ozone (O_3) precursors. Application of architectural coatings for the proposed peak construction day is estimated to result in a peak of 10.4 lbs/day of ROG, which is lower than the peak daily ROG emissions for the Approved Project. The ROG emissions associated with the Modified Project would not exceed the SCAQMD ROG threshold of 75.0 lbs/day. Therefore, the Modified Project would result in lower peak daily ROG emissions than the Approved Project, and it would not contribute to new significant construction-related air quality impacts that were not identified in the 2016 EIR.

Operational Emissions

Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The Modified Project would result in net increases in both area and mobile-source emissions over existing conditions; however, based on trip generation factors provided in the *Belmont Plaza Pool Revised Traffic Analysis* (Revised Traffic Analysis) (LSA, November 2019), prepared for the Modified Project, the Modified Project would generate 900 peak-hour weekend trips, similar to the 900 peak-hour weekend trips identified for the Approved Project. The modeling incorporates project design features such as low flow fixtures and a water-efficient irrigation system. A comparison of the long-term operational emissions associated with the Modified Project and the Approved Project is shown in Table B.

Table B: Opening Year Regional Operational Emissions

Source	Pollutant Emissions (lbs/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Total Approved Project Peak Daily Emissions	**10.0**	**18.0**	**68.0**	**0.2**	**12.0**	**3.4**
Modified Project						
Area	0.4	<0.1	<0.1	0	<0.1	<0.1
Energy	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Mobile	3.8	18.9	43.4	0.2	12.9	3.5
Total Project Emissions	**4.3**	**19.0**	**43.4**	**0.2**	**12.9**	**3.5**
SCAQMD Thresholds	**55.0**	**55.0**	**550.0**	**150.0**	**150.0**	**55.0**
Exceed SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2019).

CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gas
SCAQMD = South Coast Air Quality Management District
SO_x = sulfur oxides

The 2016 EIR concluded that operation of the Approved Project would not violate any air quality standard or substantially contribute to an existing or projected air quality violation. As shown in Table B, project-related increases of all criteria pollutants would not exceed the corresponding SCAQMD daily emission thresholds for any criteria pollutants. The Modified Project would result in lower peak daily emissions of ROGs and CO than the Approved Project. However, emissions of NO_X, PM_{10}, and $PM_{2.5}$ would be slightly higher[1] than with the Approved Project, but would remain below SCAQMD daily emission thresholds and would not contribute to new significant operation-related air quality impacts that were not identified in the 2016 EIR. In addition, the Modified Project would not result in a cumulatively considerable increase in emissions due to operation-related emissions.

Consistency with Air Quality Plans

The AQMP is based on regional growth projections developed by the Southern California Association of Governments (SCAG). The Modified Project is consistent with the zoning designation for the project site and its surrounding area, which is consistent with the City's *General Plan*. The City's *General Plan* is consistent with SCAG's 2008 *Regional Comprehensive Plan*[2] guidelines and the SCAQMD's 2016 AQMP. Pursuant to the methodology provided in Chapter 12 of SCAQMD's 1993 *CEQA Air Quality Handbook*, consistency with the 2016 AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation, and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented below:

1. The Modified Project would result in short-term construction and long-term pollutant emissions that are less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated above; therefore, the Modified Project would not result in an increase in the frequency or severity of any air quality standards violation and will not cause a new air quality standard violation.

2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities. Because the Modified Project would not require an amendment to the City's General Plan or the Amended Specific Plan and does not meet the definition of a "significant project," as defined in the *CEQA Air Quality Handbook*, the Modified Project would be consistent with the growth assumptions in the South Coast Air Basin 2016 AQMP.

Based on the discussion and the consistency analysis presented above, the Modified Project is consistent with the City's General Plan and the regional AQMP.

Impacts to Sensitive Receptors

The sensitive land uses within the vicinity of the Modified Project include the existing Belmont Shores Children's Center (Preschool/Child Care) facility located within 25 feet (ft) of the northern boundary of the project site, residences approximately 80 ft to the west, and residences across East

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[1] The default vehicle fleet mix has changed in the newer version of CalEEMod model (v.2016.3.2) compared to the older version (v.2013.2.2) reported in the Approved Project. As a result, the NO_X, PM_{10}, and $PM_{2.5}$ emissions would increase slightly (between 1 to 2 lbs/day) for the mobile sources.

[2] Southern California Association of Governments (SCAG). 2008. Regional Comprehensive Plan. Website: http://www.scag.ca.gov/NewsAndMedia/Pages/RegionalComprehensivePlan.aspx (accessed November 2019).

Ocean Boulevard approximately 100 ft to the northeast of the project site. Table C shows that the localized construction emissions would not exceed the LSTs that apply to the closest receptor locations on the project site. Therefore, the Modified Project would not contribute to new significant construction-related air quality impacts that were not identified in the 2016 EIR.

Table C: Construction Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	40	21	9	6
LST Thresholds	**123**	**1,530**	**14**	**8**
Exceed LST Thresholds?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2019).
Note: Source Receptor Area – South Coastal Los Angeles County, 5 acres, receptors at 25 meters
CO = carbon monoxide
lbs/day = pounds per day
LST = local significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

For a worst-case scenario assessment of operational localized impacts, the emissions shown in Table D, below, include all on-site project-related area sources and the project-related regional mobile sources, which are estimated at 5 percent of the total project-related vehicle traffic that will occur on-site. The closest sensitive receptors to the various construction phases are located within the shortest distance allowed in the SCAQMD's *Final Localized Significance Threshold Methodology* guidelines[1] (25 meters [82 ft]) and, therefore, LST values for 25 m were used.

Table D: Long-Term Operational Localized Impacts Analysis

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	1	2	<1	<1
LST Thresholds	**123**	**1,530**	**4**	**2**
Exceed LST Thresholds?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2019).
Note: Source Receptor Area – South Coastal Los Angeles County, 5 acres, receptors at 25 meters, on-site traffic 5 percent of total.
CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance thresholds
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

The 2016 EIR concluded that the localized emissions from operational activities would be less than significant. Table C shows that the localized operational emissions from the Modified Project would not exceed the LSTs; therefore, the existing Belmont Shores Children's Center (Preschool/Child Care) facility, which is located approximately 25 ft (7.6 m) to the west of the project site would not experience localized effects associated with the project. As such, the Modified Project would not

1 SCAQMD. 2008. *Final Localized Significance Threshold Methodology,* June 2003, Revised July 2008. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2 (accessed November 2019).

contribute to new significant construction-related air quality impacts that were not identified in the 2016 EIR.

CO Hot Spot Analysis

Vehicular trips associated with the Modified Project would contribute to traffic at intersections and along roadway segments in the vicinity of the project site. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the Modified Project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions.

The 2016 EIR concluded that potential impacts related to localized mobile-source CO emissions would be less than significant based on the average daily trips anticipated at build out of the Approved Project. As shown in the Revised Traffic Analysis (LSA 2019) prepared for the Modified Project, the Modified Project would result in 900 weekend peak-hour trips, similar to the Approved Project. Therefore, the impact of the Modified Project to vehicle speeds and vehicular congestion at all intersections surrounding the project site would stay the same in comparison to the Approved Project.

Given the extremely low level of CO concentrations in the project area and the lack of traffic impacts at any surrounding intersections, project-related vehicles are not expected to contribute significantly to CO concentrations exceeding the State or federal CO standards. Because no CO hot spot would occur, there would be no project-related impacts on CO concentrations associated with implementation of the Modified Project.

Findings Related to Air Quality

No New Significant Effects Requiring Major EIR Revisions

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 EIR. The Modified Project would not result in new significant environmental impacts related to air quality, and there would not be a substantial increase in the severity of impacts described in the 2016 EIR.

No Substantial Change in Circumstances Requiring Major Revisions to the 2016 EIR

The project site and surrounding area have not been further developed or altered since the 2016 EIR was prepared. There is no information in the record or otherwise available that indicates that there are substantial changes in circumstances pertaining to air quality that would require major changes to the 2016 EIR.

No New Information Showing Greater Significant Effects than in the 2016 EIR

This report has reviewed all available relevant information to determine whether there is new information that was not available at the time the 2016 EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact to air quality requiring major revisions to the 2016 EIR.

No New Information Showing Ability to Reduce Significant Effects in the 2016 EIR

There are no alternatives to the project or additional mitigation measures that would substantially reduce one or more significant impacts pertaining to air quality identified and considered in the 2016 EIR.

Standard Conditions and Regulatory Compliance Measures

The following standard conditions pertaining to air quality were identified in the 2016 EIR for the Approved Project and are applicable to the Modified Project.

Standard Conditions

Construction Impacts. Applicable dust suppression techniques from SCAQMD's *CEQA Air Quality Handbook* and Rule 403 measures are summarized below. Implementation of these dust suppression techniques would reduce fugitive dust generation. Compliance with these rules would reduce impacts from fugitive dust on nearby sensitive receptors.

Standard Condition 4.2.1 Construction Emissions. The proposed project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. The South Coast Air Quality Management District (SCAQMD) Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rules 403 and 402 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the particulate matter less than 10 microns in diameter [PM_{10}] component).

Standard Condition 4.2.2 Applicable Rules 403 and 402 Measures. The project construction contractor shall develop and implement dust-control methods that shall achieve this control level in a SCAQMD Rule 403 dust control plan, designate personnel to monitor the dust control program, and order increased watering, as necessary, to ensure a 55 percent control level. Those duties shall include holiday and weekend periods when work may not be in progress. Additional control measures to reduce fugitive dust shall include, but are not limited to, the following:

- Apply water twice daily, or nontoxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces or as needed to areas where soil is disturbed.

- Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.

- During earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering or other dust-preventive measures using the following procedures:

    - All material excavated shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day.

    - All earthmoving or excavation activities shall cease during periods of high winds (i.e., winds greater than 20 miles per hour [mph] averaged over 1 hour).

    - All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.

- The area disturbed by earthmoving or excavation operations shall be minimized at all times.

- After earthmoving or excavation operations, fugitive dust emissions shall be controlled using the following measures:

    - Portions of the construction area to remain inactive longer than a period of 3 months shall be revegetated and watered until cover is grown.

    - All active portions of the construction site shall be watered to prevent excessive amounts of dust.

- At all times, fugitive dust emissions shall be controlled using the following procedures:

    - On-site vehicle speed shall be limited to 15 mph.

    - Road improvements shall be paved as soon as feasible, watered periodically, or chemically stabilized.

- At all times during the construction phase, ozone precursor emissions from mobile equipment shall be controlled using the following procedures:

    - Equipment engines shall be maintained in good condition and in proper tune according to manufacturers' specifications.

  - On-site mobile equipment shall not be left idling for a period longer than 60 seconds.

- Outdoor storage piles of construction materials shall be kept covered, watered, or otherwise chemically stabilized with a chemical wetting agent to minimize fugitive dust emissions and wind erosion.

GREENHOUSE GASES

A brief summary of the greenhouse gas (GHG) emissions from the 2016 EIR is provided in the section below.

2016 EIR

Generate Greenhouse Gas Emissions

The 2016 EIR concluded that the Approved Project would result in 2,900 metric tons of carbon dioxide equivalent (MT of CO_2e) per year during the operational phase. In comparing the Approved Project to the SCAQMD's tiered draft interim GHG significance criteria, emissions would be below the screening threshold of 3,000 MT of CO_2e per year for the Approved Project and would be considered to have a less than significant impact related to GHG emissions. No mitigation was required.

Conflict with an Applicable GHG Reduction Plan, Policy, or Regulation

The GHG emissions reduction goals in the California Air Resources Board's (CARB) *California's 2017 Climate Change Scoping Plan*[1] are scoped to manage total statewide GHG emissions of approximately 496.95 million MT of CO_2e per year. The Approved Project was estimated to produce approximately 2,900 MT of CO_2e per year over existing conditions, representing approximately 0.001 MT of CO_2e per year of the City's reduction goals. Therefore, the Approved Project was not considered to result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals under the City's *Sustainable City Action Plan*[2], CARB's *California's 2017 Climate Change Scoping Plan*, Assembly Bill (AB) 32, Senate Bill (SB) 32, or other State regulations. Therefore, the Approved Project was determined to have a less than significant impact related to potential conflicts with regulations outlined in the City's *Sustainable City Action Plan* and GHG emissions reduction goals. No mitigation was required.

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1 California Air Resources Board (CARB). 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf?_ga=2.83321494.1464349424.1513296974-446607795.1484971874 (accessed November 2019).

2 City of Long Beach. Sustainable Long Beach. *Sustainable City Action Plan*. Website: http://www.longbeach.gov/globalassets/sustainability/media-library/documents/nature-initiatives/action-plan/scap-final (accessed November 2019).

Analysis of the Modified Project

Generate Greenhouse Gas Emissions

During construction of the Modified Project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

Construction activities produce combustion GHG emissions from various sources (construction of pool area improvements and motor vehicle transport of the construction crew). The tentative project construction schedule for the Modified Project is based on a probable start date of May 2021 (after asphalt demolition of the existing parking lot) with a planned completion date of October 2022. The project site is mostly flat and ready for site preparation and construction. Table E lists the annual CO_2e emissions for each of the construction phases based on the results from CalEEMod.

Table E: Modified Project Construction GHG Emissions

Construction Phase		Total Regional Pollutant Emissions (MT/yr)			
		CO_2	CH_4	N_2O	CO_2e
2021	Site Preparation	17.6	<0.01	0	17.7
	Grading	67.1	0.0	0	67.4
	Building Construction	314.0	0.0	0	315.1
2022	Building Construction	342.9	0.1	0	344.2
	Paving	21.4	<0.01	0	21.6
	Architectural Coating	4.5	<0.01	0	4.5
Total Construction Emissions		**767.5**	**0.1**	**0**	**770.5**
Amortized over 30 years		**25.6**	**<0.01**	**0**	**25.7**

Source: Compiled by LSA (November 2019).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Long-term operation of the Modified Project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. The majority of energy consumption (and associated generation of GHG emissions) would occur during the project's operation (as opposed to during its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings and less than 20 percent of energy is consumed during construction.[1] Mobile-source emissions of GHGs would include project-generated vehicle trips associated with the recreational pool employees and patrons vehicle trips. Area-source emissions would be associated with activities including landscaping and maintenance of the Modified Project, natural gas for pool heating, and other sources. Increases in stationary-source

[1] United States Department of Energy. 2015. An Assessment of Energy Technologies and Research Opportunities. Quadrennial Technology Review. Chapter 5: Increasing Efficiency of Building Systems and Technologies. Website: https://www.energy.gov/sites/prod/files/2017/03/f34/qtr-2015-chapter5.pdf (accessed November 2019.)

emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the Modified Project.

Based on trip generation factors provided in the Revised Traffic Analysis (LSA 2019) prepared for the Modified Project, the trip generation rate would not change in the Modified Project from that in the Approved Project. Similar to the air quality emissions modeling, the GHG modeling incorporates project design features in accordance with the 2020 California Green Building Standard Codes such as the use of low-flow water fixtures and water-efficient irrigation systems.

The GHG emission estimates presented in Table F, below, show the emissions associated with the level of development envisioned by the Modified Project at project opening in comparison to the GHG emissions estimates for the Approved Project, as reported in the 2016 EIR. Area sources include consumer products and landscaping. Energy sources include natural gas consumption for pool heating. As shown in Table F, the Modified Project is estimated to result in GHG emissions of approximately 2,670 MT of CO_2e per year.

Table F: Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/yr)					
	Bio- CO_2	**NBio- CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Total Approved Project Emissions						**2,900**
Modified Project Construction Emissions						
Construction emissions amortized over 30 years	0	25.6	25.6	<0.1	0	25.7
Modified Project Operational Emissions						
Area Sources	0	<0.1	<0.1	0	0	<0.1
Energy Sources	0	56.2	56.2	<0.1	<0.1	56.4
Mobile Sources	0	2,367.6	2,367.6	0.1	0	2,370.6
Waste Sources	48.9	0	48.9	2.9	0	121.1
Water Usage	0.6	10.1	10.7	0.1	<0.1	12.8
Total Modified Project Emissions	**49.5**	**2,459.4**	**2,508.9**	**3.1**	**0**	**2,586.7**

Source: Compiled by LSA (November 2019).
Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.
Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide
NBio-CO_2 = Non-biologically generated CO_2

By comparison, the 2016 EIR estimated the GHG emissions associated with the Approved Project to be 2,900 MT of CO_2e per year. The GHG emission estimates presented in Table F show that the Modified Project would generate approximately 2,586.7 MT of CO_2e per year, less than what was estimated for the Approved Project. Therefore, the Modified Project would generate fewer GHG emissions than the Approved Project and would not impede or interfere with achieving the State's emission reduction objectives in CARB's *California's 2017 Climate Change Scoping Plan* and the City's working draft *Climate Action and Adaptation Plan* (CAAP). Therefore, the Modified Project's impacts related to GHG emissions would remain less than significant, and no mitigation is required.

Conflict with an Applicable GHG Reduction Plan, Policy, or Regulation

The City has released a working draft of the CAAP to manage total citywide GHG emissions of approximately 3.1 million MT of CO_2e per year. Based on the City's population growth estimates, the 2030 target emissions level is 2.1 million MT of CO_2e per year, and will require GHG reductions of approximately 980,000 MT of CO_2e to achieve this target. As indicated above, the Modified Project would generate fewer GHG emissions than the Approved Project and would not impede or interfere with achieving the State's emission reduction objectives in CARB's *California's 2017 Climate Change Scoping Plan* and the City's working draft CAAP. Therefore, the Modified Project's impacts related to conflicts with GHG reduction plans, policies, and regulations would remain less than significant, and no mitigation is required.

Cumulative Impacts

Similar to air pollution, GHG emissions are inherently a cumulative type of impact measured across a region. The discussion above includes an analysis of the Modified Project's contribution to cumulative GHG emissions. The Modified Project would be consistent with the statewide targets and applicable regional air quality standards of significance. As stated above, the Modified Project's estimated GHG emissions would be less than the GHG emissions estimated for the Approved Project. The Approved Project demonstrated compliance with the reductions target established by the CARB to satisfy compliance with the mandates of AB 32 and SB 32. The Modified Project would generate fewer GHG emissions; as such, the Modified Project would also be in compliance with CARB's *California's 2017 Climate Change Scoping Plan* and the City's *Sustainable City Action Plan*. Because the Modified Project is consistent with the GHG emissions reduction target from CARB and the City, and because its impacts alone would not cause or significantly contribute to global climate change, project-related GHG emissions would not be considered cumulatively considerable. Therefore, the Modified Project would not result in a new or worsening GHG impact. Therefore, the Modified Project would not have a cumulatively considerable increase in emissions, and the Modified Project's cumulative GHG emissions impacts would remain less than significant.

Findings Related to Greenhouse Gases

No New Significant Effects Requiring Major Revisions to the 2016 EIR

Based on the foregoing analysis and information, there is no evidence that the Modified Project requires a major change to the 2016 EIR. The Modified Project would not result in new significant environmental impacts related to GHG emissions, and there would not be a substantial increase in the severity of impacts described in the 2016 EIR.

No Substantial Change in Circumstances Requiring Major Revisions to the 2016 EIR

The project site and surrounding area have not been further developed or altered since the 2016 EIR was prepared. There is no information in the record or otherwise available that indicates that there are substantial changes in circumstances pertaining to GHG emissions that would require major changes to the 2016 EIR.

No New Information Showing Greater Significant Effects than in the 2016 EIR

This analysis has analyzed all available relevant information to determine whether there is new information that was not available at the time the 2016 EIR was certified, indicating that a new significant effect not reported in that document may occur. Based on the information and analyses above, there is no substantial new information indicating that there would be a new significant impact to GHG emissions requiring major revisions to the 2016 EIR.

No New Information Showing Ability to Reduce Significant Effects in 2016 EIR

There are no alternatives to the project or additional mitigation measures that would substantially reduce one or more significant impacts pertaining to GHG emissions identified and considered in the 2016 EIR.

Attachment: CalEEMod Output Worksheets

Belmont Pool

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.83	Acre	4.83	210,394.80	0
Recreational Swimming Pool	26.78	1000sqft	0.61	26,779.00	0
Health Club	15.48	1000sqft	0.36	15,480.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Facotr is based on SCE 2020 forecast in the City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Project area remains 5.80 acres.

Construction Phase - Estimated project completion October 2022.

Grading - Project grading projected to remove 8,500 net Cubic Yards of material.

Energy Use -

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Vehicle Trips - a

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	PhaseEndDate	2/9/2021	10/7/2022
tblConstructionPhase	PhaseEndDate	12/15/2020	8/12/2022
tblConstructionPhase	PhaseEndDate	1/28/2020	6/11/2021
tblConstructionPhase	PhaseEndDate	1/12/2021	9/9/2022
tblConstructionPhase	PhaseEndDate	12/31/2019	5/14/2021
tblConstructionPhase	PhaseStartDate	1/13/2021	9/10/2022
tblConstructionPhase	PhaseStartDate	1/29/2020	6/12/2021
tblConstructionPhase	PhaseStartDate	1/1/2020	5/15/2021
tblConstructionPhase	PhaseStartDate	12/16/2020	8/13/2022
tblConstructionPhase	PhaseStartDate	12/18/2019	5/3/2021
tblGrading	MaterialExported	0.00	8,500.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblSequestration	NumberOfNewTrees	0.00	54.00
tblTripsAndVMT	HaulingTripNumber	1,063.00	1,062.00
tblVehicleTrips	ST_TR	9.10	47.50
tblVehicleTrips	SU_TR	13.60	61.00
tblVehicleTrips	WD_TR	33.82	75.10

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					
2021	3.9712	40.5510	21.7636	0.0711	18.2675	2.0459	20.3134	9.9840	1.8823	11.8663	0.0000	7,350.6558	7,350.6558	1.2393	0.0000	7,381.6379
2022	10.3962	19.5995	20.6575	0.0476	1.4472	0.8245	2.2718	0.3898	0.7757	1.1655	0.0000	4,687.7786	4,687.7786	0.7178	0.0000	4,705.4868
Maximum	**10.3962**	**40.5510**	**21.7636**	**0.0711**	**18.2675**	**2.0459**	**20.3134**	**9.9840**	**1.8823**	**11.8663**	**0.0000**	**7,350.6558**	**7,350.6558**	**1.2393**	**0.0000**	**7,381.6379**

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					
2021	3.9712	40.5510	21.7636	0.0711	7.2470	2.0459	9.2930	3.9263	1.8823	5.8086	0.0000	7,350.6558	7,350.6558	1.2393	0.0000	7,381.6379
2022	10.3962	19.5995	20.6575	0.0476	1.4472	0.8245	2.2718	0.3898	0.7757	1.1655	0.0000	4,687.7786	4,687.7786	0.7178	0.0000	4,705.4868
Maximum	**10.3962**	**40.5510**	**21.7636**	**0.0711**	**7.2470**	**2.0459**	**9.2930**	**3.9263**	**1.8823**	**5.8086**	**0.0000**	**7,350.6558**	**7,350.6558**	**1.2393**	**0.0000**	**7,381.6379**

	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**	**55.90**	**0.00**	**48.79**	**58.39**	**0.00**	**46.48**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4368	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
Mobile	3.6202	18.9043	41.1850	0.1504	12.7333	0.1231	12.8564	3.4069	0.1149	3.5218		15,332.6371	15,332.6371	0.7920		15,352.4363
Total	**4.0653**	**18.9796**	**41.2531**	**0.1509**	**12.7333**	**0.1289**	**12.8622**	**3.4069**	**0.1206**	**3.5276**		**15,422.9578**	**15,422.9578**	**0.7937**	**1.6600e-003**	**15,443.2944**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4368	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
Mobile	3.6202	18.9043	41.1850	0.1504	12.7333	0.1231	12.8564	3.4069	0.1149	3.5218		15,332.6371	15,332.6371	0.7920		15,352.4363
Total	**4.0653**	**18.9796**	**41.2531**	**0.1509**	**12.7333**	**0.1289**	**12.8622**	**3.4069**	**0.1206**	**3.5276**		**15,422.9578**	**15,422.9578**	**0.7937**	**1.6600e-003**	**15,443.2944**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/3/2021	5/14/2021	5	10	
2	Grading	Grading	5/15/2021	6/11/2021	5	20	
3	Building Construction	Building Construction	6/12/2021	8/12/2022	5	305	
4	Paving	Paving	8/13/2022	9/9/2022	5	20	
5	Architectural Coating	Architectural Coating	9/10/2022	10/7/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.83

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 23,220; Non-Residential Outdoor: 7,740; Striped Parking Area: 12,624 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,062.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	106.00	41.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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	0.0830	0.0539	0.6094	1.8700e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		186.4202	186.4202	5.0000e-003		186.5451
Total	**0.0830**	**0.0539**	**0.6094**	**1.8700e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**186.4202**	**186.4202**	**5.0000e-003**		**186.5451**

3.2 Site Preparation - 2021

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					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**7.0458**	**2.0445**	**9.0903**	**3.8730**	**1.8809**	**5.7539**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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	0.0830	0.0539	0.6094	1.8700e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		186.4202	186.4202	5.0000e-003		186.5451
Total	**0.0830**	**0.0539**	**0.6094**	**1.8700e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**186.4202**	**186.4202**	**5.0000e-003**		**186.5451**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6004	0.0000	6.6004	3.3748	0.0000	3.3748			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6004**	**1.1599**	**7.7603**	**3.3748**	**1.0671**	**4.4419**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

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	0.3963	13.5934	3.0527	0.0399	0.9279	0.0423	0.9701	0.2543	0.0404	0.2947		4,323.3772	4,323.3772	0.3063		4,331.0341
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	0.0692	0.0450	0.5078	1.5600e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1400e-003	0.0456		155.3502	155.3502	4.1600e-003		155.4543
Total	**0.4655**	**13.6384**	**3.5605**	**0.0415**	**1.0955**	**0.0435**	**1.1390**	**0.2988**	**0.0416**	**0.3403**		**4,478.7273**	**4,478.7273**	**0.3104**		**4,486.4884**

3.3 Grading - 2021

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					2.5742	0.0000	2.5742	1.3162	0.0000	1.3162			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.5742**	**1.1599**	**3.7341**	**1.3162**	**1.0671**	**2.3833**	**0.0000**	**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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	0.3963	13.5934	3.0527	0.0399	0.9279	0.0423	0.9701	0.2543	0.0404	0.2947		4,323.377 2	4,323.377 2	0.3063		4,331.034 1
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	0.0692	0.0450	0.5078	1.5600e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1400e-003	0.0456		155.3502	155.3502	4.1600e-003		155.4543
Total	**0.4655**	**13.6384**	**3.5605**	**0.0415**	**1.0955**	**0.0435**	**1.1390**	**0.2988**	**0.0416**	**0.3403**		**4,478.727 3**	**4,478.727 3**	**0.3104**		**4,486.488 4**

3.4 Building Construction - 2021

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.1201	3.8980	1.0384	0.0102	0.2624	8.1300e-003	0.2705	0.0755	7.7700e-003	0.0833		1,084.6558	1,084.6558	0.0726		1,086.4701
Worker	0.4889	0.3177	3.5885	0.0110	1.1848	8.7200e-003	1.1936	0.3142	8.0300e-003	0.3223		1,097.8080	1,097.8080	0.0294		1,098.5435
Total	**0.6090**	**4.2157**	**4.6269**	**0.0212**	**1.4472**	**0.0169**	**1.4641**	**0.3898**	**0.0158**	**0.4056**		**2,182.4637**	**2,182.4637**	**0.1020**		**2,185.0136**

3.4 Building Construction - 2021

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.1201	3.8980	1.0384	0.0102	0.2624	8.1300e-003	0.2705	0.0755	7.7700e-003	0.0833		1,084.6558	1,084.6558	0.0726		1,086.4701
Worker	0.4889	0.3177	3.5885	0.0110	1.1848	8.7200e-003	1.1936	0.3142	8.0300e-003	0.3223		1,097.8080	1,097.8080	0.0294		1,098.5435
Total	**0.6090**	**4.2157**	**4.6269**	**0.0212**	**1.4472**	**0.0169**	**1.4641**	**0.3898**	**0.0158**	**0.4056**		**2,182.4637**	**2,182.4637**	**0.1020**		**2,185.0136**

3.4 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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	0.1127	3.6970	0.9819	0.0101	0.2624	7.0500e-003	0.2695	0.0755	6.7400e-003	0.0823		1,074.9963	1,074.9963	0.0698		1,076.7417
Worker	0.4598	0.2869	3.3122	0.0106	1.1848	8.4700e-003	1.1933	0.3142	7.8000e-003	0.3220		1,058.4487	1,058.4487	0.0266		1,059.1129
Total	**0.5724**	**3.9839**	**4.2941**	**0.0207**	**1.4472**	**0.0155**	**1.4628**	**0.3898**	**0.0145**	**0.4043**		**2,133.4450**	**2,133.4450**	**0.0964**		**2,135.8546**

3.4 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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	0.1127	3.6970	0.9819	0.0101	0.2624	7.0500e-003	0.2695	0.0755	6.7400e-003	0.0823		1,074.9963	1,074.9963	0.0698		1,076.7417
Worker	0.4598	0.2869	3.3122	0.0106	1.1848	8.4700e-003	1.1933	0.3142	7.8000e-003	0.3220		1,058.4487	1,058.4487	0.0266		1,059.1129
Total	**0.5724**	**3.9839**	**4.2941**	**0.0207**	**1.4472**	**0.0155**	**1.4628**	**0.3898**	**0.0145**	**0.4043**		**2,133.4450**	**2,133.4450**	**0.0964**		**2,135.8546**

3.5 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

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	0.0651	0.0406	0.4687	1.5000e-003	0.1677	1.2000e-003	0.1689	0.0445	1.1000e-003	0.0456		149.7805	149.7805	3.7600e-003		149.8745
Total	**0.0651**	**0.0406**	**0.4687**	**1.5000e-003**	**0.1677**	**1.2000e-003**	**0.1689**	**0.0445**	**1.1000e-003**	**0.0456**		**149.7805**	**149.7805**	**3.7600e-003**		**149.8745**

3.5 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

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	0.0651	0.0406	0.4687	1.5000e-003	0.1677	1.2000e-003	0.1689	0.0445	1.1000e-003	0.0456		149.7805	149.7805	3.7600e-003		149.8745
Total	**0.0651**	**0.0406**	**0.4687**	**1.5000e-003**	**0.1677**	**1.2000e-003**	**0.1689**	**0.0445**	**1.1000e-003**	**0.0456**		**149.7805**	**149.7805**	**3.7600e-003**		**149.8745**

3.6 Architectural Coating - 2022

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	10.1006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**10.3051**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0911	0.0568	0.6562	2.1000e-003	0.2347	1.6800e-003	0.2364	0.0623	1.5500e-003	0.0638		209.6927	209.6927	5.2600e-003		209.8243
Total	**0.0911**	**0.0568**	**0.6562**	**2.1000e-003**	**0.2347**	**1.6800e-003**	**0.2364**	**0.0623**	**1.5500e-003**	**0.0638**		**209.6927**	**209.6927**	**5.2600e-003**		**209.8243**

3.6 Architectural Coating - 2022

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	10.1006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**10.3051**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0911	0.0568	0.6562	2.1000e-003	0.2347	1.6800e-003	0.2364	0.0623	1.5500e-003	0.0638		209.6927	209.6927	5.2600e-003		209.8243
Total	**0.0911**	**0.0568**	**0.6562**	**2.1000e-003**	**0.2347**	**1.6800e-003**	**0.2364**	**0.0623**	**1.5500e-003**	**0.0638**		**209.6927**	**209.6927**	**5.2600e-003**		**209.8243**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	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
	lb/day										lb/day					
Mitigated	3.6202	18.9043	41.1850	0.1504	12.7333	0.1231	12.8564	3.4069	0.1149	3.5218		15,332.6371	15,332.6371	0.7920		15,352.4363
Unmitigated	3.6202	18.9043	41.1850	0.1504	12.7333	0.1231	12.8564	3.4069	0.1149	3.5218		15,332.6371	15,332.6371	0.7920		15,352.4363

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	509.76	323.07	413.78	1,003,887	1,003,887
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	2,011.10	1,272.00	1633.52	4,509,537	4,509,537
Total	2,520.86	1,595.07	2,047.30	5,513,424	5,513,424

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
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Health Club	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Other Non-Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Recreational Swimming Pool	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

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	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
NaturalGas Unmitigated	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471

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					
Health Club	767.638	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
Other Non-Asphalt Surfaces	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
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.2800e-003**	**0.0753**	**0.0632**	**4.5000e-004**		**5.7200e-003**	**5.7200e-003**		**5.7200e-003**	**5.7200e-003**		**90.3104**	**90.3104**	**1.7300e-003**	**1.6600e-003**	**90.8471**

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					
Health Club	0.767638	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
Other Non-Asphalt Surfaces	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
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.2800e-003**	**0.0753**	**0.0632**	**4.5000e-004**		**5.7200e-003**	**5.7200e-003**		**5.7200e-003**	**5.7200e-003**		**90.3104**	**90.3104**	**1.7300e-003**	**1.6600e-003**	**90.8471**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4368	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Unmitigated	0.4368	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

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	0.0554					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3810					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	**0.4368**	**4.0000e-005**	**4.8200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0103**	**0.0103**	**3.0000e-005**		**0.0110**

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	0.0554					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3810					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	**0.4368**	**4.0000e-005**	**4.8200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0103**	**0.0103**	**3.0000e-005**		**0.0110**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Belmont Pool

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.83	Acre	4.83	210,394.80	0
Recreational Swimming Pool	26.78	1000sqft	0.61	26,779.00	0
Health Club	15.48	1000sqft	0.36	15,480.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Facotr is based on SCE 2020 forecast in the City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Project area remains 5.80 acres.

Construction Phase - Estimated project completion October 2022.

Grading - Project grading projected to remove 8,500 net Cubic Yards of material.

Energy Use -

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Vehicle Trips - a

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	PhaseEndDate	2/9/2021	10/7/2022
tblConstructionPhase	PhaseEndDate	12/15/2020	8/12/2022
tblConstructionPhase	PhaseEndDate	1/28/2020	6/11/2021
tblConstructionPhase	PhaseEndDate	1/12/2021	9/9/2022
tblConstructionPhase	PhaseEndDate	12/31/2019	5/14/2021
tblConstructionPhase	PhaseStartDate	1/13/2021	9/10/2022
tblConstructionPhase	PhaseStartDate	1/29/2020	6/12/2021
tblConstructionPhase	PhaseStartDate	1/1/2020	5/15/2021
tblConstructionPhase	PhaseStartDate	12/16/2020	8/13/2022
tblConstructionPhase	PhaseStartDate	12/18/2019	5/3/2021
tblGrading	MaterialExported	0.00	8,500.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblSequestration	NumberOfNewTrees	0.00	54.00
tblTripsAndVMT	HaulingTripNumber	1,063.00	1,062.00
tblVehicleTrips	ST_TR	9.10	47.50
tblVehicleTrips	SU_TR	13.60	61.00
tblVehicleTrips	WD_TR	33.82	75.10

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					
2021	3.9642	40.5464	21.8324	0.0720	18.2675	2.0459	20.3134	9.9840	1.8823	11.8663	0.0000	7,442.8941	7,442.8941	1.2272	0.0000	7,473.5735
2022	10.3883	19.5896	20.9329	0.0487	1.4472	0.8243	2.2715	0.3898	0.7755	1.1653	0.0000	4,793.3634	4,793.3634	0.7180	0.0000	4,811.0014
Maximum	**10.3883**	**40.5464**	**21.8324**	**0.0720**	**18.2675**	**2.0459**	**20.3134**	**9.9840**	**1.8823**	**11.8663**	**0.0000**	**7,442.8941**	**7,442.8941**	**1.2272**	**0.0000**	**7,473.5735**

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					
2021	3.9642	40.5464	21.8324	0.0720	7.2470	2.0459	9.2930	3.9263	1.8823	5.8086	0.0000	7,442.8941	7,442.8941	1.2272	0.0000	7,473.5735
2022	10.3883	19.5896	20.9329	0.0487	1.4472	0.8243	2.2715	0.3898	0.7755	1.1653	0.0000	4,793.3634	4,793.3634	0.7180	0.0000	4,811.0014
Maximum	**10.3883**	**40.5464**	**21.8324**	**0.0720**	**7.2470**	**2.0459**	**9.2930**	**3.9263**	**1.8823**	**5.8086**	**0.0000**	**7,442.8941**	**7,442.8941**	**1.2272**	**0.0000**	**7,473.5735**

	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**	**55.90**	**0.00**	**48.80**	**58.39**	**0.00**	**46.48**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4368	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
Mobile	3.8219	18.6767	43.3728	0.1591	12.7333	0.1222	12.8555	3.4069	0.1140	3.5209		16,207.0117	16,207.0117	0.7848		16,226.6312
Total	**4.2670**	**18.7520**	**43.4408**	**0.1595**	**12.7333**	**0.1279**	**12.8612**	**3.4069**	**0.1197**	**3.5267**		**16,297.3324**	**16,297.3324**	**0.7865**	**1.6600e-003**	**16,317.4893**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4368	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
Mobile	3.8219	18.6767	43.3728	0.1591	12.7333	0.1222	12.8555	3.4069	0.1140	3.5209		16,207.0117	16,207.0117	0.7848		16,226.6312
Total	**4.2670**	**18.7520**	**43.4408**	**0.1595**	**12.7333**	**0.1279**	**12.8612**	**3.4069**	**0.1197**	**3.5267**		**16,297.3324**	**16,297.3324**	**0.7865**	**1.6600e-003**	**16,317.4893**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/3/2021	5/14/2021	5	10	
2	Grading	Grading	5/15/2021	6/11/2021	5	20	
3	Building Construction	Building Construction	6/12/2021	8/12/2022	5	305	
4	Paving	Paving	8/13/2022	9/9/2022	5	20	
5	Architectural Coating	Architectural Coating	9/10/2022	10/7/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.83

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 23,220; Non-Residential Outdoor: 7,740; Striped Parking Area: 12,624 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,062.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	106.00	41.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

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	0.0760	0.0493	0.6781	2.0000e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		199.3326	199.3326	5.3600e-003		199.4666
Total	**0.0760**	**0.0493**	**0.6781**	**2.0000e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**199.3326**	**199.3326**	**5.3600e-003**		**199.4666**

3.2 Site Preparation - 2021

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					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**7.0458**	**2.0445**	**9.0903**	**3.8730**	**1.8809**	**5.7539**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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	0.0760	0.0493	0.6781	2.0000e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		199.3326	199.3326	5.3600e-003		199.4666
Total	**0.0760**	**0.0493**	**0.6781**	**2.0000e-003**	**0.2012**	**1.4800e-003**	**0.2027**	**0.0534**	**1.3600e-003**	**0.0547**		**199.3326**	**199.3326**	**5.3600e-003**		**199.4666**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6004	0.0000	6.6004	3.3748	0.0000	3.3748			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6004**	**1.1599**	**7.7603**	**3.3748**	**1.0671**	**4.4419**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

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	0.3853	13.4337	2.8436	0.0407	0.9279	0.0416	0.9695	0.2543	0.0398	0.2941		4,404.855 1	4,404.855 1	0.2939		4,412.201 8
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	0.0633	0.0411	0.5651	1.6700e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1400e-003	0.0456		166.1105	166.1105	4.4700e-003		166.2222
Total	**0.4486**	**13.4748**	**3.4087**	**0.0424**	**1.0955**	**0.0429**	**1.1384**	**0.2988**	**0.0410**	**0.3397**		**4,570.965 6**	**4,570.965 6**	**0.2983**		**4,578.424 0**

3.3 Grading - 2021

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					2.5742	0.0000	2.5742	1.3162	0.0000	1.3162			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.5742**	**1.1599**	**3.7341**	**1.3162**	**1.0671**	**2.3833**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

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	0.3853	13.4337	2.8436	0.0407	0.9279	0.0416	0.9695	0.2543	0.0398	0.2941		4,404.8551	4,404.8551	0.2939		4,412.2018
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	0.0633	0.0411	0.5651	1.6700e-003	0.1677	1.2300e-003	0.1689	0.0445	1.1400e-003	0.0456		166.1105	166.1105	4.4700e-003		166.2222
Total	**0.4486**	**13.4748**	**3.4087**	**0.0424**	**1.0955**	**0.0429**	**1.1384**	**0.2988**	**0.0410**	**0.3397**		**4,570.9656**	**4,570.9656**	**0.2983**		**4,578.4240**

3.4 Building Construction - 2021

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.1141	3.9104	0.9279	0.0105	0.2624	7.8800e-003	0.2703	0.0755	7.5300e-003	0.0831		1,116.9977	1,116.9977	0.0676		1,118.6869
Worker	0.4475	0.2902	3.9933	0.0118	1.1848	8.7200e-003	1.1936	0.3142	8.0300e-003	0.3223		1,173.8475	1,173.8475	0.0316		1,174.6367
Total	**0.5615**	**4.2006**	**4.9212**	**0.0222**	**1.4472**	**0.0166**	**1.4638**	**0.3898**	**0.0156**	**0.4053**		**2,290.8452**	**2,290.8452**	**0.0991**		**2,293.3236**

3.4 Building Construction - 2021

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.1141	3.9104	0.9279	0.0105	0.2624	7.8800e-003	0.2703	0.0755	7.5300e-003	0.0831		1,116.9977	1,116.9977	0.0676		1,118.6869
Worker	0.4475	0.2902	3.9933	0.0118	1.1848	8.7200e-003	1.1936	0.3142	8.0300e-003	0.3223		1,173.8475	1,173.8475	0.0316		1,174.6367
Total	**0.5615**	**4.2006**	**4.9212**	**0.0222**	**1.4472**	**0.0166**	**1.4638**	**0.3898**	**0.0156**	**0.4053**		**2,290.8452**	**2,290.8452**	**0.0991**		**2,293.3236**

3.4 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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	0.1070	3.7119	0.8770	0.0104	0.2624	6.8200e-003	0.2692	0.0755	6.5200e-003	0.0821		1,107.2424	1,107.2424	0.0651		1,108.8686
Worker	0.4197	0.2621	3.6925	0.0114	1.1848	8.4700e-003	1.1933	0.3142	7.8000e-003	0.3220		1,131.7874	1,131.7874	0.0285		1,132.5006
Total	**0.5267**	**3.9740**	**4.5695**	**0.0217**	**1.4472**	**0.0153**	**1.4625**	**0.3898**	**0.0143**	**0.4041**		**2,239.0298**	**2,239.0298**	**0.0936**		**2,241.3692**

3.4 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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	0.1070	3.7119	0.8770	0.0104	0.2624	6.8200e-003	0.2692	0.0755	6.5200e-003	0.0821		1,107.2424	1,107.2424	0.0651		1,108.8686
Worker	0.4197	0.2621	3.6925	0.0114	1.1848	8.4700e-003	1.1933	0.3142	7.8000e-003	0.3220		1,131.7874	1,131.7874	0.0285		1,132.5006
Total	**0.5267**	**3.9740**	**4.5695**	**0.0217**	**1.4472**	**0.0153**	**1.4625**	**0.3898**	**0.0143**	**0.4041**		**2,239.0298**	**2,239.0298**	**0.0936**		**2,241.3692**

3.5 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

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	0.0594	0.0371	0.5225	1.6100e-003	0.1677	1.2000e-003	0.1689	0.0445	1.1000e-003	0.0456		160.1586	160.1586	4.0400e-003		160.2595
Total	**0.0594**	**0.0371**	**0.5225**	**1.6100e-003**	**0.1677**	**1.2000e-003**	**0.1689**	**0.0445**	**1.1000e-003**	**0.0456**		**160.1586**	**160.1586**	**4.0400e-003**		**160.2595**

3.5 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1028**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

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	0.0594	0.0371	0.5225	1.6100e-003	0.1677	1.2000e-003	0.1689	0.0445	1.1000e-003	0.0456		160.1586	160.1586	4.0400e-003		160.2595
Total	**0.0594**	**0.0371**	**0.5225**	**1.6100e-003**	**0.1677**	**1.2000e-003**	**0.1689**	**0.0445**	**1.1000e-003**	**0.0456**		**160.1586**	**160.1586**	**4.0400e-003**		**160.2595**

3.6 Architectural Coating - 2022

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	10.1006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**10.3051**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0832	0.0519	0.7315	2.2500e-003	0.2347	1.6800e-003	0.2364	0.0623	1.5500e-003	0.0638		224.2220	224.2220	5.6500e-003		224.3633
Total	**0.0832**	**0.0519**	**0.7315**	**2.2500e-003**	**0.2347**	**1.6800e-003**	**0.2364**	**0.0623**	**1.5500e-003**	**0.0638**		**224.2220**	**224.2220**	**5.6500e-003**		**224.3633**

3.6 Architectural Coating - 2022

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	10.1006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**10.3051**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0832	0.0519	0.7315	2.2500e-003	0.2347	1.6800e-003	0.2364	0.0623	1.5500e-003	0.0638		224.2220	224.2220	5.6500e-003		224.3633
Total	**0.0832**	**0.0519**	**0.7315**	**2.2500e-003**	**0.2347**	**1.6800e-003**	**0.2364**	**0.0623**	**1.5500e-003**	**0.0638**		**224.2220**	**224.2220**	**5.6500e-003**		**224.3633**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	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
	lb/day										lb/day					
Mitigated	3.8219	18.6767	43.3728	0.1591	12.7333	0.1222	12.8555	3.4069	0.1140	3.5209		16,207.0117	16,207.0117	0.7848		16,226.6312
Unmitigated	3.8219	18.6767	43.3728	0.1591	12.7333	0.1222	12.8555	3.4069	0.1140	3.5209		16,207.0117	16,207.0117	0.7848		16,226.6312

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	509.76	323.07	413.78	1,003,887	1,003,887
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	2,011.10	1,272.00	1633.52	4,509,537	4,509,537
Total	2,520.86	1,595.07	2,047.30	5,513,424	5,513,424

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
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Health Club	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Other Non-Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Recreational Swimming Pool	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

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	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
NaturalGas Unmitigated	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471

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					
Health Club	767.638	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
Other Non-Asphalt Surfaces	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
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.2800e-003**	**0.0753**	**0.0632**	**4.5000e-004**		**5.7200e-003**	**5.7200e-003**		**5.7200e-003**	**5.7200e-003**		**90.3104**	**90.3104**	**1.7300e-003**	**1.6600e-003**	**90.8471**

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					
Health Club	0.767638	8.2800e-003	0.0753	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003		90.3104	90.3104	1.7300e-003	1.6600e-003	90.8471
Other Non-Asphalt Surfaces	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
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.2800e-003**	**0.0753**	**0.0632**	**4.5000e-004**		**5.7200e-003**	**5.7200e-003**		**5.7200e-003**	**5.7200e-003**		**90.3104**	**90.3104**	**1.7300e-003**	**1.6600e-003**	**90.8471**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4368	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Unmitigated	0.4368	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

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	0.0554					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3810					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	**0.4368**	**4.0000e-005**	**4.8200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0103**	**0.0103**	**3.0000e-005**		**0.0110**

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	0.0554					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3810					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	**0.4368**	**4.0000e-005**	**4.8200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0103**	**0.0103**	**3.0000e-005**		**0.0110**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Belmont Pool

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.83	Acre	4.83	210,394.80	0
Recreational Swimming Pool	26.78	1000sqft	0.61	26,779.00	0
Health Club	15.48	1000sqft	0.36	15,480.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	528.75	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Facotr is based on SCE 2020 forecast in the City's General Plan, 33% RPS, Cap and Trade, and reduction in SF6.

Land Use - Project area remains 5.80 acres.

Construction Phase - Estimated project completion October 2022.

Grading - Project grading projected to remove 8,500 net Cubic Yards of material.

Energy Use -

Stationary Sources - Emergency Generators and Fire Pumps -

Sequestration -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Vehicle Trips - a

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	PhaseEndDate	2/9/2021	10/7/2022
tblConstructionPhase	PhaseEndDate	12/15/2020	8/12/2022
tblConstructionPhase	PhaseEndDate	1/28/2020	6/11/2021
tblConstructionPhase	PhaseEndDate	1/12/2021	9/9/2022
tblConstructionPhase	PhaseEndDate	12/31/2019	5/14/2021
tblConstructionPhase	PhaseStartDate	1/13/2021	9/10/2022
tblConstructionPhase	PhaseStartDate	1/29/2020	6/12/2021
tblConstructionPhase	PhaseStartDate	1/1/2020	5/15/2021
tblConstructionPhase	PhaseStartDate	12/16/2020	8/13/2022
tblConstructionPhase	PhaseStartDate	12/18/2019	5/3/2021
tblGrading	MaterialExported	0.00	8,500.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	528.75
tblSequestration	NumberOfNewTrees	0.00	54.00
tblTripsAndVMT	HaulingTripNumber	1,063.00	1,062.00
tblVehicleTrips	ST_TR	9.10	47.50
tblVehicleTrips	SU_TR	13.60	61.00
tblVehicleTrips	WD_TR	33.82	75.10

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					
2021	0.2256	2.1641	1.8429	4.4300e-003	0.2712	0.0930	0.3641	0.1144	0.0870	0.2014	0.0000	398.6669	398.6669	0.0637	0.0000	400.2590
2022	0.2939	1.7001	1.8318	4.1300e-003	0.1177	0.0725	0.1901	0.0317	0.0681	0.0998	0.0000	368.7875	368.7875	0.0580	0.0000	370.2369
Maximum	**0.2939**	**2.1641**	**1.8429**	**4.4300e-003**	**0.2712**	**0.0930**	**0.3641**	**0.1144**	**0.0870**	**0.2014**	**0.0000**	**398.6669**	**398.6669**	**0.0637**	**0.0000**	**400.2590**

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					
2021	0.2256	2.1641	1.8429	4.4300e-003	0.1758	0.0930	0.2688	0.0635	0.0870	0.1505	0.0000	398.6667	398.6667	0.0637	0.0000	400.2588
2022	0.2939	1.7001	1.8318	4.1300e-003	0.1177	0.0725	0.1901	0.0317	0.0681	0.0998	0.0000	368.7872	368.7872	0.0580	0.0000	370.2366
Maximum	**0.2939**	**2.1641**	**1.8429**	**4.4300e-003**	**0.1758**	**0.0930**	**0.2688**	**0.0635**	**0.0870**	**0.1505**	**0.0000**	**398.6667**	**398.6667**	**0.0637**	**0.0000**	**400.2588**

	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**	**24.53**	**0.00**	**17.20**	**34.81**	**0.00**	**16.89**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
6	2-20-2021	5-19-2021	0.2639	0.2639
7	5-20-2021	8-19-2021	0.9302	0.9302
8	8-20-2021	11-19-2021	0.7928	0.7928
9	11-20-2021	2-19-2022	0.7530	0.7530
10	2-20-2022	5-19-2022	0.6944	0.6944
11	5-20-2022	8-19-2022	0.6933	0.6933
12	8-20-2022	9-30-2022	0.1813	0.1813
		Highest	0.9302	0.9302

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	0.0797	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Energy	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	56.1626	56.1626	2.5500e-003	7.4000e-004	56.4473
Mobile	0.5916	3.2239	6.9842	0.0256	2.0950	0.0205	2.1155	0.5614	0.0191	0.5805	0.0000	2,367.5847	2,367.5847	0.1191	0.0000	2,370.5619
Waste						0.0000	0.0000		0.0000	0.0000	48.8985	0.0000	48.8985	2.8898	0.0000	121.1440
Water						0.0000	0.0000		0.0000	0.0000	0.7929	11.8872	12.6802	0.0821	2.0600e-003	15.3458
Total	**0.6728**	**3.2376**	**6.9963**	**0.0257**	**2.0950**	**0.0216**	**2.1165**	**0.5614**	**0.0202**	**0.5816**	**49.6914**	**2,435.6357**	**2,485.3271**	**3.0936**	**2.8000e-003**	**2,563.5002**

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	0.0797	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Energy	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	56.1626	56.1626	2.5500e-003	7.4000e-004	56.4473
Mobile	0.5916	3.2239	6.9842	0.0256	2.0950	0.0205	2.1155	0.5614	0.0191	0.5805	0.0000	2,367.5847	2,367.5847	0.1191	0.0000	2,370.5619
Waste						0.0000	0.0000		0.0000	0.0000	48.8985	0.0000	48.8985	2.8898	0.0000	121.1440
Water						0.0000	0.0000		0.0000	0.0000	0.6344	10.0772	10.7115	0.0657	1.6500e-003	12.8467
Total	**0.6728**	**3.2376**	**6.9963**	**0.0257**	**2.0950**	**0.0216**	**2.1165**	**0.5614**	**0.0202**	**0.5816**	**49.5328**	**2,433.8256**	**2,483.3585**	**3.0772**	**2.3900e-003**	**2,561.0012**

	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**	**0.32**	**0.07**	**0.08**	**0.53**	**14.64**	**0.10**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	38.2320
Total	**38.2320**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/3/2021	5/14/2021	5	10	
2	Grading	Grading	5/15/2021	6/11/2021	5	20	
3	Building Construction	Building Construction	6/12/2021	8/12/2022	5	305	
4	Paving	Paving	8/13/2022	9/9/2022	5	20	
5	Architectural Coating	Architectural Coating	9/10/2022	10/7/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.83

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 23,220; Non-Residential Outdoor: 7,740; Striped Parking Area: 12,624 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,062.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	106.00	41.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 2021

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	3.8000e-004	2.8000e-004	3.1400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8601	0.8601	2.0000e-005	0.0000	0.8607
Total	**3.8000e-004**	**2.8000e-004**	**3.1400e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8601**	**0.8601**	**2.0000e-005**	**0.0000**	**0.8607**

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					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0352**	**0.0102**	**0.0455**	**0.0194**	**9.4000e-003**	**0.0288**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.2 Site Preparation - 2021

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	3.8000e-004	2.8000e-004	3.1400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8601	0.8601	2.0000e-005	0.0000	0.8607
Total	**3.8000e-004**	**2.8000e-004**	**3.1400e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8601**	**0.8601**	**2.0000e-005**	**0.0000**	**0.8607**

3.3 Grading - 2021

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					0.0660	0.0000	0.0660	0.0338	0.0000	0.0338	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0660**	**0.0116**	**0.0776**	**0.0338**	**0.0107**	**0.0444**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.3 Grading - 2021

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	3.9000e-003	0.1384	0.0294	4.0000e-004	9.1300e-003	4.2000e-004	9.5500e-003	2.5100e-003	4.0000e-004	2.9100e-003	0.0000	39.6497	39.6497	2.7100e-003	0.0000	39.7176
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	6.3000e-004	4.6000e-004	5.2300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4335	1.4335	4.0000e-005	0.0000	1.4345
Total	**4.5300e-003**	**0.1389**	**0.0346**	**4.2000e-004**	**0.0108**	**4.3000e-004**	**0.0112**	**2.9500e-003**	**4.1000e-004**	**3.3600e-003**	**0.0000**	**41.0832**	**41.0832**	**2.7500e-003**	**0.0000**	**41.1521**

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					0.0257	0.0000	0.0257	0.0132	0.0000	0.0132	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0257**	**0.0116**	**0.0373**	**0.0132**	**0.0107**	**0.0238**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.3 Grading - 2021

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	3.9000e-003	0.1384	0.0294	4.0000e-004	9.1300e-003	4.2000e-004	9.5500e-003	2.5100e-003	4.0000e-004	2.9100e-003	0.0000	39.6497	39.6497	2.7100e-003	0.0000	39.7176
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	6.3000e-004	4.6000e-004	5.2300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4335	1.4335	4.0000e-005	0.0000	1.4345
Total	**4.5300e-003**	**0.1389**	**0.0346**	**4.2000e-004**	**0.0108**	**4.3000e-004**	**0.0112**	**2.9500e-003**	**4.1000e-004**	**3.3600e-003**	**0.0000**	**41.0832**	**41.0832**	**2.7500e-003**	**0.0000**	**41.1521**

3.4 Building Construction - 2021

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	0.1378	1.2638	1.2017	1.9500e-003		0.0695	0.0695		0.0653	0.0653	0.0000	167.9370	167.9370	0.0405	0.0000	168.9499
Total	**0.1378**	**1.2638**	**1.2017**	**1.9500e-003**		**0.0695**	**0.0695**		**0.0653**	**0.0653**	**0.0000**	**167.9370**	**167.9370**	**0.0405**	**0.0000**	**168.9499**

3.4 Building Construction - 2021

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	8.4600e-003	0.2876	0.0713	7.5000e-004	0.0187	5.8000e-004	0.0193	5.4100e-003	5.5000e-004	5.9600e-003	0.0000	72.5726	72.5726	4.5900e-003	0.0000	72.6873
Worker	0.0320	0.0237	0.2678	8.1000e-004	0.0843	6.3000e-004	0.0850	0.0224	5.8000e-004	0.0230	0.0000	73.4425	73.4425	1.9700e-003	0.0000	73.4917
Total	**0.0405**	**0.3113**	**0.3391**	**1.5600e-003**	**0.1031**	**1.2100e-003**	**0.1043**	**0.0278**	**1.1300e-003**	**0.0289**	**0.0000**	**146.0150**	**146.0150**	**6.5600e-003**	**0.0000**	**146.1790**

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	0.1378	1.2638	1.2017	1.9500e-003		0.0695	0.0695		0.0653	0.0653	0.0000	167.9368	167.9368	0.0405	0.0000	168.9497
Total	**0.1378**	**1.2638**	**1.2017**	**1.9500e-003**		**0.0695**	**0.0695**		**0.0653**	**0.0653**	**0.0000**	**167.9368**	**167.9368**	**0.0405**	**0.0000**	**168.9497**

3.4 Building Construction - 2021

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	8.4600e-003	0.2876	0.0713	7.5000e-004	0.0187	5.8000e-004	0.0193	5.4100e-003	5.5000e-004	5.9600e-003	0.0000	72.5726	72.5726	4.5900e-003	0.0000	72.6873
Worker	0.0320	0.0237	0.2678	8.1000e-004	0.0843	6.3000e-004	0.0850	0.0224	5.8000e-004	0.0230	0.0000	73.4425	73.4425	1.9700e-003	0.0000	73.4917
Total	**0.0405**	**0.3113**	**0.3391**	**1.5600e-003**	**0.1031**	**1.2100e-003**	**0.1043**	**0.0278**	**1.1300e-003**	**0.0289**	**0.0000**	**146.0150**	**146.0150**	**6.5600e-003**	**0.0000**	**146.1790**

3.4 Building Construction - 2022

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	0.1365	1.2493	1.3091	2.1500e-003		0.0647	0.0647		0.0609	0.0609	0.0000	185.3802	185.3802	0.0444	0.0000	186.4905
Total	**0.1365**	**1.2493**	**1.3091**	**2.1500e-003**		**0.0647**	**0.0647**		**0.0609**	**0.0609**	**0.0000**	**185.3802**	**185.3802**	**0.0444**	**0.0000**	**186.4905**

3.4 Building Construction - 2022

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	8.7500e-003	0.3009	0.0744	8.2000e-004	0.0207	5.5000e-004	0.0212	5.9700e-003	5.3000e-004	6.4900e-003	0.0000	79.3750	79.3750	4.8700e-003	0.0000	79.4968
Worker	0.0332	0.0236	0.2729	8.6000e-004	0.0930	6.8000e-004	0.0937	0.0247	6.2000e-004	0.0253	0.0000	78.1345	78.1345	1.9600e-003	0.0000	78.1835
Total	**0.0419**	**0.3245**	**0.3472**	**1.6800e-003**	**0.1137**	**1.2300e-003**	**0.1149**	**0.0307**	**1.1500e-003**	**0.0318**	**0.0000**	**157.5095**	**157.5095**	**6.8300e-003**	**0.0000**	**157.6804**

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	0.1365	1.2493	1.3091	2.1500e-003		0.0647	0.0647		0.0609	0.0609	0.0000	185.3800	185.3800	0.0444	0.0000	186.4903
Total	**0.1365**	**1.2493**	**1.3091**	**2.1500e-003**		**0.0647**	**0.0647**		**0.0609**	**0.0609**	**0.0000**	**185.3800**	**185.3800**	**0.0444**	**0.0000**	**186.4903**

3.4 Building Construction - 2022

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	8.7500e-003	0.3009	0.0744	8.2000e-004	0.0207	5.5000e-004	0.0212	5.9700e-003	5.3000e-004	6.4900e-003	0.0000	79.3750	79.3750	4.8700e-003	0.0000	79.4968
Worker	0.0332	0.0236	0.2729	8.6000e-004	0.0930	6.8000e-004	0.0937	0.0247	6.2000e-004	0.0253	0.0000	78.1345	78.1345	1.9600e-003	0.0000	78.1835
Total	**0.0419**	**0.3245**	**0.3472**	**1.6800e-003**	**0.1137**	**1.2300e-003**	**0.1149**	**0.0307**	**1.1500e-003**	**0.0318**	**0.0000**	**157.5095**	**157.5095**	**6.8300e-003**	**0.0000**	**157.6804**

3.5 Paving - 2022

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	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.5 Paving - 2022

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	5.9000e-004	4.2000e-004	4.8300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3821	1.3821	3.0000e-005	0.0000	1.3830
Total	**5.9000e-004**	**4.2000e-004**	**4.8300e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3821**	**1.3821**	**3.0000e-005**	**0.0000**	**1.3830**

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	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.5 Paving - 2022

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	5.9000e-004	4.2000e-004	4.8300e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3821	1.3821	3.0000e-005	0.0000	1.3830
Total	**5.9000e-004**	**4.2000e-004**	**4.8300e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3821**	**1.3821**	**3.0000e-005**	**0.0000**	**1.3830**

3.6 Architectural Coating - 2022

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	0.1010					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.1031**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 2022

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	8.2000e-004	5.8000e-004	6.7600e-003	2.0000e-005	2.3000e-003	2.0000e-005	2.3200e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	1.9349	1.9349	5.0000e-005	0.0000	1.9362
Total	**8.2000e-004**	**5.8000e-004**	**6.7600e-003**	**2.0000e-005**	**2.3000e-003**	**2.0000e-005**	**2.3200e-003**	**6.1000e-004**	**2.0000e-005**	**6.3000e-004**	**0.0000**	**1.9349**	**1.9349**	**5.0000e-005**	**0.0000**	**1.9362**

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	0.1010					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.1031**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 2022

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	8.2000e-004	5.8000e-004	6.7600e-003	2.0000e-005	2.3000e-003	2.0000e-005	2.3200e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	1.9349	1.9349	5.0000e-005	0.0000	1.9362
Total	**8.2000e-004**	**5.8000e-004**	**6.7600e-003**	**2.0000e-005**	**2.3000e-003**	**2.0000e-005**	**2.3200e-003**	**6.1000e-004**	**2.0000e-005**	**6.3000e-004**	**0.0000**	**1.9349**	**1.9349**	**5.0000e-005**	**0.0000**	**1.9362**

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	0.5916	3.2239	6.9842	0.0256	2.0950	0.0205	2.1155	0.5614	0.0191	0.5805	0.0000	2,367.5847	2,367.5847	0.1191	0.0000	2,370.5619
Unmitigated	0.5916	3.2239	6.9842	0.0256	2.0950	0.0205	2.1155	0.5614	0.0191	0.5805	0.0000	2,367.5847	2,367.5847	0.1191	0.0000	2,370.5619

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Health Club	509.76	323.07	413.78	1,003,887	1,003,887
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	2,011.10	1,272.00	1633.52	4,509,537	4,509,537
Total	2,520.86	1,595.07	2,047.30	5,513,424	5,513,424

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
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Health Club	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Other Non-Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Recreational Swimming Pool	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

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	41.2107	41.2107	2.2600e-003	4.7000e-004	41.4066
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	41.2107	41.2107	2.2600e-003	4.7000e-004	41.4066
NaturalGas Mitigated	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.9519	14.9519	2.9000e-004	2.7000e-004	15.0408
NaturalGas Unmitigated	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.9519	14.9519	2.9000e-004	2.7000e-004	15.0408

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					
Health Club	280188	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.9519	14.9519	2.9000e-004	2.7000e-004	15.0408
Other Non-Asphalt Surfaces	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
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.5100e-003**	**0.0137**	**0.0115**	**8.0000e-005**		**1.0400e-003**	**1.0400e-003**		**1.0400e-003**	**1.0400e-003**	**0.0000**	**14.9519**	**14.9519**	**2.9000e-004**	**2.7000e-004**	**15.0408**

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					
Health Club	280188	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	14.9519	14.9519	2.9000e-004	2.7000e-004	15.0408
Other Non-Asphalt Surfaces	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
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.5100e-003**	**0.0137**	**0.0115**	**8.0000e-005**		**1.0400e-003**	**1.0400e-003**		**1.0400e-003**	**1.0400e-003**	**0.0000**	**14.9519**	**14.9519**	**2.9000e-004**	**2.7000e-004**	**15.0408**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	171828	41.2107	2.2600e-003	4.7000e-004	41.4066
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**41.2107**	**2.2600e-003**	**4.7000e-004**	**41.4066**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Health Club	171828	41.2107	2.2600e-003	4.7000e-004	41.4066
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		**41.2107**	**2.2600e-003**	**4.7000e-004**	**41.4066**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	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	0.0797	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Unmitigated	0.0797	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-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	0.0101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0695					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Total	**0.0797**	**1.0000e-005**	**6.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1700e-003**	**1.1700e-003**	**0.0000**	**0.0000**	**1.2500e-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	0.0101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0695					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Total	**0.0797**	**1.0000e-005**	**6.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1700e-003**	**1.1700e-003**	**0.0000**	**0.0000**	**1.2500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	10.7115	0.0657	1.6500e-003	12.8467
Unmitigated	12.6802	0.0821	2.0600e-003	15.3458

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	0.915536 / 0.561135	4.6448	0.0301	7.5000e-004	5.6212
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	1.58385 / 0.970749	8.0354	0.0520	1.3000e-003	9.7246
Total		**12.6802**	**0.0821**	**2.0500e-003**	**15.3458**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Health Club	0.732429 / 0.526906	3.9237	0.0241	6.1000e-004	4.7058
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	1.26708 / 0.911533	6.7878	0.0416	1.0500e-003	8.1409
Total		**10.7115**	**0.0657**	**1.6600e-003**	**12.8467**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	48.8985	2.8898	0.0000	121.1440
Unmitigated	48.8985	2.8898	0.0000	121.1440

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	88.24	17.9119	1.0586	0.0000	44.3760
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	152.65	30.9866	1.8313	0.0000	76.7679
Total		**48.8985**	**2.8898**	**0.0000**	**121.1440**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Health Club	88.24	17.9119	1.0586	0.0000	44.3760
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	152.65	30.9866	1.8313	0.0000	76.7679
Total		**48.8985**	**2.8898**	**0.0000**	**121.1440**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	38.2320	0.0000	0.0000	38.2320

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	54	38.2320	0.0000	0.0000	38.2320
Total		**38.2320**	**0.0000**	**0.0000**	**38.2320**

APPENDIX B

BIOLOGICAL RESOURCES SURVEYS

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LSA

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: December 2, 2019, 2019

TO: City of Long Beach

FROM: Lonnie Rodriguez

SUBJECT: Biological Nest and Nesting Bird Survey for the Belmont Plaza Pool Revitalization Project, Long Beach, California

On September 30, 2019, LSA biologist Lonnie Rodriguez conducted a biological survey within and adjacent to the area for the proposed Belmont Plaza Pool Revitalization Project (project), located at 4000 East Olympic Plaza, Long Beach, California. The purpose of the survey was to identify any new nest or roosting (perching in order to rest or sleep) locations and to compare/summarize the results with those of past surveys conducted for the proposed project.

The survey consisted of Mr. Rodriguez inspecting the trees and structures on site and adjacent to the project area for nests (nesting material) and whitewash (excrement) within, on, or around the trees or structures. Information regarding the nest locations or signs of roosting found during the 2019 survey and for the years 2013, 2014, and 2015 is included in Table A (attached). A map of the nest and roosting locations is provided as Figure 1 (attached). Survey results from 2013, 2014, and 2015 only identified trees where nests were present or evidence of roosting was observed. Similarly, the results from the 2019 survey (Figure 1) only identify trees where evidence of nesting and/or roosting was observed. For the years 2016 through 2018, surveys were not conducted, because the project was in the planning and development stage, and no preconstruction surveys were warranted. The 2019 survey was conducted during the nonbreeding season (October through December).

The summary of the results found 15 locations (1 structure and 14 trees) with evidence of nesting and/or roosting for the years 2013, 2014, 2015, and 2019. Trees within the project area that have been used for breeding and nesting or have a nest that has been used within the past 5 years are protected under an existing Coastal Development Permit (CDP 5-08-187) and shall not be removed or disturbed during the breeding and nesting season unless a health-and-safety danger exists. Pursuant to the existing requirements in CDP 5-08-187, the removal of any breeding and nesting tree requires replacement at a 1:1 ratio. A Tree Replacement Planting Plan is required under CDP 5-08-187 for each tree to be replaced and must specify the replacement tree location, tree type, tree size (no less than 36” box size), planting specifications, and include a five-year monitoring program inclusive of specific performance standards. Consultation with the California Coastal Commission

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regarding these existing requirements should occur prior to construction activities for any trees that are planned for removal and that have had active nests within the past 5 years.

While hummingbirds have not been identified nesting on the site, hummingbird species have the potential to nest during both the breeding and the non-breeding season. Therefore, Mitigation Measure 4.3.1, as required in the 2016 Certified EIR for the Approved Project, has been expanded to require surveys during the non-breeding season, in order to avoid any possible impact to hummingbirds. If an active nest is found the nest will be monitored by a qualified biologist until the nest is no longer active. The modified mitigation measure is included below.

Mitigation Measure 4.3.1: **Migratory Bird Treaty Act.** Tree and vegetation removal shall be restricted to outside the likely active nesting season (January 15 through September 1) for those bird species present or potentially occurring within the proposed Project area. That time period is inclusive of most other birds' nesting periods, thus maximizing avoidance of impacts to any nesting birds. ~~If construction is proposed between January 15 and September 1, a~~ A qualified biologist familiar with local avian species and the requirements of the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code shall conduct a preconstruction survey for nesting birds no more than 3 days prior to construction during both the non-breeding and breeding seasons. The survey shall include the entire area that will be disturbed. The results of the survey shall be recorded in a memorandum and submitted to the City of Long Beach (City) Parks, Recreation, and Marine Director within 48 hours. If the survey is positive, and the nesting species are subject to the MBTA or the California Fish and Game Code, the memorandum shall be submitted to the California Department of Fish and Wildlife (CDFW) to determine appropriate action. If nesting birds are present, a qualified biologist shall be retained to monitor the site during initial vegetation clearing and grading, as well as during other activities that would have the potential to disrupt nesting behavior. The monitor shall be empowered by the City to halt construction work in the vicinity of the nesting birds if the monitor believes the nest is at risk of failure or the birds are excessively disturbed.

Attachments: Table A: Belmont Plaza Pool Revitalization Project Biological Survey Results
Figure 1: Biological Survey of Nests and Roosting Locations

Table A: Belmont Plaza Pool Revitalization Project Biological Survey Results

Nest Locations (see Figure 1)	2013	2014	2015	2019	Observations
1	Nest	Nest	None	None	Nonnative European starlings and house sparrows observed nesting in 2013; nesting material observed but no active nest seen in 2014; no nesting/roosting observations in 2015 or 2019.
2	Nest	None	None	None	Nesting material seen in 2013; no nesting activity observed in 2014; no nesting/roosting observations in 2015 or 2019.
3	Whitewash	None	None	None	Whitewash seen in tree, suggesting roosting, but no nest observed in 2013; no evidence of recent roosting (whitewash) in 2014; no nesting/roosting observations in 2015 or 2019.
4	Nest	Nest	None	None	Nest observed but species not identified in 2013; nest observed but no birds seen occupying or visiting the nest in 2014; no nesting/roosting observations in 2015 or 2019.
5	Nest	Nest	None	None	Three nests observed, including one active black-crowned night-heron nest, in 2013; nesting material observed but no birds seen constructing the nest or flying into the tree in 2014; no nesting/roosting observations in 2015 or 2019.
6	Nest	Nest	None	None	One black-crowned night-heron nest observed in 2013; black-crowned night-heron roosting and nesting material observed but no birds seen occupying or visiting the nest in 2014; no nesting/roosting observations in 2015 or 2019.
7	Nest	None	None	None	One black-crowned night-heron nest in 2013; no nesting/roosting observations in 2014, 2015, or 2019.
8	Nest	Nest	Nest	None	One black-crowned night-heron nest in 2013; evidence of recent roosting (whitewash) but no birds observed roosting, and nesting material observed but no birds occupying the nest or visiting the nest, in 2014; black-crowned night-heron and snowy egret observed nesting in 2015; no nesting material or whitewash observed in the tree in 2019.
9	None	Nest	None	None	No nesting observed in 2013; evidence of whitewash but no roosting observed in 2014; no nest/roosting observations in 2015 or 2019.
10	None	None	Nest	None	No nest or nesting observations in 2013 and 2014; sticks observed in the palm tree in 2015; no nest or nesting observations in 2019.
11	None	None	None	Nest	No nest or nesting observations in 2013, 2014, and 2015; stick nest seen in 2019, tree located on sidewalk.
12	None	None	None	Nest	No nest or nesting observations in 2013, 2014, and 2015; stick nest seen in 2019, tree located on sidewalk.
13	None	None	None	Nest	No nest or nesting observations in 2013, 2014, and 2015; stick nest seen in 2019, tree located on sidewalk.
14	None	None	None	Nest	No nest or nesting observations in 2013, 2014, and 2015; stick nest seen in 2019, tree located on sidewalk
15	None	None	None	Nests	Nests identified in this tree for multiple years, starting in and potentially earlier than 2017; nests seen in 2019.

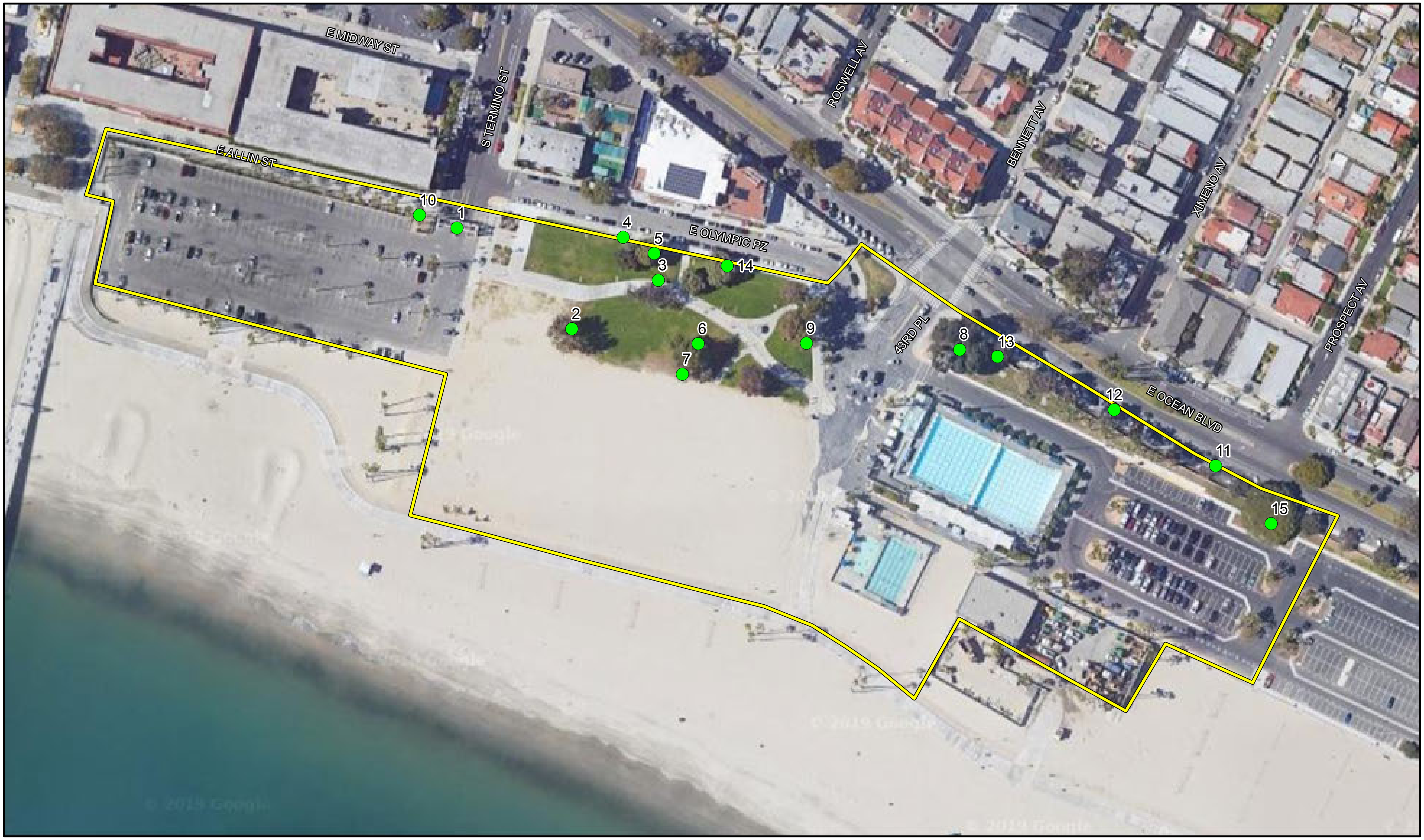

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FIGURE 1

LEGEND

Tree Location

SurveyArea

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SOURCE: Google (3/2018); LSA (10/2019)

Belmont Pool Revitalization Project

Biological Survey of Nests and Roosting Locations

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MEMORANDUM

DATE: November 22, 2019

TO: City of Long Beach

FROM: Jill Carpenter

SUBJECT: Results of Preconstruction Focused Bat Survey for the Belmont Plaza Pool Revitalization Project, Long Beach, California

This letter documents the results of a focused preconstruction bat survey performed on October 3, 2019, for the proposed Belmont Plaza Pool Revitalization Project (project) at 4000 East Olympic Plaza, Long Beach, California. The mature ornamental trees within the project area have the potential to be used by a variety of bat species for roosting; consequently, LSA performed a focused survey to determine whether roosting bats are present in any of the trees in advance of the tree removal activities that will take place as part of the project. During this focused preconstruction survey, the trees within the project area were assessed for their potential to house roosting bats, and suitable trees were watched for emerging bats at dusk to determine whether they are occupied by roosting bats.

BAT NATURAL HISTORY AND REGULATORY FRAMEWORK

Bats are the primary predators of nocturnal flying insects and are largely adapted to a variety of habitats. Bat populations are generally declining throughout Southern California due to various factors, including loss of natural roosting and foraging habitats, exposure to pesticides and pathogens, and extermination (Johnston et al. 2004; Miner and Stokes 2005). Because bats have low reproductive turnover (most species have only one young per year, and only a few species have twins or multiple births) and high juvenile mortality, it can take many years for a colony of bats to recover from any impacts that result in mortality or even in a decrease in reproductive ability.

Day roosts protect bats from predators and the elements during the day while they are resting and/or rearing their young. Examples of day-roosting sites include, but are not limited to, human-made structures, trees, cliff or rock crevices, caves, and mines. Some types of day roosts where bats are particularly vulnerable to disturbance include maternity colonies, where female bats congregate in the spring and summer months to give birth and raise young, and hibernacula, where bats enter a period of hibernation during the winter months.

Various regulations afford protections to bats, which are classified as indigenous nongame mammal species regardless of their status under the State or federal Endangered Species Acts. These regulations include Title 14, Section 251.1, of the California Code of Regulations, which prohibits harassment (defined in that section as an intentional act that disrupts an animal's normal behavior patterns, including breeding, feeding, or sheltering) of nongame mammals (e.g., bats), and California Fish and Game Code Section 4150, which prohibits "take"[1] or possession of all nongame mammals or parts thereof. Any activities resulting in bat mortality (e.g., the destruction of an occupied bat roost that results in the death of bats), disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), or various modes of nonlethal pursuit or capture may be considered "take" as defined in Section 86 of the California Fish and Game Code. In addition, impacts to bat maternity colonies, which are considered native wildlife nursery sites, could be considered potentially significant under the California Environmental Quality Act.

METHODS

LSA Senior Biologist and bat specialist Jill Carpenter performed the focused bat survey on October 3, 2019. The bat specialist was assisted during the survey by LSA Senior Biologist Sara Louwsma and LSA Assistant Biologist Jessica Lieuw, both of whom have past experience assisting with nighttime bat surveys. The nighttime emergence component of the survey began 0.5 hour before sunset and continued until 1 hour after sunset, for a total of 1.5 hours. During the emergence period, each observer was stationed at a vantage point that optimized visibility of any bats that could exit or enter each group of trees being observed, and to correlate the acoustic data recorded with visual observations. The number of bats exiting or entering any of the trees was recorded using handheld tally counters and species observed were identified using a combination of visual and acoustic techniques.

Acoustic detectors were deployed concurrently to aid in identifying any bats that were observed emerging from the trees, and to determine whether any tree-roosting bat species are present (and therefore have the potential to roost) within the portion of the project area. Anabat Express (Titley Scientific) ultrasound detectors were used to collect bat echolocation call (acoustic) data, and secure digital (SD) memory cards were used to record the call files. The acoustic detectors were deployed prior to the start of the emergence period at each group of trees, and retrieved at the conclusion of the emergence period. Figure 1 depicts the locations where detectors were set. The data collected during the surveys were subsequently analyzed using AnalookW acoustic analysis software (for echolocation call sequences recorded on the Anabat Expresses). Species identifications of acoustic data, where possible, were made by comparing call recordings with a library of "voucher" calls from known, hand-released bats.

RESULTS

The project area consists mainly of grassy, park-like areas with clusters of mature trees such as eucalyptus (*Eucalyptus* spp.), palms (*Washingtonia robusta*), pines (*Pinus* sp.), oaks (*Quercus* sp.), and New Zealand Christmas tree (*Metrosideros excelsa*). Western yellow bat (*Lasiurus xanthinus*), which is considered a palm tree roost obligate, is not expected to roost in the palm trees on site because they lack the dead frond "skirts" used by these bats for roosting. All of the other trees within the project area are suitable for use by western red bat (*Lasiurus blossevillii*) and hoary bat (*Lasiurus cinereus*), which are known to roost in the foliage of similar trees. While western red bats

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1 Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

and hoary bats may roost in the foliage, other species including big brown bat (*Eptesicus fuscus*) and multiple species in the Myotis genus may roost in the crevices and cavities of mature trees. Areas of peeling bark and other crevices that could be used by crevice-dwelling bat species were also observed in some of the trees within the project area.

The weather during the nighttime emergence survey conducted at the Belmont Pool Complex on October 3, 2019, was seasonally warm, with wind less than 5 miles per hour. The temperature at the beginning of the emergence period was 71.6 degrees Fahrenheit (°F) and 68°F at the conclusion of the emergence period, 1 hour after sunset. No bats were observed emerging from any of the trees, nor were any bats visually observed anywhere during the emergence period. However, during analysis of the acoustic data collected during the nighttime emergence survey, two echolocation sequences identified as belonging to Mexican free-tailed bat (*Tadarida brasiliensis mexicana*) were recorded 33 minutes after sunset (at 1908 hours) at the two easternmost locations where acoustic detectors were deployed. Because these two calls were detected less than 10 seconds apart on two acoustic detectors placed in the eastern portion of the project area, it is likely that these calls belong to the same individual passing over the site. No other bat species were detected during the survey.

CONCLUSIONS AND RECOMMENDATIONS

The mature ornamental trees within the project area have the potential to be used by a variety of bat species for roosting; however, no bats were observed emerging from any of the trees and bat activity in general was extremely low at this site. Two echolocation call sequences that likely belonged to the same Mexican free-tailed bat individual were recorded in the eastern portion of the site, but this typically high-flying species was not observed and was likely passing over the project area. Low bat activity can be attributed to the fact that, while some limited foraging habitat is present within the project area, the surrounding area is heavily developed and likely does not support a diversity or abundance of insects that would provide prey for bats.

Based upon the results of this focused preconstruction bat survey, which included a nighttime acoustic and emergence survey, there is no evidence that bats are currently roosting in or around the project site. Therefore, removal of the trees and other project-related activities within that area are not anticipated to result in impacts to day-roosting bats or bat colonies.

Attachments: Figure 1: Bat Survey Study Area

LSA

FIGURE 1

Belmont Pool Revitalization Project

Bat Survey Study Area

SOURCE: Google (3/2018); LSA (10/2019)

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APPENDIX C

NOISE AND VIBRATION ANALYSIS

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MEMORANDUM

DATE: December 11, 2019

TO: Christopher Koontz, AICP, Planning Bureau Manager

FROM: J.T. Stephens, Senior Noise Specialist

SUBJECT: Noise and Vibration Impact Analysis: Modified Belmont Pool Revitalization Project

INTRODUCTION AND PROJECT DESCRIPTION

This Noise and Vibration Impact Analysis has been prepared to evaluate the potential impacts associated with the proposed Modified Belmont Pool Revitalization Project (Modified Project) in the City of Long Beach (City), Orange County, California. More specifically, the potential impacts would be compared to those determined in the Certified 2016 Environmental Impact Report (EIR) (LSA 2016) for the Belmont Pool Project (Approved Project). This analysis would also ensure that previously determined mitigation measures would be capable of reducing potential impacts to less than significant. The analysis is intended to satisfy the City's requirement for a project-specific noise impact analysis and examines the impacts of the proposed noise-sensitive uses on the project site together with the project design features and standard conditions. Future noise level impacts are based on modeled traffic volumes (*Belmont Plaza Pool Revised Traffic Analysis*, LSA 2019) to properly account for the impacts associated with the surrounding traffic.

CEQA Baseline

At the time the Notice of Preparation (NOP) was issued, the Project site contained both the Belmont Pool facilities and the outdoor temporary pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction). Although the site contained the former Belmont Pool building at the time of the NOP, the facility was subsequently demolished in February 2015 to alleviate an imminent public safety threat due to the seismically unsafe condition of the building.

The temporary outdoor pool is currently used by clubs, local high schools, and the general public, and creates noise associated with spectators, whistles and recreational activities. Therefore, the activities associated with the temporary outdoor pool represent an accurate portrayal of the existing noise conditions for the site. In addition, the temporary outdoor pool is part of the baseline condition because it was opened prior to the release of the NOP issued by the City for the proposed Project.

Location and Description

The Modified Project site is located on a site in Belmont Shore Beach Park that formerly contained the Belmont Plaza Olympic Pool, which was operated by the City Department of Parks, Recreation and Marine. Figure 1, below, shows the project location, and Figure 2 illustrates the modified site plan.

METHODOLOGY

The evaluation of noise impacts associated with the Modified Project includes the following:

- Determination of the short-term construction noise impacts on on-site and off-site noise-sensitive uses with industry-recognized noise emission levels for construction equipment;
- Determination of the long-term operational noise impacts, including vehicular traffic and aircraft activities, on on-site and off-site noise-sensitive uses; and
- Determination of the required mitigation measures to reduce short-term and long-term noise impacts from all sources.

CHARACTERISTICS OF SOUND

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units (e.g., inches or pounds), decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) is 10 times more intense than 1 dB, 20 dB is 100 times more intense than 1 dB, and 30 dB is 1,000 times more intense than 1 dB. Thirty decibels (30 dB) represent 1,000 times as much acoustic energy as 1 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

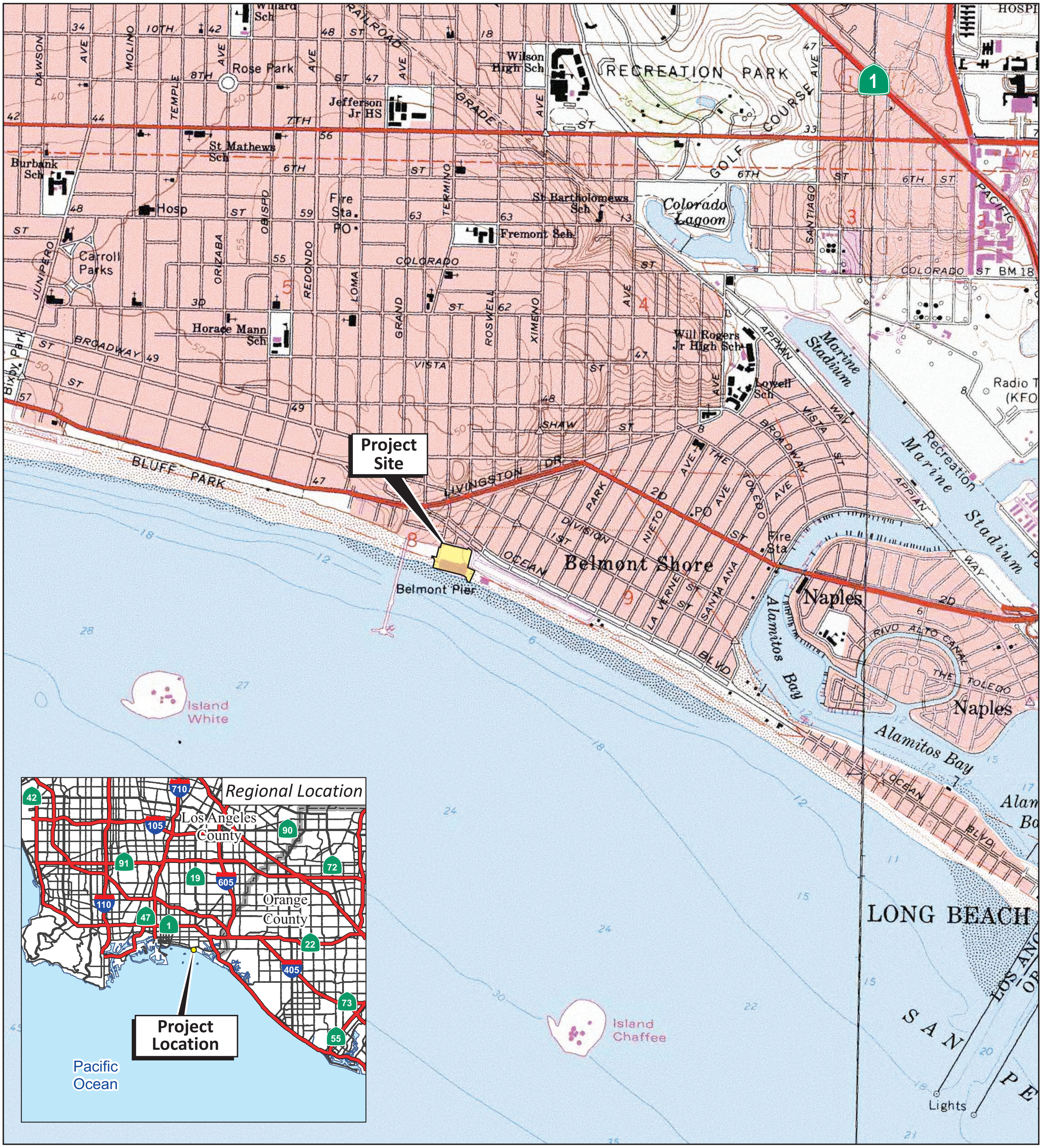

FIGURE 1

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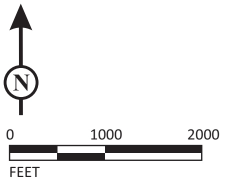

SOURCE: USGS 7.5' Quad - Long Beach, California

Modified Belmont Pool Revitalization Project

Project Location

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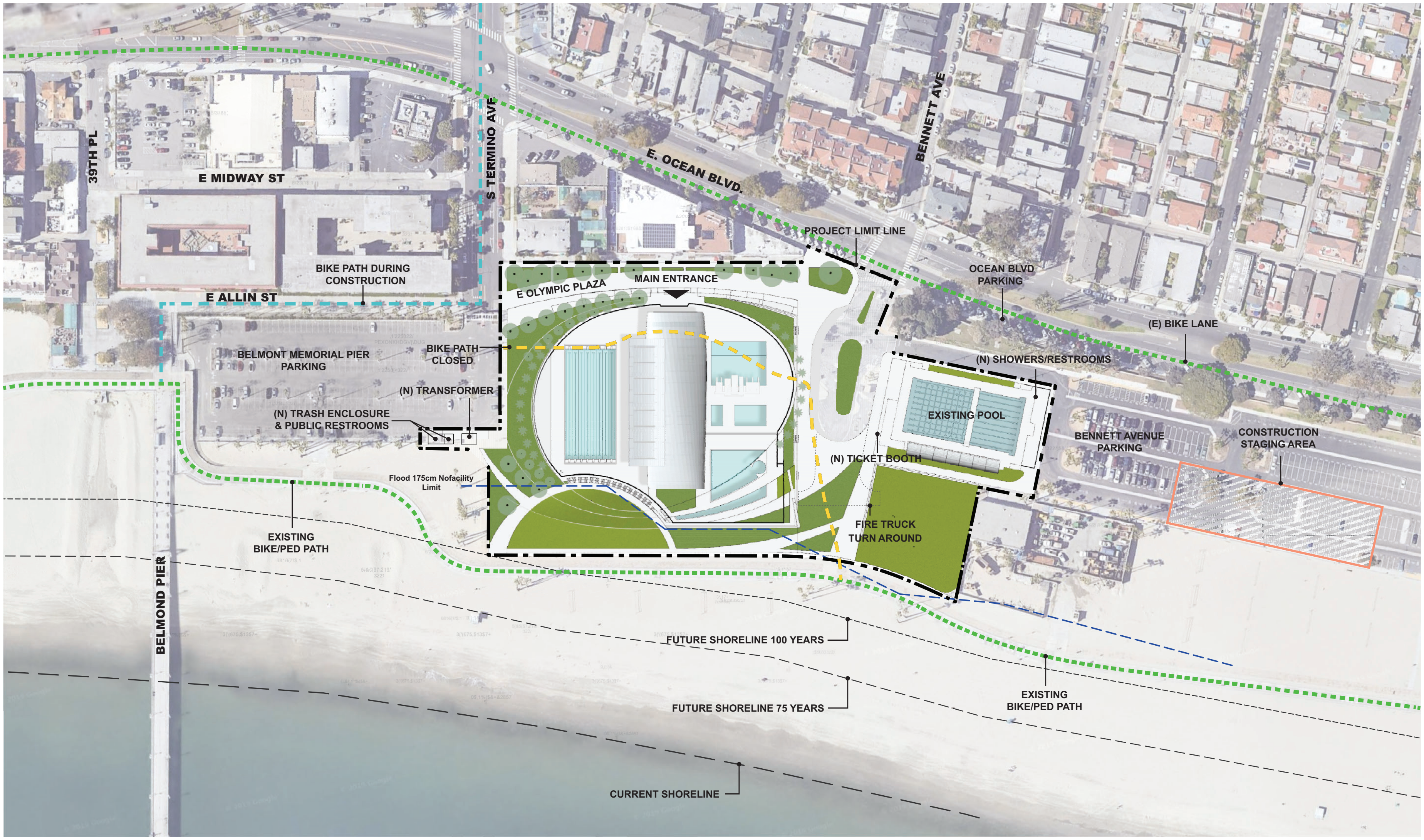

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FIGURE 2

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SOURCE: Hastings+Chivetta

Modified Belmont Pool Revitalization Project

Conceptual Site Plan

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Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single-point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source (e.g., highway traffic or railroad operations) the sound decreases 3 dB for each doubling of distance in a hard site environment. Similarly, line sources with intervening absorptive vegetation or line sources which are located at a great distance to the receptor would decrease 4.5 dB for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and Community Noise Equivalent Level (CNEL) or the day-night average noise level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours), and a 10 dBA weighting factor applied to noises occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. The City uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum instantaneous noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max}, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale or noise standards in terms of percentile noise levels in noise ordinances for enforcement purposes. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level (i.e., half the time the noise level exceeds this level, and half the time it is less than this level). The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise levels of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels (3.0 dB or greater) are considered potentially significant.

Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying less developed areas.

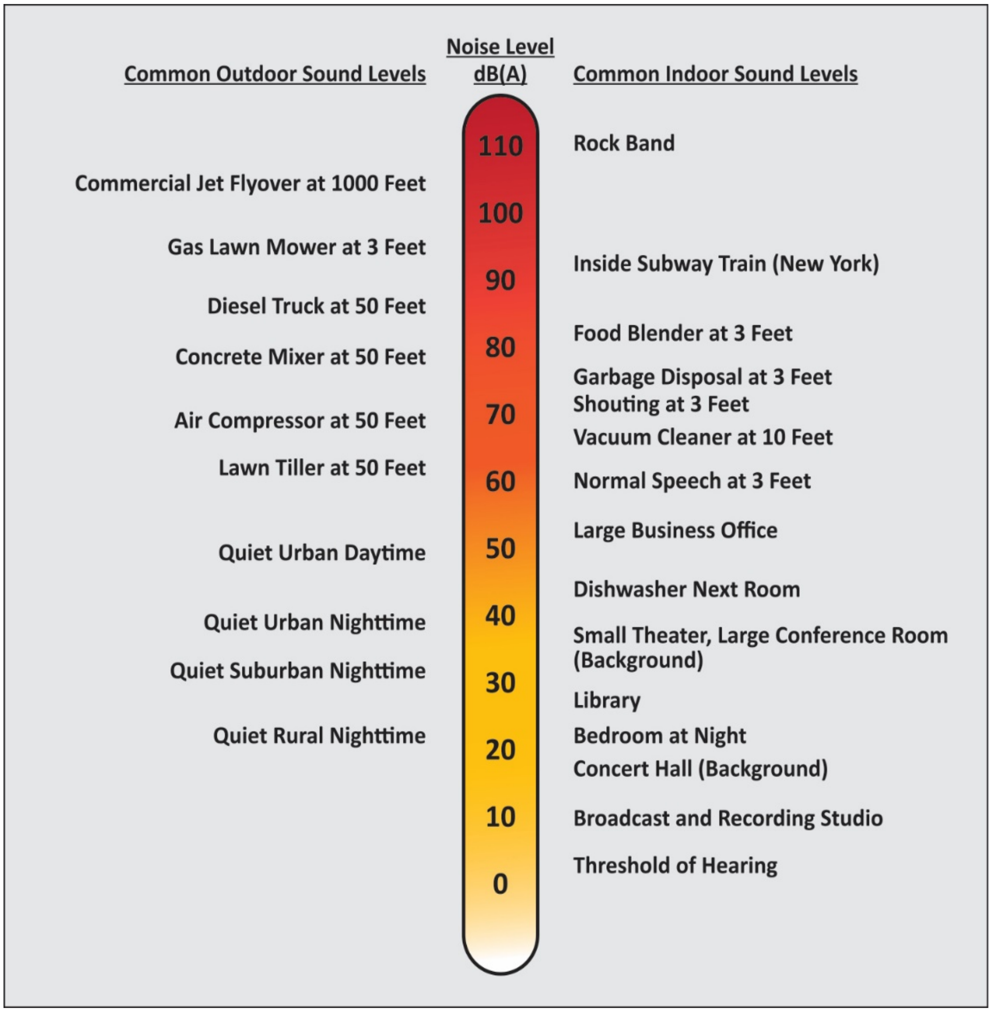
Table A lists definitions of acoustical terms, and Table B shows common sound levels and their sources.

Table A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of level that denotes the ratio between two quantities proportional to power, the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter deemphasizes the very low and very high frequency components of the sound in a manner similar to the frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this assessment are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dB to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 dB to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dB to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.

Source: *Handbook of Acoustical Measurements and Noise Control* (Harris, Cyril M., 1991).

Table B: Common Sound Levels and Noise Sources



Source: Compiled by LSA (2016).

CHARACTERISTICS OF VIBRATION

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible. Typically, there is a more adverse reaction to effects associated with the shaking of a building. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with both ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) from the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft (Federal Transit Administration's (FTA) 2018 *Transit Noise and Vibration Impact Assessment Manual).* When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, construction of the project could result in ground-borne vibration that may be perceptible and annoying.

Ground-borne vibration has the potential to disturb people and damage buildings. Although it is very rare for typical construction activities to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2018). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where L_v is the vibration velocity in decibels (VdB), "V" is the RMS velocity amplitude, and "V_{ref}" is the reference velocity amplitude, or 1 x 10^{-6} inches/second (inch/sec) used in the United States.

Factors that influence ground-borne vibration and noise include the following:

- **Vibration Source:** Vehicle suspension, wheel types and condition, railroad track/roadway surface, railroad track support system, speed, transit structure, and depth of vibration source

- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth

- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to when it is at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with ground-borne vibration indicates: (1) vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and (2) shallow rock seems to concentrate the vibration energy close to the surface and can result in ground-borne vibration problems at large distances. Factors such as layering of the soil and the depth to the water table can have significant effects on the propagation of ground-borne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

THRESHOLDS OF SIGNIFICANCE

Based on the *Guidelines for the Implementation of the California Environmental Quality Act* (CEQA), Appendix G, Public Resources Code, Sections 15000–15387, a project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and the goals of the community in which it is located. The following are the thresholds for potential noise impacts.

Traffic Noise

A proposed project would normally have a significant off-site traffic noise impact if both of the following criteria are met:

- Long-term project traffic will cause a noise level increase of 3 dBA or more on a roadway segment adjacent to a noise-sensitive land use. Noise-sensitive land uses include the following: residential (single-family, multifamily, and mobile home); transient lodging (e.g., hotels and motels); nursing homes; hospitals; schools; and parks, playgrounds, and recreation areas.

- The resulting "future with project" noise level exceeds the noise standard for sensitive land uses as identified in the City's General Plan.

A proposed project would normally have a significant on-site traffic noise impact if future noise levels exceed the exterior noise standard for sensitive land uses as identified in the City's General Plan.

Stationary Noise

As part of the City of Long Beach Municipal Code, the Noise Ordinance sets limits on the level and duration of time a stationary noise source may impact a residential area. The determination that a project has the potential to exceed the City's established noise limits is typically based on a noise technical report prepared by a qualified acoustical consultant. The project would normally have a significant noise impact if it would exceed the stationary source noise criteria for the City as specified by the noise standards set forth in the regulatory setting section below.

APPLICABLE NOISE STANDARDS

The following information provides standards to which potential noise impacts will be compared, such that exceedances, where appropriate, will be identified and mitigation will be recommended.

City of Long Beach General Plan

The Noise Element of the General Plan contains noise standards for mobile noise sources. These standards address the impacts of noise from adjacent roadways and airports. The City specifies outdoor and indoor noise limits for residential uses, places of worship, educational facilities, hospitals, hotels/motels, and commercial and other land uses. The noise standard for exterior living areas is 65 dBA CNEL. The indoor noise standard is 45 dBA CNEL, which is consistent with the standard in the California Noise Insulation Standard.

City of Long Beach Municipal Code

The City has adopted a quantitative Noise Control Ordinance, No. C-5371, Long Beach 1977 (Municipal Code, Chapter 8.80). The ordinance establishes maximum permissible hourly noise levels generated from operations for different districts throughout the City. Tables C and D list exterior noise and interior noise limits for various land uses.

Table C: Exterior Noise Limits, L_N (dBA)

Receiving Land Use	Time Period	L_{50}	L_{25}	L_8	L_2	L_{max}
Residential (District One)	Night: 10:00 PM–7:00 AM	45	50	55	60	65
	Day: 7:00 AM–10:00 PM	50	55	60	65	70
Commercial (District Two)	Night: 10:00 PM–7:00 AM	55	60	65	70	75
	Day: 7:00 AM–10:00 PM	60	65	70	75	80
Industrial (District Three)	Anytime[1]	65	70	75	80	85
Industrial (District Four)	Anytime[1]	70	75	80	85	90

Source: City of Long Beach Municipal Code.
[1] For use at boundaries rather than for noise control within industrial districts.
dBA = A-weighted decibels
L_{max} = maximum sound level
L_N = percentile noise exceedance level
L_{50} = noise level representing the median noise level; half the time, the noise level exceeds this level, and half the time, it is less than this level
L_{25} = the noise level exceeded 25 percent of the time during a stated period
L_8 = the noise level exceeded 8 percent of the time during a stated period
L_2 = the noise level exceeded 2 percent of the time during a stated period

Table D: Maximum Interior Sound Levels, L_N (dBA)

Receiving Land Use	Time Interval	L_8	L_2	L_{max}
Residential	10:00 PM–7:00 AM	35	40	45
	7:00 AM–10:00 PM	45	50	55
School	7:00 AM–10:00 PM (while school is in session)	45	50	55
Hospital and other Noise-Sensitive Zones	Anytime	40	45	50

Source: City of Long Beach Municipal Code.
dBA = A-weighted decibels
L_{max} = maximum sound level
L_N = percentile noise exceedance level
L_8 = the noise level exceeded 8 percent of the time during a stated period
L_2 = the noise level exceeded 2 percent of the time during a stated period

The City's Noise Control Ordinance (Section 8.80.202) governs the time of day that construction work can be performed. The Noise Ordinance prohibits construction, drilling, repair, remodeling, alteration, or demolition work between the hours of 7:00 p.m. and 7:00 a.m. on weekdays or federal holidays (considered a weekday) if the noise would create a disturbance across a residential or commercial property line or violate the quantitative provisions of the ordinance, except for emergency work authorized by the building official. The Noise Ordinance also prohibits construction, drilling, repair, remodeling, alteration, or demolition work between the hours of 7:00 p.m. on Friday and 9:00 a.m. on Saturday and after 6:00 p.m. on Saturday, except for emergency work authorized by the building official. No construction, drilling, repair, remodeling, alteration, or demolition work shall occur at any time on Sundays, except for emergency work authorized by the building official.

APPLICABLE VIBRATION STANDARDS

The following information provides standards to which potential vibration impacts will be compared, such that exceedances, where appropriate, will be identified and mitigation will be recommended.

City of Long Beach Municipal Code

Section 8.80.200G of the City's Municipal Code provides the following direction regarding vibration impacts:

> *"Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred fifty feet (150') (forty-six (46) meters) from the source if on a public space or public right-of-way. For the purposes of this subsection, "vibration perception threshold" means the minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such directed means as, but not limited to, sensation by touch or visual observation of moving objects."*

OVERVIEW OF THE EXISTING NOISE ENVIRONMENT

The sensitive land uses within the vicinity of the Modified Project site include the Belmont Shores Children's Center, which is located approximately 25 ft from the northern project boundary, and residences to the north, east, and west of the project site across East Ocean Boulevard and Termino Avenue. The primary existing noise sources in the project area are transportation facilities. In addition, operational noise from the temporary outdoor pool and periodic aircraft operations are audible from the project site.

Vehicular Traffic Noise

In addition to the existing noise level measurements, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to identify traffic-related noise impacts from the roadway segments in the project vicinity. Existing traffic volumes in the *Belmont Plaza Pool Revised Traffic Analysis* (LSA 2019) prepared for the proposed project were used to assess the existing traffic noise impacts. A typical vehicle mix for Southern California was used.

The primary existing noise sources in the project area are from vehicle traffic on project area roadways. Other existing noise sources in the project area include activity associated with the temporary outdoor pool, which is used by clubs, local high schools, and the general public. Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust systems. Traffic on Ocean Boulevard, Termino Avenue, and Bennett Avenue contributes to the area ambient noise levels. Tables E and F provide the traffic noise levels along the roadways adjacent to the project site under the existing conditions. These noise levels are representative of the worse-case scenario, which assumes no shielding exists between the traffic and the locations from which the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Attachment A.

Table E: Existing Weekday Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Ocean Boulevard west of Redondo Avenue	25,710	58	117	248	68.2
Ocean Boulevard between Redondo Avenue and Loma Avenue	26,310	59	119	252	68.3
Ocean Boulevard between Loma Avenue and Mira Mar Avenue	24,065	56	112	237	67.9
Ocean Boulevard between Mira Mar Avenue and Termino Avenue	6,050	< 50	< 50	97	61.9
Ocean Boulevard between Termino Avenue and Bennett Avenue	9,090	< 50	62	126	63.7
Ocean Boulevard between Bennett Avenue and Granada Avenue	8,035	< 50	58	116	63.2
Ocean Boulevard east of Granada Avenue	6,920	< 50	< 50	106	62.5
Livingston Avenue between Mira Mar Avenue and Termino Avenue	18,380	< 50	95	199	66.8
Livingston Avenue between Termino Avenue and 2nd Street	19,365	< 50	98	206	67.0
Livingston Avenue east of 2nd Street	3,170	< 50	< 50	66	59.1
2nd Street south of Livingston Avenue	19,330	< 50	< 50	97	63.6
Termino Avenue south of Ocean Boulevard	2,790	< 50	< 50	< 50	57.6
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,200	< 50	< 50	< 50	58.2
Termino Avenue north of Livingston Avenue	800	< 50	< 50	< 50	52.2
Bennett Avenue south of Ocean Boulevard	1,540	< 50	< 50	< 50	52.6
Bennett Avenue north of Ocean Boulevard	820	< 50	< 50	< 50	49.9
Granada Avenue south of Ocean Boulevard	520	< 50	< 50	< 50	47.9
Granada Avenue north of Ocean Boulevard	1,360	< 50	< 50	< 50	52.1

Source: Compiled by LSA (November 2019).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = foot/feet

Table F: Existing Weekend Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Ocean Boulevard west of Redondo Avenue	15,910	< 50	87	181	66.1
Ocean Boulevard between Redondo Avenue and Loma Avenue	16,625	< 50	89	186	66.3
Ocean Boulevard between Loma Avenue and Mira Mar Avenue	16,720	< 50	89	187	66.3
Ocean Boulevard between Mira Mar Avenue and Termino Avenue	6,050	< 50	< 50	97	61.9
Ocean Boulevard between Termino Avenue and Bennett Avenue	8,430	< 50	60	120	63.4
Ocean Boulevard between Bennett Avenue and Granada Avenue	6,840	< 50	< 50	105	62.5
Ocean Boulevard east of Granada Avenue	5,970	< 50	< 50	96	61.9
Livingston Avenue between Mira Mar Avenue and Termino Avenue	11,545	< 50	71	147	64.7
Livingston Avenue between Termino Avenue and 2nd Street	12,170	< 50	74	152	65.0
Livingston Avenue east of 2nd Street	2,900	< 50	< 50	62	58.7
2nd Street south of Livingston Avenue	15,260	< 50	< 50	83	62.6
Termino Avenue south of Ocean Boulevard	2,740	< 50	< 50	< 50	57.5
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,970	< 50	< 50	60	59.1
Termino Avenue north of Livingston Avenue	960	< 50	< 50	< 50	52.9
Bennett Avenue south of Ocean Boulevard	1,700	< 50	< 50	< 50	53.0
Bennett Avenue north of Ocean Boulevard	800	< 50	< 50	< 50	49.8
Granada Avenue south of Ocean Boulevard	1,520	< 50	< 50	< 50	52.5
Granada Avenue north of Ocean Boulevard	1,800	< 50	< 50	< 50	53.3

Source: Compiled by LSA (November 2019).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = foot/feet

Aircraft Noise

Based on the Long Beach Airport Noise Contours map included in the *Long Beach Airport Terminal Area Improvement Project EIR* (City of Long Beach 2005), the project site is located approximately 3 miles south of the Long Beach Airport 65 dBA CNEL contour.

PROJECT IMPACT ANALYSIS

The project would result in short-term construction noise and vibration impacts and long-term mobile source noise and vibration impacts as described below.

Short-Term Construction-Related Impacts

Project construction would result in short-term noise and vibration impacts on these adjacent land uses. Maximum construction impacts would be short-term, generally intermittent depending on the construction phase, and variable depending on the receiver distance from the active construction zone. The duration of impacts generally would be from one day to several days depending on the phase of construction. The levels and types of impacts that would occur during construction are described below.

Construction Noise Impacts Two types of short-term noise impacts would occur during project construction, including: (1) equipment delivery and construction worker commutes; and (2) project construction operations.

The first type of short-term construction noise would result from transport of construction equipment and materials to the project site and construction worker commutes. These transportation activities would incrementally raise noise levels on access roads leading to the site. It is expected that larger trucks used in equipment delivery would generate higher noise impacts than trucks associated with worker commutes. The single-event noise from equipment trucks passing at a distance of 50 ft from a sensitive noise receptor would reach a maximum level of 84 dBA L_{max}. However, the pieces of heavy equipment for grading and construction activities would be moved on site just one time and would remain on site for the duration of each construction phase. This one-time trip, when heavy construction equipment is moved on and off site, would not add to the daily traffic noise in the project vicinity. The total number of daily vehicle trips would be minimal when compared to existing traffic volumes on the affected streets, and the long-term noise level change associated with these trips would not be perceptible. Therefore, equipment transport noise and construction-related worker commute impacts would be short term and would not result in a significant off-site noise impact.

The second type of short-term noise impact is related to noise generated during site preparation, grading, building construction, architectural coating, and paving on the project site. Construction is undertaken in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated on the project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table G lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 ft between the equipment and a noise receptor. Typical operating cycles for these types of construction equipment may involve 1 to 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings.

Table G: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 ft[1]
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (FHWA 2006).

Note: Noise levels reported in this table are rounded to the nearest whole number.

[1] Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.

FHWA = Federal Highway Administration

ft = foot/feet

L_{max} = maximum instantaneous sound level

Construction of the proposed project is expected to require the use of graders, bulldozers, water trucks, and pickup trucks. Noise associated with the use of construction equipment is estimated to be between 75 and 85 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. As seen in Table G, the maximum noise level generated by each grader is assumed to be approximately 85 dBA L_{max} at 50 ft from the grader in operation. Each dozer would generate approximately 82 dBA L_{max} at 50 ft. The maximum noise level generated by water trucks/pickup trucks is approximately 75 dBA L_{max} at 50 ft from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source.

In addition to standard construction equipment, the project anticipates the use of hydraulic hammer pile drivers. Noise generated by a hydraulic hammer pile driver was evaluated to be similar to a typical pile driver. Table G shows that a typical pile driver generates noise levels of approximately 95 dBA L_{max} at 50 ft. If pile driving is conducted concurrently with site preparation, the construction site could potentially generate noise levels of 96 dBA L_{max} at a distance of 50 ft.

The following land uses are located within the vicinity of the proposed construction activities:

- **Residential Uses.** The closest residences to the northeast and northwest are located approximately 100 ft and 80 ft from the project construction boundary and may be subjected to short-term noise reaching 90 and 92 dBA L_{max}, respectively, generated by the proposed project construction activities.

- **Belmont Shores Children's Center.** The Belmont Shores Children's Center is located approximately 25 ft from the project construction boundary and may be subject to short-term noise reaching 102 dBA L_{max} or higher generated by construction activities from the project site.

The closest existing sensitive receptors would be subject to short-term noise levels that would be higher than existing ambient noise levels in the project area but would no longer occur once construction of the project is completed. In addition, noise generated from construction activities would be intermittent and temporary. Section 8.80.202 of the City's Municipal Code allows elevated construction-related noise levels as long as the construction activities are limited to the hours specified. These impacts are the same as the impacts identified in the Certified 2016 EIR; thus, no additional impacts would occur.

Adherence to the City's noise regulations and implementation of Mitigation Measures 4.10.2 and 4.10.3 from the Certified 2016 EIR, which require standard conditions for construction and a preconstruction community meeting, would reduce construction noise impacts to sensitive receptors. Therefore, temporary increases in ambient noise levels in the proposed project vicinity associated with project construction would be reduced to less than significant levels.

Construction Vibration Building Damage Potential

Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings near an active construction area may experience these vibrations, which range from imperceptible, low rumbling sounds to perceptible vibrations to, in extreme cases, noticeable vibration levels. Typically, construction-related vibration does not reach vibration levels that would result in damage to nearby structures.

The Caltrans *Transportation and Construction Vibration Guidance Manual* (September 2013) shows that the vibration damage threshold for continuous/frequent intermittent sources is 0.10 peak-particle velocity (PPV) (inch/sec) for fragile buildings, 0.25 PPV (inch/sec) for historic and some old buildings, 0.3 PPV (inch/sec) for older residential structures, and 0.5 PPV (inch/sec) for new residential structures. The manual shows the vibration annoyance potential criteria to be barely perceptible at 0.01 PPV (inch/sec), distinctly perceptible at 0.04 PPV (inch/sec), and strongly perceptible at 0.10 PPV (inch/sec) for continuous/frequent intermittent sources. These thresholds were used to evaluate the potential for short-term, construction-related, ground-borne vibration impacts during construction of the proposed project.

Bulldozers and trucks used for construction of the proposed project would generate the highest ground-borne vibration levels. Based on information shown in Table H from the Caltrans *Transportation and Construction Vibration Guidance Manual*, a large bulldozer and loaded trucks would generate vibration levels of 0.089 PPV (inch/sec) and 0.076 PPV (inch/sec), respectively, when measured at 25 ft. The closest heavy construction activities to receptors would be located approximately 25 ft from the Belmont Shores Children's Center and other commercial buildings. The nearest residences to the northeast and northwest are located approximately 100 ft and 80 ft, respectively, from heavy construction activities. The estimated vibration level at the closest residence to the northeast and northwest would be 0.049 inch/sec and 0.097 inch/sec, respectively. The estimated vibration levels at the Belmont Shores Children's Center and other commercial buildings would be 0.101 inch/sec. These construction vibration levels are below the damage threshold of 0.3 inch/sec for older residential buildings and 0.5 inch/sec for modern industrial commercial buildings. Therefore, the proposed project would result in a less than significant impact, and no mitigation is required. Furthermore, the potential impacts are the same as the impacts related to construction vibration in the Certified 2016 EIR.

Table H: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 ft	
	PPV (inch/sec)	L_V (VdB)[1]
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS VdB re 1 µinch/sec.
µin/sec = micro-inches per second
ft = foot/feet
FTA = Federal Transit Administration
inch/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity in decibels

Long-Term Off-Site Traffic Noise Impacts

This noise impact analysis is based on information from the *Belmont Plaza Pool Revised Traffic Analysis* (LSA 2019) that was conducted for the proposed project. Traffic volumes for the existing and future cumulative scenarios, during weekday and weekend conditions, without and with the proposed project are analyzed. The baseline scenarios and with project scenarios are evaluated to determine potential traffic noise impacts on off-site sensitive land uses.

Guidelines included in the FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) handbook were used to evaluate highway traffic-related noise conditions along roadway segments in the project vicinity. The standard vehicle mix for Southern California roadways was used for traffic on these roadway segments. The modeled 24-hour CNEL levels are shown in the following tables:

- Table I: Existing Weekday Traffic Noise Levels Without and With Modified Project
- Table J: Existing Weekend Traffic Noise Levels Without and With Modified Project
- Table K: Future Weekday Traffic Noise Levels Without and With Modified Project
- Table L: Future Weekend Traffic Noise Levels Without and With Modified Project

These noise levels represent the worst-case scenario, which assumes no shielding is provided between the traffic and the locations where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Attachment A.

Tables I through L show that project-related traffic noise levels would have a traffic noise increase of up to 2.6 dBA, except for Bennett Avenue south of Ocean Boulevard. Although traffic noise levels along Bennett Avenue south of Ocean Boulevard would increase by up to 7.0 dBA, this roadway segment is the entrance to the proposed project, and there are no off-site noise-sensitive land uses adjacent to this segment of the road. The traffic noise increases of up to 2.6 dBA along other roadway segments in the project area are less than the 3 dBA threshold normally perceptible by the human ear in an outdoor environment. The small increase in noise along these roadway segments is due to new existing baseline traffic counts which show some decreased traffic volumes on some study area segments. Because the trips associated with the Modified Project are the same as those presented in the 2016 Certified EIR, the overall Project-related trips represent a larger percentage of overall trips; the 0.2 dBA increase is still far below the 3.0 dBA threshold of perceptible noise and remains less than significant. Therefore, no significant traffic noise impacts would occur on off-site noise-sensitive land uses. No mitigation measures for off-site uses would be required.

Also, on-site traffic noise impacts would not occur because the Modified Project is not considered to be noise sensitive, and mitigation measures for on-site uses are not required. The conclusions related to potential traffic noise impacts are generally the same as in the previous certified 2016 EIR, which concluded that project-related traffic noise would result in increases of up to 2.4 dBA, except for Bennett Avenue south of Ocean Boulevard, which would increase by up to 7.2 dBA. As shown in Tables I through L, project-related traffic noise levels would have a traffic noise increase of up to 2.6 dBA, with the levels at the entrance to the pool roadway increasing by up to 7.0 dBA. This is a slightly greater increase in noise levels; however, the increase in noise would remain below the 3.0 dBA level of significance. The increase of 7.0 dBA for the entry driveway is slightly less than the projected increase to 7.2 dBA at this location under the Approved Project. Therefore, vehicle trips associated with the Modified Project would not result in new impacts related to traffic noise, and no new mitigation measures are required.

Long-Term Ground-Borne Noise and Vibration from Vehicular Traffic

Because the rubber tires and suspension systems of buses and other on-road vehicles provide vibration isolation and reduce noise, it is unusual for on-road vehicles to cause ground-borne noise or vibration. When on-road vehicles cause such effects as the rattling of windows, the source is almost always airborne noise. Most problems with on-road vehicle-related noise and vibration can be directly related to a pothole, bump, expansion joint, or other discontinuity in the road surface. Smoothing the bump or filling the pothole will usually solve the problem. As with the Approved Project, the Modified Project would have roads with smooth pavement and would not result in significant ground-borne noise or vibration impacts from vehicular traffic.

Table I: Existing Weekday Traffic Noise Levels Without and With Modified Project

Roadway Segment	Without Project					With Modified Project						
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Change in ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase over Baseline CNEL (dBA) 50 ft from Centerline of Outermost Lane
Ocean Boulevard west of Redondo Avenue	25,710	58	117	248	68.2	26,590	880	59	120	253	68.4	0.2
Ocean Boulevard between Redondo Avenue and Loma Avenue	26,310	59	119	252	68.3	27,620	1,310	61	123	260	68.5	0.2
Ocean Boulevard between Loma Avenue and Mira Mar Avenue	24,065	56	112	237	67.9	25,305	1,240	58	116	245	68.1	0.2
Ocean Boulevard between Mira Mar Avenue and Termino Avenue	6,050	< 50	< 50	97	61.9	7,245	1,195	< 50	< 50	109	62.7	0.8
Ocean Boulevard between Termino Avenue and Bennett Avenue	9,090	< 50	62	126	63.7	10,330	1,240	< 50	67	136	64.3	0.6
Ocean Boulevard between Bennett Avenue and Granada Avenue	8,035	< 50	58	116	63.2	9,125	1,090	< 50	62	126	63.7	0.5
Ocean Boulevard east of Granada Avenue	6,920	< 50	< 50	106	62.5	7,550	630	< 50	56	112	62.9	0.4
Livingston Avenue between Mira Mar Avenue and Termino Avenue	18,380	< 50	95	199	66.8	18,530	150	< 50	95	200	66.8	0.0
Livingston Avenue between Termino Avenue and 2nd Street	19,365	< 50	98	206	67.0	19,630	265	< 50	99	208	67.0	0.0
Livingston Avenue east of 2nd Street	3,170	< 50	< 50	66	59.1	3,170	0	< 50	< 50	66	59.1	0.0
2nd Street south of Livingston Avenue	19,330	< 50	< 50	97	63.6	19,580	250	< 50	< 50	98	63.6	0.0
Termino Avenue south of Ocean Boulevard	2,790	< 50	< 50	< 50	57.6	3,610	820	< 50	< 50	57	58.7	1.1
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,200	< 50	< 50	< 50	58.2	3,660	460	< 50	< 50	57	58.8	0.6
Termino Avenue north of Livingston Avenue	800	< 50	< 50	< 50	52.2	880	80	< 50	< 50	< 50	52.6	0.4
Bennett Avenue south of Ocean Boulevard	1,540	< 50	< 50	< 50	52.6	4,020	2,480	< 50	< 50	< 50	56.8	4.2
Bennett Avenue north of Ocean Boulevard	820	< 50	< 50	< 50	49.9	820	0	< 50	< 50	< 50	49.9	0.0
Granada Avenue south of Ocean Boulevard	520	< 50	< 50	< 50	47.9	520	0	< 50	< 50	< 50	47.9	0.0
Granada Avenue north of Ocean Boulevard	1,360	< 50	< 50	< 50	52.1	1,670	310	< 50	< 50	< 50	53.0	0.9

Source: Compiled by LSA (November 2019).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic CNEL = Community Noise Equivalent Level dBA = A-weighted decibels ft = foot/feet

Table J: Existing Weekend Traffic Noise Levels Without and With Modified Project

Roadway Segment	Without Project					With Modified Project						
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Change in ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase over Baseline CNEL (dBA) 50 ft from Centerline of Outermost Lane
Ocean Boulevard west of Redondo Avenue	15,910	< 50	87	181	66.1	18,070	2,160	< 50	94	197	66.7	0.6
Ocean Boulevard between Redondo Avenue and Loma Avenue	16,625	< 50	89	186	66.3	19,955	3,330	< 50	100	210	67.1	0.8
Ocean Boulevard between Loma Avenue and Mira Mar Avenue	16,720	< 50	89	187	66.3	19,720	3,000	< 50	99	208	67.1	0.8
Ocean Boulevard between Mira Mar Avenue and Termino Avenue	6,050	< 50	< 50	97	61.9	9,050	3,000	< 50	62	125	63.7	1.8
Ocean Boulevard between Termino Avenue and Bennett Avenue	8,430	< 50	60	120	63.4	11,810	3,380	< 50	72	149	64.8	1.4
Ocean Boulevard between Bennett Avenue and Granada Avenue	6,840	< 50	< 50	105	62.5	9,800	2,960	< 50	65	132	64.0	1.5
Ocean Boulevard east of Granada Avenue	5,970	< 50	< 50	96	61.9	7,670	1,700	< 50	56	113	63.0	1.1
Livingston Avenue between Mira Mar Avenue and Termino Avenue	11,545	< 50	71	147	64.7	11,655	110	< 50	72	148	64.8	0.1
Livingston Avenue between Termino Avenue and 2nd Street	12,170	< 50	74	152	65.0	12,895	725	< 50	76	158	65.2	0.2
Livingston Avenue east of 2nd Street	2,900	< 50	< 50	62	58.7	2,900	0	< 50	< 50	62	58.7	0.0
2nd Street south of Livingston Avenue	15,260	< 50	< 50	83	62.6	15,950	690	< 50	< 50	85	62.8	0.2
Termino Avenue south of Ocean Boulevard	2,740	< 50	< 50	< 50	57.5	4,980	2,240	< 50	< 50	69	60.1	2.6
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,970	< 50	< 50	60	59.1	5,090	1,120	< 50	< 50	70	60.2	1.1
Termino Avenue north of Livingston Avenue	960	< 50	< 50	< 50	52.9	1,210	250	< 50	< 50	< 50	53.9	1.0
Bennett Avenue south of Ocean Boulevard	1,700	< 50	< 50	< 50	53.0	8,460	6,760	< 50	< 50	56	60.0	7.0
Bennett Avenue north of Ocean Boulevard	800	< 50	< 50	< 50	49.8	800	0	< 50	< 50	< 50	49.8	0.0
Granada Avenue south of Ocean Boulevard	1,520	< 50	< 50	< 50	52.5	1,520	0	< 50	< 50	< 50	52.5	0.0
Granada Avenue north of Ocean Boulevard	1,800	< 50	< 50	< 50	53.3	2,640	840	< 50	< 50	< 50	54.9	1.6

Source: Compiled by LSA (November 2019).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic CNEL = Community Noise Equivalent Level dBA = A-weighted decibels ft = foot/feet

Table K: Future Weekday Traffic Noise Levels Without and With Modified Project

Roadway Segment	Without Project					With Modified Project						
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Change in ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase over Baseline CNEL (dBA) 50 ft from Centerline of Outermost Lane
Ocean Boulevard west of Redondo Avenue	25,960	59	118	249	68.3	26,840	880	60	120	255	68.4	0.1
Ocean Boulevard between Redondo Avenue and Loma Avenue	26,560	59	119	253	68.4	27,870	1,310	61	123	261	68.6	0.2
Ocean Boulevard between Loma Avenue and Mira Mar Avenue	24,315	57	113	239	68.0	25,555	1,240	58	117	247	68.2	0.2
Ocean Boulevard between Mira Mar Avenue and Termino Avenue	6,050	< 50	< 50	97	61.9	7,245	1,195	< 50	< 50	109	62.7	0.8
Ocean Boulevard between Termino Avenue and Bennett Avenue	9,090	< 50	62	126	63.7	10,330	1,240	< 50	67	136	64.3	0.6
Ocean Boulevard between Bennett Avenue and Granada Avenue	8,035	< 50	58	116	63.2	9,125	1,090	< 50	62	126	63.7	0.5
Ocean Boulevard east of Granada Avenue	6,920	< 50	< 50	106	62.5	7,550	630	< 50	56	112	62.9	0.4
Livingston Avenue between Mira Mar Avenue and Termino Avenue	18,630	< 50	95	201	66.8	18,780	150	< 50	96	202	66.8	0.0
Livingston Avenue between Termino Avenue and 2nd Street	19,615	< 50	99	207	67.0	19,880	265	< 50	99	209	67.1	0.1
Livingston Avenue east of 2nd Street	3,170	< 50	< 50	66	59.1	3,170	0	< 50	< 50	66	59.1	0.0
2nd Street south of Livingston Avenue	20,420	< 50	< 50	100	63.8	20,670	250	< 50	< 50	101	63.9	0.1
Termino Avenue south of Ocean Boulevard	2,790	< 50	< 50	< 50	57.6	3,610	820	< 50	< 50	57	58.7	1.1
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,200	< 50	< 50	< 50	58.2	3,660	460	< 50	< 50	57	58.8	0.6
Termino Avenue north of Livingston Avenue	800	< 50	< 50	< 50	52.2	880	80	< 50	< 50	< 50	52.6	0.4
Bennett Avenue south of Ocean Boulevard	1,540	< 50	< 50	< 50	52.6	4,020	2,480	< 50	< 50	< 50	56.8	4.2
Bennett Avenue north of Ocean Boulevard	820	< 50	< 50	< 50	49.9	820	0	< 50	< 50	< 50	49.9	0.0
Granada Avenue south of Ocean Boulevard	520	< 50	< 50	< 50	47.9	520	0	< 50	< 50	< 50	47.9	0.0
Granada Avenue north of Ocean Boulevard	1,360	< 50	< 50	< 50	52.1	1,670	310	< 50	< 50	< 50	53.0	0.9

Source: Compiled by LSA (November 2019).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic CNEL = Community Noise Equivalent Level dBA = A-weighted decibels ft = foot/feet

Table L: Future Weekend Traffic Noise Levels Without and With Modified Project

Roadway Segment	Without Project					With Modified Project						
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Change in ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase over Baseline CNEL (dBA) 50 ft from Centerline of Outermost Lane
Ocean Boulevard west of Redondo Avenue	16,180	< 50	87	183	66.2	18,340	2,160	< 50	95	198	66.7	0.5
Ocean Boulevard between Redondo Avenue and Loma Avenue	16,895	< 50	90	188	66.4	20,225	3,330	< 50	101	212	67.2	0.8
Ocean Boulevard between Loma Avenue and Mira Mar Avenue	16,990	< 50	90	189	66.4	19,990	3,000	< 50	100	210	67.1	0.7
Ocean Boulevard between Mira Mar Avenue and Termino Avenue	6,050	< 50	< 50	97	61.9	9,050	3,000	< 50	62	125	63.7	1.8
Ocean Boulevard between Termino Avenue and Bennett Avenue	8,430	< 50	60	120	63.4	11,810	3,380	< 50	72	149	64.8	1.4
Ocean Boulevard between Bennett Avenue and Granada Avenue	6,840	< 50	< 50	105	62.5	9,800	2,960	< 50	65	132	64.0	1.5
Ocean Boulevard east of Granada Avenue	5,970	< 50	< 50	96	61.9	7,670	1,700	< 50	56	113	63.0	1.1
Livingston Avenue between Mira Mar Avenue and Termino Avenue	11,815	< 50	72	149	64.8	11,925	110	< 50	73	150	64.9	0.1
Livingston Avenue between Termino Avenue and 2nd Street	12,440	< 50	75	154	65.1	13,165	725	< 50	77	160	65.3	0.2
Livingston Avenue east of 2nd Street	2,900	< 50	< 50	62	58.7	2,900	0	< 50	< 50	62	58.7	0.0
2nd Street south of Livingston Avenue	17,030	< 50	< 50	89	63.0	17,720	690	< 50	< 50	91	63.2	0.2
Termino Avenue south of Ocean Boulevard	2,740	< 50	< 50	< 50	57.5	4,980	2,240	< 50	< 50	69	60.1	2.6
Termino Avenue between Ocean Boulevard and Livingston Avenue	3,970	< 50	< 50	60	59.1	5,090	1,120	< 50	< 50	70	60.2	1.1
Termino Avenue north of Livingston Avenue	960	< 50	< 50	< 50	52.9	1,210	250	< 50	< 50	< 50	53.9	1.0
Bennett Avenue south of Ocean Boulevard	1,700	< 50	< 50	< 50	53.0	8,460	6,760	< 50	< 50	56	60.0	7.0
Bennett Avenue north of Ocean Boulevard	800	< 50	< 50	< 50	49.8	800	0	< 50	< 50	< 50	49.8	0.0
Granada Avenue south of Ocean Boulevard	1,520	< 50	< 50	< 50	52.5	1,520	0	< 50	< 50	< 50	52.5	0.0
Granada Avenue north of Ocean Boulevard	1,800	< 50	< 50	< 50	53.3	2,640	840	< 50	< 50	< 50	54.9	1.6

Source: Compiled by LSA (November 2019).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic CNEL = Community Noise Equivalent Level dBA = A-weighted decibels ft = foot/feet

Long-Term Off-Site Stationary Noise Impacts

This section provides an assessment of the potential operational noise impacts of the Modified Project. While the existing temporary pool was previously not a part of Approved Project, it will be converted to a permanent pool as part of the Modified project. Therefore, the current activities at the pool would be the same as future activities, which would not change the noise environment. Furthermore, the largest design change for the Modified Project is changing the pools on the west side of the site to outdoor pools instead of indoor pools. While this may increase noise levels of the western side of the project site, the source of noise associated with outside activities is based on the same reference noise levels used in the 2016 Certified EIR to estimate crowd noise at maximum capacity. The Approved Project proposed to have 3,000 outdoor seats, along with 1,250 indoor seats, whereas the Modified Project proposes to have 1,865 outdoor seats.. Since the number of outdoor seats is reduced, nearly cut in half, noise levels will likely decrease. However, to remain conservative, noise levels are projected to remain the same as presented below and found within the certified 2016 EIR.

The certified 2016 EIR provided an assessment of the operational impacts associated with daily operations of the Approved Project including crowd and spectator noise as well as the public address system. Reference noise levels were utilized to calculate the potential impacts associated with the Approved Project operations. A reference noise level from a public address sound system was obtained from a noise level measurement conducted by RECON Environmental, Inc., at a high school championship football game (RECON 2003). Each loudspeaker was estimated to generate an hourly equivalent (L_{eq}) noise level of 71.3 dBA at a distance of 50 ft. Crowd noise was measured to be 65 dBA L_{eq} at 75 ft. It is anticipated that reference noise level measurements obtained from RECON at the high school championship football game would be similar to typical daily events or special events associated with the project.

The analysis for the Approved Project concluded that the combined noise levels from the crowd and speaker noise would result in an exterior noise level of 55.3 dBA L_{eq} (1-hour) at the playground associated with the Belmont Shores Children's Center, 55.3 dBA L_{eq} (1-hour) at the outdoor living areas of the residences to the northeast (across from Ocean Boulevard), and 55.1 dBA L_{eq} (1-hour) at the outdoor living areas of the residences to the northwest (across from Termino Avenue). The combined noise levels at the Belmont Shores Children's Center and the two residential locations would potentially exceed the City's daytime exterior L_{50} and L_{25} standard of 50 and 55 dBA. Implementation of Mitigation Measure 4.10.1, as included in the certified 2016 EIR, which requires measures to reduce noise levels from the speakers, would reduce the combined noise level to less than the City's exterior noise standards, and the impact would be less than significant after mitigation.

Additionally, the interior noise assessment for the Approved Project, which incorporated a 15 dBA exterior-to-inter noise reduction from the building façade, identified that the combined interior noise level with windows and doors closed would be 31.3 dBA L_{eq} (1-hour) in the classroom associated with the Belmont Shores Children's Center, 31.3 dBA L_{eq} (1-hour) at the residences to the northeast (across from Ocean Boulevard), and 31.1 dBA L_{eq} (1-hour) at the residences to the northwest (across from Termino Avenue). The combined interior noise level with windows and doors open would be 43.3 dBA L_{eq} (1 hour) in the classroom associated with the Belmont Shores

Children's Center, 43.3 dBA L_{eq} (1 hour) at the residences to the northeast (across from Ocean Boulevard), and 43.1 dBA L_{eq} (1 hour) at the residences to the northwest (across from Termino Avenue). The combined noise levels at the Belmont Shores Children's Center and the two residential locations would not exceed the City's daytime interior standard. Since the Approved Project was not expected to be used after 10:00 p.m., the certified 2016 EIR determined that no nighttime operational noise would occur, and no violation of the City's nighttime noise standards would occur.

While the Modified Project has a larger footprint than the Approved Project, specifically associated with the improvements at the existing temporary pool which would remain under the Modified Project, the improvements in the expanded footprint would not add any new noise sources in the project area. Furthermore, the Modified Project would significantly reduce the number of temporary bleachers as well as add a 10 ft high glass wall around the aquatic center containing the new pools and associated ancillary uses, which would reduce operational noise levels. The Modified Project would also not conduct operations past 10:00 p.m.; therefore, consistent with the findings in the certified 2016 EIR, the Modified Project would not violate the City's nighttime noise standards. With the implementation of Mitigation Measure 4.10.1 from the certified 2016 EIR, the Modified Project would result in a less than significant impact, and the potential impacts would likely be less than those identified for the Approved Project.

SUMMARY OF RECOMMENDATIONS

Based on the analysis above, the Modified Project would have similar or lesser impacts related to noise and vibration as compared to that of the Approved Project analyzed in the certified 2016 EIR. With implementation of the mitigation measures in the certified 2016 EIR, and listed below, the Modified Project would result in less than significant impacts related to construction-related noise and vibration as well as operational noise impacts to surrounding sensitive uses.

The following mitigation measures, as presented in the certified 2016 EIR, are incorporated to offset the potentially significant operational and construction-related noise impacts of the Modified Project.

Mitigation Measure 4.10.1 Prior to issuance of the occupancy permit, the City of Long Beach's (City) Director of Development Services, or designee, shall verify that a sound engineer has designed the permanent and temporary sound systems such that the City's exterior noise standards (daytime exterior noise level of 50 dBA L_{50}) are not exceeded at the surrounding sensitive land uses. Measures capable of reducing the noise levels include, but are not limited to, the following:

- Reducing the source levels;
- Reducing the speaker elevations;
- Directing the speakers away from adjacent noise-sensitive land uses; and
- Using highly directional speakers.

Mitigation Measure 4.10.2 Prior to issuance of demolition or grading permits, the City of Long Beach's Director of Development Services, or designee, shall verify that construction and grading plans include the following conditions to reduce potential construction noise impacts on nearby sensitive receptors:

- During all site excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards;
- The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site;
- The construction contractor shall locate equipment staging to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction;
- The construction contractor shall ensure that engine idling from construction equipment (i.e., bulldozers and haul trucks) is limited to a maximum of 5 minutes at any given time;
- The construction contractor shall ensure that all construction activities are scheduled to avoid operating several pieces of heavy equipment simultaneously; and
- Construction, drilling, repair, remodeling, alteration, or demolition work shall be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday. In accordance with City standards, no construction activities are permitted outside of these hours.

Mitigation Measure 4.10.3 Prior to issuance of a grading permit, the City of Long Beach Tidelands Capital Improvement Division shall hold a community preconstruction meeting in concert with the construction contractor to provide information to the public regarding the construction schedule. The construction schedule information shall include the duration of each construction activity and the specific location, days, frequency, and duration of the pile driving that will occur during each phase of the project construction. Public notification of this meeting shall be undertaken in the same manner as the Notice of Availability mailings for this Supplemental Environmental Impact Report.

In addition, during construction, the following best business practices are recommended:

- Ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.

- Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
- Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site whenever feasible.
- The construction contractor shall use on-site electrical sources to power equipment rather than diesel generators whenever feasible.

Additional measures that could be considered, but are not required to reduce potential construction noise impacts include scheduling louder construction activities that occur close to schools to conduct after class hours and/or conducting construction near schools during summer months when school is out of session.

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ATTACHMENT A

FHWA TRAFFIC NOISE MODEL PRINTOUTS

TABLE Existing NP (PM)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25710   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.3	117.0	247.9	532.0

TABLE Existing NP (PM)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26310   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
59.1	118.8	251.7	540.2

TABLE Existing NP (PM)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 24065   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
56.3	112.2	237.3	509.1

TABLE Existing NP (PM)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6050   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	97.1	204.1

TABLE Existing NP (PM)-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9090   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.1	125.7	266.8

TABLE Existing NP (PM)-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8035   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.0	116.1	246.0

TABLE Existing NP (PM)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6920   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	105.7	222.9

TABLE Existing NP (PM)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18380 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	94.7	198.7	425.6

TABLE Existing NP (PM)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19365   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	97.8	205.7	440.7

TABLE Existing NP (PM)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3170   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	65.7	133.9

TABLE Existing NP (PM)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19330   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	96.7	208.0

TABLE Existing NP (PM)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2790 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	99.0

TABLE Existing NP (PM)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3200   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	108.2

TABLE Existing NP (PM)-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue

NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 800   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (PM)-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1540   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (PM)-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 820   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (PM)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 520   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (PM)-18

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing NP (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1360 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (PM)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26590 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
59.4	119.6	253.4	544.0

TABLE Existing P (PM)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27620 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
60.7	122.5	259.9	557.9

TABLE Existing P (PM)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25305   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
57.8	115.8	245.3	526.4

TABLE Existing P (PM)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7245   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	108.8	229.8

TABLE Existing P (PM)-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10330   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.8	136.5	290.4

TABLE Existing P (PM)-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9125   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.2	126.0	267.5

TABLE Existing P (PM)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7550   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	56.0	111.6	236.1

TABLE Existing P (PM)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18530   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	95.2	199.8	427.9

TABLE Existing P (PM)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19630   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	98.7	207.5	444.7

TABLE Existing P (PM)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3170   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	65.7	133.9

TABLE Existing P (PM)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19580   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	97.6	209.8

TABLE Existing P (PM)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3610   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	56.6	117.0

TABLE Existing P (PM)-13

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue

NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3660   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	57.1	118.0

TABLE Existing P (PM)-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 880   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (PM)-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4020   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	73.3

TABLE Existing P (PM)-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 820 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (PM)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 520 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (PM)-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Weekday - Existing P (PM)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1670   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15910 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	86.6	180.8	386.7

TABLE Existing NP (Sat)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16625   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	89.0	186.1	398.2

TABLE Existing NP (Sat)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16720   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	89.3	186.8	399.7

TABLE Existing NP (Sat)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6050 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	97.1	204.1

TABLE Existing NP (Sat)-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue

NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8430   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.5	119.8	253.9

TABLE Existing NP (Sat)-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6840   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	104.9	221.2

TABLE Existing NP (Sat)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5970   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	96.3	202.3

TABLE Existing NP (Sat)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11545   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	71.3	146.7	312.6

TABLE Existing NP (Sat)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12170   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	73.6	151.8	323.7

TABLE Existing NP (Sat)-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2900   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	62.4	126.4

TABLE Existing NP (Sat)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15260 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	82.7	177.7

TABLE Existing NP (Sat)-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2740   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	97.8

TABLE Existing NP (Sat)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3970   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	59.9	124.4

TABLE Existing NP (Sat)-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 960 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1700   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 800   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1520   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing NP (Sat)-18

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1800   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (Sat)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18070 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.7	196.5	420.9

TABLE Existing P (Sat)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19955   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	99.7	209.8	449.5

TABLE Existing P (Sat)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19720   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	98.9	208.2	446.0

TABLE Existing P (Sat)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9050   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	61.9	125.3	266.1

TABLE Existing P (Sat)-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11810 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	72.3	148.9	317.3

TABLE Existing P (Sat)-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue

NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9800   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.8	131.9	280.5

TABLE Existing P (Sat)-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7670   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	56.5	112.8	238.5

TABLE Existing P (Sat)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11655 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	71.7	147.6	314.6

TABLE Existing P (Sat)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12895   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	76.2	157.6	336.4

TABLE Existing P (Sat)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	62.4	126.4

TABLE Existing P (Sat)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15950   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	85.1	183.0

TABLE Existing P (Sat)-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4980   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	68.9	144.3

TABLE Existing P (Sat)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5090   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	69.8	146.4

TABLE Existing P (Sat)-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1210   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	58.6

TABLE Existing P (Sat)-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8460   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	56.0	120.0

TABLE Existing P (Sat)-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 800   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (Sat)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1520   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing P (Sat)-18

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Existing - Existing P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2640 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	55.5

TABLE Existing+Cumulative NP (WD)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25960   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.7	117.7	249.5	535.4

TABLE Existing+Cumulative NP (WD)-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26560   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.35

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
59.4	119.5	253.3	543.6

TABLE Existing+Cumulative NP (WD)-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 24315 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
56.6	112.9	238.9	512.6

TABLE Existing+Cumulative NP (WD)-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6050 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	97.1	204.1

TABLE Existing+Cumulative NP (WD)-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9090   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.1	125.7	266.8

TABLE Existing+Cumulative NP (WD)-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8035   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.0	116.1	246.0

TABLE Existing+Cumulative NP (WD)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6920   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	105.7	222.9

TABLE Existing+Cumulative NP (WD)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18630   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	95.5	200.5	429.5

TABLE Existing+Cumulative NP (WD)-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19615   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	98.6	207.4	444.4

TABLE Existing+Cumulative NP (WD)-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3170   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	65.7	133.9

TABLE Existing+Cumulative NP (WD)-11

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20420   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	100.3	215.8

TABLE Existing+Cumulative NP (WD)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2790   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	99.0

TABLE Existing+Cumulative NP (WD)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3200   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	108.2

TABLE Existing+Cumulative NP (WD)-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 800   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (WD)-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1540   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (WD)-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 820 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (WD)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 520   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (WD)-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1360   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative+P (WD)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26840   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
59.7	120.3	255.0	547.4

TABLE Existing+Cumulative+P (WD)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27870   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
61.0	123.2	261.4	561.3

TABLE Existing+Cumulative+P (WD)-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25555   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.1	116.6	246.9	529.8

TABLE Existing+Cumulative+P (WD)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7245   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	108.8	229.8

TABLE Existing+Cumulative+P (WD)-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10330   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.8	136.5	290.4

TABLE Existing+Cumulative+P (WD)-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9125 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.2	126.0	267.5

TABLE Existing+Cumulative+P (WD)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7550   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	56.0	111.6	236.1

TABLE Existing+Cumulative+P (WD)-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18780 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	96.0	201.6	431.8

TABLE Existing+Cumulative+P (WD)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19880   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	99.4	209.3	448.4

TABLE Existing+Cumulative+P (WD)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3170   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	65.7	133.9

TABLE Existing+Cumulative+P (WD)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20670 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	101.1	217.5

TABLE Existing+Cumulative+P (WD)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3610   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	56.6	117.0

TABLE Existing+Cumulative+P (WD)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3660 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	57.1	118.0

TABLE Existing+Cumulative+P (WD)-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 880   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative+P (WD)-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4020   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	73.3

TABLE Existing+Cumulative+P (WD)-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 820 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative+P (WD)-17

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 520   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 47.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative+P (WD)-18

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (WD)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1670   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (Sat)-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16180   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.5	182.8	391.1

TABLE Existing+Cumulative NP (Sat)-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16895   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	89.9	188.1	402.5

TABLE Existing+Cumulative NP (Sat)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16990   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	90.2	188.7	404.0

TABLE Existing+Cumulative NP (Sat)-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6050   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	97.1	204.1

TABLE Existing+Cumulative NP (Sat)-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8430   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.5	119.8	253.9

TABLE Existing+Cumulative NP (Sat)-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6840   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	104.9	221.2

TABLE Existing+Cumulative NP (Sat)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5970   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	96.3	202.3

TABLE Existing+Cumulative NP (Sat)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11815   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	72.3	148.9	317.4

TABLE Existing+Cumulative NP (Sat)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12440 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	74.6	154.0	328.5

TABLE Existing+Cumulative NP (Sat)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2900   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	62.4	126.4

TABLE Existing+Cumulative NP (Sat)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17030   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	88.9	191.2

TABLE Existing+Cumulative NP (Sat)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2740   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	97.8

TABLE Existing+Cumulative NP (Sat)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3970   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	59.9	124.4

TABLE Existing+Cumulative NP (Sat)-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 960   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (Sat)-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1700   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (Sat)-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 800 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (Sat)-17

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1520   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative NP (Sat)-18

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative NP (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1800 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative+P (Sat)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard West of Redondo Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18340   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	94.6	198.5	425.0

TABLE Existing+Cumulative+P (Sat)-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Redondo Avenue and Loma Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20225   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	100.5	211.6	453.6

TABLE Existing+Cumulative+P (Sat)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Loma Avenue and Mira-Mar Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19990   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	99.8	210.0	450.1

TABLE Existing+Cumulative+P (Sat)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Ocean Boulevard Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9050   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	61.9	125.3	266.1

TABLE Existing+Cumulative+P (Sat)-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Termino Avenue and Bennett Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11810   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	72.3	148.9	317.3

TABLE Existing+Cumulative+P (Sat)-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard Between Bennett Avenue and Granada Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9800   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.8	131.9	280.5

TABLE Existing+Cumulative+P (Sat)-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Ocean Boulevard East of Granada Avenue

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7670 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	56.5	112.8	238.5

TABLE Existing+Cumulative+P (Sat)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Mira-Mar Avenue and Termino Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11925   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	72.7	149.8	319.4

TABLE Existing+Cumulative+P (Sat)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue Between Termino Avenue and 2nd Street
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13165   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	77.2	159.8	341.0

TABLE Existing+Cumulative+P (Sat)-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Livingston Avenue East of 2nd Street
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2900   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	62.4	126.4

TABLE Existing+Cumulative+P (Sat)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: 2nd Street South of Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17720   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	91.3	196.3

TABLE Existing+Cumulative+P (Sat)-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Termino Avenue South of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4980   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	68.9	144.3

TABLE Existing+Cumulative+P (Sat)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue Between Ocean Boulevard and Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5090 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	69.8	146.4

TABLE Existing+Cumulative+P (Sat)-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Termino Avenue North of Livingston Avenue
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1210 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	58.6

TABLE Existing+Cumulative+P (Sat)-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Bennett Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8460   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	56.0	120.0

TABLE Existing+Cumulative+P (Sat)-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019

ROADWAY SEGMENT: Bennett Avenue North of Ocean Boulevard

NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 800   SPEED (MPH): 25   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative+P (Sat)-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue South of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1520 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 52.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing+Cumulative+P (Sat)-18

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 11/08/2019
ROADWAY SEGMENT: Granada Avenue North of Ocean Boulevard
NOTES: Belmont Pool Revitalization - Future - Existing+Cumulative+P (Sat)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2640 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	55.5

APPENDIX D

TRAFFIC ANALYSIS

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CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: December 2, 2019

TO: Christopher Koontz

FROM: Arthur Black

SUBJECT: Belmont Plaza Pool Revised Traffic Analysis

The City of Long Beach (City) is proposing to reconstruct the Belmont Pool at its historic location, which is currently the location of a temporary pool. This memorandum compares the traffic analysis presented in the August 2016 Final Environmental Impact Report (EIR) to a revised traffic analysis prepared in November 2019. The November 2019 traffic analysis was prepared with updated existing (2019) conditions and consistent with the City's revised Traffic Impact Analysis Guidelines. The City also provided a current list of approved/pending projects for analysis of cumulative traffic impacts. Traffic analysis worksheets are provided as attachments.

SCOPING PROCESS

The City distributed the first Notice of Preparation (NOP) for the EIR for public review between April 18 and May 17, 2013. The City received three comment letters in response to the original NOP. No comment letters associated with Traffic and Transportation were received in response to the original NOP circulated for the proposed Project. Due to revisions in the Project Description, the City re-issued and circulated the NOP for public review between April 9, 2014, and May 8, 2014. The City received five comment letters in response to the re-issued NOP during the public review period. A comment letter from the Los Angeles County Metropolitan Transportation Authority (Metro) provided recommendations on the geographic area to be included in the Traffic Impact Analysis. Additionally, Metro provided recommended guidelines and guidance policies to be followed during the preparation of the *Traffic Impact Analysis* for the proposed Project to ensure compliance with the 2010 Congestion Management Program (CMP) for the County of Los Angeles (County). None of the arterial monitoring stations identified in Appendix A of the 2010 CMP for the County are located near the proposed Project, and the Project is not anticipated to conflict with standards established for designated roads or highways.

Subsequent to circulation of the Draft EIR in April 2016, comment letters were received from the public. Among the comments was a request to add two additional intersections to the study area (Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street). While the Final EIR correctly stated that project trips at these intersections were below the threshold for inclusion in the study area (i.e., 50 or more trips in the peak hour), in an effort to provide as much information about the modified Project as possible, the November 2019 analysis included these two additional intersections.

METHODOLOGY

The impacts of the added vehicle trips generated by the modified Project were evaluated in comparison to the existing traffic conditions. The study intersection level of service (LOS) analysis was conducted for the weekday a.m. peak hour, the weekday p.m. peak hour, and the Saturday midday peak hour. As stated above, the study area was expanded and includes the following 12 intersections:

1. Redondo Avenue/Ocean Boulevard
2. Loma Avenue/Ocean Boulevard
3. Ocean Boulevard/Livingston Drive
4. Termino Avenue/Livingston Drive
5. Bennett Avenue/Livingston Drive (stop-controlled intersection)
6. Ximeno Avenue/Livingston Drive
7. 2nd Street/Livingston Drive
8. Termino Avenue/Ocean Boulevard
9. Bennett Avenue/Ocean Boulevard (stop-controlled intersection)
10. Granada Avenue/Ocean Boulevard (stop-controlled intersection)
11. Pacific Coast Highway/2nd Street
12. Studebaker Road/2nd Street

Intersection Measures of Effectiveness

Vistro (Version 6.0) computer software was utilized to determine the study intersection LOS based on the intersection capacity utilization (ICU) methodology for the signalized study intersections and the *Highway Capacity Manual* (HCM) methodology for unsignalized intersections. Consistent with the City's requirements, the ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums up these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of LOS, where LOS A represents free-flow activity, and LOS F represents overcapacity operation. LOS is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. Typical intersection operations by LOS grade are described in Table A.

The relationship between LOS and the ICU value (i.e., v/c ratio) is shown in Table B.

For the HCM methodology, the LOS is presented in terms of total intersection delay (in seconds per vehicle). The relationship between LOS and the delay at unsignalized intersections is shown in Table C.

The City considers LOS D as the upper limit of satisfactory operations for total intersection operation. Mitigation is required for any signalized intersection where a project's traffic causes the intersection to deteriorate from LOS D to LOS E or F, or if the Project traffic causes an increase in v/c ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition. Mitigation is required for any unsignalized intersection where a project's traffic increases the intersection delay by 2 percent or greater when the entire intersection is operating at LOS E or F in the baseline condition.

Table A: LOS Descriptions

LOS	Description
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained no matter how great the demand.
F	This level describes forced-flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, speed can drop to zero.

LOS = level of service

Table B: LOS/ICU Value Comparison

Level of Service	Volume-to-Capacity (ICU Methodology)	Level of Service	Volume-to-Capacity (ICU Methodology)
A	≤0.60	D	>0.80 and ≤0.90
B	>0.60 and ≤0.70	E	>0.90 and ≤1.00
C	>0.70 and ≤0.80	F	>1.00

ICU = intersection capacity utilization
LOS = level of service

Table C: LOS/Unsignalized Intersection Delay Comparison

LOS	Unsignalized Intersection Delay (seconds) per Vehicle
A	≤ 10.0
B	>10.0 and ≤ 15.0
C	>15.0 and ≤ 25.0
D	>25.0 and ≤ 35.0
E	>35.0 and ≤ 50.0
F	>50.0

LOS = level of service

EXISTING SETTING

Existing Circulation System

The Belmont Pool Plaza is located in the Belmont neighborhood in the southeastern portion of Long Beach. The former Belmont Pool building was located near the intersection of Ocean Boulevard and Livingston Drive. A temporary outdoor pool (opened in December 2013 to provide swimming facilities while the permanent facility was under construction) is located in the Beach Parking Lot. Access to parking for the Belmont Pool is provided from Ocean Boulevard via Termino Avenue and Bennett Avenue. Public transportation in the vicinity of the Project is provided by Long Beach Transit. Long Beach Transit Routes 121 and 131 stop near the intersection of Termino Avenue/ Ocean Boulevard. The Shoreline Beach Bike Path provides a Class I off-street bike path from the Los Angeles River to 54th Place and provides access to the Belmont Pool for bicycles. The location of the Project site is illustrated on Figure 1.

Prior to certifying the Final EIR, the City completed a road diet on Ocean Boulevard between Livingston Drive and Alamitos Park. The road diet restriped Ocean Boulevard to provide one vehicle lane and one bicycle lane in each direction. This project changed intersection geometrics at Bennett Avenue/Ocean Boulevard and had the potential to redistribute traffic volumes.

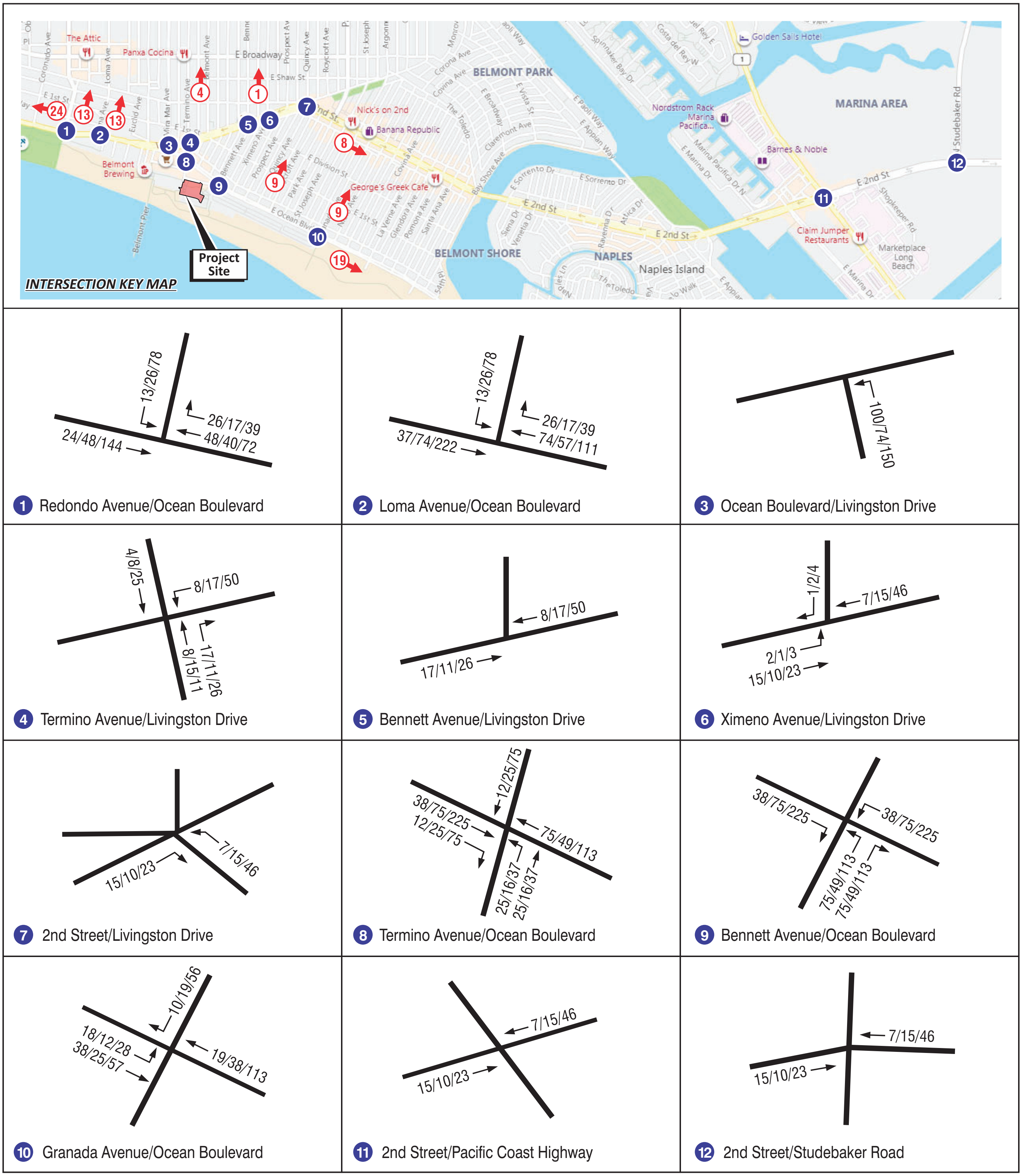
Existing Level of Service with Outdoor Pool

Traffic volumes were collected in February 2016 and analyzed to determine the existing LOS at the 10 study intersections included in the Final EIR during the weekday a.m. peak hour, the weekday p.m. peak hour, and the weekend midday peak hour. The previously disclosed existing (2016) LOS is listed in Table D1. Updated traffic volumes were collected in October 2019 for the same 10 study intersections. Due to ongoing construction in the vicinity of the additional two intersections, previously collected traffic volumes were used, and an ambient growth rate of 3 percent was added to approximate existing conditions. The existing (2019) LOS is listed in Table D2. Worksheets providing LOS calculations are provided as an attachment.

Table D2 shows that the intersection of Studebaker Road/2nd Street operates worse than the City's performance standard during the p.m. peak hour. A comparison of Tables D1 and D2 reveals that all intersections previously operating at a satisfactory LOS continue to operate within the City's standard.

Level of Service Based on Historical Operations

At the time intersection traffic volumes were collected, the temporary outdoor pool at Belmont Pool Plaza was open for use by clubs, local high schools, and the general public. However, because of the smaller size of the outdoor pool compared to the indoor pool, it is not believed that the traffic volumes collected reflect historic typical conditions during operation of the entire Belmont Pool facility. In order to determine traffic conditions during typical operation of the entire Belmont Pool facility, historic data for the operation of the pool were examined.



LSA

FIGURE 1

LEGEND

XX/YY/ZZ - AMPeak Hour/PM Peak Hour/ Saturday Midday Volumes

(X) - Trip Distribution Percent

(X) - Study Area Intersection

N

SCHEMATIC - NOT TO SCALE

Belmont Pool Revitalization Project

Trip Distribution and Assignment

I:\CLB1904.06\G\Trip Distribution.cdr (11/1/2019)

Table D1: Existing (2016) Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.70	C	0.72	C	0.59	A
2. Loma Avenue/Ocean Boulevard	0.61	B	0.65	B	0.46	A
3. Ocean Boulevard/Livingston Drive	0.49	A	0.58	A	0.45	A
4. Termino Avenue/Livingston Drive	0.40	A	0.63	B	0.47	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.14	A	0.19	A	0.17	A
7. 2nd Street/Livingston Drive	0.69	B	0.62	B	0.65	B
8. Termino Avenue/Ocean Boulevard	0.30	A	0.40	A	0.34	A
9. Bennett Avenue/Ocean Boulevard	9.6 sec	A	11.2 sec	B	10.8 sec	B
10. Granada Avenue/Ocean Boulevard	8.6 sec	A	9.6 sec	A	9.5 sec	B

ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Table D2: Existing (2019) Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.67	B	0.70	B	0.52	A
2. Loma Avenue/Ocean Boulevard	0.55	A	0.65	B	0.40	A
3. Ocean Boulevard/Livingston Drive	0.49	A	0.60	B	0.48	A
4. Termino Avenue/Livingston Drive	0.42	A	0.63	B	0.51	A
5. Bennett Avenue/Livingston Drive	8.3 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.46	A	0.40	A
7. 2nd Street/Livingston Drive	0.54	A	0.60	A	0.62	B
8. Termino Avenue/Ocean Boulevard	0.40	A	0.50	A	0.45	A
9. Bennett Avenue/Ocean Boulevard	10.9 sec	B	14.9 sec	B	12.2 sec	B
10. Granada Avenue/Ocean Boulevard	9.8 sec	A	12.3 sec	B	10.9 sec	B
11. Pacific Coast Highway/2nd Street	0.86	D	0.87	D	0.78	C
12. Studebaker Road/2nd Street	0.87	D	**0.98**	**E**	0.77	C

Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Belmont Pool was open year-round but use can vary by season and temperature. In examining pool operations to determine historic typical trip generation, typical but busy conditions were analyzed. Special events were not considered because they do not occur on a typical day. Information regarding Belmont Pool's past operation was available from records of the City of Long Beach Parks and Recreation Department and interviews with Lori Jamacz, who works for the City of Long Beach Parks, Recreation, and Marine Department at Belmont Pool.

Belmont Pool was used by local high school swimming and water polo teams, swimming, diving, and water polo clubs, and the general public, including recreational swimming, lap swimming for fitness, and swim lessons. These uses were programmed throughout the day and not all resulted in trips to or from Belmont Pool in the typical commute peak hours. For example, clubs using the pool for swimming, diving, and water polo arrived before the start of the p.m. peak hour and left after the end of the p.m. peak hour.

Open swim for recreation and fitness of the general public began at 5:30 a.m. The typical stay at the pool complex for lap swimmers was 1 to 1.5 hours, including time before and after their swim. During the peak hour between 7:00 a.m. and 9:00 a.m., it is estimated that 50 patrons arrived at and 100 patrons departed from the pool. Many of the patrons of Belmont Pool who were swimming for fitness arrived by bicycle. However, to be consistent with the conservative methodology used to calculate Project traffic described below, each patron was analyzed as traveling in a single-occupant vehicle.

High school swimming and water polo teams arrived at Belmont Pool for practice after school and before the start of the p.m. peak hour but departed during the p.m. peak hour. The pool has historically reopened to open swim for recreation and fitness of the general public at 4:00 p.m. During the peak hour between 4:00 p.m. and 6:00 p.m., it is estimated that 100 patrons arrived at and 65 patrons departed from the pool. To be consistent with the conservative methodology used to calculate Project traffic, each patron was analyzed as traveling in a single-occupant vehicle.

On weekends, Belmont Pool was open for recreation and fitness of the general public during the midday peak hour. During the peak hour between 12:00 p.m. and 2:00 p.m. it is estimated that up to 300 patrons could have arrived at and 150 patrons could have departed from the pool. Families arriving for recreational swimming typically travel in one car. Patrons swimming laps for fitness could have arrived at the pool by bicycle on weekends. Again, to be consistent with the conservative methodology used to calculate Project traffic, each patron was analyzed as traveling in a single-occupant vehicle. The resulting historic trip generation is displayed in Table E.

Table E: Belmont Pool Project Trip Generation

	AM Peak Hour			PM Peak Hour			Weekend Midday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Existing Belmont Pool	50	100	150	100	65	165	300	150	450

PROJECT BUILDOUT YEAR PLUS CUMULATIVE PROJECTS

Construction of the modified Project is anticipated to commence in 2021 at the earliest and be completed within approximately 18 months. Cumulative projects include any committed and/or approved developments within 1.5 miles of the Project site that will generate future vehicle trips that utilize intersections identified in the Project traffic study area. According to the City, three projects were identified within the cumulative project study area: a new condominium and hotel use at 2010 Ocean Boulevard, a commercial development at 6398 Pacific Coast Highway, and the 2nd and PCH commercial project at 6400 Pacific Coast Highway[1].

LSA identified the traffic volumes for the 2nd and PCH project from that project's traffic study (2nd and PCH Project Traffic Impact Analysis, April 2017). LSA manually generated and distributed potential traffic volumes for the other two cumulative projects using trip generation rates published in Institute of Transportation Engineers (ITE) *Trip Generation Manual*, Tenth Edition. The cumulative traffic volumes were added to existing conditions to produce the cumulative baseline conditions. Table F presents the intersection LOS conditions in the cumulative baseline condition.

Table F: Project Buildout Year (2022) Plus Cumulative Projects Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.67	B	0.71	C	0.52	A
2. Loma Avenue/Ocean Boulevard	0.56	A	0.65	B	0.40	A
3. Ocean Boulevard/Livingston Drive	0.48	A	0.60	B	0.46	A
4. Termino Avenue/Livingston Drive	0.42	A	0.64	B	0.51	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.47	A	0.41	A
7. 2nd Street/Livingston Drive	0.57	A	0.65	B	0.59	A
8. Termino Avenue/Ocean Boulevard	0.40	A	0.52	A	0.48	A
9. Bennett Avenue/Ocean Boulevard	10.9 sec	B	14.9 sec	B	12.2 sec	B
10. Granada Avenue/Ocean Boulevard	9.8 sec	A	12.3 sec	B	10.9 sec	B
11. Pacific Coast Highway/2nd Street	**0.90**	**E**	**0.97**	**E**	**0.96**	**E**
12. Studebaker Road/2nd Street	**0.90**	**E**	**1.00**	**F**	**0.90**	**E**

Note: Shaded cells indicate unsatisfactory LOS
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

As Table F shows, the 10 intersections closest to the project site that were originally included in the study area are anticipated to operate at LOS D or better. However, cumulative project traffic volume is anticipated to degrade the LOS at Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street without the project.

PROJECT TRAFFIC

Similar to the Project presented in the Final EIR, the modified Belmont Pool Project involves the construction of a new pool facility. When compared to the former Belmont Pool, the modified Project water surface area would be increased from 18,410 square feet (sf) to 40,314 sf, which is slightly (10.6%) increased from the original proposed Project (36,450 sf). The modified Project no longer includes a standalone 1,500 sf cafe, but instead includes a concession stand within the locker

[1] The DEIR included the Leeway Sailing Center Pier Replacement as a cumulative project. This project has been completed and is reflected in the 2019 traffic volume data.

room/restroom building. As with the original Project, multiple user groups could be programmed concurrently throughout the day. In addition, one of the pools could remain open to the general public while a special event is being held. However, because events are scheduled throughout the day, increased concurrent programming would not necessarily affect traffic during the peak hours.

Two full-size outdoor pools could serve twice as many users as currently patronize the pool in the a.m. peak hour, the p.m. peak hour, and the weekend midday peak hour. To analyze this scenario, the operational traffic discussed above (and reported in Table E) was doubled. Travel to Belmont Pool is possible by public transit, bicycle, and carpool but each patron was analyzed as traveling by single-occupant vehicle to present a conservative ("worst-case") scenario. The resulting trip generation—identical to that analyzed in the EIR—is displayed in Table G.

Table G: Future with Project Trip Generation

	AM Peak Hour			PM Peak Hour			Weekend Midday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Modified Project	100	200	300	200	130	330	600	300	900

Parking for Belmont Pool is located in a metered parking lot accessible from Bennett Avenue. Patrons of the pool might also have parked in the lot for Belmont Pier at the end of Termino Avenue, which is a pay-and-display lot. Given the various utility of the two roadways providing access to Belmont Pool, 75 percent of traffic to and from the pool was assigned to Bennett Avenue while the remaining 25 percent was assigned to Termino Avenue. Regionally, trips were distributed based on the location of residential land uses likely to generate travel demand to the pool during the peak hours analyzed.

Figure 1 illustrates the trip distribution and subsequent project trip assignment at the 12 study intersections.

EXISTING PLUS PROJECT

The previously disclosed Existing (2016) Plus Project LOS is listed in Table G1. The updated Existing (2019) Plus Project LOS is listed in Table G2. Worksheets providing LOS calculations are provided as an attachment.

A comparison of Tables G1 and G2 reveals that all intersections previously operating at a satisfactory LOS continue to operate within the City's standard.

As Table G2 shows, all study intersections are anticipated to operate at LOS D or better in the Existing Plus Project condition except for the intersection of Studebaker Road/2nd Street, which operates at unsatisfactory LOS E in existing conditions. The modified project would increase the v/c ratio at this intersection by less than 0.02. According to the City's Traffic Impact Analysis Guidelines, the Project's impact would be less than significant, and no mitigation is required.

Table G1: Existing (2016) Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.73	C	0.75	C	0.68	B
2. Loma Avenue/Ocean Boulevard	0.65	B	0.69	B	0.56	A
3. Ocean Boulevard/Livingston Drive	0.52	A	0.61	B	0.50	A
4. Termino Avenue/Livingston Drive	0.41	A	0.65	B	0.52	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.15	A	0.19	A	0.17	A
7. 2nd Street/Livingston Drive	0.69	B	0.62	B	0.66	B
8. Termino Avenue/Ocean Boulevard	0.34	A	0.44	A	0.48	A
9. Bennett Avenue/Ocean Boulevard	10.7 sec	A	12.3 sec	B	16.4 sec	C
10. Granada Avenue/Ocean Boulevard	8.8 sec	A	10.1 sec	A	11.0 sec	B

ICU = intersection capacity utilization
LOS = level of service
sec = seconds

Table G2: Existing (2019) Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.71	C	0.74	C	0.60	B
2. Loma Avenue/Ocean Boulevard	0.59	A	0.69	B	0.52	A
3. Ocean Boulevard/Livingston Drive	0.53	A	0.63	A	0.53	A
4. Termino Avenue/Livingston Drive	0.44	A	0.66	B	0.58	A
5. Bennett Avenue/Livingston Drive	8.3 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.49	A	0.47	A	0.42	A
7. 2nd Street/Livingston Drive	0.58	A	0.61	B	0.65	B
8. Termino Avenue/Ocean Boulevard	0.47	A	0.56	A	0.63	B
9. Bennett Avenue/Ocean Boulevard	12.9 sec	B	18.1 sec	C	21.1 sec	C
10. Granada Avenue/Ocean Boulevard	10.4 sec	B	13.6 sec	B	14.8 sec	B
11. Pacific Coast Highway/2nd Street	0.86	D	0.87	D	0.79	C
12. Studebaker Road/2nd Street	0.87	D	**0.98**	**E**	0.78	C

Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

PROJECT BUILDOUT YEAR PLUS CUMULATIVE PROJECTS PLUS PROJECT

Project traffic volumes were added to the cumulative baseline conditions and analyzed to determine the Project's potential impacts in the Project Buildout Year Plus Cumulative Projects Plus Project conditions. Table H displays the results. Worksheets providing LOS calculations are provided as an attachment.

As Table H shows, all study intersections are anticipated to operate at LOS D or better in the Project Buildout Year Plus Cumulative Projects Plus Project condition except for the intersections of Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street, which operate at unsatisfactory LOS in the cumulative baseline condition. The modified project would increase the v/c ratio at these intersections by less than 0.02.[1] According to the City's Traffic Impact Analysis Guidelines, the Project's impact would be less than significant, and no mitigation is required.

Table H: Project Buildout Year (2022) Plus Cumulative Projects Plus Project Intersection Level of Service

Intersection	AM Peak Hour		PM Peak Hour		Weekend Midday Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Redondo Avenue/Ocean Boulevard	0.71	C	0.74	C	0.61	B
2. Loma Avenue/Ocean Boulevard	0.59	A	0.69	B	0.53	A
3. Ocean Boulevard/Livingston Drive	0.52	A	0.62	A	0.51	A
4. Termino Avenue/Livingston Drive	0.44	A	0.66	B	0.58	A
5. Bennett Avenue/Livingston Drive	8.4 sec	A	8.4 sec	A	8.4 sec	A
6. Ximeno Avenue/Livingston Drive	0.50	A	0.47	A	0.43	A
7. 2nd Street/Livingston Drive	0.57	A	0.65	B	0.61	B
8. Termino Avenue/Ocean Boulevard	0.48	A	0.59	A	0.63	B
9. Bennett Avenue/Ocean Boulevard	12.9 sec	B	18.1 sec	C	21.1 sec	C
10. Granada Avenue/Ocean Boulevard	10.3 sec	A	13.6 sec	B	14.8 sec	B
11. Pacific Coast Highway/2nd Street	**0.90**	**E**	**0.97**	**E**	**0.97**	**E**
12. Studebaker Road/2nd Street	**0.90**	**E**	**1.00**	**E**	**0.91**	**E**

Note: Shaded cells indicate unsatisfactory LOS.
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

SPECIAL EVENT TRAFFIC

Typical daily operation of the new Belmont Pool with up to 900 patrons in a peak hour is not anticipated to result in a significant traffic impact to the study intersections. This includes typical daily use by local high school swimming and water polo teams for training; swimming, diving, and water polo clubs; and the general public, including recreational swimming, lap swimming for fitness, and swim lessons. Several times per year, Belmont Pool facilitates special events such as high school and collegiate swimming and water polo competitions. The previous facility provided 2,500 seats for spectators at events such as these at the indoor pool. The original proposed Project would have provided 1,250 permanent seats for the indoor pool and up to 3,000 temporary seats for the outdoor pool. As stated in the project description, the modified Project would provide 1,555 permanent seats for the main pool, and approximately 310 temporary seats for the secondary (Myrtha) pool. No permanent spectator seating at the Myrtha pool is included in the modified

[1] While these intersections were not analyzed in the 2016 Environmental Impact Report (EIR), the original Project would have had exactly the same effect on these intersections, since the modified Project is expected to generate the same amount of traffic as the original Project.

Project. Thus, the modified proposed Project has significantly less overall capacity for special events than the original Project. Likewise, even if special events are held at both pools simultaneously, the maximum number of spectators for the modified Project would be well under the baseline conditions of the former Belmont Pool facility prior to its demolition.

The Belmont Pool hosted the United States Olympic Swim trials in 1968 and 1976, the National Collegiate Athletic Association (NCAA) swimming championships in 1974 and 1978, and the NCAA water polo championships in all but 3 years from 1969 to 1994. If special events such as these again occur at the Belmont Pool after the modified Project is constructed, they are not expected to occur regularly. In the event that a large special event is held at Belmont Pool, an Event Traffic Management Plan would need to be developed that addresses potential impacts to traffic circulation and the steps necessary to avoid potential significant traffic congestion and parking impacts. With typical average vehicle occupancy of 1.5 passengers per vehicle, an event with 450 spectators would be expected to generate 300 outbound trips, which is the traffic volume that was analyzed in the weekend midday peak hour. Therefore, any event with more than 450 spectators would be considered a large special event that would require an Event Traffic Management Plan. This plan may include active traffic management and/or off-site parking and shuttles. Because special events are sporadic and would occur at specific times per year consistent with existing (pre-closure) conditions, the impacts of special event traffic would not cause significant peak-hour LOS impacts. Mitigation Measure 4.12.1 (included in the Final EIR) requires the City to prepare and implement an Event Traffic Management Plan that requires traffic and control measures for special events to be reviewed and approved by the City of Long Beach Traffic Engineer. Implementation of Mitigation Measure 4.12.1 is applicable to the Modified project and would reduce special event traffic impacts to the surrounding residences and businesses to less than significant levels.

CONSTRUCTION TRAFFIC

Construction of the modified Project would require a net export of approximately 8,500 cubic yards (cy) of material, and construction worker commutes for the duration of the construction period. The staging area for construction would be in the Beach Parking Lot. Construction of the modified Project is anticipated to commence in 2021, at the earliest, and be completed within approximately 18 months.

Trips generated by construction traffic in the a.m. and p.m. peak hours could include construction workers arriving at the site, equipment and material delivery, and material export during the demolition phase. Large trucks, used for the delivery and removal of equipment and materials, utilize more roadway capacity than passenger vehicles due to their larger size, slower start-up times, and reduced maneuverability. In order to account for the increase in roadway capacity utilized by construction vehicles, passenger car equivalent (PCE) factors are used. These factors were applied to the vehicle trip generation to account for the difference in operational characteristics of heavy vehicles. In total, however, construction traffic is not anticipated to exceed the 100 inbound and 200 outbound trips already analyzed in the a.m. peak hour or the 200 inbound and 130 outbound trips already analyzed in the p.m. peak hour that would be expected with operation of the completed pool facility. Therefore, similar to operation of the completed pool facility, intersection operation is expected to remain at acceptable LOS during construction. Therefore, the modified Project would not result in a significant impact related to construction traffic, and no mitigation is required.

Potential temporary lane closures could restrict access for emergency vehicles. Mitigation Measure 4.12.2 (included in the Final EIR) requires that a Construction Traffic Management Plan be prepared for the modified Project that would ensure emergency vehicles would be able to navigate through streets adjacent to the Project site, which may experience congestion due to construction activities. A Construction Traffic Management Plan that identifies traffic control for any potential street closures, detours, or other disruption to traffic circulation and public transit routes is necessary for the modified Project. A Construction Traffic Management Plan also identifies the routes that construction vehicles are authorized to use to access the site, the hours of construction traffic, traffic controls and detours, and staging areas for equipment. Mitigation Measure 4.12.2 also requires that all emergency access to the Project site and adjacent areas be kept clear and unobstructed during all phases of construction. Traffic management personnel (flag persons), required as part of the Construction Traffic Management Plan, would be trained to assist in emergency response by restricting or controlling the movement of traffic that could interfere with emergency vehicle access. If a partial street closure (i.e., a lane closure) were to be required, notice would be provided to the Long Beach Police Department, and flag persons would be used to facilitate the traffic flow until construction is complete. With implementation of Mitigation Measure 4.12.2, potential impacts related to emergency access during construction would be less than significant.

MITIGATION MEASURES

The following mitigation measures included in the Final EIR would continue to adequately ensure that potential traffic impacts resulting from Project implementation would be reduced to less than significant levels.

Mitigation Measure 4.12.1: **Event Traffic Management Plan.** In the event that a large special event (defined as more than 450 spectators) is held at Belmont Pool, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop an Event Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address potential impacts to traffic circulation and the steps necessary to minimize potential impacts (e.g., active traffic management and/or off-site parking and shuttles) during the large special event.

Mitigation Measure 4.12.2: **Construction Traffic Management Plan.** Prior to the issuance of any demolition permits, the City of Long Beach (City) Parks and Recreation Director, or designee, shall develop a Construction Traffic Management Plan for review and approval by the City Traffic Engineer. The plan shall be designed by a registered Traffic Engineer and shall address traffic control for any street closure, detour, or other disruption to traffic circulation and public transit routes and shall ensure that emergency vehicle access is maintained. The plan shall identify the routes that construction vehicles shall use to access the site, the hours of construction traffic, traffic controls and detours, and off-site staging areas. The plan shall also require that a minimum of one travel lane in each direction on Ocean Boulevard be kept open during construction activities. Access to Belmont Veterans' Memorial Pier, the Shoreline Beach Bike Path, and the beach shall be maintained at all times. The Construction Traffic Management Plan shall also require that access to the pier, the bike path, and the beach be kept open during construction activities. The plan shall also require the City to keep all haul routes clean and free of debris including, but not limited to, gravel and dirt.

SUMMARY

The Final EIR for the Belmont Pool project was certified in 2016. Based on operational data used to calculate trip generation, the traffic expected to be generated by the modified Project is the same as that expected from the original Project. To prepare this updated traffic impact analysis, LSA:

- Collected current (2019) existing conditions;
- Added two additional intersections requested in the Draft EIR comments;
- Followed the City's updated Traffic Impact Analysis Guidelines;
- Requested an updated cumulative project list from the City; and
- Incorporated adjusted intersection geometries resulting from the Ocean Boulevard restriping.

LSA compared the results of the revised traffic impact analysis to the analysis previously disclosed in the Final EIR. The existing intersection LOS are not substantially changed. The Project has no new traffic impacts. While cumulative projects are shown to degrade LOS at Pacific Coast Highway/2nd Street and Studebaker Road/2nd Street, the Project would not result in a significant impact at either location according to the thresholds established in the City's Traffic Impact Analysis Guidelines. It should be noted that degraded LOS at these two intersections was identified in the environmental document for the 2nd and PCH commercial project.

Attachments: A – Traffic Volume Data
B – Existing Intersection LOS Worksheets
C – Cumulative Baseline Intersection LOS Worksheets
D – Existing Plus Project Intersection LOS Worksheets
E – Cumulative Plus Project Intersection LOS Worksheets

ATTACHMENT A

TRAFFIC VOLUME DATA

National Data & Surveying Services

Intersection Turning Movement Count

Location: Redondo Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05606-001
Date: 10/9/2019

Total

NS/EW Streets:	Redondo Ave				Redondo Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	17	0	29	0	14	173	0	0	0	276	25	0	534
7:15 AM	0	0	0	0	15	0	20	0	15	163	0	0	0	313	17	0	543
7:30 AM	0	0	0	0	23	0	28	0	16	183	0	0	0	314	12	0	576
7:45 AM	0	0	0	0	30	0	27	0	18	219	0	0	0	303	22	0	619
8:00 AM	0	0	0	0	37	0	21	0	25	164	0	0	0	343	25	0	615
8:15 AM	0	0	0	0	43	0	31	0	21	167	0	0	0	281	17	0	560
8:30 AM	0	0	0	0	24	0	16	0	20	154	0	0	0	255	31	0	500
8:45 AM	0	0	0	0	33	0	27	0	11	139	0	0	0	234	29	0	473
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	222	0	199	0	140	1362	0	0	0	2319	178	0	4420
APPROACH %'s :					52.73%	0.00%	47.27%	0.00%	9.32%	90.68%	0.00%	0.00%	0.00%	92.87%	7.13%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	133	0	107	0	80	733	0	0	0	1241	76	0	2370
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.773	0.000	0.863	0.000	0.800	0.837	0.000	0.000	0.000	0.905	0.760	0.000	0.957
					0.811				0.858				0.895				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	0	0	0	1	0	1	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	41	0	21	0	26	329	0	0	0	206	26	0	649
4:15 PM	0	0	0	0	46	0	28	0	33	323	0	0	0	209	22	0	661
4:30 PM	0	0	0	0	44	0	14	0	33	340	0	0	0	200	26	0	657
4:45 PM	0	0	0	0	36	0	20	0	25	380	0	0	0	209	26	0	696
5:00 PM	0	0	0	0	50	0	17	0	28	387	0	0	0	205	32	0	719
5:15 PM	0	0	0	0	44	0	23	0	43	379	0	0	0	217	42	0	748
5:30 PM	0	0	0	0	33	0	38	0	28	361	0	0	0	211	23	0	694
5:45 PM	0	0	0	0	47	0	24	0	18	302	0	0	0	219	22	0	632
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	341	0	185	0	234	2801	0	0	0	1676	219	0	5456
APPROACH %'s :					64.83%	0.00%	35.17%	0.00%	7.71%	92.29%	0.00%	0.00%	0.00%	88.44%	11.56%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	163	0	98	0	124	1507	0	0	0	842	123	0	2857
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.815	0.000	0.645	0.000	0.721	0.974	0.000	0.000	0.000	0.970	0.732	0.000	0.955
					0.919				0.966				0.931				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Loma Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05606-002
Date: 10/9/2019

Total

NS/EW Streets:	Loma Ave				Loma Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	5	0	4	0	3	186	0	0	0	298	1	0	497
7:15 AM	0	0	0	0	3	0	2	0	1	173	0	0	0	335	2	0	516
7:30 AM	0	0	0	0	2	0	9	0	2	208	0	0	0	332	7	0	560
7:45 AM	0	0	0	0	2	0	6	0	3	252	0	0	0	305	1	0	569
8:00 AM	0	0	0	0	3	0	4	0	3	195	0	0	0	363	5	0	573
8:15 AM	0	0	0	0	1	0	3	0	1	214	0	0	0	300	4	0	523
8:30 AM	0	0	0	0	1	0	3	0	2	181	0	0	0	280	2	0	469
8:45 AM	0	0	0	0	1	0	5	0	1	163	0	0	0	244	6	0	420
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	18	0	36	0	16	1572	0	0	0	2457	28	0	4127
APPROACH %'s :					33.33%	0.00%	66.67%	0.00%	1.01%	98.99%	0.00%	0.00%	0.00%	98.87%	1.13%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	8	0	22	0	9	869	0	0	0	1300	17	0	2225
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.667	0.000	0.611	0.000	0.750	0.862	0.000	0.000	0.000	0.895	0.607	0.000	0.971
					0.682				0.861				0.895				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	3	0	6	0	4	374	0	0	0	228	5	0	620
4:15 PM	0	0	0	0	3	0	3	0	9	342	0	0	0	222	15	0	594
4:30 PM	0	0	0	0	3	0	2	0	5	394	0	0	0	243	14	0	661
4:45 PM	0	0	0	0	2	0	1	0	8	414	0	0	0	218	13	0	656
5:00 PM	0	0	0	0	2	0	3	0	5	427	0	1	0	247	9	0	694
5:15 PM	0	0	0	0	3	0	5	0	4	411	0	0	0	239	5	0	667
5:30 PM	0	0	0	0	3	0	2	0	12	385	0	0	0	245	8	0	655
5:45 PM	0	0	0	0	5	0	5	0	11	338	0	2	0	229	10	0	600
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	24	0	27	0	58	3085	0	3	0	1871	79	0	5147
APPROACH %'s :					47.06%	0.00%	52.94%	0.00%	1.84%	98.06%	0.00%	0.10%	0.00%	95.95%	4.05%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	10	0	11	0	22	1646	0	1	0	947	41	0	2678
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.833	0.000	0.550	0.000	0.688	0.964	0.000	0.250	0.000	0.959	0.732	0.000	0.965
					0.656				0.964				0.961				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ocean Blvd & Ocean Blvd/Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05606-003
Date: 10/23/2019

Total

NS/EW Streets:	Ocean Blvd				Ocean Blvd				Ocean Blvd/Livingston Dr				Ocean Blvd/Livingston Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	1	0	0	0	0	0	1	2	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	82	0	1	0	0	0	5	0	0	167	42	0	0	241	3	0	541
7:15 AM	98	0	0	0	0	0	3	0	0	164	48	3	0	220	2	0	538
7:30 AM	98	0	0	0	0	0	1	0	0	215	38	2	0	283	7	0	644
7:45 AM	93	0	0	0	0	0	5	0	0	208	69	1	0	282	3	0	661
8:00 AM	99	0	0	0	0	0	2	0	0	183	53	0	0	262	4	0	603
8:15 AM	100	0	2	0	0	0	4	0	0	158	58	5	0	243	1	0	571
8:30 AM	82	0	0	0	0	0	1	0	0	160	51	0	0	198	3	0	495
8:45 AM	71	0	0	0	0	0	6	0	1	143	44	1	0	219	1	0	486
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	723	0	3	0	0	0	27	0	1	1398	403	12	0	1948	24	0	4539
APPROACH %'s :	99.59%	0.00%	0.41%	0.00%	0.00%	0.00%	100.00%	0.00%	0.06%	77.07%	22.22%	0.66%	0.00%	98.78%	1.22%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	390	0	2	0	0	0	12	0	0	764	218	8	0	1070	15	0	2479
PEAK HR FACTOR :	0.975	0.000	0.250	0.000	0.000	0.000	0.600	0.000	0.000	0.888	0.790	0.400	0.000	0.945	0.536	0.000	0.938
	0.961				0.600				0.890				0.935				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	1	0	0	0	0	0	1	2	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	88	0	2	0	0	0	2	0	0	266	121	2	0	141	1	0	623
4:15 PM	79	0	0	0	0	0	2	0	4	283	120	5	0	175	9	0	677
4:30 PM	82	0	1	0	0	0	2	0	3	281	112	1	0	156	5	0	643
4:45 PM	90	0	1	0	0	0	2	0	2	307	134	2	0	156	3	0	697
5:00 PM	82	0	0	0	0	0	3	0	2	302	140	5	0	152	6	0	692
5:15 PM	89	0	2	0	0	0	5	0	3	304	137	7	0	151	3	0	701
5:30 PM	82	0	1	0	0	0	2	0	3	255	145	0	0	163	3	0	654
5:45 PM	93	0	0	0	0	0	5	0	3	243	122	3	0	163	5	0	637
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	685	0	7	0	0	0	23	0	20	2241	1031	25	0	1257	35	0	5324
APPROACH %'s :	98.99%	0.00%	1.01%	0.00%	0.00%	0.00%	100.00%	0.00%	0.60%	67.56%	31.08%	0.75%	0.00%	97.29%	2.71%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	343	0	4	0	0	0	12	0	10	1168	556	14	0	622	15	0	2744
PEAK HR FACTOR :	0.953	0.000	0.500	0.000	0.000	0.000	0.600	0.000	0.833	0.951	0.959	0.500	0.000	0.954	0.625	0.000	0.979
	0.953				0.600				0.969				0.959				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Termino Ave & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05606-004
Date: 10/9/2019

Total

NS/EW Streets:	Termino Ave				Termino Ave				Livingston Dr				Livingston Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	1	0.5	0.5	0	0	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	0	22	0	5	11	3	0	0	138	5	0	8	190	0	0	386
7:15 AM	6	0	20	0	5	5	1	0	0	143	0	0	9	251	0	3	443
7:30 AM	3	0	14	0	5	7	4	0	0	179	3	0	12	234	0	1	462
7:45 AM	6	0	22	0	5	10	2	0	0	175	4	0	18	231	0	2	475
8:00 AM	11	0	19	0	4	5	3	0	0	130	3	0	14	236	0	2	427
8:15 AM	3	0	26	0	6	7	0	0	0	159	0	1	18	210	0	3	433
8:30 AM	3	0	34	0	8	6	5	0	0	142	7	0	15	194	0	3	417
8:45 AM	11	0	22	0	5	12	2	0	0	113	5	0	19	163	0	2	354
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	47	0	179	0	43	63	20	0	0	1179	27	1	113	1709	0	16	3397
APPROACH %'s :	20.80%	0.00%	79.20%	0.00%	34.13%	50.00%	15.87%	0.00%	0.00%	97.68%	2.24%	0.08%	6.15%	92.98%	0.00%	0.87%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	26	0	75	0	19	27	10	0	0	627	10	0	53	952	0	8	1807
PEAK HR FACTOR :	0.591	0.000	0.852	0.000	0.950	0.675	0.625	0.000	0.000	0.876	0.625	0.000	0.736	0.948	0.000	0.667	0.951
	0.842				0.824				0.875				0.963				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	0	1	0	1	0.5	0.5	0	0	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	9	0	30	0	5	12	3	0	0	283	6	0	24	151	0	4	527
4:15 PM	8	0	25	0	2	16	1	0	0	239	4	0	35	177	0	4	511
4:30 PM	13	0	24	0	7	12	2	0	0	265	4	0	24	173	0	3	527
4:45 PM	15	0	29	0	8	11	0	0	0	270	2	0	17	152	0	3	507
5:00 PM	10	0	32	1	6	12	2	0	0	321	11	0	15	176	0	3	589
5:15 PM	9	0	30	0	7	11	2	0	0	253	5	0	21	181	0	2	521
5:30 PM	6	0	35	0	5	11	5	0	0	251	5	0	20	162	0	1	501
5:45 PM	10	0	29	0	2	15	3	0	0	195	7	0	19	159	0	3	442
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	80	0	234	1	42	100	18	0	0	2077	44	0	175	1331	0	23	4125
APPROACH %'s :	25.40%	0.00%	74.29%	0.32%	26.25%	62.50%	11.25%	0.00%	0.00%	97.93%	2.07%	0.00%	11.45%	87.05%	0.00%	1.50%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	47	0	115	1	28	46	6	0	0	1109	22	0	77	682	0	11	2144
PEAK HR FACTOR :	0.783	0.000	0.898	0.250	0.875	0.958	0.750	0.000	0.000	0.864	0.500	0.000	0.802	0.942	0.000	0.917	0.910
	0.926				0.952				0.852				0.944				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bennett Ave & Livingston Dr
City: Long Beach
Control: 1-Way Stop(SB)

Project ID: 19-05606-005
Date: 10/9/2019

Total

NS/EW Streets:	Bennett Ave				Bennett Ave					Livingston Dr				Livingston Dr						
AM	NORTHBOUND				SOUTHBOUND					EASTBOUND				WESTBOUND				WESTBOUND2		
	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	218	0	0	0	0	218
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	230	0	0	2	0	232
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260	0	0	1	0	261
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	238	0	0	1	1	241
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	277	0	0	3	2	283
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	0	0	1	3	216
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	202	0	0	3	0	205
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	190	0	0	0	1	192
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1827	0	0	11	7	1848
APPROACH %'s :					0.00%	0.00%	0.00%	0.00%	100.00%					0.00%	100.00%	0.00%	0.00%	61.11%	38.89%	
PEAK HR :	07:00 AM - 08:00 AM																			TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	1	0	0	0	0	0	946	0	0	4	1	952
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.910	0.000	0.000	0.500	0.250	0.912
							0.250								0.910			0.625		

	NORTHBOUND				SOUTHBOUND					EASTBOUND				WESTBOUND				WESTBOUND2		
PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	177	0	0	6	0	184
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195	0	0	1	0	196
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	208	0	0	2	0	211
4:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	179	0	0	2	1	185
5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	195	0	0	4	0	201
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	3	0	203
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	203	0	0	3	0	206
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	190	0	0	1	0	192
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	8	0	0	0	0	0	1547	0	0	22	1	1578
APPROACH %'s :					0.00%	0.00%	0.00%	0.00%	100.00%					0.00%	100.00%	0.00%	0.00%	95.65%	4.35%	
PEAK HR :	04:00 PM - 05:00 PM																			TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	5	0	0	0	0	0	759	0	0	11	1	776
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.912	0.000	0.000	0.458	0.250	0.919
							0.417								0.912			0.500		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ximeno Ave & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05606-006
Date: 10/9/2019

Total

NS/EW Streets:	Ximeno Ave				Ximeno Ave					Livingston Dr					Livingston Dr							
AM	NORTHBOUND				SOUTHBOUND					EASTBOUND					WESTBOUND							
	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1.5	0.5	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
7:00 AM	0	0	0	0	0	0	11	0	0	20	0	0	1	0	0	187	0	0	0	1	1	221
7:15 AM	0	0	0	0	0	0	13	0	0	22	0	0	1	1	0	234	0	0	1	0	1	273
7:30 AM	0	0	0	0	0	0	9	0	1	21	0	0	0	0	0	244	0	0	0	0	0	275
7:45 AM	0	0	0	0	0	0	12	0	2	27	0	0	0	1	0	231	0	0	0	0	0	273
8:00 AM	0	0	0	0	0	0	12	0	0	16	0	0	0	2	0	248	2	0	1	0	0	281
8:15 AM	0	0	0	0	0	0	13	0	3	24	0	0	0	0	0	196	0	0	0	0	1	237
8:30 AM	0	0	0	0	0	0	14	0	0	27	0	0	0	1	0	195	0	0	0	0	0	237
8:45 AM	0	0	0	0	0	0	17	0	0	27	0	0	1	0	0	161	1	0	0	0	1	208
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	101	0	6	184	0	0	3	5	0	1696	3	0	2	1	4	2005
APPROACH %'s :					0.00%	0.00%	94.39%	0.00%	5.61%	95.83%	0.00%	0.00%	1.56%	2.60%	0.00%	99.82%	0.18%	0.00%	28.57%	14.29%	57.14%	
PEAK HR :	07:00 AM - 08:00 AM																					TOTAL
PEAK HR VOL :	0	0	0	0	0	0	45	0	3	90	0	0	2	2	0	896	0	0	1	1	2	1042
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.865	0.000	0.375	0.833	0.000	0.000	0.500	0.500	0.000	0.918	0.000	0.000	0.250	0.250	0.500	0.947
							0.857					0.839				0.918						

	NORTHBOUND				SOUTHBOUND					EASTBOUND					WESTBOUND							
PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1.5	0.5	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
4:00 PM	0	0	0	0	0	0	20	0	4	38	0	0	0	2	0	161	2	0	0	0	0	227
4:15 PM	0	0	0	0	0	0	23	0	0	28	0	0	1	0	0	185	1	0	0	1	1	240
4:30 PM	0	0	0	0	0	0	18	0	2	24	0	0	0	0	0	186	0	0	0	0	0	230
4:45 PM	0	0	0	0	0	0	9	0	3	25	0	0	0	0	0	167	1	0	0	1	2	208
5:00 PM	0	0	0	0	0	0	12	0	2	42	0	0	0	3	0	176	1	0	1	0	0	237
5:15 PM	0	0	0	0	0	0	19	0	1	35	0	0	1	0	0	189	1	0	0	0	0	246
5:30 PM	0	0	0	0	0	0	19	0	1	38	0	0	0	2	0	167	4	0	0	0	0	231
5:45 PM	0	0	0	0	0	0	19	0	2	31	0	0	0	0	0	167	0	0	0	0	0	219
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	139	0	15	261	0	0	2	7	0	1398	10	0	1	2	3	1838
APPROACH %'s :					0.00%	0.00%	90.26%	0.00%	9.74%	96.67%	0.00%	0.00%	0.74%	2.59%	0.00%	99.29%	0.71%	0.00%	16.67%	33.33%	50.00%	
PEAK HR :	04:00 PM - 05:00 PM																					TOTAL
PEAK HR VOL :	0	0	0	0	0	0	70	0	9	115	0	0	1	2	0	699	4	0	0	2	3	905
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.761	0.000	0.563	0.757	0.000	0.000	0.250	0.250	0.000	0.940	0.500	0.000	0.000	0.500	0.375	0.943
							0.823					0.738				0.945						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Quincy Ave/2nd St & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05606-007
Date: 10/9/2019

Total

NS/EW Streets:	Quincy Ave/2nd St							Quincy Ave/2nd St						Livingston Dr							Livingston Dr							
AM	NORTHBOUND							SOUTHBOUND						EASTBOUND							WESTBOUND					EASTBOUND2		
	1.5	0.5	1	0	0	0	0	0	2	0	0	0	0	2	0.5	0.5	0	0	0	0	0	1	0	0	0	0	0	
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
7:00 AM	162	8	0	1	0	1	2	1	40	0	0	0	0	0	10	160	0	0	0	0	0	17	0	0	0	3	0	405
7:15 AM	226	17	1	1	0	1	1	1	30	0	0	0	0	0	24	146	0	0	1	0	0	18	0	0	0	1	0	468
7:30 AM	226	20	1	0	0	1	0	4	31	0	0	3	0	0	16	162	1	0	0	0	0	21	2	0	0	3	2	493
7:45 AM	209	21	0	1	0	0	1	3	26	0	0	3	0	0	23	179	0	0	0	1	0	24	0	0	0	3	0	494
8:00 AM	244	27	1	5	1	0	1	6	38	0	0	2	0	0	17	135	0	0	0	1	0	14	1	0	0	3	0	496
8:15 AM	180	43	2	2	1	1	1	2	35	0	0	1	0	0	10	142	0	0	2	0	0	14	1	0	2	3	0	442
8:30 AM	159	33	0	1	1	1	2	4	38	0	0	1	0	1	28	126	0	1	1	0	0	22	2	0	0	0	2	423
8:45 AM	146	29	2	1	1	0	5	7	36	0	0	5	0	0	22	118	0	0	3	0	0	25	1	0	0	2	0	403
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
TOTAL VOLUMES :	1552	198	7	12	4	5	13	28	274	0	0	15	0	1	150	1168	1	1	7	2	0	155	7	0	2	18	4	3624
APPROACH %'s :	86.66%	11.06%	0.39%	0.67%	0.22%	0.28%	0.73%	8.83%	86.44%	0.00%	0.00%	4.73%	0.00%	0.08%	11.28%	87.82%	0.08%	0.08%	0.53%	0.15%	0.00%	94.51%	4.27%	0.00%	1.22%	81.82%	18.18%	
PEAK HR :	07:00 AM - 08:00 AM																											TOTAL
PEAK HR VOL :	823	66	2	3	0	3	4	9	127	0	0	6	0	0	73	647	1	0	1	1	0	80	2	0	0	10	2	1860
PEAK HR FACTOR :	0.910	0.786	0.500	0.750	0.000	0.750	0.500	0.563	0.794	0.000	0.000	0.500	0.000	0.000	0.760	0.904	0.250	0.000	0.250	0.250	0.000	0.833	0.250	0.000	0.000	0.833	0.250	0.941
				0.908							0.866						0.890						0.854			0.600		

PM	NORTHBOUND							SOUTHBOUND						EASTBOUND							WESTBOUND					EASTBOUND2		
	1.5	0.5	1	0	0	0	0	0	2	0	0	0	0	2	0.5	0.5	0	0	0	0	0	1	0	0	0	0	0	
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
4:00 PM	138	45	1	0	5	0	11	5	27	0	0	5	0	0	38	233	0	1	5	0	0	21	5	0	2	1	1	544
4:15 PM	167	46	2	0	6	1	12	5	27	0	0	7	1	0	39	210	0	0	1	0	0	28	5	0	2	1	0	560
4:30 PM	143	46	1	0	1	1	7	6	39	0	0	2	0	0	41	231	0	0	1	0	0	40	5	0	0	1	0	565
4:45 PM	144	41	0	0	3	1	7	10	55	0	0	4	2	1	37	249	0	1	1	1	0	18	4	0	2	3	0	584
5:00 PM	151	47	4	2	3	1	9	4	36	0	0	6	0	0	47	245	0	0	3	0	0	33	7	0	0	1	1	600
5:15 PM	150	50	0	2	2	1	4	9	26	0	0	7	0	1	57	228	0	0	6	1	0	33	3	0	0	1	0	581
5:30 PM	173	43	2	1	1	1	6	6	36	0	0	4	1	0	37	192	0	1	2	0	1	26	6	0	1	3	0	543
5:45 PM	116	43	3	2	1	3	10	6	36	0	0	4	0	0	29	176	1	2	8	1	0	29	8	1	0	0	1	480
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
TOTAL VOLUMES :	1182	361	13	7	22	9	66	51	282	0	0	39	4	2	325	1764	1	5	27	3	1	228	43	1	7	11	3	4457
APPROACH %'s :	71.20%	21.75%	0.78%	0.42%	1.33%	0.54%	3.98%	13.56%	75.00%	0.00%	0.00%	10.37%	1.06%	0.09%	15.28%	82.93%	0.05%	0.24%	1.27%	0.14%	0.36%	81.43%	15.36%	0.36%	2.50%	78.57%	21.43%	
PEAK HR :	04:00 PM - 05:00 PM																											TOTAL
PEAK HR VOL :	592	178	4	0	15	3	37	26	148	0	0	18	3	1	155	923	0	2	8	1	0	107	19	0	6	6	1	2253
PEAK HR FACTOR :	0.886	0.967	0.500	0.000	0.625	0.750	0.771	0.650	0.673	0.000	0.000	0.643	0.375	0.250	0.945	0.927	0.000	0.500	0.400	0.250	0.000	0.669	0.950	0.000	0.750	0.500	0.250	0.964
				0.886							0.687						0.940						0.733			0.583		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Termino Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05606-008
Date: 10/9/2019

Total

NS/EW Streets:	Termino Ave				Termino Ave				Ocean Blvd				Ocean Blvd				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0	2	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	3	3	0	8	16	2	0	4	35	4	2	5	83	20	3	193
7:15 AM	10	9	4	0	5	5	2	0	3	32	6	2	2	71	11	3	165
7:30 AM	4	4	4	0	11	9	2	0	3	30	3	2	5	73	12	3	165
7:45 AM	9	7	5	0	12	17	3	0	9	50	8	3	7	68	17	3	218
8:00 AM	12	9	7	0	4	13	6	0	5	43	13	1	5	75	10	2	205
8:15 AM	9	6	6	0	7	16	1	0	4	48	9	2	6	83	20	2	219
8:30 AM	10	7	9	0	10	16	1	1	9	30	8	3	5	80	20	1	210
8:45 AM	14	8	4	0	16	10	5	0	11	46	5	2	6	65	18	1	211
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	73	53	42	0	73	102	22	1	48	314	56	17	41	598	128	18	1586
APPROACH %'s :	43.45%	31.55%	25.00%	0.00%	36.87%	51.52%	11.11%	0.51%	11.03%	72.18%	12.87%	3.91%	5.22%	76.18%	16.31%	2.29%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	40	29	27	0	33	62	11	1	27	171	38	9	23	306	67	8	852
PEAK HR FACTOR :	0.833	0.806	0.750	0.000	0.688	0.912	0.458	0.250	0.750	0.855	0.731	0.750	0.821	0.922	0.838	0.667	0.973
	0.857				0.836				0.875				0.910				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	2	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	18	4	0	22	13	5	0	11	70	6	3	7	72	10	4	253
4:15 PM	21	10	3	0	19	34	4	0	8	83	8	3	5	55	14	4	271
4:30 PM	15	9	13	0	19	18	3	0	16	99	14	4	11	65	15	1	302
4:45 PM	8	16	12	0	16	12	2	0	15	81	15	1	6	68	11	3	266
5:00 PM	4	8	10	0	23	17	0	0	15	113	9	1	9	83	20	5	317
5:15 PM	6	15	5	0	15	18	3	0	8	114	12	2	5	60	12	3	278
5:30 PM	15	13	6	0	20	17	2	1	13	126	16	3	11	68	22	3	336
5:45 PM	16	11	7	0	13	17	1	0	10	89	15	3	6	53	17	1	259
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	93	100	60	0	147	146	20	1	96	775	95	20	60	524	121	24	2282
APPROACH %'s :	36.76%	39.53%	23.72%	0.00%	46.82%	46.50%	6.37%	0.32%	9.74%	78.60%	9.63%	2.03%	8.23%	71.88%	16.60%	3.29%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	33	52	33	0	74	64	7	1	51	434	52	7	31	279	65	14	1197
PEAK HR FACTOR :	0.550	0.813	0.688	0.000	0.804	0.889	0.583	0.250	0.850	0.861	0.813	0.583	0.705	0.840	0.739	0.700	0.891
	0.819				0.913				0.861				0.831				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bennett Ave & Ocean Blvd
City: Long Beach
Control: 3-Way Stop(NB/EB/WB)

Project ID: 19-05606-009
Date: 10/9/2019

Total

NS/EW Streets:	Bennett Ave				Bennett Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	0	3	1	0	0	0	0	2	31	10	1	4	84	1	3	143
7:15 AM	7	0	5	0	0	0	0	0	1	30	6	3	6	67	0	0	125
7:30 AM	6	0	1	0	0	0	0	0	2	41	3	4	3	82	2	2	146
7:45 AM	6	1	2	0	0	0	0	0	2	49	4	3	6	79	6	5	163
8:00 AM	4	0	3	0	0	0	0	0	6	47	4	4	11	90	3	2	174
8:15 AM	7	0	4	0	0	0	0	0	4	50	3	2	10	104	4	3	191
8:30 AM	2	0	2	0	0	0	0	0	10	46	6	5	7	95	0	1	174
8:45 AM	6	1	4	1	0	0	0	0	7	47	9	6	10	77	3	2	173
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	41	2	24	2	0	0	0	0	34	341	45	28	57	678	19	18	1289
APPROACH %'s :	59.42%	2.90%	34.78%	2.90%					7.59%	76.12%	10.04%	6.25%	7.38%	87.82%	2.46%	2.33%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	19	1	13	1	0	0	0	0	27	190	22	17	38	366	10	8	712
PEAK HR FACTOR :	0.679	0.250	0.813	0.250	0.000	0.000	0.000	0.000	0.675	0.950	0.611	0.708	0.864	0.880	0.625	0.667	0.932
	0.708								0.928				0.872				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	1	0	0	0	0	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	9	1	3	0	0	0	0	0	15	71	11	1	6	87	3	2	209
4:15 PM	9	0	4	0	0	0	0	0	8	94	14	2	13	63	12	2	221
4:30 PM	7	3	8	0	0	0	0	0	11	115	6	2	12	68	2	4	238
4:45 PM	6	3	5	0	0	0	0	0	6	104	3	6	8	71	11	2	225
5:00 PM	6	2	6	0	0	0	0	0	9	122	9	4	10	93	6	2	269
5:15 PM	7	0	3	0	0	0	0	0	10	122	12	2	9	65	6	3	239
5:30 PM	11	1	11	0	0	0	0	0	13	117	5	6	6	76	5	4	255
5:45 PM	8	1	12	0	0	0	0	0	8	111	5	1	15	65	8	6	240
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	63	11	52	0	0	0	0	0	80	856	65	24	79	588	53	25	1896
APPROACH %'s :	50.00%	8.73%	41.27%	0.00%					7.80%	83.51%	6.34%	2.34%	10.60%	78.93%	7.11%	3.36%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	32	4	32	0	0	0	0	0	40	472	31	13	40	299	25	15	1003
PEAK HR FACTOR :	0.727	0.500	0.667	0.000	0.000	0.000	0.000	0.000	0.769	0.967	0.646	0.542	0.667	0.804	0.781	0.625	0.932
	0.739								0.952				0.854				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Granada Ave & Ocean Blvd
City: Long Beach
Control: 4-Way Stop

Project ID: 19-05606-010
Date: 10/9/2019

Total

NS/EW Streets:	Granada Ave				Granada Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	5	0	2	1	1	0	3	29	3	0	3	53	9	1	112
7:15 AM	2	0	2	0	6	0	5	0	6	33	1	0	0	48	5	0	108
7:30 AM	1	2	4	0	1	1	5	0	0	47	1	0	1	62	2	2	129
7:45 AM	0	0	2	0	2	0	8	0	5	44	0	4	1	59	3	2	130
8:00 AM	9	12	9	0	7	0	5	0	9	43	4	7	1	58	4	0	168
8:15 AM	3	5	4	0	4	1	6	0	5	35	2	3	4	65	5	3	145
8:30 AM	0	4	2	0	6	0	4	0	7	49	0	1	2	50	5	0	130
8:45 AM	0	3	4	0	10	1	10	0	8	35	5	2	5	69	10	0	162
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	15	28	32	0	38	4	44	0	43	315	16	17	17	464	43	8	1084
APPROACH %'s :	20.00%	37.33%	42.67%	0.00%	44.19%	4.65%	51.16%	0.00%	11.00%	80.56%	4.09%	4.35%	3.20%	87.22%	8.08%	1.50%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	12	24	19	0	27	2	25	0	29	162	11	13	12	242	24	3	605
PEAK HR FACTOR :	0.333	0.500	0.528	0.000	0.675	0.500	0.625	0.000	0.806	0.827	0.550	0.464	0.600	0.877	0.600	0.250	0.900
	0.458				0.643				0.853				0.836				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	4	3	0	4	4	6	0	9	65	0	1	2	63	3	0	166
4:15 PM	5	3	2	0	2	3	5	0	4	99	2	0	1	57	4	0	187
4:30 PM	2	2	4	0	5	2	13	0	11	101	2	1	3	48	11	1	206
4:45 PM	3	1	2	0	3	0	8	0	9	91	2	1	1	60	7	2	190
5:00 PM	3	1	2	0	5	1	8	0	8	101	6	5	1	66	6	3	216
5:15 PM	1	1	0	0	6	1	5	0	10	91	2	1	1	65	4	2	190
5:30 PM	3	1	4	0	7	1	4	0	16	72	3	6	2	48	8	1	176
5:45 PM	3	2	1	0	5	3	4	0	13	93	3	1	2	66	5	2	203
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	22	15	18	0	37	15	53	0	80	713	20	16	13	473	48	11	1534
APPROACH %'s :	40.00%	27.27%	32.73%	0.00%	35.24%	14.29%	50.48%	0.00%	9.65%	86.01%	2.41%	1.93%	2.39%	86.79%	8.81%	2.02%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	9	5	8	0	19	4	34	0	38	384	12	8	6	239	28	8	802
PEAK HR FACTOR :	0.750	0.625	0.500	0.000	0.792	0.500	0.654	0.000	0.864	0.950	0.500	0.400	0.500	0.905	0.636	0.667	0.928
	0.688				0.713				0.921				0.924				

T816

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Pacific Coast	LOCATION #:	17
	EAST & WEST:	2nd	CONTROL:	SIGNAL

NOTES:

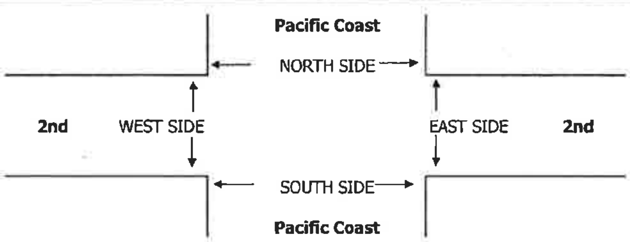
AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND 2nd			WESTBOUND 2nd			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	2	3	0	2	3	1	2	2.5	1.5	2	3	1	
AM	7:00 AM	79	300	71	39	265	28	53	261	119	84	197	48	1,544
AM	7:15 AM	95	249	67	64	268	23	52	333	119	78	213	54	1,615
AM	7:30 AM	109	312	78	58	248	32	52	333	113	71	198	68	1,672
AM	7:45 AM	87	292	94	56	191	67	55	298	71	87	287	73	1,658
AM	8:00 AM	101	278	74	64	210	44	68	267	111	84	229	111	1,641
AM	8:15 AM	105	303	79	50	170	38	67	244	82	68	164	46	1,416
AM	8:30 AM	114	255	61	32	192	59	50	272	92	43	200	75	1,445
AM	8:45 AM	124	251	47	31	182	52	78	212	75	85	205	83	1,425
AM	VOLUMES	814	2,240	571	394	1,726	343	475	2,220	782	600	1,693	558	12,416
AM	APPROACH %	22%	62%	16%	16%	70%	14%	14%	64%	22%	21%	59%	20%	
AM	APP/DEPART	3,625	/	3,271	2,463	/	3,101	3,477	/	3,192	2,851	/	2,852	0
AM	BEGIN PEAK HR		7:15 AM											
AM	VOLUMES	392	1,131	313	242	917	166	227	1,231	414	320	927	306	6,586
AM	APPROACH %	21%	62%	17%	18%	69%	13%	12%	66%	22%	21%	60%	20%	
AM	PEAK HR FACTOR		0.920			0.933			0.929			0.869		0.985
AM	APP/DEPART	1,836	/	1,664	1,325	/	1,649	1,872	/	1,788	1,553	/	1,485	0
PM	4:00 PM	105	246	75	61	202	98	75	267	59	69	248	66	1,571
PM	4:15 PM	91	232	71	56	251	96	66	303	69	65	285	69	1,654
PM	4:30 PM	119	218	59	58	231	106	82	302	89	79	293	75	1,711
PM	4:45 PM	96	216	85	71	256	97	93	244	64	92	292	75	1,681
PM	5:00 PM	86	261	94	76	258	102	45	287	64	71	303	95	1,742
PM	5:15 PM	119	234	68	62	246	110	78	262	80	90	307	91	1,747
PM	5:30 PM	73	239	82	59	274	85	93	221	36	70	266	79	1,577
PM	5:45 PM	110	199	75	68	221	100	64	323	70	70	345	67	1,712
PM	VOLUMES	799	1,845	609	511	1,939	794	596	2,209	531	606	2,339	617	13,395
PM	APPROACH %	25%	57%	19%	16%	60%	24%	18%	66%	16%	17%	66%	17%	
PM	APP/DEPART	3,253	/	3,057	3,244	/	3,061	3,336	/	3,343	3,562	/	3,934	0
PM	BEGIN PEAK HR		4:30 PM											
PM	VOLUMES	420	929	306	267	991	415	298	1,095	297	332	1,195	336	6,881
PM	APPROACH %	25%	56%	18%	16%	59%	25%	18%	65%	18%	18%	64%	18%	
PM	PEAK HR FACTOR		0.938			0.959			0.893			0.954		0.985
PM	APP/DEPART	1,655	/	1,562	1,673	/	1,613	1,690	/	1,675	1,863	/	2,031	0

U-TURNS					
	NB	SB	EB	WB	TTL
	0	0	0	0	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	1	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	1	1
8:15 AM	0	0	1	1	2
8:30 AM	0	0	0	1	1
8:45 AM	0	0	1	2	3
VOLUMES	0	0	2	7	9
4:00 PM	0	0	0	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	2	2
4:45 PM	0	0	1	2	3
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	2	2
5:30 PM	0	1	1	3	5
5:45 PM	0	0	0	4	4
VOLUMES	0	1	2	15	18



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	4	1	5	4	14	3	0	0	1	4	1	1	5	3	10
AM	7:15 AM	2	1	2	0	5	0	0	0	0	0	2	1	2	0	5
AM	7:30 AM	3	1	2	4	10	2	0	1	2	5	1	1	1	2	5
AM	7:45 AM	2	1	8	1	12	1	1	2	1	5	1	0	6	0	7
AM	8:00 AM	3	1	5	5	14	2	1	2	3	8	1	0	3	2	6
AM	8:15 AM	2	0	4	0	6	2	0	3	0	5	0	0	1	0	1
AM	8:30 AM	4	3	2	2	11	3	2	2	1	8	1	1	0	1	3
AM	8:45 AM	2	3	3	5	13	1	0	1	1	3	1	3	2	4	10
AM	TOTAL	22	11	31	21	85	14	4	11	9	38	8	7	20	12	47
PM	4:00 PM	8	5	9	7	29	8	1	8	3	20	0	4	1	4	9
PM	4:15 PM	6	6	8	5	25	2	1	4	2	9	4	5	4	3	16
PM	4:30 PM	4	4	6	5	19	3	3	4	4	14	1	1	2	1	5
PM	4:45 PM	9	2	9	6	26	9	1	8	4	22	0	1	1	2	4
PM	5:00 PM	2	2	3	1	8	1	2	1	1	5	1	0	2	0	3
PM	5:15 PM	5	0	4	7	16	5	0	4	5	14	0	0	0	2	2
PM	5:30 PM	3	1	3	8	15	2	1	3	5	11	1	0	0	3	4
PM	5:45 PM	10	2	4	6	22	6	2	3	5	16	4	0	1	1	6
PM	TOTAL	47	22	46	45	160	36	11	35	29	111	11	11	11	16	49

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Studebaker	LOCATION #:	19
	EAST & WEST:	2nd	CONTROL:	SIGNAL

NOTES:

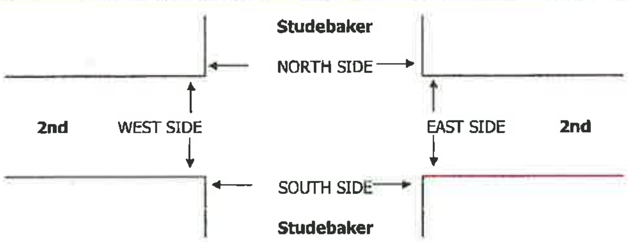
AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

	NORTHBOUND Studebaker			SOUTHBOUND Studebaker			EASTBOUND 2nd			WESTBOUND 2nd			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	X	X	2	X	2	2	2	X	X	3	1	
AM 7:00 AM	0	0	0	165	0	145	244	159	0	0	185	91	989
7:15 AM	0	0	0	154	0	135	233	246	0	0	214	127	1,109
7:30 AM	0	0	0	142	0	169	251	237	0	0	250	133	1,182
7:45 AM	0	0	0	120	0	160	232	222	0	0	238	114	1,086
8:00 AM	0	0	0	116	0	203	218	174	0	0	248	113	1,072
8:15 AM	0	0	0	86	0	157	200	171	0	0	131	73	818
8:30 AM	0	0	0	71	0	142	222	133	0	0	209	106	883
8:45 AM	0	0	0	63	0	196	166	119	0	0	213	120	877
VOLUMES	0	0	0	917	0	1,307	1,766	1,461	0	0	1,688	877	8,016
APPROACH %	0%	0%	0%	41%	0%	59%	55%	45%	0%	0%	66%	34%	
APP/DEPART	0	/	2,643	2,224	/	0	3,227	/	2,378	2,565	/	2,995	0
BEGIN PEAK HR		7:15 AM											
VOLUMES	0	0	0	532	0	667	934	879	0	0	950	487	4,449
APPROACH %	0%	0%	0%	44%	0%	56%	52%	48%	0%	0%	66%	34%	
PEAK HR FACTOR		0.000			0.940			0.929			0.938		0.941
APP/DEPART	0	/	1,421	1,199	/	0	1,813	/	1,411	1,437	/	1,617	0
PM 4:00 PM	0	0	0	80	0	267	286	174	0	0	187	136	1,130
4:15 PM	0	0	0	89	0	246	276	185	0	0	200	138	1,134
4:30 PM	0	0	0	82	0	216	198	126	0	0	169	141	932
4:45 PM	0	0	0	90	0	225	315	217	0	0	243	177	1,267
5:00 PM	0	0	0	103	0	272	313	170	0	0	254	182	1,294
5:15 PM	0	0	0	132	0	231	288	177	0	0	277	174	1,279
5:30 PM	0	0	0	99	0	204	221	229	0	0	252	111	1,116
5:45 PM	0	0	0	101	0	192	233	241	0	0	237	76	1,080
VOLUMES	0	0	0	776	0	1,853	2,130	1,519	0	0	1,819	1,135	9,232
APPROACH %	0%	0%	0%	30%	0%	70%	58%	42%	0%	0%	62%	38%	
APP/DEPART	0	/	3,265	2,629	/	0	3,649	/	2,295	2,954	/	3,672	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	0	0	0	424	0	932	1,137	793	0	0	1,026	644	4,956
APPROACH %	0%	0%	0%	31%	0%	69%	59%	41%	0%	0%	61%	39%	
PEAK HR FACTOR		0.000			0.904			0.907			0.926		0.957
APP/DEPART	0	/	1,781	1,356	/	0	1,930	/	1,217	1,670	/	1,958	0

U-TURNS	NB	SB	EB	WB	TTL
	0	0	0	0	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	2	1	1	4	0	0	1	0	1	0	2	0	1	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
7:45 AM	2	1	0	0	3	1	0	0	0	1	1	1	0	0	2
8:00 AM	0	1	0	1	2	0	0	0	0	0	0	1	0	1	2
8:15 AM	0	1	0	1	2	0	0	0	0	0	0	1	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
TOTAL	3	5	2	3	13	1	0	1	0	2	2	5	1	3	11
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	1	0	0	2	0	0	0	0	0	1	1	0	0	2

National Data & Surveying Services

Intersection Turning Movement Count

Location: Redondo Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05607-001
Date: 2019-10-12

Total

NS/EW Streets:	Redondo Ave				Redondo Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	0	0	0	43	0	35	0	25	161	0	0	0	171	30	0	465
12:15 PM	0	0	0	0	39	0	30	0	25	211	0	0	0	149	23	0	477
12:30 PM	0	0	0	0	45	0	29	0	14	184	0	0	0	167	30	0	469
12:45 PM	0	0	0	0	39	0	19	0	18	183	0	0	0	170	28	0	457
1:00 PM	0	0	0	0	37	0	18	0	26	139	0	0	0	164	40	0	424
1:15 PM	0	0	0	0	44	0	22	0	21	163	0	0	0	150	33	0	433
1:30 PM	0	0	0	0	35	0	31	0	23	178	0	0	0	126	34	0	427
1:45 PM	0	0	0	0	33	0	29	0	24	151	0	0	0	147	38	0	422
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	315	0	213	0	176	1370	0	0	0	1244	256	0	3574
APPROACH %'s :					59.66%	0.00%	40.34%	0.00%	11.38%	88.62%	0.00%	0.00%	0.00%	82.93%	17.07%	0.00%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	166	0	113	0	82	739	0	0	0	657	111	0	1868
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.922	0.000	0.807	0.000	0.820	0.876	0.000	0.000	0.000	0.961	0.925	0.000	0.979
					0.894				0.870				0.955				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Loma Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05607-002
Date: 2019-10-12

Total

NS/EW Streets:	Loma Ave				Loma Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	0	0	0	0	1	0	2	0	3	204	0	0	0	208	15	0	433
12:15 PM	0	0	0	0	3	0	3	0	3	242	0	0	0	166	7	0	424
12:30 PM	0	0	0	0	6	0	6	0	6	218	0	0	0	196	10	0	442
12:45 PM	0	0	0	0	4	0	1	0	4	212	0	1	0	177	6	0	405
1:00 PM	0	0	0	0	5	0	4	0	2	182	0	2	0	202	8	0	405
1:15 PM	0	0	0	0	2	0	7	0	2	210	0	0	0	178	9	0	408
1:30 PM	0	0	0	0	3	0	4	0	4	205	0	0	0	155	6	0	377
1:45 PM	0	0	0	0	4	0	7	0	4	179	0	0	0	181	6	0	381
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	28	0	34	0	28	1652	0	3	0	1463	67	0	3275
APPROACH %'s :					45.16%	0.00%	54.84%	0.00%	1.66%	98.16%	0.00%	0.18%	0.00%	95.62%	4.38%	0.00%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	14	0	12	0	16	876	0	1	0	747	38	0	1704
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.583	0.000	0.500	0.000	0.667	0.905	0.000	0.250	0.000	0.898	0.633	0.000	0.964
					0.542				0.911				0.880				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ocean Blvd & Ocean Blvd/Livingston Dr
City: Long Beach
Control: 1-Way Stop (NB)

Project ID: 19-05607-003
Date: 10/26/2019

Total

NS/EW Streets:	Ocean Blvd				Ocean Blvd				Ocean Blvd/Livingston Dr				Ocean Blvd/Livingston Dr				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	1	0	0	0	1	0	1	2	1	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	105	0	0	0	0	0	6	0	0	156	115	4	0	111	3	0	500
12:15 PM	117	0	0	0	0	0	5	0	2	133	95	4	0	137	2	0	495
12:30 PM	117	0	0	0	0	0	3	0	5	161	114	4	0	132	3	0	539
12:45 PM	109	0	2	0	0	0	6	0	1	163	114	1	0	145	8	0	549
1:00 PM	104	0	0	0	0	0	5	0	2	146	98	0	0	155	5	0	515
1:15 PM	96	0	2	0	0	0	2	0	2	169	86	1	0	140	6	0	504
1:30 PM	94	0	0	0	0	0	5	0	2	141	84	3	0	135	7	0	471
1:45 PM	94	0	1	0	0	0	2	0	0	178	112	3	0	150	3	0	543
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	836	0	5	0	0	0	34	0	14	1247	818	20	0	1105	37	0	4116
APPROACH %'s :	99.41%	0.00%	0.59%	0.00%	0.00%	0.00%	100.00%	0.00%	0.67%	59.41%	38.97%	0.95%	0.00%	96.76%	3.24%	0.00%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	426	0	4	0	0	0	16	0	10	639	412	6	0	572	22	0	2107
PEAK HR FACTOR :	0.910	0.000	0.500	0.000	0.000	0.000	0.667	0.000	0.500	0.945	0.904	0.375	0.000	0.923	0.688	0.000	0.959
	0.919				0.667				0.939				0.928				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Termino Ave & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05607-004
Date: 2019-10-12

Total

NS/EW Streets:	Termino Ave				Termino Ave				Livingston Dr				Livingston Dr				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	1	0.5	0.5	0	0	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	17	0	40	0	6	18	4	0	0	118	4	1	32	103	0	1	344
12:15 PM	18	0	43	0	4	12	8	0	0	163	6	0	26	100	0	6	386
12:30 PM	16	0	31	0	3	8	7	0	0	147	5	0	16	103	0	7	343
12:45 PM	14	0	41	0	5	14	7	0	0	129	7	0	16	96	0	7	336
1:00 PM	16	0	37	0	7	13	6	0	0	103	4	0	23	103	0	3	315
1:15 PM	17	0	34	0	7	11	5	0	0	134	4	0	20	109	0	4	345
1:30 PM	17	0	25	0	2	6	5	0	0	133	5	0	17	92	0	9	311
1:45 PM	12	0	25	0	7	9	4	0	0	106	6	0	18	113	0	3	303
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	127	0	276	0	41	91	46	0	0	1033	41	1	168	819	0	40	2683
APPROACH %'s :	31.51%	0.00%	68.49%	0.00%	23.03%	51.12%	25.84%	0.00%	0.00%	96.09%	3.81%	0.09%	16.36%	79.75%	0.00%	3.89%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	65	0	155	0	18	52	26	0	0	557	22	1	90	402	0	21	1409
PEAK HR FACTOR :	0.903	0.000	0.901	0.000	0.750	0.722	0.813	0.000	0.000	0.854	0.786	0.250	0.703	0.976	0.000	0.750	0.913
	0.902				0.857				0.858				0.943				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bennett Ave & Livingston Dr
City: Long Beach
Control: 1-Way Stop(SB)

Project ID: 19-05607-005
Date: 2019-10-12

Total

NS/EW Streets:	Bennett Ave				Bennett Ave					Livingston Dr				Livingston Dr						
NOON	NORTHBOUND				SOUTHBOUND					EASTBOUND				WESTBOUND						
	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	142	0	0	3	0	145
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	0	0	3	1	132
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	133	0	0	2	1	136
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	0	0	4	1	119
1:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	136	0	0	2	0	139
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139	0	0	0	0	139
1:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	112	0	0	3	1	117
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	0	0	2	0	132
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	W2T	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1034	0	0	19	4	1059
APPROACH %'s :					0.00%	0.00%	0.00%	0.00%	100.00%					0.00%	100.00%	0.00%	0.00%	82.61%	17.39%	
PEAK HR :	12:00 PM - 01:00 PM																			TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	517	0	0	12	3	532
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.910	0.000	0.000	0.750	0.750	0.917
															0.910					

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ximeno Ave & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05607-006
Date: 2019-10-12

Total

NS/EW Streets:	Ximeno Ave				Ximeno Ave					Livingston Dr					Livingston Dr							
NOON	NORTHBOUND				SOUTHBOUND					EASTBOUND					WESTBOUND							
	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1.5	0.5	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
12:00 PM	0	0	0	0	0	0	13	0	3	33	0	0	0	0	0	120	7	0	0	0	1	177
12:15 PM	0	0	0	0	0	0	20	0	2	42	0	0	0	2	0	109	7	0	0	1	1	184
12:30 PM	0	0	0	0	0	0	14	0	1	43	0	0	0	0	0	109	8	0	0	0	0	175
12:45 PM	0	0	0	0	0	0	21	0	3	33	0	0	0	2	0	91	2	0	0	1	3	156
1:00 PM	0	0	0	0	0	0	20	0	7	28	0	0	1	1	0	108	9	0	0	0	1	175
1:15 PM	0	0	0	0	0	0	19	0	5	37	0	0	1	2	0	106	6	0	0	1	0	177
1:30 PM	0	0	0	0	0	0	12	0	2	28	0	0	1	0	0	99	9	0	2	0	0	153
1:45 PM	0	0	0	0	0	0	18	0	2	27	0	0	0	0	0	109	7	0	0	0	0	163
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	W2T	W2T2	W2R2	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	137	0	25	271	0	0	3	7	0	851	55	0	2	3	6	1360
APPROACH %'s :					0.00%	0.00%	84.57%	0.00%	15.43%	96.44%	0.00%	0.00%	1.07%	2.49%	0.00%	93.93%	6.07%	0.00%	18.18%	27.27%	54.55%	
PEAK HR :	12:00 PM - 01:00 PM																					TOTAL
PEAK HR VOL :	0	0	0	0	0	0	68	0	9	151	0	0	0	4	0	429	24	0	0	2	5	692
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.810	0.000	0.750	0.878	0.000	0.000	0.000	0.500	0.000	0.894	0.750	0.000	0.000	0.500	0.417	0.940
							0.802					0.881				0.892						

National Data & Surveying Services

Intersection Turning Movement Count

Location: Quincy Ave/2nd St & Livingston Dr
City: Long Beach
Control: Signalized

Project ID: 19-05607-007
Date: 2019-10-12

Total

NS/EW Streets:	Quincy Ave/2nd St							Quincy Ave/2nd St							Livingston Dr							Livingston Dr							
	NORTHBOUND							SOUTHBOUND							EASTBOUND							WESTBOUND							
NOON	1.5	0.5	1	0	0	0	0	0	2	0	0	0	0	0	2	0.5	0.5	0	0	0	0	0	1	0	0	0	0	0	
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	SU2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
12:00 PM	103	81	5	2	10	4	10	6	60	0	0	8	8	0	0	30	115	0	2	4	4	0	29	7	0	1	2	1	492
12:15 PM	89	64	6	2	6	1	6	7	65	0	0	10	10	0	0	29	148	0	1	3	3	0	25	4	0	4	0	1	484
12:30 PM	101	74	8	1	3	4	3	3	53	0	0	3	3	0	0	34	119	0	0	1	1	0	22	7	0	1	0	1	442
12:45 PM	64	72	2	6	3	2	3	8	62	0	0	10	10	0	0	26	120	0	0	4	4	0	18	7	0	1	0	1	423
1:00 PM	99	70	6	1	6	2	6	8	54	0	0	8	8	0	0	18	98	0	0	3	3	0	21	10	0	1	0	0	422
1:15 PM	88	74	5	3	7	3	7	13	71	0	0	5	5	0	0	32	123	0	0	2	2	0	27	8	0	0	0	1	476
1:30 PM	83	76	3	4	6	4	6	5	66	0	0	8	8	0	0	27	105	0	1	2	2	0	21	8	0	3	0	0	438
1:45 PM	84	87	4	9	4	4	3	6	40	0	0	7	7	1	1	15	109	0	0	5	5	0	28	4	0	2	0	1	426
	NL	NT	NR	NU	NL2	NT2	NU2	SL	ST	SR	SU	ST2	SR2	SU2	EL	ET	ER	EU	EL2	ER2	EU2	WL	WT	WR	WU	WR2	E2R	E2R2	TOTAL
TOTAL VOLUMES :	711	598	39	28	45	24	44	56	471	0	0	59	59	1	1	211	937	0	4	24	24	0	191	55	0	13	2	6	3603
APPROACH %'s :	47.75%	40.16%	2.62%	1.88%	3.02%	1.61%	2.96%	8.67%	72.91%	0.00%	0.00%	9.13%	9.13%	0.15%	0.08%	17.57%	78.02%	0.00%	0.33%	2.00%	2.00%	0.00%	73.75%	21.24%	0.00%	5.02%	25.00%	75.00%	
PEAK HR :	12:00 PM - 01:00 PM																												TOTAL
PEAK HR VOL :	357	291	21	11	22	11	22	24	240	0	0	31	31	0	0	119	502	0	3	12	12	0	94	25	0	7	2	4	1841
PEAK HR FACTOR :	0.867	0.898	0.656	0.458	0.550	0.688	0.550	0.750	0.923	0.000	0.000	0.775	0.775	0.000	0.000	0.875	0.848	0.000	0.375	0.750	0.750	0.000	0.810	0.893	0.000	0.438	0.250	1.000	0.935
				0.855							0.886							0.880						0.851					

National Data & Surveying Services

Intersection Turning Movement Count

Location: Termino Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 19-05607-008
Date: 2019-10-12

Total

NS/EW Streets:	Termino Ave				Termino Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	10	14	6	0	24	28	9	0	11	66	5	3	7	100	29	2	314
12:15 PM	6	14	9	0	15	18	2	0	19	85	9	4	6	75	28	5	295
12:30 PM	13	13	7	0	16	10	2	0	10	77	5	5	7	72	22	4	263
12:45 PM	14	17	3	0	17	17	3	0	14	62	13	3	8	83	22	4	280
1:00 PM	14	19	6	0	19	15	1	0	15	67	9	5	5	84	11	3	273
1:15 PM	11	11	3	0	17	12	4	0	14	63	12	4	4	59	24	4	242
1:30 PM	4	10	7	0	13	13	4	0	19	67	14	3	10	65	15	5	249
1:45 PM	10	11	1	0	14	11	3	0	12	63	8	5	6	60	13	0	217
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	82	109	42	0	135	124	28	0	114	550	75	32	53	598	164	27	2133
APPROACH %'s :	35.19%	46.78%	18.03%	0.00%	47.04%	43.21%	9.76%	0.00%	14.79%	71.34%	9.73%	4.15%	6.29%	71.02%	19.48%	3.21%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	43	58	25	0	72	73	16	0	54	290	32	15	28	330	101	15	1152
PEAK HR FACTOR :	0.768	0.853	0.694	0.000	0.750	0.652	0.444	0.000	0.711	0.853	0.615	0.750	0.875	0.825	0.871	0.750	0.917
	0.926				0.660				0.835				0.859				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bennett Ave & Ocean Blvd
City: Long Beach
Control: 3-Way Stop(NB/EB/WB)

Project ID: 19-05607-009
Date: 2019-10-12

Total

NS/EW Streets:	Bennett Ave				Bennett Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	16	1	9	0	0	0	0	0	11	75	15	9	13	103	2	2	256
12:15 PM	13	0	8	0	0	0	0	0	10	89	9	2	4	84	7	5	231
12:30 PM	16	1	3	0	0	0	0	0	11	73	7	4	13	83	4	4	219
12:45 PM	9	1	4	0	0	0	0	0	9	74	9	3	6	91	5	2	213
1:00 PM	7	1	8	0	0	0	0	0	9	67	11	4	9	86	3	10	215
1:15 PM	11	0	2	0	0	0	0	0	5	71	9	4	6	63	4	0	175
1:30 PM	7	2	5	0	0	0	0	0	3	78	11	1	6	74	3	2	192
1:45 PM	5	1	9	0	0	0	0	0	3	67	11	2	7	71	6	2	184
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	84	7	48	0	0	0	0	0	61	594	82	29	64	655	34	27	1685
APPROACH %'s :	60.43%	5.04%	34.53%	0.00%					7.96%	77.55%	10.70%	3.79%	8.21%	83.97%	4.36%	3.46%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	54	3	24	0	0	0	0	0	41	311	40	18	36	361	18	13	919
PEAK HR FACTOR :	0.844	0.750	0.667	0.000	0.000	0.000	0.000	0.000	0.932	0.874	0.667	0.500	0.692	0.876	0.643	0.650	0.897
	0.779								0.932				0.892				

National Data & Surveying Services

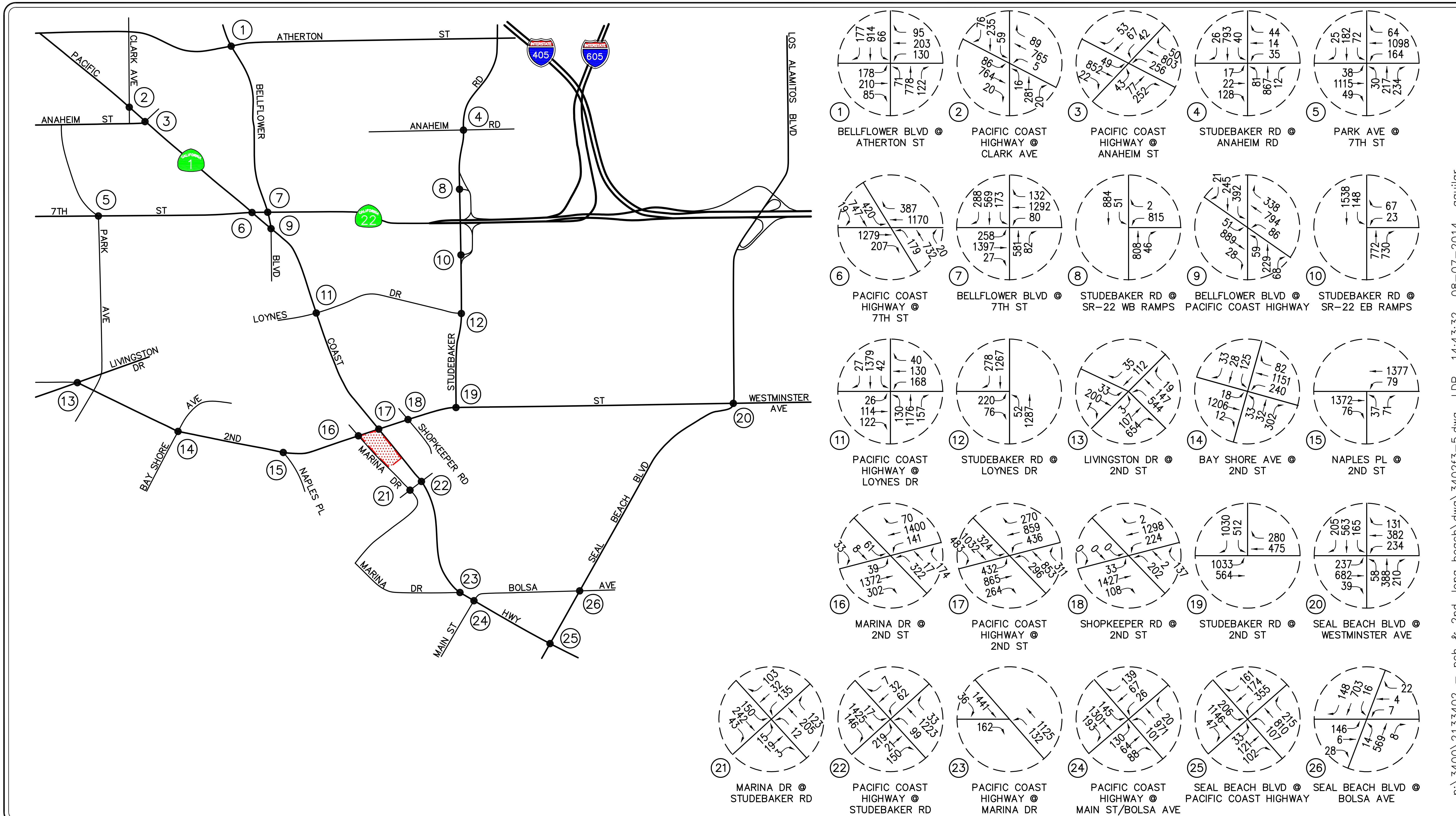
Intersection Turning Movement Count

Location: Granada Ave & Ocean Blvd
City: Long Beach
Control: 4-Way Stop

Project ID: 19-05607-010
Date: 2019-10-12

Total

NS/EW Streets:	Granada Ave				Granada Ave				Ocean Blvd				Ocean Blvd				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
12:00 PM	15	11	9	0	9	3	5	0	8	57	1	1	3	59	6	3	190
12:15 PM	7	5	7	0	7	4	8	0	10	69	8	1	4	64	9	4	207
12:30 PM	7	7	3	0	8	4	9	0	11	62	4	2	4	55	12	3	191
12:45 PM	6	5	3	0	3	8	6	0	8	59	6	0	4	57	10	4	179
1:00 PM	6	4	9	0	5	4	7	1	5	54	6	0	4	61	7	5	178
1:15 PM	3	2	6	0	12	7	12	0	4	48	5	2	3	46	10	4	164
1:30 PM	3	3	4	0	11	2	10	0	9	61	5	0	4	51	10	5	178
1:45 PM	6	9	6	0	6	2	10	0	5	52	6	1	5	49	9	2	168
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	53	46	47	0	61	34	67	1	60	462	41	7	31	442	73	30	1455
APPROACH %'s :	36.30%	31.51%	32.19%	0.00%	37.42%	20.86%	41.10%	0.61%	10.53%	81.05%	7.19%	1.23%	5.38%	76.74%	12.67%	5.21%	
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	35	28	22	0	27	19	28	0	37	247	19	4	15	235	37	14	767
PEAK HR FACTOR :	0.583	0.636	0.611	0.000	0.750	0.594	0.778	0.000	0.841	0.895	0.594	0.500	0.938	0.918	0.771	0.875	0.926
	0.607				0.881				0.872				0.929				



LINSCOTT LAW & GREENSPAN
engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 3-5

EXISTING SATURDAY PEAK HOUR TRAFFIC VOLUMES

PCH AND 2ND PROJECT, LONG BEACH

ATTACHMENT B

EXISTING INTERSECTION LOS WORKSHEETS

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\01 EX AM Report.pdf

Scenario 1 01 Existing No Project AM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.673	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.553	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.492	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Thru	0.418	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.001	8.3	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.490	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.544	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.399	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.519	10.9	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.388	9.8	A
11	PCH/2nd Street	Signalized	ICU 1	EB Right	0.856	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.868	-	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	133	107	80	733	1241	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	107	80	733	1241	76
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	28	21	193	327	20
Total Analysis Volume [veh/h]	140	113	84	772	1306	80
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Generated with PTV VISTRO

Version 6.00-01

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.07	0.05	0.24	0.43	0.43
Intersection LOS	B					
Intersection V/C	0.673					

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	8	22	9	869	1300	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	22	9	869	1300	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	6	2	229	342	4
Total Analysis Volume [veh/h]	8	23	9	915	1368	18
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.29	0.43	0.43
Intersection LOS	A					
Intersection V/C	0.553					

Generated with PTV VISTRO
Version 6.00-01

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	390	0	2	0	0	12	8	764	0	0	1070	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	390	0	2	0	0	12	8	764	0	0	1070	15
Peak Hour Factor	0.9730	1.0000	0.9730	1.0000	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	100	0	1	0	0	3	2	196	0	0	275	4
Total Analysis Volume [veh/h]	401	0	2	0	0	12	8	785	0	0	1100	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Generated with PTV VISTRO
Version 6.00-01

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01	0.01	0.25	0.00	0.00	0.23	0.01
Intersection LOS	A											
Intersection V/C	0.492											

Intersection Level Of Service Report

Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.418

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	26	0	75	19	27	10	0	627	10	61	952	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	75	19	27	10	0	627	10	61	952	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	20	5	7	3	0	164	3	16	249	0
Total Analysis Volume [veh/h]	27	0	79	20	28	10	0	657	10	64	997	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.05	0.01	0.02	0.02	0.00	0.21	0.01	0.04	0.21	0.00
Intersection LOS	A											
Intersection V/C	0.418											

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	1	0	0	4	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	0	0	4	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0
Total Analysis Volume [veh/h]	0	1	0	0	4	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.34	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.34		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.39					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	48	94	0	898	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	94	0	898	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9460	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	25	0	236	1
Total Analysis Volume [veh/h]	0	51	99	0	945	2
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.00	0.30	0.30
Intersection LOS	A					
Intersection V/C	0.490					

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.544

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	73	660	0	80	2	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	2	0	73	660	0	80	2	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	19	174	0	21	1	0
Total Analysis Volume [veh/h]	0	0	0	0	2	0	77	695	0	84	2	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.544											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	830	69	2	0	9	133	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	830	69	2	0	9	133	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	218	18	1	0	2	35	0	0
Total Analysis Volume [veh/h]	0	874	73	2	0	9	140	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.27	0.30	0.00	0.00	0.01	0.05	0.00	0.00
Intersection LOS	A								
Intersection V/C	0.544								

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	40	29	27	34	62	11	36	171	38	31	306	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	29	27	34	62	11	36	171	38	31	306	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	8	7	9	16	3	9	45	10	8	81	18
Total Analysis Volume [veh/h]	42	31	28	36	65	12	38	180	40	33	322	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 6.00-01

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.03	0.03	0.02	0.05	0.05	0.02	0.11	0.03	0.02	0.20	0.04
Intersection LOS	A											
Intersection V/C	0.399											

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	20	1	13	0	0	0	44	190	22	46	366	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1	13	0	0	0	44	190	22	46	366	10
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	3	0	0	0	12	50	6	12	96	3
Total Analysis Volume [veh/h]	21	1	14	0	0	0	46	200	23	48	385	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	613		658	724	841	673	743	868
Degree of Utilization, x	0.06		0.07	0.28	0.03	0.07	0.52	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19		0.23	1.13	0.08	0.23	3.03	0.04
95th-Percentile Queue Length [ft]	4.67		5.63	28.18	2.11	5.74	75.68	0.96
Approach Delay [s/veh]	9.24	0.00	9.19			12.06		
Approach LOS	A	A	A			B		
Intersection Delay [s/veh]	10.89							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	12	24	19	27	2	25	42	162	11	15	242	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	24	19	27	2	25	42	162	11	15	242	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	6	5	7	1	7	11	43	3	4	64	6
Total Analysis Volume [veh/h]	13	25	20	28	2	26	44	171	12	16	255	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	708	709	643	712	648	722
Degree of Utilization, x	0.08	0.08	0.07	0.26	0.02	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.26	0.22	1.02	0.08	1.84
95th-Percentile Queue Length [ft]	6.67	6.41	5.50	25.55	1.90	46.02
Approach Delay [s/veh]	8.54	8.51	9.34		10.69	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	9.82					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.856

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	404	1166	323	250	945	172	234	1269	427	330	956	316
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	404	1166	323	250	945	172	234	1269	427	330	956	316
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	307	85	66	249	45	62	334	112	87	252	83
Total Analysis Volume [veh/h]	425	1227	340	263	995	181	246	1336	449	347	1006	333
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.26	0.21	0.08	0.21	0.04	0.08	0.28	0.28	0.11	0.21	0.13
Intersection LOS	D											
Intersection V/C	0.856											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	45.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	549	688	963	906	979	502
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	549	688	963	906	979	502
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	181	253	238	258	132
Total Analysis Volume [veh/h]	578	724	1014	954	1031	528
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.32	0.30	0.21	0.15
Intersection LOS	D					
Intersection V/C	0.868					

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Report File: P:\...\01 EX PM Report.pdf

Scenario 2 01 Existing No Project PM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.703	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.649	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.602	-	B
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.632	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.462	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.602	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.503	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.708	14.9	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.580	12.3	B
11	PCH/2nd Street	Signalized	ICU 1	WB Thru	0.865	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.981	-	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report

Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	163	98	124	1507	842	123
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	98	124	1507	842	123
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	26	33	397	222	32
Total Analysis Volume [veh/h]	172	103	131	1586	886	129
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.06	0.08	0.50	0.32	0.32
Intersection LOS	C					
Intersection V/C	0.703					

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.649

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	10	11	23	1646	947	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	11	23	1646	947	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	6	433	249	11
Total Analysis Volume [veh/h]	11	12	24	1733	997	43
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.02	0.54	0.33	0.33
Intersection LOS	B					
Intersection V/C	0.649					

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Intersection Level Of Service Report

Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	343	0	4	0	0	12	24	1168	0	0	622	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	343	0	4	0	0	12	24	1168	0	0	622	15
Peak Hour Factor	0.9790	1.0000	0.9790	1.0000	1.0000	0.9790	0.9790	0.9790	1.0000	1.0000	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	0	1	0	0	3	6	298	0	0	159	4
Total Analysis Volume [veh/h]	350	0	4	0	0	12	25	1193	0	0	635	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.00	0.00	0.00	0.01	0.02	0.37	0.00	0.00	0.13	0.01
Intersection LOS	B											
Intersection V/C	0.602											

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.632

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	48	0	115	28	46	6	0	1109	22	88	682	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	0	115	28	46	6	0	1109	22	88	682	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	30	7	12	2	0	292	6	23	179	0
Total Analysis Volume [veh/h]	51	0	121	29	48	6	0	1167	23	93	718	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.08	0.02	0.03	0.03	0.00	0.36	0.01	0.06	0.15	0.00
Intersection LOS	B											
Intersection V/C	0.632											

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Intersection Level Of Service Report

Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱				⊢	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	11	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	0	11	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	3	0
Total Analysis Volume [veh/h]	0	5	0	0	12	1
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.39	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.39		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.33					
Intersection LOS	A					

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Intersection Level Of Service Report

Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	79	118	0	701	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	79	118	0	701	7
Peak Hour Factor	1.0000	0.9500	0.9500	0.9580	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	31	0	184	2
Total Analysis Volume [veh/h]	0	83	124	0	738	7
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.08	0.00	0.23	0.23
Intersection LOS	A					
Intersection V/C	0.462					

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	4	0	155	938	0	107	25	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	4	0	155	938	0	107	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	41	247	0	28	7	0
Total Analysis Volume [veh/h]	0	0	0	0	4	0	163	987	0	113	26	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.09	0.09	0.00
Intersection LOS	B											
Intersection V/C	0.602											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	644	181	4	0	26	166	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	644	181	4	0	26	166	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	169	48	1	0	7	44	1	0
Total Analysis Volume [veh/h]	0	678	191	4	0	27	175	3	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.27	0.00	0.00	0.02	0.06	0.06	0.00
Intersection LOS	B								
Intersection V/C	0.602								

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Intersection Level Of Service Report

Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	33	52	33	75	64	7	58	434	52	45	279	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	52	33	75	64	7	58	434	52	45	279	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	14	9	20	17	2	15	114	14	12	73	17
Total Analysis Volume [veh/h]	35	55	35	79	67	7	61	457	55	47	294	68
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.04	0.05	0.05	0.05	0.04	0.29	0.03	0.03	0.18	0.04
Intersection LOS	A											
Intersection V/C	0.503											

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	32	4	32	0	0	0	53	472	31	55	299	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	4	32	0	0	0	53	472	31	55	299	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	1	8	0	0	0	14	124	8	14	79	7
Total Analysis Volume [veh/h]	34	4	34	0	0	0	56	497	33	58	315	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	569		640	701	813	623	682	786
Degree of Utilization, x	0.13		0.09	0.71	0.04	0.09	0.46	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.43		0.29	5.92	0.13	0.31	2.45	0.10
95th-Percentile Queue Length [ft]	10.80		7.17	147.95	3.17	7.67	61.15	2.56
Approach Delay [s/veh]	10.25	0.00	17.62			11.62		
Approach LOS	B	A	C			B		
Intersection Delay [s/veh]	14.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	9	5	8	19	4	34	46	384	12	14	239	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	5	8	19	4	34	46	384	12	14	239	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	2	5	1	9	12	101	3	4	63	7
Total Analysis Volume [veh/h]	9	5	8	20	4	36	48	404	13	15	252	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	637	665	651	720	634	705
Degree of Utilization, x	0.03	0.09	0.07	0.58	0.02	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.30	0.24	3.76	0.07	1.92
95th-Percentile Queue Length [ft]	2.68	7.40	5.95	94.06	1.82	47.94
Approach Delay [s/veh]	8.85	8.94	13.78		11.01	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	12.34					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.865

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	433	958	316	276	1022	428	308	1129	307	343	1232	347
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	433	958	316	276	1022	428	308	1129	307	343	1232	347
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	252	83	73	269	113	81	297	81	90	324	91
Total Analysis Volume [veh/h]	456	1008	333	291	1076	451	324	1188	323	361	1297	365
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.21	0.21	0.09	0.22	0.18	0.10	0.25	0.20	0.11	0.27	0.14
Intersection LOS	D											
Intersection V/C	0.865											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.981

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	437	961	1172	818	1058	664
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	437	961	1172	818	1058	664
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	253	308	215	278	175
Total Analysis Volume [veh/h]	460	1012	1234	861	1114	699
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.39	0.27	0.23	0.29
Intersection LOS	E					
Intersection V/C	0.981					

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\01 EX (Weekend) Report.pdf

Scenario 3 01 Existing No Project Weekend
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.516	-	A
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.398	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.476	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.509	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.000	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.404	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.622	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.451	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.550	12.2	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.417	10.9	B
11	PCH/2nd Street	Signalized	ICU 1	SB Thru	0.784	-	C
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.769	-	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	166	113	82	739	657	111
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	113	82	739	657	111
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	30	22	194	173	29
Total Analysis Volume [veh/h]	175	119	86	778	692	117
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.07	0.05	0.24	0.25	0.25
Intersection LOS	A					
Intersection V/C	0.516					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	14	12	17	876	747	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	12	17	876	747	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	3	4	231	197	10
Total Analysis Volume [veh/h]	15	13	18	922	786	40
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.29	0.26	0.26
Intersection LOS	A					
Intersection V/C	0.398					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	426	0	4	0	0	16	16	639	0	0	572	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	426	0	4	0	0	16	16	639	0	0	572	22
Peak Hour Factor	0.9500	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	112	0	1	0	0	4	4	168	0	0	151	6
Total Analysis Volume [veh/h]	448	0	4	0	0	17	17	673	0	0	602	23
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.00	0.00	0.00	0.01	0.01	0.21	0.00	0.00	0.13	0.01
Intersection LOS	A											
Intersection V/C	0.476											

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Intersection Level Of Service Report

Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	65	0	155	18	52	26	0	557	22	111	402	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	0	155	18	52	26	0	557	22	111	402	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	41	5	14	7	0	147	6	29	106	0
Total Analysis Volume [veh/h]	68	0	163	19	55	27	0	586	23	117	423	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.10	0.01	0.05	0.05	0.00	0.18	0.01	0.07	0.09	0.00
Intersection LOS	A											
Intersection V/C	0.509											

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Intersection Level Of Service Report

Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	0	0	0	12	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	12	3
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	3	1
Total Analysis Volume [veh/h]	0	0	0	0	13	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.38	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.38		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱		↰		‖↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	77	155	0	431	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	77	155	0	431	29
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	41	0	113	8
Total Analysis Volume [veh/h]	0	81	163	0	454	31
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.10	0.00	0.15	0.15
Intersection LOS	A					
Intersection V/C	0.404					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.622

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	15	0	119	520	0	94	32	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	15	0	119	520	0	94	32	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	4	0	31	137	0	25	8	0
Total Analysis Volume [veh/h]	0	0	0	0	16	0	125	547	0	99	34	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.08	0.08	0.00
Intersection LOS	B											
Intersection V/C	0.622											

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Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	412	302	21	0	24	271	31	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	412	302	21	0	24	271	31	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	108	79	6	0	6	71	8	0
Total Analysis Volume [veh/h]	0	434	318	22	0	25	285	33	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

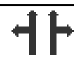
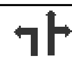
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.24	0.01	0.00	0.02	0.11	0.11	0.00
Intersection LOS	B								
Intersection V/C	0.622								

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	43	58	25	72	73	16	69	290	32	43	330	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	58	25	72	73	16	69	290	32	43	330	101
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	15	7	19	19	4	18	76	8	11	87	27
Total Analysis Volume [veh/h]	45	61	26	76	77	17	73	305	34	45	347	106
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.04	0.04	0.05	0.06	0.06	0.05	0.19	0.02	0.03	0.22	0.07
Intersection LOS	A											
Intersection V/C	0.451											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	54	3	24	0	0	0	59	311	40	49	361	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	3	24	0	0	0	59	311	40	49	361	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	1	6	0	0	0	16	82	11	13	95	5
Total Analysis Volume [veh/h]	57	3	25	0	0	0	62	327	42	52	380	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	573		629	690	796	631	691	799
Degree of Utilization, x	0.15		0.10	0.47	0.05	0.08	0.55	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52		0.33	2.56	0.17	0.27	3.38	0.07
95th-Percentile Queue Length [ft]	12.96		8.16	64.08	4.17	6.72	84.38	1.83
Approach Delay [s/veh]	10.38	0.00	11.55			13.21		
Approach LOS	B	A	B			B		
Intersection Delay [s/veh]	12.22							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	35	28	22	27	19	28	41	247	19	29	235	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	28	22	27	19	28	41	247	19	29	235	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	6	7	5	7	11	65	5	8	62	10
Total Analysis Volume [veh/h]	37	29	23	28	20	29	43	260	20	31	247	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	652	658	616	681	615	685
Degree of Utilization, x	0.14	0.12	0.07	0.41	0.05	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.47	0.40	0.22	2.02	0.16	2.06
95th-Percentile Queue Length [ft]	11.79	9.89	5.61	50.40	3.97	51.62
Approach Delay [s/veh]	9.40	9.20	11.28		11.39	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	10.92					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	296	853	311	324	1032	483	432	865	264	436	859	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	296	853	311	324	1032	483	432	865	264	436	859	270
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	224	82	85	272	127	114	228	69	115	226	71
Total Analysis Volume [veh/h]	312	898	327	341	1086	508	455	911	278	459	904	284
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.19	0.20	0.11	0.23	0.18	0.14	0.19	0.17	0.14	0.19	0.07
Intersection LOS	C											
Intersection V/C	0.784											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.769

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	512	1030	1033	564	475	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	512	1030	1033	564	475	280
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	135	271	272	148	125	74
Total Analysis Volume [veh/h]	539	1084	1087	594	500	295
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.04	0.34	0.19	0.10	0.02
Intersection LOS	C					
Intersection V/C	0.769					

ATTACHMENT C

CUMULATIVE BASELINE INTERSECTION LOS WORKSHEETS

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\03 CUML AM Report.pdf

Scenario 7 03 Cumulative NP AM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Right	0.675	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.555	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.484	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Thru	0.423	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.001	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.492	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.569	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.399	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.519	10.9	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.388	9.8	A
11	PCH/2nd Street	Signalized	ICU 1	EB Thru	0.896	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.895	-	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.675

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	133	107	80	741	1247	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	107	80	741	1247	76
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	28	21	195	328	20
Total Analysis Volume [veh/h]	140	113	84	780	1313	80
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.07	0.05	0.24	0.44	0.44
Intersection LOS	B					
Intersection V/C	0.675					

Generated with PTV VISTRO

Version 6.00-01

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	8	22	9	877	1306	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	22	9	877	1306	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	6	2	231	344	4
Total Analysis Volume [veh/h]	8	23	9	923	1375	18
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.29	0.44	0.44
Intersection LOS	A					
Intersection V/C	0.555					

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	390	0	2	0	0	12	8	772	0	0	1076	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	390	0	2	0	0	12	8	772	0	0	1076	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	98	0	1	0	0	3	2	193	0	0	269	4
Total Analysis Volume [veh/h]	390	0	2	0	0	12	8	772	0	0	1076	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.00	0.00	0.00	0.00	0.01	0.01	0.24	0.00	0.00	0.22	0.01
Intersection LOS	A											
Intersection V/C	0.484											

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	26	0	75	19	27	10	0	635	10	61	958	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	75	19	27	10	0	635	10	61	958	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	20	5	7	3	0	167	3	16	252	0
Total Analysis Volume [veh/h]	27	0	79	20	28	11	0	668	11	64	1008	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.05	0.01	0.02	0.02	0.00	0.21	0.01	0.04	0.21	0.00
Intersection LOS	A											
Intersection V/C	0.423											

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	1	0	0	10	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	0	0	10	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	3	0
Total Analysis Volume [veh/h]	0	1	0	0	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.37	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	48	94	8	904	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	94	8	904	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	25	2	238	1
Total Analysis Volume [veh/h]	0	51	99	8	952	2
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.00	0.30	0.30
Intersection LOS	A					
Intersection V/C	0.492					

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Intersection Level Of Service Report

Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.569

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	73	668	0	80	2	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	2	0	73	668	0	80	2	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	19	176	0	21	1	0
Total Analysis Volume [veh/h]	0	0	0	0	2	0	77	703	0	84	2	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.569											

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Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	836	88	2	0	9	159	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	836	88	2	0	9	159	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	220	23	1	0	2	42	0	0
Total Analysis Volume [veh/h]	0	880	93	2	0	9	167	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.28	0.30	0.00	0.00	0.01	0.06	0.00	0.00
Intersection LOS	A								
Intersection V/C	0.569								

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	40	29	27	34	62	11	36	171	38	31	306	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	29	27	34	62	11	36	171	38	31	306	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	8	7	9	16	3	9	45	10	8	81	18
Total Analysis Volume [veh/h]	42	31	28	36	65	12	38	180	40	33	322	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.05	0.02	0.02	0.05	0.05	0.02	0.11	0.03	0.02	0.20	0.04
Intersection LOS	A											
Intersection V/C	0.399											

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Intersection Level Of Service Report

Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	20	1	13	0	0	0	44	190	22	46	366	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1	13	0	0	0	44	190	22	46	366	10
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	3	0	0	0	12	50	6	12	96	3
Total Analysis Volume [veh/h]	21	1	14	0	0	0	46	200	23	48	385	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	613		658	724	841	673	743	868
Degree of Utilization, x	0.06		0.07	0.28	0.03	0.07	0.52	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19		0.23	1.13	0.08	0.23	3.03	0.04
95th-Percentile Queue Length [ft]	4.67		5.63	28.18	2.11	5.74	75.68	0.96
Approach Delay [s/veh]	9.24	0.00	9.19			12.06		
Approach LOS	A	A	A			B		
Intersection Delay [s/veh]	10.89							
Intersection LOS	B							

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Intersection Level Of Service Report

Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	12	24	19	27	2	25	42	162	11	15	242	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	24	19	27	2	25	42	162	11	15	242	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	6	5	7	1	7	11	43	3	4	64	6
Total Analysis Volume [veh/h]	13	25	20	28	2	26	44	171	12	16	255	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	708	709	643	712	648	722
Degree of Utilization, x	0.08	0.08	0.07	0.26	0.02	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.26	0.22	1.02	0.08	1.84
95th-Percentile Queue Length [ft]	6.67	6.41	5.50	25.55	1.90	46.02
Approach Delay [s/veh]	8.54	8.51	9.34		10.69	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	9.82					
Intersection LOS	A					

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Intersection Level Of Service Report

Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	404	1217	339	258	1021	175	246	1289	427	389	959	325
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	404	1217	339	258	1021	175	246	1289	427	389	959	325
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	320	89	68	269	46	65	339	112	102	252	86
Total Analysis Volume [veh/h]	425	1281	357	272	1075	184	259	1357	449	409	1009	342
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.27	0.22	0.09	0.22	0.03	0.08	0.28	0.28	0.13	0.21	0.13
Intersection LOS	D											
Intersection V/C	0.896											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.895

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	549	722	989	924	1012	502
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	549	722	989	924	1012	502
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	137	181	247	231	253	126
Total Analysis Volume [veh/h]	549	722	989	924	1012	502
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	15.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.31	0.29	0.21	0.14
Intersection LOS	D					
Intersection V/C	0.895					

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Report File: P:\...\03 CUML PM Report.pdf | 11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.708	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.653	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.596	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.637	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.466	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.648	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.521	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.708	14.9	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.580	12.3	B
13	PCH/2nd Street	Signalized	ICU 1	WB Thru	0.968	-	E
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	1.003	-	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	163	98	124	1520	854	123
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	98	124	1520	854	123
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	26	33	400	225	32
Total Analysis Volume [veh/h]	172	103	131	1600	899	129
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.06	0.08	0.50	0.32	0.32
Intersection LOS	C					
Intersection V/C	0.708					

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Version 6.00-01

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	10	11	23	1659	959	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	11	23	1659	959	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	6	437	252	11
Total Analysis Volume [veh/h]	11	12	24	1746	1009	43
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.02	0.55	0.33	0.33
Intersection LOS	B					
Intersection V/C	0.653					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	343	0	4	0	0	12	24	1181	0	0	634	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	343	0	4	0	0	12	24	1181	0	0	634	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	0	1	0	0	3	6	295	0	0	159	4
Total Analysis Volume [veh/h]	343	0	4	0	0	12	24	1181	0	0	634	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.00	0.00	0.00	0.01	0.02	0.37	0.00	0.00	0.13	0.01
Intersection LOS	A											
Intersection V/C	0.596											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.637

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	48	0	115	28	46	6	0	1122	22	88	694	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	0	115	28	46	6	0	1122	22	88	694	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	30	7	12	2	0	295	6	23	183	0
Total Analysis Volume [veh/h]	51	0	121	29	48	6	0	1181	23	93	731	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.08	0.02	0.03	0.03	0.00	0.37	0.01	0.06	0.15	0.00
Intersection LOS	B											
Intersection V/C	0.637											

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	23	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	0	23	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	6	0
Total Analysis Volume [veh/h]	0	5	0	0	24	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.44	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.36	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.41					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.466

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	79	118	13	713	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	79	118	13	713	7
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	31	3	188	2
Total Analysis Volume [veh/h]	0	83	124	14	751	7
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.08	0.00	0.24	0.24
Intersection LOS	A					
Intersection V/C	0.466					

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.648

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	4	0	155	951	0	107	25	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	4	0	155	951	0	107	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	41	250	0	28	7	0
Total Analysis Volume [veh/h]	0	0	0	0	4	0	163	1001	0	113	26	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.09	0.09	0.00
Intersection LOS	B											
Intersection V/C	0.648											

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Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	656	220	4	0	26	211	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	656	220	4	0	26	211	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	173	58	1	0	7	56	1	0
Total Analysis Volume [veh/h]	0	691	232	4	0	27	222	3	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.29	0.00	0.00	0.02	0.08	0.08	0.00
Intersection LOS	B								
Intersection V/C	0.648								

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Intersection Level Of Service Report

Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	33	52	33	75	64	7	58	434	52	45	279	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	52	33	75	64	7	58	434	52	45	279	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	14	9	20	17	2	15	114	14	12	73	17
Total Analysis Volume [veh/h]	35	55	35	79	67	7	61	457	55	47	294	68
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.06	0.02	0.05	0.05	0.05	0.04	0.29	0.03	0.03	0.18	0.04
Intersection LOS	A											
Intersection V/C	0.521											

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Intersection Level Of Service Report

Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	32	4	32	0	0	0	53	472	31	55	299	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	4	32	0	0	0	53	472	31	55	299	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	1	8	0	0	0	14	124	8	14	79	7
Total Analysis Volume [veh/h]	34	4	34	0	0	0	56	497	33	58	315	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	569		640	701	813	623	682	786
Degree of Utilization, x	0.13		0.09	0.71	0.04	0.09	0.46	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.43		0.29	5.92	0.13	0.31	2.45	0.10
95th-Percentile Queue Length [ft]	10.80		7.17	147.95	3.17	7.67	61.15	2.56
Approach Delay [s/veh]	10.25	0.00	17.62			11.62		
Approach LOS	B	A	C			B		
Intersection Delay [s/veh]	14.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	9	5	8	19	4	34	46	384	12	14	239	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	5	8	19	4	34	46	384	12	14	239	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	2	5	1	9	12	101	3	4	63	7
Total Analysis Volume [veh/h]	9	5	8	20	4	36	48	404	13	15	252	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	637	665	651	720	634	705
Degree of Utilization, x	0.03	0.09	0.07	0.58	0.02	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.30	0.24	3.76	0.07	1.92
95th-Percentile Queue Length [ft]	2.68	7.40	5.95	94.06	1.82	47.94
Approach Delay [s/veh]	8.85	8.94	13.78		11.01	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	12.34					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.968

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	433	1073	361	298	1167	435	334	1162	307	544	1237	373
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	433	1073	361	298	1167	435	334	1162	307	544	1237	373
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	282	95	78	307	114	88	306	81	143	326	98
Total Analysis Volume [veh/h]	456	1129	380	314	1228	458	352	1223	323	573	1302	393
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.24	0.24	0.10	0.26	0.18	0.11	0.25	0.20	0.18	0.27	0.15
Intersection LOS	E											
Intersection V/C	0.968											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.003

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	437	1034	1232	857	1129	664
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	437	1034	1232	857	1129	664
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	272	324	226	297	175
Total Analysis Volume [veh/h]	460	1088	1297	902	1188	699
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.41	0.28	0.25	0.29
Intersection LOS	F					
Intersection V/C	1.003					

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Report File: P:\...\03 CUML (Weekend) Report.pdf

Scenario 9 9 03 Cumulative NP Weekend
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.520	-	A
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.402	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.462	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.514	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.000	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.408	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.589	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.476	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.550	12.2	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.417	10.9	B
13	PCH/2nd Street	Signalized	ICU 1	SB Thru	0.964	-	E
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.897	-	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	166	113	82	752	671	111
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	113	82	752	671	111
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	30	22	198	177	29
Total Analysis Volume [veh/h]	175	119	86	792	706	117
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.07	0.05	0.25	0.26	0.26
Intersection LOS	A					
Intersection V/C	0.520					

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	14	12	17	889	761	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	12	17	889	761	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	3	4	234	200	10
Total Analysis Volume [veh/h]	15	13	18	936	801	40
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.29	0.26	0.26
Intersection LOS	A					
Intersection V/C	0.402					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	426	0	4	0	0	16	16	652	0	0	586	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	426	0	4	0	0	16	16	652	0	0	586	22
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	0	1	0	0	4	4	163	0	0	147	6
Total Analysis Volume [veh/h]	426	0	4	0	0	16	16	652	0	0	586	22
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01	0.01	0.20	0.00	0.00	0.12	0.01
Intersection LOS	A											
Intersection V/C	0.462											

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Intersection Level Of Service Report

Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	65	0	155	18	52	26	0	570	22	111	416	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	0	155	18	52	26	0	570	22	111	416	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	41	5	14	7	0	150	6	29	109	0
Total Analysis Volume [veh/h]	68	0	163	19	55	27	0	600	23	117	438	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.10	0.01	0.05	0.05	0.00	0.19	0.01	0.07	0.09	0.00
Intersection LOS	A											
Intersection V/C	0.514											

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	0	0	0	26	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	26	3
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	7	1
Total Analysis Volume [veh/h]	0	0	0	0	27	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.44	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	77	155	13	445	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	77	155	13	445	29
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	41	3	117	8
Total Analysis Volume [veh/h]	0	81	163	14	468	31
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.10	0.00	0.16	0.16
Intersection LOS	A					
Intersection V/C	0.408					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	15	0	119	533	0	94	32	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	15	0	119	533	0	94	32	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	4	0	31	140	0	25	8	0
Total Analysis Volume [veh/h]	0	0	0	0	16	0	125	561	0	99	34	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.08	0.08	0.00
Intersection LOS	A											
Intersection V/C	0.589											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	426	371	21	0	24	352	31	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	426	371	21	0	24	352	31	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	112	98	6	0	6	93	8	0
Total Analysis Volume [veh/h]	0	448	391	22	0	25	371	33	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.26	0.01	0.00	0.02	0.13	0.13	0.00
Intersection LOS	A								
Intersection V/C	0.589								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	43	58	25	72	73	16	69	290	32	43	330	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	58	25	72	73	16	69	290	32	43	330	101
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	15	7	19	19	4	18	76	8	11	87	27
Total Analysis Volume [veh/h]	45	61	26	76	77	17	73	305	34	45	347	106
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.02	0.05	0.06	0.06	0.05	0.19	0.02	0.03	0.22	0.07
Intersection LOS	A											
Intersection V/C	0.476											

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Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+						┐‖┌			┐‖┌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	54	3	24	0	0	0	59	311	40	49	361	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	3	24	0	0	0	59	311	40	49	361	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	1	6	0	0	0	16	82	11	13	95	5
Total Analysis Volume [veh/h]	57	3	25	0	0	0	62	327	42	52	380	19
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	573		629	690	796	631	691	799
Degree of Utilization, x	0.15		0.10	0.47	0.05	0.08	0.55	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52		0.33	2.56	0.17	0.27	3.38	0.07
95th-Percentile Queue Length [ft]	12.96		8.16	64.08	4.17	6.72	84.38	1.83
Approach Delay [s/veh]	10.38	0.00	11.55			13.21		
Approach LOS	B	A	B			B		
Intersection Delay [s/veh]	12.22							
Intersection LOS	B							

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Intersection Level Of Service Report

Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	35	28	22	27	19	28	41	247	19	29	235	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	28	22	27	19	28	41	247	19	29	235	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	6	7	5	7	11	65	5	8	62	10
Total Analysis Volume [veh/h]	37	29	23	28	20	29	43	260	20	31	247	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	652	658	616	681	615	685
Degree of Utilization, x	0.14	0.12	0.07	0.41	0.05	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.47	0.40	0.22	2.02	0.16	2.06
95th-Percentile Queue Length [ft]	11.79	9.89	5.61	50.40	3.97	51.62
Approach Delay [s/veh]	9.40	9.20	11.28		11.39	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	10.92					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.964

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	296	1042	409	348	1279	491	469	921	264	727	865	294
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	296	1042	409	348	1279	491	469	921	264	727	865	294
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	274	108	92	337	129	123	242	69	191	228	77
Total Analysis Volume [veh/h]	312	1097	431	366	1346	517	494	969	278	765	911	309
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.23	0.27	0.11	0.28	0.17	0.15	0.20	0.17	0.24	0.19	0.08
Intersection LOS	E											
Intersection V/C	0.964											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.897

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	649	1030	1154	621	579	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	649	1030	1154	621	579	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	162	258	289	155	145	70
Total Analysis Volume [veh/h]	649	1030	1154	621	579	280
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	15.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.36	0.19	0.12	0.00
Intersection LOS	D					
Intersection V/C	0.897					

ATTACHMENT D

EXISTING PLUS PROJECT INTERSECTION LOS WORKSHEETS

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro — Scenario 4 02 Existing Plus Project AM
Report File: P:\...\02 E+P AM Report.pdf — 11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.706	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	WB Right	0.586	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.528	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Thru	0.440	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.001	8.3	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.494	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.575	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.473	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.595	12.8	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.425	10.4	B
11	PCH/2nd Street	Signalized	ICU 1	EB Thru	0.857	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.869	-	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	146	107	80	757	1289	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	107	80	757	1289	102
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	28	21	199	339	27
Total Analysis Volume [veh/h]	154	113	84	797	1357	107
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.07	0.05	0.25	0.46	0.46
Intersection LOS	C					
Intersection V/C	0.706					

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	21	22	9	906	1374	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	22	9	906	1374	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	6	2	238	362	11
Total Analysis Volume [veh/h]	22	23	9	954	1446	45
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.30	0.47	0.47
Intersection LOS	A					
Intersection V/C	0.586					

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Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	490	0	2	0	0	12	8	764	0	0	1070	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	490	0	2	0	0	12	8	764	0	0	1070	23
Peak Hour Factor	0.9730	1.0000	0.9730	1.0000	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	126	0	1	0	0	3	2	196	0	0	275	6
Total Analysis Volume [veh/h]	504	0	2	0	0	12	8	785	0	0	1100	24
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.00	0.00	0.00	0.00	0.01	0.01	0.25	0.00	0.00	0.23	0.02
Intersection LOS	A											
Intersection V/C	0.528											

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Intersection Level Of Service Report

Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	34	0	92	19	31	10	0	627	10	69	952	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	0	92	19	31	10	0	627	10	69	952	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	24	5	8	3	0	165	3	18	251	0
Total Analysis Volume [veh/h]	36	0	97	20	33	11	0	660	11	73	1002	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.06	0.01	0.03	0.03	0.00	0.21	0.01	0.05	0.21	0.00
Intersection LOS	A											
Intersection V/C	0.440											

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Intersection Level Of Service Report

Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	1	0	0	4	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	0	0	4	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0
Total Analysis Volume [veh/h]	0	1	0	0	4	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.34	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.34		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.39					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	49	96	0	905	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	49	96	0	905	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9460	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	25	0	238	1
Total Analysis Volume [veh/h]	0	52	101	0	953	2
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.00	0.30	0.30
Intersection LOS	A					
Intersection V/C	0.494					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	73	675	0	80	2	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	2	0	73	675	0	80	2	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	19	178	0	21	1	1
Total Analysis Volume [veh/h]	0	0	0	0	2	0	77	711	0	84	2	3
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.06	0.06	0.06
Intersection LOS	A											
Intersection V/C	0.575											

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Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	837	152	2	4	9	133	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	837	152	2	4	9	133	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	220	40	1	1	2	35	0	0
Total Analysis Volume [veh/h]	0	881	160	2	4	9	140	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.28	0.33	0.00	0.00	0.01	0.05	0.00	0.00
Intersection LOS	A								
Intersection V/C	0.575								

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Intersection Level Of Service Report

Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	65	54	27	34	74	11	36	209	50	31	381	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	54	27	34	74	11	36	209	50	31	381	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	14	7	9	19	3	9	55	13	8	100	18
Total Analysis Volume [veh/h]	68	57	28	36	78	12	38	220	53	33	401	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.05	0.02	0.06	0.06	0.02	0.14	0.03	0.02	0.25	0.04
Intersection LOS	A											
Intersection V/C	0.473											

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Intersection Level Of Service Report

Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	95	1	88	0	0	0	44	190	60	84	366	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	1	88	0	0	0	44	190	60	84	366	10
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	23	0	0	0	12	50	16	22	96	3
Total Analysis Volume [veh/h]	100	1	93	0	0	0	46	200	63	88	385	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	591		574	625	712	593	646	741
Degree of Utilization, x	0.33		0.08	0.32	0.09	0.15	0.60	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.42		0.26	1.38	0.29	0.52	3.94	0.05
95th-Percentile Queue Length [ft]	35.62		6.51	34.45	7.26	12.97	98.53	1.13
Approach Delay [s/veh]	12.04	0.00	10.32			14.79		
Approach LOS	B	A	B			B		
Intersection Delay [s/veh]	12.85							
Intersection LOS	B							

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Intersection Level Of Service Report

Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	12	24	19	27	2	35	60	200	11	15	261	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	24	19	27	2	35	60	200	11	15	261	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	6	5	7	1	9	16	53	3	4	69	6
Total Analysis Volume [veh/h]	13	25	20	28	2	37	63	211	12	16	275	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	680	693	635	702	636	706
Degree of Utilization, x	0.09	0.10	0.10	0.32	0.03	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.28	0.32	0.33	1.37	0.08	2.13
95th-Percentile Queue Length [ft]	6.97	7.99	8.23	34.18	1.93	53.19
Approach Delay [s/veh]	8.79	8.75	9.94		11.36	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	10.36					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.857

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	404	1166	323	250	945	172	234	1284	427	330	963	316
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	404	1166	323	250	945	172	234	1284	427	330	963	316
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	307	85	66	249	45	62	338	112	87	253	83
Total Analysis Volume [veh/h]	425	1227	340	263	995	181	246	1352	449	347	1014	333
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	7	4	0	3	8	8
Auxiliary Signal Groups												8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.26	0.21	0.08	0.21	0.00	0.08	0.28	0.28	0.11	0.21	0.21
Intersection LOS	D											
Intersection V/C	0.857											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	549	688	963	921	986	502
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	549	688	963	921	986	502
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	181	253	242	259	132
Total Analysis Volume [veh/h]	578	724	1014	969	1038	528
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.32	0.30	0.22	0.15
Intersection LOS	D					
Intersection V/C	0.869					

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Report File: P:\...\02 E+P PM Report.pdf

Scenario 5 02 Existing Plus Project PM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.736	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.690	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.628	-	B
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.657	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.469	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.607	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.563	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.799	18.1	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.633	13.6	B
13	PCH/2nd Street	Signalized	ICU 1	WB Thru	0.869	-	D
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.981	-	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.736

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	189	98	124	1555	882	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	189	98	124	1555	882	140
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	26	33	409	232	37
Total Analysis Volume [veh/h]	199	103	131	1637	928	147
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.06	0.08	0.51	0.34	0.34
Intersection LOS	C					
Intersection V/C	0.736					

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	36	11	23	1720	1004	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	11	23	1720	1004	58
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	3	6	453	264	15
Total Analysis Volume [veh/h]	38	12	24	1811	1057	61
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.02	0.57	0.35	0.35
Intersection LOS	B					
Intersection V/C	0.690					

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	417	0	4	0	0	12	24	1168	0	0	622	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	417	0	4	0	0	12	24	1168	0	0	622	30
Peak Hour Factor	0.9790	1.0000	0.9790	1.0000	1.0000	0.9790	0.9790	0.9790	1.0000	1.0000	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	0	1	0	0	3	6	298	0	0	159	8
Total Analysis Volume [veh/h]	426	0	4	0	0	12	25	1193	0	0	635	31
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01	0.02	0.37	0.00	0.00	0.13	0.02
Intersection LOS	B											
Intersection V/C	0.628											

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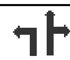
Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	63	0	126	28	54	6	0	1109	22	105	682	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	0	126	28	54	6	0	1109	22	105	682	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	33	7	14	2	0	292	6	28	179	0
Total Analysis Volume [veh/h]	66	0	133	29	57	6	0	1167	23	111	718	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.08	0.02	0.04	0.04	0.00	0.36	0.01	0.07	0.15	0.00
Intersection LOS	B											
Intersection V/C	0.657											

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	11	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	0	11	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	3	0
Total Analysis Volume [veh/h]	0	5	0	0	12	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.39	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.39		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.33					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	81	119	0	716	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	81	119	0	716	7
Peak Hour Factor	1.0000	0.9500	0.9500	0.9580	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	31	0	188	2
Total Analysis Volume [veh/h]	0	85	125	0	754	7
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.08	0.00	0.24	0.24
Intersection LOS	A					
Intersection V/C	0.469					

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	4	0	155	948	0	107	25	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	4	0	155	948	0	107	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	41	249	0	28	7	0
Total Analysis Volume [veh/h]	0	0	0	0	4	0	163	998	0	113	26	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.09	0.09	0.00
Intersection LOS	B											
Intersection V/C	0.607											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	659	181	4	0	26	166	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	659	181	4	0	26	166	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	173	48	1	0	7	44	1	0
Total Analysis Volume [veh/h]	0	694	191	4	0	27	175	3	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.28	0.00	0.00	0.02	0.06	0.06	0.00
Intersection LOS	B								
Intersection V/C	0.607								

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Intersection Level Of Service Report

Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	49	68	33	75	89	7	58	509	77	45	328	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	68	33	75	89	7	58	509	77	45	328	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	18	9	20	23	2	15	134	20	12	86	17
Total Analysis Volume [veh/h]	52	72	35	79	94	7	61	536	81	47	345	68
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.05	0.05	0.05	0.06	0.06	0.04	0.34	0.05	0.03	0.22	0.04
Intersection LOS	A											
Intersection V/C	0.563											

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	81	4	81	0	0	0	53	472	106	130	299	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	4	81	0	0	0	53	472	106	130	299	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	1	21	0	0	0	14	124	28	34	79	7
Total Analysis Volume [veh/h]	85	4	85	0	0	0	56	497	112	137	315	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	539		572	622	709	556	604	685
Degree of Utilization, x	0.32		0.10	0.80	0.16	0.25	0.52	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.38		0.32	7.91	0.56	0.96	3.02	0.12
95th-Percentile Queue Length [ft]	34.62		8.10	197.78	13.97	24.06	75.54	2.96
Approach Delay [s/veh]	12.81	0.00	22.82			13.55		
Approach LOS	B	A	C			B		
Intersection Delay [s/veh]	18.13							
Intersection LOS	C							

Intersection Level Of Service Report

Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.633

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	9	5	8	19	4	53	58	409	12	14	277	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	5	8	19	4	53	58	409	12	14	277	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	2	5	1	14	15	108	3	4	73	7
Total Analysis Volume [veh/h]	9	5	8	20	4	56	61	431	13	15	292	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	609	650	637	701	618	685
Degree of Utilization, x	0.04	0.12	0.10	0.63	0.02	0.47

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.42	0.32	4.53	0.07	2.51
95th-Percentile Queue Length [ft]	2.81	10.47	7.91	113.36	1.86	62.68
Approach Delay [s/veh]	9.14	9.32	15.37		12.33	
Approach LOS	A	A	C		B	
Intersection Delay [s/veh]	13.63					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	433	958	316	276	1022	428	308	1139	307	343	1247	347
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	433	958	316	276	1022	428	308	1139	307	343	1247	347
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	252	83	73	269	113	81	300	81	90	328	91
Total Analysis Volume [veh/h]	456	1008	333	291	1076	451	324	1199	323	361	1313	365
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	7	4	0	3	8	8
Auxiliary Signal Groups												8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.21	0.21	0.09	0.22	0.00	0.10	0.25	0.20	0.11	0.27	0.23
Intersection LOS	D											
Intersection V/C	0.869											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.981

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	437	961	1172	828	1073	664
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	437	961	1172	828	1073	664
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	253	308	218	282	175
Total Analysis Volume [veh/h]	460	1012	1234	872	1129	699
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.39	0.27	0.24	0.29
Intersection LOS	E					
Intersection V/C	0.981					

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\02 E+P (Weekend) Report.pdf

Scenario 6 02 Existing Plus Project Weekend
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.603	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.522	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.531	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.576	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.000	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.423	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.653	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.628	-	B
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.734	21.1	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.643	14.8	B
13	PCH/2nd Street	Signalized	ICU 1	SB Thru	0.791	-	C
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.779	-	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	244	113	82	883	729	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	113	82	883	729	150
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	30	22	232	192	39
Total Analysis Volume [veh/h]	257	119	86	929	767	158
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 6.00-01

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.07	0.05	0.29	0.29	0.29
Intersection LOS	B					
Intersection V/C	0.603					

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	92	12	17	1098	858	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	12	17	1098	858	77
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	3	4	289	226	20
Total Analysis Volume [veh/h]	97	13	18	1156	903	81
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.36	0.31	0.31
Intersection LOS	A					
Intersection V/C	0.522					

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Intersection Level Of Service Report

Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	576	0	4	0	0	16	16	639	0	0	572	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	576	0	4	0	0	16	16	639	0	0	572	33
Peak Hour Factor	0.9500	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	152	0	1	0	0	4	4	168	0	0	151	9
Total Analysis Volume [veh/h]	606	0	4	0	0	17	17	673	0	0	602	35
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.00	0.00	0.00	0.00	0.01	0.01	0.21	0.00	0.00	0.13	0.02
Intersection LOS	A											
Intersection V/C	0.531											

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	76	0	181	18	77	26	0	557	22	161	402	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	0	181	18	77	26	0	557	22	161	402	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	0	48	5	20	7	0	147	6	42	106	0
Total Analysis Volume [veh/h]	80	0	191	19	81	27	0	586	23	169	423	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.12	0.01	0.07	0.07	0.00	0.18	0.01	0.11	0.09	0.00
Intersection LOS	A											
Intersection V/C	0.576											

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Intersection Level Of Service Report

Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	0	0	0	12	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	12	3
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	3	1
Total Analysis Volume [veh/h]	0	0	0	0	13	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.38	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.38		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report

Intersection 6: Ximeno Avenue/Livington Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	81	158	0	477	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	81	158	0	477	29
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	42	0	126	8
Total Analysis Volume [veh/h]	0	85	166	0	502	31
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Permissive	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.10	0.00	0.17	0.17
Intersection LOS	A					
Intersection V/C	0.423					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	86	633	2	121	41	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	2	0	86	633	2	121	41	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	23	167	1	32	11	2
Total Analysis Volume [veh/h]	0	0	0	0	2	0	91	666	2	127	43	8
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.11	0.11	0.11
Intersection LOS	B											
Intersection V/C	0.653											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	643	212	15	16	39	200	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	643	212	15	16	39	200	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	169	56	4	4	10	53	0	0
Total Analysis Volume [veh/h]	0	677	223	16	17	41	211	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.28	0.02	0.02	0.03	0.08	0.00	0.00
Intersection LOS	B								
Intersection V/C	0.653								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	80	95	25	72	148	16	69	515	107	43	443	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	95	25	72	148	16	69	515	107	43	443	101
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	25	7	19	39	4	18	136	28	11	117	27
Total Analysis Volume [veh/h]	84	100	26	76	156	17	73	542	113	45	466	106
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.07	0.07	0.05	0.11	0.11	0.05	0.34	0.07	0.03	0.29	0.07
Intersection LOS	B											
Intersection V/C	0.628											

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Intersection Level Of Service Report

Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	167	3	137	0	0	0	59	311	265	274	361	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	3	137	0	0	0	59	311	265	274	361	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	1	36	0	0	0	16	82	70	72	95	5
Total Analysis Volume [veh/h]	176	3	144	0	0	0	62	327	279	288	380	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	497		477	513	571	483	518	579
Degree of Utilization, x	0.65		0.13	0.64	0.49	0.60	0.73	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.60		0.44	4.44	2.67	3.84	6.10	0.10
95th-Percentile Queue Length [ft]	115.05		11.11	111.07	66.75	96.05	152.55	2.54
Approach Delay [s/veh]	22.73	0.00	17.70			23.53		
Approach LOS	C	A	C			C		
Intersection Delay [s/veh]	21.05							
Intersection LOS	C							

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Intersection Level Of Service Report

Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	35	28	22	27	19	84	69	304	19	29	348	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	28	22	27	19	84	69	304	19	29	348	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	6	7	5	22	18	80	5	8	92	10
Total Analysis Volume [veh/h]	37	29	23	28	20	88	73	320	20	31	366	39
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	570	608	571	625	572	630
Degree of Utilization, x	0.16	0.22	0.13	0.54	0.05	0.64

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.55	0.85	0.44	3.28	0.17	4.64
95th-Percentile Queue Length [ft]	13.75	21.30	10.93	81.98	4.28	116.03
Approach Delay [s/veh]	10.48	10.62	14.21		17.51	
Approach LOS	B	B	B		C	
Intersection Delay [s/veh]	14.78					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.791

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	296	853	311	324	1032	483	432	888	264	436	905	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	296	853	311	324	1032	483	432	888	264	436	905	270
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	224	82	85	272	127	114	234	69	115	238	71
Total Analysis Volume [veh/h]	312	898	327	341	1086	508	455	935	278	459	953	284
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	7	4	0	3	8	8
Auxiliary Signal Groups												8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.19	0.20	0.11	0.23	0.00	0.14	0.19	0.17	0.14	0.20	0.18
Intersection LOS	C											
Intersection V/C	0.791											

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Intersection Level Of Service Report

Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	512	1030	1033	587	521	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	512	1030	1033	587	521	280
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	135	271	272	154	137	74
Total Analysis Volume [veh/h]	539	1084	1087	618	548	295
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.04	0.34	0.19	0.11	0.02
Intersection LOS	C					
Intersection V/C	0.779					

ATTACHMENT E

CUMULATIVE PLUS PROJECT INTERSECTION LOS WORKSHEETS

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\04 C+P AM Report.pdf

Scenario 10 04 Cumulative + Project AM
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.708	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.588	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.519	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Thru	0.443	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.001	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Thru	0.496	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.571	-	A
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	WB Thru	0.475	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.595	12.8	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.422	10.3	B
11	PCH/2nd Street	Signalized	ICU 1	EB Thru	0.900	-	D
12	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.896	-	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report

Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	146	107	80	765	1295	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	107	80	765	1295	102
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	28	21	201	341	27
Total Analysis Volume [veh/h]	154	113	84	805	1363	107
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.07	0.05	0.25	0.46	0.46
Intersection LOS	C					
Intersection V/C	0.708					

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Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	21	22	9	914	1380	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	22	9	914	1380	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	6	2	241	363	11
Total Analysis Volume [veh/h]	22	23	9	962	1453	45
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.30	0.47	0.47
Intersection LOS	A					
Intersection V/C	0.588					

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Intersection Level Of Service Report

Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	490	0	2	0	0	12	8	772	0	0	1076	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	490	0	2	0	0	12	8	772	0	0	1076	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	123	0	1	0	0	3	2	193	0	0	269	6
Total Analysis Volume [veh/h]	490	0	2	0	0	12	8	772	0	0	1076	23
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.00	0.00	0.00	0.00	0.01	0.01	0.24	0.00	0.00	0.22	0.01
Intersection LOS	A											
Intersection V/C	0.519											

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	34	0	92	19	31	10	0	635	10	69	958	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	0	92	19	31	10	0	635	10	69	958	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	24	5	8	3	0	167	3	18	252	0
Total Analysis Volume [veh/h]	36	0	97	20	33	11	0	668	11	73	1008	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.06	0.01	0.03	0.03	0.00	0.21	0.01	0.05	0.21	0.00
Intersection LOS	A											
Intersection V/C	0.443											

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	1	0	0	10	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	0	0	10	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	3	0
Total Analysis Volume [veh/h]	0	1	0	0	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.37	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	49	96	23	911	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	49	96	23	911	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	25	6	240	1
Total Analysis Volume [veh/h]	0	52	101	24	959	2
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.06	0.01	0.30	0.30
Intersection LOS	A					
Intersection V/C	0.496					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	73	683	0	80	2	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	2	0	73	683	0	80	2	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	19	180	0	21	1	0
Total Analysis Volume [veh/h]	0	0	0	0	2	0	77	719	0	84	2	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.571											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	843	88	2	0	9	159	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	843	88	2	0	9	159	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	222	23	1	0	2	42	0	0
Total Analysis Volume [veh/h]	0	887	93	2	0	9	167	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.28	0.31	0.00	0.00	0.01	0.06	0.00	0.00
Intersection LOS	A								
Intersection V/C	0.571								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.475

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	65	54	27	34	74	11	36	209	50	31	381	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	54	27	34	74	11	36	209	50	31	381	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	14	7	9	19	3	9	55	13	8	100	18
Total Analysis Volume [veh/h]	68	57	28	36	78	12	38	220	53	33	401	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.08	0.02	0.02	0.06	0.06	0.02	0.14	0.03	0.02	0.25	0.04
Intersection LOS	A											
Intersection V/C	0.475											

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	95	1	88	0	0	0	44	190	60	84	366	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	1	88	0	0	0	44	190	60	84	366	10
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	23	0	0	0	12	50	16	22	96	3
Total Analysis Volume [veh/h]	100	1	93	0	0	0	46	200	63	88	385	11
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	591		574	625	712	593	646	741
Degree of Utilization, x	0.33		0.08	0.32	0.09	0.15	0.60	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.42		0.26	1.38	0.29	0.52	3.94	0.05
95th-Percentile Queue Length [ft]	35.62		6.51	34.45	7.26	12.97	98.53	1.13
Approach Delay [s/veh]	12.04	0.00	10.32			14.79		
Approach LOS	B	A	B			B		
Intersection Delay [s/veh]	12.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.422

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	12	24	19	27	2	25	60	200	11	15	261	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	24	19	27	2	25	60	200	11	15	261	24
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	6	5	7	1	7	16	53	3	4	69	6
Total Analysis Volume [veh/h]	13	25	20	28	2	26	63	211	12	16	275	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	684	685	638	706	640	711
Degree of Utilization, x	0.08	0.08	0.10	0.32	0.03	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.28	0.27	0.33	1.35	0.08	2.10
95th-Percentile Queue Length [ft]	6.93	6.65	8.17	33.85	1.92	52.61
Approach Delay [s/veh]	8.76	8.72	9.87		11.26	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	10.31					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	404	1217	339	258	1021	175	246	1304	427	389	966	325
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	404	1217	339	258	1021	175	246	1304	427	389	966	325
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	320	89	68	269	46	65	343	112	102	254	86
Total Analysis Volume [veh/h]	425	1281	357	272	1075	184	259	1373	449	409	1017	342
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.27	0.22	0.09	0.22	0.03	0.08	0.29	0.28	0.13	0.21	0.13
Intersection LOS	D											
Intersection V/C	0.900											

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Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	549	722	989	939	1019	502
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	549	722	989	939	1019	502
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	137	181	247	235	255	126
Total Analysis Volume [veh/h]	549	722	989	939	1019	502
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	15.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.31	0.29	0.21	0.14
Intersection LOS	D					
Intersection V/C	0.896					

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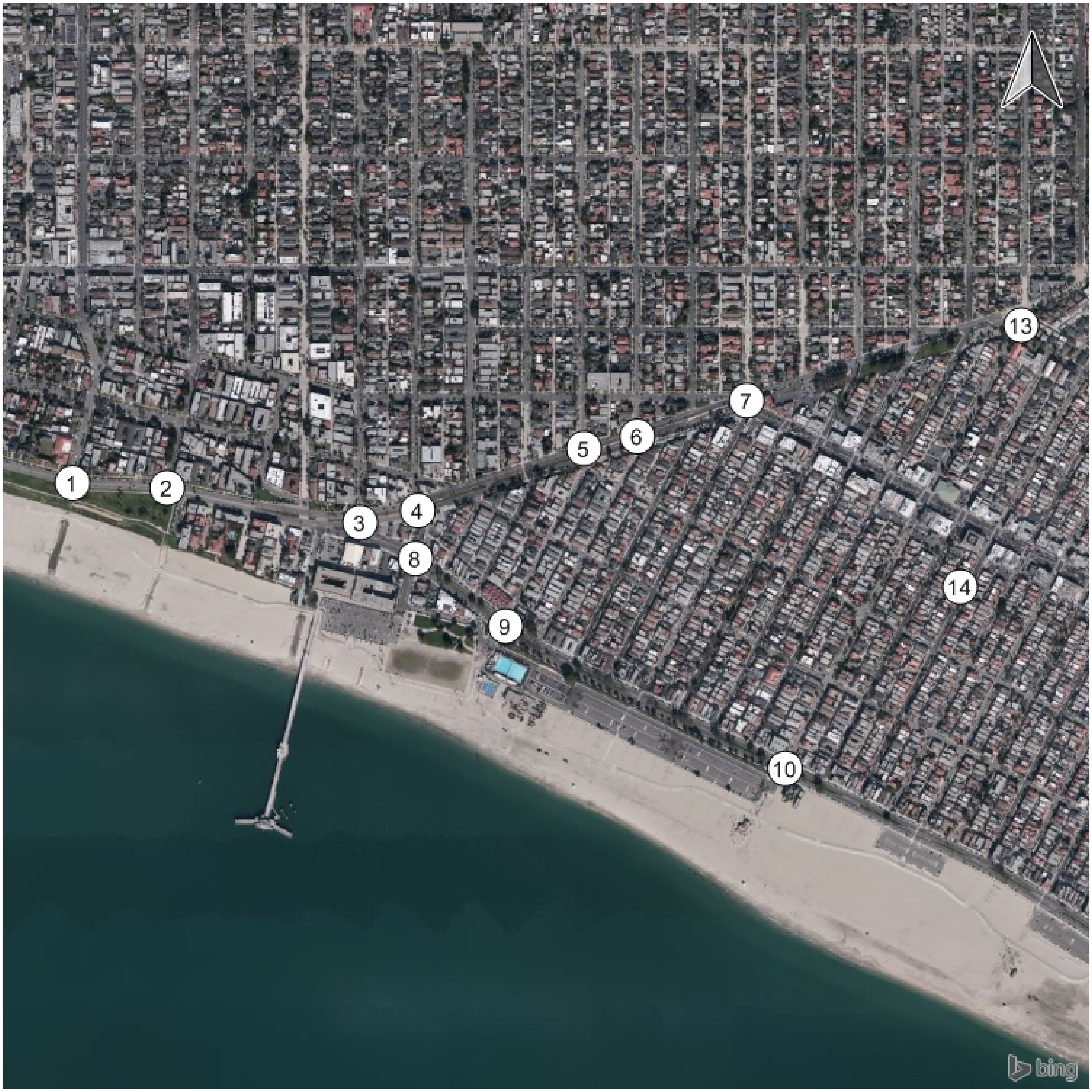
Study Intersections



Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro | Scenario 11 04 Cumulative + Project PM
Report File: P:\...\04 C+P PM Report.pdf | 11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.740	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.694	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.621	-	B
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.661	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.473	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.653	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.591	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.799	18.1	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru	0.633	13.6	B
13	PCH/2nd Street	Signalized	ICU 1	WB Thru	0.970	-	E
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	1.003	-	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.740

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	189	98	124	1568	894	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	189	98	124	1568	894	140
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	26	33	413	235	37
Total Analysis Volume [veh/h]	199	103	131	1651	941	147
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.06	0.08	0.52	0.34	0.34
Intersection LOS	C					
Intersection V/C	0.740					

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	36	11	23	1733	1016	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	11	23	1733	1016	58
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	3	6	456	267	15
Total Analysis Volume [veh/h]	38	12	24	1824	1069	61
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.02	0.57	0.35	0.35
Intersection LOS	B					
Intersection V/C	0.694					

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.621

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	417	0	4	0	0	12	24	1181	0	0	634	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	417	0	4	0	0	12	24	1181	0	0	634	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	104	0	1	0	0	3	6	295	0	0	159	8
Total Analysis Volume [veh/h]	417	0	4	0	0	12	24	1181	0	0	634	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01	0.02	0.37	0.00	0.00	0.13	0.02
Intersection LOS	B											
Intersection V/C	0.621											

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Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	63	0	126	28	54	6	0	1122	22	105	694	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	0	126	28	54	6	0	1122	22	105	694	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	33	7	14	2	0	295	6	28	183	0
Total Analysis Volume [veh/h]	66	0	133	29	57	6	0	1181	23	111	731	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.08	0.02	0.04	0.04	0.00	0.37	0.01	0.07	0.15	0.00
Intersection LOS	B											
Intersection V/C	0.661											

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	23	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	0	23	1
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	6	0
Total Analysis Volume [veh/h]	0	5	0	0	24	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.44	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.36	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.41					
Intersection LOS	A					

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Intersection Level Of Service Report

Intersection 6: Ximeno Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	81	119	23	728	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	81	119	23	728	7
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	31	6	192	2
Total Analysis Volume [veh/h]	0	85	125	24	766	7
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.08	0.01	0.24	0.24
Intersection LOS	A					
Intersection V/C	0.473					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	4	0	155	961	0	107	25	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	4	0	155	961	0	107	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	41	253	0	28	7	0
Total Analysis Volume [veh/h]	0	0	0	0	4	0	163	1012	0	113	26	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.09	0.09	0.00
Intersection LOS	B											
Intersection V/C	0.653											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	671	220	4	0	26	211	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	671	220	4	0	26	211	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	177	58	1	0	7	56	1	0
Total Analysis Volume [veh/h]	0	706	232	4	0	27	222	3	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.29	0.00	0.00	0.02	0.08	0.08	0.00
Intersection LOS	B								
Intersection V/C	0.653								

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Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	49	68	33	75	89	7	58	509	77	45	328	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	68	33	75	89	7	58	509	77	45	328	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	18	9	20	23	2	15	134	20	12	86	17
Total Analysis Volume [veh/h]	52	72	35	79	94	7	61	536	81	47	345	68
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.08	0.02	0.05	0.06	0.06	0.04	0.34	0.05	0.03	0.22	0.04
Intersection LOS	A											
Intersection V/C	0.591											

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Intersection Level Of Service Report

Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	81	4	81	0	0	0	53	472	106	130	299	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	4	81	0	0	0	53	472	106	130	299	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	1	21	0	0	0	14	124	28	34	79	7
Total Analysis Volume [veh/h]	85	4	85	0	0	0	56	497	112	137	315	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	539		572	622	709	556	604	685
Degree of Utilization, x	0.32		0.10	0.80	0.16	0.25	0.52	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.38		0.32	7.91	0.56	0.96	3.02	0.12
95th-Percentile Queue Length [ft]	34.62		8.10	197.78	13.97	24.06	75.54	2.96
Approach Delay [s/veh]	12.81	0.00	22.82			13.55		
Approach LOS	B	A	C			B		
Intersection Delay [s/veh]	18.13							
Intersection LOS	C							

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Intersection Level Of Service Report

Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.633

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	9	5	8	19	4	53	58	409	12	14	277	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	5	8	19	4	53	58	409	12	14	277	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	2	5	1	14	15	108	3	4	73	7
Total Analysis Volume [veh/h]	9	5	8	20	4	56	61	431	13	15	292	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	609	650	637	701	618	685
Degree of Utilization, x	0.04	0.12	0.10	0.63	0.02	0.47

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.42	0.32	4.53	0.07	2.51
95th-Percentile Queue Length [ft]	2.81	10.47	7.91	113.36	1.86	62.68
Approach Delay [s/veh]	9.14	9.32	15.37		12.33	
Approach LOS	A	A	C		B	
Intersection Delay [s/veh]	13.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.970

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	433	1073	361	298	1167	435	334	1172	307	544	1252	373
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	433	1073	361	298	1167	435	334	1172	307	544	1252	373
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	282	95	78	307	114	88	308	81	143	329	98
Total Analysis Volume [veh/h]	456	1129	380	314	1228	458	352	1234	323	573	1318	393
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.24	0.24	0.10	0.26	0.18	0.11	0.26	0.20	0.18	0.27	0.15
Intersection LOS	E											
Intersection V/C	0.970											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.003

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	437	1034	1232	867	1144	664
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	437	1034	1232	867	1144	664
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	272	324	228	301	175
Total Analysis Volume [veh/h]	460	1088	1297	913	1204	699
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.41	0.29	0.25	0.29
Intersection LOS	F					
Intersection V/C	1.003					

Vistro File: P:\...\Belmont Pool 10-22-19 with defacto.vistro
Report File: P:\...\04 C+P (Weekend) Report.pdf

Scenario 12 04 Cumulative + Project Weekend
11/1/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.608	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.526	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	EB Thru	0.514	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	EB Thru	0.580	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.000	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	WB Right	0.428	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Thru	0.605	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	EB Thru	0.629	-	B
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.734	21.1	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru	0.643	14.8	B
13	PCH/2nd Street	Signalized	ICU 1	SB Thru	0.969	-	E
14	Studebaker/2nd Street	Signalized	ICU 1	EB Left	0.906	-	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report

Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	140.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	244	113	82	896	743	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	113	82	896	743	150
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	30	22	236	196	39
Total Analysis Volume [veh/h]	257	119	86	943	782	158
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.07	0.05	0.29	0.29	0.29
Intersection LOS	B					
Intersection V/C	0.608					

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Intersection Level Of Service Report

Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.526

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	40.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	92	12	17	1111	872	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	12	17	1111	872	77
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	3	4	292	229	20
Total Analysis Volume [veh/h]	97	13	18	1169	918	81
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.01	0.37	0.31	0.31
Intersection LOS	A					
Intersection V/C	0.526					

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	576	0	4	0	0	16	16	652	0	0	586	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	576	0	4	0	0	16	16	652	0	0	586	33
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	0	1	0	0	4	4	163	0	0	147	8
Total Analysis Volume [veh/h]	576	0	4	0	0	16	16	652	0	0	586	33
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.00	0.00	0.00	0.01	0.01	0.20	0.00	0.00	0.12	0.02
Intersection LOS	A											
Intersection V/C	0.514											

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	76	0	181	18	77	26	0	570	22	161	416	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	0	181	18	77	26	0	570	22	161	416	0
Peak Hour Factor	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	0	48	5	20	7	0	150	6	42	109	0
Total Analysis Volume [veh/h]	80	0	191	19	81	27	0	600	23	169	438	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.12	0.01	0.07	0.07	0.00	0.19	0.01	0.11	0.09	0.00
Intersection LOS	A											
Intersection V/C	0.580											

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	0	0	0	26	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	26	3
Peak Hour Factor	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	7	1
Total Analysis Volume [veh/h]	0	0	0	0	27	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.44	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.44		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.428

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	205.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	81	158	36	491	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	81	158	36	491	29
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	42	9	129	8
Total Analysis Volume [veh/h]	0	85	166	38	517	31
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	ProtPerm	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.10	0.01	0.17	0.17
Intersection LOS	A					
Intersection V/C	0.428					

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Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	15	0	119	556	0	94	32	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	15	0	119	556	0	94	32	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	4	0	31	146	0	25	8	0
Total Analysis Volume [veh/h]	0	0	0	0	16	0	125	585	0	99	34	0
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.08	0.08	0.00
Intersection LOS	B											
Intersection V/C	0.605											

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	472	371	21	0	24	352	31	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	472	371	21	0	24	352	31	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	124	98	6	0	6	93	8	0
Total Analysis Volume [veh/h]	0	497	391	22	0	25	371	33	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.16	0.28	0.01	0.00	0.02	0.13	0.13	0.00
Intersection LOS	B								
Intersection V/C	0.605								

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Intersection Level Of Service Report

Intersection 8: Termino Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	25.00	70.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	80	95	25	72	148	16	69	515	107	43	443	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	95	25	72	148	16	69	515	107	43	443	101
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	25	7	19	39	4	18	136	28	11	117	27
Total Analysis Volume [veh/h]	84	100	26	76	156	17	73	542	113	45	466	106
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.12	0.02	0.05	0.11	0.11	0.05	0.34	0.07	0.03	0.29	0.07
Intersection LOS	B											
Intersection V/C	0.629											

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	25.00	60.00	100.00	25.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	167	3	137	0	0	0	59	311	265	274	361	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	3	137	0	0	0	59	311	265	274	361	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	1	36	0	0	0	16	82	70	72	95	5
Total Analysis Volume [veh/h]	176	3	144	0	0	0	62	327	279	288	380	19
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	497		477	513	571	483	518	579
Degree of Utilization, x	0.65		0.13	0.64	0.49	0.60	0.73	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.60		0.44	4.44	2.67	3.84	6.10	0.10
95th-Percentile Queue Length [ft]	115.05		11.11	111.07	66.75	96.05	152.55	2.54
Approach Delay [s/veh]	22.73	0.00	17.70			23.53		
Approach LOS	C	A	C			C		
Intersection Delay [s/veh]	21.05							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type:	All-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	35	28	22	27	19	84	69	304	19	29	348	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	28	22	27	19	84	69	304	19	29	348	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	6	7	5	22	18	80	5	8	92	10
Total Analysis Volume [veh/h]	37	29	23	28	20	88	73	320	20	31	366	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	570	608	571	625	572	630
Degree of Utilization, x	0.16	0.22	0.13	0.54	0.05	0.64

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.55	0.85	0.44	3.28	0.17	4.64
95th-Percentile Queue Length [ft]	13.75	21.30	10.93	81.98	4.28	116.03
Approach Delay [s/veh]	10.48	10.62	14.21		17.51	
Approach LOS	B	B	B		C	
Intersection Delay [s/veh]	14.78					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 11: PCH/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

Intersection Setup

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	0	2	0	0
Pocket Length [ft]	250.00	100.00	100.00	185.00	100.00	100.00	280.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pacific Coast Highway			Pacific Coast Highway			2nd Street			2nd Street		
Base Volume Input [veh/h]	296	1042	409	348	1279	491	469	944	264	727	911	294
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	296	1042	409	348	1279	491	469	944	264	727	911	294
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	274	108	92	337	129	123	248	69	191	240	77
Total Analysis Volume [veh/h]	312	1097	431	366	1346	517	494	994	278	765	959	309
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	6	7	4	0	3	8	8
Auxiliary Signal Groups						6,7						1,8
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.23	0.27	0.11	0.28	0.17	0.15	0.21	0.17	0.24	0.20	0.08
Intersection LOS	E											
Intersection V/C	0.969											

Intersection Level Of Service Report
Intersection 12: Studebaker/2nd Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name	Studebaker Rd		2nd St		2nd St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	2	0	0	0
Pocket Length [ft]	200.00	100.00	605.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Studebaker Rd		2nd St		2nd St	
Base Volume Input [veh/h]	649	1030	1154	644	625	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	649	1030	1154	644	625	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	162	258	289	161	156	70
Total Analysis Volume [veh/h]	649	1030	1154	644	625	280
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	15.00

Phasing & Timing

Control Type	Split	Overlap	Protected	Permissive	Permissive	Overlap
Signal group	1	6	7	4	8	8
Auxiliary Signal Groups		1,6,7				1,8
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.36	0.20	0.13	0.00
Intersection LOS	E					
Intersection V/C	0.906					