IV. Environmental Impact Analysis

J.1 Public Services—Fire Protection

1. Introduction

This section of the Draft EIR describes existing fire protection and emergency medical services within the Project area and provides an analysis of the Project's potential impacts with regard to these services. This analysis focuses on the following metrics used by the Long Beach Fire Department (LBFD) in assessing a project's potential demands on fire protection and emergency medical services: fire flow requirements, emergency response times, emergency access, and the ability of the LBFD to provide adequate fire protection services based on current equipment and staffing levels. This analysis is based, in part, on information provided by the LBFD, which is included in Appendix P of this Draft EIR.

2. Environmental Setting

a. Regulatory Framework

(1) Occupational Safety and Health Administration

The federal and California Occupational Safety and Health Administrations (OSHA) enforce the provisions of the federal and state Occupational Safety and Health Acts, respectively, which collectively require safety and health regulations for construction under the Code of Federal Regulations, Title 29, Part 1926. The fire-related OSHA requirements are specifically contained in Part 1926, Subpart F, Fire Protection and Prevention. Examples of general requirements related to fire protection and prevention include maintaining fire suppression equipment specific to construction on-site; providing a temporary or permanent water supply of sufficient volume, duration, and pressure; properly operating the on-site fire-fighting equipment; and keeping storage sites free from the accumulation of unnecessary combustible materials.

(2) California Building Code and California Fire Code

The California Building Code (California Code of Regulations, Title 24) is a compilation of building standards, including fire safety standards for new buildings, which are provided in the California Fire Code (California Code of Regulations, Title 24, Part 9). California Building Code standards are based on building standards that have been

adopted by state agencies without change from a national model code; building standards based on a national model code that have been changed to address particular California conditions; and building standards authorized by the California legislature but not covered by the national model code. The 2016 edition of the California Building Code became effective on January 1, 2017, and is based on the 2015 International Building Code, with California amendments.[1] The building standards in the California Building Code apply to all locations in California, except where more stringent standards have been adopted by state agencies and local governing bodies. Typical fire safety requirements of the California Fire Code include: the installation of fire sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures within wildfire hazard areas. Specific California Fire Code fire safety regulations have been incorporated by reference in the Long Beach Municipal Code with local amendments, as discussed below.

(3) City of Long Beach General Plan

The City of Long Beach (City) General Plan sets forth general guidance regarding land use issues for the entire City and defines citywide policies regarding land use, including infrastructure and public services. Public safety goals and recommendations are included in the Public Safety Element of the General Plan. Development Goal 7 assures continued safe accessibility to all urban land uses throughout the City. Development Goal 9 encourages development that would augment efforts of other safety-related City departments (i.e., design for adequate access for firefighting equipment and police surveillance). Protection Goal 1 requires the use of safety precautions as one means of preventing blight and deterioration. Protection Goal 10 provides the maximum feasible level of public safety protection services.

(4) City of Long Beach Municipal Code

Chapter 18.23 (Fire Facilities Impact Fee) of the Long Beach Municipal Code (LBMC) imposes a fire facilities impact fee on residential and nonresidential development to ensure new development pay its fair share of the costs required to support needed fire facilities and related costs necessary to accommodate such development. The fee is imposed for every dwelling unit of a residential development and per gross square foot of floor area for nonresidential development. The fire facilities impact fee is to be paid prior to receipt of the certificate of occupancy and is utilized for the acquisition of new property, the construction of new facilities, and the purchasing of new equipment.

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[1] *California Building Code, Title 24, Part 2.*

LBMC Chapter 18.48 (Fire Code) incorporates the 2016 edition of the California Fire Code and the 2015 edition of the International Fire Code.[2] The Fire Code regulates and governs the safeguarding of life and property from fire and explosion hazards arising from the storage, handling, and use of hazardous substances, materials, and devices, and from conditions hazardous to life or property in the occupancy of buildings.

Chapter 5 of the Fire Code includes amendments to the California Fire Code regarding access. Specifically, fire apparatus access roads shall have an unobstructed width of not less than 26 feet, an unobstructed vertical clearance of 15 feet, and a turning radius of 28 feet.

Regarding fire flows, based on the California Fire Code, fire flow requirements are based on building types and floor area and range from 1,500 to 8,000 gallons per minute at 20 pounds per square inch. As provided by the LBFD in Appendix P of this Draft EIR, per the Long Beach Fire Code, fire flows can be reduced by 50 percent when fire sprinklers are installed. In accordance with Long Beach Fire Code Section 18.48.420, all new commercial, industrial, and non-residential buildings that require two or more exits or that are greater than 3,000 square feet shall be protected by an automatic sprinkler system. In addition, LBFD connections shall be located on the address side of a building or structure and shall be within 150 feet of a public fire hydrant.

b. Existing Conditions

(1) Fire Protection Facilities, Services, and Response Times

The LBFD provides fire prevention, firefighting, emergency medical services (EMS), technical rescue, hazardous materials mitigation, disaster response, life safety services, public education, and community service to the entire City of Long Beach. The LBFD is divided into five bureaus: Administrative Bureau, Operations Bureau, Fire Prevention Bureau, Support Services Bureau, and Disaster Management Bureau. The Operations Bureau is responsible for all field operations including Fire Suppression, the Lifeguard Division, and fire/non-fire response activities. The Operations Bureau consists of the Marine Safety Division and the Emergency Medical Services Division. The Marine Safety Division consists of 27 full time employees, divided among boat and beach operations, with 140 seasonal personnel.[3] The EMS Division has administrative and operational responsibility for the design and delivery of all EMS activities, including the certification of

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[2] *As of January 2017, LBMC Chapter 18.48 has not yet been updated to reflect the new state building code.*

[3] *Long Beach Fire Department, Marine Safety Division, www.longbeach.gov/fire/operations/marine-safety/, accessed January 6, 2017.*

all uniformed personnel.[4] The Fire Prevention Bureau is responsible for fire prevention, providing fire safety education, investigating and identifying suspicious fires and environmental crimes through proactive enforcement of Fire, Life Safety, and Environmental Code requirements in the City.[5] The LBFD currently operates 24 fire stations and employs 527.26 full time equivalent uniformed and civilian personnel.[6]

As shown in Figure IV.J.1-1 on page IV.J.1-5, there are five LBFD fire stations located in the vicinity of the Project Site. The location, distance from the Project Site, and equipment of each of these five fire stations is provided in Table IV.J.1-1 on page IV.J.1-6. As shown, the closest fire station to the Project Site is Fire Station No. 8 located at 5365 East 2nd Street, approximately 1.2 miles west of the Project Site. Fire Station No. 8 consists of one four-person engine/paramedic assessment unit (PAU). The next closest fire station is Fire Station No. 14, which is located at 5200 Elliot Avenue, approximately 1.9 miles northwest of the Project, and houses a four-person engine, Battalion Chief, and a two-person rescue unit. Additionally, Fire Station No. 4 is located at 411 Loma Avenue, approximately 2.8 miles northwest of the Project Site. Fire Station No. 4 consists of a four-person fire engine/PAU. Fire Station No. 22 is located at 6340 Atherton Street, approximately 3.3 miles from the Project Site, and consists of a four-person engine/PAU. Fire Station No. 17 located at 2241 Argonne Avenue is approximately 3.6 miles northwest of the Project Site and consists of a four-person truck/PAU. Lastly, Fire Station No. 18 located at 3361 Palo Verde Avenue is approximately 5.3 miles from of the Project Site and consists of a two-person rescue unit. All LBFD personnel are trained in emergency medical and hazardous material first responder operations.

During a normal first alarm fire emergency, three engines, one truck, a paramedic rescue, and a battalion chief respond to the call. A staff of four on each engine and truck consisting of one captain, an engineer, and two firefighters are present. The paramedic rescue consists of two firefighter/paramedics. A paramedic assessment unit consists of a fire engine staffed with three firefighter/emergency medical technicians (EMTs) and one firefighter/paramedic.

A performance standard of 8 minutes for Advanced Life Support (ALS) resource arrival is the LBFD benchmark. Response times vary depending on the location of the fire

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[4] *Long Beach Fire Department, Emergency Medical Services (EMS) Division, www.longbeach.gov/fire/support-services/emergency-medical-services/, accessed January 6, 2017.*

[5] *Long Beach Fire Department, Fire Prevention Bureau, www.longbeach.gov/fire/fire-prevention/, accessed January 6, 2017.*

[6] *Long Beach Fire Department, Welcome to the Long Beach Fire Department's Website, www.longbeach.gov/fire/, accessed January 6, 2017.*

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Figure IV.J.1-1
Long Beach Fire Department Facilities in the Project Vicinity

Source: Eyestone Environmental, 2016; Los Angeles County GIS, 2015.

Table IV.J.1-1
LBFD Facilities Located in the Project Vicinity

Station No., Location	Distance from Project Site	Equipment
Fire Station No. 8 5365 East 2nd Street	1.2 miles	4 Person Engine/PAU
Fire Station No. 14 5200 Elliot Avenue	1.9 miles	Battalion Chief 4 Person Engine 2 Person Rescue Unit
Fire Station No. 4 411 Loma Avenue	2.8 miles	4 Person Engine/PAU
Fire Station No. 22 6340 Atherton Street	3.3 miles	4 Person Engine/PAU
Fire Station No. 17 2241 Argonne Avenue	3.6 miles	4 Person Truck/PAU
Fire Station No. 18 3361 Palo Verde Avenue	5.3 miles	2 Person Rescue Unit

PAU = paramedic assessment unit

Source: Written correspondence from David Zinnen, Deputy Fire Marshal, January 3, 2017. See Appendix P of this Draft EIR.

engine responding to the incident. During an emergency call, calls received by the dispatch center are transmitted to the engine company that has jurisdiction over the incident location. If the jurisdictional engine company is not available, the next closest available unit responds to the call. In addition, several units may be dispatched depending on the level of service required for the specific incident type. For the portion of the City that includes the Project Site, first responders meet this benchmark 80 to 90 percent of the time, and a full-scope response meets this benchmark 70 to 80 percent of the time.

The City of Long Beach Fire Service Review has identified a need for an additional rescue unit at Fire Station No. 22. This recommendation shows the need for an additional rescue unit serving the southeastern portion of the City, which includes the Project Site. Staffing an additional rescue unit at Fire Station No. 22 would provide coverage for the immediate area and would serve to bolster the citywide system by providing backup to other units in eastern Long Beach. If an additional rescue unit were added to Fire Station No. 22, the existing rescue unit at Fire Station No. 14 would be moved to Fire Station No. 4, as recommended in the Fire Service Review.

(2) Emergency Access

As described in Section II, Project Description, of this Draft EIR, access, including emergency access to the Project Site is currently provided via Pacific Coast Highway (PCH), 2nd Street, and Marina Drive.

(3) Fire Water Infrastructure

As discussed in Section IV.L.1, Utilities and Service Systems—Water Supply and Infrastructure, of this Draft EIR, the Long Beach Water Department (LBWD) provides water for domestic and firefighting services. Water is provided to the Project Site via a 12-inch water main located in 2nd Street and a 12-inch water main located in Marina Drive. Currently, the Project Site is served by two existing public fire hydrants located along 2nd Street and Marina Drive.

3. Environmental Impacts

a. Methodology

Project impacts regarding fire services are evaluated by the LBFD on a project-by project basis. A project's land use, fire-related needs, and whether the project site meets the recommended response distance and fire safety requirements, as well as project design features that would reduce or increase the demand for fire protection services, are taken into consideration. Beyond the standards set forth in the Long Beach Fire Code, consideration is given to the project size and components, required fire flow, response time, fire hydrant sizing and placement standards, access, and potential to use or store hazardous materials. Further evaluation of impacts considers whether or not development of a project would create the need for a new fire station or expansion, relocation, or consolidation of an existing facility to accommodate increased demand. Consultation with the LBFD is conducted to determine the project's effect on fire protection and emergency medical services.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* provides a sample question that addresses impacts with regard to fire protection service. This question is as follows:

> Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain

acceptable service ratios, response times or other performance objectives for fire protection services?

c. Project Design Features

No specific project design features are proposed with regard to fire protection.

d. Analysis of Project Impacts

(1) Construction

Construction activities for the Project could temporarily increase the existing demand for fire protection and emergency medical services. Specifically, construction activities could potentially expose combustible materials such as wood, plastics, sawdust, coverings, and coatings to fire risks from machinery and equipment sparks, exposed electrical lines, chemical reactions in combustible materials and coatings, and lighted cigarettes. However, in compliance with OSHA and Fire and Building Code requirements, construction managers and personnel would be trained in emergency response and fire safety operations, including the monitoring and management of life safety systems and facilities. Additionally, fire suppression equipment such as fire extinguishers specific to construction would be maintained on-site. Project construction would comply with applicable codes and ordinances relating to fire safety practices to minimize fire and injury risks.

Project construction could require temporary lane closures along PCH, 2nd Street, and/or Marina Drive to construct proposed driveway and access improvements, utility connections, and drainage facilities. Construction activities also would generate traffic associated with the movement of construction equipment, the hauling of construction materials to and from the Project Site, and construction worker traffic. As such, Project construction activities could temporarily increase response times for emergency vehicles due to travel time delays caused by traffic. However, as evaluated in Section IV.K, Traffic and Access, of this Draft EIR, the Project's construction traffic impacts would be less than significant with implementation of mitigation requiring the preparation and implementation of a Construction Management Plan. The Construction Management Plan would be developed in consultation with the Long Beach Department of Public Works, Traffic and Transportation Bureau, and would ensure that adequate and safe access remains available within and near the Project Site during all construction activities. Features of the Construction Management Plan may include limiting potential lane closures to off-peak travel periods, to the extent feasible, and employing flag persons to control traffic movement during temporary traffic flow disruptions. Traffic management personnel would be trained to assist in emergency response by restricting or controlling the movement of traffic that could interfere with emergency vehicle access. Furthermore, appropriate detour signage would be employed as necessary to ensure emergency access to the Project Site

would be maintained and that traffic flow would be uninterrupted on adjacent street rights-of-way. In addition, most of the Project's construction workers and haul truck trips would occur outside of the typical weekday commuter morning and afternoon peak periods, thereby reducing the potential for construction-related traffic conflicts. The construction-related traffic generated by the Project also would not be anticipated to significantly impact emergency vehicle response times within the Project vicinity since the drivers of emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic.

Based on the above, Project construction would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility in order to maintain service. Therefore, impacts to fire protection and emergency medical services during Project construction would be less than significant, and no mitigation measures are required.

(2) Operation

(a) Facilities and Equipment

As described in Section II, Project Description, of this Draft EIR, the Project would not include the development of new residential units, which would generate a new residential population in the service area of the fire stations serving the Project Site. In addition, the proposed retail and restaurant uses would replace an existing hotel use, which typically has a greater demand for fire protection services given the hours of operation and the daytime and nighttime population compared to a commercial use. Therefore, it is anticipated that the potential demand for fire protection services generated by the Project would be largely offset by removal of the existing hotel use.

As previously described, the Project Site would be located less than 2 miles from two fire stations (Fire Station No. 8 and Fire Station No. 14). In addition, Fire Station No. 4 located approximately 2.8 miles from the Project Site, Fire Station No. 22 located 3.3 miles from the Project Site, Fire Station No. 17 located 3.6 miles from the Project Site, and Fire Station No. 18 located 5.3 miles from the Project Site would continue to be available to serve the Project Site in the event of an emergency. Furthermore, the Project would comply with regulatory requirements related to fire protection, including payment of the appropriate fire facilities impact fee, providing adequate emergency vehicle access, and installing adequate fire connections and fire hydrants, as determined by the LBFD during the plan check process for the Project. Should the City choose, fire facilities impact fees could be used to fund an additional rescue unit at Fire Station No. 22. As such, compliance with applicable regulatory requirements would ensure that adequate fire prevention features would be provided. Therefore, impacts with regard to LBFD facilities and equipment would be less than significant.

(b) Response Distance and Emergency Access

Project-related increases in traffic on surrounding roadways could have an impact on fire protection services if the response capabilities of the LBFD are impeded. As evaluated in Section IV.K, Traffic and Access, of this Draft EIR, upon completion in 2019, the Project would result in significant impacts at 11 intersections. However, emergency access to the Project Site and surrounding uses would be maintained at all times. In addition, in accordance with regulatory requirements, the Project would be designed to include fire apparatus access roads with an unobstructed width of not less than 26 feet, an unobstructed vertical clearance of 15 feet, and a turning radius of 28 feet. Furthermore, due to the proximity of nearby fire stations relative to the Project Site, emergency response times to the Project Site are not expected to substantially increase. Additionally, the traffic generated by the Project would not significantly impact emergency vehicle response times to the Project Site and surrounding uses since the drivers of emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic. Therefore, Project-related traffic is not anticipated to impair the LBFD from responding to emergencies at the Project Site or the surrounding area. As such, Project impacts with regard to fire response access and response times would be less than significant.

(c) Fire Flow

As described in Section IV.L.1, Utilities and Service Systems—Water Supply and Infrastructure, of this Draft EIR, domestic and fire water service to the Project Site would continue to be supplied by the Long Beach Water Department. As previously discussed, per the California Fire Code, fire flow requirements are based on building types and floor area and range from 1,500 to 8,000 gallons per minute at 20 pounds per square inch. In accordance with Section 18.48.420 of the Long Beach Fire Code, all new commercial, industrial, and non-residential buildings that require two or more exits or that are greater than 3,000 square feet shall be protected by an automatic sprinkler system. As provided by the LBFD in Appendix P of this Draft EIR, per the Long Beach Fire Code, fire flows can be reduced by 50 percent when fire sprinklers are installed. Prior to the issuance of building permits, the LBFD would have the opportunity to review and grant approval of the final building design, including all fire prevention and suppression systems, which would ensure the Project is developed pursuant to Fire Code requirements. In addition, on-site water connections would be constructed, as necessary, to comply with the fire flow set for by the LBFD during the plan check process for the Project. With construction of any necessary on-site fire water system improvements, and (if required) the installation of additional fire hydrant(s) within the public right-of-way to meet the hydrant spacing requirements set forth in the LBMC, the Project would meet the fire flow requirement. Therefore, impacts with regard to fire flow would be less than significant.

(d) Conclusion

Based on the above, Project operation would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility in order to maintain service. Therefore, impacts to fire protection and emergency medical services during Project operation would be less than significant, and no mitigation measures are required.

4. Cumulative Impacts

Cumulative growth in the greater Project area includes six related projects located in the Project vicinity, as identified in Section III, Environmental Setting, of this Draft EIR, as well as general ambient growth projected to occur. Four of the related projects are located in the City of Long Beach. As the City is considered essentially built out, the related projects represent rather limited floor area associated with a mix of recreational, office, commercial/retail, restaurant, storage/warehouse, and infrastructure uses. The increase in development from the Project and related projects would result in a cumulative increase in the demand for LBFD services. However, similar to the Project, the related projects would be reviewed by the LBFD to ensure that sufficient fire safety and hazards measures are implemented to reduce potential impacts to fire protection and emergency medical services. Furthermore, each related project would be required to comply with regulatory requirements related to fire protection and emergency medical services.

As with the Project, the related projects are located within an urban area and would likewise fall within an acceptable distance from one or more existing fire stations. In addition, each related project would be subject to the City's routine construction permitting process, which includes a review by the LBFD for compliance with building and site design standards related to fire safety, as well as coordinating with the LBWD to ensure that local fire flow infrastructure meets current code standards for the type and intensity of land uses involved. Furthermore, over time, the LBFD would continue to monitor population growth and land development throughout the City and identify additional resource needs including staffing, equipment, trucks and engines, ambulances, other special apparatuses, and possibly station expansions or new station construction that may become necessary to achieve the desired level of service.

Based on the above, the Project's contribution to cumulative impacts to fire protection and emergency medical services would not be cumulatively considerable. As such, cumulative impacts on fire protection and emergency medical services would be less than significant.

5. Mitigation Measures

Project-level and cumulative impacts with regard to fire protection and emergency medical services would be less than significant with compliance with applicable codes and regulations. Therefore, no mitigation measures are required.

6. Level of Significance After Mitigation

Project-level and cumulative impacts with regard to fire protection and emergency medical services would be less than significant.