

APPENDIX P

FIRE HAZARD ASSESSMENT



Reax Engineering Inc.
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LA ART, Los Angeles, CA

**Prepared for the
Los Angeles Aerial Rapid Transit Draft Environmental Impact Report**

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1.0 EXECUTIVE SUMMARY

The proposed Los Angeles Aerial Rapid Transit Project (LA ART or proposed Project) would connect Los Angeles Union Station (LAUS) to the Dodger Stadium property via an electrically powered aerial gondola system. The proposed Project would provide an aerial rapid transit (ART) option for visitors to Dodger Stadium, while also providing access between Dodger Stadium, the surrounding communities, including Chinatown, Mission Junction, Los Angeles State Historic Park, Elysian Park, and Solano Canyon, to the regional transit system accessible at LAUS. The aerial gondola system would be approximately 1.2 miles and consist of cables, three passenger stations, a non-passenger junction, towers, and gondola cabins with inoperable windows. Operation of the proposed Project, a first-/last-mile transit connection to Dodger Stadium, would not result in new ignition sources through routine system operations, because the proposed Project's tri-cable technology would be composed of two stationary cables (track ropes) that provide support for the running wheels of the cabins, and a third cable (haul rope) that would circulate continuously around the system. The haul rope moves at a steady pace around the bullwheels pulling the cabins along the ropeway, and in and out of each station or junction. Cabins detach from the haul rope as they enter the station for loading and unloading. These operational features do not result in increased risk of ignition sources. In addition, system components of the proposed Project would be equipped with security features to ensure system safety, including security cameras to monitor activity at stations, the junction, the towers, and in each cabin that would allow for the early identification and/or prevention of any accidental or arson-related fires.

The proposed Project is predominately in an urbanized area in the City of Los Angeles, situated northeast of downtown Los Angeles. The proposed Project would commence adjacent to LAUS and El Pueblo de Los Angeles (El Pueblo), and terminate at Dodger Stadium, with an intermediate station at the southernmost entrance of Los Angeles State Historic Park. The proposed Project location would generally be in public right-of-way (ROW), or on publicly owned property, following Alameda Street and then continuing along Spring Street in a northeast direction through the community of Chinatown to the southernmost corner of Los Angeles State Historic Park. The segment of the proposed alignment between LAUS and El Pueblo and the Los Angeles State Historic Park is outside of the Very High Fire Hazard Severity Zone, in a heavily urbanized area, typically classified as non-burnable in wildland fire hazard assessments.

The alignment would then continue northeast over the western edge of Los Angeles State Historic Park and the Los Angeles County Metropolitan Transportation Authority (Metro) L Line (Gold) to the intersection of North Broadway and Bishops Road. At this intersection, Broadway Junction, the proposed Project alignment, would turn and continue northwest following Bishops Road toward its terminus at Dodger Stadium, in the Elysian Park community. Broadway Junction would also be in a heavily urbanized area at the northern corner of the intersection of North Broadway and Bishops Road. Although the proposed Broadway Junction would be in the Very High Fire Hazard Zone, the site is surrounded by institutional, commercial, and residential uses. The Broadway Junction site does not include a material amount of vegetation, and is bounded by Savoy Street, Bishops Road, and North Broadway. This surrounding development acts as a fire break/buffer zone between the Broadway Junction site and any fuel sources in the vicinity. Construction and operation at the site will be physically separated from the low grasses and well-spaced vegetation approximately 270 feet to the north of the Project site, and pose little risk of increasing wildfire hazards.

Stadium Tower would be located on hillside private property north of Stadium Way between the multi-lane access road to the Downtown Gate on the Dodger Stadium property and State Route 110 (SR-110). The construction site is bounded by Stadium Way, SR-110, and the multi-lane access road to Downtown Gate—paved roads that would serve as a buffer to reduce the hazard of ignition and fire spread, although Stadium Tower would be in a designated Very High Fire Hazard Severity Zone. The site currently includes low-load, dry-climate grass-shrub shrub about one foot high, which is associated with moderate fire spread rates

and low flame lengths, but this area in the construction area will be cleared to barren earth before active construction starts, including the removal of the dry grass and low-to-moderate shrubs in the site footprint. Any areas adjacent to the site that retain any ability to carry fire into the larger vegetated areas to the north would be reduced through coverings and the implementation of a vegetation management plan based on defensible space principles, prior to the start of construction activities that present a fire risk. In addition, the risk of spread to the east and west are reduced by the wide roads that are adjacent to the proposed site, thereby minimizing the risk of construction activities contributing to fire risks.

Dodger Stadium Station would be located in the southeast portion of the Dodger Stadium property near the Downtown Gate, in an area characterized by wide areas of paved roads and parking lots that would serve as a buffer to prevent the spread of wildfire, although the site is in a designated Very High Fire Hazard Severity Zone. Dodger Stadium Station would be adjacent to a strip of low and moderate load, humid climate timber grass shrub, with moderate forest litter, which is characterized by high fire spread rates and moderate flame lengths. Like Dodger Stadium Station itself, this strip of shrub would be bound by paved roads and parking for Dodger Stadium acting as a buffer to prevent wildfire spread. In addition, before the start of active construction, the portion of this strip in the construction area for Dodger Stadium Station will be cleared of vegetation, including grass shrub and forest litter, before active construction starts.

The urbanized nature of the sites and the type of construction activities do not present a significant risk of increasing wildfires. Further, the proposed Project would comply with regulatory standards required by the California Fire Code, California Building Code, and the City of Los Angeles Fire Department (LAFD) for construction and operations with the Very High Fire Severity Zones where applicable. These regulatory requirements are some of the most strenuous fire protection standards in the United States and are designed to avoid and minimize increased fire risks. Therefore, regulatory compliance measures would further reduce the wildfire risks from construction and operation of the Project components relevant to this wildfire analysis (Broadway Junction, Stadium Tower, and Dodger Stadium Station). These measures include, but are not limited to, designation of a fire prevention program superintendent to oversee the hot work activities, and the implementation of fire watch and hot work procedures during construction to reduce the risk of potential ignition from hot work activities. Although the regulatory compliance measures ensure the proposed Project would not increase the risk of starting new wildfires or exacerbating wildfires that would otherwise occur, the proposed Project will also incorporate project design features that further reduce fire risk, including pre-construction clearance of the construction site footprint to create a defensible space around the construction area, and the provision of fire safety training for all construction crew members prior to the start of construction activities.

Given the heavily developed or disturbed nature of these sites, the surrounding roads and development that act as fuel buffers, the implementation of mandatory regulatory compliance measures, as well as incorporation of the project design features, construction and operation of the proposed Project would not significantly increase the risk of starting new wildfires or exacerbating wildfires that would otherwise occur.

2.0 INTRODUCTION AND PROJECT OVERVIEW

This report details a quantitative wildland fire hazard analysis and offers potential construction and operation practices for consideration regarding the LA ART project proposed in Los Angeles, California. The report is organized into a fire hazard assessment based on fire history, fuels, terrain, and weather, and a recommendation for construction practices based on the findings of that assessment.

2.1 Overview of the Project

The proposed Project would connect LAUS to the Dodger Stadium property via an aerial gondola system. The proposed Project would include an intermediate station at the southernmost entrance of Los Angeles State Historic Park. The proposed Project would also provide an ART option for visitors to Dodger Stadium,

while also providing access between the Dodger Stadium property, the surrounding communities, including Chinatown, Mission Junction, the Los Angeles State Historic Park, Elysian Park, and Solano Canyon, to the regional transit system accessible at LAUS. The aerial gondola system would be approximately 1.2 miles and consist of cables, three passenger stations, a non-passenger junction, towers, and gondola cabins. When complete, the proposed Project would have a maximum capacity of approximately 5,000 people per hour per direction, and the travel time from LAUS to Dodger Stadium would be approximately 7 minutes. The proposed Project would provide amenities at Los Angeles State Historic Park, and would provide pedestrian improvements, including hardscape and landscape improvements. The ART system has the ability to overcome grade and elevation issues between LAUS and Dodger Stadium, and provide safe, zero-emission, environmentally friendly, and high-capacity transit connectivity in the Project area that would reduce greenhouse gas (GHG) emissions as a result of reduced vehicular congestion in and around Dodger Stadium, and on neighborhood streets, arterial roadways, and freeways. The proposed Project would operate daily to serve existing residents, workers, park users, and visitors to Los Angeles.

Established aerial gondola transit systems worldwide, such as in La Paz, Bolivia, and Mexico City, Mexico, are being used as rapid transit for the urban population that they serve. The proposed Project would employ a Tricable Detachable Gondola system (also known as “3S”).¹ 3S Gondola system cabins carry approximately 30 to 40 passengers. Similar systems are used in Koblenz, Germany, Phu Quoc, Vietnam, and Toulouse, France.

2.2 Project Location

The proposed Project is located in the City of Los Angeles, situated northeast of downtown Los Angeles. Figure 1 shows the regional location of the proposed Project. The proposed Project would commence adjacent to LAUS and El Pueblo and terminate at Dodger Stadium, with an intermediate station at the southernmost entrance of Los Angeles State Historic Park. The proposed Project would include three stations, a non-passenger junction, and three cable-supporting towers at various locations along the alignment. As shown in Figure 2, the proposed Project location would generally be located in public ROW, or on publicly owned property, following Alameda Street and then continuing along Spring Street in a northeast direction through the community of Chinatown to the southernmost corner of Los Angeles State Historic Park. The alignment would then continue northeast over the western edge of Los Angeles State Historic Park and the Metro L Line (Gold) to the intersection of North Broadway and Bishops Road. At this intersection, the proposed Project alignment would turn and continue northwest following Bishops Road toward its terminus at Dodger Stadium, located in the Elysian Park community. Figure 2 provides an overview of the proposed Project location.

¹ The naming convention for this system is derived from the German word “seil,” which translates in English to “rope”. Therefore, Tricable Detachable Gondola systems are known as a “3S” systems due to the use of three ropes, or cables.

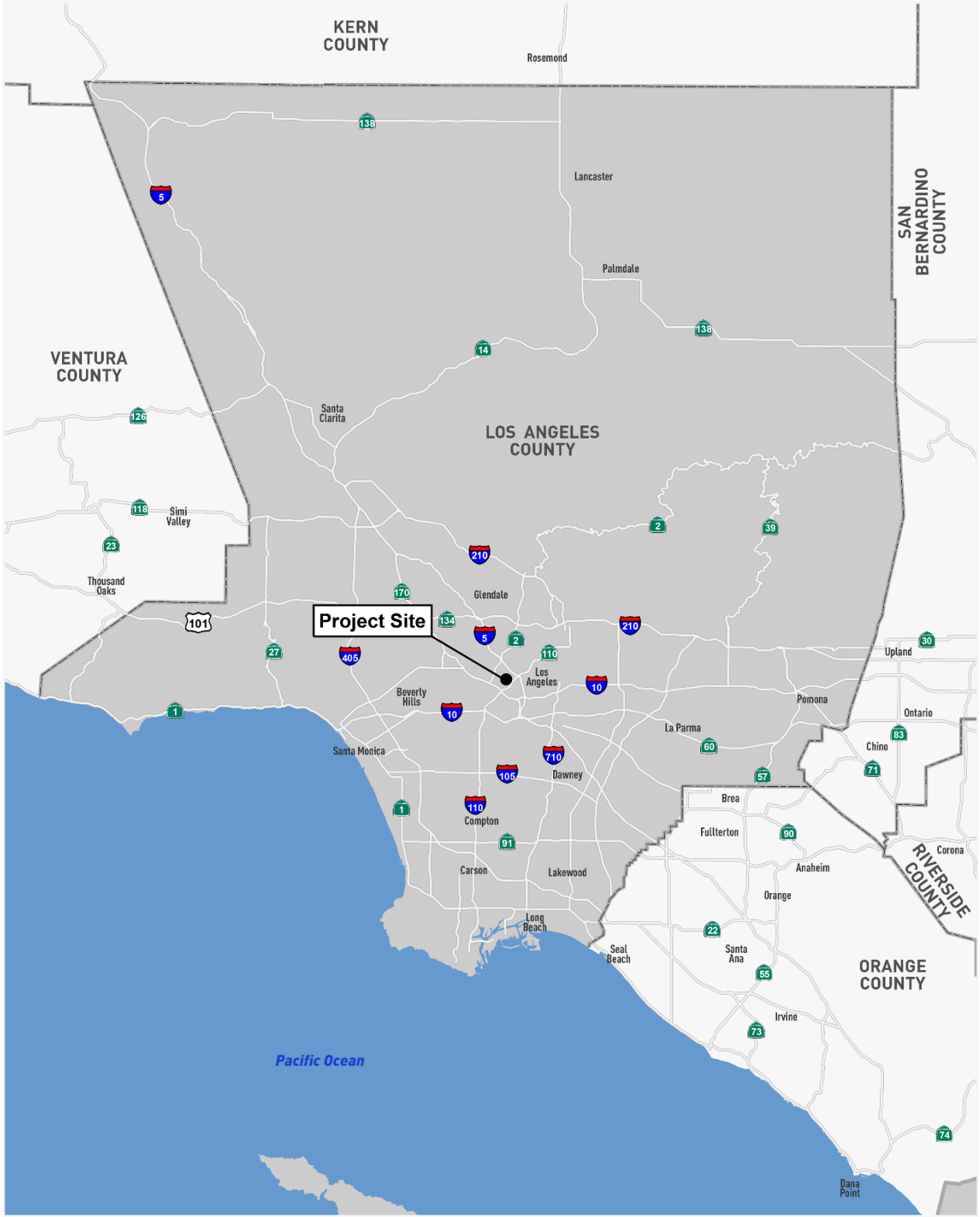


Figure 1: Regional Location Map



Figure 2: Proposed Project Location

2.3 Proposed Project Alignment and Components

The proposed Project alignment would extend approximately 1.2 miles beginning near El Pueblo and LAUS on Alameda Street. The proposed Alameda Station would be constructed over Alameda Street between Los Angeles Street and Cesar E. Chavez Avenue, adjacent to the Placita de Dolores and planned LAUS Forecourt.

From Alameda Station, the proposed Project alignment would remain primarily above the public ROW, with portions above private property, and travel north along Alameda Street to the proposed Alameda Tower, which would be constructed on the Alameda Triangle, a portion of City ROW between Alameda Street, North Main Street, and Alhambra Street.

From Alameda Tower, the proposed Project alignment would continue north along Alameda Street and cross Alpine Street. The proposed Alpine Tower would be constructed at the corner of Alameda Street and Alpine Street on City-owned property.

From Alpine Tower, the proposed Project alignment would follow the public ROW and continue over the elevated Metro L Line (Gold). North of College Street, Alameda Street becomes Spring Street, and the proposed alignment would generally follow Spring Street in a northeast trajectory until it reaches the southernmost point of Los Angeles State Historic Park, where the proposed Chinatown/State Park Station would be constructed partially on City ROW and partially within the boundaries of Los Angeles State Historic Park.

The alignment then crosses over the western edge of Los Angeles State Historic Park and the Metro L Line (Gold) tracks.

The proposed Project alignment would continue traveling north towards the intersection of North Broadway and Bishops Road. Broadway Junction would be located at the northern corner of the intersection of North Broadway and Bishops Road (1201 North Broadway). From Broadway Junction, the proposed Project alignment would travel northwest primarily along Bishops Road, with portions above private property, crossing over SR-110 towards Dodger Stadium. Stadium Tower would be located on hillside private property north of Stadium Way between the Downtown Gate entrance road to Dodger Stadium and SR-110. The northern terminus of the system would be in a parking lot at the Dodger Stadium property, where the proposed Dodger Stadium Station would be constructed

The stations, junction, and towers are summarized as follows:

- Alameda Station would be located on Alameda Street adjacent to the planned LAUS Forecourt and Placita de Dolores between Los Angeles Street and Cesar E. Chavez Avenue. The station would be approximately 173 feet long, 109 feet wide, and 78 feet high at its tallest point, with the passenger loading platform approximately 31 feet above Alameda Street. Vertical circulation elements (i.e., elevators, escalators, stairs) for pedestrian access, which would also serve as queuing areas to the station, would be introduced at-grade north of the Placita de Dolores in a proposed new pedestrian plaza at El Pueblo on the west in an area currently used as a parking and loading area for El Pueblo. On the east, vertical circulation elements would be introduced at-grade from the planned LAUS Forecourt. Installation of the vertical circulation elements may include removal and replacement of trees, removal of parking and loading for El Pueblo, and installation of landscaping and hardscape.
- Alameda Tower would be located on the Alameda Triangle, a City ROW between Alameda Street, North Main Street, and Alhambra Avenue consisting of a small green space flanked on all sides by roadways. The Alameda Tower would be 195 feet tall, with the cable suspended 175 feet above ground. Implementation of the Alameda Tower would include reuse and integration of the existing

pavers at the Alameda Triangle, as well as landscape and hardscape updates to the Alameda Triangle.

- Alpine Tower would be located on a City-owned parcel, currently being used as non-public parking storage for City vehicles, at the northeast corner of Alameda Street and Alpine Street, adjacent to the Metro L Line (Gold). Alpine Tower would be 195 feet tall at its tallest point, with the cable suspended 175 feet above ground. Alpine Tower would also include the installation of landscaping and hardscaping near the base of the tower.
- Chinatown/State Park Station would be located adjacent to Spring Street in the southernmost portion of the Los Angeles State Historic Park. The southern portion of the station would be on City ROW, while the northern portion of the station would be integrated into the southern boundary of the Los Angeles State Historic Park. The station would be approximately 200 feet long, 80 feet wide, and 98 feet tall at its tallest point, with the passenger boarding platform approximately 50 feet above grade. Access to the boarding platform would be from the mezzanine via elevators and stairs. Composed of three levels, elevators and stairs from the ground level would lead up to a mezzanine, 27 feet above grade, and ramps for the queuing area would lead up to the boarding platform, 50 feet above ground. Chinatown/State Park Station would also include Park amenities, including approximately 740 square feet of concessions, 770 square feet of restrooms, and a 220-square-foot covered breezeway connecting the concessions and restrooms. Additionally, Chinatown/State Park Station would include a mobility hub where passengers would be able to access a suite of first- and last-mile multi-modal options, such as a bike share program. Pedestrian access enhancements could include pedestrian improvements between Metro's L Line (Gold) Station and Chinatown/State Park Station consistent with the Connect US Action Plan, including hardscape and landscape improvements, shade structures, and potential seating, as well as support for the future Los Angeles State Historic Park bike and pedestrian bridge. Chinatown/State Park Station would require the removal of trees and vegetation; however, it would include the installation of landscaping and hardscaping, including integration of the granite pavers. Chinatown/State Park Station would provide passenger access to Chinatown, the Los Angeles State Historic Park, and to nearby neighborhoods and land uses, including the Mission Junction neighborhood, which includes the William Mead Homes public housing complex.
- Broadway Junction is a non-passenger junction that would be located at the intersection of North Broadway and Bishops Road. The junction would primarily be on privately owned property with a portion of the junction and overhead cable infrastructure cantilevered and elevated above the public ROW. The existing commercial building at 1201 N. Broadway would be demolished. Broadway Junction would be approximately 227 feet long, 60 feet wide, and 98 feet high at its tallest point, with the platform approximately 50 feet above the ground. Vertical circulation elements (i.e., elevators and stairs) would be installed on the northwestern side of the junction for staff and maintenance access to the platform.
- Stadium Tower would be located on hillside private property north of Stadium Way between the Downtown Gate and SR-110, and would stand 179 feet tall, with the cable suspended 159 feet above ground. Stadium Tower would also include the installation of landscaping near the base of the tower.
- Dodger Stadium Station would be located in the southeast portion of the Dodger Stadium property near the Downtown Gate. This station would be approximately 194 feet long, 80 feet wide, and 74 feet high at its tallest point. Cabins at this station would arrive and depart from an at-grade boarding platform, with the passenger queuing area also at-grade. Dodger Stadium Station would include a subterranean area below the platform for storage and maintenance of cabins, as well as staff break rooms, lockers, and parts storage areas. The cabins would be transferred between the station platform and the subterranean area by way of a cabin elevator. Automated parking and controls

would manage the process of storing cabins or returning them to service. Cabins would be returned to and stored at Dodger Stadium Station when the system is not in use. Restrooms for passenger use would be located at the station. Dodger Stadium Station would also include a pedestrian connection to Dodger Stadium, including hardscape and landscape improvements and potential seating. Dodger Stadium Station is adjacent to Dodger Stadium, which is operated as an Major League Baseball Stadium. The Project Sponsor will request consideration by the Los Angeles Dodgers of the potential for the Dodger Stadium Station to include a mobility hub; outside of game day periods, passengers would be able to access a suite of first- and last-mile multi-modal options, such as a bike share program and individual bike lockers, to access Elysian Park and other nearby neighborhoods, including Solano Canyon. Issues to be addressed in connection with such consideration as to the mobility hub include maintaining security for Dodger Stadium and the surrounding surface parking areas. Implementation of Dodger Stadium Station would require the removal of parking spaces, as well as removal and replacement of landscaping.

The proposed Project alignment is primarily above urban regions typically classified as non-burnable in wildland fire hazard assessments. The portion of the proposed Project alignment over the Los Angeles State Historic Park is an entirely landscaped environment of predominantly short grasses and well-spaced groups of small trees. The portion of the alignment between Broadway Junction to Stadium Tower and Dodger Stadium Station presents vegetation and grasses. The alignment terminates at in the Dodger Stadium parking lot, in Elysian Park. The Elysian Park community is north of downtown Los Angeles and is characterized by medium-density residential neighborhoods, open space areas, and commercial corridors. The Elysian Park community includes Dodger Stadium, Elysian Park, and Solano Canyon. Dedicated in 1886, Elysian Park is the oldest and second-largest park in the City, and features hiking trails, a bike path, horseshoe pits, picnic tables, restroom facilities, a recreation center, Little League baseball fields, Grace E. Simons Lodge event venue, Radio Hill Gardens, Chavez Ravine Arboretum, and the Chavez Ravine Disc Golf Course. Situated in the southeastern portion of the Elysian Park community, Solano Canyon consists of a low-density single-family residential neighborhood, directly east of Dodger Stadium. When used hereinafter in this report, “Elysian Park” refers to the portion of the park to the north and northwest of Dodger Stadium, and “Solano Canyon” refers to the low-density single-family residential neighborhood. “Radio Hill Gardens” refers to the portion of Elysian Park east of SR-110, and bounded by SR-110, Stadium Way, commercial and residential development along North Broadway, and residential development along Savoy Street and Solano Avenue, shown on the map below.

The Dodger Stadium property is directly surrounded by surface parking, but the vegetated area of Elysian Park is approximately 0.45 mile northeast of Stadium Tower and Dodger Stadium Station. The Solano Canyon neighborhood is north of Dodger Stadium, and the vegetated area of Radio Hill Gardens is to the east of Dodger Stadium, and approximately 275 feet east of Stadium Tower on the other side of SR-110.

There are some vegetated areas in the general vicinity of the proposed Project alignment as it approaches Dodger Stadium from Broadway Junction. The vegetated hillsides in this surrounding region, e.g., Radio Hill Gardens, begin approximately 270 feet uphill from the Broadway Junction construction zone and are upslope of SR-110, which has historically offered drivers a clear view of smoke and flames of fires even at the very earliest phases, typically resulting in fires promptly being reported to authorities based on response times, based on a review of historical fires in the area. The proposed Project alignment would also cross over vegetated areas during the construction rope-pulling phase and during operations, although there are no known ignition sources from standard operation of the proposed Project.

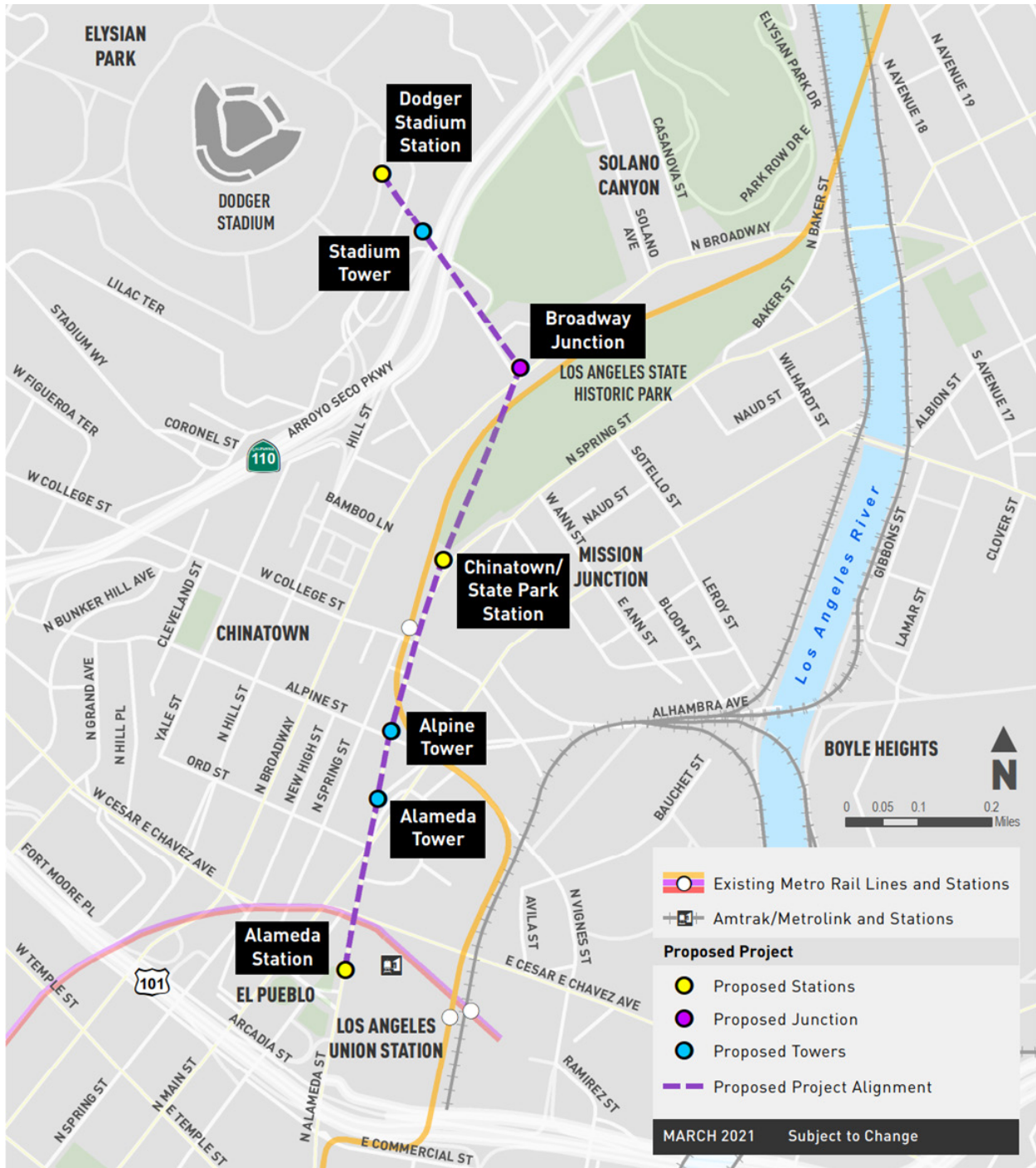


Figure 3: Proposed Project Alignment

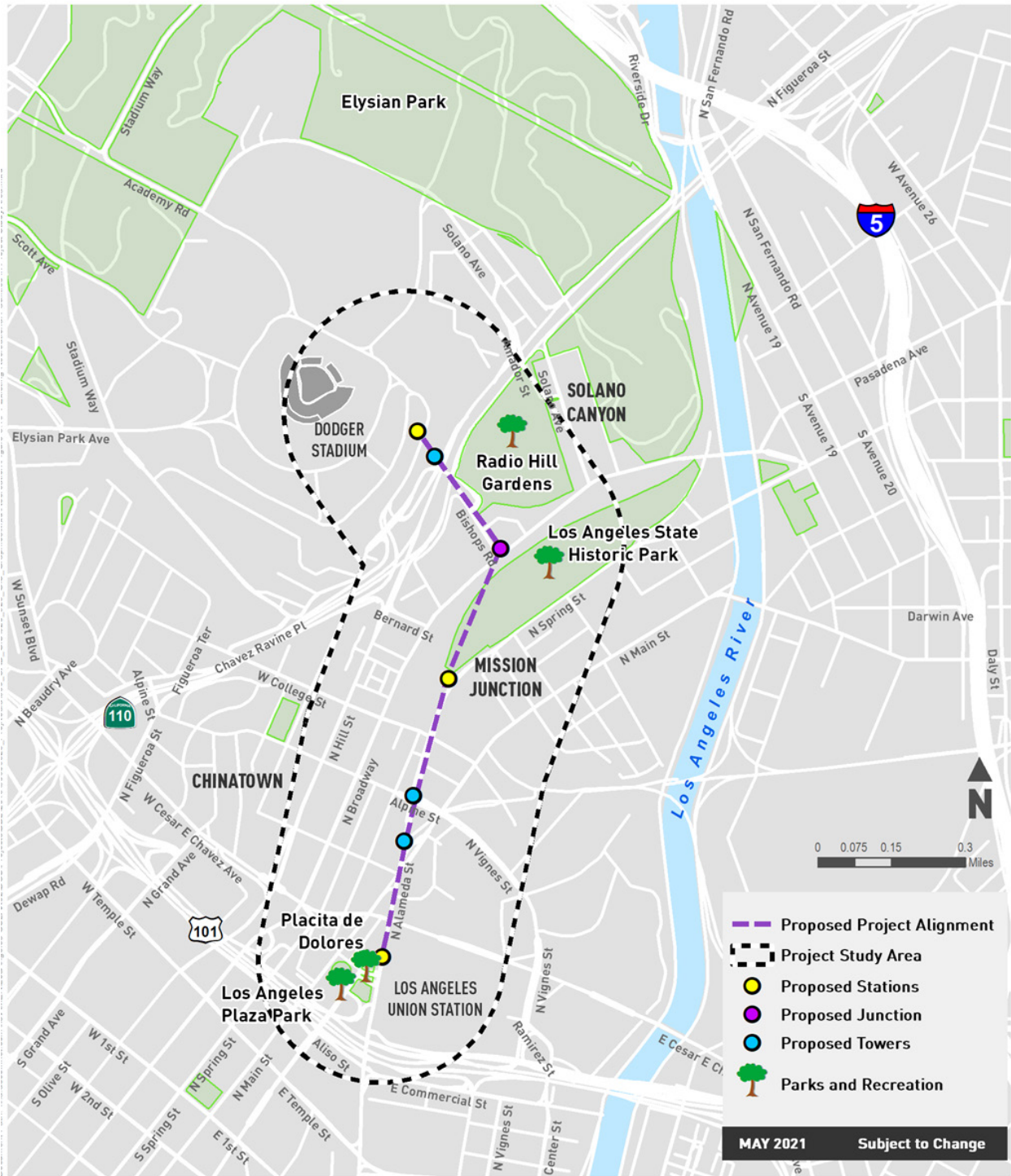


Figure 4: Park Locations within the Proposed Project Alignment

As described above, the portion of the proposed Project alignment between Broadway Junction and Dodger Stadium Station crosses over several paved multi-lane roads and the SR-110, as well as non-burnable fuel, but is classified as part of the Very High Fire Hazard Severity Zone in the Local Responsibility Area.



Figure 5: Proposed LA ART alignment with stations and towers

2.4 Typical Operating Logistics

During operations, the cabins would travel on a continuous loop between the Alameda Station and the Dodger Stadium Station. Cabins would pass through passenger stations at roughly one foot per second (less than one mile per hour) to allow for unloading and loading. If needed, a cabin could be stopped to accommodate passenger boarding. After the cabins pass through the unload/load zones, the doors would close and the cabins would accelerate to match the line speed of the haul rope before reattaching to the haul rope.

At Alameda Station, arriving cabins (southbound) would decelerate, doors would open, and passengers would unload. The cabins would execute a U-turn in the station before passing through the load zone (for northbound passengers), load passengers (if any), close doors, then accelerate to be reattached to the haul rope.

At Chinatown/State Park Station, cabins would detach from the rope and decelerate to the station speed. Since passenger access would be provided at this station, the cabins would decelerate to about one foot per second (less than one mile per hour) and the doors would open. After traveling through the unload and load zones, the cabin doors would close, and the cabins would accelerate to line speed and then reattach to the haul rope.

At Broadway Junction, where passenger unloading or loading is not proposed, the cabins would detach from the haul rope, decelerate to a speed of approximately six mph, execute a slight turn to follow the alignment, and then re-accelerate and reattach to the haul rope. As described in Section 2.5.2, the Alameda Station to Broadway Junction and Broadway Junction to Dodger Stadium Station systems come together at the Broadway Junction. When the cabins detach from the haul rope in the Junction, their move from one haul rope to the other haul rope would not be perceptible by passengers.

At Dodger Stadium Station, the cabins would decelerate, doors would open, and passengers would unload. Since Dodger Stadium Station would be an end station, the cabins would execute a U-turn in the station before passing through the load zone (for southbound passengers), load passengers (if any), close doors, then accelerate and reattach to the haul rope. As described above, gondola cabins would enter, traverse, and depart stations under fully automated control. Operation of the proposed Project would require approximately 20 personnel. Station attendants would be present in each station to assure safe boarding or to execute stops, if necessary. Attendants would also provide customer interaction and observation; if a passenger needs special assistance, an attendant may either further slow or stop a cabin. A separate operator may sit in a booth adjacent to the boarding area and monitor screens, which would show activities in each cabin and station, as well as the system controls.

Operation of the proposed Project, an ART system connecting LAUS to the Dodger Stadium property would not result in new ignition sources through routine system operations, because the Project's tri-cable technology involves a haul rope moving at a steady pace pulling cabins along the ropeway, and in and out of each station or junction, that presents no risk of sparking or ignition. Cabins detach from the haul rope as they enter the station for loading and unloading.

2.5 Construction

Construction of the proposed Project is anticipated to begin as early as 2024 and take approximately 25 months, including construction, cable installation, and system testing. Project construction would involve hot work, such as the use of welders and torches. Welding slag produced in cutting can retain heat for ignition of fuels, although the welding slag weight keeps it from being carried by wind over long distances. Welding splatter produced in join welding is typically smaller, and therefore does not travel very far from its origin as it flies through calm air, but has the potential to be carried by wind over larger distance.

However, unlike wood embers, welding splatter is unlikely to retain a high enough temperature to cause new ignitions if carried over longer distances. The detailed construction procedures informing the environmental impact analyses are included in Appendix B to this Draft EIR. A summary of the construction activities is provided below. Construction of the Project components may partially overlap in schedule, especially because construction would occur at several physically separated sites.

Utility relocations would occur prior to construction of the proposed Project components, and would be coordinated directly with the utility providers. Following utility relocations, construction would commence. Detailed information on utilities relocations is included in Appendix B to this Draft EIR.

During construction, some parking spaces at Dodger Stadium would be temporarily closed for construction of the Dodger Stadium Station, and for overall Project construction, trailers, laydown and staging areas, and construction worker parking.

Construction of more than one Project component would occur at the same time, with consideration of available materials, work crew availability, and coordination of roadway closures. Table 1 below includes the estimated duration to complete construction of each of the proposed Project components, the maximum depths of drilled piles, the maximum depth of excavation, the amount of excavation, and the amount of materials (soils and demolition debris) to be exported for each component of the proposed Project.

Table 1: Proposed Project Construction Details

| Component | Construction Duration | Maximum Depth of Drilled Piles | Maximum Depth of Excavation | Amount of Excavation | Amount of Materials Exported |
|-------------------------------------|------------------------------|---------------------------------------|------------------------------------|-----------------------------|-------------------------------------|
| Alameda Station | 17 months | 125 feet | 10 feet | 2,728 cubic yards | 2,295 cubic yards |
| Alameda Tower | 12 months | 120 feet | 10 feet | 2,850 cubic yards | 2,292 cubic yards |
| Alpine Tower | 11 months | 120 feet | 10 feet | 3,606 cubic yards | 2,887 cubic yards |
| Chinatown/State Park Station | 19 months | 80 feet | 10 feet | 6,267 cubic yards | 4,567 cubic yards |
| Broadway Junction | 19 months | 120 feet | 7 feet | 6,407 cubic yards | 5,379 cubic yards |
| Stadium Tower | 12 months | 120 feet | 7 feet | 1,286 cubic yards | 1,202 cubic yards |
| Dodger Stadium Station | 20 months | 55 feet | 42 feet | 44,313 cubic yards | 44,001 cubic yards |

Following completion of construction, the gondola cables would be installed, followed by system testing and inspections.

Working hours would vary to meet special circumstances and restrictions, but are anticipated to be consistent with the City’s allowable construction hours of Monday through Friday between 7:00 a.m. to 9:00 p.m. and Saturdays and National Holidays between 8:00 a.m. to 6:00 p.m. While not anticipated,

approval would be required from the City of Los Angeles Board of Police Commissioners for any extended construction hours and possible construction on Sundays.

Anticipated closures would include lane closures in which lanes would be closed 24-hours a day during certain phases of construction, or alternating closures during certain phases of construction, in which closures would occur during construction hours for approximately 10 hours a day, and roads would reopen during non construction hours for approximately 14 hours a day. For alternating closures, during non-construction hours, steel plates would be placed over construction sites to the extent feasible in order to allow for vehicular and pedestrian circulation. The closures and hours would vary between location and phase of construction. The proposed Project would implement a Construction Traffic Management Plan that would include detours and ensure that emergency access is maintained throughout all construction activities.

3.0 FIRE HAZARD ASSESSMENT BACKGROUND

As noted above, the portion of the proposed Project alignment—including and between Broadway Junction and Dodger Stadium Station—is classified as part of the Very High Fire Hazard Severity Zone. The Fire Hazard Severity Zone maps are developed using a science-based and field-tested model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. Many factors are considered, such as fire history, existing and potential fuel (natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area. There are three levels of hazard: moderate, high, and very high.

Fire Hazard Severity Zones are used to develop wildland-urban interface building standards for new construction, such as natural hazard real estate disclosure at time of sale, 100-foot defensible space clearance requirements around buildings, and property development standards such as road widths, water supply, and signage consideration in city and county general plans.

However, Fire Hazard Severity Zones sometimes fail to capture details at a smaller scale that may better inform fire hazard on a particular site. This section provides a more detailed overview of the proposed Project site's characteristics that are taken into account for the fire hazard assessment, including topography, fuels, climate/weather patterns, and fire history. Relevant information is gathered from publicly available databases for processing and analysis input to wind and fire behavior models.

3.1 Fire History

Assessment of local fire history provides an understanding of potential future fire occurrence and behavior. Various federal, local, and state agencies maintain records of past fire ignitions and burned areas. Although some records date back to the late 1800s, the earlier records are often incomplete due to difficulty in wildfire data collection in years past. CAL FIRE maintains a relatively robust database of historical fire perimeters in California as part of the Fire and Resource Assessment Program [2].

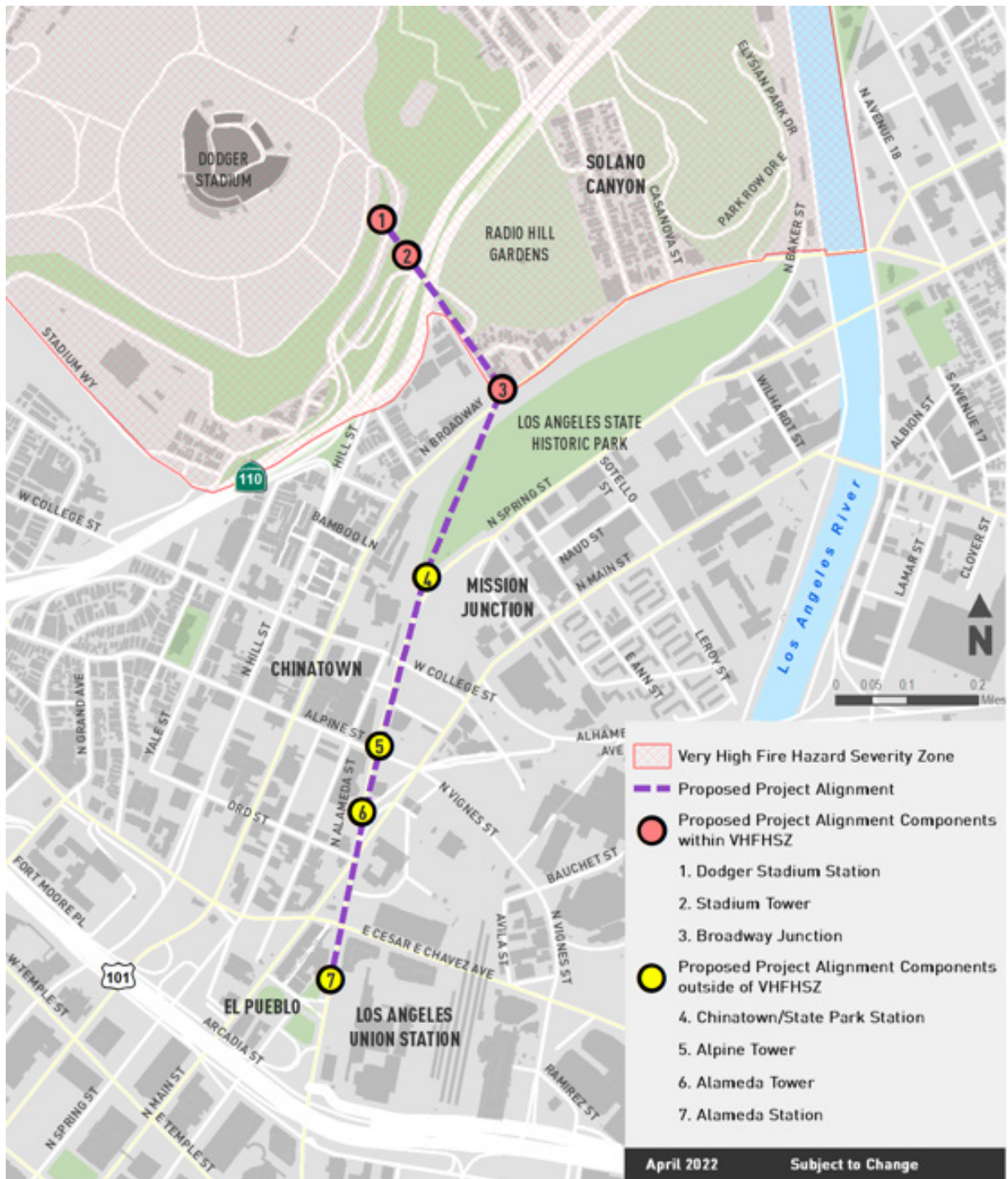


Figure 6: Fire Hazard Severity Zone in the Local Responsibility Area show that the portion of the proposed alignment between Broadway Junction and Dodger Stadium Station is in the Very High Fire Hazard Severity Zone [1]

Displayed in Figure 7, Items 1 through 5, are historic fires, as retrieved from the CAL FIRE database. The region studied focuses on the Very High Fire Hazard Severity Zone near the proposed Project, roughly from Dodger Stadium to the borders of the more heavily vegetated regions of Elysian Park, extending approximately ½ mile east and south, ¾ mile west, and 1¼ miles north of Dodger Stadium. More fires over two acres in size in this area (Items 6 through 13) can be found in news stories from local Los Angeles news outlets, which describe small fires that are quickly controlled by LAFD ground units; and in many cases, water-dropping helicopters. The cause of these fires is typically undetermined, but the narratives accompanying these news stories typically highlight rapid reporting, response, containment, and extinguishment.



Figure 7: Historic fire perimeters [2]

Table 2: Summary data for fires shown in Figure 7 above.²

| Fire number | Fire name | Date | Cause | Acres |
|-------------|-----------|----------|----------|-------|
| 1 | Not named | 06/18/57 | Unknown | 45 |
| 2 | Not named | 06/16/81 | Unknown | 272 |
| 3 | Not named | 06/16/74 | Unknown | 21 |
| 4 | Not named | 06/27/76 | Unknown | 4 |
| 5 | Not named | 07/19/66 | Unknown | 9 |
| 6 | Not named | 07/04/20 | Unknown | 1 |
| 7 | Not named | 07/04/20 | Unknown | N/A |
| 8 | Not named | 09/22/16 | Unknown | 6 |
| 9 | Not named | 07/03/21 | Unknown | 1/2 |
| 10 | Not named | 04/29/15 | Unknown | 2 |
| 11 | Not named | 06/06/20 | Unknown | 2 |
| 12 | Not named | 06/16/21 | Unknown | 2 |
| 13 | Not named | 05/29/20 | Unknown) | 1 |

The following items were not included in the CAL FIRE Historic Fire Perimeter database, but came instead from a search for fires in Elysian Park, to the north of the proposed Project site. This is not a complete listing, but is informative for the frequency of fires and the effectiveness of LAFD response.

- Items 6 and 7 were a pair of fires that started in Elysian Park in July 2020, near Radio Hill Gardens, just a few hundred yards east of the proposed Stadium Tower location.
<https://losangeles.cbslocal.com/2020/07/04/one-acre-brush-fire-burns-in-elysian-park-area/>
- Item 8 was a fire off Elysian Park Road that was first spotted and reported by an LAPD helicopter. One hundred fire fighters extinguished the blaze in just over an hour, and limited its size to six acres.
<https://www.lafd.org/news/lafd-stomps-6-acre-brush-fire-elysian-park>
- Item 9 was a one-half acre fire in Elysian Park, and was extinguished by 32 firefighters in just over one-half hour.
<https://mynews1a.com/life/2021/07/03/lafd-knocks-down-small-brush-fire-in-elysian-park-half-acre-burned/>
- Item 10 was a two-acre brush fire in Elysian Park extinguished by LAFD near Dodger Stadium.
<https://ktla.com/news/local-news/brush-fire-burning-near-dodgers-stadium-2-acres-burned/>

² In 1957, a 47-acre fire occurred on the now-Dodger Stadium property. Although this fire appears in CAL FIRE’s Historic Fire Perimeter database, the fire occurred prior to Dodger Stadium’s construction, and is not representative of existing conditions. A fire in this same location does not present the same risks because it would now be on Dodger Stadium’s paved parking lots, and unlikely to spread.

- Item 11 was a one-half acre brush fire off Grandview and Park Row Drive in Elysian Park that was extinguished in 21 minutes.
<https://patch.com/california/los-angeles/fire-near-near-dodger-stadium-stops-traffic-110-freeway>
- Item 12 was a two-acre fire that burned near the Stadium Way Exit from I-110.
<https://www.msn.com/en-us/weather/topstories/elysian-park-brush-fire-scorches-2-acres/ar-AAL7ksP>
- Item 13 was a one-acre fire on Radio Hill that was controlled by ground units and an LAFD water-dropping helicopter.
https://www.theeastsiderla.com/news/fire/small-fire-breaks-out-in-elysian-park-area/article_8acf4c26-a2c2-11ea-a1e2-9f4d8abfc3a4.html

In addition, there are four LAFD stations within a 1.6-mile radius around the proposed Project Study Area shown in Figure 8, which would allow for rapid response times.

Predicting fire behavior requires quantifying and understanding the fuel beds through which a fire propagates. Fuel bed characteristics are driven by factors such as load, bulk density, particle size, heat content, and moisture of extinction, among others. Given the variability of fuel bed composition, fuel bed characteristics have been consolidated into 40 stylized “fuel models” to facilitate fire behavior modeling [3]. Geospatial data for vegetative fuels are available from the California Forest Observatory at a 10-meter (approximately 33-foot) resolution [4].

Although moderate to very high load grass, shrub, timber, and both broad leaf and needle litter surface fuels are present in the larger vegetated Elysian Park and Radio Hill Gardens areas, these areas are surrounded by urban development, and well-accessed by roads.

Figure 10 focuses on the portion of the alignment between Broadway Junction and Dodger Stadium Station, including where the cables and cabins would cross SR-110 between Broadway Junction and Stadium Tower. The proposed Project does not propose any construction activities near the area with receptive fuels, (i.e., those prone to ignition) to the east and southeast of the proposed alignment. The fuels closest to the proposed Project alignment are low-load dry and coarse grasses that are easily ignited and may support high and very high spread rates, but are typically characterized by low and moderate flame lengths, meaning that while a fire may spread quickly, it is less likely to spread into higher, more dense fuels, and vegetation management is facilitated. Further, as discussed below, the Stadium Tower construction site would be cleared or thinned of such vegetation prior to the start of construction activities that present a fire risk. Moreover, this portion of the alignment crosses SR-110 and several access roads/ramps to SR-110; large, paved areas devoid of any fuels that would serve as a potential fire break between the proposed Project alignment and the areas with receptive fuels in the event of a fire.



Figure 8: LAFD Stations within a 1.6-mile radius around the Project Study Area

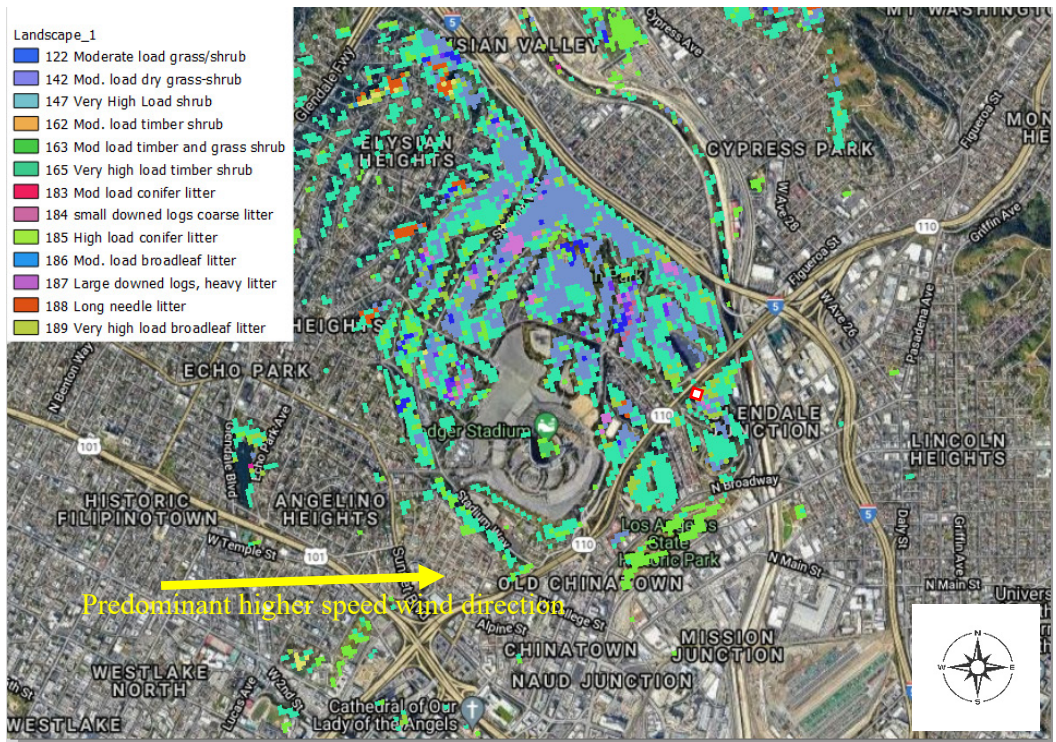


Figure 9: Predominant vegetative fuels excluding non-burnable, by surface fuel model at approximately 33-foot resolution [4]. Predominant winds shown with the yellow arrow

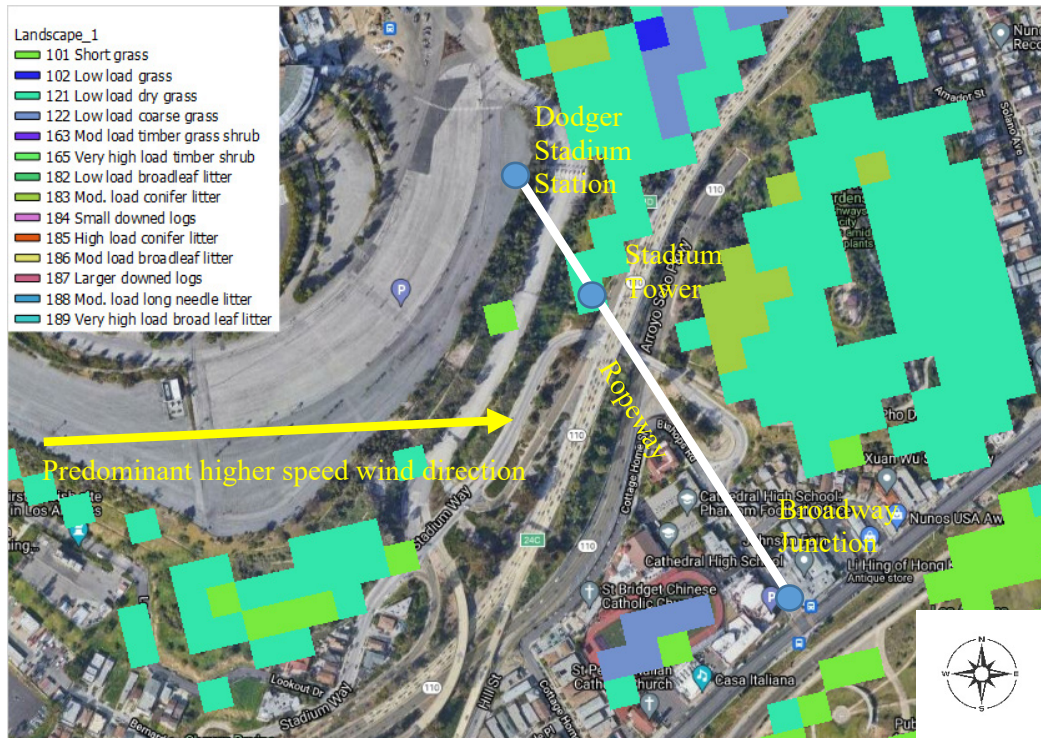


Figure 10: Predominant vegetative fuels excluding non-burnable, by surface fuel model at approximately 33-foot resolution.[4]. Predominant winds shown with the yellow arrow.

3.2 Weather

Fire weather in Southern California has typically been in the dry, hot, and windy late summer and early fall months of June to October. Downtown Los Angeles sees elevated temperatures and dry fuel conditions during these times of year; which is reflected in the fire history above, which shows most fires occurring between May and September. Climate change has contributed to extending this season to near year-round.

Windrose data from Figure 11 for Downtown Los Angeles (USC), approximately 3.8 miles southwest of the proposed Project alignment, shows wind speeds and directions for the high fire hazard months from June to October from 2010 to 2021. These data show that winds remain predominantly from the west, and that the Project vicinity only rarely sees the northeast and east Santa Ana winds, which more strongly effect the San Fernando, Santa Clarita, and Ventura County valleys. These winds from the west present a lower potential hazard to the site because a major portion of the alignment, including between Broadway Junction, Stadium Tower, and Dodger Stadium Station, is southwest of the fire-prone areas in Elysian Park, across the Dodger Stadium parking lot from the proposed Dodger Stadium Station site. In addition, where fire-prone areas are to the east of Stadium Tower and Dodger Stadium Station, these portions are separated from vegetation by multi-lane asphalt roads and highways and paved parking lots, which serve as fire breaks. A site-specific evaluation, including an overview of pertinent site characteristics, is provided in Section 4.0.



[CQT] LOS ANGELES DOWNTOWN/USC
Windrose Plot
Time Bounds: 01 Jun 2010 12:47 PM - 01 Oct 2021 11:52 AM America/Los_Angeles

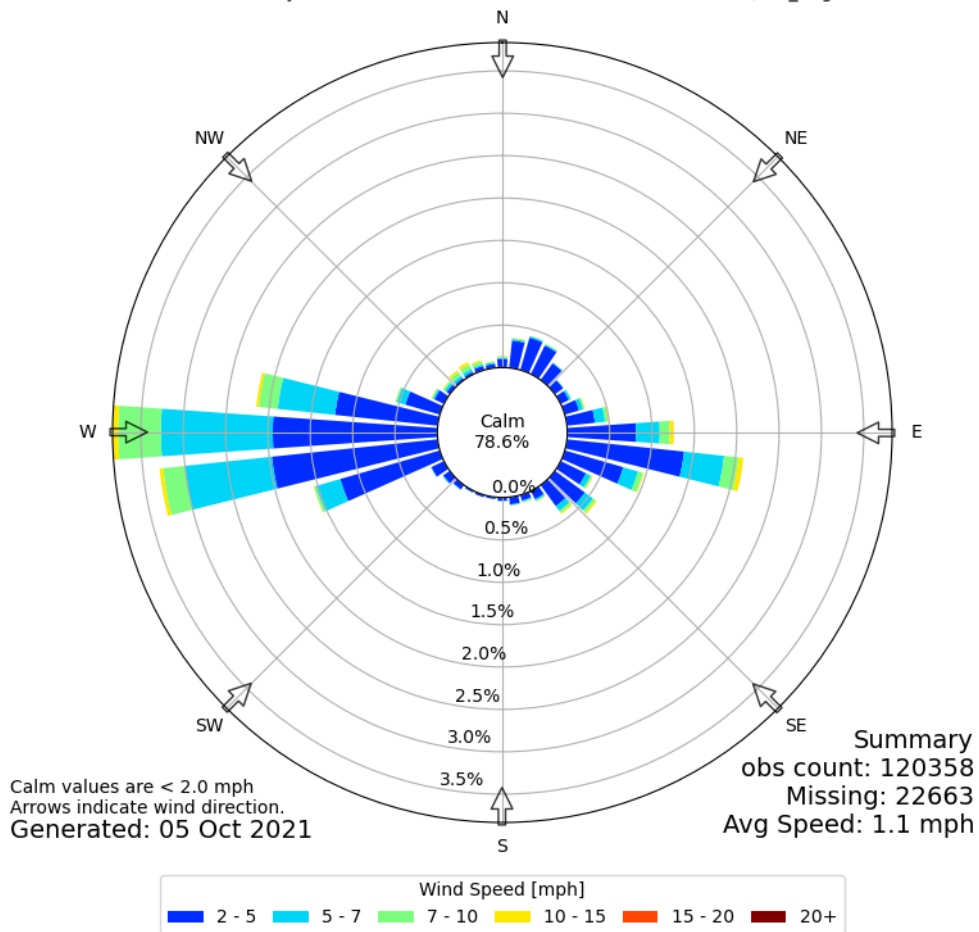


Figure 11: Predominant wind speeds and directions, Los Angeles Downtown (USC) showing the high fire season wind direction June to October 2010 – 2021, predominantly from the west

3.3 Slope

There is upward-sloping terrain greater than 20 degrees approximately 700 feet to the northeast and east of the portion of the proposed alignment between Broadway Junction, Stadium Tower, and Dodger Stadium Station. Sloping terrain increases flame lengths and flame spread rate in all fuels, including grasses and shrubs.

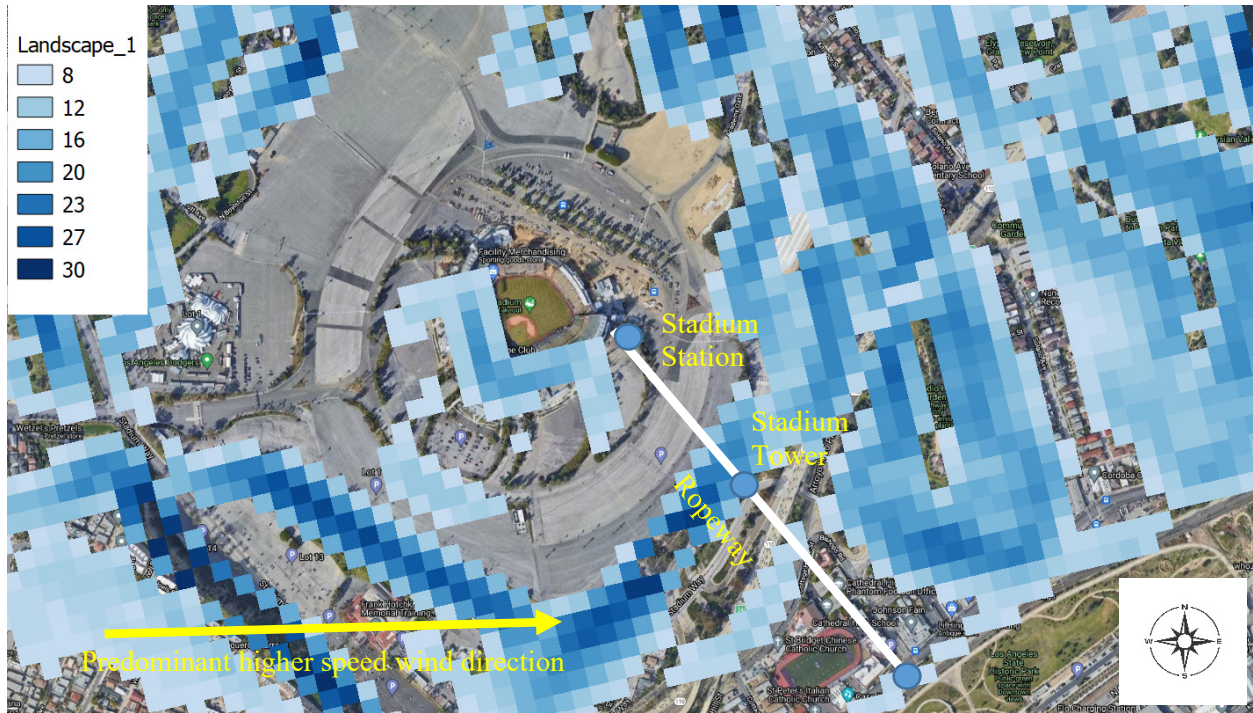


Figure 12: Terrain slope shown in degrees in the region near the portion of the alignment between Broadway Junction and Dodger Stadium Station [4].

3.4 Municipal Fire Response

There are four LAFD stations (Stations 1, 3, 4, and 20) within a 1.6-mile radius around the proposed Project Study Area. Los Angeles County Fire co-responds to some larger incidents. LAFD operates four medium-duty helicopters based at Van Nuys Airport, each with a 480-gallon water tank.

Two recent fires in July 2020, near Radio Hill Gardens, provide a recent example of response time and the effectiveness of fire resources in the proposed Project area.³ Seventy-three firefighters with assists from two volunteer hand crews and two Community Emergency Response Teams responded to the first fire and extinguished the blaze in about an hour, stopping the flames from threatening nearby homes. The second fire, approximately 900 feet east of the first, was extinguished by LAFD water-dropping helicopters before ground crews arrived on scene. Review of the fires in Elysian Park and Radio Hill Gardens show that effective fire suppression limits fires to under two acres in most cases.

3.5 Anticipated Fire Behavior

Typically, wildland fires in a given area are rare, and direct evidence of their ultimate disposition is not present. However, when fires have occurred in Elysian Park or the other vegetated areas surrounding Dodger Stadium, such fires are rapidly detected; and based on our review of CAL FIRE’s database and news stories from local Los Angeles news outlets, are typically suppressed while the fire area is below a few acres. Further, there is no available evidence that the fires in Elysian Park have led to significant losses

³ The two fires from July 2020 were east of the proposed Stadium Tower location and across SR-110 from this location, and near the proposed Broadway Junction site, across Savoy Street, and are listed as Items 6 and 7 in Section 3.1, Fire History. <https://losangeles.cbslocal.com/2020/07/04/one-acre-brush-fire-burns-in-elysian-park-area/>.

of property or life. The proposed Project site is characterized by urban development, or otherwise bounded by wide areas of concrete roads and parking lots that would serve as a buffer to prevent the spread of wildfire. Therefore, should a fire be started on or near the proposed Project site, it is anticipated that the fire would similarly be rapidly detected and suppressed.

4.0 EVALUATION OF OPERATIONAL FIRE HAZARD

Operation of the proposed Project is not anticipated to present fire hazards, because there are no material ignition sources resulting from standard operation of the proposed Project.

4.1 Station, Junction, and Tower Operations

Operations of Broadway Junction, Stadium Tower, and Dodger Stadium Station are not anticipated to present fire hazards because there are no known ignition sources resulting from standard operation of the proposed ropeway. The proposed Project would also require routine maintenance that would be performed by the system operator to reduce the potential for sparking or other fire hazards. Dodger Stadium Station also includes an enclosed basement for cabin storage and maintenance. Although maintenance activities may include welding, operational policies, worker training, and regulatory compliance would minimize risks from such actions. Accordingly, operation of Broadway Junction, Stadium Tower, and Dodger Stadium Station would not introduce a significant wildfire risk or significantly exacerbate existing wildfire risks.

4.2 Operations Along the Alignment

Operation along the alignment between Broadway Junction and Stadium Tower, and between Stadium Tower and Dodger Stadium Station, consists only of cabins traveling along the ropeway, and is therefore not anticipated to present fire hazards because there are no known ignition sources resulting from standard operation of the proposed ropeway.

Cabins would feature a ventilation system and sealed windows for viewing purposes, which for security reasons, would not open, therefore preventing the possibility of arson or accidental ignition from lit items being thrown from cabins as they traverse this section of the alignment.

Therefore, operation of the alignment between Broadway Junction and Stadium Tower, and between Stadium Tower and Dodger Stadium Station, is not anticipated to present any fire hazards or ignition risks for the fuels below.

5.0 SITE-SPECIFIC CONSTRUCTION EVALUATION

Wildland fire hazard evaluations using mapped values for vegetation and terrain as inputs to weather-based models of fire behavior are typically applied to large areas measured in hundreds or thousands of acres. Evaluation of hazard on smaller lot or development sized areas are often done using aerial imagery. The aerial images below, with outlines of the proposed construction site footprint, provide a good sense for the near-field hazard posed by the terrain and fuels, combined with the data outlined above in Section 3.0 of this report.

This analysis focuses on construction of the portions of the proposed alignment in the Very High Fire Hazard Severity Zone. The segment of the proposed alignment between Alameda Station and up to Broadway Junction (including Alameda Tower, Alpine Tower, and Chinatown/State Park Station) is not in a Fire Hazard Severity Zone, and is in a heavily urbanized area, typically classified as non-burnable in wildland fire hazard assessments.

Based on our review of the topography, fuels, climate/weather patterns, and fire history for the portions of the Project alignment in the Very High Fire Hazard Severity Zone (including Broadway Junction, Stadium Tower, Dodger Stadium Station, and ropeway in between each of these components), and as discussed in greater detail below, construction activities of the proposed Project would not introduce a significant wildfire risk or significantly exacerbate existing wildfire risks. This is due in part to project compliance with standards and industry standard best practices designed to avoid or reduce fire risks associated with construction activities.

5.1 Regulatory Compliance Measures – Construction

The proposed Project would incorporate and implement the requirements of California Fire Code Chapter 33 on Fire Safety during Construction and Demolition, and Chapter 35 on Welding and Other Hot Work, along with the other regulatory requirements set forth in Appendix A. The California Fire Code prescribes safeguards for construction, alteration, and demolition activities to provide reasonable safety to life and property from fire during such activities, including prohibiting smoking unless in approved areas, requiring permits and implementing a fire watch for hot work construction activities, and implementing partitions to prevent the passage of sparks, slag, and heat from the hot work area.

The National Fire Protection Association (NFPA), a non-profit organization, promulgates industry codes and standards to eliminate death, injury, property, and economic loss due to fire. The proposed Project will incorporate NFPA codes and standards as required for regulatory compliance, including NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations, which is incorporated by reference in its entirety in California Fire Code Chapter 33 and NFPA 51B Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, referenced in California Fire Code Chapter 35, and where applicable to the proposed Project, as outlined in Appendix A.

In accordance with the City of Los Angeles Fire Code (LAFC) section 3312, the proposed Project shall provide water for fire protection as soon as combustible material arrives on the site. At Broadway Junction and Dodger Stadium Station, connections to the nearest hydrant or underground water line shall be established. At Stadium Tower, a water truck shall be provided on site.

5.2 Broadway Junction

5.2.1 Site Characteristics

The Broadway Junction site would be at 1201 North Broadway, occurring primarily on a flat, privately owned parcel at the intersection of North Broadway and Bishops Road, currently developed with an office building and ancillary uses, which would be vacated and demolished prior to construction at this location. The Broadway Junction site shown in Figure 13 is surrounded by residences and commercial uses, including Cathedral High School to the west, and is bounded by Savoy Street, Bishops Road, and North Broadway.

The Broadway Junction site contains ornamental vegetation that would be removed prior to the start of construction. Larger shrubs and trees present on the Cathedral High School property across Bishops Road from the Broadway Junction site are well islanded and present a low hazard of carrying fire through larger vegetation.

The Los Angeles State Historic Park is outside of the Very High Fire Hazard Severity Zone to the east of the site, and is separated from the Broadway Junction site by North Broadway (a four-lane paved road), fencing, a slight eight-degree slope, and the Metro L Line (Gold) tracks. Vegetation in the Los Angeles State Historic Park is composed of low grasses and well-spaced trees planted in accordance with a landscaping program, and similarly present a low hazard of carrying fire.

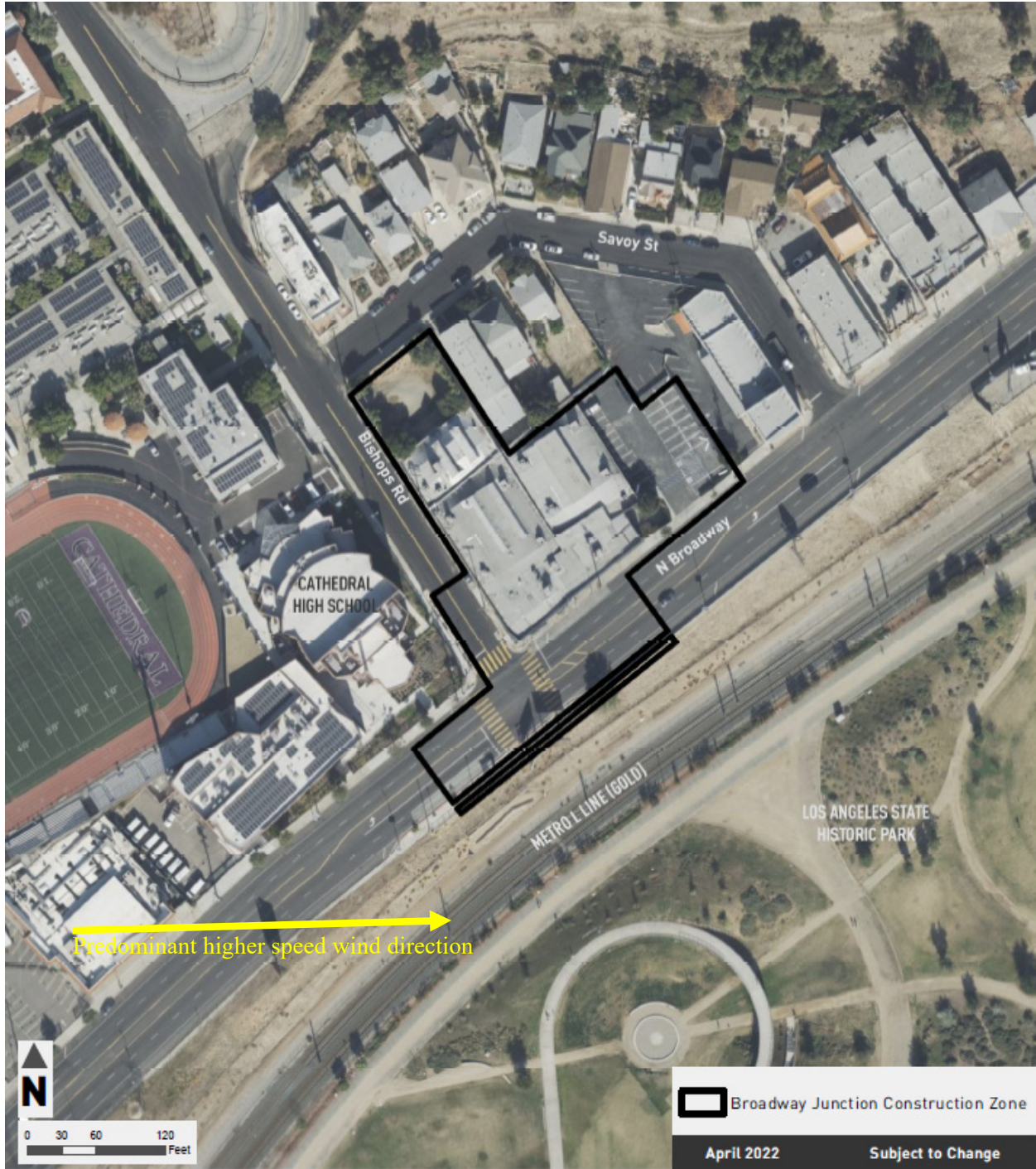


Figure 13: Broadway Junction construction site plan

Windrose data described above show that winds that would blow towards developed areas remain predominantly from the west. The Project area only rarely sees the northeast and east Santa Ana winds, which more strongly affect the San Fernando, Santa Clarita, and Ventura County valleys. Westerly winds present a lower potential hazard to the Broadway Junction site, because this portion of the alignment is east and southeast of the fire-prone areas in Elysian Park and the areas characterized by low-load, dry-climate grass shrub associated with moderate fire spread rates and low flame lengths. The Broadway Junction site

is separated from these areas by Savoy Street, SR-110, the Dodger Stadium parking lot, and residential development. The Broadway Junction site is separated from Radio Hill Gardens by Savoy Street and residential development. The Radio Hill Gardens areas with fire risk are characterized by low-load, dry-climate grass shrub associated with moderate fire spread rates and low flame lengths that are unlikely to spread. Northeast of the Broadway Junction site is industrial and commercial development that does not present a fire hazard.

5.2.2 Construction

Construction at the Broadway Junction site would involve the demolition of the existing building at 1201 North Broadway and removal of existing trees and vegetation on the construction site prior to the Broadway Junction's construction, which is anticipated to occur over several phases: construction of piles, foundations, and columns; structural steel and gondola equipment erection; vertical circulation; hardscape, landscape, and interior work, and any required roadway asphalt and re-striping to support the proposed Project. As noted in Section 1.0 above, certain phases of Broadway Junction's construction would require hot work activities, including the use of welders and torches. Pre-construction clearance of vegetation on the Broadway Junction site and other regulatory compliance measures reduce the risk of ignition on site from falling slag and splatter produced from welding.

The Broadway Junction site construction would not impact the Los Angeles State Historic Park to the east, because the park is separated by North Broadway (a four-lane paved road), fencing, a slope, and the Metro L Line (Gold) tracks. Further, the Los Angeles State Historic Park is outside of the Very High Fire Hazard Severity Zone, and the landscaped vegetation in the park presents a low risk of wildland fire.

The Broadway Junction site construction is unlikely to impact the vegetated areas characterized by low-load, dry-climate grass-shrub associated with moderate fire spread rates and low flame lengths to the north of the Broadway Junction site, because Savoy Street, a two-lane paved road, and residential development act as a fuel break from the construction site. Further, because winds remain predominately from the west, even if construction resulted in ignition sources carried by the wind, the wind-carried ignition sources would be unlikely to be blown towards or reach this vegetation.

Accordingly, the proposed Project has a less-than-significant potential to exacerbate wildfire risks at Broadway Junction during construction, because the site is surrounded by existing uses and roadways that minimize the risk of fire spread, the pre-construction clearance of vegetation on the site would inhibit onsite ignitions, and the proposed Project would comply with regulatory standards and industry standard practices designed to avoid or reduce fire risks associated with construction activities. Nevertheless, to provide additional environmental benefits and further reduce fire risks, we recommend the proposed Project incorporate the project design features outlined in Section 6 prior to/during construction at the Broadway Junction site, including fire safety training for all construction employees, implementation of tiered fire watches with increased staff and/or duration following the completion of hot-work operation, prohibiting hot work construction activities during Red Flag Warnings, ongoing fire inspections during construction, and other measures.

Alignment between Broadway Junction and Stadium Tower

5.2.3 Site Characteristics

The portion of the proposed Project alignment between Broadway Junction and Stadium Tower includes the area where the cables and cabins would cross SR-110, and there are little to no receptive fuels beneath this portion of the alignment, as shown in Figure 9. There are receptive fuels to the east of this portion of the proposed Project alignment in Radio Hill Gardens, but the proposed Project does not include any construction or operational activities near these areas.

A review of the CAL FIRE database indicates that no historic fires have occurred in the portion of the alignment between Broadway Junction and Stadium Tower. There are four LAFD stations within a 1.6-mile radius around the Project Study Area shown in Figure 8, which would allow for rapid response times.

5.2.4 Construction

No construction activities would occur on the ground in the portion of the alignment between Broadway Junction and Stadium Tower. Cable installation and system testing would occur following the construction of the proposed Project's stations, junction, and towers. These activities do not require any hot work or other activities prone to ignition or the production of sparks. Cable installation requires the placement of an initial thin, light line rope from one end to the other, which would be used to pull progressively larger cables. Initial placement is anticipated to be flown. Once the initial rope is placed and secured at each end, one end of the rope is attached to the next larger rope, which is then pulled from its spool to the pulling location. Once the second rope has been pulled, it is secured, then one end is attached to the next rope and the process is repeated until the final cable is in place. Pulling activities otherwise require a 50 to 100 horsepower (hp) diesel hydrostat winch at Broadway Junction. Risks of ignition from this equipment are low due to its location at the constructed Broadway Junction away from any potential fuel sources. Accordingly, rope pulling activities are not anticipated to present any fire hazards or ignition risks for the fuels below the portion of the proposed alignment in the Very High Fire Hazard Severity Zone.

5.3 Stadium Tower

5.3.1 Site Characteristics

The Stadium Tower construction area shown in Figure 14 is adjacent to Stadium Way and is generally bounded by SR-110 to the east, a multi-lane access road to Dodger Stadium's Downtown Gate to the west, and a vegetated hillside to the northeast.

The immediate area surrounding the Stadium Tower construction zone predominantly contains low-load grass and barren landscape, as shown in Figure 14, with areas of moderate to very high load grass, shrub, timber, and both broad leaf and needle litter surface fuels. Mature trees are also present in the surrounding area near SR-110 and a multi-lane access road to Dodger Stadium's Downtown Gate.

A review of the CAL FIRE database indicates that no historic fires have occurred on the Stadium Tower site. Nevertheless, there are four LAFD stations within a 1.6-mile radius around the Project Study Area shown in Figure 4, which would allow for rapid response times.

5.3.2 Construction

Figure 14 shows the Stadium Tower construction zone. Our review of the Stadium Tower site's topography, fuels, and climate/weather patterns demonstrates a potential hazard associated with the confluence of westerly winds, dry fuels in late summer and fall, and sloping terrain in the grass, shrub, and woodland areas just northeast of the construction areas. Sloping terrain increases flame lengths and flame spread rate in all fuels, including grasses and shrubs. However, as detailed below, pre-construction clearance of vegetation on the site would inhibit onsite ignitions, and the proposed Project would comply with regulatory standards and industry practices designed to avoid or reduce fire risks associated with construction activities.



Figure 14: Stadium Tower construction site plan showing buffer zone of 70 feet, or to the nearest paved roadway

The Stadium Tower’s construction is anticipated to occur over several phases: piles, foundations, and columns; structural steel and gondola equipment erection; and hardscape, landscape, and interior work. Certain phases of Stadium Tower’s construction would require hot work activities, including the use of welders and torches. The area around Stadium Tower presents a potentially significant hazard for ignition of wildland fuels when considered prior to the proposed Project’s pre-construction and construction

measures. However, as discussed further below, pre-clearing of the site prior to the start of construction, regulatory compliance, the implementation of recommended best construction practices and implementation of a buffer area around the construction site, and the presence of nearby existing roadways serving as a fire break would minimize such risks.

In particular, the northeastern portion of the Stadium Tower site shown in Figure 14 presents a potential fire spread hazard location due to the presence of low-load, dry-climate grass-shrub shrub about one foot high, which is associated with moderate fire spread rates and low flame lengths. However, such fire spread hazards during construction would be avoided or reduced through pre-clearing of the Construction Zone prior to the start of construction, regulatory compliance, standard construction practices, and vegetation management.

Removal of existing trees and vegetation on the construction site would occur prior to Stadium Tower's construction, which is anticipated to occur over several phases: construction of piles, foundations and columns; structural steel and gondola equipment erection; and hardscape, landscape, and interior work. Certain phases of Stadium Tower's construction would require hot work activities, including the use of welders and torches. Pre-construction clearance of vegetation on the Stadium Tower site reduces the risk of ignition on site from falling embers produced by welding. In addition, the potential for spread to the east and west is already reduced by the wide roads that are adjacent to the site (the multi-lane access road to Dodger Stadium's Downtown Gate and SR-110, respectively), which serve to segment the proposed Stadium Tower site away from areas with higher risk fuel sources. Spread to the south is also reduced by the two-lane Stadium Way and SR-110 access ramps.

Windrose data indicate that fire or ignition sources generally would not be driven to the vegetated areas to the northeast of the Stadium Tower site, but rather to the east towards SR-110, reducing fire risks.

Accordingly, the proposed Project has a less-than-significant potential to exacerbate wildfire risks at the Stadium Tower site during construction, because the site is surrounded by wide roads to the south, east, and west that minimize the risk of fire spread; the pre-construction clearance of vegetation on the site would inhibit onsite ignitions and fire spread to the northeast; and the proposed Project would comply with regulatory standards and industry standard practices designed to avoid or reduce fire risks associated with construction activities. Nevertheless, to provide additional environmental benefits and further reduce fire risks, we recommend the proposed Project incorporate the project design features outlined in Appendix A prior to/during construction.

WFR-PDF-A includes other fire prevention project design features that will be incorporated prior to/during construction for the proposed Project at the Stadium Tower site, such as fire safety training for all construction employees, implementation of tiered fire watches with increased staff and/or duration following the completion of hot-work operation, prohibiting hot work construction activities during Red Flag Warnings, ongoing fire inspections during construction, and other measures.

WFR-PDF-B requires the provision of an additional buffer area of either 70 feet, or until the buffer reaches the nearest paved roadway, (e.g., SR-110 or Stadium Way) around the construction site, consisting of barren earth and removal or thinning of any dry grass and low to moderate shrubs in the site footprint. Such a buffer would further reduce the potential for spread to the vegetated hillside to the northeast. This buffer provides an additional 35 feet of clearance beyond the NFPA 51B (Standard for Fire Prevention During Welding, Cutting, and Other Hot Work) requirement to maintain a 35-foot distance from combustibles (Section 5.5.1.3) during hot work activities. The additional 35 feet of clearance would provide additional fire-prevention benefits to further reduce the potential for ignition from falling slag and splatter produced from welding during hot work activities.

5.4 Alignment between Stadium Tower and Dodger Stadium Station

5.4.1 Site Characteristics

This portion of the proposed Project alignment predominately crosses over the paved multi-lane access road to Dodger Stadium's Downtown Gate before arriving at grade at Dodger Stadium. This portion of the proposed Project alignment crosses over upward-sloping terrain between 8 and 20 degrees. Portions of the proposed Project alignment cross over vegetation described above, some of which will be cleared or thinned prior to the start of construction.

Windrose data show that winds remain predominantly from the west, and that the proposed Project vicinity only rarely sees the northeast and east Santa Ana winds, which more strongly affect the San Fernando, Santa Clarita, and Ventura County valleys. These winds from the east present a lower potential hazard to the site because the portion of the proposed Project alignment between Stadium Tower and Dodger Stadium Station is east and southeast of the fire-prone areas in Elysian Park across from the Dodger Stadium parking lot and residential development.

Winds from the west may pose a potential hazard to the spread of fire in this portion of the proposed Project alignment to vegetated areas to the east, although no construction activities with a potential for ignition are proposed in this portion of the proposed Project alignment.

A review of the CAL FIRE database indicates that no historic fires have occurred in the portion of the proposed Project alignment between Stadium Tower and Dodger Stadium Station. There are four LAFD stations within a 1.6-mile radius around the proposed Project Study Area, shown in Figure 8, which would allow for rapid response times.

5.4.2 Construction

Construction activities are anticipated to be the same for the portion of the alignment between Stadium Tower and Dodger Stadium Station as the activities described in Section 5.3.2 for the portion of the proposed Project alignment between Broadway Junction and Stadium Tower. However, as described above, pulling activities otherwise require a 50 to 100 hp diesel hydrostat winch at Dodger Stadium Station, surrounded by the paved Dodger Stadium parking lot. Risks of ignition from this equipment are low due to its location on the ground at the constructed Dodger Stadium Station, away from any potential fuel sources.

Accordingly, construction of the proposed Project alignment between Broadway Junction and Stadium Tower is not anticipated to present any fire hazards or ignition risks.

5.5 Dodger Stadium Station

5.5.1 Site Characteristics

The Dodger Stadium Station site shown in Figure 15 is approximately 700 feet east of Dodger Stadium on a built site characterized by a paved surface parking lot, and adjacent to a small strip of low- and moderate-load, humid-climate timber grass shrub, with moderate forest litter on a 12-degree slope between the parking area and the multi-lane access road to Dodger Stadium's Downtown Gate to the east. This strip is characterized by high fire spread rates and moderate flame lengths. Although this limited amount of vegetation can carry fire, it is well buffered by wide areas of paved parking areas and wide roads that limit direct fire spread into the larger vegetated areas to the north, and vegetation in the Construction Zone would be removed prior to the start of construction. There are also mature trees present in the strip between the multi-lane access road to Dodger Stadium's Downtown Gate and the Dodger Stadium parking lot. Strands of mature eucalyptus cover a hillside occurring 200 to 300 feet north and east of the proposed Dodger Stadium Station site. These larger shrubs and trees are well islanded, and present a low hazard of carrying fire through larger vegetation.

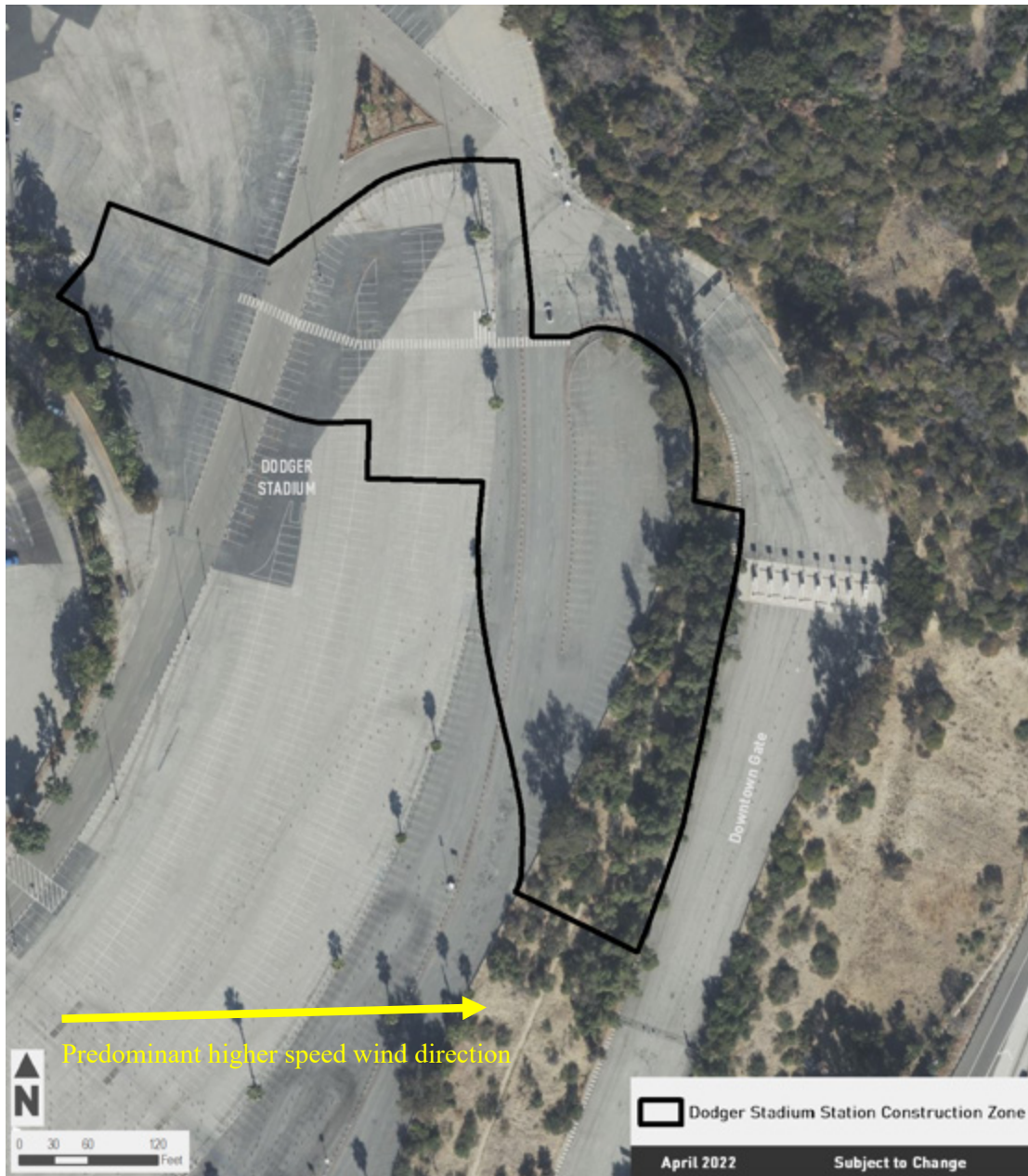


Figure 15: Dodger Stadium Station construction site plan

A review of the CAL FIRE database indicates that no historic fires have occurred at the Dodger Stadium Station site. There are four LAFD stations within a 1.6-mile radius around the proposed Project Study Area shown in Figure 8, which would allow for rapid response times.

5.5.2 Construction

Dodger Stadium Station would be constructed at-grade along with a cabin storage and maintenance area beneath the Station. Prior to construction of Dodger Stadium Station, existing trees and vegetation in the Construction Zone shown in Figure 15 would be removed. Dodger Stadium Station construction is anticipated to occur over several phases: construction of piles, foundations and columns; structural steel and gondola equipment erection; vertical circulation, hardscape, landscape, interior work, and any required

roadway asphalt and re-striping to support the proposed Project. Certain phases of Dodger Stadium Station's construction would require hot work activities, including the use of welders and torches. Pre-construction clearance of vegetation on the Dodger Stadium Station site and regulatory compliance measures reduce the risk of ignition on site from falling slag and splatter produced from welding. In addition, because Dodger Stadium Station would be sited at-grade, there is a low hazard of sparks being picked up and carried by winds across the Dodger Stadium parking lot or the multi-lane access road to Dodger Stadium's Downtown Gate to locations with fuels.

Accordingly, the proposed Project has a less-than-significant potential to exacerbate wildfire risks at the Dodger Stadium Station site during construction, because the site is surrounded by a paved parking lot and access roads that minimize the risk of fire spread, the pre-construction clearance of vegetation on the construction site would inhibit onsite ignitions and fire spread, and the proposed Project would comply with regulatory standards and industry standard practices designed to avoid or reduce fire risks associated with construction activities. Nevertheless, to provide additional environmental benefits and further reduce fire risks, we recommend the proposed Project incorporate the project design features outlined in WFR-PDF-A prior to/during construction for the proposed Project at the Dodger Stadium Station site, including fire safety training for all construction employees, implementation of tiered fire watches with increased staff and/or duration following the completion of hot-work operation, prohibiting hot work construction activities during Red Flag Warnings, ongoing fire inspections during construction, and other measures.

6.0 FIRE RISK PROJECT DESIGN FEATURES

In addition to those requirements set forth in the regulatory documents found in Appendix A, the following project design features provide additional environmental benefits, and further reduce risks associated with ignition of wildland fire:

WFR-PDF-A

- Prior to the start of any construction activities, a Fire Prevention Program Superintendent shall be designated to interface with the LAFD and coordinate fire watch and site fire prevention and response.
- In exceedance of regulatory requirements, the Fire Prevention Program Superintendent shall prohibit hot work construction activities during Red Flag Warnings, which are issued for a stated period of time by the National Weather Service using pre-determined criteria to identify particularly critical wildfire danger in a particular geographic area.
- Prior to the start of any hot work construction activities, the Fire Prevention Program Superintendent will implement tiered fire watches with increased staff tasked with monitoring for ignitions during hot work activities (fire watch). The fire watch shall be provided during hot work and shall continue to monitor for a minimum of 30 minutes following completion of the hot work activities. The Fire Prevention Program Superintendent may determine during construction that this monitoring period be increased, based on the potential for weather conditions that may increase the potential for sparks to be carried by the wind and result in ignition (i.e., the potential for high wind events, high temperature, and/or low relative humidity).
- Prior to the start of any construction activities, the construction manager, in coordination with the Fire Prevention Program Superintendent, shall provide site fire safety training for all construction crew members, including on the regulatory requirements set forth in Section 6, the proper use of firefighting equipment, and procedures to be followed in the event of a fire. Project staff shall be trained prior to the start of construction to identify and report to the appropriate authority potential



fire safety hazards, including the presence of sparks or smoke. The construction manager shall maintain training records, which will be available for review by Metro, the city, and LAFD.

- For all proposed Project components in the Very High Fire Hazard Zone, prior to the start of construction, the construction area shall be cleared of all dead and downed vegetation and dead or dry leaves and pine needles from the ground. Trees in the construction area shall either be removed or trimmed to keep branches a minimum of 10 feet from other trees. Vegetation in the construction area shall be controlled through periodic cutting and spraying of weeds.
- Ongoing fire safety inspections and patrols of the construction site shall be integrated into Project site security procedures for the duration of construction. The assigned fire patrols shall verify the proper tools and equipment are on site, serve as a lookout for fire starts, including participating in a fire watch to make sure no residual fire exists following the completion of the construction activity.
- Each construction area shall be equipped with fire extinguishers and firefighting equipment sufficient to extinguish small flames.
- The Fire Prevention Program Superintendent shall provide outreach and orientation services to responding fire stations, including pre-staging measures prior to the start of hot work construction activities.
- Any fire ignited on site shall be promptly reported to LAFD.

WFR-PDF-B

- Prior to the start of construction, the proposed Project shall provide a fuel modification zone surrounding the Stadium Tower construction site, starting from the construction area perimeter of either 70 feet or until the nearest paved roadway, as shown on Figure 14: Stadium Tower construction site plan showing buffer zone of 70 feet, or to the nearest paved roadway, that thins or removes all vegetation, dead or dry leaves, and pine needles from the ground, and trims or remove trees to keep branches a minimum of 10 feet from other trees.

WFR-PDF-C

- During operation, the proposed Project includes security monitoring by staff and by cameras. Project staff shall be trained to identify and report to the appropriate authority potential fire safety hazards, including the presence of sparks or smoke.
- Any fire ignited on site shall be promptly reported to LAFD.

7.0 CONCLUDING REMARKS

Construction of the proposed Project would primarily occur in existing urbanized areas with little fire risk. Although portions of the proposed Project between Broadway Junction and the Dodger Stadium Station would occur in urbanized or landscaped areas, these components are within the southern boundary of the designated Very High Fire Hazard Severity Zone, thereby requiring additional consideration as contained in this report. As described above, construction-related activities are unlikely to generate significant wildfire risk, or exacerbate existing wildfire conditions with implementation of regulatory compliance measures and industry standard construction practices. Further, the proposed Project will implement identified project design features to further reduce wildfire risks.

REFERENCES

- [1] Office of the State Fire Marshal (CAL FIRE). 2011. Available at: <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>. Accessed September 2022.
- [2] CAL FIRE. 2019. CAL FIRE Wildfire Perimeters and Prescribed Burns. Data as of June 2020 represents fire19_1. Available at: <https://hub-calfire-forestry.hub.arcgis.com/datasets/california-fire-perimeters-all>. Accessed September 2022.
- [3] Scott, Joe H.; Burgan, Robert E. 2005. *Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model*. Gen. Tech. Rep. RMRS-GTR-153. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Available at: https://www.fs.usda.gov/rm/pubs_series/rmrs/gtr/rmrs_gtr153.pdf. Accessed September 2022.
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APPENDIX A

FIRE SAFETY DURING CONSTRUCTION CHECKLIST

APPENDIX A - FIRE SAFETY DURING CONSTRUCTION CHECKLIST

This following checklist summarizes major requirements set forth in the following regulatory documents. It is the responsibility of the owner or owner's designee to comply with all regulations.

- California Building Code 2019 (CBC)
 - Chapter 33 – Safeguards During Construction
- California Fire Code 2019 (CFC)
 - Chapter 33 – Fire Safety during Construction and Demolition
 - Chapter 57 – Flammable and Combustible Liquids
 - Chapter 58 – Flammable Gases and Flammable Cryogenic Fluids
- Referenced National Fire Protection Association (NFPA) Standards and Guidelines

Regulations directly related to fire safety during construction are found in CBC Chapter and CFC Chapter. These sections incorporate the following relevant standards by reference:

- NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations
 - Incorporated by reference in its entirety (CFC – Chapter 33)
- NFPA 51B, Standard for Fire Prevention During Welding, Cutting, Hot Work and other Hot Work
- NFPA 30, Flammable and Combustible Liquids Code

Where regulations set mandatory requirements, the term “Shall” is employed. Where requirements are recommended, the term “Should” are employed as industry above and beyond best practices.

Code sections are indicated in parenthesis following each summarized requirement or recommendation.

The items included herein have been edited for clarity and usefulness. The complete code sections should be referenced by the Fire Prevention Program Superintendent.

This document is developed per requirements of CFC Section 3308 – Owners Responsibility for Fire Protection wherein,

- The owner shall designate a person to be the fire prevention program superintendent (the superintendent) who shall be responsible for the fire prevention program and see that it is carried out through completion of the project.
- The superintendent shall be responsible for
 - guard service (where deemed necessary).
 - developing and maintaining this Construction Site Fire Safety Plan which shall be provided to the local fire chief or local fire code official for their cooperation and comment.
 - maintenance and servicing of fire protection equipment
 - supervising the permit system when required for hot work in accordance with Chapter 35 and NFPA 51B
 - monitoring impairment of fire protection systems
 - temporary covering of fire protection devices

CBC 2019 – Chapter 33, Safeguards During Construction

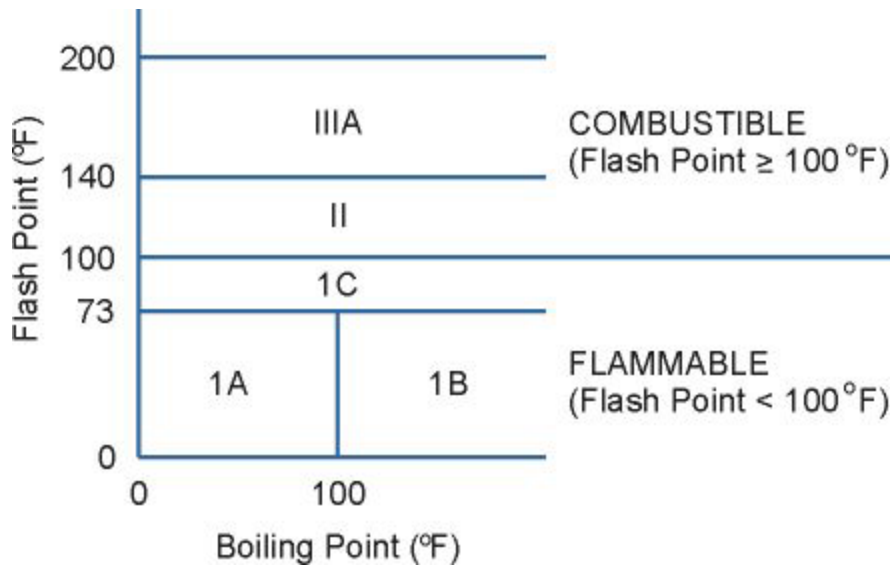
- Planning shall consider safety during construction including protection of adjacent/adjoining properties. (CBC 3301.1, 3307.1)

- Storage of equipment and removal of waste materials shall not endanger the public. (CBC 3301.2, 3302.2)
- If a building is occupied, maintain required exits, existing structural elements, fire protection devices and sanitary safeguards (unless those items are being altered). (CBC 3302.1, 3310.2, CFC 3311.2)
- During demolition, horizontal exits or an equivalent shall be maintained. (CBC 3303.3)
- During demolition prevent accumulation of water (CBC 3303.5)
- During demolition, service utility connections shall be discontinued and capped. (3303.6)
- During demolition, where standpipes exist, they shall be maintained not more than one floor below the floor being demolished. (CFC 3313.2)
- Sanitary facilities shall be provided (CBC 3305.1)
- Where deemed necessary Pedestrians shall have available walkways, directional barricades, and be protected, i.e. construction railings (const. height < 8 ft.), barrier and covered walkway (const. height > 8 ft). (CBC 3306.1 to 3306.9)
- Construction equipment and materials shall not permanently obstruct, block access, or block visualization of fire hydrants, standpipes, alarm boxes, catch basins or manholes, or within 20 ft. of intersections, or block traffic signals or public transit facilities (CBC 3308.1 and 3308.2).
- If building is 50 ft. or greater, one temporary or permanent lighted stairway is required (CBC 3310.1, CFC 3311.1).
- If standpipes will be required in the finished building, and when construction exceeds 40 ft., standpipes shall be provided during construction and shall extend as construction progresses to within one floor of the highest point of construction having a secured floor (CBC 3311.1, CFC 3313.1).
- Only properly authorized persons may operate sprinkler control valves and valves shall be checked at the end of each work period to verify that protection is in service. (CBC 3312.2, CFC 3314.2)
- An approved water supply for fire protection shall be made available as soon as combustible material arrives on site. (CBC 3313.1, CFC 3312.1)
- Heating devices during construction must supervised and maintained by competent personnel, clear of combustibles, fixed in place, protected from dislodging and tipping, and refueled in accordance with Section 5705 and allowed to cool before refueling. (CFC 3303, NFPA 241 4.4, 5.2). No bare electric wire resistance heating.
- No smoking except in approved places (ashtrays provided). Signs shall be posted. (CFC 3304.1, NFPA 241 5.3)
- Combustible waste shall not accumulate in buildings and shall be removed from buildings at the end of each shift of work. No burning of rubbish on site. Rubbish containers over 40 gallons shall have lids and either be noncombustible or be listed for their use (CFC 3304, NFPA 241 5.4.1).
- Where provided, trash chutes require a safety plan submitted to the AHJ, be of non-combustible construction or provided with a temporary automatic sprinkler protected from impact and freezing. (NFPA 241 5.4.4.3)
- Self-heating materials (e.g. oily rags) shall be stored in a listed disposal container (CFC 3304.2.4).
- Where required, fire watch or another surveillance method shall be provided. When fire watch is on site they shall be a qualified person who's sole purpose is fire watch and security. They shall have at least one approved means for notification of the Fire Department (CFC 3304.5, NFPA 241 5.1.3).
- Fire watch for hot work posted for duration of work and 2 hours thereafter for torch applied roofing operation. (NFPA 241, 5.1.3.2)
- Flammable and combustible liquid storage areas shall be maintained clear of combustible vegetation and waste material and shall not be used to store combustible materials and smoking or sources of ignition shall be prohibited from these areas. (CFC 3305.3 and 4)

- Class 1 and 2 liquids shall be stored in approved safety containers and leaking vessels shall be immediately repaired or replaced. Spills shall be promptly cleaned up. (CFC 3305.5 and 6).
- Class 1 and 2 liquids not to exceed 60 gallons within 50 ft of the structure. (NFPA 241, 5.5.1.2)
- Flammable gases shall not be used to clean pipe systems. (CFC 3306).
- Explosive materials shall be used in compliance with Chapter 56 of the CFC. (CFC 3307)
- An emergency telephone shall be provided with the street address of the site and an emergency telephone number for the fire department posted. (CFC 3309)
- There shall be fire fighting vehicle access roads to within 100 ft of temporary or permanent fire department connections. (CFC 3310.1)
- Key Boxes Chapter 5 (CFC 3310.2)
- Fire extinguishers shall be provided at each stairway on all floor levels, in every construction shed, in areas where special hazards exist (e.g. storage and flammable liquids). Not less than one multipurpose portable with an ABC rating for roofing operations. (CFC 3317).
- Motorized equipment shall not discharge exhaust into the building, onto combustible materials and shall not be refueled while in operation. Fuel shall be stored outside the building.
- Maintain separation distances between temporary structures and building under construction per NFPA 241 Table 4.2.1. (NFPA 241 4.2).
- Only approved heating devices in temporary structures (NFPA 241 4.2.3).
- Fire resistant/retardant/non-combustible construction, securely fastened, in temporary structures (NFPA 241 4.3)
- One fire extinguisher minimum, of appropriate type in temporary structures < 50 ft. travel distance.

Flammable and combustible liquids as factors in building construction fire safety are regulated by the following:

- California Fire Code Section 3305 (Paragraphs 1 through 6) of CFC Chapter 33 (Fire Safety During Construction and Demolition)
 - Paragraphs 1 and 2 require compliance with Section 5704 and 5706.2 of the CFC respectively. Paragraphs 3 through 6 are requirements that have been listed in the sections above.
- California Fire Code Chapter 57 – Flammable and Combustible Liquids
- California Fire Code Chapter 58 – Flammable Gases and Flammable Cryogenic Fluids
- NFPA 30, Flammable and Combustible Liquids Code
- Liquids are divided into Combustible and Flammable by Class as shown in the figure below. Flash point measures the liquid temperature required to ignite the liquid with a flame over the liquid surface. Liquids without a fire point or that do not sustain combustion are exempt as is oil burning equipment which falls under Section 603.



CFC 2019 Chapter 57 (Flammable and Combustible Liquids)

While storage and dispensing of liquids on construction sites must follow the provisions of Sections 5701, 5703, 5704, 5705, Section 5706 covers “Special Operations” which include storage and dispensing of flammable and combustible liquids on construction sites in paragraphs 5706.2.1 through 5706.2.8.

This section provides the following:

- Storage sites kept free from combustible material and no flames or smoking in flammable or combustible liquid storage areas.
- Tanks and containers conspicuously marked with the name of the product and bear the words FLAMMABLE - KEEP FIRE AND FLAME AWAY. Tanks shall also bear the marking KEEP 50 FEET FROM BUILDINGS.
- Containers for Class I and II liquids must be in accordance with DOT requirements or of an approved design. No development of internal pressure, pumping devices shall not leak and be well maintained, Individual containers shall not be interconnected and kept closed when not in use (see point of final use below). Class I and II liquid tanks and equipment/containers being filled shall be kept outside and not less than 50 ft. from buildings and combustible storage.
 - The definition of “approved container” varies in several relevant code documents but NFPA 30 (Section 3.3.7) provides the following:

Chapter 33 of the CFC highlights the concept of “point of final use” (Section 3305.5). NFPA 241 also identifies “point of final use” (Section 5.5.2) where both documents require “approved safety containers”. NFPA 30 (Section 18.4.1) provides an allowance for storage in containers near point of use of an amount necessary to supply a period of 24 hours. Section 5.1.4 of NFPA 241 (addressing Thermit Welding) and Section 7.5.2 of NFPA 51B (addressing Hot Work) also identify special (reduced) protection requirements for storage of 1 days’ worth of material near “point of use”.

- Section 5704.3.2.1 of NFPA 30 below (which falls under the section for chemical storage on construction sites) provides additional requirements for cabinets where chemicals are stored where the code requires such cabinets. The unlisted requirements of Section 5704.3.2.1.1 (1) may be met by a metal cabinet.
- Tank volume for Class I and II liquids limited to 1,100 gallons for permanent tanks and 10,000 gallons for temporary tanks. Fill openings shall have a locking closure device and be separate from vent openings. Tanks shall also have an emergency vent that does not result in localized overheating or flame impingement on the tank during venting.
- Tanks shall have top openings or be elevated for gravity discharge. Tanks with top openings stabilized on metal or timber block frames for stability. Pumps and fittings tightly and permanently attached with an anti-siphon device and padlock for security. Gravity discharge tanks shall be well supported for load and stability. Bottom or end openings shall have a heat activated shut off device and a manual shut off device.
- Indoor storage and dispensing areas shall be provided with spill and drainage control (specified in Section 5703.4), outdoor requirements specified in Section 5704.2.10.
- Portable fire extinguishers with a minimum rating of 20-B:C shall be provided where required by the fire official.
- Dispensing fuel from tank vehicles, with a specific function of dispensing fuel, into motor vehicles or special equipment must be equipped with a hose not greater than 100 ft in length with an approved dispensing nozzle, on an approved reel or compartment, operated by trained and designated personnel, with provisions for controlling and mitigating unauthorized discharges. Signs prohibiting smoking within 25 ft. posted on the vehicle, dispensing greater than 50 ft. from structures or combustible storage.
- Section 5704.3 provides requirements for storage of liquids for maintenance and operation of equipment. Quantities of flammable and combustible liquids in excess of 10 gallons for these uses shall be stored in liquid storage cabinets. Quantities not exceeding 10 gallons are allowed to be stored outside of a cabinet when in approved containers in approved locations. Liquid storage cabinets are to be listed according to UL 1275 or constructed according to specifications given in Section 5704.3.2.1.1.

Site Security

- 311.2 Safeguarding vacant premises. Temporarily unoccupied buildings, structures, premises or portions thereof shall be secured and protected in accordance with Sections 311.2.1 through 311.2.3.
- 311.2.1 Security. Exterior and interior openings accessible to other tenants or unauthorized persons shall be boarded, locked, blocked or otherwise protected to prevent entry by unauthorized individuals. The fire code official is authorized to placard, post signs, erect barrier tape or take similar measures as necessary to secure public safety.