

Global Response R5: Wildfire Protection and Evacuation

Overview

The Fire Protection Plan (FPP) discloses that the project site is located within a Very High Fire Hazard Severity Zone (VHFHSZ). Specifically, page 2 states that “code compliance is an important component of the requirements of this FPP, given the project site’s wildland/urban interface (WUI) location that is within an area statutorily designated as a Very High Fire Hazard Severity Zone by CAL FIRE (FRAP 2015).” Due to its location in a VHFHSZ, the Proposed Project is required to provide for a specified level of planning, ignition resistant construction, access, water availability, fuel modification, and construction materials and methods that have been developed specifically to allow safe development within these areas. Due to the Project Area’s location within a VHFHSZ, a Fire Protection Plan (Draft EIR, Appendix C-21), The Otay Ranch Resort Village Fire Protection Plan (Recirculated EIR, Appendix D-21), and The Fire Protection Plan Supplemental Analysis Otay Ranch Resort Village 13 – Alternative H have been prepared for the Proposed Project.

The San Diego County Fire Authority (SDCFA) has reviewed the Proposed Project’s Fire Protection Plan and accepted it on October 2, 2018. The Conceptual Wildland Fire Evacuation Plan was reviewed and input was provided in September 2018 by SDCFA. SDCFA does not “accept” evacuation plans. Collectively, the Fire Protection Plan and Wildland Fire Evacuation Plan address several important aspects, including fire history, fire behavior modeling based on site vegetation and climate, project design, compliance with applicable fire codes, and emergency evacuation. The Conceptual Wildland Fire Evacuation Plan is not required to be recirculated with the Draft EIR. It has been prepared based on direction from the County and will be included as a supplemental document for consideration by the Board of Supervisors.

As described in Appendix C-21 and D-21, the proposed Project and Alternative H will provide infrastructure that will assist fire response teams and evacuation efforts. The structures within the proposed Project or any of its alternatives will be built using the latest ignition-resistant construction methods and materials, and will include interior, automatic fire sprinklers consistent with the fire codes. Further, fuel modification will occur on perimeter edges adjacent to open space/conservation areas, and throughout the interior of the proposed Project or its alternatives. In addition, the proposed Project or its alternatives would include:

1. A Construction FPP would be prepared, detailing the important construction-phase restrictions and fire safety requirements to be implemented to reduce risk of ignitions and plans for responding to any potential ignitions.
2. Buildings would be constructed of ignition-resistant materials based on the latest building and fire codes.
3. Fuel Modification Zones (FMZ) will be provided throughout the perimeter of the project site and would be 100 feet wide, including the rear yard areas as part of the fuel modified

zone. Maintenance will occur as required, and the homeowner’s association (HOA) will annually hire a third-party, SDCFA-approved FMZ inspector to provide annual certification that fuel modification meets the FPP requirements. As noted in the FPP, landscaping within the FMZ will adhere to specific plant palette requirements.

4. The proposed Project and Alternative H both include a public safety site which would house a permanent SDCFA facility to reduce response times for medical and fire emergencies within the project site.
5. Fire apparatus access roads would be provided throughout the community, varying in width and configuration, but would all provide at least the minimum required unobstructed travel lanes, lengths, turnouts, turnarounds, and clearances required by the applicable code.
6. Firefighting staging areas and temporary refuge areas would be available throughout the development, as well as along roadways and project area green spaces so that firefighters will be able to stage operations and seek temporary refuge from wildfire, if necessary.
7. A site-specific, conceptual evacuation plan has been prepared for the Alternative H and included input and review from SDCFA.

The Recirculated EIR, Appendix D-21, Table 7 provides required fire safety features and Table 8, Project Design Features: Code Exceeding or Alternative Materials and Methods Fire Safety, provide the following list of “examples” of how the Proposed Project meets or exceeds code requirements:

**Table 7
Code-Required Fire Safety Features**

Feature No.	Features Description
1	Ignition-Resistant Construction. Proposed Alternative H buildings would be constructed of ignition-resistant construction materials based on the latest Building and Fire Codes.
2	Interior Fire Sprinklers. All structures over 500 square feet would include interior fire sprinkler system per occupancy type.
3	Fuel Modification Zones – Resort Village. Provided throughout the perimeter of the Development Footprint and would be up to 100 feet wide, including the rear yard areas as part of the modified zone. Maintenance would occur as needed, and the HOA would annually hire a third party, SDCFA-approved, FMZ inspector to provide annual certification that it meets the requirements of this FPP. As noted in the FPP, landscaping within the FMZ will adhere to specific plant palette requirements.
4	Roadside Fuel Modification Zones. Roadside FMZs would be consistent with the code for Resort Village. FMZ width would be 20 feet on either side of all proposed Alternative H roads. As noted in the FPP, landscaping within the FMZ will adhere to specific plant palette requirements.
6	Fire Apparatus Access. Provided throughout the community and would vary in width and configuration, but would all provide at least the minimum required unobstructed travel lanes, lengths, turnouts, turnarounds, and clearances required by the applicable code.
7	Firefighting Improvements. Firefighting staging areas and temporary refuge areas are available throughout the proposed Alternative H’s developed areas and along roadways and HOA open space.
8	Water Availability. Water capacity and delivery would provide for a reliable water source for operations and during emergencies requiring extended fire flow.

Table 7
Code-Required Fire Safety Features

Feature No.	Features Description
9	Alternative H area Fire Station. Emergency response travel time consistent with the San Diego County General Plan requirement for the proposed Alternative H would be provided by a Alternative H Area fire station. Travel times to all portions of Alternative H Area would be within General Plan standards, less than 5 minutes.

Table 8
Code Exceeding or Alternative Materials and Methods Fire Safety Measures

Measure No.	Code Exceeding or Alternative Material or Method Measure
1	Construction Fire Prevention Plan. Details the important construction phase restrictions and fire safety requirements that would be implemented to reduce risk of ignitions and pre-plans for responding to an unlikely ignition.
2	Community Evacuation Plan. A proposed Alternative H-specific evacuation plan would be prepared for Alternative H and would include input and review with SDCFA. (Code Exceeding)
3	HOA Wildfire Education and Outreach. The Community HOA would include an outreach and educational role to coordinate with SDCFA, oversee landscape committee enforcement of fire safe landscaping, ensure fire safety measures detailed in this FPP have been implemented, and educate residents on and prepare facility-wide "Ready, Set, Go!" plans. (Code Exceeding)
4	Heat Deflecting Landscape Walls. Walls would be provided for 22 lots around the perimeter of the Vernal Pool Preserve Open Space Area (OS Lot E) to provide additional fire protection and to enhance structure setback from open space area.
5	Fuel Modification Zone Third-Party Inspections. Annual FMZ inspections would be funded by the HOA and conducted by a qualified third-party consultant to certify that Alternative H's FMZs are maintained.
6	Trail Maintenance. Provided trails would include ongoing maintenance of flammable vegetation, not including alongside trails. (Code Exceeding)

As determined by the Draft EIR, Section 2.6.2.5 Exposure to Wildland Fires, on page 2.6-24,

“As stated above, the Project would be constructed in compliance with all applicable fire codes, the applicant has caused an FPP to be prepared and compliance with the FPP would be assured during building permit review by the FAHJ and San Diego County Fire Authority, and an on-site temporary and permanent fire station would ensure compliance with emergency travel time requirement. As a result, the Project would have **a less than significant impact** due to wildfires.”

Fire Service Provision

The proposed Project and Alternative H will provide a new fire station for SDCFA, which will be centrally located within the project area and be capable of meeting the travel time requirements of the County General Plan. As outlined in the Fire Protection and Mitigation Term Sheet with the San Diego County Fire Authority, an interim fire station, capable of providing full-service fire, medical, and other emergency response, will be constructed on the

proposed public safety site prior to the first occupancy permit for the first Final Map and will provide fire and emergency medical services within the required five-minute travel time. The new permanent fire station will be constructed prior to the 650th home being constructed within the project area. Funding for the ongoing staffing and maintenance of both the interim and permanent fire stations will be established through a Community Facilities District or other funding mechanism approved by the County.

The station is anticipated to house a Type I structural fire engine with Advanced Life Support (ALS) capabilities and is anticipated to be staffed with three CAL FIRE firefighters and a SDCFA reserve firefighter.

The County General Plan Safety Policy S-6.4 requires that new development demonstrate that fire services can be provided which meet the minimum travel times identified in Table S-1 (Travel Time Standards from Closest Fire Station) in the General Plan. The travel time standards are based on Land Use Designations. This is separate from total response time and assumes call processing times and turnout/reflex times meet typical averages. Travel time is the most appropriate portion of the total response time to focus on because this, in large part, determines the geographic distribution of fire stations.

SDCFA calculates travel time using the formula found in the National Fire Protection Association (NFPA) 1142 Standard. The travel time formula in this standard is essentially the same as the ISO travel time formula except that the NFPA formula allows for the input of different speed constants. The formula was developed from a study that was conducted by the Rand Corporation and is a nationally-recognized method of determining travel time for fire apparatus. The formula contains a friction coefficient that accounts for acceleration/ deceleration and other impedances such as intersections etc.

Based on the proposed Land Use Designations for the proposed Project and its alternatives, the travel time standard of 5 minutes is applicable to Village 13. In addition to meeting the needs of the project site, the new fire station location would enable a more rapid response to any fires that occur east of the project site as well.

Modeling analysis was conducted using Network Analyst tools within Geographic Information Systems (GIS) software, road data files, and Project development plan data. Response travel speed for this analysis was held constant at 35 mph, consistent with the Insurance Services Office (ISO) Public Protection Classification Program's Response Time Standard. This average speed has been validated for ISO as still being applicable as a predictive tool and considers average terrain, average traffic, weather, and slowing down for intersections. While the Resort Village circulation systems include certain traffic calming tools to improve pedestrian safety, a 35 mph response travel speed is considered appropriate because the Resort Village street sections comply with fire access travel width requirements. The Network Analyst tool generated the

travel times from the proposed fire station locations (temporary and permanent) to the furthest parcels in the project site.

Pursuant to Section 4.4.2 of the Fire Protection Plan (Appendix C-21 to the Draft EIR and Appendix D-21 to the Recirculated EIR) all habitable structures regardless of occupancy classification, building type or use, will be equipped with an automatic fire sprinkler system in accordance with the appropriate National Fire Protection Association (NFPA) Standard. This requirement is specifically intended to improve firefighter and public safety, minimize fire damage, and limit environmental impacts.

In addition, SDCFA has executed an intergovernmental agreement that provides funding for additional staffing and a 103' Quint Aerial Ladder Truck that is located at the existing SDCFA Jamul Fire Station (FS 36). This apparatus is staffed with four CAL FIRE firefighters with ALS capabilities and is in addition to the existing Type I structural fire engine that is assigned to this station with a separate crew of three CAL FIRE firefighters with ALS capabilities that cross-staff a Heavy Rescue Unit and a Type VI apparatus. Total SDCFA staffing at FS 36 is seven CAL FIRE firefighters. Additionally, through a cooperative agreement, FS 36 also houses two U.S. Fish and Wildlife Service (USFWS) Type III wildland fire engines staffed with four career USFWS firefighters each and there is an ALS transport ambulance from Mercy Ambulance at this fire station also. Total combined staffing at FS 36 is 17 emergency personnel.

The SDCFA Otay fire station (FS 38) has a 105' Quint Aerial Truck Company that is staffed with 4 CAL FIRE career firefighters with ALS capabilities and there is also a Type I reserve structural fire engine at this station. A separate developer agreement in the Otay Mesa area will also fund additional career staffing for the Type I structural fire engine at FS 38 which will consist of 3 career CAL FIRE firefighters with ALS capabilities and one SDCFA reserve firefighter. The SDCFA Deerhorn Valley fire station (FS 37) has a Type I structural fire engine and is staffed with 2 CAL FIRE career firefighters with ALS capabilities and 1-2 SDCFA reserve firefighters. Lastly, the County has an Amador Agreement to fund staffing at CAL FIRE FS 30 located in Dulzura and, as a result, this station is staffed with three CAL FIRE career firefighters that respond on a Type III wildland interface fire engine throughout the year.

All of these assets will be available to support fire and emergency responses in the Proposed Project and surrounding areas in accordance with the SDCFA Fire Master Plan.

In summary, with the additional staffing and equipment located in the newly constructed Fire Station in the Proposed Project, the SDCFA would be able to meet the travel time standards in the County General Plan Safety Element. This, combined with the previously mentioned additional and strategically positioned existing resources and the inclusion of project design features designed to improve firefighter and public safety, are sufficient to provide appropriate emergency fire and Emergency Medical Service (EMS) services to the Proposed Project.

Wildfire Evacuation

As to emergency access, the Conceptual Wildland Fire Evacuation Plan (WFEP) for the proposed Project and Alternative H was prepared in coordination with the County of San Diego, and does not conflict with existing evacuation and pre-plans. The Conceptual Wildland Fire Evacuation Plan was prepared based on the Unified San Diego County Emergency Services Organization and County of San Diego Operational Area Emergency Operations Plan – Evacuation Annex. It also incorporates key information from the Jamul and Dulzura Community Protection Plans.

The Conceptual Wildland Fire Evacuation Plan identifies the Proposed Project’s evacuation road network, noting that evacuations are fluid events and that actual conditions, fire location, spread rates will determine the appropriate evacuation or temporary refuge directions provided by law enforcement. The primary ingress/egress route is:

Egress to the east via Otay Lakes Road – Otay Lakes Road will be improved along the ORRV frontage with widening and additional travel lanes. The road will not be improved to the east of the site, but the existing two lane Otay Lakes Road intersects SR-94 approximately 5.5 miles east of the ORRV. From this intersection, one could travel north to Jamul and developed cities of Lemon Grove, El Cajon and the greater San Diego area. Traveling south on SR-94 passes through Dulzura, Barrett Junction, Potrero and eventually Campo.

- a. **Potential Wildland Fire Exposure Rating: High.** Wildfire exposure along any of the routes to the east of the ORRV or north/south on available roads connecting with Otay Lakes Road as described above, is potentially high. The travel routes pass through wildland areas with native, unmaintained fuels. Evacuations to the east would likely not occur during a wind driven wildfire from that direction, but the route is available to fire response personnel and would be appropriate for some types of emergency situations requiring evacuation.

Egress to the west via Otay Lakes Road – the widened Otay Lakes Road offers travel to the west into Chula Vista. Otay Lakes Road will include 4 lanes, offering emergency managers options for decreasing evacuation times by designating additional west-bound lanes, as necessary. Numerous options to the west, north, and south are available off Otay Lakes Road and its connector roads, including Lake Crest Drive/Olympic Parkway, Hunte Parkway, Eastlake Parkway, 125 Expressway, and 805 freeway, amongst others. Evacuation travel direction would be event specific and law enforcement directed.

- a. **Potential Wildland Fire Exposure Rating: Low to Moderate.** Wildfire exposure along Otay Lakes Road is considered low with the exception of an approximately one mile stretch just west of the ORRV development footprint that is adjacent to undeveloped land dominated by annual grassland, which has an exposure rating of

moderate. The remainder of the evacuation routes travel through managed and maintained landscapes with low exposure rating.

Under the evacuation Otay Lakes scenario, 100% of the Proposed Project’s evacuating vehicles would travel west on roads to Chula Vista. The contingency option provided by the Project’s ignition resistant structures and landscapes is that of temporary refuge on site. This option would be available to emergency managers/law enforcement and could be implemented if they determine it is safer than a late evacuation.

Intersections with competing traffic are a primary factor for slowing down evacuations. There are no such intersections with Otay Lakes Road from the Project Area west until developed areas in Chula Vista. Law enforcement and emergency responders would control intersections as part of a pre-planned protocol. Therefore, Otay Lakes Road is considered appropriate for evacuation in this area.

These scenarios are described below:

First Evacuation Scenario:

Based on the factors and assumptions previously detailed regarding neighborhood evacuation routes, and incorporating standard pre-evacuation timeframes, it is estimated that the 4,600 vehicles anticipated to use Otay Lakes Road at Strada Piazza (minimum capacity of 3,018 vehicles/hour) to the improved Otay Lakes Road (at Wueste Road) with four total lanes (3,800vehicles/hour), to SR-125 (4,200 vehicles/hour), can be evacuated to urban Chula Vista within a conservatively calculated 1.5-hour travel time. The total evacuation time is approximately 2 to 2.5 hours, including a safety factor to allow for potential impedances/delays of an additional 30 to 60 minutes. This timeframe equates to the last vehicle from the Project, with the majority of vehicles requiring much less time. Based on large fire scenarios where Santa Ana conditions are pushing a wildfire from the north/northeast toward the project, evacuations would follow the Ready, Set, Go! model which includes evacuating early. As a contingency available to emergency managers, the ability to temporarily refuge residents and firefighters on site in protected buildings is available if it is determined to be safer than a late evacuation.

The Conceptual Wildland Fire Evacuation Plan also provides that “fire and law enforcement officials will identify evacuation points before evacuation routes are announced to the public. Evacuation routes are determined based on the location and extent of the incident and include as many pre-designated transportation routes as possible.” (Section 4.1) However, emergency personnel may determine that a mass evacuation of the Proposed Project would result in vehicles on roadways that would be less safe than residents remaining on site in protected homes, the school, or other designated areas. This contingency plan to temporarily shelter people on site would alleviate the reliance on Otay Lakes Road to evacuate all residents when there may not be

enough time to do so. The Draft EIR determined that impacts related to Emergency Response Plans would be **less than significant**. (pg. 3.1.1-31)

Conclusion

Based on the Draft EIR and Recirculated EIR's evaluation, FPP, and CWFEP, the Alternative H would comply with all applicable fire codes, provide adequate emergency access routes and evacuation plans, and would not create any significant impacts to Wildfire Hazards or Emergency Response Plans.