

3.19 WILDFIRE

This section describes the environmental and regulatory setting for wildfires. It also describes existing conditions and potential impacts relative to wildfires that would result from implementation of the proposed project, and mitigation for potentially significant impacts, where feasible.

3.19.1 Environmental Setting

There are 39 fire departments providing fire protection to unincorporated communities and cities in the County including: one County Service Area; seven Community Service Districts; 18 FPDs, one Resort Improvement District, one city fire department, one Joint Powers Authority comprising a city and an FPD, and 12 fire companies in unincorporated towns not associated with local government agencies (including the Hoopa and Yurok Volunteer Fire Departments) that may be established pursuant to Sections 14825 through 14860 of the California Health and Safety Code (Humboldt County 2017c).

The project area is within the jurisdiction of the Humboldt Bay FPD (Humboldt #1 FPD and the City of Eureka Fire Department). The Humboldt Bay FPD has five fire stations which cover Myrtle town, Bayview, Humboldt Hill, Cutten, Freshwater, City of Eureka and College of the Redwoods. In responding to emergencies, local fire departments work closely with law enforcement, public utilities, and ambulance service providers. Fire departments and ambulance companies are dispatched to medical calls simultaneously (Humboldt County 2017c).

CAL FIRE maintains fire hazard severity zone maps for Local Responsibility Areas and SRAs. Fire hazard is a way to measure physical fire behavior so that people can predict the damage a fire is likely to cause. CAL FIRE analyzes potential fire hazard zones using the Fire and Resource Assessment Program, which takes into account fuels, terrain, weather, and other relevant factors. The project site is located in an SRA and a 'high' fire severity zone, and CAL FIRE is responsible for containment of wildland fires in the project area (CAL FIRE 2007). However, to receive fire protection services for any building or structure located within an SRA, CAL FIRE would have had to enter into a cooperative agreement with a local agency for those purposes pursuant to PRC Section 4142 (PRC Section 4136). However, CAL FIRE may provide, when available and to the extent that it does not require additional funds, rescue, first aid, and other emergency services to the public in SRAs (PRC Section 4114) (Humboldt County 2017c)

Additionally, according to the Draft EIR completed for the Humboldt County General Plan, the western half of Humboldt County (where the proposed project is located) has a shorter fire season than the eastern half of Humboldt County, because the western half of the County receives more rainfall, has a spring season that is wetter and cooler, temperatures in the eastern half of the County are much higher, and much of the precipitation received in the east is snow that falls during winter (Humboldt County 2017c).



3.19.2 Regulatory Setting

State

California Office of Emergency Services

The CAL EMA was incorporated into the Governor's Office on January 1, 2009 by AB 38 (Nava), and merged the duties, powers, purposes, and responsibilities of the California Governor's Office of Emergency Services (Cal OES) with those of the Governor's Office of Homeland Security. Cal OES is responsible for the coordination of overall state agency response to major disasters in support of local government. The agency is responsible for ensuring the state's readiness to respond to and recover from all hazards—natural, man-made, emergencies, and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts. The Cal OES Fire and Rescue Division coordinates statewide response of fire and rescue mutual aid resources to all types of emergencies, including hazardous materials. The Operations Section under the Fire and Rescue Division coordinates the California Fire and Rescue Mutual Aid System, and coordinated response through the Mutual Aid System includes responses to major fires, earthquakes, tsunamis, hazardous materials and other disasters.

Uniform Fire Code

The Uniform Fire Code contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The code contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, and include regulations for building standards (as also set forth in the California Building Standards Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

California Department of Forestry and Fire Protection

CAL FIRE protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. CAL FIRE's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires each year (CAL FIRE 2018).

The Office of the State Fire Marshal supports CAL FIRE's mission by focusing on fire prevention and provides support through a wide variety of fire safety responsibilities: regulating buildings in which people live, congregate, or are confined; controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; providing statewide direction for fire prevention in wildland areas; regulating hazardous liquid pipelines; reviewing regulations and building standards; and providing training and education in fire protection methods and responsibilities.



Local

Humboldt County General Plan

The Humboldt County General Plan, adopted October 23, 2017, contains several policies that directly pertain to wildfires, including the following:

Goal S-G1. Minimize Loss. Communities designed and built to minimize the potential for loss of life and property resulting from natural and manmade hazards.

Goal S-G2. Prevent Unnecessary Exposure. Areas of geologic instability, floodplains, tsunami run-up areas, high risk wildland fire areas, and airport areas planned and conditioned to prevent unnecessary exposure of people and property to risks of damage or injury.

Goal S-G4. Fire Risk and Loss. Development designed to reduce the risk of structural and wildland fires supported by fire protection services that minimize the potential for loss of life, property, and natural resources.

- **Policy S-P1: Reduce the Potential for Loss.** Plan land uses and regulate new development to reduce the potential for loss of life, injury, property damage, and economic and social dislocations resulting from natural and manmade hazards, including but not limited to, steep slopes, unstable soils areas, active earthquake faults, wildland fire risk areas, airport influence areas, military operating areas, flood plains, and tsunami run-up areas.
- **Policy S-P4: Disaster Response Plans.** The County shall prepare and maintain current disaster response plans. The County shall support and participate in the preparation of disaster response plans by community organizations, companies, cities, and state and federal agencies.
- **Policy S-P18: Subdivision Design in High and Very High Fire Hazard Zones.** Subdivisions within State Responsibility Area (SRA) high and very high fire severity classification areas shall explicitly consider designs and layout to reduce wildfire hazards and improve defensibility; for example, through clustering of lots in defensible areas, irrigated green belts, water storage, perimeter roads, roadway layout and design, slope development constraints, fuel modification plans, and vegetation setbacks.
- **Policy S-P19: Conformance with State Responsibility Areas (SRA) Fire Safe Regulations.** Development shall conform to Humboldt County SRA Fire Safe Regulations.
- **Policy S-P26: Protection of Native Plants.** The County shall promote fire-safe practices that encourage conservation and use of native plants and native plant ecosystems, while protecting citizens, firefighters, and property.
- **Policy S-P27: Alternative Owner Builder High and Very High Fire Severity Zones.** Alternative Owner Builder (AOB) permits for construction of new dwellings in high and very high fire severity zones shall be required to comply with the materials and construction methods for exterior wildfire exposures of the California Residential Code (CRC) and chapter 7-A of the California Building Code (CBC) as amended, unless the construction materials can be found to be in substantial conformance with the California Building Codes by the Humboldt County Building Official.
- **Policy FR-P20: Fire Safety Hazards.** The County Shall continue to implement the State Responsibility Area Fire Safe Standards and Wildland-Urban Interface Building Codes for new development and support voluntary programs for fuels reduction, dwelling fire protection, and creation of defensible space for existing development.



Additionally, the following standard from the Humboldt County General Plan would apply to the proposed project:

- **Standard FR-S2. Forest land-Residential Interface (FRI)**
 - Require new residential subdivisions adjacent to [timber production zones (TPZ)] and public forest lands to include forested buffers and building setbacks between residential uses and adjacent timberlands to minimize use conflicts and safety hazards and, if necessary, require fire breaks around all or a portion of the development in consultation with CAL FIRE.
 - For residential development, require compliance with fire safe standards, and ongoing fire protection management programs developed by qualified experts.
 - For residential development in high and very high fire severity zones, require the establishment and maintenance of fire breaks and open space adjacent to forest lands, consistent with CALFIRE recommendations, and ongoing fire protection management programs developed by qualified experts to ensure defensible space.

Humboldt County Code

Title III, Land Use and Development Division 11 - Fire Safe Regulations are standards as authorized by PRC Section 4290 relating to the future design and construction of structures, subdivisions, and developments in SRAs. These standards include provisions for basic emergency access and perimeter wildlife protection measures, signing and building number requirements, and private water supply reserve requirements for emergency fire use.

Humboldt County Community Wildfire Protection Plan

The Humboldt County Community Wildfire Protection Plan (CWPP), which supersedes the 2006 Master Fire Protection Plan, is overseen by the Humboldt County Fire Safe Council. The CWPP is a plan for the community to prioritize fuel reduction projects and recommend measures to reduce ignitability of structures within the County. The CWPP was recently updated and certified in 2019 (Humboldt County 2019). Based on a review of the CWPP, a portion of the project site immediately south of Redwood Fields Park is located in the Risk/Hazard Area. The project site is also within a community-identified proposed project indicated as the Wildfire Urban Interface fuel break area.

3.19.3 Methodology for Analysis

This analysis of impacts of the proposed project on wildfire hazards is based on a review of CAL FIRE's Fire Hazard Severity Zone map for the County (CAL FIRE 2007), the Humboldt County General Plan Update Revised Draft EIR (Humboldt County 2017c), the Humboldt County General Plan (Humboldt County 2017a), and the CWPP (Humboldt County 2019).

3.19.4 Thresholds of Significance

The CEQA Guidelines' Appendix G Environmental Checklist was assessed during the NOP scoping process to identify the proposed project components that have the potential to cause a significant impact. The following thresholds of significance were used to determine if further evaluation within this EIR was warranted to ascertain the following:



- If located in or near state responsibility areas or lands classified as very high fire severity zones, would the project:
 - Substantially impair an adopted emergency response plan or emergency evacuation plan. [Refer to Section 3.9, Hazards and Hazardous Materials]
 - Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
 - Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
 - Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The proposed water storage tank would not result in any wildfire risk and is not discussed further.

3.19.5 Project Impact Analysis and Mitigation Measures

This section analyzes the proposed project's potential to result in significant impacts relative to wildfires. When a potential impact was determined to be potentially significant, feasible mitigation measures were identified to reduce or avoid that impact.

Exacerbate Wildfire Risks

Impact WF-1: The proposed project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Impact Analysis

Wildfires may potentially occur in timberland areas adjacent to the project site or on the undeveloped open space areas on-site. The proposed project would include conversion of 81 acres to suburban development with designated landscaping and recreational areas. As discussed in Section 3.7, Geology and Soils, the proposed project area has varying slopes, which could be subject to shallow to deep-seated land sliding, depending on exact location within the project area (SHN Engineers & Geologists 2017). Based on a review of the CWPP, the proposed project site is located in a Fire Regime¹, which means a natural fire return interval is between 0 and 35 years, which is considered a low severity fire. In addition, a majority of the site has been moderately altered from its historical range of fires. Areas considered at moderate departure from the natural fire regime are susceptible to dramatic increases in fire behavior, intensity, severity, and fire size frequency (Humboldt County 2019). Consequently, the majority of the project site is in an area with higher likelihood of fire. Additionally, according to the CARB Woodley Island wind monitoring station (the closest wind monitoring station to the project site), wind generally flows in a northwest direction through the area with some lesser winds blowing in a south eastern direction (CARB 2020). The strongest winds in the area can reach up to 20 to 25 mph and occur

¹ Fire regime is a description of fire's historic natural occurrence, variability, and influence on vegetation dynamics in the landscape. Fire regimes can provide information for fire planning, as they describe the frequency of fire and the effects a fire is expected to have on a particular area's vegetation. Generally based on fire history reconstructions, fire regime descriptions include the season, frequency, severity, size, and spatial distribution of fires (Humboldt County 2019).



toward the northwest and southeast (CARB 2020). These strong wind patterns and direction could further exacerbate the wildfire risk to the occupants in the project area and the surrounding community. Further, an overhead high voltage PG&E power line crosses the proposed development site along the trajectory of Redwood Street in the east-west direction. The CWPP identifies the high voltage power lines as potential incendiary wildfire ignition sources. While 40-foot easements would be implemented on both sides of the power lines, the lines themselves are not planned to be placed underground and would continue to pose a risk to the site in an event of wildfire.

In the event of a wildfire in the project area, all the conditions described above could potentially further the spread of wildfire risk and expose future occupants to pollutant concentrations from wildfires or the uncontrolled spread of wildfire. As discussed in Section 3.7, Geology and Soils, implementation of MM GEO-1, Conduct Site-Specific Geotechnical investigations, would be required and would ensure that individual lot sites are not located on substantial slopes that would put structures at risk due to slope instability. In addition, CAL FIRE's Wildland-Urban Interface building code regulations would be imposed in accordance with state law that requires that homeowners clear flammable vegetation within 30 feet of buildings and modify vegetation within 100 feet around buildings to create a defensible space for firefighters to safely protect their homes. In addition, the structures would be built with ignition-resistant materials, which would diminish ember intrusion.

The CWPP also assesses the risk of wildfire impacts and provides recommendations to reduce risk. As noted in the CWPP, the proposed project is located in an area that is identified as a priority area within the Humboldt Bay Planning Unit for fuels reduction and potential Firewise® programs. Activities might include creating defensible space, roadside clearance, chipper programs, and/or landscape treatments, as well as education and assistance for addressing structural ignitability through home hardening and evacuation preparedness. Considering the project site is located in a High Fire Severity Zone and is susceptible to wildfire, MM WF-1 would be required that would ensure that safety measures are put in place in accordance with CAL FIRE and County regulations. Specific measures that the Fire Safety Management Plan would implement to reduce the potential risk of exacerbating wildfire risk would include (but would not be limited to): design measures to limit the potential for structures to catch fire (e.g., inclusion of fire-resistant building materials and plants); installation of clearly visible address numbers that are displayed in contrasting colors; identification of helicopter landing zones (if feasible); and identification of specific evacuation routes. These measures would help fire personnel efficiently and effectively evacuate residents in the project area in the event of a wildfire. However, the current site plan does not provide a 100-foot defensible space as required by both CAL FIRE and the Humboldt Bay FPD. The CWPP also recommends managing fuels for at least 100 feet of defensible space (Humboldt County 2019) that would provide suppression personnel the option to deploy their resources to defend the homes. Since the current site plan does not provide the 100-foot defensible space, the Applicant and the County are considering a mutual agreement to allow for 70 feet of defensible space on the adjacent McKay Community Forest, with 30 feet of defensible space on the project site. Alternatively, the current site plan could be redesigned to provide the 100-foot defensible space on-site. MM WF-2 would require that the Applicant either redesign the site plan as Option 1 or enter into a mutual agreement with the County as Option 2. The proposed project would require the implementation of both MM WF-1 and MM WF-2. However, there is uncertainty regarding actual implementation of MM WF-2. As such, impacts due to wildfire would remain significant and unavoidable even with mitigation.

Level of Significance Before Mitigation

Potentially Significant Impact.



Mitigation Measures

MM WF-1: Prepare and Implement a Fire Safety Management Plan: Consistent with the Humboldt County General Plan Standard FR-S2, Forest land-Residential Interface (FRI) and pursuant to Section 4142 of the Public Resources Code (PRC), the Applicant shall consult with California Department of Forestry and Fire Protection (CAL FIRE) prior to permit approval for the proposed project. The Applicant shall prepare a Fire Safety Management Plan that is subject to review and approval by the Humboldt County Planning & Building Department in consultation with CAL FIRE and shall be implemented throughout the lifetime of project operations. The scope of the plan shall apply to all property, buildings, structures, operations, and facilities associated with the project. The plan shall include, but is not limited, to the following:

- Specific evacuation routes through the proposed project area and through the larger community;
- Specifications for fire resistant building materials and fire-resistant plants that are strategically planted to resist the spread of fire around residences and other structures;
- Installation of address numbers that are displayed in contrasting colors (4 inches minimum in size) and readable from the street or access road, pursuant to California Fire Code Section 505.1;
- Any identified helicopter landing zones if feasible; and
- Suitable areas for the installation and maintenance of wildland fire control features such as fire hydrants. If streets end into a cul-de-sac, fire hydrants shall be installed at the beginning of the street.
- Clearly identifiable street names.
- Homeowner awareness program as to importance of annual maintenance of defensible space fuel modification measures.

Preparation of the Fire Safety Management Plan will ensure that structures built within the State Responsibility Area (SRA) will meet code requirements and adequate fire safety measures and project features are incorporated into project design. The building permit required for the proposed project shall not be issued until CAL FIRE and Humboldt Bay Fire Department approve the Fire Safety Management Plan.

MM WF-2: Wildfire 100-foot Defensible Space: Prior to filing a map, the Applicant shall do either of the following:

- Option 1 - Revise the site plan prior to final tentative map submittal to demonstrate that a 100-foot buffer is provided on-site. The Applicant shall submit the revised site plan to the Humboldt Bay Fire Protection District (FPD) for approval and provide proof of approval to the County Planning Director.



- Option 2 - The Applicant shall enter into a Memorandum of Agreement (MOA) with the County for provision of 70 feet of defensible space off-site (or as determined by the County, but minimum of 100-foot total) on the County-owned McKay Community Forest. The Applicant shall be subject to any entitlements or environmental review required for the off-site improvements prior to construction permit for the proposed project. The MOA shall clearly identify roles and responsibilities regarding maintenance of the defensible space.

MM GEO-1 would also be required.

Level of Significance After Mitigation

Significant and Unavoidable Impact.

Associated Infrastructure

Impact WF-2: The proposed project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

Impact Analysis

The proposed project would require the installation of roads, fuel breaks, emergency water sources, power lines, and other utilities. Construction of all buildings associated with the proposed project would be constructed with fire-resistant building materials, as specified in the California Building Standards Code and California Fire Code. The proposed project would include two entrance/exit points into the area. Additionally, fire hydrants would be placed throughout the new development at the entrance of each cul-de-sac street, in accordance with local regulations and Humboldt Bay FDP, which would connect to the existing HCS D water system. The proposed project includes construction of an off-site water storage tank and is expected to have adequate water supplies for fire suppression with implementation of the MM UTIL-1, Water Supply and Storage Study. However, the current site plan does not provide a 100-foot defensible space as required by both CAL FIRE and the Humboldt Bay FPD along the southern and eastern project boundary. MM WF-1 would include safety measures that would be put in place in accordance with CAL FIRE and County regulations; however, because the current site plan does not account for the 100-foot defensible space buffer, compliance with these regulations may not be feasible as the project is currently proposed. Therefore, impacts due to wildfire would remain significant and unavoidable, even with implementation of MM WF-1, MM WF-2, and MM UTIL-1.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

MM WF-1, MM WF-2, and MM UTIL-1 would be required.

Level of Significance After Mitigation

Significant and Unavoidable Impact.



Expose People or Structures

Impact WF-3: The proposed project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Impact Analysis

The project would result in an increase in new population and structures on a site that is topographically steep, includes areas at risk for landslides, and is located at the wildfire urban interface. The proposed project would be constructed in accordance with federal, state, and local regulations related to structure stability, location, and drainage. The development associated with the proposed project would include largely compacted areas with fire-resistant landscaping and building materials. Additionally, as discussed in Section 3.7, Geology and Soils, the proposed project area has varying slopes, which could be subject to shallow to deep-seated land sliding, specifically on Lots 79 to 84, 87, and 88 (SHN Engineers & Geologists 2017). As discussed in Section 3.7, Geology and Soils, implementation of MM GEO-1, Conduct Site-Specific Geotechnical investigations, would ensure that individual lot sites are not located on substantial slopes that would put structures at risk and adequate setbacks would be provided to prevent landslides. In addition to adequate setbacks, as noted in Impact WF-1, a 100-foot defensible space is also required in order to conform with CAL FIRE, Humboldt Bay FPD, and CWPP regulations. However, the current site plan does not provide a 100-foot defensible space; therefore, in the event of a wildfire, without adequate defensible space and buffers, post-fire instability could result in a significant impact on the new population and structures. This impact would, therefore, be significant and unavoidable, even after implementation of MMs WF-1, WF-2, and GEO-1.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

MM WF-1, MM WF-2, and MM GEO-1 would be required.

Level of Significance After Mitigation

Significant and Unavoidable Impact.

Wildland Fires

Impact WF-4: The proposed project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Impact Analysis

Construction activities have the potential to result in accidental on-site fires by exposing combustible materials (e.g., wood, plastics, sawdust, coverings and coatings) to fire risk from machinery equipment sparks and exposed electrical lines, and chemical reactions in combustible materials and coatings. Given the nature of construction activities and the work requirements of construction personnel, Occupational Safety and Health Administration (OSHA) has developed safety and health provisions for implementation during construction, which are set forth in 29 CFR, Part No. 1926. In accordance with these regulations, construction managers and personnel would be trained in emergency response and fire safety operations, which include the monitoring and management of life safety systems and facilities, such as those set forth in the Safety and Health Regulations for Construction established by OSHA. Additionally,



in accordance with OSHA provisions, fire suppression equipment (e.g., fire extinguishers) specific to construction would be maintained on-site. Proposed project construction would also occur in compliance with all federal, state, and local requirements concerning the handling, disposal, use, and management of hazardous materials. Therefore, compliance with regulatory requirements would effectively reduce the potential for proposed project construction activities to expose people to the risk of fire or explosion related to hazardous materials and non-hazardous combustible materials. The construction impact would be less than significant.

As discussed in the environmental setting of this section, the proposed project is located in an SRA with a high fire severity rating. The project area is surrounded by forest lands and would include the conversion of existing forest lands to residential and commercial use. As such, due to the close proximity of these new residential and commercial units to forest land, and because of the high fire severity zone rating of the area, the potential to expose people and structures to risk from wildfires is high and could result in a potentially significant impact.

As discussed under Impact WF-1 above, consultation with CAL FIRE would be required to ensure that any structures built within the SRA are constructed in accordance with CAL FIRE's regulations for fire safety. MM WF-1, Prepare and Implement a Fire Safety Management Plan, would be required and would ensure that safety measures are put in place in accordance with CAL FIRE and County regulations. Specific measures that the Fire Safety Management Plan would implement to reduce the potential risk of exacerbating wildfire risk would include (but would not be limited to): design measures to limit the potential for structures to catch fire (e.g., inclusion of fire-resistant building materials and plants); installation of clearly visible address numbers that are displayed in contrasting colors; identification of helicopter landing zones (if feasible); and identification of specific evacuation routes. These measures would help fire personnel efficiently and effectively evacuate residents in the project area in the event of a wildfire. However, the current site plan does not provide a 100-foot defensible space as required by CAL FIRE, Humboldt Bay FPD, and CWPP along the southern and eastern project boundary. The proposed project would require the implementation of both MM WF-1 and MM WF-2. However, there is uncertainty regarding actual implementation of MM WF-2. Therefore, impacts due to wildfire would remain significant and unavoidable even with mitigation.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

MM WF-1 and MM WF-2 would be required.

Level of Significance After Mitigation

Significant and Unavoidable Impact.

