3.14 Wildfire

3.14.1 Study Area

For the purpose of this Section, the Study Area includes the Project Site and adjoining properties that could feasibly be impacted should a wildfire occur within the Project Site.

3.14.2 Setting

The Project Site is located in a local responsibility area (LRA) meaning that it is in an area where local governments have financial responsibility for wildland fire protection (CalFire 2021). The Project is located approximately 2.3 miles from the nearest Federal Responsibility Area (FRA) and 3.7 miles from the nearest State Responsibility Areas (SRA). A portion of the Project Site is classified as having a “Moderate” fire hazard severity, which is the lowest category of fire hazard severity; the majority of the Project Site has no fire hazard ranking categorization (Humboldt County 2020).

Vegetation acts as the main source of fuel for a potential wildfire. Areas with limited vegetation have a lower risk for wildfires to occur, therefore areas near open spaces may be more likely to experience a wildfire. Climate conditions such as wind, temperature, and humidity are all factors generally used to predict fire behavior. Wind increases flammability of fuels by removing moisture through evaporation. During a wildfire, wind can carry embers, increasing the fire’s range. Higher temperatures and low humidity are also indicative of higher fire risk, increasing flammability of vegetation. Topographic features such as slope and overall landforms, effect fire behavior, specifically its intensity, direction, and rate of spread. Fires in flat or gently sloping areas tend to burn slower. Existing hydrology can also have an impact, as streams and rivers tend to channel winds, which can accelerate the fire’s speed and direction. The presence of large hydrological features tends to increase humidity and can make it more resistant to the effects of fire (Humboldt County 2019a).

3.14.3 Regulatory Framework

Federal

The federal government is responsible for responding to wildfires that are on federal lands. The Department of the Interior (DOI) manages wildfire response for more than 400 million acres of national parks, wildlife refuges and preserves, other public lands and Indian reservations. The U.S. Forest Service (USFS) carries out wildfire management and response across the 193 million acres of the National Forest System. The Samoa Dunes Recreation Area, located three miles southwest of the Project Site, is managed by the Bureau of Land Management (BLM) and is in the Federal Responsibility Area.

State

California Department of Forestry and Fire Protection (Cal Fire)

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 responded to 9,069 wildfire incidents in 2020, which burned a total of 4,193,364 acres (Cal Fire 2020).

Pursuant to Public Resources Code (PRC) Sections 4201-4204 and Government Code Sections 51175-89, Cal Fire has created Fire Hazard Severity Zone (FHSZ) maps for the state that identify areas that are within state or local responsibility areas for preventing or suppressing fires. These maps identify areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. The FHSZ zones then define the application of various mitigation strategies to reduce risks associated with wildland fires. SRAs were originally mapped by Cal Fire in 1985 and LRAs in 1996. Within SRAs, the Director of Cal Fire has designated areas as moderate, high and very high fire hazard severity

zones. (PRC Section 4202.) Outside of SRAs, but within LRAs the Director of Cal Fire was charged with recommending the locations of very high fire hazard severity zones (VHFHSZ). (Government Code Section 51178.)

State of California Emergency Response Plan

California has developed the State of California Emergency Response Plan to coordinate emergency services provided by federal, state, and local government agencies. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies such as local fire and police agencies, emergency medical providers, California Highway Patrol (CHP), the CDFW and Caltrans (CGOES 2017).

California Public Resources Code

The California Public Resources Code (PRC) sets forth fire safety regulations that include the following:

– Earthmoving and portable equipment with internal combustion engines must be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC Section 4442).
– On days when a burning permit is required, flammable materials must be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor must maintain the appropriate fire suppression equipment (PRC Section 4427).
– On days when a burning permit is required, portable tools powered by gasoline-fuelled internal combustion engines must not be used within 25 feet of any flammable materials (PRC Section 4431).

Local

Humboldt County Operation Plan

The Humboldt County Emergency Operation Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in or affecting Humboldt County (Humboldt County 2015). The Federal Emergency Management Agency (FEMA) approved the Humboldt Operational Area Hazard Mitigation Plan on March 20, 2014. The EOP addresses integration and coordination with other governmental levels when required. The EOP accomplishes the following:

– Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting Humboldt County.
– Identifies the policies, responsibilities, and procedures required to protect the health and safety of Humboldt County communities, public and private property, and the environmental effects of natural and technological emergencies and disasters.
– Establishes the operational concepts and procedures associated with field response to emergencies, County Emergency Operations Center (EOC) activities, and the recovery process.

Humboldt County Community Wildfire Protection Plan

The Humboldt County Community Wildfire Protection Plan (CWPP) serves as the guiding document for the work of the Humboldt County Fire Safe Council. It is a planning tool to help secure funding for numerous projects that have helped residents and community groups prepare for the impacts of wildfire. The CWPP contains six goal areas:

1. Wildfire Ignition Prevention: Reduce human-caused wildfire ignitions;
2. Wildfire Preparedness: Increase community resilience and adaptation to wildfire;
3. Disaster Preparedness: Increase resident’s ability to effectively prepare for and survive wildfire;
4. Fire Protection: Support fire protection for people, property, communities, and natural resources;
5. Restoration of Beneficial Fire: Restore beneficial fire at the landscape level;
6. Integrated Planning: Maximize integration of planning efforts to improve community; and ecosystem resilience to wildfire.

The CWPP breaks the county down into 14 planning units in order to gain community feedback and to create individual plans relevant to the particular community, of which the Humboldt Bay is a planning unit. This unit covers all areas within the greater Humboldt Bay Area. The Humboldt Bay Area Plan (Plan) identifies community assets and values at risk, the wildfire environment, fire protection capabilities, evacuation, community preparedness, wildfire prevention plans, community identified potential projects, and an action plan. The Plan states that evacuation routes within the Humboldt Bay Planning Unit will depend on the location of the community at risk and law enforcement recommendations based on fire behavior, wind patterns, traffic, and ingress of emergency vehicles (Humboldt County 2019a). Evacuation from within this unit will take place traveling either north along Highway 255.

A Fire Safe Council (FSC) is a public and private organization that comprise a council intended to minimize the potential for wildfire damage to communities and homeowners, while also protecting the health of natural resources. The Firewise Communities/USA Recognition Program teaches people living in the Wildland Urban Interface (WUI) how to adapt to living with wildfire by preparing for a fire before it occurs. This program empowers communities with tools and resources for reducing their wildfire risk and encourages neighbors to work together to take action to minimize losses from wildfire. In 2002, the Humboldt County Board of Supervisors formed the Humboldt County FSC, which produced the CWPP discussed above (Humboldt County 2019b). No local fire safe councils (FSC) or recognized Firewise communities exist within the Humboldt Bay Planning Unit.

Local Coastal Program - Humboldt Bay Area Plan (HBAP)

There are no applicable policies in the Humboldt Bay Area Plan pertaining to wildfire.

3.14.4 Evaluation Criteria and Thresholds of Significance

Evaluation Criteria	Significance Thresholds	Sources
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:		
Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?	Result in the inability to carry out the Humboldt County Emergency Operations Plan or the Humboldt County Community Wildfire Protection Plan.	CEQA Guidelines Appendix G, Checklist Item XX (a) Humboldt County Emergency Operations Plan
Would the Project 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?	Placement of pollutant materials within an area vulnerable to prevailing winds, or upslope of Project occupants	CEQA Guidelines Appendix G, Checklist Item XX (b)
Would the Project 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?	Installation or maintenance of infrastructure that could exacerbate fire risk	CEQA Guidelines Appendix G, Checklist Item XX (c)
Would the Project 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?	Substantial modifications to the drainage and downslope pathway existing the Project Area.	CEQA Guidelines Appendix G, Checklist Item XX (d)

3.14.5 Methodology

Potential impacts in this section are evaluated based on the potential for the proposed Project to affect the implementation of an adopted emergency response or evacuation plan, expose Project occupants to pollutant concentrations, install infrastructure that could exacerbate fire risk, or expose people or structures to significant risks as a result of runoff, post-fire instability, or drainage changes during construction or operation, as indicated in the thresholds above.

3.14.6 Impacts and Mitigation Measures

Impact WF-a: Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan? (No Impact)

Terrestrial Development

As described in Section 3.8 (Hazards and Hazardous Conditions), a review of the Humboldt County Emergency Operations Plan (Humboldt County 2015) and the Tsunami Inundation Map for Emergency Planning – County of Humboldt (CGS 2020) indicates that the proposed Terrestrial Development component would not impair emergency response activities nor established evacuation routes. The relevant Tsunami Evacuation Route in this instance would be New Navy Base Road, allowing for evacuees to leave the Samoa Peninsula. The Terrestrial Development component would not block or alter any roads or pedestrian ways within the Project vicinity during construction or operation. No impact would result.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Ocean Discharge

As described in Section 3.8 (Hazards and Hazardous Conditions), the Ocean Discharge component of the Project would not conflict with the Humboldt County Operational Area Hazard Mitigation Plan or the Humboldt County Emergency Operations Plan, as the Ocean Discharge outfall outlet is located approximately 1.5 miles off-shore within the Pacific Ocean and therefore, not obstruct implementation of either plan. No impact would result.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Humboldt Bay Water Intakes

As described in Section 3.8 (Hazards and Hazardous Conditions), the Humboldt Bay Water Intakes component of the Project would not conflict with the Humboldt County Operational Area Hazard Mitigation Plan or the Humboldt County Emergency Operations Plan. Construction of the Humboldt Bay Water Intake structures and associated pipelines would be implemented outside of existing roadways and established evacuation routes. Therefore, no impact during the construction phase would occur.

During the operational phase, the majority of the Humboldt Bay Water Intake component would be located underground or under water. No roadways or established evacuation routes would be impaired or blocked that would interfere with adopted emergency response or evacuation plans. Therefore, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Compensatory Off-Site Restoration

As described in Section 3.8 (Hazards and Hazardous Conditions), the Compensatory Off-Site Restoration component would not conflict with the Humboldt County Operational Area Hazard Mitigation Plan or the Humboldt County Emergency Operations Plan. Implementation of the restoration component would be located outside of existing roadways and established evacuation routes. Therefore, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact WF-b: 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? (Less than Significant)

Terrestrial Development

The Terrestrial Development Site is surrounded by grass and shrub vegetation on approximately 80% of its perimeter and is generally flat. These grasses and shrubs could be susceptible to wildfire during construction or operation of the Terrestrial Development component, as a result of accidental ignition. Small grass fires occur regularly on the Samoa Peninsula, though the destruction of structures resulting from such fires is rare as they are typically extinguished quickly. Because of the large amount of surface paving (25.9 acres of the 35.6-acre lease area (Appendix H)), including internal circulatory roads, there are few instances where vegetation is located immediately adjacent to existing or proposed structures. In addition, dune restoration as required in the RMP would result in removal of European beach grass and other biomass, reducing the risk of grassland dune fires in restored dune environments and in limited areas around the proposed facilities. Hazardous materials located on-site during construction would be minimal and stored according to state and local regulations. The operational phase would store approximately 50,000 gallons of diesel in underground tanks.. Low Sulphur diesel fuel would be supplied by two new 25,000 gallon double walled fiberglass underground storage tanks (UST). Typical double walled fiberglass USTs of this size are approximately 10 feet 6 inches outside diameter, approximately 40 feet in length. They are mounted to a concrete ballast pad or anchor designed to ensure that the tank remains seated regardless of the level of fuel in the tank and regardless the height of the groundwater outside the tank. Sea level rise and associated groundwater increases will be considered in the design of the concrete ballast. The USTs would be located under a paved area east of Building 5. The USTs would include associated piping that would provide primary and secondary containment and would be equipped with continuous vacuum, pressure, or hydrostatic (VPH) monitoring. The design and installation of the USTs would ensure that in the event of a tsunami there would be no release of fuel from the tanks. Tsunami mitigation would include anchoring and armoring the tanks, securing all ports with watertight locking hatches, and locating vents above the modeled inundation levels. Due to the location being underground it is unlikely that they would be released or ignited during a wildfire. All flammable chemicals would be stored in appropriate flammable cabinets or double walled containers and include the safety data sheets. The Terrestrial Development component would meet all applicable state/local fire codes and will be fully compliant in providing new on-site fire hydrants as required. Therefore, the resulting impact of pollutants released from the Terrestrial Development Site would be less than significant.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than Significant

Ocean Discharge

The Ocean Discharge component of the Project is already existing and is located within the Pacific Ocean. As such this component of the Project would not exacerbate wildfire risks. No impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: No Impact

Humboldt Bay Water Intakes

The area associated with the Humboldt Bay Water Intakes is generally located either underwater or within previous developed areas. There is a small amount of vegetation interspersed along the pipeline alignment that may be encountered during construction. However, once the component is implemented it would be largely underground or underwater. Therefore, it is not anticipated that the Humboldt Bay Water Intakes component would exacerbate wildfire risk. A less than significant impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than Significant

Compensatory Off-Site Restoration

The Compensatory Off-Site Restoration Component would remove piles at Kramer Dock within the Humboldt Bay waters and remove Spartina at a yet to be determined location. The restoration within the Humboldt Bay waters would not be affected or exacerbate wildfire risks. The removal of Spartina would further reduce available fuel and therefore reduce the wildfire risks in this location. Additionally, neither aspect of the Off-Site Restoration component would include storage or use of any pollutants or hazardous materials once implemented. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact WF-c: Would the Project 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? (Less than Significant)

Terrestrial Development

The Terrestrial Development would not result in a need to expand infrastructure to the Project Site. New roads for fire defense, expanded water sources, new power lines, or the development of other utilities would not be required. The Terrestrial Development Site is not forested and is not located in a remote area. The eastern portion of the proposed Terrestrial Development is bordered by the Humboldt Bay and as such pose no risk of fire. The local roads and New Navy Base Road serve as existing fuel brakes, as does the surrounding pavement and paved perimeter circulatory roads. The Terrestrial Development is serviced by industrial water supply via Humboldt Bay Municipal Water District and emergency water sources exist on-site. Modernization and upgrade of the existing electrical substation is planned to include expanding the total capacity of the switchyard to 35 MW to be utilized by NAFC and Harbor District RMT II operations. Connections to the new buildings would be made from the existing electrical switchyard located at the northwest portion of the former pulp mill site. Electrical utilities would be extended to the new building within multiple trenches or above-ground transmission lines. Electrical connections would extend from the existing switchyard to new transformer(s) to be installed in the switchyard adjacent to the new structures These upgrades would ultimately improve existing conditions of electrical utilities, and would not exacerbate fire risk. The impact would be less than significant.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than significant

Ocean Discharge

The Ocean Discharge component of the Project already exists and would simply be operated during the operational phase. No additional infrastructure would be required. Therefore, no impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: No Impact

Humboldt Bay Water Intakes

The Humboldt Bay Water Intakes component does include a fire suppression line. During construction, the presence of fuels and other fire accelerants would be present on-site; however, all required regulations and best management practices associated with handling and use of hazardous materials would be adhered to. Additionally, once constructed, the fire suppression pipeline and other aspects of this component would generally be located underground or underwater. Therefore, operation of the fire line would not exacerbate fire risk. The modernized pumps are the only aspect of this component that would be located above ground. They would be located on Redwood Marine Terminal I dock or Redwood Marine Terminal II dock. Access to either of these docks are currently existing, whereas the underground pipeline would not need to be accessed during the operational phase. No other infrastructure like water sources, power lines or other utilities would be required to operate this component. Therefore, a less than significant impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than Significant

Compensatory Off-Site Restoration

The Compensatory Off-Site Restoration component would seek to improve habitat value. No additional infrastructure would be installed or required. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact WF-d: Would the Project 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? (No Impact)

Terrestrial Development

The proposed Terrestrial Development would be located on a site with a very gentle slope (<2%) that poses no downstream flood or landslide risk. There is no tributary within the confines of the Terrestrial Development that would cause or contribute to post-fire flooding or subsequent erosion or mass wasting. The Terrestrial Development Site is and would continue to be largely covered in impervious surface that would not erode. The area surrounding the Project Site could be susceptible to a grassland fire. However, the facility would be protected by paved perimeter circulatory roads and on-site fire defense utilities required by building code, such as fire hydrants. In the event of a fire, post-fire slope instability or drainage changes would not occur, as the Project Site is nearly flat and does not include any natural drainages. No impact would result.

Mitigation Measures: No mitigation is necessary.

Level of Significance: No Impact

Ocean Discharge

The Project would utilize the existing Ocean Discharge infrastructure, which is located in the Pacific Ocean, approximately 1.5 miles off-shore. Therefore, this component of the Project would not 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. No impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: No Impact

Humboldt Bay Water Intakes

The Humboldt Bay Water Intakes component would modernize the existing Sea Chests. The new pumps and screening once installed would be located on the existing docks and partially underwater. The new pipelines would be located underground. No aspect of this component would be utilized for human occupancy. The pumps would be unaffected should the level of the Bay rise during a flood event. Likewise, the area surrounding the pumps is fairly flat and therefore not susceptible to risk of landslides. As the pumps would be located on the existing docks it is unlikely they would be affected by drainage changes. Additionally, as the pipelines associated with the Sea Chests would be located underground, they are not anticipated to be exposed to any risk associated with post-fire changes. No impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: No Impact

Compensatory Off-Site Restoration

The Compensatory Off-Site Restoration component would improve habitat within the broader Humboldt Bay Area. No aspect of this component would be utilized for human occupancy. Additionally, the restoration at Kramer Dock would be within the Humboldt Bay waters and therefore would not expose people or structures to significant risks as a result of runoff, post-fire instability, or drainage changes. The Spartina removal would remove a substantial portion of the invasive plants to allow for native plants to vegetate in a relatively flat area. This aspect would reduce the amount of fuel in the area, and would not be expected to alter drainage patterns or create instability that would result in landslides or on- or off-site flooding due to post-fire instability. Therefore, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

3.14.7 Cumulative Impacts

Impact WF-C-1: Would the Project contribute to a cumulatively significant impact to wildfire? (Less than Significant)

As discussed in above, the Project would have a less-than-significant impact associated with the exacerbation of wildfire risks. However, given the moderate fire risk at the Project Site, a grassland fire could occur at the Project Site. The other terrestrial-based projects identified in Table 3-1 could potentially similarly result in a grassland fire during construction or operation given the use of heavy machinery, construction equipment and presence of grassland and other vegetation in the vicinity. Cumulative projects would be subject to compliance with applicable regulations, including federal, state, and local regulations. Additionally, the Project and the cumulative projects would be served by the PCSD or equivalent Fire Department in the event of a grassland fire. The Project's contribution to cumulative impacts related to the exacerbation of wildfire risks would not be cumulatively considerable, and therefore less than significant.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than Significant.

3.14.8 References

California Governor's Office of Emergency Services (CGOES). 2017. State of California Emergency Plan. October.

CalFire. 2021. Fire Severity Zones. Available at: https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildfire-prevention-engineering/fire-hazard-severity-zones/#:~:text=Local%20Responsibility%20Areas%20(LRA)%20are,by%20CAL%20FIRE%20under%20contract.

CalFire. 2020. 2020 Incident Archive.

Humboldt County 2019a. Humboldt Bay Area Planning Unit Action Plan.

Humboldt County. 2015. County of Humboldt Emergency Operations Plan. March.