



Hayward Regional Shoreline Adaptation Master Plan

CEQA Guidelines Section 15262 Statutory Exemption Report

prepared by

City of Hayward

Development Services Department, Planning Division

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Table of Contents

Statutory Exemption Report.....	1
1. Introduction	1
2. Project Location and Description.....	1
3. Environmental Factors	4
A. Hydrology and Water Quality	4
B. Geology and Soils	7
C. Biological Resources.....	8
D. Cultural Resources	12
E. Hazardous Materials	13
F. Other CEQA Issue Areas	18
4. Eligibility for a Statutory Exemption	19
References	20

Figures

Figure 1 Project Location	2
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Statutory Exemption Report

1. Introduction

The City of Hayward proposes to adopt a statutory exemption under CEQA Guidelines Section 15262, Feasibility and Planning Studies, for the Hayward Regional Shoreline Adaptation Master Plan. Section 15262 states that a “project involving only feasibility or planning studies for possible future actions which the agency, board, or commission has not approved, adopted, or funded does not require the preparation of an EIR or Negative Declaration but does require consideration of environmental factors. This section does not apply to the adoption of a plan that will have a legally binding effect on later activities.”

This report serves as the supporting documentation for a statutory exemption under CEQA Guidelines Section 15262. The intent of the report is to assess the Master Plan’s eligibility for this statutory exemption and to provide a general overview of the environmental factors associated with the Master Plan area and the Plan’s ultimate implementation. The environmental factors discussion is based on a review of existing documents and databases; no field work was performed. The report concludes that the project is eligible for a statutory exemption under CEQA Guidelines Section 15262 for feasibility and planning studies.

2. Project Location and Description

The Hayward Regional Shoreline Adaptation Master Plan area is bounded on the north by Bockman Channel (also called the Bockman Canal) and extends approximately 3.25 miles south to the State Route 92 San Mateo Bridge approach. The extent of the Master Plan area into the Bay was defined by the outermost limit of the Hayward Area Shoreline Planning Agency (HASPA) Jurisdictional boundary, and the inland extent of the Master Plan area are drawn at the Union Pacific Rail Corridor. In total, the Master Plan area covers six square miles of various land uses, including open space, urban infrastructure, industrial, and residential. Figure 1 shows the Master Plan area boundaries.

The Master Plan creates a framework for resilience to prepare for sea level rise (SLR), groundwater intrusion, and storm surge. The Master Plan is being prepared by the Hayward Area Shoreline Planning Agency (HASPA), a joint power authority including the City of Hayward, Hayward Area Recreation and Park District (HARD), and East Bay Regional Park District (EBRPD).

The Master Plan area supports ecological Bayland resources, hosts recreational opportunities along the San Francisco Bay Trail, and facilitates educational programming for adjacent residential neighborhoods and businesses at the Hayward Shoreline Interpretive Center. The shoreline is also home to critical urban infrastructure, including wastewater treatment plants, the Hayward-San Mateo Bridge approach (State Route 92), and landfills. The Master Plan would develop various multi-benefit strategies for the shoreline, its existing infrastructure, and the surrounding natural habitat. The Master Plan considers multiple planning time horizons and sea level rise scenarios. It will also consider a range of adaptation strategies that can evolve and respond over time to changing sea levels.

City of Hayward
Hayward Regional Shoreline Adaptation Master Plan

Figure 1 Project Location



The Master Plan identifies the following overarching project goals:

- **Create a Resilient Shoreline Environment for People and Ecology**
 - Enhance the shoreline's ecological value and adapt to sea level rise
 - Enhance recreational opportunities and adapt to climate change
 - Create a management framework for adapting to sea level rise over time
 - Provide refuge to help endangered shoreline species to adapt climate change
- **Enhance the Shoreline Environment to Reduce Risk to Critical Infrastructure and Built Assets**
 - Align with and enhance existing management and capital improvement plans
 - Reduce risk to regional critical utilities from sea level rise, groundwater intrusion, and flood events
 - Reduce risk to transportation infrastructure from sea level rise, groundwater intrusion, and flood events
 - Reduce risk to agency assets such as the San Francisco Bay Trail and marsh restoration project(s)
- **Build Social Resilience in the Community**
 - Promote social equity, environmental justice, and public health
 - Preserve the local economy and increase resilience to climate change
 - Prevent the disruption of key community services
- **Build Capacity for Future Generations to Adapt to climate change**
 - Build organizational and community capacity
 - Provide a place for education, interpretation and understanding of the shoreline and climate change
 - Foster stewardship of the shoreline's cultural and ecological resources

Among other content, the Master Plan includes information on existing conditions in the Plan area, including a discussion of potential sea level rise and flood risk; adaptation strategies for the Plan area; design alternatives for potential projects in the Plan area; a vision for shoreline adaptation; and implementation considerations.

The Master Plan is a planning study and does not contain mandatory measures or amendments to adopted planning documents or regulations. Adoption of the Master Plan will not establish new policies and its adoption would not put in place or mandate actions that would result in a physical change to the environment.

The draft plan and associated plan and planning process information may be reviewed at <https://www.hayward-ca.gov/shoreline-master-plan>.

3. Environmental Factors

A. Hydrology and Water Quality

Methodology

The assessment of hydrology and water quality provided herein is based upon review of the draft Master Plan, the Preliminary Study of the Effect of Sea Level Rise on the Resources of the Hayward Shoreline (HASPA 2010), the Hayward Shoreline Resilience Study (San Francisco BCDC 2015), the City of Hayward 2040 General Plan Background Report (City of Hayward 2014), other readily available relevant published data and information, expert opinion, and familiarity with the region's conditions and setting.

Existing Setting

The existing environmental setting for hydrology and water quality as relevant to sea level rise in the Master Plan area is defined by manmade flood control features as well as the natural characteristics of subsurface groundwater systems and shoreline ocean behavior. The city of Hayward and the Bay Area in general are part of the San Francisco Bay/Sacramento-San Joaquin Delta system, and the city of Hayward overlies the Santa Clara Valley Groundwater Basin. The biggest watershed in the Master Plan area surrounds San Lorenzo Creek, which drains an area of approximately 44 square miles. Branches of San Lorenzo Creek include Crow, Cull, Castro Valley, Chabot, Eden, Palomares, and upper Sulphur Creeks. In addition, the Main Outlet Channel (Zone 3A, Line A) watershed encompasses an area of approximately 22 square miles including tributaries from Ward Creek (Line B), Zeile Creek (Line C), the area draining to the channel along Industrial Parkway West (Line D), and the Old Alameda Creek channel (Line A-1) (City of Hayward 2014). The Alameda County Flood Control and Water Conservation District also operates and maintains the Line E flood control channel, which extends parallel to the shoreline behind the tidal and muted marshes and managed ponds (San Francisco BCDC 2015). Most of these flood control channels do not provide flood protection beyond the current one percent chance annual water level (100-year flood event). There are no dams or open reservoirs within the city of Hayward (City of Hayward 2014).

The Master Plan area's current first line of defense against flood hazards consists of bayfront non-engineered berms, i.e., natural or organic berms, backed by restored tidal and muted marshes (wetlands dominated by herbaceous rather than woody plants) and managed ponds (detention basins). These features were not originally designed for the level of flood protection they are now providing; as a result, some berms have required reinforcement with riprap revetments, but are not appropriately maintained for flood protection, largely due to the complex regulatory setting and restrictive availability of funds (San Francisco BCDC 2015). The existing shoreline protection may function with current water levels in both the ocean and the subsurface; however, in their current condition they will be inundated with the progression of sea level rise (San Francisco BCDC 2015).

In addition to the channels and berms, existing infrastructure in the Master Plan area that characterize the local hydrology include the Oro Loma Wastewater Treatment Plant (Oro Loma WWTP) and the Hayward Water Pollution Control Facility (Hayward WPCF), both of which process wastewater from the city of Hayward. This treated wastewater is discharged into the East Bay Dischargers Authority (EBDA) pipeline except during storm events, when discharge from the Hayward WPCF relies on the Wastewater Wet Weather Storage ponds for water storage (HASPA 2010). The EBDA pipeline is a joint wastewater discharge system with a combined transport and

outfall pipe which runs through the Master Plan area, crossing tidal marshes, diked baylands, and industrial lands, and allowing treated effluent to enter a single pipeline that discharges dechlorinated treated wastewater effluent to the center of the Bay HASPA 2010). Under existing conditions, the Oro Loma WWTP, the Hayward WPCF, and the EBDA pipeline are all vulnerable to coastal and fluvial flooding as well as rising groundwater.

Flooding affects the Master Plan area in several different ways, including fluvial flooding, coastal storm surge, and backwater effects, all of which are exacerbated by sea level rise. Fluvial flooding occurs in response to excessive rainfall over an extended period of time which causes natural and manmade channels to exceed their capacity. Surface flooding is also caused by coastal storm surge, which refers to temporary increases in ocean water elevation due to low atmospheric pressure and wind effects; in other words, a storm's wind forces push ocean water onshore. In the Master Plan area, the extent of flooding is primarily determined by coastal storm surge and sea level rise, rather than rainfall-runoff flooding. In addition, backwater effects are also common in the Master Plan area, where an obstruction to water flow, such as a stormwater diversion structure or levee, causes a rise in water elevation upstream from the obstruction (HASPA 2010).

Groundwater present along the shoreline in the Master Plan area is typically unconfined, meaning it is not contained by impermeable boundaries, and rather it flows in the direction of least pressure. This indicates that over-pumping of groundwater resources along the shoreline can cause seawater intrusion to the local aquifer system, where seawater in the subsurface moves in the direction of lower pressure areas occurring at and near the site of groundwater pumping. Low-lying coastal areas are vulnerable to groundwater inundation, which can occur when seawater rise causes a rise in the local groundwater table elevation, which in turn causes groundwater to seep from the ground surface, resulting in surface inundation by groundwater resources. In addition, local groundwater elevation in the Master Plan area is generally higher than mean sea level, and fluctuates with daily tides; this suggests that as sea level rise continues, inland areas located at elevations below mean sea level may experience groundwater inundation, if underlying unconfined groundwater increases such that it is exposed to the surface in areas at or lower than sea level (HASPA 2020).

Environmental Considerations

The Master Plan area is low-lying and protected by ad hoc shoreline protection, requiring near-term maintenance and improvements, as well as long-term planning to improve shoreline resilience. Current vulnerabilities to sea level rise include aging flood control and conveyance infrastructure, insufficient stormwater conveyance capacity during wet weather events, potential damages to existing infrastructure and land uses from rising groundwater resulting from rising sea levels, reduced infrastructure access due to rising sea levels, and public health hazards as a result of infrastructure failure, including but not limited to potential groundwater plumes associated with former landfills within Hayward that will need to be protected from wave erosion and water infiltration (HASPA 2010).

In the short-term, individual asset managers should improve the resilience of infrastructure including through levee maintenance, drainage improvements, and emergency planning. In the long-term, future shoreline protection will require asset owners, managers, and applicable agency jurisdictions to work together to plan, permit, and fund projects. This will require inter-agency coordination including between shoreline managers such as the East Bay Regional Park District and other regional park districts, Alameda County Flood Control, and California Department of Fish and Wildlife (CDFW). These agencies will need to simultaneously maintain current structural shorelines, improve the resilience of existing natural areas, and plan for long-term, landscape-scale solutions to

improve flood protection in the study area, all the while maintaining habitat and recreation (San Francisco BCDC 2015).

As sea level rises, tidal marshes are predicted to convert to mudflat, while muted marshes and managed ponds will be more frequently inundated by flood waters. There are two critical components that allow marshes to persist as sea level rises: access to sediment to build tidal marshes up higher, and access to undeveloped high ground. Tidal marshes in many parts of the Bay do not currently have access to the sediment needed to naturally build them up higher. In addition, due to the heavily urbanized nature of much of the Bay shoreline, undeveloped, high ground is not often available in the width and height necessary to allow the natural process of marsh migration to occur. Drainage will also worsen in muted marshes and managed ponds over time, negatively impacting plants and wildlife that require specific water levels to thrive (San Francisco BCDC 2015).

Future planning and implementation of the Master Plan should consider conjunctive use management to address the connectivity of surface water and groundwater systems, in combination with the effects of sea level rise and storm surge effects. Groundwater levels in the Master Plan area will likely rise concurrent with sea level rise, due to the connectivity of these systems. The increased groundwater elevations could create new wetlands on the ground surface and could alter existing wetland areas by expanding them through changes in surface drainage patterns and saturated soil conditions, and/or by directly inundating the land surface. Surface flooding effects of rising groundwater in response to sea level rise are expected to be more pronounced at the coastline than further inland and are expected to be especially intense when high tide conditions coincide with large rainfall events (HASPA 2020).

In order to effectively address the potential for groundwater inundation, the extent and response of the coastal aquifers to sea level rise must be better understood, including as related to the following: proximity of the water table to the ground surface; local geology including distance of aquifers to the shoreline; local hydrology; and anthropogenic factors including groundwater extraction and recharge operations (HASPA 2020). Additionally, stormwater control and protection measures involving infiltration of surface flows to the subsurface will be affected by rising groundwater elevations, as higher groundwater elevations may render infiltration efforts ineffective. Detailed hydraulic and hydrologic analyses are underway by the Alameda County Flood Control and Water Conservation District, and results will likely be made available by the end of year 2020; it is anticipated the results of these analyses will inform long-range planning efforts to address the effects of sea level rise on surface flooding including as related to storm surge (HASPA 2020).

Wastewater treatment infrastructure in the Master Plan area is owned and maintained by multiple agencies that will need to work together in the event of a catastrophic failure of regional infrastructure. The EBDA pipeline joint Bay outfall, for example, will need to be replaced and/or substantially upgraded in the next few decades; EBDA may need to commit staff resources and funds to planning for its replacement in-kind or with another discharge system and is currently examining concept alternatives for decentralizing discharge facilities, many of which are vulnerable to sea level rise (HASPA 2010). Agencies and other affected parties include system customers, neighboring residents and landowners, regional park districts, Alameda County Flood Control and Water Conservation District, the City of Hayward, and South Bay Salt Ponds Restoration Project, in addition to regulatory agencies including but not limited to the CDFW, United States Fish and Wildlife Service, California Coastal Commission, and United States Army Corps of Engineers, as applicable (San Francisco BCDC 2015).

Implementation of the Master Plan will likely require numerous permits and a comprehensive environmental review process. This process will engage local, state, and federal agencies, many of

whom have been engaged throughout the process to lay the groundwork for the implementation of the Master Plan. Regulatory permits anticipated to be required relevant to hydrology and water quality are listed in the table below.

Regulatory/Resource Agency	Permit
United States Army Corps of Engineers	Clean Water Act Section 10, Letter of Permission; Section 404 Nationwide or Individual Permit Rivers and Harbors Act Section 10 authorization
San Francisco Bay Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification in support of Section 404 permit; and/or a Waste Discharge Requirement
San Francisco Bay Conservation and Development Commission	Major Permit

B. Geology and Soils

Methodology

The assessment of geology and soils provided herein is based upon desktop research including review of the draft Master Plan for the Hayward Area Shoreline Planning Agency (HASPA 2020), the Preliminary Study of the Effect of Sea Level Rise on the Resources of the Hayward Shoreline (HASPA 2010), the Hayward Shoreline Resilience Study (San Francisco Bay Conservation and Development Commission [BCDC] 2015), the City of Hayward 2040 General Plan Background Report (City of Hayward 2014), other readily available relevant published data and information, expert opinion, and familiarity with the region's conditions and setting.

Existing Conditions

Hayward is located within the seismically active San Francisco Bay region. Several major earthquake faults in the region are capable of generating strong earthquakes (magnitude of 6.0 or greater on the Richter scale). Major earthquake faults in the Bay Area include the San Andreas, Hayward, and Calaveras. The Hayward fault is defined as an "active" fault, which means it has shown evidence of fault rupture within the past 11,000 years, as defined by the California Department of Conservation. The Hayward fault traverses the city and is considered one of the most dangerous faults in the United States due to the following: high slip rate (about two inches every ten years); historical activity; and location through the urbanized San Francisco East Bay area (City of Hayward 2014).

The Master Plan area is characterized by intertidal wetland habitats of the South Bay that have evolved over the last 4,000 years, as gradually rising relative sea level inundated the gently sloping margins of the Bay. Tidal marshes have historically kept pace with rising relative sea level by sedimentation and the accumulation of organic material, such as peat, within marsh soils at about the elevation of the mean higher high water (HASPA 2010). The erosional platform, or the landforms created by long-term off-shore erosional processes, consists largely of cohesive sediments of buried ancient marsh, which are highly consolidated and covered by sand and shell in the more wave-exposed areas (HASPA 2010). Geologic materials beneath Hayward include bedrock, Bay Mud near estuarine areas, semi-consolidated and unconsolidated alluvium along streams and beneath flat-lying areas, colluvium on slopes derived from bedrock, and artificial fill along the Bay margins (City of Hayward 2014). The existing bayfront berms were largely constructed on poorly compacted Bay Mud of the estuary areas.

Most of the city of Hayward is located on Quaternary sedimentary deposits which are from the most recent geologic periods (i.e., Holocene, Pleistocene) dating back to 1.6 million years ago. Some of eastern Hayward is located on Mesozoic sedimentary rocks from the Mesozoic period dating back to 245 million years ago. Both types of geologic rocks may contain fossils of flora and fauna, particularly marine species (City of Hayward 2014).

Environmental Considerations

The existing bayfront berms were largely constructed on poorly compacted Bay Mud. As a result, there are limits to the effectiveness of raising the elevation of berms for flood protection related to sea level rise, because the Bay Mud is unable to support the additional weight of material required for raising berm crests. In addition, unlike much of the South Bay where salt ponds are being restored to tidal marsh, the Master Plan area already has tidal marsh, which could be adversely affected by new or expanded bayfront levees that affect sediment transport processes sustaining this existing marsh habitat (San Francisco BCDC 2015).

Providing shoreline resilience to sea level rise with respect to geologic conditions and constraints will require a thorough understanding of marsh and channel responses to sea level rise, so that infrastructure improvements or replacements may be appropriately sited and designed, including with respect to the characteristics of subsurface materials such as Bay Mud. Due to the seismically active nature of the Master Plan area, sea level rise resilience will also require consideration of potentially significant seismic events, such as along the Hayward fault, which could compromise the integrity of existing and planned infrastructure. In addition, future activities involving excavation should be monitored for the potential discovery of paleontological resources occurring as fossils in primarily undisturbed subsurface areas.

HASPA and its member agencies may have opportunities for long-term financing options to address geologic considerations. This may include the potential incorporation of private finance alongside federal and state funds for implementing the Hayward Shoreline Adaptation Master Plan. One such opportunity would be to work with the beneficiaries of the Master Plan's shoreline protections to create a new coastal Geologic Hazard Abatement District (GHAD) to directly finance elements of the Master Plan through property-based fees to address geologic hazards including flood and erosion risks, and to help stabilize property against these hazards, thereby protecting asset values (HASPA 2020).

C. Biological Resources

Methodology

A desktop analysis and review of previous studies was performed to determine existing biological conditions within the Plan Area. This review also discusses potential constraints associated with implementation of the proposed Master Plan related to sensitive biological resources within the Plan Area. Information on biological resources was compiled from a variety of publicly available sources including:

- Hayward Regional Shoreline Adaptation Master Plan (HASPA 2020)
- Preliminary Study of the Effect of Sea Level Rise on the Resources of the Hayward Shoreline (HASPA 2010);
- Hayward Shoreline Resilience Study (San Francisco Bay Conservation Development Commission [BCDC] 2015);

- Aerial imagery;
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2020);
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2020);
- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS 2020a);
- USFWS National Wetlands Inventory (NWI) (USFWS 2020b); and
- Hayward 2040 General Plan Environmental Impact Report, (City of Hayward 2014).

Existing Conditions

The Plan Area is a mosaic of Bayland environments that support diverse wildlife habitats. Formerly a zone of natural tidal marshes and salt flats, the stretch of shoreline where the Plan Area is located has undergone incremental transformations, resulting in the mix of restored tidal marshes, inactive industrial salt ponds, filtration marshes, storage ponds, diked wetlands, landfills, solar fields, and biosolids drying beds. Of these land cover types, restored tidal marsh is the dominant cover in the Plan Area. There are eight marshes contained within the Plan Area which offer flood protection and serve as stepping-stones between large, expansive blocks of marsh in the lower South Bay and North Bay.

Landfills are mainly concentrated in the center of the Plan Area where tidal Baylands were filled with unknown debris and waste. Generally, inactive salt ponds and freshwater wetlands are distributed throughout the Plan Area and contribute to habitat diversity. The Oliver Salt Ponds are inactive salt ponds located at the southern portion of the Plan Area that are historically known to support federally endangered species of birds.

Potentially Jurisdictional Features

The Plan Area contains several different types of potentially jurisdictional wetland features including estuarine and marine wetlands or deepwater, freshwater ponds, freshwater emergent wetlands, lakes, and channelized riverine features (USFWS 2020b). These features are subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act, Regional Water Quality Control Board (RWQCB) jurisdiction under Section 401 of the CWA and under Porter-Cologne Water Quality Control Act (Porter-Cologne), and California Department of Fish and Wildlife (CDFW) jurisdiction under the California Fish and Game Code (CFG) Section 1602, and the San Francisco Bay Conservation and Development Commission (BCDC) under the McAteer-Petris Act.

The predominant features include the large estuarine and marine wetlands which exist in several large marshes throughout the Plan Area. The Oro Loma Marsh is located at the northern boundary of the Plan Area, just south of the Bockman Channel, and is a 364-acre fully tidal marsh with seasonal wetlands and transitional upland that is managed for endangered species and the removal of non-native aquatic plants. Other features identified as estuarine and marine wetlands include Triangle Marsh, just south of the Alameda County Landfill which is an eight-acre muted tidal marsh targeted for enhancing shorebird habitat. The Cogswell Marsh is a 250-acre fully tidal marsh with islands for nesting wildlife that is also managed for invasive aquatic plants. Along the southern boundary of the Plan Area, Hard Marsh is a fully tidal marsh with mudflats and low marsh habitats. Further inland, the Salt Marsh Harvest Mouse Preserve is also a muted tidal marsh with seasonal wetlands and transitional uplands that provide refuge for mice during high tides.

Portions of the Plan Area are also identified as lake habitat including the majority of the Hayward Marsh as well as the diked ponds and storage/treatment ponds in the center of the Plan Area. The Hayward Marsh is considered a diked Bayland that serves as habitat for federally endangered species of waterfowl. Freshwater emergent wetland is also identified in the diked pond/wetland area just south of the Oro Loma Marsh, while freshwater ponds are mainly distributed in the area identified as the Oliver Salt Ponds. These features are also likely jurisdictional wetlands.

Special Status Species and Migratory and Nesting Birds

The Plan Area contains suitable habitat for special status plant and wildlife species. Resource agency databases report 12 special status plant species and 16 special status wildlife species with the potential to occur within the Plan Area (CDFW 2020; CNPS 2020; USFWS 2020a). Of these special status species, 10 are State and/or federally listed, including Contra Costa goldfields (*Lasthenia conjugens*), California seablite (*Suaeda californica*), western bumble bee (*Bombus occidentalis*), steelhead – central California coast distinct population segment (DPS; *Oncorhynchus mykiss irideus*), longfin smelt (*Spirinchus thaleichthys*), western snowy plover (*Charadrius alexandrinus nivosus*), California black rail (*Laterallus jamaicensis coturniculus*), California Ridgeway's rail (*Rallus obsoletus obsoletus*), California least tern (*Sternula antillarum browni*), and salt-marsh harvest mouse (*Reithrodontomys raviventris*). Non-listed special status species such as short-eared owl (*Asio flammeus*), northern harrier (*Circus hudsonius*), yellow rail (*Coturnicops noveboracensis*), white-tailed kit (*Elanus leucurus*), saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), Alameda song sparrow (*Melospiza melodia pusillula*), black skimmer (*Rynchops niger*), salt-marsh wandering shrew (*Sorex vagrans halicoetes*), and rare wetland and marsh associated plant species are also reported from the vicinity.

Migratory birds, covered under the California Fish and Game Code (CFGF) and Migratory Bird Treaty Act (MBTA), are known to occur and nest in the region of the Plan Area. Suitable nesting habitat is present for a variety of native birds.

Environmental Considerations

Special Status Plants

All of the 12 special status plant species identified from within the Plan Area have a moderate to high potential to occur in the Plan Area. Intertidal and shallow subtidal areas of the Plan area support the growth of several wetland or marsh species including the federally endangered California seablite, which has several known occurrences throughout the Plan Area. Congdon's tarplant, a special status plant species with a California Rare Plant Rank (CRPR) of 1B.1, has a high potential to occur in disturbed habitats of the Plan Area including the landfills, and has been documented in several locations throughout the Plan Area. The presence of sensitive marsh and wetlands habitats throughout the Plan area may indicate the presence of several other listed species; therefore, focused protocol botanical surveys, including reference site visits, conducted during the height of the blooming period would be necessary to determine presence or absence of plant species with any certainty.

Special Status Wildlife

The 16 special status wildlife species identified from within the Plan Area all have a moderate to high potential for occurrence based on current site conditions and availability of suitable habitat. The Plan Area is considered high quality habitat for several species of waterfowl. The California

Ridgeway's rail is known to nest and feed in tidal salt marshes. The Cogswell Marsh, Oro Loma Marsh, and Triangle Marsh all provide suitable habitats for California Ridgeway's rail to construct nests and feed. Additionally, two occurrences from 2006 were recorded within the Oro Loma Marsh and Cogswell Marsh portions of the Plan Area (CDFW 2020).

California least tern prefers sandy beaches, berms, and mudflats as typical habitats for nesting. Vegetative growth is cleared by the tides which allows least tern colonies to establish themselves. Elevated mounds appropriate for nesting have been established within Hayward Marsh to support the only California least tern colony in the South Bay. There is one CNDDDB occurrence from 2006 recorded within the Hayward Marsh area. Western snowy plovers forage in both wet and dry beach conditions, and nest above the high tide line on coastal beaches dunes, and salt pans. Less common habitats also include dry salt ponds. Within the Plan Area, snowy plover nests have been observed at the Oliver Salt Ponds as well as on elevated mounds within the Hayward Marsh (CDFW 2020).

The salt marsh harvest mouse lives within dense stands of pickleweed, where it can and climb to forage and nest. During high tides, the salt marsh harvest mouse must retreat to high ground or to mature marsh plant communities with high vegetative structure. Oro Loma Marsh, Cogswell Marsh, Triangle Marsh, and the Salt Marsh Harvest Mouse Preserve are habitats within the Plan Area that provide the range of marsh elevations needed for these small rodents. Additionally, several occurrences of salt marsh harvest mouse are recorded throughout the Plan Area (CDFW 2020).

Although the Master Plan would provide many beneficial impacts to native wildlife species that rely on the survival of wetlands for habitat, future construction activities may disturb wildlife or alter habitat features in some way. Therefore, a reconnaissance survey including further desktop analysis conducted by a qualified biologist would be necessary to identify State or federally listed species that would necessitate coordination with the appropriate regulatory agency (i.e., USFWS, NMFS, CDFW) to obtain regulatory permits, and implement avoidance and minimization measures prior to and during construction activities. This consultation may result in the requirement for incidental take permits (ITPs) from either the USFWS/NMFS or CDFW.

Jurisdictional Waters and Streambeds

Based on review of aerial imagery, online data, and the reconnaissance survey, regulated aquatic resources subject to the permitting authority of the USACE, RWQCB, and/or BCDC occur on the project site. Surface wetland or water features, including riparian vegetation community, subject to the authority of the CDFW are also present. More detailed analysis is needed to make a determination of potential agency jurisdiction over the low-lying areas and associated vegetation occurring on the project site. Agency jurisdiction is dependent on a number of physical factors, and a formal jurisdictional delineation is recommended. Preparation of a jurisdictional delineation report followed by consultation with the regulatory agencies is necessary to obtain a determination of jurisdiction. Based on the findings of the recommended delineation, permitting for impacts to wetlands and waters may be necessary under CWA Sections 401 and 404, Rivers and Harbors Act Section 10, the Porter-Cologne Act, CFGC Section 1602, and/or the McAteer-Petris Act.

Possible Permits Required

Implementation of the Master Plan would likely require numerous permits and may require a comprehensive environmental review process. This process would engage a variety of local, state, and federal agencies, many of whom have been engaged throughout the process, to lay the groundwork for the implementation of the plan.

In addition to the necessary environmental review, permits from a variety of regulatory/resource agencies would likely be required for elements of the Master Plan, as listed in the table below.

Regulatory/Resource Agency	Permit
U.S. Army Corps of Engineers (USACE)	Clean Water Act (CWA) Section 10, Letter of Permission; Section 404 Nationwide or Individual Permit Rivers and Harbors Act Section 10 authorization
San Francisco Bay Regional Water Quality Control Board (RWQCB)	CWA Section 401 Water Quality Certification in support of Section 404 permit; and/or a Waste Discharge Requirement (WDR)
Bay Conservation and Development Commission (BCDC)	Major Permit
U.S. Fish and Wildlife Service (USFWS)/NOAA Fisheries (NMFS)	Federal Endangered Species Act (ESA) Section 7 consultation, Biological Opinion, or Incidental Take Statement
California Department of Fish and Wildlife (CDFW)	California Endangered Species Act (CESA) compliance and coordination, Incidental Take Permit California Fish and Game Code (CDFG) Section 1602 Lake and Streambed Alteration Agreement

D. Cultural Resources

Methodology

This assessment of cultural resources factors for the Master plan includes desktop research, targeted local, state and national database searches, and a review of published reports and studies, including available environmental documentation from nearby projects. No fieldwork or tribal consultation was conducted nor was a search of the California Historical Resources Information System (CHRIS) completed. Rincon Consultants reviewed historic aerials, the City of Hayward General Plan, General Plan Environmental Impact Report and Background Report, and cultural resource records on file with Rincon Consultants from recent work in the area.

Existing Conditions

The city of Hayward is located in the ethnographic territory of the Ohlone (also known as the Costanoans) who occupied the central coast of California from the Monterey Bay area north to San Francisco and inland to the Diablo Range (City of Hayward 2013). The nearest known settlement documented by historic accounts was the village of Lisyan, located at the mouth of San Lorenzo Creek, roughly 0.5 mile north of the plan area. Settlements are known to have been located along the bay shore and nearby creeks and drainages. Permanent villages were typically surrounded by temporary camps used to exploit seasonal resources (City of Hayward 2013). The Plan Area is located along the bay shore, an area known to be sensitive for Native American-origin cultural resources. The village of Lisyan is thought to have been located roughly 0.5 mile north of the Plan Area near the mouth of San Lorenzo Creek. Ohlone villages were typically surrounded by temporary resource procurement camps, therefore it is possible that sites associated with Lisyan or other Native-American origin resources are located in the Plan Area. Based on these factors, the Plan Area is considered sensitive for Native-American origin archaeological resources. Historic-era use of the Plan Area, including operation of salt works, may have resulted in the presence of historic-period archaeological resources, such as refuse deposits. Thus, the Plan Area is considered moderately sensitive for historic-period archaeological resources

Historic-period cultural resources are known to be present within or near the project site, including salt ponds associated with the Oliver Salt Works and segments of the Union Pacific Railroad (UPRR). In the latter half of the nineteenth century, industry along the shoreline was shaped by several solar salt producers, who established plants with large evaporating ponds amid the bay's tidal marshes. John Johnson built the first of these near the community of Mt. Eden in 1853. Salt plants soon proliferated, and by the 1890s several operations run by families or small corporations existed in the area. Among these outfits was that of Swedish immigrant Andrew August Oliver, whose sons would later establish the Oliver Brothers Salt Company near the present location of the San Mateo-Hayward Bridge (Watt et al. n.d.; Anonymous 2020). The remnants of the of the Oliver Brothers plant have been determined eligible for the National Register of Historic Places and listed in the California Register of Historical Resources. Locally, the salt industry began to decline in the latter half of the twentieth century, as urban expansion led producers to sell their land for residential development and to permit public access to the shoreline (Watt et al. n.d.) According to historical topographic maps, there are structures over 50 years of age present within the Plan Area.

Environmental Considerations

Although the Plan Area is sensitive for archaeological resources and may contain historical resources, the City of Hayward General Plan and the City Historic Preservation ordinance contain policies intended to protect historical and archaeological resources and human remains. Implementation of projects included in the Master Plan would have to comply with these policies and existing regulations related to human remains.

E. Hazardous Materials

Methodology

A desktop analysis and review of previous studies was performed to determine existing hazardous material conditions within the Plan Area. This review also discusses potential constraints associated with implementation of the Hayward Regional Shoreline Adaptation Master Plan (Master Plan) related to hazardous materials within the Plan Area.

Information on hazardous materials was compiled from a variety of publicly available sources including:

- Hayward Regional Shoreline Adaptation Master Plan (HASPA, 2020)
- Hayward Shoreline Resilience Study (San Francisco Bay Conservation Development Commission [BCDC], 2015)
- Final Environmental Impact Report Hayward 2040 General Plan, (City of Hayward, May 2014)
- Draft Environmental Impact Report Hayward 2040 General Plan, (City of Hayward, February 2014)
- Preliminary Study of the Effect of Sea Level Rise on the Resources of the Hayward Shoreline (HASPA, 2010)
- Online Cortese List database review
- Hazardous materials release records available at State Water Resources Control Board's (SWRCB) online GeoTracker database
- Hazardous materials release records available at California Department of Toxic Substances Control's (DTSC) online EnviroStor database
- Online California Department of Resources Recycling and Recovery (CalRecycle) landfill database

- National Pipeline Mapping System (NPMS) online Public Map Viewer
- SWRCB's online per- and polyfluoroalkyl substances (PFAS) database

Existing Conditions

The following land uses are considered existing hazardous material conditions present within the Project Area: landfills, wastewater treatment, abandoned Shell Oil jet fuel pipeline, Union Pacific rail corridor and railroad spurs, industrial areas, and per- and polyfluoroalkyl substances (PFAS) sites. These land uses and associated impacts are described below.

Landfills

Several landfills are present within the Project Area and are typically comprised of former tidal Baylands that were filled in with unknown debris and waste. Although some of these landfills have reportedly been closed and are no longer in use for waste disposal, they were not constructed to withstand flooding, wave action, or groundwater inundation. Additionally, sea level rise and storm events may increase erosion along the landfills and create a public health and environmental hazard.

- Alameda County Landfill (located north of Hayward Landing Canal) – The Alameda County Landfill reportedly has a liner on the lower western and northern edges and is in the process of being capped. According to the CalRecycle online database, two landfills occupy this area the All Cities Landfill/KOFY Radio Site (4001 West Winton Ave.) which is actively accepting waste and the All Cities LF/KOFY Radio Site (4001 West Winton Ave.) which is closed (CalRecycle, 2020 and 2020a).
 - The online Geotracker website indicates that the Landfill is currently accepting clean fill to be used as a cap (GeoTracker, 2020a).
 - “The Site is a solid waste inactive landfill that ceased accepting waste in 1966. Since that time, on the order of 2.5 feet to 20 feet of inert debris engineered fill (IDEF) comprising of mostly fine grained soil, mixed with sand, gravel with up to 2-inch diameter natural rock has been placed on top of the wastes.” (GroundZone, July 2019).
 - Groundwater at the landfill has been impacted with hydrocarbons and VOCs (GroundZone, July 2019).
 - There is no leachate collection system operating at the landfill.
- West Winton Landfill (located south of Hayward Landing Canal) is also known as the Old West Winton Landfill (CalRecycle, 2020b).
 - The 2020 Operations and Maintenance Plan (SCS Engineers, 2020) indicates that the City landfill is reportedly capped with a low permeable lined layer and a vegetated layer on top.
 - Groundwater monitoring is conducted semi-annually and hydrocarbons as gasoline are present in the groundwater (SCS Engineers, 2020).
 - A leachate control system operates pneumatically at the landfill and consists of five leachate extraction wells installed in refuse fill. The leachate collection system discharges to the adjacent City of Hayward wastewater treatment plant (SCS Engineers, 2020).

Although the documents reviewed refer to Frank's Dump East (east of Alameda County Landfill) and Frank's West Buffers Landfill/Franks Dump West (west of Alameda County Landfill) (HASPA 2010), online documentation of landfills at these locations was not confirmed. Additional information

regarding these landfills was not available on the online Geotracker database nor the online CalRecycle database. City and County records may have more information regarding these two potential former dump locations.

Although preventing erosion and seepage from the landfills is planned for the landfill areas, it should be noted that these landfills are not fully lined or capped, groundwater and leachate are impacted, and groundwater/leachate can flow in, around and under the landfills. The impacted groundwater could migrate outside of the landfill boundaries with sea level rise, groundwater inundation, and/or tidal influence. This would create a public health and environmental hazard.

There are five main modes of failure at landfills in the Project Area (HASPA, 2010):

- Erosion and breaching of outboard levees by wind waves may allow erosion of the landfill itself.
- Overtopping of levees by wind waves will erode levee crests and back slopes.
- Overtopping and erosion of levees may impact integrity of the landfill drainage system.
- The landfill drainage system will become more difficult to drain as mean low water rises.
- Groundwater elevations are likely to rise which may change the flow paths of any contaminated water from the landfill.

As indicated in the Master Plan, the conditions of the cap and the contents of the landfills are largely unknown, and more data investigation and analysis are needed to understand how they may be impacted by erosion, coastal flooding, sea level rise, and groundwater emergence. Once this investigation has been done, design solutions and phasing for how to address these issues can be developed.

Wastewater Treatment

The Oro Loma Wastewater Treatment Plant and the Hayward Water Pollution Control Facility (WPCF) are located in the Project Area and they both process sewage. These facilities discharge into the north-south trending East Bay Dischargers Authority (EBDA) pipeline, but during storm events WPCF relies on the Wastewater Wet Weather Storage ponds for water storage. Both facilities also use selected baylands as drying beds for biosolids. These assets need proper protection to prevent health and environmental hazards.

- Biosolids Drying Beds
- Wastewater Wet Weather Storage Ponds (located west of Depot Road and northeast of Cogswell Marsh)
- East Bay Dischargers Authority Pipeline

The EBDA pipeline connects various wastewater treatment facilities, allowing treated effluent to enter a single pipeline that discharges into the center of the bay. This infrastructure runs through the Project Area, crossing tidal marshes, diked baylands, and industrial lands.

Current wastewater treatment vulnerabilities include aging infrastructure, insufficient capacity during wet weather events, potential damages from rising groundwater, reduced infrastructure access due to rising sea levels, and public health hazards as a result of infrastructure failure.

Although hazardous material impacts are not anticipated at the wastewater treatment facilities (including pipelines and ponds), SLR interruption of the water treatment operations would create unsanitary conditions in the Project Area.

SLR and/or groundwater inundation along the pipeline could disrupt the normal function of the pipeline, and thus the normal function of the wastewater treatment facilities, and potentially create a public health and environmental hazard.

Underground Pipelines

ABANDONED SHELL OIL JET FUEL PIPELINE

A permanently abandoned Bay Area Products buried hazardous materials pipeline is located in the project area. The abandoned jet fuel pipeline generally follows Depot Road through the Project Area to West Winton Avenue, then trends in a northwest direction through the Oro Loma Marsh, alongside the EBDA Pipeline and the power transmission lines. The pipeline abandonment procedures are unknown.

Since the pipeline is reportedly abandoned, future release of jet fuel is not anticipated. However, historical releases from the pipeline could create a public health and environmental hazard if SLR or groundwater inundation facilitates movement of the sub-surface contamination from the pipeline release area to other more sensitive locations within the Project Area.

NATURAL GAS PIPELINES

Active Pacific Gas and Electric buried natural gas transmission pipelines are present along the eastern boundary of the Project Area and along the east-west portion of Depot Road (connects to Calpine- Russell City Energy Center). Although operation of natural gas lines could be disrupted physical by SLR and groundwater inundation, a hazardous material release to soil and groundwater is not expected.

UNION PACIFIC RAIL CORRIDOR AND RAILROAD SPURS

The north-south trending railroad corridor and spurs are at risk of inundation when sea levels rise. The shallow soils located along railroad corridors are typically impacted with hazardous materials such as petroleum hydrocarbons, metals, naphthalene, poly-aromatic hydrocarbons (PAHs), and semi-volatile organic compounds (SVOCs). Therefore, SLR and/or groundwater inundation along the railroad corridor and spurs could mobilize these contaminants and create a public health and environmental hazard.

Industrial Areas

The industrial areas of Hayward are bordered by State Route 92 to the south, railroad tracks to the east, Oro Loma Marsh to the north, and Depot Road to the west. When sea levels rise, levees fail, and/or groundwater inundation occurs, the industrial areas of the Project Area may be overcome with water. Hazardous materials currently at use within these facilities or past soil/groundwater releases from these facilities could then impact the rising waters and create a public health and environmental hazard. SLR and/or groundwater inundation at known release sites (open or closed) or facilities where hazardous materials are utilized could mobilize soil and groundwater contaminants and create a public health and environmental hazard.

The online Geotracker and EnviroStor databases were reviewed and it appears that the following hazardous material sites are present in the Project Area:

- 2 Regional Water Quality Control Board (RWQCB) Land Disposal Sites
- 1 open RWQCB leaking underground storage tank (LUST) case

- 31 closed RWQCB LUST cases
- 8 open RWQCB Cleanup Program Sites
- 11 closed RWQCB Cleanup Program Sites
- 8 DTSC cleanup Sites

Some of the releases sites summarized above, may be listed in online databases more than once (listed in 2 or more databases). Additionally, seven of the sites listed above have one or more groundwater monitoring well onsite. There are also eight permitted, non-release underground storage tank (UST) sites located within the Project Area.

The Alameda County Department of Environmental Health (ACDEH) may also manage some release sites in the Project Area, however online database searches are not available for this resource.

PFAS

PFAS – LANDFILLS

In March 2019, the SWRCB issued a letters to landfill facilities (that have accepted, stored, or used materials that may contain PFAS) around the state that included a Water Code Section 13267 Order (Order). The Order requires groundwater and leachate sampling for per- and polyfluoroalkyl substances (PFAS) and preparation of a work plan to sample groundwater and leachate.

“PFAS compounds are ubiquitous in many consumer and industrial products (i.e., cosmetics, food packaging, carpeting, etc.). Municipal solid waste landfills do not manufacture or generate these compounds, but instead receive PFAS containing materials in their role as managers of consumer waste. PFAS studies completed nationwide indicate that PFAS compounds are prevalent in landfill leachate (SRWCB PFAS 2020).”

- *West Winton Landfill (Wood 2020)* - PFAS were detected in the leachate and groundwater at the West Winton Landfill, however, further recommendations were not included in the data submittal document that was submitted to SWRCB.
- *Alameda County Landfill* - SWRCB has not ordered PFAS groundwater testing at this landfill as the landfill is not believed to have accepted, stored, or used materials that may contain per- and polyfluoroalkyl substances (PFAS).

PFAS – CHROME PLATING

In 2019, the SWRCB issued California Water Code (CWC) Section 13267 and/or 13383 Investigative Orders to landfills, airports, and suspected chrome plating facilities across the State of California. This does not mean that PFAS has been produced, used, or discharged at these sites.

One site in the Project Area was identified as a plating facility subject to the investigative order - High Luster Metal Finishing at 2466 American Avenue, Unit C, Hayward, California. However, the High Luster Metal Finishing facility indicated that they have not used PFAS containing materials and RWQCB concurred that testing is not required at this time.

Environmental Considerations

Based on a review of the existing hazardous material conditions/land uses identified above, permitting and CEQA requirements may be necessary for implementation of the Master Plan (2020).

- **Landfills.** Redevelopment or mitigation activities at the landfill will require oversight by RWQCB and major land use changes would likely trigger CEQA.
- **Wastewater Treatment.** Major land use changes at the wastewater treatment facilities would likely trigger CEQA.
- **Pipeline.** Removal of abandoned pipelines or movement of active natural gas pipelines could trigger CEQA and should be completed with agency (DTSC, RWQCB, Federal Pipeline and Hazardous Materials Safety Administration (PHMSA), California Office of the State Fire Marshall, and/or CalGEM) oversight.
- **Union Pacific Rail Corridor and Railroad Spurs.** Land use changes in the railroad corridor and spurs should be completed with agency (DTSC or RWQCB) oversight and would like trigger CEQA.
- **Industrial Areas.** All open and closed UST, LUST, RWQCB Cleanup Program, Disposal, and DTSC Cleanup sites would require Hayward City Fire Department permits and agency (DTSC or RWQCB) oversight should land use changes occur. Major cleanup projects, such as redevelopment of a known release site, could trigger CEQA.
- **PFAS.** RWQCB may require testing at the landfills or other industrial site uses in the project area and subsequent assessment and/or remediation may require agency oversight (DTSC or RWQCB) and remediation could trigger CEQA.

F. Other CEQA Issue Areas

Appendix G of the CEQA Guidelines lists the following additional environmental topics not discussed above:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Energy
- Greenhouse Gas Emissions
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

For most of these topics, environmental factors would be of lesser concern than for those discussed above. This is generally because either substantial resources relevant to a particular topic are not present, such as agricultural or forestry resources, or because the Master Plan does not envision major changes in land use, such as introduction of substantial new or more intense urban development. Air quality, greenhouse gas emissions, noise and transportation impacts related to grading and construction for new infrastructure or amenities would be assessed as part of

environmental review for future projects, as would impacts to energy, mineral resources such as salt extraction, utilities, recreation and other topics.

4. Eligibility for a Statutory Exemption

The proposed Master Plan is exempt from CEQA pursuant to the statutory exemption set forth in State CEQA Guidelines Section 15262, Feasibility and Planning Studies. Consistent with this exemption, and as noted in Section 2, the Master Plan is a feasibility and planning study that identifies a broad range of improvements that would be developed further when project-specific funding and prioritization occurs. The Master Plan does not establish policies, nor would it put in place actions which would cause a physical change to the environment. If a physical project contemplated by the Master Plan moves forward, a separate analysis of potential environmental impacts pursuant to CEQA would be performed at that time. The Master Plan would not have a legally binding effect on later activities as it is only a planning study and does not contain mandatory measures or amendments to adopted planning documents or regulations. Other resource agencies that may have jurisdiction over the Master Plan area would be contacted for consultation and necessary approvals before commencing work. Future projects in the Master Plan area would require the preparation of construction documents and the appropriate CEQA document(s).

Pursuant to CEQA Guidelines Section 15262, a project involving only feasibility or planning studies for possible future actions which HASPA has not approved, adopted, or funded does not require the preparation of an EIR or Negative Declaration but does require consideration of environmental factors. Consideration of environmental factors has been provided to the City's decision makers through the information in sections 2 and 3 of this report and in the draft Master Plan itself.

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