

LOCAL HAZARD MITIGATION PLAN UPDATE

2019 - 2024



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Resources

Emeryville General Plan

Emeryville Climate Action Plan 2008

Emeryville Climate Action Plan 2.0 2016

Emeryville Climate Hazard Analysis, Four Twenty-Seven, August 26, 2016

Emeryville Emergency Operations Plan

City of Berkeley, 2014 Local Hazard Mitigation Plan

City of Oakland, 2016 – 2021, Local Hazard Mitigation Plan

City of Alameda, 2016 Local Hazard Mitigation Plan

ABAG, 2015 Regional Hazard Mitigation Plan

ABAG, Cascading Failures

California Maritime Tsunami Response Playbook and Mitigation Guidance, Berkeley / Emeryville – Alameda County 2017

NTHMP Tsunami Information Guide March 2019 presented by the National Tsunami Hazard Mitigation Program

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BACKGROUND AND INTRODUCTION



City of Emeryville Old Town Hall, built in 1903

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BACKGROUND

The preservation of life, property and the environment is an inherent responsibility of local, state, and federal governments. The Disaster Mitigation Act of 2000 (DMA 2000) requires that all state and local governments develop a hazard mitigation plan as a condition of receiving federal disaster assistance. These plans are required to be updated every five years.

The City's 2009 Local Hazard Mitigation Plan and this 2019 update is our effort to identify and evaluate all potential natural and man-made hazards which may affect the City of Emeryville and to present mitigation strategies that the City can take to address the hazards identified. This is only one of many steps the City of Emeryville is taking to protect the welfare of our residents as well as the natural and cultural resources of our community.

The City embarked on this plan update in March 2015. The community was afforded multiple opportunities to participate in the planning process. A copy of the 2009 Local Hazard Mitigation Plan was added to the City's webpage with a temporary dedicated email LHMP@emeryville.org for comments. The public was encouraged to take an online (as well as paper) survey prioritizing their concerns for the natural and man-made hazards that the City faces as well as soliciting their input on how best to reduce the risks of these hazards. There were 52 responses to the survey.

Members of the public were also encouraged to become part of the Local Hazard Mitigation Plan Update Planning Team. The Local Hazard Mitigation Plan Update Planning Team convened in June 2015 and consisted of representatives from the City Manager, Human Resources, Community Services, Community Development, Public Works and Police Departments, as well as a representative from the Alameda County Fire Department and two community members. The planning team met seven times over the next 12 months.

The following plans, studies and reports were used in the development of the 2019 – 2024 Local Hazard Mitigation Plan:

Table 1.1 (a)

Existing Plans, Studies, Reports and Technical Information	Method of Incorporation into the Local Hazard Mitigation Plan
Climate Action Plan & Climate Action Plan 2.0	Mitigation Policies and Programs
General Plan, Conservation, Safety and Noise Safety Element; Sustainability Element	Community Profile, Capabilities, Mitigation Policies, Programs and Hazards
ABAG Bay Area Risk Landscape (2015)	Hazards, Risk Assessment, Vulnerabilities

Existing Plans, Studies, Reports and Technical Information	Method of Incorporation into the Local Hazard Mitigation Plan
ABAG Cascading Failures, December 2014; Earthquake Threats to Transportation and Utilities	Hazards, Risk Assessment, Vulnerabilities
City of Berkeley 2014 Local Hazard Mitigation Plan	Capabilities Assessment, Hazards, Risk Assessments, Vulnerability
City of Oakland, 2016 Local Hazard Mitigation Plan	Capabilities Assessment, Hazards, Risk Assessments, Vulnerabilities
Emeryville Climate Hazard Analysis, Four Twenty-Seven, August 2016	Hazard Analysis, Risk Assessment, Vulnerabilities
City of Emeryville Emergency Operations Plan	Capabilities Assessment, Hazards
California Maritime Tsunami Response Playbook and Mitigation Guide	Hazards, Risk Assessment, Mitigation Programs
2019 NTHMP Tsunami Information Guide Presented by the National Tsunami Hazard Mitigation Program	Hazards, Risk Assessment, Vulnerabilities
Emeryville Municipal Code	Capabilities, Risk Assessment

The development of this plan update included input from all City departments, community members via a community survey (online and paper) as indicated above and three community meetings which were held in conjunction with the Climate Action Plan Update on May 7, 2016 at 11:00 am, and May 10, 2016, at 11:00 am and 6:00 pm. The City also worked collaboratively with neighboring cities through the Association of Bay Area Governments (ABAG) hosted workshops as well as a separately convened working group made up of representatives from various cities in Alameda County. This working group decided to collectively reach out to mutual regional utility and service providers (i.e. PG&E, EBMUD, BART, Union Pacific and Kinder Morgan) for their input.

In addition, a draft of the Local Hazard Mitigation Plan Update was presented for review and public comment to the City's Sustainability Committee, Public Safety Committee, Public Works and Transportation Committee, Planning Commission and City Council. Outside stakeholders were invited via email to attend any or all public meetings.

Although, the Local Hazard Mitigation Plan is part of the City's General Plan's Implementation Program (Chapter 8) – Action Number CSN-A-10, the City will adopt the Local Hazard Mitigation Plan as an amendment to the Safety Element of the City's General Plan. The City's General Plan, Emergency Operations Plan, Climate Action Plan, and Strategic Energy Plan all contributed to the foundation of this plan.

To ensure that the mitigation strategies in the 2019 - 2024 LHMP are implemented as envisioned, and to review new hazards data as it becomes available, the City's Emergency Preparedness Coordinator will track the mitigation activities and will annually review the Local Hazard Mitigation Plan with the Public Works and Planning and Building Departments. A Local Hazard Mitigation Plan Update Planning Team will be convened by the Emergency Preparedness Coordinator every 5 years for a comprehensive review and revision of the Local Hazard Mitigation Plan.

Appendix A provides a detailed outline and documentation of the City's planning and public outreach process from 2015 to 2018.

INTRODUCTION1

Emeryville is located on the east shore of the San Francisco Bay in Alameda County, bordered by the City of Berkeley to the north and the City of Oakland to the east and south. Interstate 80/580 passes through Emeryville towards Sacramento, running north from the Bay Bridge, while Interstate 580 towards Hayward, passes just to its south. Figure 1.2 (a) illustrates the City's regional location.

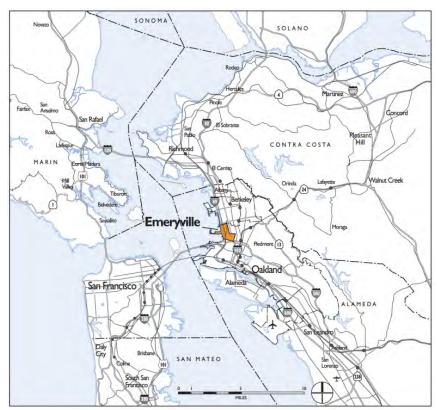


Figure 1.2 (a). Regional Map of Emeryville²

¹ Emeryville General Plan, Introduction and Overview pgs. 1-7 to 1-9.

² City of Emeryville. Emeryville General Plan. City of Emeryville Planning Division. October 2009. Web. 17 Apr. 2017. http://emeryville.org/DocumentCenter/Home/View/1016.

The City is compact, occupying only 1.2 square miles. Emeryville is largely flat and is distinguished by a peninsula created in the 1960s that extends just over a mile into the Bay. According to the California Department of Finance, Emeryville's estimated population as of January 1, 2017 was 11,994.³

HISTORY OF EMERYVILLE

Before the settlement of Spanish land grants in the 1800s, the Emeryville area was the site of extensive Native American settlements. After settlement of the area by Europeans, Emeryville was incorporated as a City in 1896, largely due to the efforts of Joseph S. Emery, a local businessman. Emeryville soon became a city of big industrial enterprises and rail terminals. Residential areas were confined to small portions of the City's eastern edge, bordering Oakland. The City remained this way for many years.

However, in the 1970s the make-up of the City began to change. The City's older industries began to move to the suburbs or close up shop altogether. Along the peninsula, the City saw a major residential development occur with the Watergate Apartments (now condominiums), built in 1974, (1,249 units) along with multi-story high rise office buildings. The City also created parks and a 500-berth marina by filling in 7.8 additional acres of the San Francisco Bay to create a small boat harbor.

Emery Bay Village, located on 53rd Street, was built in 1980 (112 units) followed by the Pacific Park Plaza, on Christie Avenue, in 1984 (a high-rise with 583 units). These two developments along with the Watergate Apartments doubled the city's population to nearly 5,000 residents. Many multi-unit buildings have been built in the City over the past 30 years doubling the City's population since 1984. It is projected that Emeryville's population could increase to approximately 16,600 by 2030, a 40% increase from its population today.

Development of the City continues through today. Large-scale commercial/retail redevelopment projects have changed and will continue to change the landscape of the City. As these large tracts of industrial land have been redeveloped and continue to be redeveloped, Emeryville will continue to see a substantial increase in employment and population.

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³ California Department of Finance. NEW STATE POPULATION REPORT: NEW DEMOGRAPHICS REPORT SHOWS CALIFORNIA POPULATION NEARING 40 MILLION MARK WITH GROWTH OF 309,000 IN 2017. State of California Department of Finance, 1 May 2018 Web. . http://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-1/documents/E-1 2018PressRelease.pdf.

HAZARDS AND RISKS IN EMERYVILLE



Cypress Freeway Collapse, Loma Prieta Earthquake, October 18, 1989

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BACKGROUND

The City of Emeryville is one of the smallest cities in California, covering 2.25 square miles of which approximately 1.2 miles is land area and one square mile is tidal on the San Francisco Bay.

This 2019-2024 update evaluates the different risks that pose a hazard to the City, identifies past and present mitigation activities and current policies and programs, as well as mitigation strategies for the future.

The Local Hazard Mitigation Plan Update Planning Team initially met on June 18, 2015, and reviewed the hazards previously identified in the City's 2009 Plan, as well as the risks and hazards identified by community members in our Local Hazard Community Survey, ABAG's 2010 Regional Local Hazard Mitigation Plan, and the City of Berkeley's 2014 Local Hazard Mitigation Plan. From this review, the team identified the following nine natural or man-made risks to the City to be included in our plan (in order of concern):

- 1. Earthquake
- 2. Hazardous Material Release
- 3. Climate Change
- 4. Fires
- 5. Floods
- 6. Civil Unrest
- 7. Utility Infrastructure Failure
- 8. Terrorism
- 9. Biological Threats

EARTHQUAKE

The San Francisco Bay Area is a seismically active region with numerous faults. Although no active faults run through Emeryville, the City is approximately three miles from the Hayward Fault and 15 miles from the San Andreas Fault, the two most prominent and active faults in the Bay Area.

To the east of the Hayward Fault runs the Calaveras Fault. In 2007, the U.S. Geological Survey suggested that these two faults may be connected. If true, this would have significant implications for the potential maximum strength of earthquakes on the Hayward Fault, since this strength is determined by the maximum length of the fault rupture and this rupture could extend beyond the juncture point and could include some portion of the Calaveras Fault.

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North of San Pablo Bay, and somewhat offset from the Hayward Fault is the Rodgers Creek Fault, which many experts had considered to be an extension of the Hayward Fault. The connection between the Rodgers Creek Fault Zone and the Hayward Fault Zone was unclear until 2015 when a survey of the floor of San Pablo Bay found that the ends of the two faults were smoothly linked between Point Pinole and Lower Tubbs Island.⁴

This new finding means that the Rodgers-Hayward system together could produce a quake with a magnitude as high as 7.2.⁵ It is also considered possible that a major seismic event on either fault may involve movement on the other, either concurrently or within an interval of up to several months. The entire City is subject to hazardous ground shaking (and liquefaction for half the City) in a major earthquake on any of these fault lines.

Destructive earthquakes struck the Bay Area in 1838, 1868, 1906, 1911 and 1989. In the 1989 Loma Prieta earthquake, 62 people died. Most of the fatalities (42) were caused by the collapse of the double-decked Cypress Freeway that ran through West Oakland, and within one mile of Emeryville.

HAZARDOUS MATERIALS

The existence of hazardous materials is a fact of life in Emeryville. Every day trains travel through the City pulling tanker and boxcars carrying various types of hazardous materials. A natural gas transmission line, similar to the gas transmission line that exploded in San Bruno in 2010, runs through the City underneath Hollis Street. The explosion in San Bruno illustrated the threat to the surrounding community from such a hazardous incident. A jet fuel line runs through the City under the railroad tracks as well. In addition, Emeryville is home to many biotech companies, research and development labs, and medical facilities, some of which use hazardous materials in their work.

History has shown that when accidents and emergencies involve hazardous materials, they are extremely complex to mitigate. A hazardous materials release could harm community members by exposing people to vapors that are toxic, suffocating, cause burns or are irritating. A hazardous materials release can threaten not only life and property, but also the environment, such as Temescal Creek or San Francisco Bay.⁶

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⁴ Perlman, David. "New Data on 2 Bay Area Faults Cause Worry about next Big Quake." www.sfchronicle.com. San Francisco Chronicle 26 Jan. 2016. Web. 16 Mar. 2017. http://www.sfgate.com/bayarea/article/New-data-on-2-Bay-Area-faults-cause-worry-about-6731300.php

⁵ Perlman, David. "Quake Threat: Research Shows 2 Bay Area Faults Probably Linked, Cause for Worry among Scientists about next Big One." San Francisco Chronicle 2 Jan. 2016: C-1, 4. Web. 16 Mar. 2017. http://www.pressreader.com/usa/san-francisco-chronicle/20160102/281973196630630.

⁶ City of Berkeley. Local Hazard Mitigation Plan. City of Berkeley Fire Department, 1 June 2014. Web. 17 Mar. 2017. http://www.ci.berkeley.ca.us/uploadedFiles/Fire/Level 3 - General/2014%20LHMP.pdf.

CLIMATE CHANGE

Like regions across the globe, the San Francisco Bay Area is experiencing and will continue to increasingly experience the impacts of the changing climate. By 2100, average temperatures in the San Francisco Bay Area will increase by 11°F. In 2100, Emeryville will experience six to ten additional heat waves each year, which will disproportionally impact the elderly, children under five and the low-income members of our community.⁷ If the average temperatures increase, this could shorten the snowfall season in the Sierra Nevada Mountains, increasing the amount of rain and the rate of snow melt, thereby threatening even coastal cities, such as Emeryville with increased flooding.

The Bay Area had been in the midst of a historic five-year drought. In 2014, the Governor declared a State of Emergency in California in response to the drought conditions which began in 2012. 2015 surpassed 1977 as the driest year on record in California. In June 2015, statewide reservoirs were at only 18 – 67% of average.⁸ Although the winter of 2016 eased drought conditions enough that the Governor ended the State of Emergency in April 2017, the 2017/2018 winter saw a less than average rainfall for Emeryville and the Bay Area; however, the 2018/2019 winter has proved to be an above normal year for rain. That said, climate change is likely to increase the number and severity of future droughts. The cumulative impact of climate change impacts will result in drier conditions for the entire City of Emeryville, and could alter the timing and efficiency of the Bay Area water supply.

Sea level rise is another concern for the City as a direct result of climate change. According to the City's General Plan, the local effects of sea level rise could be severe in Emeryville. Historic records show that sea level in the San Francisco Bay Area has risen by as much as seven inches in the past century. The San Francisco Bay Conservation and Development Commission (BCDC) projects a 16-inch sea level rise scenario at midcentury. This could, in turn, erode bay shores, marshes and wetlands and increase the salinity in our rivers.

FIRES

Emeryville does not have the terrain and vegetation conditions for large or devastating wildfires. However, urban fires are a constant threat. The worst case urban fire could be associated with an earthquake. The potential for loss of life and property from an urban fire is greatest in places where large groups of people gather, such as offices, stores, hotels, high-rise buildings and theaters.

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 ⁷ 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008. Sacramento, CA: California Natural Resources Agency, 2009.
 ⁸ California Governor's Office of Emergency Services (2015).

⁹ 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008. Sacramento, CA: California Natural Resources Agency, 2009.

FLOODS

Flooding in the City could occur as a result of storms, inundation from a dam failure or a tsunami. Flooding can occur when storm water exceeds the capacity of a creek channel, or the capacity of the storm drain system. The dam at Lake Temescal is the closest dam to the City and is located approximately 3.5 miles east of the City limits. The dam is considered generally to be sound and able to withstand a large earthquake. However, if it were to fail, most of the southern part of Emeryville could be flooded. Tsunamis, though rare inside the San Francisco Bay, could occur from a large offshore subduction style earthquake around the Pacific Rim.

CIVIL UNREST

Civil unrest is a broad term that is typically used by law enforcement to describe one or more forms of disturbance caused by a group of people. It can take the form of small gatherings or large groups. The Bay Area has recently experienced protests that have attempted to block buildings, major highways and even the Bay Bridge. In 2015, Emeryville experienced several protests in the City that originated in Berkeley and/or Oakland and resulted in vandalism and damages to local businesses.

UTILITY INFRASTRUCTURE FAILURE

Disruptions to communications, water and transportation networks can cause emergencies to cascade into disasters. In day-to-day lives, Bay Area communities, including the City of Emeryville, are heavily reliant on local, regional, state and interstate utility and transportation systems. For the City, its residents and its businesses to remain functional, buildings must not only sustain minimal damage, but must also be connected to operating water, power, and sewer systems.¹⁰

TERRORISM

Since September 11, 2001, terrorism has become a fact of life for all Americans. The Federal Bureau of Investigations (FBI) defines terrorism as the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian populations, or any segment thereof, in furtherance of political or social objectives. Terrorist acts or acts of war may cause casualties, extensive property damage, fires, flooding, and other ensuing hazards. Although most likely not a direct target, the City of Emeryville, given its geographic proximity to the Bay Bridge, Oakland and San Francisco, could be affected by a terrorist attack on any of these locations. In addition, the presence of so many biotech companies in the City can make it a target for domestic terrorism.

¹⁰ Bay Area Risk Landscape. Association of Bay Area Governments, Section 4.3, Page 74.

Cyberterrorism, the use of computer network tools to shut down critical government infrastructures, is an ongoing threat to the City's infrastructure as well.

BIOLOGICAL THREATS

Biological threats can be naturally occurring or the result of terrorism. Naturally occurring biological threats in recent years include, the Zika Virus, Ebola, Avian Influenza (Bird Flu), Severe Acute Respiratory Syndrome (SARS), and the West Nile Virus. According to Martha McSally (R-Ariz), subcommittee chairman of the House Committee on Homeland Security's Subcommittee on Emergency Preparedness, Response and Communications, "The risk of a biological terrorist attack to America is an urgent and serious threat. A bio attack could cause illness and even kill hundreds of thousands of people, overwhelm our public health capabilities, and create significant economic, societal and political consequences. Our nation's capacity to prevent, respond to, and to mitigate the impacts of biological terror incidents is a top national security priority." 11

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¹¹ Vicinanzo, Amanda. "Biological Terrorist Attack on US An 'Urgent and Serious Threat'." Homeland Security Today: Biological Terrorist Attack on US an 'Urgent and Serious Threat'. N.p., 23 Apr. 15. Web. 16 Mar. 2017. https://www.hstoday.us/single-article/biological-terrorist-attack-on-us-an-urgent-and-serious-threat/0ce6ebf3524d83c537b1f4f0cc578547.html.

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HAZARD ANALYSIS



Oakland-Berkeley Hills Fire, October 1991

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HAZARD ANALYSIS

With its rapidly growing permanent, transient, and recreational populations, Emeryville is subject to potential negative impacts from a broad range of natural and man-made hazards and threats. This section will analyze the hazards identified in order of priority by the City to have the greatest potential for occurrence and damages.

The Local Hazard Mitigation Planning Team defined the probability of hazards as 'high" which is defined as occurring every 1-10 years, "medium" as occurring every 10-50 years, and "low" as occurring at intervals greater than 50 years. However, for some hazards, such as earthquakes, we know there is a high percentage probability that an earthquake will occur in the Bay Area; it could be tomorrow, or it could be 30 years from now.

EARTHQUAKES

PROBABILITY - HIGH

SEVERITY - HIGH

Earthquakes are the principal geologic activity affecting public safety in Emeryville. An earthquake is a sudden rapid shaking of the ground caused by the breaking and shifting of rock beneath the Earth's surface. The San Francisco Bay Area is a seismically active region with numerous active faults. In 2017, The Working Group on California Earthquake Probabilities updated its earthquake forecast and determined that there is a 72 percent probability — up from 63 percent — of at least one earthquake of magnitude 6.7 or greater striking somewhere in the Bay Area before 2043.¹²

In Emeryville, an earthquake is the hazard with the highest combined likelihood to cause extensive damage to the City and to the region as a whole. In the event of an earthquake, the location of the epicenter as well as the time of day and season of the year could have a profound effect on the number of deaths, casualties, property damage, and disruption of normal government and community services and activities. The effects could be compounded by collateral emergencies such as fires, dam failure, flooding, tsunami, hazardous material spills, utility disruptions, bridge collapses, structural collapses, street blockage by debris, street surface breakage due to liquefaction, landslides and transportation emergencies.

Figure 4.1(a) shows the location of active faults that are mapped by the State of California under the Alquist-Priolo Act.

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¹² https://www.mercurynews.com/2016/09/24/bay-area-earthquake-probabilities-increase-updated-usgs-forecast-says/, Mark Prado, Marin Independent Journal; Published Sep 24, 2016, Updated January 12, 2017



Figure 4.1 (a). Alquist-Priolo Active Faults - San Francisco Bay Area¹³

EXISTING FAULTS IN OR NEAR EMERYVILLE

There are many faults running through the Bay Area - The San Andreas Fault, The Hayward Fault, The Calaveras Fault and the Rogers Creek Fault, to name a few. Emeryville is approximately 15 miles from the San Andreas Fault, 3 miles from the Hayward Fault and 19 miles from the Calaveras Fault. Therefore, the entire City is subject to hazardous ground shaking in a major earthquake.

The San Andreas Fault lies offshore and through the San Francisco Peninsula. The San Andreas Fault, is a transform (strike-slip) fault that runs a length of roughly 800 miles through California. It is the boundary between the Pacific Plate and the North American Plate.

The Hayward Fault is a geologic fault zone capable of generating significantly destructive earthquakes. The Hayward Fault is considered part of the San Andreas System, and it runs for 60 miles along the hills of the East Bay, cutting through the University of California Berkeley Memorial Stadium and skimming uncomfortably close to the Caldecott Tunnel, through which 160,000 cars pass daily. Major highways, including Interstate 80 and Highway 13, cross the Hayward Fault, as do pipelines that bring water down from the snow-clad Sierra. There are hundreds of privately owned structures in the fault zone, the

¹³ California, State of. Fault Activity Map of California. Web. 13 Apr. 2017. http://maps.conservation.ca.gov/cgs/fam.

majority of which were built before the State passed a tough earthquake-zoning law in 1972.

The Calaveras Fault lies 19 miles to the east of the City. Although it has been known for some time that the Calaveras and Hayward faults merge in the South Bay region, recent geological studies suggest that the Calaveras and Hayward faults may be even more closely connected horizontally deep beneath the surface, angling toward each other with depth until they become a single fault. If true, this could have significant implications for the potential maximum strength of earthquakes on the Hayward Fault, since this strength is determined by the maximum length of the fault rupture and this rupture could extend beyond the juncture point to include some portion of the Calaveras.

Rogers Creek Fault is north of San Pablo Bay, and somewhat offset from the Hayward Fault, considered by many experts to be an extension of the Hayward Fault. The connection between the two faults is not totally clear but it is believed that the Hayward Fault and the Rogers Creek Fault are probably connected by a series of fault strands beneath the San Pablo Bay. Here again, a major seismic event on either fault could involve movement on the other, either concurrently or within a short interval up to several months. The Rogers Creek is considered one of the most hazardous faults in northern California as it is believed to be entirely locked (i.e. no recognizable creep) and has not had a major historical earthquake.

HISTORY OF EARTHQUAKES IN THE BAY AREA¹⁴

The Bay Area has experienced significant, well-documented earthquakes. In 1868, a significant earthquake occurred on the Hayward fault with an estimated magnitude of 6.8 – 7.0. The fault ruptured the surface of the earth for more than 20 miles and significant damage was experienced in Hayward and throughout Alameda County, and as far away as San Francisco, Santa Rosa, and Santa Cruz. The M7.8 1906 earthquake on the San Andreas Fault, centered just off the coast of San Francisco, devastated San Francisco and caused extensive damage in Oakland, San Jose, and Santa Rosa. More recently, the M6.9 1989 Loma Prieta earthquake caused severe damage in Santa Cruz and the surrounding mountains, where it was centered, as well as fatal damage 50 miles away in Oakland and San Francisco.

As one can see, moderate earthquakes are much more common in the Bay Area; twenty-two have occurred in the last 178 years averaging every eight years. The 2014 South Napa earthquake reminded us that even a moderate magnitude 6.0 earthquake can produce a lot of damage in a localized area.

The Hayward fault has been relatively quiet for the past 148 years. Because the past five large earthquakes on the Hayward fault have been about 140 years apart, the Hayward and Rodgers Creek faults are the most likely faults to produce a large earthquake in the

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¹⁴ Bay Area Risk Landscape. Association of Bay Area Governments. Section 3.1. Page 8.

¹⁵ US Geological Survey (Ellworth, W.L.)

Bay Area. USGS scientists describe the Hayward fault as a tectonic time bomb, due anytime for another magnitude 6.8 to 7.0 earthquake. An earthquake of this magnitude would produce strong shaking and possible ground failure throughout the Bay Area.

Earthquake Related Declared Disasters in the Bay Area Since 1950¹⁶

M6.0 South Napa Earthquake on August 24, 2014 caused \$362 million - \$1 billion in damage and affected both Napa and Solano County.

Tsunami resulting from M8.9 Honshu, Japan Earthquake on March 11, 2011. Resulted in \$39 million in damage affecting Del Norte, Monterey and Santa Cruz Counties, as well as minor damage in the Berkeley Marina.

M5.2 Napa Earthquake on September 6, 2000 caused \$15 – 70 million in estimated damage to Napa County.

M6.9 Loma Prieta Earthquake on October 18, 1989 caused \$5.9 billion in damage, with 23,408 homes damaged, 3,530 businesses damaged, 1,018 homes destroyed and 366 businesses destroyed.

M6.2 Morgan Hill Earthquake on April 24, 1984 resulted in \$7.265 million in damage to public, business, and private sectors in Santa Clara County.

EARTHQUAKE HAZARDS IN THE BAY AREA

Earthquakes can cause various types of seismic hazards in the City such as ground shaking, ground failure, surface fault ruptures, and liquefaction.

Ground Shaking

Ground shaking is both a hazard created by earthquakes and the trigger for other hazards such as liquefaction and landslides. When faults rupture, the slip generates vibrations or waves in the earth that are felt as ground shaking. This shaking can last for seconds or a minute or more. Ground shaking describes the vibration of the ground during an earthquake. Most earthquake damage results from the shaking caused by seismic waves passing beneath buildings, roads, and other structures. The intensity of ground shaking is based on the magnitude of the earthquake and other factors including the distance to the fault, the direction of the rupture and the type of soil (landfill vs. bedrock).

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¹⁶ California Emergency Management Agency. California Governor's Office of Emergency Services, 2013. Web. 17 Mar. 2017. http://hazardmitigation.calema.ca.gov/plan/state_multi-hazard_mitigation_plan_shmp.

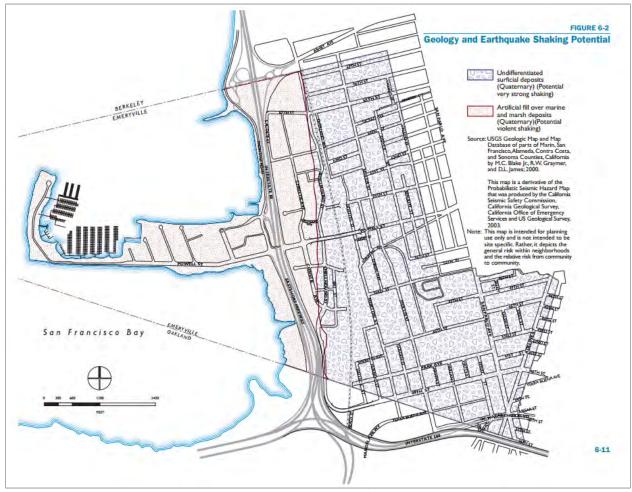


Figure 4.1.3.1(a). Geology and Earthquake Shaking Potential¹⁷

The entire City of Emeryville is located in the highest two categories for shaking potential. This area includes four schools, two fire stations, the police station, City Hall, the Senior Center, two senior housing facilities, ten high rises (office buildings, apartment condo complexes) and five hotels, 40th Street and Amtrak Pedestrian Bridges. Since our last plan, the following new land development has occurred:

- 1. Parc on Powell 176 units
- 2. Emme 64th and Christie 190 units

Also since our last plan, the police station on Powell Street and the Senior Center on Salem Street have undergone renovations which included retrofitting for earthquakes.

Liquefaction

Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading. It is the conversion of soil into a fluid like mass

¹⁷ City of Emeryville. Emeryville General Plan. City of Emeryville Planning Division. October 2009. Web. 17 Mar. 2017. Page 11. http://emeryville.org/DocumentCenter/Home/View/1016.

during an earthquake or other seismic event. The instability of the soil can cause buildings or structures on the soil to sink, tip unevenly, or even collapse.

The entire City lies within a liquefaction hazard zone as shown in Figure 4.1.3.2 (a). The peninsula has a very high susceptibility to liquefaction while the areas around the rail line and east have a moderate to low risk of liquefaction. The following buildings and infrastructure (City owned and private) are located in moderate, high or very high liquefaction susceptibility:

- 200 acres are in areas of moderate, high or very high liquefaction susceptibility;
- Three miles of roadway are in areas of moderate, high or very high liquefaction susceptibility;
- Six miles of roadway are in the highest two categories of shaking potential;
- Some city owned facilities are located in moderate, high or very high liquefaction susceptibility (Fire Station 34, the City's one and only Police Station, Hong Kong East Ocean Restaurant);
- 3,500 residential units;
- 10 major high rise and hotel buildings;
- Major interstate freeway system (I-80);
- Sanitary Sewer lifting station;

In addition, Lake Temescal Dam, located approximately 3.5 miles upstream of Emeryville, may be susceptible to liquefaction. Liquefaction is a potential failure mode of dams which are loaded at the time of an earthquake. Depending on how frequently the dam is loaded will determine how susceptible it is to liquefaction.¹⁸

Any development in a liquefaction hazard zone requires adherence to the guidelines for evaluating and mitigating seismic hazards as required by the Public Resources Code Section 2695(a). Before a development permit can be granted for site within a Seismic Hazard Zone (which means anywhere in the City), a geotechnical investigation of the site must be completed and appropriate mitigation measures must be incorporated into the project design. Mitigation of liquefaction hazards can include edge containment structures (e.g. berms, dikes, retaining walls, etc.), driving piles, removal or treatment of liquefiable soils, or modification of site geometry.

The City's Building Division implements and enforces the Emeryville Municipal Code and the California Building Code regulations relative to seismic risk to development. A City Ordinance specifies the need and establishes guidelines for the seismic upgrade of unreinforced masonry buildings. An increase in occupancy or intensification of use will trigger a requirement for a seismic upgrade.

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¹⁸ Flood Risk Program Team - Dam Safety Planner, United States, Army Corp of Engineers June 7, 2018

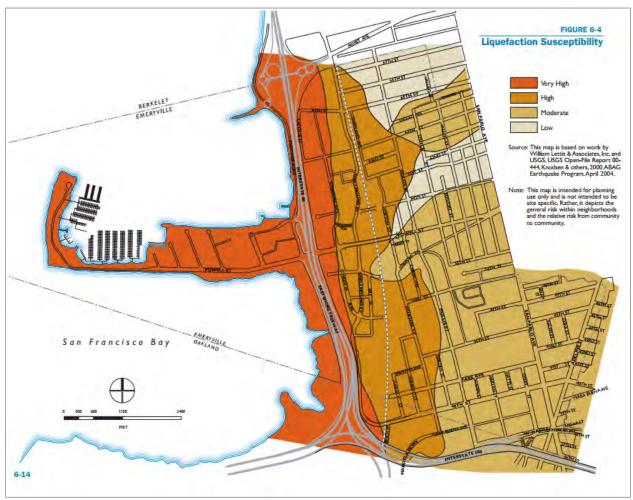


Figure 4.1.3.2(a). Liquefaction Susceptibility Map for Emeryville¹⁹

Fire after an Earthquake

Significant portions of this section were originally developed for the City of San Francisco through the Community Action Plan for Seismic Safety (CAPSS) and described in detail in the City of Berkeley 2014 Local Hazard Mitigation Plan.²⁰ Although the CAPSS report was developed for San Francisco, many of the report's findings are applicable to Emeryville as well.

Areas of liquefaction are more vulnerable to fire because of greater potential for underground gas mains to break due to ground displacements and because of water lines being damaged. Fires following earthquakes present a significant problem in dense urban environments like Emeryville, where many simultaneous ignitions can lead to a

¹⁹ City of Emeryville. Emeryville General Plan. City of Emeryville Planning Division. October 2009. Web. 17 Mar. 2017. http://emeryville.org/DocumentCenter/Home/View/1016.

²⁰ Here Today Here Tomorrow: The Road to Earthquake Resilience in San Francisco. San Francisco Department of Building Inspection, 2010. Web. 17 Mar. 2017. https://sfgov.org/esip/sites/default/files/FileCenter/Documents/9757-atc522.pdf.

firestorm. In these cases, fire damage is even more severe than damage from earthquake shaking.

There are many examples locally and from around the world of fire following an earthquake:

- 2014 South Napa Earthquake. Six fires broke out in the immediate aftermath of the 6.0 earthquake. One of those fires, due to a gas line break, was in a Mobile Park destroying four mobile homes. Firefighting efforts were hampered by water main breaks occurring in the same area.
- 1995 Kobe Earthquake. More than 100 fires broke out following the 1995 Kobe earthquake, during which broken water mains left the fire department helpless, and fires destroyed more than 7,000 buildings. Fire was also a major contributor to the death toll.
- 1994 Northridge Earthquake. More than 100 fires broke out following the 1994
 Northridge earthquake, severely impacting area fire departments, even though it
 largely affected only the edge of greater Los Angeles.
- 1989 Loma Prieta Earthquake. Thirty-six fires broke out in San Francisco.
 Natural gas line rupture was responsible for some of the fire ignitions. Failure of
 the City's electrical systems may have actually reduced the number of fire ignitions.
 Fires in the Marina District claimed four structures in the area, but lack of wind that
 night assisted in preventing the fires from spreading. Overall, the shaking
 experienced in the Loma Prieta earthquake was moderate as the epicenter was
 70 miles away.
- **1906 Great Earthquake**. The 1906 earthquake was followed by a firestorm that lasted for three days and in that time swept over an area of over 3.5 miles.²¹ It is estimated that 80 percent of San Francisco's property value was lost in the fire.

Another added concern in Emeryville is the potential for explosions or the potential of toxic smoke being released due to hazardous materials stored at industrial facilities and labs located in the City.²² Since our last plan, several more biotech companies have taken up residence in Emeryville.

Alameda County Fire Department (ACFD) provides fire services to the City. At any one time, ACFD may have six to seven firefighters on duty in Emeryville. It is anticipated that after any major earthquake in the Bay Area, on-duty fire personnel will be overwhelmed very quickly. Departments in nearby cities will be struggling to respond to the needs of their own community and will be unable to provide mutual aid to Emeryville. State and Federal resources may not be available for many hours or even days. Fires could quickly burn out of control and threaten the City. Fire damage could add to the City's overall damage making recovery more difficult and lengthy.

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 ^{21 &}quot;1906 San Francisco Fire Underwriters' Report."
 1906 San Francisco Fire Underwriters' Report.
 Engineering News, 9 Aug. 1906. Web. 17 Mar. 2017. http://sfmuseum.org/conflag/underwriters.html.
 22 Bay Area Risk Landscape. Association of Bay Area Governments. Section 3.13.6. Page 27.

Landslides

Since Emeryville is relatively flat, it is not susceptible to earthquake triggered landslides.

Exposure and Vulnerability of Built Environment

Earthquake damage to structures can be caused by ground rupture, liquefaction, ground shaking, and possibly inundation from tsunami. The level of damage in Emeryville resulting from an earthquake will depend upon the magnitude of the quake, the epicenter distance from the City, the response of geologic materials, and the strength and construction of quality structures.

City Buildings

The City of Emeryville owns approximately 10 buildings. The City does not own any part of the Emeryville Center for Community Life (the City leases space). The property is owned and maintained by the Emeryville Unified School District. All of the City's buildings have been assessed for seismic safety and, when possible, have been strengthened.

Privately Owned Homes or Housing Units

According to the California Department of Finance, as of January 1, 2017, Emeryville had 7,169 housing units. All of the units are located in the highest two categories for shaking potential and liquefaction from an earthquake. Only about 5.8% (419 out of 7,169) of the housing units in Emeryville are single family detached homes. As of December 2014, 13 single family wood frame properties had taken advantage of the City's Program for Voluntary Seismic Retrofit for Wood Framed Buildings to seismically upgrade their foundations and exterior walls.

Soft Story Structures

A soft story building is a multi-story building with one or more floors that are "soft" due to its structural design. These buildings are characterized by having a story with lots of open areas. An example of a "soft-story" structure is an apartment building with a store, restaurant or garage on the first floor. These buildings can be especially dangerous in earthquakes, because they cannot cope with the lateral seismic forces caused by the drift of the building. As a result, the building may fail, causing what is known as a "soft story collapse." Many of the buildings that were damaged in the Marina district in the 1989 Loma Prieta earthquake and in Southern California during the Northridge earthquake in 1994 were "soft story" structures.

In an informational report to the City Council in December 2014, the City identified seven buildings that potentially could be characterized as a soft story design. There is no State mandate to inventory and retrofit soft-story structures.

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Unreinforced Masonry (URM)

Passed in 1986, California's URM Law required local governments to identify URM buildings within each jurisdiction and establish loss reduction programs for URM buildings by 1990. To that end, the City of Emeryville City Council approved the Seismic Hazard Identification and Mitigation Program for Unreinforced Masonry Buildings in August 1990 (Ordinance No. 90-6) with an update to this ordinance adopted in 1994 (Ordinance No. 94-1). The purpose of this ordinance was to promote public safety by identifying those un-reinforced masonry buildings in the City which were most susceptible to earthquake damage and to require certain mitigation measures to protect the lives of persons working and residing in Emeryville. As required by State Law, the Building Division maintains an inventory of Unreinforced Masonry Buildings located in the City. The City has identified 101 unreinforced masonry buildings in the City and the following is a summary of the status of these Unreinforced Masonry (URM) buildings:

Demolished	20
Retrofitted to National Standards	36
Retrofitted to "Minimum" Standards	43
Warning Placards Posted by Owner	1
No Progress	1
TOTAL	101

As one can see, this program has brought considerable increase in Safety. As of 2014, almost 98 percent of the URMs identified by the City have been seismically retrofitted, demolished or demonstrated to have adequate reinforcement. Only two remaining URM buildings have not yet had any action taken to reduce their risk.

Exposure and Vulnerability of the City's Infrastructure

This section examines the earthquake and exposure and vulnerability of Emeryville's infrastructure focusing on utilities, transportation and communications. Infrastructure described in this section provides the foundation for day-to-day life in Emeryville. Functional infrastructure systems are necessary for achieving community resilience. The consequence of infrastructure damage cascades well beyond the costs to repair the immediate damage. The failure of one system can limit the functionality of other key assets not only for the City but for the region as a whole. Degrading infrastructure systems and future large earthquakes with epicenters near Emeryville could result in system outages that last weeks for the most reliable systems, and multiple months for others.²³

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²³ "Cascading Failures: Earthquake Threats to Transportation and Utilities." Association of Bay Area Governments Resilience Program. Association of Bay Area Governments, Dec. 2014. Web. 17 Mar. 2017. http://resilience.abag.ca.gov/projects/transportation_utilities_2014.

The City has responsibility for storm drains, retaining walls in the right-of-way, a sanitary sewer collection system that links to EBMUD's system, creeks, open channels and creek culverts in the right-of-way and on City property (except for the Temescal Creek flood control channel and a storm culvert line on 62nd Street – Alameda County Flood Control has responsibility for those), street lights and traffic lights on poles or utility poles and above and below ground conduits supplied by PG&E.

Electrical, natural gas, petroleum, telecommunications and potable water supply infrastructure are not under the City's control, but are owned and managed by other quasi-governmental, private or special district entities.

EBMUD has responsibility for potable and fire suppression water supply system consisting of pipelines, flow/pressure control facilities, and storage tanks and reservoirs owned by the East Bay Municipal Utilities District as well as sanitary sewer transmission pipeline (EBMUD wastewater interceptor) and pumping station.

PG&E has responsibility for the electric distribution system including substations, mains, laterals and meters, owned by the Pacific Gas and Electric Company, the natural gas distribution system including main pipelines, lateral pipelines and meters.

AT&T, Comcast, Verizon and other telecommunication companies have responsibility for telecommunication aerial and underground conduits.

Liquefaction is a significant contributor to utility failure after an earthquake. As the entire City lies within a liquefaction hazard zone, there is potential for significant damage to infrastructure lines such as water, natural gas, sewage, storm, electrical and telecommunication systems in the City.

Liquefaction caused by earthquakes may subject pipelines to significant displacement, causing the pipelines to develop leaks or breaks. Buried tanks, pipelines, conduits and manholes may float in the liquefied soil due to their buoyancy.

The following sections on Utilities, Transportation and Communications describe in detail these key infrastructure systems and their vulnerabilities.

Water System - Key Partner: East Bay Municipal Utility District²⁴

The East Bay Municipal Utility District (EBMUD) provides drinking water to approximately 1.3 million people and sewer services to 650,000 in the East Bay. After an earthquake, EBMUD will be responsible for maintaining and providing water and sewer services to its customers, including water for post-earthquake fire suppression.

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²⁴ Information provided by Lilian Leung, P.E. Assistant Engineer, and Steven Frew, Manager of Security and Emergency Preparedness at East Bay Municipal Utility District.

EBMUD relies on a network of reservoirs to collect local watershed runoff and store imported water.²⁵ It draws its imported water from the Mokelumne Water System. If there is an interruption to this imported water source, EBMUD would need to rely on local sources and storage until repairs were made to restore the transmission supply. However, this would only work if the local pipe lines remain intact. EBMUD's aging distribution system makes it particularly vulnerable to damage in an earthquake.

EBMUD has studied the impacts of earthquake shaking, liquefaction, landslides and fault rupture on most of its infrastructure. In a major seismic event, an earthquake induced landslide in either the Oakland or Berkeley Hills could affect water lines reducing water availability for firefighting in Emeryville. If there is an actual fault rupture, water lines within the fault rupture could be broken. Liquefaction causes the greatest percent of pipe failure associated with a seismic event. As the entire City of Emeryville lies within liquefaction zones, a large event earthquake could severely impact water service to the City.

In the event that water service to the City is compromised, the City will establish a centrally located water distribution site (Commodity Point of Distribution or C-Pod) to distribute water to the community.

EBMUD Notable Mitigation Activities

EBMUD has taken aggressive steps to strengthen its systems. Since the 1989 Loma Prieta Earthquake, EBMUD has invested more than \$350 million in seismic safety. They have also taken steps to provide system redundancy.

After a major seismic event, it could take seven days or more to restore basic services to the majority of customers; however, full service may not be restored for up to six months. EBMUD will work with the city to support our disaster recovery efforts, while focusing on infrastructure repairs so water service can be restored as quickly possible.

Electricity and Natural Gas Systems Key Partner: Pacific Gas and Electric Company (PG&E)²⁶

Pacific Gas and Electric (PG&E) provides electricity and natural gas to 15 million people in northern and central California. They have a staff of 20,000 prepared to respond to restore electrical service after disasters and storms. They also have a well-established priority system for restoring power to emergency services before other community needs. PG&E recognizes that large earthquakes may damage key facilities and that electric power might be lost for limited periods of time. The potential for a loss of power means that emergency and critical uses should have dedicated emergency power sources.

²⁵ "Cascading Failures: Earthquake Threats to Transportation and Utilities." Association of Bay Area Governments Resilience Program. Association of Bay Area Governments, Dec. 2014. Web. 17 Mar. 2017. http://resilience.abag.ca.gov/projects/transportation_utilities_2014.

²⁶ Information provided by Les Putnam, Senior Public Safety Specialist – Gas, from PG&E.

The electrical system is vulnerable to many different hazards. In storm events downed trees can damage overhead lines. In earthquakes, overhead lines are not typically damaged, but electrical substations components can be destroyed by strong shaking, often requiring more extensive and time intensive repairs to return service.

Natural gas is subject to damage and disruption in areas with soil failure, for example landslide and liquefaction. Broken lines can create fires if ignited until the fuel supply is exhausted. The repair of damaged underground lines will take time. Following the Loma Prieta earthquake it took about 30 days to repair damaged lines in the San Francisco Marina.

The large scale natural gas transmission lines that service the cities along the East Bay shoreline of Alameda County are primarily located near the Bay shore. The transmission line runs along a single corridor through Albany, Berkeley, and Emeryville before splitting into two parallel lines in Oakland that run through Oakland, San Leandro and Hayward. Across the entirety of the natural gas line between Albany and Hayward the natural gas transmission line(s) pass through medium-level susceptibility zones with some lines passing through very high liquefaction susceptibly zones in East Oakland and San Leandro. The thousands of miles of natural gas distribution lines are also at risk to damage from liquefaction. Neighborhoods that experience significant liquefaction are not likely to have gas service for a significant amount of time.

PG&E Notable Mitigation Activities

PG&E has assessed the seismic vulnerability of many elements of its system and has taken steps to improve its functionality after an earthquake, such as replacing bushings on high voltage lines, anchoring substation equipment and replacing old gas lines with more flexible alternatives.

As a consequence of the San Bruno rupture, the National Transportation Safety Board (NTSB) has issued a number of recommendations to State and federal administrations and institutions to improve the safety of pipeline networks as well as to upgrade the integrity management program and emergency response system.

As a result, PG&E proposed a \$2.2 billion Pipeline Safety Enhancement Plan to modernize its gas transmissions operations over the next several years. As part of this plan and in direct response to the recommendations issued by the NTSB, PG&E has begun improving its network by automating shutoff valves, with automatic shutoff valves planned for East Bay Communities; updating its emergency response plan to reflect industry best practices; and implementing data management systems intended to ensure its pipeline records are traceable, verifiable and complete.

Additionally, PG&E has created a First Responders Safety website, which provides secure access to maps and information on their natural gas transmission lines, natural gas storage facilities, valve and regulator locations and current size and pressure within the pipes as well as access to an electronic version of their Gas Emergency Response Plan.

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Communication System Earthquake Vulnerabilities

The telecommunications industry delivers telephone, television, Internet, and other services to the local community. They provide the primary means of communication to virtually all businesses, households, and individuals in the City. They are an essential service to the residents, businesses and the economy of the City.

Communication infrastructure is spread throughout the City, and thus is exposed to all earthquake ground failure hazards. As has been reported, the entire City lies within two highest liquefaction zones which makes it very vulnerable to infrastructure damage.

Telecommunications and cable communications systems are both above and below ground in Emeryville. The cellular phone system relies on the integrity of antennas that are mostly located on building tops. Earthquake shaking can topple or break utility poles and cell towers and falling trees or collapsing structures can damage utility lines.

Additionally, Emeryville's underground utilities include communications conduits. Underground systems are particularly vulnerable to damage from ground failure in earthquakes. A catastrophic earthquake could rupture these systems, compromising these lifelines unless redundant connections unaffected by the earthquake are available. Ground movement due to liquefaction could severely impact these systems. Liquefied areas may move laterally, breaking underground cables and damaging communication lines. Underground damage is harder to detect and repair and the length of service losses may be greater than for above-ground systems.

It is anticipated that after a major earthquake in the Bay Area, telephone services, including mobile phone and internet will be down for days to a week or longer. An overload of post-earthquake calls in the region will make phoning difficult. Carriers will block calls coming into the region to relieve circuit overload; however, outbound calls, as well as text messaging, are likely to be available.

Key Partner: Comcast²⁷

Comcast provides voice (wireline telephone service), video (television), Data (high-speed internet, Wi-Fi hotspots, cellular backhaul services), Home security/home automation services to the Emeryville community.

Comcast's distribution telephony network depends on other communication providers. If supporting providers' networks are operational, Comcast will maintain connectivity to all its customers. If an individual network should fail, Comcast will lose its connection to the customers using that particular network.

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²⁷ City of Berkeley. Local Hazard Mitigation Plan. City of Berkeley Fire Department, 1 June 2014. Web. 17 Mar. 2017, pgs 3-59 to 3-60. http://www.ci.berkeley.ca.us/uploadedFiles/Fire/Level_3_- General/2014%20LHMP.pdf.

To protect its infrastructure in earthquakes and other disaster, Comcast has hardened its sites. Additionally, all sites are connected via redundant fiber networks to maintain service to greater service areas. Major metro fiber routes are backed up by redundant routes and failover technologies.

After a catastrophic earthquake, due to facility redundancy of backbone/regional networks, Comcast expects that transport of major traffic should continue. However, local serving areas are more like to experience gaps in service due to lessened redundancy between headend facilities.²⁸

In the event of a power outage, Comcast will use battery backup to maintain services for up to eight hours. Comcast monitors its power supplies, and in the event of the backup batteries being depleted, generators are available to maintain service.

Comcast's ability to recover from facility damage after an earthquake will be determined by its ability to access headend locations, as well as to refuel generators if commercial power is lost. Customers may experience a total loss of video service, and total loss or severe network congestion of voice and data services. Comcast also provides cellular backhaul services for Verizon Wireless.²⁹ Impacts to Comcast's infrastructure could potentially impact Verizon's service to its customers.

Key Partner: AT&T³⁰

AT&T provides and maintains telephone service to Emeryville residents, along with internet access, U-verse Television Service, mobile telephone service, and other business services. The telephone wires, conduits, coaxial cables and fiber optic lines have been tested and designed to be highly resistant to earthquake shaking, and easy to reroute should problems occur. AT&T expects some telephone outages, including mobile phone service after a major earthquake and service restoration could take hours to days, depending on the radius.

AT&T Notable Mitigation Activities

In 2015, AT&T became the first telecom service provider to be certified under the new International Business Continuity Management Standard (IS) 22301:2012) for the Voluntary Private Section Preparedness Program. AT&T has extensive experience in planning for and responding to crises. AT&T developed its network disaster recovery (NDR) capability specifically to allow rapid service recovery following a catastrophic event. The AT&T NDR team has managers, engineers, and technicians who receive special training in physical recovery of AT&T's network. Members participate in several

²⁸ A "headend" is a master facility for receiving television signals for processing and distribution over a cable television system.

²⁹ In a hierarchical telecommunication network, the "backhaul" portion of the network comprises the intermediate links between the core network, or backbone network and the small sub-networks at the "edge" of the entire hierarchical network.

³⁰ Information provided by Bradley Huntington, Account Manager Easy Bay, for AT&T.

recovery exercises each year to test, refine, and strengthen AT&T's business continuity and disaster response services in order to minimize network downtime.

AT&T has a fleet of specially-designed semi-tractor trailers that contain the same type of equipment that is normally installed in a permanent AT&T office. The technology trailers can be interconnected to recover capabilities of a network office that has been heavily damaged or destroyed. The equipment is maintained in and deployed from warehouses strategically located in the U.S. and abroad. AT&T can also establish broadband and wireless voice and data connectivity from disaster sites using one or more Emergency Communication Vehicles (ECV). An ECV uses a satellite link to provide NDR with command communications during the initial phase of the recovery effort. The ECV's can also be used to provide command and humanitarian relief communications capability to other emergency responders. AT&T also uses Cells on Wheels (COWs) and Cells On Light Trucks (COLTs) which are self-contained mobile cell sites and can provide extra cellular capacity to restore communications after a disaster. These mobile sites can be used to replace the service of a failed permanent cell site and/or they can be used to supplement the cellular capacity of an area that has increased demand.

Key Partner: Verizon Wireless³¹

Verizon Wireless serves its individuals, government and business customers with voice and/or data services via Verizon's wireless cellular network. Verizon prepares year-round for natural disasters and other emergencies. Verizon Wireless currently has more than 200 business continuity/disaster recovery plans in place, covering all of the company's critical business functions. The Verizon Wireless business continuity team conducts emergency drills throughout the year to increase the company's response capabilities.

Verizon has a foundation of 148 switching facilities nationwide. One of those switching stations is located in Fairfield, California. The Fairfield switch routes calls and data for thousands of Northern California customers from Mendocino to Palo Alto. Verizon has designed and built its network with day-to-day reliability and disaster resilience in mind. Battery power backs up all of the facilities, and generators stand ready at all switching facilities and many cell site locations to help keep the network running during power outages.

Verizon Wireless also has a fleet of mobile network equipment that includes COWs (cells on wheels), COLTS (cells on light truck), RATs (repeaters and trailer) and GOATs (generators on a trailer). This equipment can be quickly deployed to boost network signals, particularly in remote areas, and provide back-up power to cell sites and switching centers in case of commercial power outage. It also has pre-arranged fuel deliveries in case of an event, with tankers poised and in position to respond to hard-hit areas.

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³¹ Flato, Heidi. "From the Army Signal Corps to Wireless: Staying Connected During a Crisis." Verizon Wireless News Center. 18 Apr. 2014. Web. 17 Mar. 2017. https://www.verizonwireless.com/news/article/2014/04/staying-connected-during-a-disaster.html.

In addition, Verizon's local network group trains and drills for disaster events, and local personnel have aided recovery efforts for other disasters outside the Bay Area, such as Hurricanes Katrina and Sandy. In the event of a disaster, Verizon makes the resources of the entire company available locally.

Key Partner: TelePacific

TelePacific is the City's provider for both voice and data services. This phone system has incoming PRI (Primary Rate Interface) lines at three sites. All City sites are connected to each other by fiber lines operated by the City's Internet Service Provider, Paxio. In the event of a PRI line failure, calls will re-route automatically to one of the other PRI lines and will find their way to the intended destination over the fiber network. Similar to Comcast, TelePacific's network depends on other communication providers. If supporting provider networks are operational, then TelePacific will remain operational and the City will maintain its connectivity. However, if the other providers network should fail, TelePacific and thus the City will be unable to operate.

Aviation Fuel Pipeline – Key partner: Kinder Morgan Corporation³²

Two aviation and multi-purpose pipelines run along the railroad tracks from Richmond to the Oakland Airport, through Emeryville. The pipes are made of high-pressure welded steel, installed primarily in the 1960s, although a few segments were installed in the 1950s. The company has not conducted a study of the impacts of an earthquake on the Hayward fault. This type of pipeline, however, is known to have performed well, due to its ductile nature, in earthquakes elsewhere in the world. Kinder Morgan has focused on developing procedures to respond immediately after a disaster to shut down the pipeline. Each pipeline has automatic, remote control and other manual valves along its length and the flow can be shut down within minutes. Kinder-Morgan reported that after the 1989 Loma Prieta earthquake, these pipelines were shut down and monitored for leaks, breaks and changes in pressure. No damage was found.

Transportation Systems

Roadways are typically divided into two components: roads and bridges. In past earthquakes, both have experienced catastrophic failures. In Loma Prieta, there was a collapse of both the Cypress Street Viaduct in Oakland and the Bay Bridge deck. The entire City of Emeryville is located in the highest two categories for shaking potential as well as within a liquefaction hazard zone as previously shown in Figures 4.1.3.1 (a) and 4.1.3.2 (a). In the event of a catastrophic earthquake, vehicle movement through and in the City could be severely impacted. Transportation on the peninsula (west of Interstate 80) is especially vulnerable to liquefaction and could be severely impacted.

The City controls all local roads, curbs, paths and sidewalks except for San Pablo Avenue (State Route 123) and West MacArthur Boulevard, which are controlled by Caltrans. The City is also responsible for the Powell Street and 40th Street bridges as well as the

³² Information provided by Nicole Stewart, Area Manager for Brisbane Terminal and Richmond Station.

Pedestrian Bridge at the AMTRAK Station. The 40th Street Bridge was built in 1992, the Powell Street Bridge was retrofitted in 1993 and the Pedestrian Bridge was built in 1994.

Key Transportation Partner – Caltrans³³

Interstate 80 sits entirely in a very high liquefaction zone. In the scenario of a 7.1 earthquake on the Hayward Fault, the ground underneath Emeryville's portions of Interstate 80 is predicted to liquefy. Interstate 80 bisects the City and is a major thoroughfare for not only Emeryville but for the whole Bay Area. If the portion of Interstate 80 that runs through Emeryville should fail, the peninsula could find itself isolated from the rest of the City. The City's only Police Station is located on the peninsula.

Caltrans is responsible for constructing and maintaining the statewide highway system which includes Interstate 80 and State Route 123 (San Pablo Avenue). The 1989 Loma Prieta earthquake caused significant damage to Caltrans structures, such as bridges, overpasses and on-ramps.

Caltrans Notable Mitigation Activities

After Loma Prieta, Caltrans launched a comprehensive review of earthquake safety on highways throughout the State. A program to retrofit all vulnerable structures was started and the overpass structure over Powell Street was widened and subsequently retrofitted to the "non-collapse" criteria as of 1998. Caltrans seismic design of structures involves utilizing site specific geological conditions and selecting a 'maximum credible quake' expected to impact the structure.

Recently, Caltrans did some rough modeling on structure response (damage) in the San Francisco Bay Area according to a few likely quake scenarios. The Powell Street structure indicated 'low to moderate' damage expected at worst, which mostly likely would result in imposing 'load restrictions' on the structure until damages are repaired but was not expected to be in danger of a collapse.

After a significant quake, the City can contact Caltrans directly for a priority inspection of the Powell Street structure for purpose of 'life and safety' operations and to promptly resolve securing access across Interstate 80 if the passing under the overpass is prohibited.

Key Transportation Partner - Bay Area Rapid Transit (BART)34

Although BART does not run through the City directly, it provides an important transportation link to the City of Emeryville. BART is one of the San Francisco Bay Area's

³³ Information provided by Bob Braga, PE, Branch Chief – Maintenance Services; Emergency Management: Planning and Training, Caltrans – District 4.

³⁴ City of Berkeley. Local Hazard Mitigation Plan. City of Berkeley Fire Department, 1 June 2014. Web. 17 Mar. 2017. Pages 3-55 – 3-56. http://www.ci.berkeley.ca.us/uploadedFiles/Fire/Level_3_- General/2014%20LHMP.pdf.

most vital transportation links throughout the East Bay and between the East Bay and San Francisco, carrying an average of 392,300 passenger trips a day.

BART Notable Mitigation Activities

In 2002 BART completed a study of the earthquake vulnerability of the entire system, analyzing multiple earthquakes, predicting damage, and assessing cost-effectiveness of retrofits. This study was the most comprehensive evaluation of BART facilities since the original construction of the system. It involved one and one-half years of engineering and statistical analyses. The study also incorporated information from the 1994 Northridge, California and 1995 Kobe, Japan earthquakes.

The results of the Seismic Vulnerability Study indicated that if the BART system was not strengthened, it would take years to restore service after a major earthquake. The study found that portions of the system most susceptible to earthquake damage included the Transbay Tube, various aerial structures, stations and equipment. The study recommended that priority be given to the Transbay Tube, where soil backfill is prone to liquefaction. Though the consequences of liquefaction on the Tube are uncertain, a worst-case scenario could cause excessive movement of the seismic joints and structural stress that could result in significant damage. Work to upgrade the Transbay Tube seismic joints was completed in 2010. BART continues to secure the Transbay Tube to a higher level of strength against future large earthquakes.

Through its Earthquake Safety Program, BART is working to prepare the entire BART system to better withstand future earthquakes. Upgrades to the system are being funded by \$980 million in General Obligation Bonds, authorized by voters in Alameda, Contra Costa, and San Francisco counties, supplemented with an additional \$240 million from other sources. BART anticipates the completion of all earthquake upgrades by 2022.

BART's investment in earthquake retrofit is strengthened by its earthquake early warning system, which can help prevent train derailments in the system by slowing or stopping trains upon notification of an earthquake. Currently, BART has a system in place, which is activated when an earthquake larger than magnitude 4 or 5 is experienced within the BART system. BART is working with UC Berkeley and others to implement a statewide earthquake early warning system. This system would issue notification to operators such as BART upon detection of P-waves.³⁵ Upon notification, BART would automatically slow or stop trains within the system. The length of advance warning depends on how far away the earthquake originates.

Key Transportation Partner – Emery Go-Round

The Emery Go-Round is a fare-free shuttle service, open to all Emeryville residents, shoppers, visitors and employees of Emeryville businesses. Emery-Go-Round is a service of the Emeryville Transportation Management Association, a non-profit

³⁵ P-waves are non-destructive, earthquake-generated waves. They travel faster than secondary waves (S-waves), which create the strong shaking responsible for structural damage in earthquakes.

organization whose primary objective is to increase access and mobility to, from and within Emeryville while alleviating congestion through operation of the shuttle program. The Emery-Go-Round connects key job and activity centers in the City with BART and AC Transit transportation hubs. The shuttle service carries over one million passengers each year, on seven shuttle routes. Since BART does not have a station in Emeryville, the Emery-Go-Round provides essential connectivity to points within and outside Emeryville. If roads are impassible, the Emery Go-Round shuttle could be affected.

Key Transportation Partner - AMTRAK/Union Pacific³⁶

Rail service in Emeryville is provided along the Union Pacific (UP) right-of-way. The rail corridor in Emeryville, which is approximately one mile in length, is located on the west edge of the City between Shellmound Street and Hollis Street. It is an important link in the region's freight and passenger rail network. Local and regional freight and passenger traffic traveling from the Bay Area to Sacramento, the Central Valley, and all along the West Coast from Seattle to Los Angeles and across the nation to Chicago, all rely on use of this corridor to move goods and people.

The UP right-of-way contains two main tracks through Emeryville along with parallel support trackage on each side. The parallel support trackage is considered part of the West Oakland Railroad Yard also known as Desert Yard. As such, on any given day one can find a long line of rail cars including tanker cars parked on the track in Emeryville.

Approximately 30 freight trains pass through Emeryville every day. There are no rail shippers within the City, and so all freight traffic is through traffic. Trains in the northbound direction are primarily headed for UP's major Northern classification yard in Roseville or for transcontinental destinations such as Chicago, Kansas City or St. Louis. Southbound, most trains are headed to the Port of Oakland or UP's Oakland classification yards. Trains are also bound for shippers along the East Bay rail routes to San Jose and to Southern California. Freight trains include various sorts of traffic, from containers and trailers on flatcars or double-stack intermodal cars, to set up automobiles and general carload traffic, such as boxcars, gondolas, tank cars and lumber carriers.

Amtrak has rights under federal law to operate intercity and long-distance passenger rail service on the UP tracks through Emeryville. Long distance operations occur once a day in each direction on both the California Zephyr (Emeryville to Chicago) and the Coast Starlight (Seattle to Los Angeles). Regional Service is provided daily on the Capitol Corridor (Sacramento – San Jose) and San Joaquin (Bakersfield – Oakland) services. All these passenger services stop at the Emeryville Amtrak Station which is located south of 65th Street and North of the Powell Street overcrossing. Approximately, 44 passenger trains run through Emeryville daily, about four to five trains per hour in both the AM and PM peak hours.

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³⁶ Wilbur Smith Associates, and Adavant Consulting. Emeryville Railroad Quiet Zone Study Draft Report. Page 1-3 to 1-5. 2 June 2008.

Of the 76 California stations served by Amtrak, Emeryville was the fourth busiest station in fiscal year 2015, boarding or detraining 587,926 passengers for an average of approximately 1,610 passengers daily.³⁷

All trackage is located in the two highest zones for shaking and liquefaction potential. Although there have not been any passenger or freight train accidents or derailments in Emeryville, a train passing through the City during a large earthquake could potentially derail.

Sanitary Sewer System

The City of Emeryville's sanitary sewer system is 15 miles. The collection system serves the entire City. In addition, approximately 11 miles of sanitary sewer mains from 370 acres of primarily residential property in the City of Oakland and .25 acres of residential property in the City of Berkeley drain into Emeryville's sanitary sewer system.

The City is responsible for the sanitary sewer collection system. This system links to EBMUD's wastewater interceptor line, which runs under Shellmound Street, to their wastewater treatment facility located near the eastern side of the Bay Bridge. All of the City's sanitary sewer system is located in the two highest liquefaction zones. Liquefied areas may move laterally causing breaks in the City's underground sanitary sewer pipelines. Depending on the severity of earth movement, water and sewer lines could break, and the safety of the drinking water could also be compromised. Liquefied areas could also compromise EBMUD's wastewater interceptor line. Damage to either system would interrupt the systems' ability to convey sewage.

The City's sanitary sewer system relies on water to function. If EBMUD's water system is compromised, the sewer sanitary collection system will be useless. The City's sanitary sewer pump is located on the peninsula. Without power, it could fail, leading to major sewage overflows. The City would need to bring in a generator if power is out; however, depending on other needs in the City and the ability to access the peninsula, this may not be possible.

Storm Drains

Liquefaction could also cause significant damage to the City's storm drainage system. If the next earthquake occurs during or shortly before a rainstorm, the City could experience significant flooding in areas that have not seen floodwaters previously.

³⁷ Amtrak Fact Sheet, Fiscal Year 2015, State of California. Amtrak, 2015.

HAZARDOUS MATERIALS

PROBABILITY - LOW

SEVERITY - HIGH

Hazardous materials consist of substances that by their nature, lack of containment, and reactivity, have the capability of inflicting harm. Hazardous materials pose a threat to the public's health as well as to the environment when improperly managed and can be toxic, corrosive, flammable, explosive, reactive, an irritant or a strong sensitizer. Hazardous material substances also include certain infectious agents, radiological materials, oxidizers, oil, used oil, petroleum products, and industrial solid waste substances.

Hazardous materials can pose a threat where they are manufactured, stored, transported or used. They are used in almost every manufacturing operation and by retailers, service industries and homeowners. The City historically had a high concentration of industrial and manufacturing facilities. However, most of these facilities and industries ceased operations in the 1970's. This left the City with a lot of contaminated land that could not be redeveloped without remediation. In 1995, the US EPA initiated a program to help states, communities and others to redevelop abandoned contaminated land. The City was able to take advantage of this program and as of 2008, more than 40 sites totaling 240 acres had been targeted for cleanup and have been or are identified for redevelopment. These properties have been largely converted or will be converted to other uses, such as office, commercial retail, and residential.³⁸

A hazardous materials' release in the City of Emeryville could occur by a ruptured gas or petroleum pipeline, illegal dumping into the sewer or storm-drain system or into Temescal Creek, legal transportation of chemicals by railroad (train derailment), commercial truck carrier (accident on a City street or on Interstate 80/580), a spill from a commercial or recreation vehicle in the Bay, or the handling of chemicals at a licensed facility.

PIPELINES

As previously noted, there are two aviation and multi-purpose pipelines that run through Emeryville, along the railroad tracks from Richmond to the Oakland Airport. These pipes are made of high-pressure welded steel, installed primarily in the 1960s, although a few segments were installed in the 1950s. Each pipeline has automatic, remote control and other manual valves along its length and the flow can be shut down within minutes.

The City has a natural gas transmission line, similar to the gas transmission line that exploded in San Bruno in 2010, that runs through the City underneath the railroad tracks alongside the jet fuel line. As a consequence of the San Bruno rupture, PG&E has proposed a plan to modernize its gas transmission operations over the next several years.

³⁸ City of Emeryville. Emeryville General Plan. City of Emeryville Planning Division. October 2009. Web. 17 Mar. 2017. Pages 6 – 15. http://emeryville.org/DocumentCenter/Home/View/1016.

TRANSPORTATION - RAIL, ROADS AND VESSELS

Approximately 30 freight trains pass through Emeryville every day. At this moment in time, no oil or coal is carried through the City but other hazardous materials are transported on a daily basis. Over the past 2 decades, many multi-family housing units have been built on either side of the railroad tracks. The following multi-unit housing developments are located next to or within a block of the railroad tracks:

- 45th Street Artist Cooperative (Founded in 1973; 3 buildings, 60 studios)
- Bridgewater Condominiums (Built in 1988; 3 stories, 424 Units)
- Artistry Apartments (Built in 1989; 5 stories, 261 units)
- Emeryville Warehouse Lofts (Built in 1999; 5 stories, 141 units)
- The Terraces at Emery Station (Built in 2003; 5 stories, 101 units)
- Courtyard Apartments (Built in 2004; 4 stories, 331 units)
- Bay Street (Built in 2007; 4 stories; 284 units)
- Blue Star Corner Townhomes (Built in 2007; 20 three level townhouse units)
- Emme Apartments (Built in 2014; 4 stories, 190 units)

In addition, IKEA, Bay Street Shopping Center, Hyatt House Hotel, Hyatt Place Hotel, Grifols pharmaceutical laboratories, Novartis pharmaceutical laboratories, the EmeryStation office and laboratory complex and the Public Market are also located in close proximity to the railroad tracks. Temescal Creek also crosses under the tracks. A train derailment anywhere along the City's one mile of train track could pose a significant risk to Temescal Creek, to those living and or working in close proximity to the tracks as well as to the community as a whole.

Hazardous materials transported through Emeryville by truck can pose a significant public safety hazard. Interstate 80 is located at the foot of the Bay Bridge and the MacArthur Maze which makes it vulnerable to both rail and truck accidents involving hazardous materials. It is one of the most heavily traveled roads in the Bay Area. The risk of a transportation related accident is mitigated by the many federal and state safety precautions and regulations, and by the fact that accidents on freeways are likely to be detected and reported quickly.³⁹ In the event of a spill, or other accidental release on Interstate 80/580, the Alameda County Fire Department and/or Oakland Fire Department would be the first responders, while Caltrans would assume responsibility for the subsequent cleanup.

Hazardous materials incidents from spills from commercial or recreational vessels in the Bay have impacted the San Francisco Bay Area from time to time. On November 7, 2007, the container ship Cosco Busan struck the Delta Tower of the San Francisco Bay Bridge

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³⁹ City of Oakland. 2016-2021 Local Hazard Mitigation Plan. 7 June. 2016. Web. 17 Mar. 2017. Page 96. http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak058455.pdf.

during a thick fog. Over 53,569 gallons of heavy fuel oil spilled into the San Francisco Bay affecting birds, marine mammals, fish and humans. Several months later in January 2008, oil from this spill turned up on the Emeryville peninsula shoreline.

BIOTECH

Several large office complexes with state of the art laboratories have been built in the City over the past 27 years. The Berkeley-Emeryville Bio Cluster has one of the largest concentrations of biotech firms in the state. Some 100 firms occupy more than 1.45 million square feet of commercial bio-lab space. As of March 31, 2016, there were 82 facilities listed on the City's Lab Inventory. An accident in any one of these facilities could have an impact on the surrounding housing and other businesses.

DEVELOPMENT DUST / HAZARDOUS WASTE

The City of Emeryville has been under constant development since the 1970s when the City's make-up began to change. As older industries began to move out of the City or close up shop altogether, new development took their place, with construction still continuing in the City to this day. Even though construction projects are typically short-term or temporary in duration, project generated emissions could impact the air quality and/or global climate change.

The U.S. EPA, the California Air Resource Board and the Bay Area Air Quality Management District all have guidelines and regulations to control development dust at construction sites. In addition, the City also has conditions of approval regarding construction dust and waste that all development projects must adhere to when working on a development project.

CLIMATE CHANGE⁴⁰

PROBABILITY - HIGH

SEVERITY - HIGH

Climate change is the greatest environmental challenge of the 21st century. It poses a serious and significant issue for the entire City. Scientists expect that with the current trends in fossil fuel use, Californians may see more intense heat waves, droughts, rainstorms, floods, wildfires and landslides in the future. These impacts affect our natural environment, our built infrastructure, and the health and safety of the people in our community, especially people of color and the poor.⁴¹ The City of Emeryville has been

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⁴⁰ Emeryville Climate Hazard Analysis. Four Twenty Seven Climate Solutions. August 2016.

⁴¹ Morello-Frosch, R., M. Pastor, S. Shonkoff, and J. Sadd. "The Climate Gap: Inequalities in How Climate Change Hurts Americans & How to Close the Gap PERE USC Dana and David Dornsife College of Letters, Arts and Sciences." The Climate Gap: Inequalities in How Climate Change Hurts Americans &

an active environmental player in the last decade. In 2008, Emeryville was among the first wave of US Cities to adopt a climate action plan (CAP) to reduce greenhouse gas (GHG) emissions by 25% by the year 2020. The City made progress towards this goal with the installation of solar panels on several city facilities, street lighting upgrades, adoption of an eco-foodware ordinance, and city-wide multi-stream recycling. The Emeryville Climate Action Plan 2.0 updated and adopted in 2016, builds on this progress and sets a path for reaching Emeryville's 2030 and 2060 goals, creating a vision for a carbon-neutral City, and preparing the City for the impacts of climate change. This section identifies three main impacts of Climate Change on the City of Emeryville – Drought, Sea Level Rise and Extreme Weather.

DROUGHT

PROBABILITY - HIGH

SEVERITY - HIGH

In 2014, the Governor declared a State of Emergency in California in response to the State's drought conditions which began in 2012. A wet winter in 2016/17 helped ease enough of the drought conditions to have the Governor declare the end of the drought in April 2017. Although the 2017/2018 winter was another less than average year, 2018/2019 saw above normal rainfall easing drought conditions for most of the State except for a small pocket in the most Northern region and the lowest Southern region of the State.

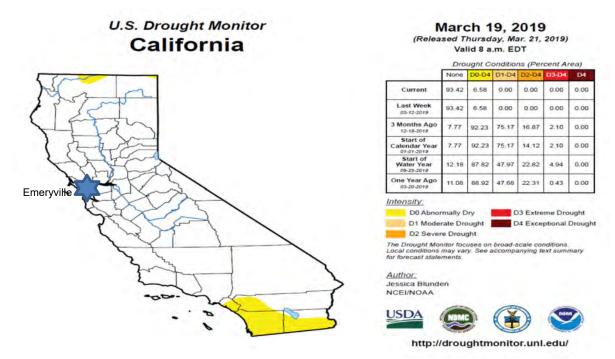


Figure 4.3.1(a). California Drought Monitor as March 19, 2019

How to Close the Gap PERE USC Dana and David Dornsife College of Letters, Arts and Sciences. May 2009. Web. 17 Mar. 2017. http://dornsife.usc.edu/pere/climategap.

While California had experienced prolonged droughts in the past, notably 1973, 1975-77, 1987-1992, and 2007-2009, the 2012 – 2017 drought was one of the most severe and costliest droughts of record in California.

Drought conditions are likely to become more frequent and persistent over the 21st century due to climate change.⁴² With this scenario, California faces an uncertain water future as climate change will likely increase the number and severity of future droughts. The cumulative impact of climate change will result in drier conditions and could alter the timing and efficiency of the Bay Area water supply. An increase in temperature and a reduction in snow pack are the two most direct effects of climate change that will result in a drier state with fewer natural water resources than historically have been available.⁴³

Drought can increase wildfire hazard, reduce water supply for crops and livestock, and can cause subsidence due to a lowering water table. Past experiences with California droughts indicate that drought impacts are felt first by those most dependent on or affected by annual rainfall or snowpack, including firefighting agencies, ranchers engaged in dryland grazing, farmers growing crops in arid zones, rural residents relying on wells in low-yield rock formations, or small water systems lacking a reliable water source. More recently, increased tree mortality, exacerbated by the drought, has resulted in millions of dead trees around the State causing hazards to people, property, and infrastructure and creating a greater risk of wildland fires.⁴⁴

Cape Town, South Africa is an example of what the future could possibly bring to the entire City of Emeryville, the Bay Area and the State of California. In Cape Town, population growth and a record drought sparked one of the world's worst urban water crises.

In 2014, six dams in Cape Town were full but then there were 3 straight years of drought. The water crisis peaked in mid-2017 to mid-2018. At that time, there was concern that water levels would dip so low that municipal water supplies would need to be largely turned off and residents would have to line up for a daily ration of water. Cape Town would have been the first major city in the world to potentially run out of water.⁴⁵

Cape Town implemented significant water restrictions and succeeded in a bid to curb water usage. Those restrictions, along with strong rains in June 2018, let dam levels to increase. In September 2018, dam levels were close to 70% and the City began to ease water restrictions.⁴⁶

⁴² 2009 California Climate Statewide Adaptation Strategy. California Natural Resources Agency, 2009.

⁴³ Bay Area Landscape Draft. Association of Bay Area Governments. 2015.

⁴⁴ California State Hazard Mitigation Plan|September 2018, Section 9.1 – Page 596

⁴⁵ "Day Zero, when is, what is it and how can we avoid it," http://www.capetown.gov.za/Media-and-news/Day%20Zero%20when%20is%20it,%20what%20is%,%20it,%20how%20can%20we%20avoid%20it City of Capetown

⁴⁶ Cape Town Water Crisis, https://en.wikepedia.org/wiki/Cape Town water crisis

There are many other large urban cities who are also threatened with a water crisis. 21 million residents of Mexico City only have running water part of the day, major cities in India already do not have enough water and water managers in Melbourne, Australia are reporting that they could run out of water in little more than a decade.⁴⁷

Before reaching a crisis level, a prolonged drought in Emeryville could have economic, environmental and social impacts for the City. Water companies may have to spend more money on new or additional water supplies resulting in increased costs for the consumer. Lower levels of water could cause more wildfires and loss of wetlands. There could be a threat to public safety in the form of health problems related to dust, lower water flows and poor water quality. There also could be damage to landscaping and city trees as well as an increased fire hazard. At a crisis level, the City, along with all the Bay Area would be severely impacted. This could result in water rationing. Water rationing would affect everyone in Emeryville - residents, businesses, the old and young and everyone in between.

SEA LEVEL RISE⁴⁸

PROBABILITY - HIGH

SEVERITY - HIGH

Sea level rise will increase the likelihood and intensity of flooding in Emeryville, including more frequent storm surges, flooding during high tides, and rapidly increasing shoreline erosion.

As identified in the City of Emeryville Climate Action Plan 2.0 2016, the 2012 National Research Council (NRC) Report Sea Level Rise for the Coasts of California, Oregon and Washington: Past, Present and Future, identified likely sea level rise estimates throughout the 21st century for the west coast of the United States based on moderate greenhouse gas emissions and continued acceleration of glacial melt patterns. The projections applicable to Alameda County are six inches of sea level rise by 2030 (range: 2 – 12 in), 11 inches by 2050 (range: 5-24 in), and 36 inches by 2100 (range 17-66 in) relative to the year 2000.⁴⁹ The assets most at risk from sea level rise in Emeryville include those structures and roads located on the marina and shoreline, along with those areas neighboring the railroad to the southwest.⁵⁰ These assets include the police and fire Stations, several restaurants, high-rise office buildings, a hotel, and residential condominiums on the peninsula; the railway flooding would extend into Southern

⁴⁷ https://news.nationalgeographic.com/2018/02/cape-town-running-out-of-water-drought-taps-shutoff-other-cities/, Craig Welsh, March 5, 2018.

⁴⁸ City of Emeryville. Climate Action Plan 2.0 2016. 2016. Web 17 Mar. 2017. Pages 46 – 47. http://www.ci.emeryville.ca.us/DocumentCenter/Home/View/9327.

⁴⁹ National Research Council; Division on Earth and Life Studies; Board on Earth Sciences and Resources; Ocean Studies Board; Committee on Sea Level Rise in California, Oregon, and Washington. "Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future." The National Academies Press. 22 June 2012. Web. 17 Mar. 2017. https://www.nap.edu/catalog/13389/sea-level-rise-for-the-coasts-of-california-oregon-and-washington.

⁵⁰ Emeryville Climate Hazard Analysis. Four Twenty Seven Climate Solutions. August 2016.

Emeryville and impact a few blocks of the area to the east of the railway, as well as a section of the Bay Street shopping center to the west.

At this time, there is no documented measurable sea level rise along the Emeryville Marina, but Emeryville crescent is suffering from erosion.

Maps of Projected Sea Level Rise⁵¹



4.3.2.a (i). Projected 1 Ft of Sea Level Rise

⁵¹ Project sea level rise maps generated based on NOAA Office for Coastal Management Sea Level Rise Impacts Viewer with layer data compiled from Bureau of Land Management, HERE, Garmin, INCREMENT P, Intermap, US Geological Survey, METI/NASA, EPA, and US Department of Agriculture; data sets reflect potential sea level rise inundation of 1, 3, and 6 feet above current Mean Higher High Water (MHHW) for the area. The data set illustrates the scale of potential flooding, and does not account for erosion, subsidence, or future construction.



4.3.2.a (ii). Projected 3 Ft of Sea Level Rise



4.3.2.a (iii). Projected 6 Ft of Sea Level Rise

EXTREME WEATHER

PROBABILITY - HIGH

SEVERITY - HIGH

There have been changes in some types of extreme weather events in the United States over the last several decades, including more intense and frequent heat waves, less frequent and intense cold waves, and regional changes in floods, droughts and wildfires. ⁵² As greenhouse gas emissions increase, temperatures are expected to increase globally, placing growing stress on human health, water resources, energy systems and other critical assets. ⁵³

Extreme Heat

The U.S. Environmental Protection Agency (EPA) defines extreme heat events as "periods of summertime weather that are substantially hotter and/or more humid than typical for a given location at that time of year." From 1970 to 2000, Emeryville experienced a daily average temperature of about 59° F, an average maximum temperature of 66.5°F and an average minimum temperature of 51.5°F. According to Climate Change models, temperatures in the Bay Area are tending toward warmer average temperatures, which translate to more extreme temperatures. In the Bay Area temperatures are expected to increase between three degrees (in a low emission scenario) and six degrees Fahrenheit (in a high emission scenario). 55

Each year, approximately 20 people die in the State of California from heat-related emergencies. In the summer of 2006, a severe heatwave resulted in 655 deaths and over 16,000 emergency room visits throughout the State over a 13-day period. ⁵⁶

The most recent heat wave in the Bay Area occurred in late August 2017 and continued through early September. On September 1, 2017, San Francisco broke its all-time heat record with a temperature of 106° F. Temperatures topped out in the Oakland/Emeryville area at 101° F.

⁵² Melillo, Jerry M., Terese C. Richmond, and Gary W. Yohe. "Climate Change Impacts in the United States: The Third National Climate Assessment." GlobalChange.gov. US Global Change Research Program, 2014. Web. 17 Mar. 2017. http://www.globalchange.gov/browse/reports/climate-change-impacts-united-states-third-national-climate-assessment-0.

⁵³ Emeryville Climate Hazard Analysis. Four Twenty Seven Climate Solutions. August 2016. Page 10. ⁵⁴ US Environmental Protection Agency. Excessive Heat Events Guidebook. 2006. Web. 17 Mar. 2017. https://www.epa.gov/heat-islands/excessive-heat-events-guidebook.

⁵⁵ California Energy Commission. Climate Change Scenarios and Sea Level Rise Estimates for the California 2008 Climate Change Scenarios Assessment. By Dan Cayan, Mary Tyree, Mike Dettinger, Hugo Hidalgo, Tapash Das, Ed Maurer, Peter Bromirski, Nicholas Graham, and Reinhard Flick. California Climate Change Center, 2009. Web. 17 Mar. 2017. http://www.energy.ca.gov/2009publications/CEC-500-2009-014-D.PDF.

⁵⁶ Be Prepared for Hot Weather in California and Beat the Heat. Web. 2019 State of California. https://www.caloes.ca.gov/ICESite/pages/summer-heat-resources.aspx

Historically, Emeryville averages less than one day per year exceeding 90°F; however, this number could climb exponentially after mid-century. According to the City's Climate Action Plan 2.0 2016, by century's end the number of days per year above the 90°F could be up to 32 days a year if no changes are made in greenhouse gas emissions.

As most homes in Emeryville and other communities by the Bay, do not have air conditioning, this increase in number of extreme heat days would impact a larger number of households in the area, especially as the population ages. Although extreme heat will affect the entire Emeryville community, those most impacted in the City would be the very young, the elderly and the homeless. Heat-related illnesses can range from heat cramps to heat exhaustion to a life-threatening heat stroke. In the event of a heat wave, the City would need to plan to open more cooling centers in order to accommodate more people.

Freeze

Freezing temperatures in Emeryville are rare, and the number of very cold days is expected to decrease as temperatures increase. Under both high and low emissions scenarios, Emeryville is unlikely to experience a freeze throughout the entire century.

FIRES

PROBABILITY - LOW

SEVERITY - MEDIUM

The City of Emeryville does not have the terrain or vegetation conditions for large or devastating wildfires. However, urban fires, i.e. a residential or commercial structure fire or an industrial fire, are a constant threat. While fires are not entirely preventable, upgrades in building codes and safety standards for road and building construction help ensure the safety of the community.

WILDFIRES

PROBABILITY - LOW

SEVERITY - MEDIUM

A wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and destruction to property and lives. Wildfires can occur in undeveloped areas and spread to urban areas where structures and other human development are more concentrated. While some wildfires start by natural causes (lightning), humans cause four out of every five wildfires. Wildfires started by humans are usually the result of debris burns, arson, or carelessness.

Until the North Bay Fires in October 2017, the Oakland-Berkeley Fire of 1991, was the most destructive wildfire in State history, resulting in 25 lives lost, 150 injuries, destruction

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of 3,354 single family homes and 456 apartments, and \$9 billion in losses (in 2015 dollars).

Fortunately, Emeryville does not have the conditions for such a large wildfire. However, there is a section of the Shoreline Park on the peninsula that does have brush and vegetation. This section is located near the I-80/580 corridor and the MacArthur Maze, a major artery in the area's transportation system. An average of 270,000 vehicles a day transit this portion of freeways. Any ignition of this area could reduce visibility for drivers along portions of this very dense transportation corridor and cause a serious smoke threat to the cars and trucks on the road.

URBAN FIRES

PROBABILITY - LOW

SEVERITY - MEDIUM

Urban conflagration, or a large disastrous fire in an urban area, is a major hazard that can occur due to a number of causes – wildfires, earthquakes, gas leaks, chemical explosions or arson. The urban fire conflagration that followed the 1906 San Francisco earthquake did more damage than the earthquake itself. Although it is unlikely that City of Emeryville would experience an urban conflagration due to the improvements in community design, construction materials, and fire protection systems, the possibility of an urban conflagration still remains a threat to the Emeryville community. One reason is the current trend towards increased urban density and infill.

The City averages 2 fires a month with less than \$5,000 worth of damage, 1 fire a month with over \$5,000 worth of damage and 1 vehicle fire a month. However, on Wednesday, July 6, 2016, at approximately 2:45 am, a 6-alarm fire ripped through a five story 105-unit vacant apartment building under construction in Emeryville. The fire extended to an auto repair shop next door, destroying the shop and multiple vehicles parked on the street. It also caused moderate to significant damage to five townhouses located across street with an additional 10 townhouses declared uninhabitable. The fire caused approximately \$23,000,000 in damages (there was a 5-alarm fire at this exact same site on May 13, 2017 which caused similar damage). Both fires were the result of arson.

FLOODS

PROBABILITY - LOW

SEVERITY - MEDIUM / HIGH

Emeryville lies in the Central Basin within the San Francisco Bay hydrologic area. Although the topography of the City is generally flat, its elevations ranges from 0 to 60 feet above mean sea level and slopes down slightly to San Francisco Bay, which is a major receiving body. The other surface water feature in the City is Temescal Creek which flows west from the East Bay Hills into San Francisco Bay.

The City lies in the San Francisco Bay watershed. San Francisco Bay is the most prominent surface water body that receives surface water runoff from the City and groundwater discharge from the East Bay Plain. The southern portion of the Bay Shoreline in the City includes a salt marsh.

Temescal Creek, a main drainage outfall within the City is a channelized creek draining Lake Temescal (located in Oakland). It flows through the City, passes under Interstate 80, and discharges into San Francisco Bay in the Emeryville Crescent. The creek runs underground through most of the City. The creek flows are regulated by the Lake Temescal Reservoir.

The latest Federal Emergency Management Agency (FEMA) map of Emeryville's flood risk potential is from December 2007 and went into effect on August 3, 2009. As shown in Figure 4.5 (a), the majority of Emeryville is designated as Zone X (i.e. areas outside the 500-year flood zone). Zone V, the Coastal High Hazard Area, only includes City coastal and tideland areas, which do lie within the 100-year flood zone; however, these areas do not contain urban uses or structures. Flooding in the City could also occur as a result of storm-induced flooding, inundations from a tsunami and dam failure as discussed below.

Due to the geographical location of the City of Emeryville, there are currently no identifiable residential, commercial, or institutional properties that have experienced repetitive losses related to flooding within any 10-year period since 1987. Estimated risk for flooding in the City is one percent chance of flooding in the 100-year floodplain (once every 100 years) and a 0.2 percent chance in the 500-year floodplain.⁵⁷ The City does participate in the National Flood Insurance Program but as highlighted by Figure 4.5 (a) FEMA Flood Hazard Map, the City of Emeryville is not zoned where it would be mandated that property owners are required to purchase flood insurance.

The City enforces FEMA and NFIP regulations through the Emeryville Municipal Code Title 8, Chapter §8-21 Floodplain Management. Only Zone V is considered a Special Flood Hazard Area and subject to the requirements of this chapter. Although Zone V is the coastal waters and tideland areas, the City's Floodplain Management Ordinance requires a development permit be obtained before any construction or other development can occur in this area and any construction or development in this area must be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

⁵⁷ Emeryville Climate Change Chapter. Berkeley: Four Twenty Seven Climate Solutions, 28 Dec. 2016.

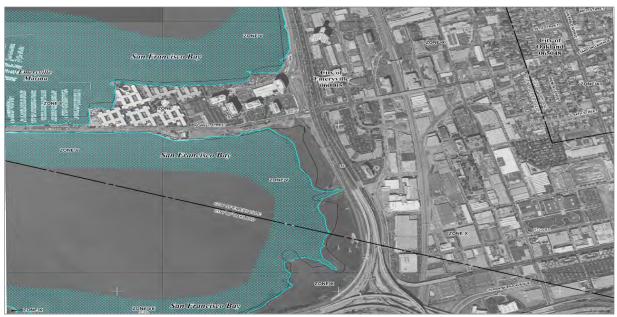


Figure 4.5 (a). FEMA Flood Hazard Map

SEASONAL FLOODING

A flood is defined as an overflowing of water onto an area of land that is normally dry. Flooding occurs when streams, rivers, lakes, reservoirs, or coastal water bodies are abnormally high and overflow into adjacent low-lying areas, areas at risk of recurring floods are known as floodplains. Floods generally occur from natural causes, usually weather-related, often in conjunction with a wet or rainy winter or with sudden and very heavy rainfalls. Homes, businesses as well as roads and other infrastructure can all sustain damage as the result of seasonal flooding.

Coastal flooding is generally associated with Pacific Ocean storms from November through February when high tides coincide with strong winds both on the outer coast and within the Bay. Floods, can however, result from human causes such as a dam failure, or a catastrophic failure of a large diameter water main.

Emeryville has a number of sites that had been susceptible to floods, such as the areas east of the Southern Pacific railroad tracks, including the Hollis Street business areas and the Federal Post Office property. Low lying areas affected by tidal and high winds have been and are susceptible to damage and flooding in the west peninsula shoreline area. Prior to 1963, periodic flooding and erosion occurred along Temescal Creek resulting in extensive property damage. The floodplain of the creek was then incorporated into Alameda County Flood Zone 12, most of the length of the creek was put into an underground culvert, and a deeper and wider concrete channel was constructed to contain the 100-year flood level.

On February 25, 2004, the City experienced a winter storm which caused flooding at a magnitude that had not been seen in recent memory. The storm generated a rain event

with an intensity of at least a 25-year design storm, combined with high tide. Emeryville's Drainage Basin 27 had streets that were flooded to depths of greater than two feet. The streets impacted were LaCoste Street, 62nd Street, Overland Drive and 64th Street which included the Emeryville Post Office on 62nd Street. Cars that were parked along these streets were damaged by the flood waters, but no businesses suffered water intrusion. Access to businesses located on these streets was affected for several days until the waters receded.

On January 20, 2010, the City again experienced flooding conditions on the above referenced streets, although not as severe conditions as in 2004. As in the 2004 flooding, no businesses suffered water intrusion, but access to these businesses was severely limited due to the flooded streets.



2010 flooding along 62nd Street, Emeryville, looking west



Previous flooding on 61st Street, Emeryville

To mitigate any future flooding in this area, the Alameda County Flood Control District, working with the City, designed a new flood control bypass system to alleviate the flooding on the above-mentioned streets. This new underground system called for new connections to the existing drainage system to pipe storm water off the streets and into San Francisco Bay. Construction for this project cost \$8.5 million and was completed in November 2010.⁵⁸ This area has not suffered any flooding since the completion of this project.

Impacts from seasonal flooding could include water intrusion into homes and businesses and streets becoming impassible and damaged due to flooding. This damage could have an economic impact on residents, businesses and the City.

TSUNAMIS

A Tsunami is a wave, or a series of waves, caused by an underwater earthquake, landslide or volcanic eruption. When a large, submarine earthquake (magnitude 8.0 or higher) occurs it creates a significant upward movement of the sea floor resulting in a rise or mounding of water at the ocean surface. This mound of water moves away from its center in all directions as a tsunami. Tsunamis are dangerous because they can strike with tremendous force and little warning and they can also devastate coastal

⁵⁸ Alameda County Flood Control & Water Conservation District, Report to the Community Fiscal Years 2011 & 2012, Page 5

communities. They are a significant threat to human health, built and natural environments, and local, regional, and national economies.⁵⁹

Tsunamis affecting the Bay Area can result from offshore earthquakes within the Bay Area, or from very distant events. While it is most common for tsunamis impacting the Bay Area to be generated by faults in Washington and Alaska, local tsunamis can be generated from local faults running underwater (such as the small tsunami that was triggered by the 1906 earthquake). The San Andreas Fault runs along the coast off the Peninsula and the Hayward Fault runs partially through San Pablo Bay.

Tsunamis generally impact the Pacific Coast of California, and reports of tsunamis entering the San Francisco Bay are rare. However, on March 11, 2011, as a result of an earthquake off the coast of Japan, a half-meter-tall surge was observed entering the waters off Emeryville at 9:38 am (See figure 4.5.2 (a)). As there are no structures or docks located on that side of the peninsula, there was no reportable damage in Emeryville, although there was minor damage at the Berkeley Marina.



Figure 4.5.2 (a). Picture taken by Steve Winter March 11, 2011

⁵⁹ NTHMP Tsunami Information Guide March 2019, Presented by the National Tsunami Hazard Mitigation Program, Page 7

The Great 1868 Earthquake on the Hayward Fault is reported to have created a seiche within the Bay (a seiche is a tsunami that occurs within an enclosed body of water). It is unknown on whether the seiche impacted the area that is now the City of Emeryville.

The Emeryville General Plan – Chapter 6: Conservation, Safety and Noise describes the tsunami hazard in Emeryville as follows: "Tsunamis are caused by submarine seismic or volcanic disturbances. The U. S. Geological Survey estimates that a 20-foot wave at the Golden Gate Bridge (an event estimated to possibly occur once in 200 years) could potentially cause a run-up of a 10-foot wave in the Emeryville Peninsula and the shoreline area."

The probability of a tsunami affecting the City of Emeryville is low, given the rarity and unpredictability of the hazard. Table 4.5.2 (b) provides information on historical tsunami events that have occurred in the San Francisco Bay Area. Most tsunami events affected locations in San Francisco, Oakland and Alameda, and which are all within a 10-mile radius of Emeryville.

Run-up amplitude, in feet,	
above normal tide	
conditions	

OBS = observed tsunami activity NR = No damage or severe conditions reported

- Distant Source -Tsunamis without felt earthquakes

- Local Source -Earthquake and tsunami together

Date	Magnitude-Source area	Tsunami location	Run- Up/Amp	Remarks
2/15/1856	M5.5 - SF Bay (possible submarine landslide)	San Francisco	3 m	"water in the bay is exceedingly thickby throwing up of mud and sand at bottom of bay"
8/13/1868	M8.5 - Chile	SF-Fort Point	1ft	NR
10/21/1868	M6.8 - Hayward Fault (possible submarine/subaerial landslide)	SF-Cliff House	OBS	"decided commotion in the oceanwave sent inland"
3/31/1898	M6.2 - Haward-Rodgers Creek Fault crossing Suisun Bay	Oakland	1ft	"churned" water may be from storm activity, not tsunami
4/1/1946	M8.8 – Aleutian Islands	SF-Presido	1ft	NR
11/4/1952	M9.0 - Kamchatka	San Francisco	2 ft	NR
		Alameda	1 ft	NR
3/9/1957	M8.6 - Aleutian Islands	San Francisco	1 ft	NR
5/22/1960	M9.5 - Chile	San Francisco	2 ft	San Francisco ferry service disrupted by a current "running like the Mississippi River"
		Alameda	1 ft	NR
3/28/1964	M9.2 – Alaska	San Francisco	4 ft	NR
		Alameda	2 ft	NR
		Oakland	4 ft	NR
		San Rafael	4 ft	Multiple docks damaged; boats sunk and damaged
		Sausalito	6 ft	Docks/boats damaged; minor inundation on dry lan
2/27/2010	M8.8 - Chile	San Francisco	1ft	NR
3/11/2011	M9.0 - Japan	San Francisco	2 ft	Two piles broken; boats heeled over
		Alameda	2 ft	4-6 knot currents but no damage reported
		Berkeley	2 ft	\$80K in damages to docks and piles
		Richmond	1ft	5-6 knot currents with buoys displaced
		Sausalito	4ft	Minor damage to house boats and marinas

Table 4.5.2 (b). Notable Historical Tsunamis in the San Francisco Bay Area⁶⁰

⁶⁰ USA. California Department of Conservation. California Geological Survey. Maritime Tsunami Response Playbook and Mitigation Guidance, Berkeley/Emeryville – Alameda County. By Wilson Rick, Patrick Lynett, Kevin Miller, Amanda Admire, Aykut Ayca, Edward Curtis, Lori Dengler, Michael Hornick, Troy Nicolini, and Drew Peterson. Sacramento: California Department of Conservation, 2016. Print. Page 18.

As indicated by the table, the most damaging tsunamis in Alameda County history have been a result of tsunamis generated from high scaled earthquakes in the Alaska-Aleutian Islands region. The combination of an earthquake and tsunami together, such as the magnitude 6.8 Hayward Fault and magnitude 6.8 Hayward-Rodgers Creek Fault, contained the highest potential of generating tsunami damage.

The impact from a tsunami could be far reaching as shown in Figure 4.5.2 (c). The map estimates areas of Emeryville that could experience inundation following a tsunami and that includes the peninsula and Highway 80 all the way up to the railroad tracks.

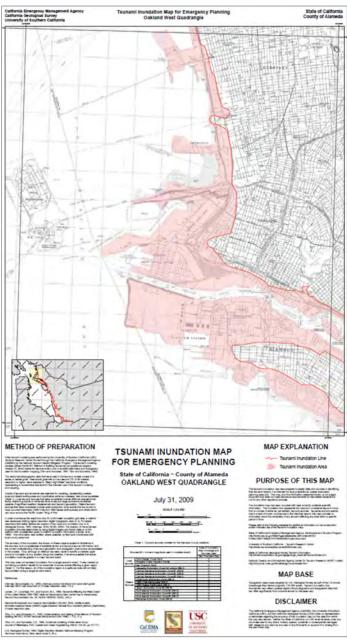


Figure 4.5.2 (c). Tsunami Inundation Map – Oakland West Quadrangle (includes Emeryville)

All five hotels in the City as well as two large retail shopping areas are located in the inundation zone. City facilities in the inundation zone include the City's only Police Station, the current Corporation Yard and one (of two) fire stations. Figure 4.5.2 (c) represents the maximum considered tsunami inundation from a number of extreme and realistic tsunami sources.⁶¹ Property and residents located within the red shaded area are at risk for tsunami impact; facilities and people located uphill or inland from these areas are more likely to experience no impact from a tsunami event.



Figure 4.5.2 (c). Tsunami Inundation Map for the Berkeley/Emeryville Area⁶²

⁶¹ USA. California Department of Conservation. California Geological Survey. Maritime Tsunami Response Playbook and Mitigation Guidance, Berkeley/Emeryville – Alameda County. By Wilson Rick, Patrick Lynett, Kevin Miller, Amanda Admire, Aykut Ayca, Edward Curtis, Lori Dengler, Michael Hornick, Troy Nicolini, and Drew Peterson. Sacramento: California Department of Conservation, 2016. Print. Page 21.

⁶² USA. California Department of Conservation. California Geological Survey. Maritime Tsunami Response Playbook and Mitigation Guidance, Berkeley/Emeryville – Alameda County. By Wilson Rick, Patrick Lynett, Kevin Miller, Amanda Admire, Aykut Ayca, Edward Curtis, Lori Dengler, Michael Hornick,

Most Tsunami damage and destruction is caused by flooding, wave impacts, erosion, strong currents, and floating debris (e.g., trees, structures, vehicles, and other things that can act like a battering ram). In addition to loss of life and mass injuries, other impacts of a tsunami may include damage to and destruction to the homes and businesses located in the inundation zone, the marina and harbor, and the Emeryville shore line. Basic services such as power, sewer and water may not be available after a tsunami and communications, transportation (ground, air, rail and marine) and health and public safety services may also be disrupted.⁶³

The National Tsunami Warning Center (NTWC) provides tsunami emergency information and bulletins to state and local jurisdictions during tsunami alerts. There are four levels of the NTWC's alert bulletins:

- Tsunami Information Statement. The information statement informs and updates emergency managers and the public that an earthquake has occurred, or that a tsunami Watch, Advisory, or Warning has been announced.
- Tsunami Watch. A tsunami watch alerts emergency managers and the public of a tsunami event which may later impact the area coastline. Based on updated information and analysis of the situation, a tsunami watch can potentially become an advisory or warning.
- **Tsunami Advisory**. A tsunami advisory is issued when the there is a threat of a tsunami typically with an amplitude of between one and three feet producing strong currents or dangerous waves to those in or near the water.
- **Tsunami Warning**. A warning is issued when a tsunami with significant widespread inundation is imminent or expected. Warnings are typically issued for tsunamis forecasted with an amplitude equal or greater than three feet. Coastal communities should evacuate residents and people from low-lying areas.

To better inform and provide guidance for communities within close proximity to bodies of water susceptible to tsunami events, California Office of Emergency Services created the California Maritime Tsunami Response Playbook and Mitigation Guidance, and tailored scenario responses to selected individual cities based on 5 high magnitude earthquakes – tsunami events.

To reduce and mitigate tsunami damage to the Emeryville Marina community, residents and harbor management can incorporate soft and hard mitigation strategies aimed to better prepare for an emergency tsunami event. "Soft" mitigation strategies, or real time response measures, can include moving boats and ships out of harbors, restricting boat movement, removing hazardous materials away from the water, or identifying and assigning rescue, survey, and salvage personnel. "Hard" strategies, or permanent mitigation measures, refer to long-term improvements related to the marina itself, such

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Troy Nicolini, and Drew Peterson. Sacramento: California Department of Conservation, 2016. Print. Page 21.

⁶³ NTHMP Tsunami Information Guide March 2019, Presented by the National Tsunami Hazard Mitigation Program, Page 7

as increasing the flexibility of interconnected docks, increasing the height of piles to prevent overtopping, moving docks and assets away from high hazard zones, or constructing flood gates.

DAM FAILURE

According to the Safety Element in the General Plan, the closest dam near the City is the dam at Lake Temescal, which is located 3.5 miles east of the City limits. Lake Temescal Dam is managed by the East Bay Regional Parks Department and is overseen by the California Department of Water Resources, Division of Safety of Dams (DSOD). The DSOD supervises dam maintenance and inspections which includes seismic analysis of existing dams to assure their integrity and conducting regular inspections.

Lake Temescal Dam was last inspected by the state's Division of Safety Dams in May 2011. At that time, it presented no issues necessitating corrective action and was "judged satisfactory for continued operation." The likelihood of a flood hazard is dependent upon the occurrence of a major earthquake and the ability of the dam to withstand seismic activity.

If the dam were to fail, it is estimated to cause overflowing of Temescal Creek and inundation of nearly 1,000 feet of land area on either side of the creek within 15 minutes. The water could reach the rest of the City, west toward the Bay, and north approximately to Powell Street within 25 minutes as shown in Figure 4.5.3 (a).

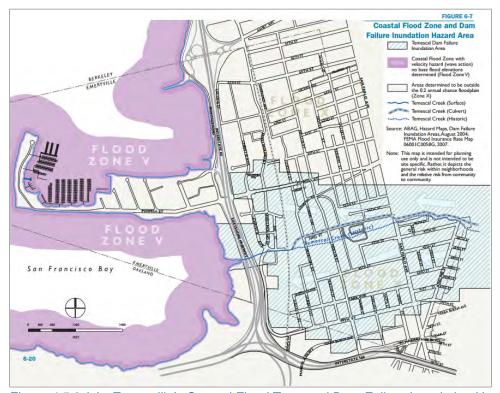


Figure 4.5.3 (a). Emeryville's Coastal Flood Zone and Dam Failure Inundation Hazard Area Map

CIVIL UNREST

PROBABILITY - LOW

SEVERITY - LOW

Civil disturbance is a broad term that is typically used by law enforcement to describe one or more forms of disturbance caused by a group of people. Civil disturbance is typically a symptom of, and a form of protest, against major socio-political problems. The severity of action is dependent on the public's outrage. Civil disturbances can also arise out of a union protest, institutional population uprising or from a large celebration that becomes disorderly.

Civil disturbances can take the form of small gatherings or large groups blocking or impeding access to a building, to a street or even to a highway or bridge. Demonstrations can range from a peaceful sit-in to a full-scale riot, in which a mob burns or otherwise destroys property and terrorizes individuals.

Emeryville has been subject to several civil disturbances where property and retail businesses were damaged. On December 1, 2014, a group of protesters from downtown Oakland, made their way through North Oakland into Emeryville breaking windows at several local businesses before being dispersed. A week later on December 8, 2014, approximately 1,500 protestors marched from downtown Berkeley through University Avenue to Highway 80, shutting down both lanes of traffic on the highway before being redirected into Emeryville by the California Highway Patrol.

While the probability of future civil unrest incidents is difficult to predict, given past occurrences and the location of Emeryville between Berkeley and Oakland, civil unrest incidents are possible. Current societal trends and emerging social and political issues should be watched closely as these issues have led to civil unrest incidents in the past.

INFRASTRUCTURE / UTILITY FAILURE

PROBABILITY - LOW

SEVERITY - HIGH

Disruptions to communications, water, and transportation networks can cause emergencies to cascade into disasters. In day-to-day operations, the City is heavily reliant on local, regional, state and interstate utility and transportation systems. For the City to remain functional, it must be connected to operating water, power and sewer systems. Nearly all water, wastewater and communication utilities rely on electricity to function.

ENERGY SHORTAGE

Although California has one of the lowest rates of per capita energy consumption in the country (mainly because of our mild climates and energy efficiency initiatives), we still have the second highest total energy demand in the country due to our large population. As such, California imports more electricity than any other state.

Over half of electricity consumption in California is fueled by natural gas, 14% comes from hydroelectric power, 11% comes from renewable resources and a small percentage is generated using nuclear power.⁶⁴ A malfunction in any one of these systems, i.e. a failure of a transmission line of natural gas or a drought that decreases the amount of electricity available from a hydroelectric plant could result in an energy shortage.

The State has periodically experienced energy shortages that resulted in a disruption of services and/or rolling blackouts. For example, in 2000 and 2001, the state suffered a series of rolling blackouts as a result of several factors, including deregulation of electric utilities and a drought in the Pacific Northwest. In 2005, approximately 500,000 customers were left without power when a transmission line failed. In September 2011, a minor short circuit during a repair of a substation in Arizona left 1.4 million people in the San Diego area without power. As recently as the summer of 2016, Southern California residents were being asked to conserve electricity because without conservation, power plants could run out natural gas fuel and trigger rolling blackouts.

The City remains susceptible to energy supply disruptions that can occur as rolling blackouts where customers temporarily lose power, as well as brownouts where the voltage level falls below the normal minimum level specified for the system. However, the threat of such disruptions has lessened since the State of California implemented emergency technology and energy conservation programs, and adopted measures to mitigate energy market manipulation and reduce distribution bottlenecks. However, as the City relies on energy as a critical infrastructure for its day-to-day business activities, any unplanned or rolling blackout could have a significant impact on the City's operations and its level of productivity.

TERRORISM (UTILITY / INFRASTRUCTURE)

In 2013, someone with knowledge of how a major electrical substation works, snuck into a sensitive area of a Pacific Gas & Electric (PG&E) substation near San Jose in the middle of the night, cut fiber cables to knock out 911 and cell phone service, and then took more than 100 shots from a high-powered rifle which caused the transformers to overheat and shut down, knocking out the substation. This "attack" caused \$15 million in damage.

Although it was later determined that this was not a "terrorist" attack according to the FBI, it did raise awareness of the grid's vulnerability to physical attack. After this shooting

⁶⁴ http://www.nationalgeographic.org/new/case-study-california-blackouts/, Cassandra Love, January 22, 2014.

attack, PG&E enhanced its security measures at multiple substations in the Bay Area. PG&E Substations D & L serve Emeryville and are located in Oakland in the Temescal and West Oakland neighborhoods respectively.

TERRORISM

PROBABILITY - LOW

SEVERITY - HIGH

Terrorism is the use of fear for intimidation, usually for political goals. Terrorism is a crime where the threat of violence is often as effective as the commission of the violent act itself. Terrorism affects us through fear, physical injuries, economic losses, psychological trauma, and erosion of faith in governments. It can manifest itself through bombings, hijackings, kidnappings, arson, assassinations, threats only, disruption of "lifeline systems" and other critical infrastructure, as well as the use of chemical, biological, radiological, nuclear and explosive weapons.

The federal government plays a significant role in terrorism response on a national level, but local governments along with counties and the state, have primary responsibility for protecting the health and safety of their citizens. The nature of terrorism, and all the forms it can take makes mitigation, response and recovery issues difficult.

The City of Emeryville has had its own experience with terrorism. On August 28, 2003, an improvised explosive device (IED), or pipe bomb, was detonated near the front door of the then Chiron Life Science Center in Emeryville causing damage to the building. A second device was detonated in another Chiron building shortly after the first responders arrived at the scene, also damaging the building and the surrounding area.

Although the likelihood of Emeryville experiencing another direct attack is low, we still need to be prepared given our location between Oakland (which is designated as a Tier I urban area – meaning it faces a higher level of risk than other urban areas for terrorism) and Berkeley and our proximity to other major landmarks in the Bay Area.

CYBERTERRORISM

The FBI defines cyberterrorism as a premeditated, politically-motivated attack against information, computer systems, computer programs, and data that results in violence against noncombatant targets by subnational groups or clandestine agents. The U.S. National Infrastructure Protection Center defines cyberterrorism as a criminal act perpetrated through the use of computers and telecommunication capabilities, which results in violence, destruction, or disruption of services, to create fear by causing confusion and uncertainty within a given population, with the goal of influencing a government or populations to conform to a political, social, or ideological agenda.

Cyberterrorism can impact the community, the state or the nation as a whole, as well as individuals and business interests. Cyber based attacks gain access to or intrude on critical infrastructure systems, such as financial services, communications, energy, or transportation systems, with the potential to alter their reliable functioning. Disruption to such systems could pose a critical threat to national and local economic security.

To date, Emeryville has not experienced a full-scale cyber-attack. However, there have been examples of smaller scale cyber-attacks in the Bay Area. In 2008, a network engineer denied department supervisors of the City and County of San Francisco access to the City's IT network. In 2011, in response to the Occupy Protests, a group known as Anonymous, breached the BART system's website and released customers' personal information. In October 2016, a series of cyberattacks caused a wave of disruption of service to San Francisco based internet giants and over the Thanksgiving Holiday weekend of that same year, hackers hacked into the San Francisco Municipal Transit Authority's (Muni) fare system giving passengers a free ride on the busiest shopping day of the year.

The February 2016 Worldwide Threat Assessment of the US Intelligence Community describes an increasing risk to US critical infrastructure from cyber terror attacks, given the proliferation of devices that are designed and used in almost every aspect of society (from smart phones and tablets, to automobiles [autonomous and not], household appliances, home security systems), with minimal security requirements and testing could lead to widespread vulnerabilities in civilian infrastructure and US government systems.

The City of Emeryville's own computer system has a Firewall System with Security Services, such as Content Filter, Gateway Anti-Virus, Anti-Spyware and Intrusion Prevention to prevent a cyberattack from the Internet.

BIOTERRORISM

Bioterrorism is not as apparent as an act of violent terrorism. An attack can go undetected for hours, days, or potentially weeks until affected people start to display symptoms of disease. According to the U.S. Department of Homeland Security, a biological attack is the intentional release of a pathogen (disease causing agent) or biotoxin (poisonous substance produced by a living organism) against humans, plants, or animals. ⁶⁵ Depending on the specific biological agent used and the targeted audience of a biological attack, pathogens and toxins can be disseminated through aerosol, food or water, human carriers, infected animals, or physically distributed.

Two agents most commonly used as bioterrorism weapons in biological warfare are anthrax and smallpox as they have the highest potential for mass casualties and civil disruption. Both agents are highly lethal, with anthrax, if left untreated, approaching an

⁶⁵ National Academies, and U.S. Department of Homeland Security. News and Terrorism: Communicating in a Crisis. 2004. https://www.dhs.gov/xlibrary/assets/prep biological fact sheet.pdf.

80% death rate and 30% death rate from small pox if not vaccinated against the variola virus.

Anthrax

Anthrax is caused by the bacteria *Bacillus Anthracis* and can be spread through multiple ways. Most people can be affected by breathing in spores, eating contaminated food or drinking water, or getting spores in exposed skin. For example, when spores containing the bacteria are inhaled, the bacteria will activate and multiply while producing and spreading toxins throughout the body.

Anthrax has been used as a weapon around the world for almost a century. It has historical usage dating back to World War I in which German agents successfully infected Allied livestock with anthrax and glanders. In the 1990s, the cult leader of Aum Shinrikyo, a Japanese Doomsday Cult, failed in his attempt to release anthrax and botulinum toxin in Tokyo. In 2011, anthrax attacks were reported in the U.S. with 11 people impacted by inhaling the toxin in contaminated mail. An additional 11 people were infected with cutaneous anthrax.

Smallpox

Smallpox is a serious infectious disease caused by the variola virus. Symptoms included a fever and a distinctive progressive skin rash. It is estimated that about three out of ten people with the disease died while survivors were left with permanent scars or blindness.

The last naturally spread case of smallpox in the world was in 1977. The World Health Assembly declared smallpox to be eradicated in the 1980. As a result, most people born in the US after 1972 have not been vaccinated against the disease. Only a small amount of people are vaccinated due to military or Smallpox Response Team formations after 9/11 as an effort to prepare for bioterrorist attacks.

Emeryville has not experienced bioterrorism or any form of a biological attack. However, we should not rule out the probability of a future biological hazardous event. As part of the 44 mitigation goals, Emeryville is preparing for future biological hazards by collaborating with local health organizations and medical centers to establish emergency response procedures including medical resources, a reserve of health professionals, and establishment of distribution centers for medical services.

BIOLOGICAL THREATS

PROBABILITY - LOW

SEVERITY - HIGH

Biological threats can range from widespread pandemic and regional outbreaks, to purposefully targeted bioterrorism. Viruses, bacteria, and toxins all pose as threats to our health safety; the number of outbreaks per year has more than tripled, with the number of new diseases per decade nearly quadrupling over the past 60 years.⁶⁶

Globalization, more efficient modes of traveling, and climate change are all factors contributing to a growing number of disease vectors carrying pathogens around the world. Having more extensive traveling methods mean that disease vectors are easily transported from one part of the world to another and climate change produces more amiable conditions for insects, bacteria, and viruses to grow. The World Health Organization (WHO) estimates that rising global temperatures, as well as altered precipitation and humidity linked to climate change, could significantly alter vector borne diseases and their effect on human populations more difficult to predict and control.⁶⁷

PANDEMIC

WHO defines pandemic as the worldwide spread of a new disease.⁶⁸ Misinformation about vaccines, the absence of a clear plan for coordination among federal agencies such as the U.S. Agency for International Development and the Defense Department, and a need to improve public awareness about the threat posed by a biologic outbreak are among the factors that make the possibility of large and deadly pandemics increasingly likely.⁶⁹ In addition, the risk of pandemic continues to be pushed forward as the antivaccine movement encourages parents to refuse vaccination of their children, resulting in higher risks of infection and dispersal of diseases.

While Emeryville has not directly experienced any pandemics or viral outbreaks, the City recognizes that the risk exists and has attributed a number of mitigation actions to preparing for any future occurrences. The City is a designated Point of Distribution for both commodities and medical services and is currently working with medical facilities in the City on establishing a group of readily available health professionals to assist in potential pandemics or health emergencies.

Key naturally occurring biological hazards that Emeryville is concerned about are described below.

⁶⁶ Walsh, Bryan. "The World is Not Ready for the Next Pandemic." Time Health. Time, 03 May 2017. Web. 11 May 2017. http://time.com/4766624/next-global-security.

⁶⁷ "Climate Change and Vector-Borne Diseases." Climate Nexus. 23 Aug. 2016. Web. 11 May 2017. http://climatenexus.org/learn/public-health-impacts/climate-change-and-vector-borne-diseases.

⁶⁸ "What is a pandemic?" WHO. World Health Organization, Web. 11 May 2017. http://www.who.int/csr/disease/swineflu/frequently_asked_questions/pandemic/en.

⁶⁹ The Growing Threat of Pandemics: Enhancing Domestic and International Biosecurity. N.p.: Snowcroft Institute of International Affairs, Mar. 2017. http://bush.tamu.edu/scowcroft/white-papers/The-Growing-Threat-of-Pandemics.pdf.

Ebola

Ebola is caused by infection with one of the Ebola virus species.⁷⁰ Symptoms of fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal pain, and hemorrhaging can appear between two to twenty-one days after exposure. Although there have been numerous Ebola outbreaks since 1976, the March 2014 Ebola outbreak was the largest one in history and the first Ebola epidemic in West Africa affecting multiple countries in the region. About 30,000 people were infected and over 11,000 died.

Ebola can be transmitted through direct contact with infected individuals by exposure to bodily fluids including but not limited to saliva, sweat, feces, vomit, breast milk, and semen; objects that have been contaminated with body fluids from a person sick with Ebola; infected fruit bats or primates, and possibly from sexual contact.

On September 30, 2014, the first laboratory-confirmed case of Ebola was diagnosed in the United States from a man who traveled from to Dallas, Texas from Liberia. Shortly after, two healthcare workers who provided care for the index patient tested positive for Ebola.

Zika Virus

The Zika virus is spread mostly by the bite of an infected Aedes species mosquito; symptoms of infection, such as fever, rash, headache, joint pain, red eyes, and muscle pain are usually mild lasting up to a week. However, Zika virus infection in pregnant women can cause a serious birth defect in which newborns are born with microcephaly and other severe brain defects. Microcephaly is a birth defect where a baby's head is smaller than expected. The virus can be spread from mother to newborn during pregnancy or around time of birth; sexual contact with infected individuals can also aid in the transmission of the virus.

Between January 1, 2015 and April 5, 2017, a total of 5,197 cases of Zika were reported in the US, with the highest concentration in New York, Florida, California, and Texas. The first two babies born in California with Zika-related microcephaly occurred in August 2016; both infants' mothers tested positive for the Zika virus and contracted the pathogen while traveling.

Bird Influenza (H7N9)

H7N9 or the Asian lineage avian influenza A virus is a subtype of the influenza A viruses found in birds. The Center for Disease Control ranks H7N9 as the flu strain with the greatest potential to cause a pandemic in the 21st century; during a recent epidemic in China, 88% of people infected got pneumonia and 12% ended up in intensive care diagnosed with severe respiratory problems. Of those in the hospital, 41% died.

⁷⁰ There are 5 identified Ebola virus species, four of which are known to cause disease in humans. The fifth ebola virus, has caused disease in nonhuman primates, but not in humans.

Currently, the virus cannot be spread human to human but there is a high chance that it may mutate into a contagious strand easily spread.

Middle East Respiratory Syndrome (MERS)

Middle East Respiratory Syndrome (MERS) is a viral respiratory illness caused by the Coronavirus. Patients infected by MERS develop severe acute respiratory illness with symptoms of fever, cough, and shortness of breath.

The disease was first reported in Saudi Arabia in September 2012, with first known cases appearing in Jordan in April 2012. In May 2014, there were two confirmed cases of MERS in the US, one in Indiana and the other in Florida. Both cases were among healthcare providers who had traveled from Saudi Arabia.

Enterovirus D68 (EV-D68)

Enterovirus D68 or EV-D68 is one of the 100 or more non-polio enteroviruses which causes mild to severe respiratory illnesses including runny nose, sneezing, cough, body and muscle aches, wheezing, and difficulty breathing. EV-D68 infection is more likely to occur during summer and fall; the virus can be spread from person to person when an infected individual coughs, sneezes, or leaves behind respiratory secretions with which others may come into contact with.

In 2014, the US experienced a nationwide outbreak of EV-D68, where the majority of confirmed cases were among children. In 2016, there were limited sporadic EV-D68 detections associated with the usual seasonal outbreak.

West Nile Virus (WNV)

West Nile Virus, or WNV, is an arthropod-borne virus commonly spread through bites from infected mosquitoes. However, there have been small number of cases where transmission of the virus occurred from blood transfusions, organ transplants, breastfeeding, and during pregnancy.

WNV symptom outbreak rate varies; about 1 in 150 people infected will develop severe illness with symptoms including high fever, headache, body stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness, and paralysis. Up to 20% of infected individuals experience lesser symptoms lasting as short as a few days to as long as several weeks, while the remaining 80% of people will not exhibit any signs of infection.⁷¹

Most cases of WNV occur during the summer months between June and September and outbreaks have been reported throughout 48 states in the US. In 2016, nine counties in California (Kings, Los Angeles, Orange, Riverside, Sacramento, San Bernardino, San

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⁷¹ National Center for Emerging and Zoonotic Infectious Diseases. West Nile Virus Factsheet. Center for Disease Control. https://www.cdc.gov/westnile/resources/pdfs/wnvfactsheet 508.pdf.

Diego, San Mateo, and Tulare) reported a total of 442 WNV cases, in which 19 were fatal.⁷²

SIGNIFICANT OUTBREAKS SINCE 2006

Cholera Outbreak (October 2010)

Cholera is an acute, diarrheal illness caused by the infection of the intestine with the bacterium *Vibrio cholerae*. Infection is most likely to occur and spread in less developed countries where there is inadequate water treatment and poor sanitary conditions. The 2010 Cholera outbreak in Haiti occurred shortly after the country experienced a 7.0 magnitude earthquake which further impeded the nation's already struggling water, sanitation, and hygiene infrastructure.

About one in 10 infected individuals will experience severe disease characterized by profuse watery diarrhea, vomiting, and leg cramps. The rapid loss of body fluids leads to dehydration and shock and without treatment, death can occur within hours.

Swine Flu (H1N1) (April 2009)

Swine Flu, or also known as H1N1 in accordance to the specific strain of the influenza virus, is a pig respiratory disease caused by type A influenza viruses that regularly cause influenza outbreaks in swine herds. Although the virus rarely infects humans, exposure to infected pigs can lead to transmission of variant viruses. People infected with such variant viruses experience symptoms similar to seasonal human influenza such as fever, lethargy, lack of appetite and coughing. The pandemic H1N1 virus was spread from person to person, being easily transmitted by coughing or sneezing.

The emergence of this new virus had a significant health impact on the human population due to the fact that most people had no or little immunity, since a vaccine had not been created for it. According to the CDC, the 2009 H1N1 pandemic resulted in a total of 60.8 million cases, 274,304 hospitalizations, and 12,469 deaths in the US.⁷³ Within those deaths, 657 were Californians. Currently, the Swine flu circulates as a seasonal flu, which can be combated by a vaccine.

Measles (2008-2015)

Measles is a highly contagious virus that lives in the nose and throat mucus of an infected individual. Because of its ability to survive for up to two hours in an airspace after an infected individual sneezes or coughs, measles is highly contagious. Symptoms associated with measles includes fever, runny nose, coughing, red eyes, and a sore throat, followed by a rash that spreads all over the body.

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⁷² The California Department of Public Health West Nile Virus Website; http://westnile.ca.gov.

⁷³ "CDC Estimates of 2009 H1N1 Influenza Cases, Hospitalizations and Deaths in the United States." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention. Web. 01 June 2017. https://www.cdc.gov/h1n1flu/estimates 2009 <a href="https://www.cdc.gov/h1n1flu/estimates 2009 <a href="https://www.cdc.gov/h1n1flu/estimates 2009 <a href="https://www.cdc.gov/h1n1flu/estimates 2009 <a href="https://www.cdc.gov/h1n1flu/estimates 2009

While the virus has been declared eliminated from the US in 2000, there is still risk for sporadic importations of measles into the county from travelers. Measles outbreaks can also occur in communities with high number of unvaccinated individuals. During January to July 2008, a total of 131 measles cases were reported to CDC, with 14 cases from California. In 2014, the United States experienced a record number of measles cases, with 667 cases from 27 states reported to CDC's National Center for Immunization and Respiratory Diseases (NCIRD); this was the greatest number of cases since measles elimination was documented in the U.S. in 2000. In 2015, 188 people from 24 states and the District of Columbia were reported to have measles. The outbreak likely started from a traveler who became infected overseas with measles, then visited an amusement park in California while infectious; however, no source was ever identified.

BIOTECH COMPANIES

Emeryville, as a commercial hub in the East Bay, is home to a number of biotechnology companies. Biotechnology is the use of living organisms, in particular microorganisms, or other biological systems for the improvement of quality of human life. However, purposeful alterations of nature, biodiversity, and the ecosystem may indirectly impact the human population in the future. While we currently recognize some beneficial results of bioengineered organisms in the fields of agriculture, animal husbandry, the pharmaceutical industry, and the medical field, genetically modified organisms (GMOs) can also carry unintended biological risks for the environment. Long term consequences can upset the balance of the natural ecosystem, creating reactions across the food chain.

⁷⁴ "Update: Measles --- United States, January--July 2008." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 22 Aug. 2008. Web. 02 June 2017. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5733a1.htm.

⁷⁵ "Measles – Cases and Outbreaks" Centers for Disease Control and Prevention. Centers for Disease Control and Prevention Web. 17 July 2107. https://www.cdc.gov/measles/cases-outbreaks.html.

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MITIGATION STRATEGY



Emeryville Marina

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MITIGATION GOALS AND OBJECTIVES

The goal of this Local Hazard Mitigation Plan update is to create a more resilient City by reducing or eliminating long-term risks to the people and property of the City from natural and man-made hazards. This plan has four main objectives:

- 1. Reduce the potential for loss of life, injury and economic damage to Emeryville residents, businesses and city government from earthquakes, hazardous materials release, fires, floods and tsunamis, climate change, civil unrest, utility infrastructure failures, terrorism, and biological threats.
- 2. Increase the ability of the City government to serve the community during and after a hazard event by mitigating risk to key city functions such as response, recovery and rebuilding.
- 3. Protect the City's unique character and values from being compromised by a hazard event.
- 4. Encourage mitigation activities to increase the disaster resilience of the City, private companies and lifeline systems that are essential to Emeryville's ability to function.

LINKS TO OTHER CITY PLANS

This Local Hazard Mitigation Plan is just another contribution to the City's desire to be a resilient community. Many of the mitigation goals of the Local Hazard Mitigation Plan are consistent with the goals found in the City's General Plan, Climate Action Plan, Strategic Energy Plan and the Capital Improvement Program. Once approved and adopted, the goals and strategies of the Local Hazard Mitigation Plan will be considered in the City's long-range planning and programs.

Public Works staff will consider any new hazard mitigation strategies in Table 3.3(a), as appropriate, for possible inclusion in the City's next Capital Improvement Program. Any new plans created or any major revisions to the Emeryville General Plan, or any of the other of the above-mentioned plans or programs between 2019 – 2024, will integrate the analysis and adopted mitigation measures in this LHMP.

MITIGATION ACTIONS COMPLETED FROM THE 2009 - 2014 PLAN

City staff reviewed the mitigation measures, policies and actions included in the 2009 – 2013 Local Hazard Mitigation Plan. Some have been completed, and some have been continued in the 2019-2024 Local Hazard Mitigation Plan as shown in Table 3.3 (a) below.

The City has completed several of the mitigation objectives from the 2009 – 2013 Local Hazard Mitigation Plan.

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Earthquake

- 1. The North Hollis Undergrounding District which includes the undergrounding of utilities within the North Hollis Area as part of the current Capital Improvement Program (CIP) for 2016-2017 to 2020-2021.
- 2. Establishment of the Building Occupancy Resumption Program (BORP) which allows for building owners to develop a program for a private inspection of their buildings to permit rapid, individualized emergency response in the aftermath of a major earthquake.
- 3. Completion of the Emeryville Center of Community Life (ECCL) in September 2016. The new complex consolidated Emeryville's K-12 school system with onsite community services including a health and dental clinic, and a community and recreation center creating one of the nation's first joint use facilities where City and School cooperatively occupy a shared site. The building complex was built to modern seismic standards.
- 4. Renovation of the Emeryville Police Station, Fire Station 34 and the Emeryville Senior Center.

Extreme Weather to Minimize Impact of High Wind Incidents

5. Included in the CIP for 2016–2017 to 2020-2021 is the North Hollis Undergrounding District which includes the undergrounding of utilities within the North Hollis Area

Hazardous Materials

- 6. The City requires remediation of sites as a condition of approval for any new development project. Since 2009, the following sites have been remediated for hazardous materials:
 - a. The Greenway from Powell Street to Stanford Avenue
 - b. The Transit Center Emery Station West
 - c. Emme Apartment Homes at 64th and Christie
 - d. 3706 San Pablo Avenue

MITIGATION ACTIONS TO COMPLETE 2019 - 2024

The Local Hazard Mitigation Plan Update Planning Team, over a period of eight months identified, evaluated and then established 44 mitigation actions to be included in the plan. The team reviewed the actions identified in the City's 2009 plan and any actions the City had taken since then.

The team then revised these actions where appropriate, established new actions, and evaluated these new actions for their feasibility, social benefits, economic benefits, environmental improvements and community objectives. Each action was assigned to a High, Medium, Low or Long Range/Already Being Done priority.

After reviewing the mitigation actions which have been completed since 2009, and in consideration of all the new residential and commercial development built or under construction in the City since the previous plan, the City commits to explore funding for the following forty-four (44) mitigation ideas between the years 2019 – 2024. Funding may come from the General Fund, the Capital Improvement Plan (CIP), or from grants. For grant-funded mitigation strategies, the project will be undertaken if, and when funding is secured.

The mitigation measures listed below in Table 3.3 (a) describe the actions the City may take, subject to funding availability and/or other agencies approvals, during the years 2019 – 2024. Table 3.3 (a) summarizes these actions, identifies the hazard(s) and mitigation objective(s) each action addresses, and indicates their assigned priority level of action. Funded actions will be included in the City's Capital Improvement Plan (CIP).

Table 3.3 (a). Priority Actions in Mitigation Strategy

No.	Mitigation Action	Hazard(s) Addressed	Benefits	Agency Responsible	Priority	Funding Source	Timeframe
1	Construct bio swales and other vegetative storm water treatment features for storm water filtration and flood prevention.	Flood	Manage high storm water flows, prevent flooding due to sea level rise	Public Works East Bay Regional Park District	High	General Capital Fund, Coastal Conservancy Grant	Ongoing, 10-15 years
2	Install early Earthquake Warning System in both fire stations	Earthquake	Provide egress for Fire Trucks in the event of structural damage to the Fire Station	Fire Department Public Works	High	In the next 5 years as part of the CIP	1-5 Years
3	Enroll all staff to participate in Alameda County's Mass Notification System	All Hazards	Emergency preparedness	Human Resources	High		Completed

No.	Mitigation Action	Hazard(s) Addressed	Benefits	Agency Responsible	Priority	Funding Source	Timeframe
4	Collaborate with EBMUD to update infrastructure and to identify adaptive strategies to protect water supply from drought.	Earthquake, Hazardous Materials Release, Utility Infrastructure Failure, Climate Change	Increase regional adaptability to drought and other hazards; improve resources and stakeholder response	EBMUD Public Works	High	EBMUD	1-5 Years
5	Police Substation	Earthquake, Utility Infrastructure Failure, Flood, Climate Change	Additional City police enforcement and response	Police Department Public Works	High	General Capital Fund	Ongoing, 1-5 Years
6	Caltrans Agreement	Earthquake	Agreement would be for permission to build a low lying ramp where part of I-80 is parallel to street level in case I-80 overpass collapses or is in danger of collapse and people need another way to exit from the peninsula	Public Works	High		Long Range
7	Identify best practice deescalating techniques	Civil Unrest	Effective communication	Police Department	High		Ongoing
8	Public address system for Peninsula	Earthquake Flood Tsunami	Allow for immediate notification of marina residents of potential tsunami or weather related events	Public Works	High	General Capital Fund or Emergency Preparedness Fund	1 – 5 years
9	Draft Recovery plan for City	All Hazards	Specific recovery procedures for after emergency events	All Departments	High		Long Range
10	Place evacuation route signs on streets	All Hazards	Inform community evacuation actions	Public Works	High	General Capital Fund or Emergency Preparedness Fund	1 – 5 years

No.	Mitigation Action	Hazard(s) Addressed	Benefits	Agency Responsible	Priority	Funding Source	Timeframe
11	Improve Community Emergency Response Team (CERT) training program to educate and train community members in times of emergency	All Hazards	Community relation building, increase community emergency preparedness	Human Resources Fire Department	High	General Fund	1-5 Years
12	Staff trainings for emergency situations	All Hazards	Provide more emergency personnel to aid community	Human Resources Fire Department City Manager's Office	High	General Fund	1-5 Years
13	Movement of critical services to more secure locations	All Hazards	Ensure accessibility and preservation of important utilities and services	Information Technology Human Resource	High		Long Range
14	Provide fee waivers for Earthquake Retrofit projects on single family homes	Earthquake	Encourage people to upgrade homes and buildings to mitigate earthquake impacts	Planning/Building	High	No funding required	1-5 Years
15	Update City web page to reflect information and resources around emergency events and natural disasters.	All Hazards	Provide easy access to emergency preparedness information	Public Works Human Resources	High		Completed 2017
16	Identify all labs located in City and develop list of potential impacts during emergency event.	All Hazards	Transparency of where potential hazardous materials release may occur during emergency event	Human Resources Fire Department Police Department	High	No funding required	1-5 Years
17	Conduct Citywide storm drain cleaning.	Floods	Reduce flooding of storm water system and backflow.	Public Works	Medium	General Capital Fund	Ongoing

No.	Mitigation Action	Hazard(s) Addressed	Benefits	Agency Responsible	Priority	Funding Source	Timeframe
18	Increase earthquake awareness.	Earthquake	Earthquake preparedness	Human Resources Police Department Fire Department	Medium		Ongoing, 1-5 Years
19	Provide emergency tsunami event education and outreach material for retails, hotels, and restaurants.	Earthquake Floods Tsunami	Emergency preparedness	Human Resources	Medium	No funding required	Ongoing
20	Relocate all utilities underground to reduce further City damage.	Earthquake Floods	Prevent additional utility damages during emergency events.	Public Works	Medium	Partial funding from General Capital Fund and PG&E	long range
21	Coordinate with City of Berkeley and Oakland's Offices of Emergency Services for LHMP best practices and share resources during emergency events.	All Hazards	Resource sharing and coordination with neighboring cities to increase emergency response and preparedness for residents	Human Resources	Medium	No funding required	Ongoing
22	Become Point of Distribution (POD) for both commodities and medical services.	Earthquake Hazardous Materials Release Climate Change Floods Biological Threats	Provide critical services and resources to impacted communities	Human Resources ACOES ACPHD	Medium		Ongoing
23	Establish Emeryville Medical Reserve Corps.	Earthquake Terrorism Biological Threats	Have a group of health professionals ready to aid in addressing health issues and emergency situations.	Human Resources Local Healthcare Providers ACDPHC	Medium	ACDPHC	Ongoing

No.	Mitigation Action	Hazard(s) Addressed	Benefits	Agency Responsible	Priority	Funding Source	Timeframe
24	Require installation of gas shut off valves during building remodels and new development.	Earthquake Hazardous Materials Release Fires Terrorism	Increase building safety	Planning/Building	Low	No funding required	Ongoing, Completed
25	Work with Red Cross to install smoke detectors in single family homes.	Fires Hazardous Materials Release	Early detection of fire and potential chemical release prevention	Community Services	Low		Ongoing
26	Provide location for public disposal of batteries and oil.	Hazardous Materials Release Climate Change	Waste reduction/diversion	Environmental Services ACHHW	Low	No funding required	Ongoing, Completed
27	Provide slow water releasing bags to residents for newly planted trees.	Climate Change	Water conservation	Public Works	Low		long range
28	Implement transfer tax for homebuyer where a percentage will be rebated for earthquake retrofits.	Earthquake	Funding for earthquake impact mitigation	Finance Planning/Building City Manager's Office	Low	No funding required	1-5 Years
29	Put window film and or/storm windows on City Hall for energy efficiency and earthquake shatter prevention.	Earthquake Climate Change	Encourage heat retention, minimize earthquake damage	Public Works	Low	Major Maintenance Fund, PG&E OBF-AP	Ongoing, 1-5 years
30	Encourage renewables for businesses by giving tax breaks or rebates.	Climate Change	Incentivize positive small business actions around sustainability, helping to reduce business costs while being environmentally conscious.	Economic Development and Housing Environmental Services	Low	No funding required	1-5 Years

No.	Mitigation Action	Hazard(s) Addressed	Benefits	Agency Responsible	Priority	Funding Source	Timeframe
31	Build living levee or other protective measures in the Emeryville Crescent Marsh.	Climate Change	Reduce negative impacts from sea level rise	EBRPD Public Works Planning/Building	Low		long range
32	Offer geographic information system (GIS) resource online.	Earthquake Floods	Resource available for residents to identify areas at risk and increase knowledge of earthquake and flood prone regions in the City	Public Works	Low	No funding required	long range
33	Restore and build up wetlands along areas at risk of inundation due to sea level rise.	Climate Change	Reduce negative impacts from sea level rise	Public Works Planning/Building	Medium		long range
34	Convert all 4 train tracks to main lines.	Earthquake Hazardous Materials Release Terrorism	Additional main train lines in case of track failures	City of Oakland Union Pacific Planning/Building	Low	Union Pacific	long range
35	Establish preparation and response protocols with Carleton College and Stanford Health to aid in the City as a POD during disasters.	Earthquake Floods Biological Threats	Manage health impacts from extreme heat days, floods, and extreme storm conditions	Carleton College Stanford Health Human Resources	Low	No funding required	long range
36	Expand alternative transportation such as regional Bike Share program.	Climate Change	Reduce GHG emissions	BikeShare, Environmental Services MTC	Medium	Traffic impact fee, Private funding	Ongoing, 1-5 years
37	Shift to smart grid for electricity provision and energy needs.	Climate Change Utility Infrastructure Failure	Renewable energy, alternative source of energy during emergency events	Environmental Services	Low		Ongoing, 1-5 years

No.	Mitigation Action	Hazard(s) Addressed	Benefits	Agency Responsible	Priority	Funding Source	Timeframe
38	Designate Senior Center as a cooling center for extreme heat days.	Climate Change	Provide safe space on hot days, prevent negative health effects from extreme temperatures	Community Services	Medium	No funding required	Completed
39	Implement water efficient landscaping ordinance.	Climate Change	Water conservation, sustainability	Planning/Building Environmental Services	Medium	No funding required	Ongoing, Completed
40	Create GIS maps reflecting hazardous pipelines in the city.	Earthquake Hazardous Materials Release Terrorism	Better identify locations of potential hazardous materials release	Public Works	Low	No funding required	Ongoing
41	Streamline installation process for solar panels on building developments and remodels.	Climate Change	Incentivize renewable energy development	Planning/Building	Low	No funding required	Ongoing
42	Encourage windmills in City via public outreach	Climate Change Utility Infrastructure Failure	Provide alternate sources of energy, reduce GHG emissions	Planning/Building	Low	No funding required	Ongoing
43	Establish community policing to increase police knowledge of neighborhoods.	Civil Unrest	Community relation building	Police Department	Low	No funding required	Ongoing
44	Update Flood Plain Map for City	Floods Climate Change	Increase awareness about areas in the City prone to flooding	FEMA	Low	No funding required	Ongoing

LIST OF CITY OF EMERYVILLE'S ASSETS AT RISK FOR ALL APPLICABLE HAZARDS

Existing buildings, facilities, and critical assets indicated below are government-owned structures. Potential financial losses are based on 2017 property value. Identified hazards listed as most likely to impact relative asset is based on the geographical location of each structure, historical exposure to said hazards, and the vulnerability of each asset.

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Table 3.3 (b). Assets at Risk

Structure	Facility Type	Address	Occupancy (SQ. FT)	Property Value	Hazard(s) most likely to impact
Child Development Center	Community	1220 53rd Street	11,500	\$3,567,832	Earthquake, Terrorism, Biological Threats
Civic Center Addition	Government	1333 Park Avenue	16,532	\$6,950,857	Earthquake, Civil Unrest, Terrorism
Civic Center (Old Town Hall)	Government	1333 Park Avenue	7,808	\$2,921,209	Earthquake, Civil Unrest, Terrorism
Veteran's Memorial/Senior Center	Community	4321 Salem Street	14,183	\$3,793,410	Earthquake, Terrorism, Biological Threats
Emeryville Amtrak Station	Transportation	5885 Horton Street	9,483	\$2,502,773	Earthquake, Floods, Utility Infrastructure Failure, Terrorism
Public Works Corporate Yard	Government	5679 Horton Street	48,000	\$5,741,703	Hazardous Material Release, Floods, Utility Infrastructure Failure
Marina Restrooms	Community	3300 Powell Street	600	\$185,009	Earthquake
Marina Pier	Community	3300 Powell Street	6,500	\$648,874	Climate Change
Emeryville Center for the Arts (ECA)	Community	4062 Hollis Street	30,980	\$3,790,824	Earthquake, Floods
Fire Station #2	Emergency	6303 Hollis Street	10,576	\$2,918,286	Earthquake, Climate Change, Floods, Utility Infrastructure Failure, Terrorism
Fire Station #2 - Bio Storage Building	Emergency	6303 Hollis Street	2,600	\$330,121	Earthquake, Climate Changes, Floods, Biological Threats
Peninsula Fire Station	Emergency	2333 Powell Street	7,336	\$2,199,328	Earthquake, Climate Change, Floods, Utility Infrastructure Failure, Terrorism
Police Station Building - Police Department	Emergency	2449 Powell Street	12,746	\$4,234,050	Earthquake, Climate Change, Terrorism, Civil Unrest
Emery High School - Pool	Community	1100 47th Street	3,744	\$417,747	Earthquake, Biological Threats
Building Community Services Room/Chamber of Commerce	Business	1325 40th Street	1,950	\$215,100	Earthquake, Civil Unrest, Terrorism,
Public Art Installations	Community	Various locations	n/a	\$965,053	Earthquake, Fires, Floods

Structure	Facility Type	Address	Occupancy (SQ. FT)	Property Value	Hazard(s) most likely to impact
Aggregate Bi/Rents	Government	Various locations	n/a	\$11,200,000	Earthquake, Fires, Floods, Civil Unrest, Utility Infrastructure Failure
Contractors Equipment	Government	Various locations	n/a	\$71,000	Earthquake, Hazardous Material Release, Fires, Floods, Utility Infrastructure Failure
Fleet Vehicles	Government	Various locations	n/a	\$4,539,742	Earthquake, Fires, Floods, Civil Unrest, Terrorism
Marina Public Docks	Community	3310 Powell Street	3,588	\$149,080	Climate Change, Floods, Utility Infrastructure Failure, Terrorism
Harbor Master Office	Community	3310 Powell Street	2,890	\$487,882	Climate Change, Floods, Civil Unrest
Marina Pump Station	Community	3310 Powell Street	156	\$103,225	Earthquake, Utility Infrastructure Failure
Hong Kong East Ocean Restaurant	Community	3199 Powell Street	11,823	\$3,219,706	Earthquake, Climate Change, Fires, Floods
Doyle/Hollis Park - Restrooms Building	Community	133 62nd Street	406	\$124,102	Earthquake
Community Center - Modular	Community	4300 San Pablo Ave	8,500	\$1,860,385	Earthquake, Terrorism, Biological Threats
Warehouse	Government	5890 Christie Ave	16,304	\$3,081,879	Earthquake, Fires, Floods, Terrorism
Office Building	Business	5900 Christie Ave	14,416	\$2,258,843	Earthquake, Fires, Civil Unrest, Utility Infrastructure Failure, Terrorism

In addition to the number of City owned facilities and assets listed in Table 3.3 (b), the City also provides community amenities that, in a local hazardous event, would be subjected to critical damage or loss. Specifically, these amenities pertain to the following.

PARKS AND OPEN SPACES

The City of Emeryville has a total of 16.73 acres of parks and open spaces. Parks and open spaces play a vital part in providing green spaces and recreational areas for the community.

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61 st Street Mini-Park	0.14 acres
Doyle Hollis Park	1.25 acres
Christie Avenue Park	0.79 acres
Community Gardens (3)	0.58 acres
Davenport Mini-Park 14	0.44 acres
Marina Park	7.56 acres
Hollis Green	0.69 acres
Point Emery	2.08 acres
Shorebird Park	0.76 acres
Stanford Avenue Park	1.74 acres
Temescal Creek Park	0.70 acres

ROADS

Roads and pathways are important assets as they provide connection points to different communities and areas of the City. Road value loss is estimated at \$500,000 per road.⁷⁶

36 th Street	37 th Street	39 th Street	40 th Street	41st Street	42 nd Street
43 rd Street	44 th Street	45 th Street	46 th Street	47 th Street	48 th Street
53 rd Street	54 th Street	55 th Street	59 th Street	61 st Street	62 nd Street
63 rd Street	64th Street	65 th Street	66th Street	67 th Street	

San Pablo Avenue	Bay Street	Beaudry Street	Boyer Street	
Brunswig Lane	Christie Avenue	Doyle Street	Emery Street	
Essex Street	Adeline Street	Frontage Road	Halleck Street	
Harlan Street	Haruff Street	Haven Street	Holden Street	
Hollis Street	Horton Street	Hubbard Street	Lacoste Street	
Ocean Avenue	Overland Avenue	Park Avenue	Peabody Lane	
Peladeau Street	Powell Street	Salem Street	Shellmound Street	
Shellmound Way	Stanford Avenue	Vallejo Street	Watts Street	
Peralta Street	Yerba Buena Avenue	West MacArthur Boulevard		

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⁷⁶ There is no accurate prediction of each road's likelihood to be impacted by a particular hazard event. Each road may experience multiple damages from different hazardous events or multiple roads can be impacted by one single event. Road damages are estimated based on estimated road length of 2 to 300 feet.

BICYCLE / PEDESTRIAN PATHWAYS

Doyle Street / Emeryville Greenway	Christie Avenue Bicycle/Pedestrian Path	
Bay Bridge Bicycle/Pedestrian Path	Joseph Emery Bicycle/Pedestrian Path	
Pedestrian Bridge at Amtrak Station	Bay Trail	

FEDERAL, STATE AND LOCAL ORDINANCES AND REGULATIONS

The City has enacted local ordinances and regulations to promote disaster mitigation, preparedness, response or recovery. Many City ordinances and programs are based on State requirements. These local ordinances and State regulations are listed below.

Seismic Hazard Mitigation Ordinance 95-001. Emeryville's Seismic hazard mitigation ordinance was passed in 1995 to amend and clarify an earlier ordinance passed in 1990. This ordinance applies only to unreinforced masonry buildings identified as potential seismic hazards. The mitigation measures contained in this ordinance are minimum measures only and cannot be applied to any building that is undergoing a change of occupancy. For unreinforced and under-reinforced buildings requiring building permits and/or undergoing a change of occupancy, the City has adopted Appendix A1 of the International Existing Building Code (IEBC).

Municipal Code, Title 4, Public Safety, Chapter 2: Emergency Plans. The declared purposes of this chapter are to provide for the preparation and carrying out of plans for the protection of person and property within the City in the event of a disaster and to provide for the coordination of the civil defense and disaster functions of the City with all other public agencies and affected private persons, corporations and organizations. Any expenditure made in connection with such civil defense and disaster activities, including mutual aid activities, shall be deemed conclusively to be for the direct protection and benefit if the inhabitants and property of the City.

Municipal Code, Title 9, Planning Regulations, Chapter 6, Article 7. The purpose of these regulations is to establish the criteria for the conversion of existing rental units to condominiums while ensuring that converted dwellings meet safety standards related to seismic retrofits and fire codes.

Municipal Code, Title 9, Planning Regulations, Chapter 5, Article 7: Hazardous Waste Facilities. Hazardous Waste Facility Projects may not be located within 200 feet of any active or recently active seismic fault; in an area with 25% or greater slope; or areas subject to liquefaction or subsidence unless the facility incorporates adequate engineered design features which assure structural stability; in an area of highly permeable soils or sediment; in a 100-year flood plain or an area subject to flooding by dam failure or tsunami. Hazardous waste facilities require a Major Conditional Use Permit from the Planning Commission.

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Public Resources Code Section 4291. PRC 4291 is the law requiring annual defensible space be provided around all structures in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material.

Public Resources Code, Title 14. These regulations provide additional fire prevention and suppression standards.

Public Resources Code Section 2694. PRC 2694 states that a person who is acting as an agent for a transferor or real property that is located within a seismic hazard zone, shall disclose to any prospective transferee the fact that the property is located within a seismic hazard zone.

Public Resources Code Section 2695 (a). Development in a liquefaction hazard zone requires adherence to the guidelines for evaluating and mitigating seismic hazards.

Municipal Code, Title 4, Public Safety, Chapter 5: Fire Code. Effective January 1, 2017, the City adopted The 2015 International Fire Code (IFC), as amended by the State and known as the 2016 California Fire Code (CFC), including Sections 102, 103, 104.9, 108, 113.2 and 503 (California Code of Regulations, Title 24, Part 9) as published by the International Code Council (ICC) and the California Building Standards Commission. This code provides minimum standards for many aspects of fire prevention and suppression activities. These codes include provisions for access, water, supply, fire protections systems, industrial and commercial practices, and the use of fire resistant building materials. The Fire Marshal is authorized to inspect, or cause to be inspected, all building occupancies within the jurisdiction, except for the private spaces of residential dwellings, for the purpose of ensuring compliance with the Uniform Fire Code.

Municipal Code, Title 8: Building Regulations. The Chief Building Official is authorized to issue a permit for construction of foundations or any other part of a building or structure before the construction documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. Minimum requirements that must be fulfilled before a partial permit may be issued include: all land use, site development foundation and special inspection issues shall have been resolved and a preliminary review has been completed; if applicable to the project, the Public Works Department shall have approved all site drainage and public works improvements including all applicable fees, encroachment permits, bonds, etc.; the Fire Marshal shall have approved all site development features such as access, fire hydrants, etc.; applicable soils reports, special inspection program form, calculations, hazardous materials, management plan and other information deemed by the Chief Building Official to be pertinent and necessary for the inspection of the work.

California Code of Regulations, Title 19. These regulations pertain to fire prevention and engineering measures for new construction.

California Code of Regulations, Title 14, Article 10: Seismic Hazards Mapping. These regulations shall govern the exercise of the city, county and state agency responsibilities to identify and map seismic hazard zones and to mitigation seismic hazards to protect public health and safety in accordance with the provisions of Public Resources Code, Section 2690 et seq.

Earthquake Safety and Public Buildings Rehabilitation Bond Act (Proposition 122). In 1990, the State of California passed the Earthquake Safety and Public Rehabilitation Bond Act (Proposition 122). Up to \$50 million was allocated for the seismic retrofit of essential services facilities. Many local governments and special districts have retrofitted their essential services buildings with local funds.

Assembly Bill 337 (Bates bill). This bill was passed in 1992 in response to the Oakland Hills, California urban wildfire of 1991. It requires brush clearance and fire-resistant roof material (Class A or B) to be used on all new construction that is located in areas designated as being in a "Very High Fire Severity Zone".

California Civil Code 1103. This article mandates three natural hazard disclosures and consolidates these previously required disclosures onto a statutory form called the Natural Hazard Disclosure Statement (NHDS). This form is now a legally required part of most residential property transactions.

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to identify earthquake fault zones along traces of both recently and potentially active major faults. The Alquist-Priolo Zones are usually one-quarter mile or less in width and proposed development plans within these fault zones must be accompanied by a geotechnical report prepared by a geologist describing the likelihood of surface rupture and other seismically induced hazards. The City of Emeryville is not located in an Alquist-Priolo Earthquake Zone.

California Environmental Quality Act (CEQA) and Guidelines. The CEQA was adopted by the State Legislature to provide public disclosure of the substantial adverse environmental effects of proposed development within the State. The CEQA Statutes and Guidelines (California Code of Regulations Title 14, Chapter 3, Section 15000, et seq.) includes the disclosure of and mitigation for safety hazards as environmental impacts.

Cobey-Alquist Floodplain Management Act. This act encourages local governments to plan, adopt and enforce land use regulations for floodplain management in order to protect people and property from flooding hazards. This act also identifies requirements which jurisdictions must meet in order to receive state and financial assistance for flood control.

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CAPABILITIES ASSESSMENT

This capabilities assessment is designed to identify existing local agencies, personnel, planning tools, public policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies outlined in this plan.

The City of Emeryville has several key departments with resources to support the implementation of mitigation actions. These departments, along with County, State, Federal and private resources, offer a variety of planning, technical, policy, and staffing resources as summarized in Table 3.3 (c).

Type of Resource	Resource Name	Ability to Support Mitigation	Lead Personnel	Web Address
Plan Resource	Emeryville General Plan	Principal policy document that guides conservation, development and change in the City. Identifies City programs and policies as they pertain to land use, public services, housing, natural resources, and safety. The General Plan supports the implementation of mitigation actions and this Local Hazard Mitigation Plan Update will be adopted as an amendment to the Safety Element of the City's General Plan.	Community Development Department - Planning Department	http://www.emeryvill e.org/385/General- Plan-and- Supporting- Documents
Plan Resource	Climate Action Plan	The City of Emeryville's Climate Action Plan adopted in 2008 and Climate Action 2.0 Adopted in November 2015 is a comprehensive roadmap that outlines specific activities that the City will undertake to reduce greenhouse gas emissions. Hazards identified in 2009 LHMP (and this LHMP) as well as some mitigation strategies were incorporated into the Climate Action 2.0 update.	Public Works Department - Environmental Programs	http://emeryville.org/ 338/Climate-Action- Plan
Plan Resource	Capital Improvement Program (CIP)	This plan identifies the essential upgrades to infrastructure and allocates funding to see these improvement through. Mitigation ideas from the 2009 (and this) LHMP have been incorporated into the current CIP.	Public Works Department	http://www.emeryvill e.org/DocumentCen ter/View/8286/Capit al-Improvement- Program?bidId=
Plan Resource	Local Hazard Mitigation Plan	The Local Hazard Mitigation Plan identifies the risks from natural hazards present in the City and includes strategies to reduce those risks. The City can coordinate hazard mitigation activities with neighboring cities as well as the county for a more consistent and unified approach to hazard mitigation.	All Departments	http://emeryville.org/ 1106/Local-Hazard- Mitigation-Plan
Policy Resource	Building Code	The Building Code specifies how new structures can be built. It includes the California Building Code, in addition to any amendments made by the City of Emeryville. Mitigation actions may involve amending the Building Code to improve a building's safety or structural stability.	Community Development Department - Building Division	http://www.ci.emery ville.ca.us/1017/Co mmunity- Development
Policy Resource	Zoning Ordinance	The City's Zoning Ordinance translates plan policies into specific use regulations, development standards and performance criteria that govern development on individual properties. The General Plan establishes the policy framework while the Zoning Ordinance prescribes standards, rules and procedures for development.	Community Development Department - Planning and Building Divisions	http://www.ci.emery ville.ca.us/1017/Co mmunity- Development

Type of Resource	Resource Name	Ability to Support Mitigation	Lead Personnel	Web Address
Personnel Resource	Community Development Department	The Community Development Department has the primary responsibility for administering the laws, regulations, and requirements that pertain to the physical development of the city, and for overseeing the implementation of the City's economic development, housing, and public arts programs. Mitigation activities related to planning and building can be implemented by any and all of the three Divisions.	Planning Division Building Division Economic Development and Housing Division	http://www.ci.emery ville.ca.us/1017/Co mmunity- Development
Personnel Resource	Finance Department	The Finance Department manages all financial aspects of City operations - accounting, annual audit requirements, tracking and accounting for all purchase orders, accounts payable, accounts receivable and business licenses. The department may be responsible for implementing mitigation actions related to the department's scope before, during and after a disaster.	Finance Department - Finance Director	http://emeryville.org/ 119/Finance
Personnel Resource	Human Resources Department	The Human Resources Department is responsible for staff recruitment and selection, classification and compensation, employee and labor relations, payroll, employee benefits, health and wellness, risk management and disaster preparedness. The Human Resources Department in conjunction with the Alameda County Fire Department provides training on emergency preparedness to City staff. In addition, mitigation ideas related to emergency preparedness can be implemented by the Human Resources Department.	Human Resources Department - HR Director and Emergency Preparedness Coordinator	http://www.emeryvill e.org/121/Human- Resources
Personnel Resource	Police Department	The Police Department protects life and property, maintains law and order, seeks solutions to neighborhood problems that adversely affect the quality of life, fosters a community spirit of cooperation and adherence to laws of our society. Mitigation activities may be implemented by the Police Department.	Police Department - Chief of Police	http://www.emeryvill e.org/123/Police
Financial Resource	Earthquake Insurance Fund	The City established the Earthquake Insurance Fund in 2002-2003. This fund accounts for resources set aside for potential severe seismic incidents.	Finance Department - Finance Director	http://www.emeryvill e.org/376/Budget
Technical Resources	Emergency Preparedness Page on City Website	The City has a Disaster Preparedness Page on its website for residents. The Earthquake Information Page includes information on Disaster Supply Kits, Emergency Alert Notifications, Creating a Disaster Plan, Emergency Response Training, Local Hazard Mitigation Plan, Climate Action Plan and Earthquake Information.	Human Resources Department - HR Director and Emergency Preparedness Coordinator	http://www.emeryvill e.org/86/Disaster- Preparedness
Community and Mitigation Outreach	Building Department	The City promotes the Earthquake Brace + Bolt program for homeowners on the Building Division Website. The Earthquake Brace and Bolt Program also has promotional information for residents which will be made available at the Front Counter in City Hall and on the City's website.	Building Department	www.earthquakebra cebolt.com
Community and Mitigation Outreach	Human Resources, Building and Planning Departments	The City will promote the Association of Bay Area Governments Resilience Program's new Earthquake Field Guide and on-line Earthquake Home Quiz by adding a link on the City's Disaster Preparedness Page on the city website and by providing this information in hard copy at various City sites as well as at the Planning and Building and Finance Counters in City Hall. The City will also promote this program at City events throughout the year and at the Emergency Preparedness Fair.	Human Resources Department - HR Director and Emergency Preparedness Coordinator Building Department	-

Type of Resource	Resource Name	Ability to Support Mitigation	Lead Personnel	Web Address	
	COUNTY				
Personnel and Technical Resource	Alameda County Fire Department	The City contracts with the Alameda Fire Department for comprehensive fire services to protect and safeguard life, environment, and property including "all risk" services that mitigate the effects of fire, injury, illness, urban search and rescue, water rescue, hazardous materials, storm, human-caused calamity and natural disasters. The department works closely with the City and provides technical assistance and training on disaster preparedness for City staff and the community.	Alameda County Fire Department - Fire Chief	http://www.emeryvill e.org/120/Fire	
Technical Resource	Alameda County Sheriff's Office of Emergency Services (ACSO OES)	The Alameda County Sheriff's Office of Emergency Services provides guidance on disaster preparedness activities to jurisdictions in the County.	Alameda County Sheriff's Office	https://www.alamed acountysheriff.org/c ws_oes.php	
Plan Resource	Alameda County Hazard Mitigation Plan	The purpose of this plan is to identify the natural hazards in the County, determine how they will impact the community, and develop strategies to lessen the effect of those hazards and create a more disaster resilient Alameda County.	Alameda County	http://www.alameda countylhmp.com/do cuments/Alameda% 20LHMP%20FINAL Jan%202016 v2.p	
Plan Resource	Alameda County General Plan	The County's General Plan is a long range policy document approved by the Board of Supervisors to guide physical, economic, and environmental growth in the County. The plan includes policies intended to reduce hazards and disasters in Alameda County.	Alameda County	https://www.acgov.o rg/cda/planning/gen eralplans/index.htm	
		STATE AND FEDERAL AGENCIES			
Technical Resource	California Department of Transportation (Caltrans)	Caltrans has jurisdiction over state-designated highways, including Highway 80, which bisects the City in two. The City can work with Caltrans on making the highway more resilient and developing an evacuation for the Peninsula residents and businesses if the highway overpass should be compromised.	Caltrans	http://www.dot.ca.go v/	
Technical and Financial Resource	California Office of Emergency Services	This state agency provides guidance on hazard mitigation planning activities in California, as well as information on reducing risk for residents, businesses, and governments. It also provides notification of funding opportunities for hazard mitigation activities.	CalOES Mitigation Planning Division	http://www.caloes.c a.gov/Cal-OES- Divisions/Hazard- Mitigation	
Technical and Financial Resource	Federal Emergency Management Agency (FEMA)	This federal agency provides guidance for hazard mitigation activities and distributes federal funding for hazard mitigation grants and recovery efforts after a declared disaster.	FEMA	http://www.fema.gov /mutli-hazard- mitigation-planing	
Technical and Financial Resource	Bay Area Urban Areas Security Initiative (BA UASI)	The Bay Area Urban Areas Security Initiative sustains and improves regional capacity to prevent, protect against, mitigate, respond to, and recover from terrorists attacks and catastrophic disasters. BAUASI also administers the Homeland Security Grant Program.	BAUASI	http://www.bayarea uasi.org/	

Type of Resource	Resource Name	Ability to Support Mitigation	Lead Personnel	Web Address
		SPECIAL DISTRICTS AND PRIVATE RESOUR	RCES	
Technical Resource	Pacific Gas & Electric	The Pacific Gas and Electric Company (PG&E) owns the electricity and natural gas transmission and distribution systems in the City of Emeryville. It also provides natural gas service and some electrical service to the community. PG&E Can work with the City to reduce the vulnerability of energy infrastructure to natural hazards.	PG&E	https://www.pge.co m/
Technical Resource	East Bay Municipal Utility District (EBMUDO)	EBMUD owns and operates the water distribution system or the City of Emeryville. EBMUD can work with the City to reduce the vulnerability of the water infrastructure to natural hazards.	EBMUD	https://www.ebmud. com/water/
Technical Resource	Agility Recovery Resources	The City contracts with Agility Recovery Resources to provide business continuity services to the city in the event of an emergency or disaster. The City works with Agility Recovery to identify resources the City will need to continue operations in the immediate aftermath of a disaster or declared emergency.	Agility Recovery Services	www.agilityrecovery .com

MITIGATION PROJECTS AND PROGRAMS

Local Hazard Mitigation Plan (Update 2019). The intent of the Local Hazard Mitigation plan is to reduce or prevent injury, death and damage from hazards in the City. It identifies past and present mitigation activities, current policies and programs, and mitigation strategies for the future. This plan also guides hazard mitigation activities by establishing hazard mitigation goals and objectives.

General Plan. The City of Emeryville General Plan, adopted in 2009, includes a chapter on "Conservation, Safety and Noise" which serves as the Safety Element of the plan. The plan also includes a chapter on "Sustainability" which outlines sustainable design measures and policies the City can undertake to reduce its contribution to global climate change, minimize its reliance on foreign oil and other fossil-fuel sources, and decrease consumption of natural resources. The Local Hazard Mitigation Plan, once approved, will be adopted as an amendment to the Safety Element of the General Plan.

Climate Action Plan. The City of Emeryville's Climate Action Plan adopted in 2008 and Climate Action Plan 2.0 Adopted in November 2016 is a comprehensive roadmap that outlines specific activities that the City will undertake to reduce greenhouse gas emissions. Hazards identified in the 2009 Local Hazard Mitigation Plan and this 2018 update were taken into consideration when developing Climate Action Plan 2.0.

Capital Improvement Program Fiscal Years 2014 – 2015 through 2018 – 2019. The current Capital Improvement Program (CIP) was adopted by council in June 2014. Several projects in the CIP were derived from mitigation strategies identified in the 2009 Local Hazard Mitigation Plan.

Program for Seismic Retrofit for Wood-Framed Dwellings. The City of Emeryville has established a program to encourage owners of one and two-family, wood-framed

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residential structures to seismically upgrade their properties. Emeryville property owners may purchase, from the Emeryville Building Division, a pamphlet and a drawing that will help them to install simple seismic retrofit measure to their buildings. This drawing may be used by a licensed contractor or by a skilled homeowner who wishes to take out an owner/builder permit. The permit applicant needs to provide a basic foundation plan of the structure to be retrofitted.

Earthquake Brace + Bolt. In 2016, the City was approved by the California Residential Mitigation Program Board members to be included in the 2016 expansion of the Earthquake Brace + Bolt Program (EBB). Beginning January 1, 2016, this program provides up to \$3,000 to homeowners who brace and bolt their homes in accordance with the program rules. This program is for a limited duration.

Fire Prevention Education Program. The City contracts with Alameda County Fire Department (ACFD) to provide fire services to the City. ACFD offers a public information and education program that promotes public awareness of the significance of Fire/Safety prevention measures. This program enables the public to be better prepared when an emergency fire situation occurs.

Emergency Preparedness Education Program. Alameda County Fire Department also offers a variety of trainings in Emergency Preparedness. These trainings are topic based and are geared towards increasing the awareness, preparedness, and capability of all community members within the City of Emeryville. The goals of these training programs are to increase the City's and the community's capability to mitigate against, prepare for, response to, and recover from disasters. Major program offerings include: Get Ready 5th Grade (GRS), Personal Emergency Preparedness (PEP) and Community Emergency Response Team (CERT) training.

LAND USE AND DEVELOPMENT TRENDS

Emeryville's land use transformation over the past 20 years has been extensive. Formerly dominated by manufacturing and distribution, the City is now marked by ever increasing development of office, regional retail, and high-density land uses, as well as mixed-use developments. Because Emeryville is a built-out city, new development will result from reuse of existing underutilized sites and redeveloping its existing land uses or rehabilitating older buildings.

Emeryville's Planning Regulations contain 16 base zoning districts, including three residential districts. Unlike in most traditional zoning ordinances, the City maintains a map-based system of building intensity (floor area ratio or FAR), residential density, and building height regulations, which are part of the General Plan. This system - where building heights, residential densities, and FARs are not linked to underlying land uses - is an excellent approach for a city of Emeryville's size, allowing molding of urban form based on geographic and location considerations. Thus, the City's zoning regulations - which regulate what gets built on the ground - reflect an intense, mixed, and in some

instances a tall city as suggested by the General Plan. Consequently, the Emeryville emerging from the zoning ordinance reflects a broad vision for the community.

Previously an industrial town, the City is no longer dominated by a single land use. Around half of the developable land (excluding roads, highways, and other rights of way) is in Commercial (36%) or Industrial (14%) use and just under a quarter (21%) is used for housing. The remaining quarter of the City is in Public Use (7%), Parks and Open Space (7%), or a mix of uses (8%). Around 7% of the land is vacant unassigned.

Almost all of the Bayfront and freeway edge area west of the railroad tracks has been redeveloped over the past 30 years. Much of this space is devoted to retail and office uses in large-scale developments, such as Bay Street, IKEA, the Public Market, and the Powell Street Plaza all of which serves a regional clientele. Almost no industrial uses remain in this area and most of the remaining industrial parcels are likely to be changed into new uses in the future. Residential developments to the west of the tracks (Watergate Condominiums, Pacific Park Plaza, Avenue 64, Archstone/Bridgewater, Bay Street, and newly added Emme 64th and Christie) are large in size and high in density, comprising about 3,200 housing units – almost half of the housing in the City.

Because Emeryville is largely flat, topography does not play a factor in the City's land use pattern. Transportation corridors, however, do split the City into several sub-districts. The main divisions are I-80 and the railroad, and to a smaller extent Powell Street. I-580 separates Emeryville from Oakland along the Southern City limits, although a portion of the area north of I-580 is in Oakland.

CITYWIDE LAND USE GOALS AND POLICIES⁷⁷

GOALS

(a) Land Use

LU-G-1: An overall balance of uses. Employment, residential, cultural, destination and local retail-as well as a full range of amenities and services necessary to support a vibrant community.

LU-G-2: A mixed use city. Mixed-use development in various parts of the city, with the range of permitted and required uses varying to meet the needs of specific districts and neighborhoods.

LU-G-3: Community activity centers. Centers that combine residential, retail, office, and public uses to create areas of identity and activity for residents and visitors.

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⁷⁷ City of Emeryville. Emeryville General Plan. City of Emeryville Planning Division. October 2009. Pages 2-20 - 2-23. Web. 17 Mar. 2017. http://emeryville.org/DocumentCenter/Home/View/1016.

- **LU-G-4:** A mix of housing types. A diversity of housing types to accommodate a variety of household sizes and incomes.
- **LU-G-5: Preservation of residential neighborhoods.** Residential use, structures, low-rise scale, and character of the Triangle, Doyle Street, and Watergate neighborhoods preserved, and the scale of other areas of stability maintained.
- **LU-G-6: Vibrant new mixed use center.** Intensification of existing underutilized commercial centers with surface parking (such as Powell Street Plaza and East Bay Bridge Center) as vibrant, multi-story, walkable mixed-use destinations with structured parking and open space.

(b) Height and Intensity

- **LU-G-7:** A varied skyline. With the highest intensities/heights grouped in the Powell Street/Christie Avenue area, with heights stepping down from this urban core.
- **LU-G-8: Uninterrupted sunlight in key areas.** During designated periods on all major parks. Adequate sunlight on sidewalks, streets, especially in Neighborhood Centers with other key public gathering areas.
- **LU-G-9: Appropriately scaled buildings.** Heights and massing that do not appear monolithic.
- **LU-G-10: Maximum sky exposure.** For streets and public spaces, and minimal view disruptions.

(c) Economic Development

- **LU-G-11:** A wide range of economic activity. An economy that capitalizes on Emeryville's central location, strengthens the City's tax base, and ensures that Emeryville has adequate fiscal resources to fund high quality public services for its residents and businesses.
- **LU-G-12:** Successful businesses. Retain and foster the growth of Emeryville businesses.
- **LU-G-13:** Local employment opportunities. Encourage establishment of businesses that will employ and serve Emeryville residents.

POLICIES

(a) Land Use

LU-P-1. Land uses will be consistent with the Land Use Classifications in Section 2.4 and the Land Use Diagram, Figure 2-2 of the General Plan.

- **LU-P-2.** The Powell / Christie / Shellmound / I-80 core area will be developed into a compact but high-intensity regional transit hub. This hub will include a retail core, with stores, restaurants, and hotels; a financial and commercial center, creating a daytime work population; and a residential neighborhood providing vitality during non-work hours.
- **LU-P-3.** The northern (north of Powell) and southern halves of the Powell/Christie core area shall be integrated and connected, and the district shall be walkable, with small blocks, pedestrian orientated streets and connections to surroundings.
- **LU-P-4.** Park Avenue (west of Hollis Street), Hollis Street (between 61st and midblock between 65th and 66th streets), Powell Street/Captain Drive, and San Pablo Avenue (between 36th and 47th streets) will be developed as walkable, mixed use neighborhood centers, with an array of amenities and services-including stores, restaurants and cafes, galleries and office uses to serve neighborhood needs, with community serving uses and active building frontages that engage pedestrians at the ground level.
- **LU-P-5.** Retail uses shall be concentrated in areas with Neighborhood or Regional Retail overlays, near neighborhood centers, and in the Emeryville Marketplace.
- **LU-P-6.** The current deficiency of park and open space will be addressed by making parkland acquisition a high priority by the City, and by working with private landowners to secure these areas through development incentives, land swaps other mechanisms.
- **LU-P-7.** Existing uses on sites designated for large community parks along Hollis Street shall remain as conforming uses, until such time as these sites are acquired by or dedicated to the City.
- **LU-P-8.** Live/Work uses will be permitted in all land use designations except Public Parks/Open Space, and Marina. In the Industrial district west of Hollis Street, only "heavy live/work-involving", for example manufacturing, welding or assembly will be permitted.
- **LU-P-9.** Zoning measures will ensure health and safety compatibility for industrial uses bordering residential uses.

(b) Height and Intensity

- **LU-P-10.** Maximum building height will be defined by the Maximum Building Heights diagram in Figure 4.2 of the General Plan.
- **LU-P-11.** Maximum floor area ratios (FARS) and residential densities for sub-areas of the City, will be defined by Figure 2-3 and 2-6 respectively in the General Plan.
- **LU-P-12.** Bulk standards will be defined in the Zoning Ordinance, with particular emphasis on zones where taller buildings are permitted.

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- **LU-P-13.** Building heights will step down to the east and west from Powell/Christie core; buildings taller than 55 feet are permitted east of Hollis Street. The height and scale of existing development (30 feet maximum) in the Doyle Street and Triangle neighborhoods will be maintained.
- **LU-P-14.** Heights greater than 100 feet are only permitted for buildings that meet specific criteria, such as minimal impacts on public views, sky exposure, wind, and shadows, adequate separation from other tall buildings, and exemplary design, and/or provide public amenities, through a discretionary review and approval process.
- **LU-P-15.** Buildings in all districts shall be required to step down to meet permitted heights in adjacent lower-rise districts.
- **LU-P-16.** A point-based system will be established for intensity, height and density bonus, as well as review and approval process.

(c) Policies for Specific Areas

- **LU-P-17.** The area round the Amtrak station shall be developed with pedestrian and bicycle amenities, and transit-supportive uses, through measures such as reduced parking requirement, incorporation of public parking in developments, and accounting for transit proximity when considering height and FAR bonuses.
- **LU-P-18.** The reuse of the Sherwin Williams site shall include a mix of residential and nonresidential uses with ample open space, centered on an extension of the Emeryville Greenway connecting the Horton Landing Park and the Park Avenue District.
- **LU-P-19.** The relocation of the AC Transit facility will be pursued. Alternative community uses if/when the facility relocates will be studied.
- **LU-P-20.** Along San Pablo Avenue, neighborhood-oriented retail establishments that may serve a regional clientele as well with housing above will be promoted. Development adjacent to residential uses in the Triangle neighborhood shall be in keeping with the scale and character of the residential uses.
- **LU-P-21.** The East Bay Bridge, Powell Street Plaza, and Marketplace shopping centers shall be intensified by consolidating parking into structures and converting surface parking lots into residential and mixed-use development-including retail, hotels, and offices; expanding the City street grid through the sites; and developing new parks and public open space. Future redevelopment of these shopping centers should include at least as much retail space as existed when this General Plan was adopted.
- **LU-P-22.** In the short term, landscaping and facades in the East Bay Bridge Shopping Center should be upgraded.

- **LU-P-23.** The Powell Street Plaza site shall be encouraged to redevelop as a high intensity, high-rise, mixed-use development that complements the Powell Street entrance to the city from the freeway.
- **LU-P-24.** The Marketplace and adjacent parcels shall be encouraged to redevelop with a mix of uses, and iconic mid to high-rise development.
- **LU-P-25.** If new residential buildings are proposed adjacent to freeways and railroad tracks impacts of these corridors, including noise, vibration, air pollution, should be considered during site planning. Noise, vibration, and air pollution shall be mitigated to the extent possible.

(d) Economic Development

- **LU-P-26.** A mix of retail that draws local customers as well as patrons from the general Bay Area shall be encouraged.
- **LU-P-27.** A diversity of commercial uses to insulate the City's fiscal base from downturns in particular markets shall be maintained.
- **LU-P-28.** The City will pursue retail uses that will serve the need of Emeryville resident, and encourage these uses to locate in the Neighborhood centers.
- **LU-P-29.** The City will encourage the development and retention of small business, start-up firms, partnership incentives, and buildings that accommodate these businesses.
- **LU-P-30.** The City will encourage development of dynamic, leading edge industries, based in high technology, medical/bio engineering, bio technology, and media that provide good quality jobs with the potential for career advancement.
- **LU-P-31.** The City will encourage development of existing Emeryville businesses with the object of retaining and expanding employment opportunities and strengthening the tax base. Provide assistance to existing businesses that may be displaced by new development to relocate in Emeryville.
- **LU-P-32.** The City will work existing Emeryville businesses, Chamber of Commerce, and others to address the City's economic needs and stimulate growth.

On the following two pages are Emeryville's General Plan land use map indicating where the General Plan allows various future uses, and a diagram that designates the areas of change and stability throughout the City. Areas of change are those parts of the City that have a heightened potential for redevelopment over the next 20 years because of current land uses and intensity of development, while areas of stability are those parts of the City that are not anticipated to change significantly in character, land use or development intensity over the next 20 years. This map also indicates master plan areas, which are likely to change over the next 20 years, but that have already been approved by the City

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Council either through the entitlement of Planned Unit Developments (PUD), or the adoption of an area plan that includes a vision for the future character of the area.

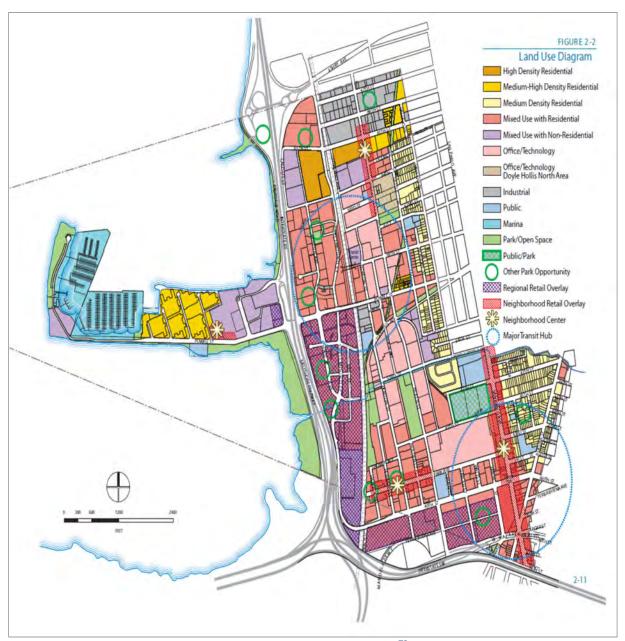


Figure 3.7 (a). City of Emeryville General Plan Land Use Diagram⁷⁸

⁷⁸ City of Emeryville. Emeryville General Plan. City of Emeryville Planning Division. October 2009. Web. 13 Apr. 2017. http://emeryville.org/DocumentCenter/Home/View/1016.

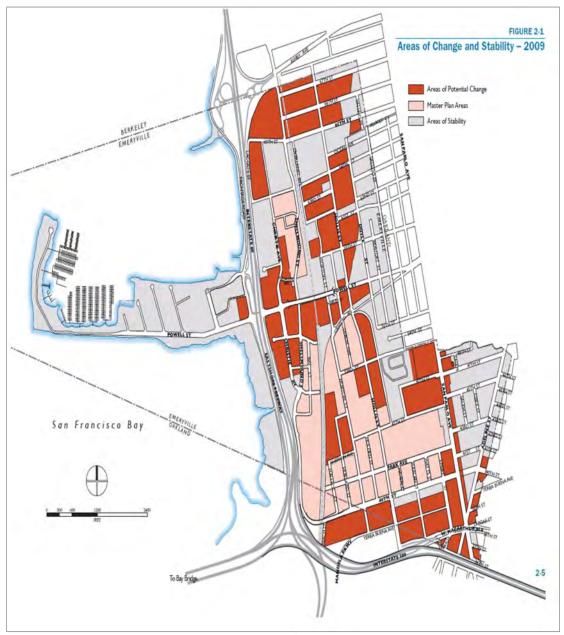


Figure 3.7 (b). City of

Emeryville Areas of Change and Stability - 2009⁷⁹

⁷⁹ City of Emeryville. Emeryville General Plan. City of Emeryville Planning Division. October 2009. Web. 13 Apr. 2017. http://emeryville.org/DocumentCenter/Home/View/1016.

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PLAN MAINTENANCE



Emeryville Amtrak Station

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PLAN REVIEW, EVALUATION AND IMPLEMENTATION

The City of Emeryville 2019-2024 Local Hazard Mitigation Plan will be reviewed by CalOES and FEMA for consideration. After receiving an "Approval Pending Adoption" determination from FEMA, the Plan will be presented to the Planning Commission and the Emeryville City Council in public hearings. The Council, upon a recommendation from the Planning Commission, will adopt by resolution the Local Hazard Mitigation Plan as an amendment to the Safety Element of the Emeryville General Plan.

To ensure that the mitigation strategies in the 2019-2024 LHMP are implemented as envisioned, and to review any new hazards data as it becomes available, the Emergency Preparedness Coordinator will monitor the mitigation measures, and annually review the plan in partnership with the Community Development and Public Works Departments.

The Local Hazards Mitigation Plan is a living document. It will be reviewed by the above-mentioned staff after every major disaster, who will propose amendments, when deemed necessary. If amendments are needed, staff will commence with the public planning process as well as public hearings. The amended plan would then be submitted to CalOES and FEMA for final approval.

To track the implementation of the plan over time, the Emergency Preparedness Coordinator will engage with stakeholders on a timely basis to ensure plan implementation is ongoing and is achieving its stated purpose and goals. In order to continue discussion and participation from the public, periodic social media updates on the City's website, Twitter account, and Facebook page will serve to inform the community of any updates and mitigation action progress.

The 2019-2024 Plan will be placed on the City's website and the public will be able to comment or make inquiries throughout the plan period. In addition, the City will continue with education opportunities during this period to keep citizens informed of the natural and man-made hazards Emeryville faces and what the City is doing to reduce the risks from those hazards

The Emeryville Local Hazard Mitigation Plan will be reviewed and revised once every five (5) years. The Emergency Preparedness Coordinator will be the Project Manager for the update. The next version of the Plan will be adopted by the City in 2024.

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APPENDIX A



Emeryville Center of Community Life

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CITY OF EMERYVILLE PLANNING PROCESS 2015-2018 UPDATE

Date	Event Type	Participants	Purpose
03/10/15	Local Hazard Community Survey published on City website	All community members local and business	To obtain the community's input on local hazards and mitigation ideas.
03/18/15	Paper copies of the Local Hazard Community Survey placed in the public lobbies of City buildings	All community members and City employees	To obtain the community's input on local hazards and mitigation ideas.
03/19/15	Police Citizens Academy class on Incident Command System (ICS)	16 class participants	To advise the class of the City's Local Hazard Mitigation Plan (LHMP) update, and to provide paper copies of the Community Survey and information about the online survey.
03/27/15	Tweet went out on the City's Twitter account	Followers of the City's Twitter feed	Provide information on how to access the survey.
03/27/15	Information about the Local Hazard Community Survey went out via email to Community Services' two list-serves	1,500 email address on the list-serves	To provide information on the update process and a link to the online survey.
03/28/15	Spring Festival	Community members	Staffed a table with copies of our old LHMP and paper copies for the survey. Provided information on the plan update and online survey.
03/31/15 04/14/15 04/28/15	Link provided in the biweekly Emeryville E-Newsletter sent 2 nd and 4 th Tuesdays of the month	Anyone in the community who signed up to receive the E-News	Provide information about the update and a link to complete the survey.
04/30/15	Survey closed	Community members	Obtain community's input on hazards facing the City.
06/18/15	Local Hazard Mitigation Plan Update kick-off meeting at City Hall	City of Emeryville staff, representative from Alameda County Fire, and two members of the community	To discuss the LHMP update, why we are doing it, and what we need to, and to identify the hazards we want to address in our plan update. Identified nine (9) hazards.
06/22/15	Attended ABAG's Mitigation and Adaptation Workshop #2 – Risk Assessment	Members of the nine Bay Area Counties who are updating their LHMP's	To provide education and guidance on how to properly complete the LHMP update process.

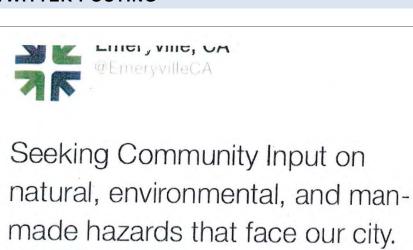
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Date	Event Type	Participants	Purpose
08/20/15	Meeting of Northern Alameda County Cities Workgroup	Representatives from ABAG, Albany, Oakland, Piedmont, Berkeley and Emeryville	To discuss our LHMP updates and to collaborate on engaging outside stakeholders.
09/01/15	Emailed representative at BART and Kinder Morgan on behalf of the Northern Alameda County Workgroup	Emailed Marla Bragg at BART, and Nicole Stewart at Kinder Morgan	To get an update on their statuses for disaster preparedness since Berkeley's LHMP.
09/10/15	2 nd LHMP Team Meeting	City of Emeryville staff, representative from Alameda County Fire, and two members of the community	To prioritize/rank the 9 hazards we identified in our first meeting, and to perform a risk analysis on each hazard.
09/16/15	ABAG's 3 rd Workshop on Strategy, Selection and Evaluation	Representatives from various cities and entities in the Bay Area who are updating their LHMP	To discuss next steps in our LHMP update process. How to do community outreach. What is FEMA looking for in our plans?
10/08/15	3 rd Local Hazard Mitigation Plan Update Team Meeting	City of Emeryville staff, representative from Alameda County Fire, and two members of the community	To brainstorm mitigation ideas for each of our identified hazards.
10/13/15	2 nd Meeting of the Northern Alameda County Cities Workgroup. I received a response from Kinder Morgan on their disaster preparedness status. No change since Berkeley's Plan. Emailed BART again.	Representatives from Emeryville, Oakland, Piedmont, Albany, ABAG, Alameda, Hayward and San Leandro	To reconvene as a group and to report the results of our various contacts with outside stakeholders.
11/12/15	4 th LHMP Update Team Meeting	City of Emeryville staff, representative from Alameda County Fire, and two members of the community	Evaluate and rate our identified mitigation ideas for Feasibility, Social Benefits, Environmental Improvement, and Community Objectives.
11/20/15	Attended Public Safety Liaison Meeting with PG&E	Public Safety representatives from cities in the Bay Area	To hear an update on PG&E's disaster preparedness over the last few years to incorporate in the LHMP.
12/7/15	5 th LHMP Update Team Meeting	City of Emeryville staff, representative from Alameda County Fire, and one members of the community	Finalized the ratings of our identified mitigation ideas and then began to prioritize into High, Medium, Low, Long Range / Already Done categories.

Date	Event Type	Participants	Purpose
01/14/16	6 th LHMP Update Team Meeting	City of Emeryville staff, representative from Alameda County Fire, and one members of the community	Finalized the prioritizing of identified mitigation ideas into High, Medium, Low, Long Range / Already Done categories.
01/29/16	Received copy of BART's LHMP Update Proposal	To review and comment	Reviewed BART's LHMP Update Proposal and provided comments.
04/16/16	Community Expo	Community members	Staffed a booth to present the hazards identified by the Update Team in rank order, along with the identified mitigation ideas and their priorities, and to solicit community members' input.
05/03/16	City Council Study Session	City Council	Held a study session on the Local Hazard Mitigation Plan and Climate Action Plan update.
05/07/16	1 st Community Public Meeting	Community members, City staff, CivicSpark fellows	Held a community meeting at City Hall for the Local Hazard Mitigation Plan.
05/10/16	2 nd and 3 rd Community Public Meetings	Community members, City staff	Held two community outreach meetings at City Hall for the Local Hazard Mitigation Plan.
06/15/16	7 th LHMP Update Team Meeting	City of Emeryville staff, representative from Alameda County Fire, and one members of the community	Reviewed public comments from the community regarding the LHMP and finalized response.
06/23/16 to 07/22/16	Emailed representative from EBMUD	Emailed Lilian Leung, Assistant Engineer	To obtain information on other public agencies' local hazards response and mitigation strategies.
07/19/16 to 07/26/16	Emailed representative from Caltrans in regards to Interstate 80	Emailed Bob Braga, Branch Chief – District 4 Emergency Management	To obtain information on other public agencies' local hazards response and mitigation strategies.
08/09/16	Emailed representatives from Comcast and AT&T	Emailed Ken Maxey and Amy Lynch from Comcast, and Bryan Byrd from AT&T	To understand how telecommunication agencies prepare for local hazards.
08/11/16	Telephone conference with representative from AT&T	Brad Huntington, Account Manager at AT&T	To understand how telecommunication agencies prepare for local hazards.

Date	Event Type	Participants	Purpose
08/01/17	Presentation of draft LHMP update to Department Heads	City of Emeryville Department Heads	To have Department Heads review the draft LHMP update and provide comments/edits.
09/07/17	Presentation of draft LHMP update to the Public Safety Committee.	Public Safety Committee members, City staff and general public	To hold public hearings and receive public comments.
09/11/17	Presentation of draft LHMP update to the Sustainability Committee	Sustainability Committee members, City staff and general public	To hold public hearings and receive public comments.
09/28/17	Presentation of draft LHMP update to the Planning Commission	Planning Commission members, City staff and general public	To hold public hearings and receive public comments.
10/19/17	Presentation of draft LHMP update to the Public Works & Transportation Committees	Public Works & Transportation Committees members, City staff and general public	To hold public hearings and receive public comments.
11/07/17	City Council Study Session of the draft LHMP Update	City Council members, City staff and general public	To hold public hearings and receive public comments.
4/20/18	Review of LHMP Flood Section by US Army Corp of Engineers	Flood Risk Program Team and Dam Safety Planner	To review or develop local flood risk or levee safety risk communication language and/or identify local flood risk and levee safety risk communication action items in the LHMP

TWITTER POSTING



buff.ly/1E6Pg9b

3/27/15, 7:48 AM







LOCAL HAZARDS COMMUNITY SURVEY



LOCAL HAZARDS COMMUNITY SURVEY

Dear Community Members:

The City of Emeryville is beginning the process of updating our Local Hazard Mitigation Plan (LHMP). The purpose of the update and the LHMP is to (1) be compliant with FEMA requirements and (2) to identify the City's natural, environmental and man-made hazards and develop a risk assessment and mitigation plan for those hazards. This plan will result in better emergency management during an event as well as identify projects that could potentially reduce risks in the community. With a plan in place, we can prioritize projects and the City will continue to be eligible to obtain FEMA Hazard Mitigation Grant Funds if a disaster is declared.

The City is soliciting community input regarding what natural and man-made hazards face our city as well as opinions regarding methods and/or techniques for reducing these risks and any losses associated with these hazards.

This is a public opinion survey which will help inform our mitigation planning process for the City. There will be public outreach meetings throughout the update process; however, for our first step this survey is available for people to become involved and give their opinions as well as provide information which will help guide the plan. If you are interested in being part of the planning team, please send an email to LHMP@emeryville.org.

Your taking a moment to complete this survey is greatly appreciated. All responses must be received not later than April 30, 2015.

Sabrina Landreth City Manager

To access the survey online, go to www.emeryville.org/residents/DisasterPreparedness



LOCAL HAZARD COMMUNITY SURVEY

1. In the past 25 years, which of the following natural or man-made hazard events have you or someone in your household experienced living within the City of Emeryville (or working within the City of Emeryville) and how concerned are you about the following hazards impacting the City?

	Have Experienced	Not Concerned	Somewhat Concerned	Very Concerned	Extremely Concerned
Act of Terrorism					
Dam Failure					
Drought					
Earthquake	. 🗆				
Energy Shortage					
Epidemic or Pandemic					
Extreme Heat					
Flood					
Freeze					
Gas Explosion					
Hazardous Materials Release					
Severe Weather					
Structural Fire					
Train Derailment					
Tsunami					
Wildfire Other Hazards: Civil Unrest , data breach, telecommunications failure, explosion,					
infrastructure/utility failure, transportation incident including airplane, unexploded munitions, arson, commercial fire and others				О	О

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a.	Act of Terrorism:
b.	Dam Failure:
c.	Drought:
d.	Earthquake
e.	Energy Shortage:
f.	Epidemic or Pandemic:
g.	Extreme Heat
h.	Flood:
i.	Freeze:
j.	Gas Explosion:
k.	Hazardous Materials Release:
1.	Severe Weather:

m.	Structure Fire	e:						
n.	Train Derailn	nent:						
0.	Tsunami:							
p.	Wildfire:							
				a gran	14.43 4		schold or	
Is the second of the s	there another borhood that	significant is not listed	natural or man- above?	made hazard	l that is a thre	eat to your hous	sehold or	
		No 🗆	Yes (Please Specify):					
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man-n	ease rank hov nade hazard	v prepared y events. Ran	ou feel you and k on a scale of 2 □ vay for you to re	your house 1 to 5, with 3 3	hold are for the form to the form the f	he probable impg the most prep 5 □ how to protect	ared.	r
man-n	ease rank hovenade hazard of	v prepared y events. Ran	you feel you and ak on a scale of 2 □ yay for you to re d events?	your house 1 to 5, with 3 3	hold are for the form to the form the f	he probable imp g the most prep 5 □	your family and	r
man-n	ease rank hove the made hazard of the master at is the moster your home.	y prepared y events. Ran	you feel you and ik on a scale of 2	your house 1 to 5, with 3 Greeive information	hold are for the following for	he probable imp g the most prep 5 □ how to protect Public Meetings/ Workshops	your family and School Meetings	r

				20		
Less than	1 to 5	6 to 9	10 to 19	years		
1 year	years	years	years	or more		
7. Please ind	icate your age	?				
				60 or		
18 - 30	31 - 40	41 - 50	51 - 60	over		
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Male	Female					
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Local Hazards Community Survey

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Your taking a moment to complete this survey is greatly appreciated. All responses must be received not later than May 31, 2015.

Sabrina Landreth City Manager

Page 1

	e you shout the	e following haz		the city of Emery	yville and
	Have Experienced		Somewhat Concerned	Very Concerned	Extremely
Act of Terrorism					
Dam Failure					
Drought					
Earthquake					
Energy Shortage					
Epidemic or Pandemic					
Extreme heat					
Flood					
reeze					
Gas Explosion		-			
Hazardous Materials Release					
Severe Weather					
Structural Fire					
Frain Derailment					
Tsunami					Ш
Nildfire					
Other Hazards: Civil unrest, data breach, relecommunications railure, explosion, infrastructure/utility railure, transportation incident including airplane, unexploded munitions, arson, commercial fire and others					

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Dam Failure						
Drought						
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pidemic or Pa	ndemic				=	
xtreme Heat						
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		ood that is no			Yes	u or your
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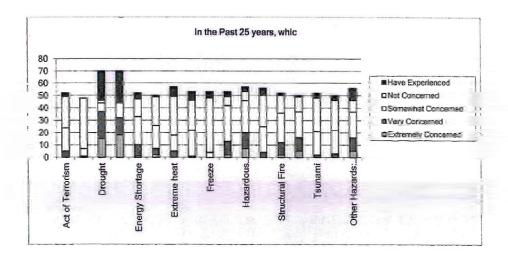
Local Hazard Co	mmunity Surv	<i>r</i> ey		
7. How long have y				
Less than 1 year	1 to 5 years	6 to 9 years	10 to 19 years	20 years or more
O	O	O	O	O
8. What is your age	?			
18 - 30				
31 - 40				
O 41 - 50				
O 51 - 60				
O 61 or older				
9. What is your gen	der?			
Female				
Male				
10. Do you have any	v other comment	s. auestions, or co	ncerns?	
To, Do you nave an	, , , , , , , , , , , , , , , , , , , ,	3		
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LHMP@emeryville.org.				
W				

Page 4

LOCAL HAZARDS COMMUNITY SURVEY RESULTS

Type of Hazard	Concern Level
Hazardous Materials Release	46
Drought	44
Earthquake	44
Gas Explosion	42
Train Derailment	37
Other Hazards	37
Structural Fire	36
Energy Shortage	33
Epidemic	26
Severe Weather	25
Act of Terrorism	24
Flood	22
Wildfire	22
Tsunami	21
Extreme Heat	18
Dam Failure	7
Freeze0	4

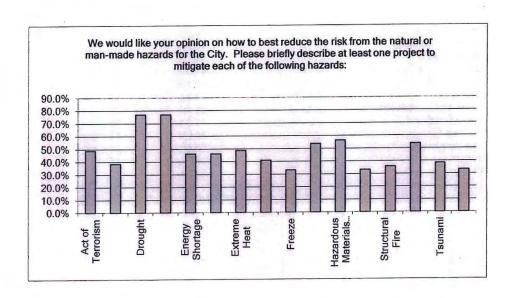
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Allawer Options	Experienced	Not Concerned	Concerned	Concerned	Concerned	Response
Act of Terrorism	8	25	6	ıc		40
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Drought	2 .	- (0 1		0	48
After in the	74	2	7	22	15	46
Earthquake	25	-	12	14	48	45
Energy Shortage	ល	14	23	0	-	47
Epidemic or Pandemic	-	23	19	ıc	0	10
Extreme heat	00	31	13	ı.	1 0	2 5
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Freeze	ıc	44	· <	- c	0 0	04
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Severe Weather	9	25	21	4	C	20 20
Structural Fire	2	14	24	10		8 9
Frain Derailment	Ė	12	10	7	J L	000
sinami		1 1	7		0	48
(() () () () () () () () () () () () ()	4	17	9	2	0	48
Ollice	4	24	19	e	0	46
Other Hazards: Civil unrest, data breach,	9	6	21	7	S	46
				ans	answered question	5.



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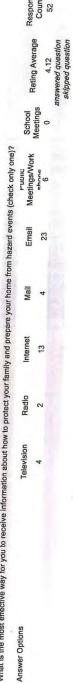
We would like your opinion on how to best reduce the risk from the natural or man-made hazards for the City. Please briefly describe at least one project to mitigate each of the

Answer Options	Response Percent	Respons Count	е
Act of Terrorism	48.7%	19	
Dam Failure	38.5%	15	
Drought	76.9%	30	
Earthquake	76.9%	30	
Energy Shortage	46.2%	18	
Epidemic or Pandemic	46.2%	18	
Extreme Heat	48.7%	19	
Flood	41.0%	16	
Freeze	33.3%	13	
Gas Explosion	53.8%	21	
Hazardous Materials Release	56.4%	22	
Severe Weather	33.3%	13	
Structural Fire	35.9%	14	
Train Derailment	53.8%	21	
Tsunami	38.5%	15	
Wildfire	33.3%	13	
	answered question		39
	skipped question		13

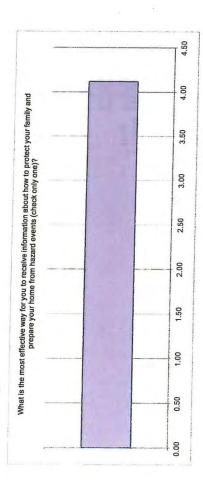


Local Hazard Community Survey

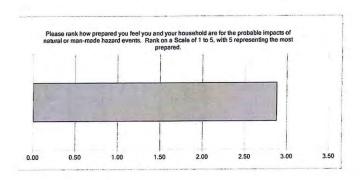
What is the most effective way for you to receive information about how to protect your family and prepare your home from hazard events (check only one)?

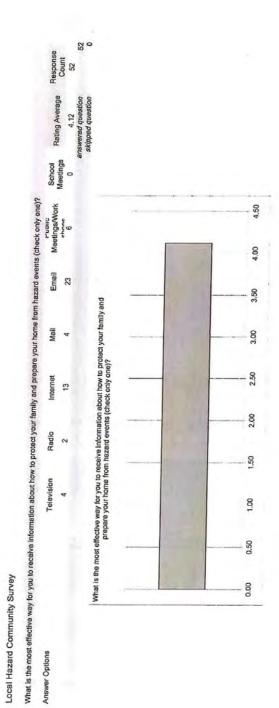


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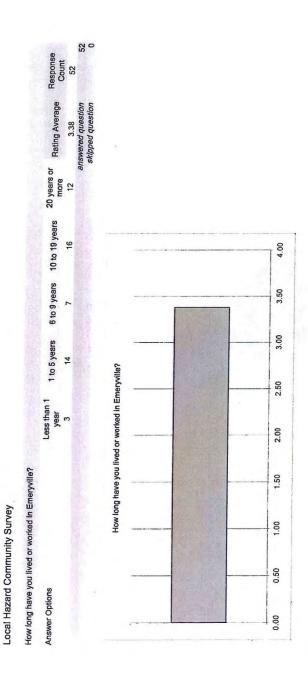


| Cocal Hazard Community Survey | Please rank how prepared you feel you and your household are for the probable impacts of natural or man-made hazard events. Rank on a Scale of 1 to 5, with 5 representing the most prepared. Answer Options 1 2 3 4 5 Rating Average Count 3 11 26 11 0 8 2.88 51 6 6 6 7 8 8 7 8 8 7 8 8 7 8 8 7 8 7 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 7 8 7 8 8 7 8



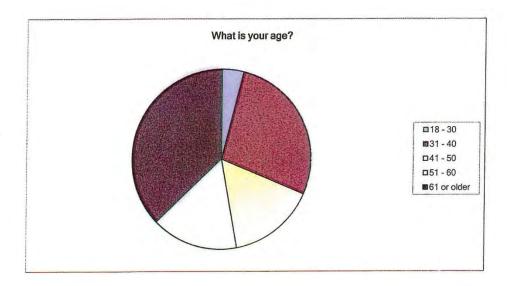


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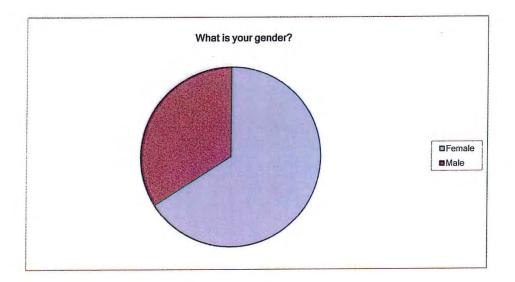


What is your age?

Answer Options	Response Percent	Response Count
18 - 30	3.9%	2
31 - 40	27.5%	14
41 - 50	15.7%	8
51 - 60	15.7%	8
61 or older	37.3%	19
	answered question	51
	skipped question	1



What is your gender?		
Answer Options	Response Percent	Response Count
Female	66.0%	33
Male	34.0%	17
	answered question	50
	skipped question	2



Do you have any other comments, questions, or concerns?

Answer Options		Respons	е
Allswei Options		Count	
		17	
	answered question		17
	skipped question		35

PUBLIC OUTREACH

Lori Elefant

Emeryville City Manager's Office <khemphill@ciemeryville.ccsend.com> on behalf of From:

Emeryville City Manager's Office <khemphill@ci.emeryville.ca.us> Tuesday, March 31, 2015 4:16 PM

Sent:

Lori Elefant To:

City Considers City-Wide Minimum Wage Ordinance Subject:



CITY OF EMERYVILLE 1333 Park Avenue Emeryville, CA 94608 Tel: (510) 596-4300 Fax: (510) 658-8095 www.emeryville.org

Also in this edition:

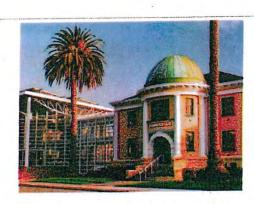
Emery Go Round Shuttle/Proposed Assessment District Extension

New State Mandated Water Conservation Measures

Local Hazards Community Survey

Emeryville

2nd & 4th Tuesdays E-Newsletter



City Considers City-Wide Minimum Wage Ordinance

To help working households achieve economic security and acknowledging the higher relative cost of living in the San Francisco Bay Area, several Bay Area cities have adopted citywide minimum wage ordinances recently either by City Council sponsored legislation (Berkeley

1





Emeryville Child Development Center Now Enrolling!

The Emeryville Child Development Center, a city-operated program located at 1220 53rd Street), provides child care for children ages 4 months to age 5, Monday-Friday, during extended business hours. Currently, the Center is accepting applications for market rate openings for children 4 months to age 5 and low income families applying for subsidized openings for children age 3-5.

The Center, which has been recognized as being one of the leading childcare/preschool centers in the East Bay, is dedicated Richmond, Sunnyvale, Mountain View, and San Jose) or by ballot initiative (Oakland and San Francisco).

In response to this regional effort, the Emeryville City Council is also planning to adopt a citywide minimum wage that is higher than the minimum wage required by the State of California. The proposed minimum wage ordinance (outlined below) is scheduled for Council action at the April 7 City Council meeting. The following are the key components of the proposed ordinance:

- Primarily based upon the recent voter approved Oakland "Lift Up" minimum wage ballot measure which included a minimum wage as well as mandatory paid sick leave
- An exemption only for workers under collective bargaining agreements.
- An initial minimum hourly wage that mirrors the City's Living Wage (which currently applies only to City contractors), \$14.42 per hour exclusive of benefits as of July 1, 2015 (which is a proposed minimum wage higher than the Oakland Lift Up ballot initiative and other recently based Bay Area minimum wage ordinances), and increased annually thereafter by the local consumer price index (i.e. inflation).
- An effective date of July 1, 2015.

For more information, contact the <u>Community</u>
<u>Development Department</u>.

CITY OF EMERYVILLE MEETINGS

City Council/City of Emeryville as Successor Agency to the Emeryville Redevelopment Agency

The next regular City Council/City as Successor Agency to the Redevelopment Agency meeting is Tuesday, April 7. Meetings are broadcast live and rebroadcast on ETV: Channel 27 and can be viewed live and are archived on the City's website. Finalized Council/Agency agendas and agenda reports are viewable/ can be downloaded through the City's website starting the Friday before the meeting.

Emeryville Oversight Board

The next regular meeting is scheduled for April 28, however as the former Emeryville Redevelopment Agency's business winds down, some scheduled meetings may be canceled due to the Board not having any current business to discuss. The City will post notices on the City's website and notice boards if any scheduled meetings are canceled on the Friday before the scheduled meeting is due to occur (the public can also contact the City Clerk's Office by email or by phone at 510-450-7800

to providing children with daily experiences filled with learning, laughter, and love. The Center is staffed by professional caregivers who help children achieve growth in all areas of their development. Opportunities abound daily for each child to explore, create, experiment, and savor the rewards that come with success.

For more information, call (510) 596-4343 or email the Center.

City of Emeryville Openings and Vacancies

Job Openings:

You can find out more information about them right here

Advisory Body

You can find out more information about them <u>right here</u>.



to confirm meeting dates). The Emeryville Oversight Board is charged with determining which remaining financial obligations of the former Emeryville Redevelopment Agency are enforceable obligations under AB26x, the State law that eliminated all redevelopment agencies and requires that funds not needed to fulfill enforceable obligations are remitted to State and other regional/local regional taxing agencies. More information regarding the Emeryville Oversight Board can be found on the City's website.

Calendar

For the latest City events and activities, see the City calendar.

PUBLIC SAFETY

Sign Up for CodeRED

The CodeRED system is a free web-based automated notification service that sends personalized voice, email, text, and social media messages. CodeRED will be used for emergencies, such as evacuation notices, missing child alerts, and post-earthquake or other disaster instructions. You can also sign up to receive automatic notices for public meeting, community events, and other non-emergency community outreach initiatives.

CodeRED works primarily through free subscription so please sign-up today and notify your friends/family/neighbors about this service. Subscribers determine delivery modes (landline, cell phone, voice, text, email, social media) they want to receive for emergency notices as well as whether the subscriber wishes to receive non-emergency notices. CodeRED will automatically send emergency messages to 911 landline phones without prior subscription (but you must subscribe to receive any notifications by cell phone, email, or text). Emeryville residents, businesses, and visitors can subscribe to the system. CodeRED also offers a geo-aware mobile alert app that can be downloaded by anyone working or travelling through the Emeryville or other CodeRED enabled cities for notification of emergency alerts. The City will be able to target notifications by geographic area (such as radius or blocks), street address, and residence vs. business addresses; or by special lists to avoid sending out notifications to those not in an affected area.

Sign-up today and find out more detailed information on the CodeRED system or contact the City Clerk's Office.

Sign up for Public Safety Alerts

The Emeryville Police Department and the Alameda County Fire Department (the ACFD provides fire services to Emeryville) are also encouraging residents to sign up for NIXLE, a nation-wide public safety alert system. Simply text any zip code to 888777 and receive real-time alerts and advisories from the local police department and other public agencies. This is a great way of keeping up with public safety alerts throughout the Bay Area and even travelling nation-wide just be entering the local zip code. There is no charge for registering but standard text messaging rates associated with your mobile phone service will

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apply. You can opt out anytime by texting "STOP" to 888777.

If you're texting a zip code to 888777 and using NIXLE for the first time, you can retrieve a temporary password to complete the registration process by going to the NIXLE website. Completing the registration process will allow you to fully customize how messages reach you - whether by mobile phone, email, or over the web - you decide!

Photos by Mick Sebastian

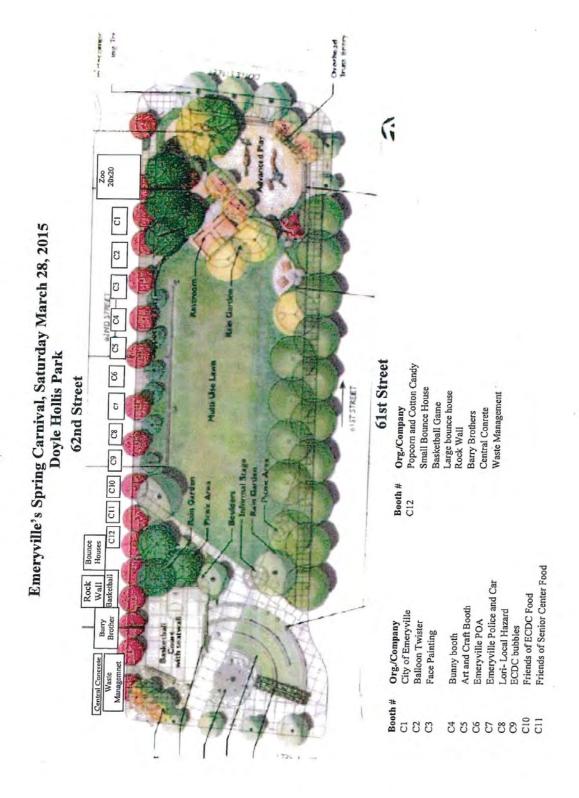
Forward email



This email was sent to lelefant@ci.emeryville.ca.us by khemphill@ci.emeryville.ca.us Update Profile/Email Address Rapid removal with SafeUnsubscribe™! Privacy Policy.



Emeryville City Hall: 1333 Park Avenue | Emeryville | CA | 94608



Emeryville's Spring Carnival, Saturday March 28, 2015 Doyle Hollis Park

Please check in with the Community Services Department Boothso we know you are here and we can direct you to your space. Note, your booth space may change between now and Saturday.

Loading: You can drive onto 62nd Street past the barriers before 11am and after 3pm, but not during the festival for any reason!

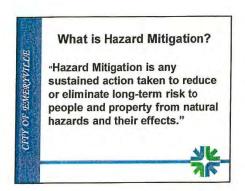
Parking: You must park your car and any trailers/equipment besides your booth in the Earth Day Festival parking lot, located one block east of the park on 62nd Street (behind the Heritage Square Business Center, across the street from the Post Office on the corner of Horton and 62nd Streets).

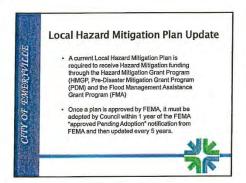
LOCAL HAZARD MITIGATION PLAN UPDATE KICK OFF MEETING JUNE 18, 2015 11:00 AM

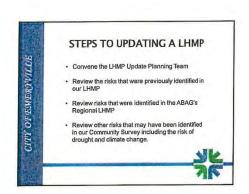
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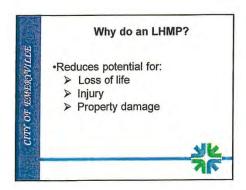
SLIDESHOW PRESENTATION

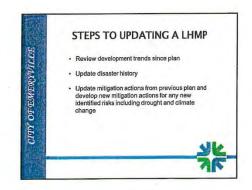


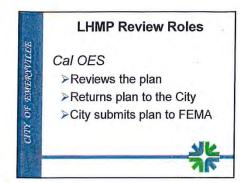


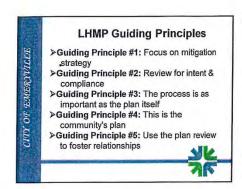




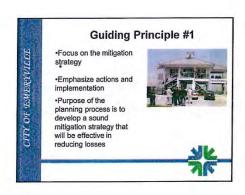




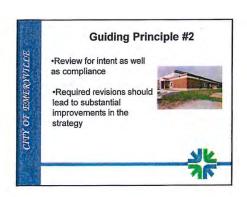


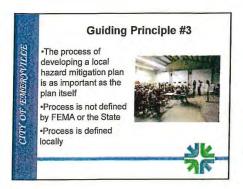




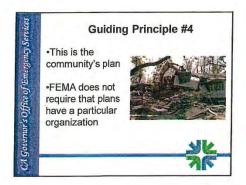




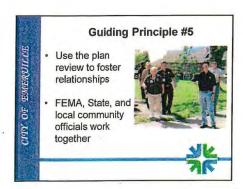


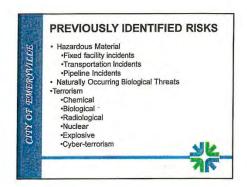










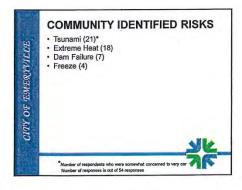








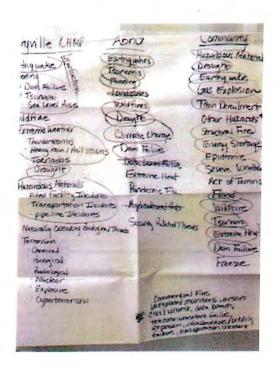


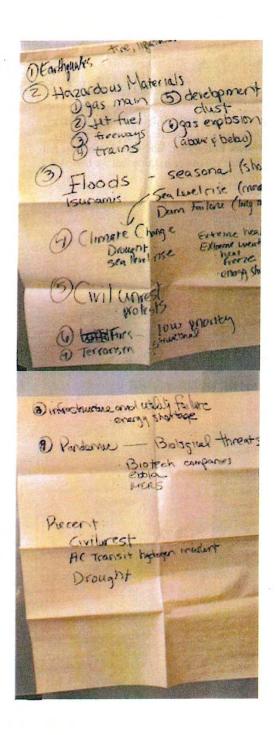


MEETING NOTES / AGENDAS / PRESENTATIONS / MINUTES

Meeting Notes from LHMP Update Planning Team Meeting #1 June 18, 2015

For this meeting, we looked at the hazards identified in the City's previous LHMP, ABAG's previous Regional LHMP and those hazards identified in our Community Survey. We identified all of the ones that were in common, eliminated those that felt were not applicable to us and came up with nine (9) major hazards that we believed should be included in the City's LHMP.





From: Danielle Mieler [mailto:DanielleM@abaq.ca.golv

Sent: Tuesday, August 25, 2015 5:21 PM

To: Dana Brechwald; Michael Germeraad; Michael Cadrecha; ESmith@ala medaca.gov;

Icalkins@albanvca.org; Sarah Lana; Lori Elefant; bmclaren@ci.piedmont.ca.us; Christina Ferracane;

dreiff@oaklandnet.com

Subject: Re: Coordination among northern Alameda County cities for mitigation/adaptation planning

Thank you for a productive meeting last week about hazard mitigation plans and coordinating your outreach to regional agencies and utility providers. Sarah was generous enough to share the Word version of her plan so that everyone can take use the descriptions of the work outside agencies like are doing. We've uploaded the document to dropbox for you to download here:

https://www.dropbox.com/sh/i pvn6v2xvaru rvO/ AADn bnPWI74EquiUvsak8nD ia?dl=0

We decided to split up contacting each of the agencies to see if they have any additions or changes to the description they provided Berkeley in 2014. The lead person can also carry forward any questions the rest of you have specific to your city. From my notes, I have the following leads for each agency.

EBMUD -- Devan, Oakland PG&E -- Lance, Albany BART -- Lori, Emeryville Railroads --Lance Kinder Morgan -- Lori, Emeryville

If others have interest in reach out to additional agencies, please let the group know. Should we also schedule a follow up meeting to update each other on progress maybe in late September? I'm happy to host at ABAG if that is convenient for everyone.

Best,

Danielle

Danielle Hutchings Mieler, P.E. Resilience

Program Coordinator Association of Bay

Area Governments

(510) 464-7951 J d anie llem@abag .ca.g ov

visit us at resilience.abad .ca.gov

> > On 7/29/2015 at 1:55 PM, Danielle Mieler wrote:

There is interest among a few of the cities in northern Alameda County to work together on mitigation/adaptation plans, especially around engaging with regional agencies like BART, EBMUD, and PG& E. City of Berkeley who recently completed their mitigation plan may be able to offer some insights and advice about the process they undertook. We would like to have an initial meeting to discuss what you would like to collaborate on and how.

If you are interested in participating in such a meeting, I've put together a doodle to find a time for us to meet. I'm proposing that we meet in ABAG's offices, but if you collectively prefer another location, I'm happy to do that too. http://doodle.com/x9vwqcx57e4mpvk

Best, Danielle

Danielle Hutchings Mieler, P.E. **Resilience Program Coordinator** Association of Bay Area Governments (510) 464-7951 I danielle m@a bag.ca.g ov

visit us at <u>resili ence.abaq.ca.gov</u>

AGENDA

LOCAL HAZARD MITIGATION PLAN UPDATE COMMITTEE MEETING CITY COUNCIL CHAMBERS THURSDAY, SEPTEMBER 10, 2015 AT 11:00 AM

- I. Introductions
- II. Ranking of Risk Identified
- III. Review of Risk Analysis
 - a. Identify previously identified risks
 - b. Have the risks changed?
 - c. New Mitigation Efforts since Previous Plan?
 - d. Any New Hazards since Last Plan?
- IV. Identify Possible New Mitigation Ideas
- V. Closing

September 10, 2015 Meeting Notes 11:00 am to 12:00 pm

Using a spreadsheet chart, we recorded each member's rankings of the previously identified 9 hazards for the City. The rankings for each hazard were totaled and then ranked from highest to lowest. Discussions then ensued on the ranking of these hazards and if there was a need to change the priorities of some of the hazards. The group agreed to the following ranking of the hazards from highest concern to lowest concern:

- 1. Earthquakes
- 2. Hazardous Materials
- 3. Fires
- 4. Climate Change
- 5. Floods
- 6. Protests/Civil Unrest
- 7. Infrastructure/Utility Failure\
- 8. Terrorism
- 9. Biological Threats

Next Meeting the group will brainstorm mitigation ideas for these hazards

CITY OF EMERYVILLE/MESA

Local Hazard Mitigation Plan Update Committee Meeting City Council Chambers Thursday, September 10, 2015 at 11:00 am

Name	City Employee or Member of the Public	Ci am a tauna
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AGENDA

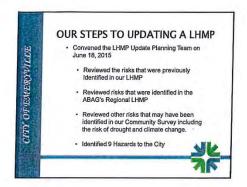
LOCAL HAZARD MITIGATION PLAN UPDATE PLANNING TEAM MEETING CITY COUNCIL CHAMBERS THURSDAY, OCTOBER 8, 2015 AT 11:00 AM

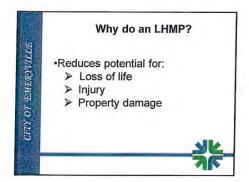
- I. Introductions
- II. Review of Planning Process to Date
- III. Review of Identified Risks
 - a. Earthquake
 - i. Previously identified mitigation ideas
 - ii. Brainstorming of new mitigation ideas
 - b. Hazardous Materials
 - i. Previously identified mitigation ideas
 - ii. Brainstorming of new mitigation ideas
 - c. Fires
 - i. Previously identified mitigation ideas
 - ii. Brainstorming of new mitigation ideas
 - d. Climate Change
 - i. Previously identified mitigation ideas
 - ii. Brainstorming of new mitigation ideas
 - e. Floods
 - i. Previously identified mitigation ideas
 - ii. Brainstorming of new mitigation ideas
 - f. Protests/Civil Unrest
 - i. Previously identified mitigation ideas
 - ii. Brainstorming of new mitigation ideas
 - g. Infrastructure/Utility Failure
 - i. Previously identified mitigation ideas
 - i. Brainstorming of new mitigation ideas
 - h. Terrorism
 - i. Previously identified mitigation ideas
 - ii. Brainstorming of new mitigation ideas
 - i. Biological Threats
 - i. Previously identified mitigation ideas
 - ii. Brainstorming of new mitigation ideas

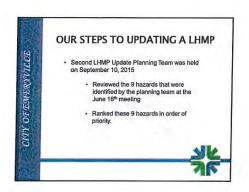
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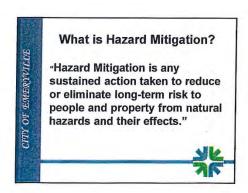
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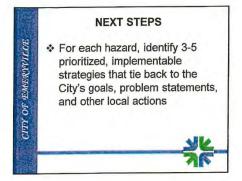


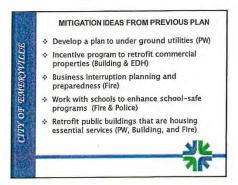


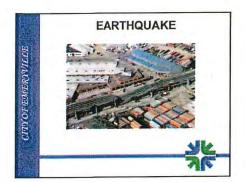














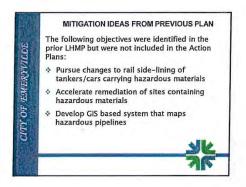




MITIGATION IDEAS FROM COMMUNITY SURVEY Incentives/subsidies for retrofits Earthquake warning system Mail every business and resident survival information Reinforce the bridge on Powell St Provide households with food grade plastic containers to store water Have a City wide practice on what to do more often

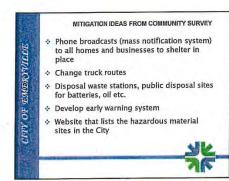




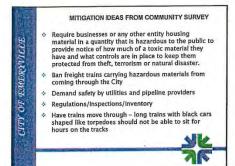
















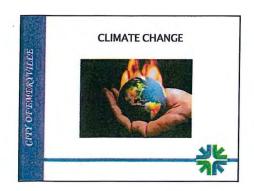




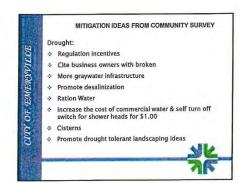


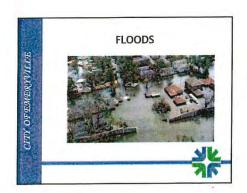






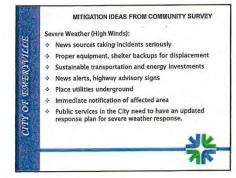






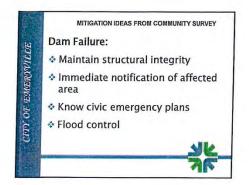




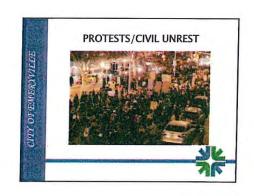


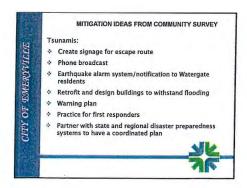


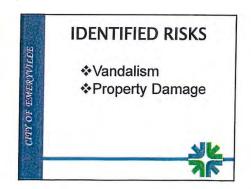


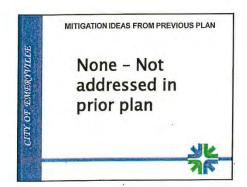


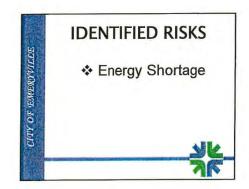






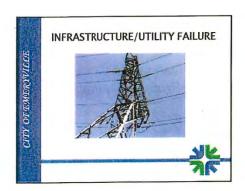




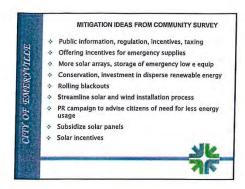




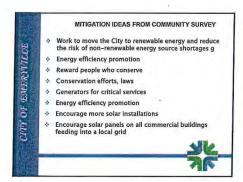


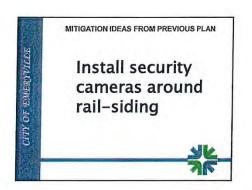


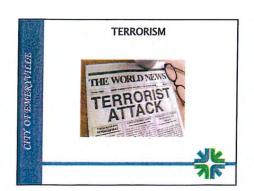






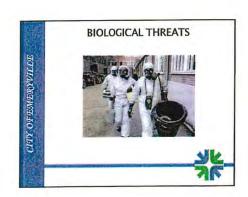


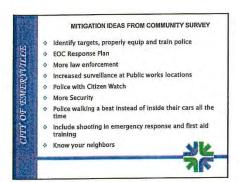




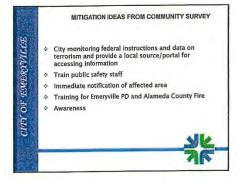


















MITIGATION IDEAS FROM COMMUNITY SURVEY

* Preventative health availability

* Residents have an announced resource center/emergency place

* Stockpile meds

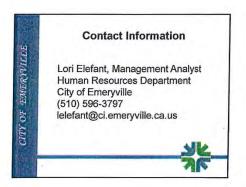
* Work with EUSD to Increase rate of vaccinations for EUSD students (very high personal exemption rate)

* Vaccinate where warranted; education/information

* Medical research

* Plan to convert a structure (school or senior center) to makeshift hospital

* Safety measures by Public Health



**Stop letting people sleep/live in our public parks and public spaces **Preparedness plans **Increase immunity through public fitness and veggies **Respect and foster your own health, vaccinate **Create an Emeryville Radio Station to give instructions to locals **County coordination **Make sure the general public is trained in health protocols **Plan ahead and bypass government red tape **Coordinate local medical facilities

Meeting #3 Minutes

- Team Member Intro
- Overview of Plan
 - o What is Hazard Mitigation
 - o Steps
 - Reviewed Risks
 - Identified Emeryville Hazards
 - Ranked Hazards
 - Earthquakes
 - Hazardous Materials
 - Fire
 - Climate
 - Floods
 - Protest/Civil Unrest
 - Infrastructure/Utility failure
 - Terrorism
 - Biological Threats
- 3 5 Prioritized, Implementation Strategies
- Workgroup created with other cities to contact utilities companies
 - o Has anything changed from previous hazard mitigation plan?
- Earthquake
 - o Risks
 - Ground Shaking
 - Liquefaction
 - = Fire
 - Built Environment
 - Traffic Signals
 - Bridges
 - o Status on previous strategies
 - Incentive Programs (haven't done)
 - Keep incentive programs
 - Fee waivers
 - Subsidy Transfer
 - · Pay transfer real state
 - 1 year apply to city to upgrade foundation etc. and get 1/3 money back (residential property)
 - Pay fees fees waive
 - Any remodel automatic shut-off valve
 - Code Requirement for valves
 - o Community Ideas
 - Incentive / Subsidies for retrofits

- Earthquake early warning
- Mail every business and resident survival information (green and sustainable)
- Reinforce the bridge on Powell
- Information on website on preparedness (Increase Earthquake Risk awareness)
 - Outreach (ACFD)
- Have city wide practice on what to do more often
- Incentives to provide water containers
- Underground overhead utilities (mostly done)
- Bridges (done)
- Agreement and plan for 1-80 with Caltrans
- Substation (East Side)
- Hazardous Materials Release
 - o 2 Tracks (Main Line)
 - o 2 West Oakland Yard (Just Parking Items)
 - All four lines to be converted to mainlines
 - Cover all 4 lines to main lines
 - o GIS based system that maps hazardous pipelines (jet fuel, natural gas transmission lines)
 - Work with PG&E to upgrade system to automate
 - o Mass Notification System (done)
 - o Public disposal sites for batteries & oil
 - o Provide a general list of labs
 - Plume Modeling
 - Utilities Companies coasting on safety
 - Request periodic updates
- Fires
 - o Vegetation management state park
 - o Working with red cross on installing carbon dioxides
- Climate Changes
 - o Inventory of trees in GIS
 - o Tree rings (to water)
 - o Water efficient landscape ordinance (all new development)
 - o Designate the senior center as a spot for people to come
 - Leverage relationship with City of Berkeley
- Floods
 - o Reconfigure drainage at Powel and Watergate
 - Construct a bioswale to drain Powell Street
 - o Build Levees
 - o Storm drain cleaning
 - o Information Available to Hotels/Restaurants/Retail
- Protest/Civil Unrest
 - o Community Initiative / Policing
 - o De-escalation Techniques
- Infrastructure Utility Failure
 - o Energy Shortage

- o Wind + Solar
- o Ordinance Took effect Oct 1st, 2015
- o Windmill to provide energy
- o Community Choice (Not deal with PG&E)
- Terrorism
 - o Security
 - o Recovery Plan
 - o Move critical services to more secure locations
 - o Train staff better behaviors
- Biological Threats
 - o POD
 - o Medical Reserve Core
- Next steps
 - o Prioritize strategies (upcoming work group meeting)

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AGENDA

LOCAL HAZARD MITIGATION PLAN UPDATE PLANNING TEAM MEETING CITY COUNCIL CHAMBERS THURSDAY, NOVEMBER 12, 2015 AT 11:00 AM

- I. Introductions
- II. Review of Planning Process to Date
- III. Review of Identified Risks
 - a. Earthquake
 - i. Evaluation of identified mitigation ideas
 - b. Hazardous Materials
 - i. Evaluation of identified mitigation ideas
 - c. Fires
 - i. Evaluation of identified mitigation ideas
 - d. Climate Change
 - i. Evaluation of identified mitigation ideas
 - e. Floods
 - i. Evaluation of identified mitigation ideas
 - f. Protests/Civil Unrest
 - i. Evaluation of identified mitigation ideas
 - g. Infrastructure/Utility Failure
 - i. Evaluation of identified mitigation ideas
 - h. Terrorism
 - Evaluation of identified mitigation ideas
 - i. Biological Threats
 - i. Evaluation of identified mitigation ideas
- IV. Categorizing mitigation ideas as High, Medium, Low Priority based on our evaluations
- V. Next Steps
- VI. Comments/Conclusion

LOCAL HAZARD MITIGATION PLAN UPDATE 4th PLANNING TEAM MEETING November 12, 2015 11:00 AM

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SIGNATURE	1842	CW.	Carol-Muser	Sound of	GLAS!	hulles Brown	Min	100)									
NAME	Hoi.Fe; Mak	CINDY MONTERO	Christine Mason	LOUISE FILGER	Michael Parents	Charles S. Brant	Maure Journa	HUDB COURCO										

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Fourth Hazard Mitigation Plan Update Meeting
36
75
November 12, 2015

What is Hazard Mitigation?

"Hazard Mitigation is any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects."



OUR STEPS TO UPDATING A LHMP

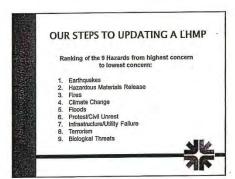
- Convened the LHMP Update Planning Team on June 18, 2015
 - Reviewed the risks that were previously identified in our LHMP
 - Reviewed risks that were identified in the ABAG's Regional LHMP
 - Reviewed other risks that may have been identified in our Community Survey including the risk of drought and climate change.
 - Identified 9 Hazards to the City



-

1/14/2016

OUR STEPS TO UPDATING A LHMP - Second LHMP Update Planning Team was held on September 10, 2015 - Reviewed the 9 hazards that were identified by the planning team at the June 18th meeting - Ranked these 9 hazards in order of priority.



OUR STEPS TO UPDATING A LHMP 3rd Local Hazard Mitigation Planning Team Meeting on October 8, 2015, we brainstormed mitigation ideas for each of our identified hazards

CITY OF EMERYVILLE

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NEXT STEPS

We need to evaluate each mitigation idea we identified in our last meeting for its:

✓ Feasibility

✓ Social Benefits

- ✓ Economic Benefits
- ✓ Environmental Improvement ✓ Community Objectives



EARTHQUAKE



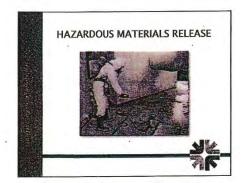
IDENTIFIED RISKS

- ❖Ground Shaking
 ❖ Liquefaction
 ❖ Fire
 ❖ Built Environment
- *City owned buildings
 Privately owned Buildings
- Soft story housing URMs
- Utilities (water, gas, electricity, telecommunications, jet fuel pipe line, sanitary sewer system, storm drain system)
 Transportation (city roads, interstates, rails, Amtrak, Emery Go Round)

1/14/2016

MITIGATION IDEAS FOR EARTHQUAKES FROM 10/8/15 PLANNING MEETING Fee Waivers Use portion of transfer tax towards retrofitting & foundation upgrades Require automatic gas shut off valves with any remodel Earthquake warning systems for Fire Stations Revamping CERT program

MITIGATION IDEAS FOR EARTHQUAKES FROM 10/8/15 PLANNING MEETING Provide containers for collecting water Underground overhead utilities Establish an agreement with Caltrans for a plan to build a road across the freeway (if 880 should collapse cutting off the peninsula) Build Police Substation on east side of the freeway Increase earthquake risk awareness on our website and with ACFD



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IDENTIFIED RISKS

- ❖Gas Main
 ❖Jet Fuel line
- ❖On the Freeway
- ❖Train Derailment
- ❖Development Dust
- ❖Gas Explosion❖Release or spill



MITIGATION IDEAS FOR HAZARDOUS MATERIALS RELEASE FROM 10/8/15 PLANNING MEETING

- * Convert all 4 track lines to main lines
- GIS based system that maps hazardous pipelines in the City
- Work with PG&E to upgrade systems with automatic shutoffs
- Mass Notification System
- Public Disposal sites for batteries & oils
- Provide a general list of labs in the City with plume modeling
- Request periodic updates from utility companies



FIRES

1/14/2016

IDENTIFIED RISKS Structural Wildfires

MITIGATION IDEAS FOR FIRES 10/8/15 PLANNING TEAM MEETING

- Work with East Bay Regional Park District regarding vegetation management program at East Shore State Park
- Work with Red Cross to install smoke detectors in single family homes
- · Require automatic gas shut off valves

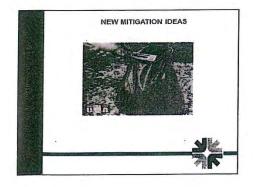


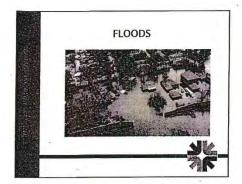
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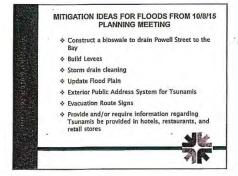
*Drought *Sea Level Rise *Extreme Weather *Heat *Freeze *High Winds

MITIGATION IDEAS FOR CLIMATE CHANGE FROM 10/8/15 PLANNING TEAM MEETING. Provide "Treegator" Drip Irrigation Bags to citizens for watering street trees. Drought landscaping ordinances for all new development Designate Senior Center as a cooling station. Work with EBMUD to ensure an adequate supply of water Water Tower

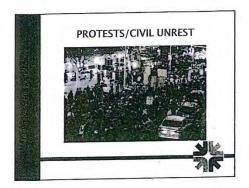




IDENTIFIED RISKS *Seasonal *Tsunamis *Dam Failure

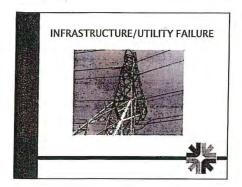


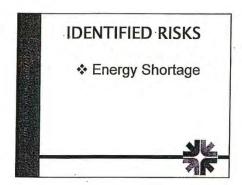
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*Vandalism ❖Property Damage

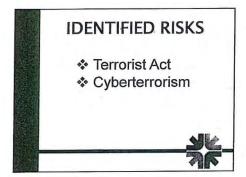




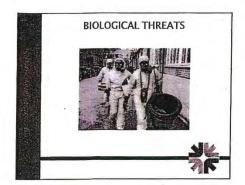












IDENTIFIED RISKS

- ❖ Ebola
- ◆ MERS
- Biotech Companies



MITIGATION IDEAS FOR BIOLOGICAL THREATS FROM 10/8/15 PLANNING TEAM MEETING

- Work with Carrollton College
- Become a POD (Point of Dispensing)
- Establish a Medical Reserve Corps



СРТҮ ОУ ЕМЕЛРУІССБ	NEXT STEPS After evaluating all of the mitigation ideas, categorize as High, Medium and Low Priority Action Items				
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		7			
1	NEXT STEPS				
Total A Total	Convene a public meeting to present our identified	-			· · · · · · · · · · · · · · · · · · ·
	risks and mitigation ideas	-			
	to the community for their	-			
	review and comment				
		-			
18					
-		-			
	Contact Information				-
and the second		V -			
	Lori Elefant, Management Analyst Human Resources Department				
9	City of Emeryville	1	0.55		
	(510) 596-3797 lelefant@emeryville.org	_			
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Notes/Minutes from November 12th LHMP Update Planning Team Meeting

- Introductions Introduced Hoi-Fei Mok, new Civicsparks fellow working with Nancy Humphrey in Public Works on updating the City's Climate Action Plan
- 2. Reviewed what the team has done so far over the past 3 meetings.
- 3. Participants, using the Mitigation/Adaptation Strategy Evaluation Worksheet, began rating the mitigation ideas for Earthquake. Results were entered into a spreadsheet and discussed for selection of high priority items.
- 4. Participants, using the Mitigation/Adaptation Strategy Evaluation Worksheet, began rating the mitigation ideas for Hazardous Materials. Results were entered into a spreadsheet and discussed for selection of high priority items.
- Ran out of time, so participants were instructed to complete the remaining evaluation worksheets and bring them back completed for our next meeting which is tentatively scheduled for the week of December 7th.

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DATE:

November 12, 2015

TO:

Dante Diotalevi, Police Captain

Vic Gonzales, Chief Building Official

Pedro Jimenez, Community Services Director

FROM:

Lori M. Elefant, ARM Management Analyst - HR

RE: Mitigation/Adaptation Strategy Evaluation Worksheet

We missed you all at today's meeting of the Local Hazard Mitigation Planning Team Meeting. At today's meeting, we started to evaluate each of the mitigation ideas we identified at our October 8th planning team meeting by using the enclosed spreadsheets. We are rating each idea on its Feasibility, Social Benefits, Economic Benefits, Environmental Improvement, and Community Objectives. We only made it through Earthquakes and Hazardous Materials Release.

The criterion for rating is as follows:

1- If the idea meets the criteria, 0- If you don't know or it has no impact and -1- If the idea would be detrimental in some fashion

Everyone has been asked to complete the remaining spreadsheets for Fire, Climate Change, Floods, Protest/Civil Unrest, Infrastructure/Utility Failure, Terrorism, and Biological Threats. You complete both sides of the paper and then enter the total points from both sides of the paper on the second page.

Please bring the completed spreadsheets to our next planning meeting which is tentatively scheduled for the 2nd week in December.

Please let me know if you have any questions or concerns.

AGENDA

LOCAL HAZARD MITIGATION PLAN UPDATE PLANNING TEAM MEETING CITY COUNCIL CHAMBERS MONDAY, DECEMBER 7, 2015 AT 11:00 AM

- I. Introductions
- II. Finish Evaluating and Rating of Identified Mitigation Ideas for all Identified Hazards
- III. Prioritizing Mitigation Ideas into High, Medium or Low Priority
- IV. Next Steps Public Meeting Date???
- V. Comments/Conclusion

LOCAL HAZARD MITIGATION PLAN UPDATE 5th PLANNING TEAM MEETING December 7, 2015 11:00 AM

Email Address	Daletal Ful (Banka Will & Car.		Hilda Ovirra Dagov. orza	cloryante emery ville on	commerce @ smerrille org	when may a cual of a	200											
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Notes from LHMP Update Team Planning Meeting on December 7, 2015 By Lori Elefant, Project Coordinator

Members of the team came with their mitigation evaluation sheets completed and their scores were entered into the master spreadsheet. One team member did not have his scores so we needed to wait until he completed all of the evaluation sheets.

The scores were then averaged and then sorted from highest score to lowest score. As a group we began to look at each mitigation idea's score and discussed whether (taking into consideration each score) we still felt that the mitigation idea was a High Priority, Medium Priority or Low Priority.

We managed to discuss only 18 out of our 55 mitigation ideas. The group decided that the facilitator would provide the group, via email, a spreadsheet with all of the mitigation ideas and their scores along with a spreadsheet with columns for High Priority, Medium Priority, Low Priority and Our next Local Hazard Mitigation Plan Update Team meeting will be scheduled in January 2016.

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		Charlie Bryant	Dante Diotaloui	Cindy Montero	Lause Engel	Maurice Kaufman	Michael Parenti	Hilda Quiroz	Pedro Jimenez	Hoi Fei Mok	Average Rating
	Fee Waiver	12	2 10	15	12	2 5	8	15	8	9	
	Transfer Tax	12	2 10	12	11	7	8	10	15	9	1
	Automatic Gas Shutoff	12	14	1 13	13	13	11	10	17	10	1
	Earthquake Warning System	15	16	14	13	12	5	13	18	12	1
AKE	Revamping CERT program	14		14	13	12	10	14	16	12	1
EARTHQUAKE	Offering GIS mapping online	10	13	13	10	12	8	11	11	5	1
5	Containers collect water	14	15	13	13	14	9	7	13	12	1
	Undergound overhead utilities	14		11	13	10	9	14	15	9	1
	Agreement with Caltrans	14	14	11	17	7	5	14	13	12	1
	Police Station on Eastside	14	14	13	7	13	14	10	15	11	1
	Increase earthquake risk awareness	11	20	9	12	12	9	17	17	9	1
	Convert all 4 track lines to main lines	10	14	9	12	9	4	6	4	5	
SE	GIS Based system that maps hazarous pipelines in City	12	15	17	11	10	6	10	10	6	1
RELE	work with PG&E to upgrade system witih automatic shutoffs	14	17	13	14	9	7	12	12	13	1
HAZARDOUS MATERIAL RELEASE	Mass Notification System	13	19	15	14	10	11	13	13	10	1
US MA	Public Disposal sites for batteries & oil	16	13	12	18	9	5	10	8	11	1
ZARDO	Provide a general list of labs in the City with plume modeling	8	18	5	9	8	4	9	11	5	
Ŧ	Request periodic updates from utlities	10	15	17	13	9	6	8	11	6	1
	Work with EBRP District on Vegetation Management	17	14	12	17	10	8	12	13	9	1
	Work with Red Cross to install smoke detectors in single family homes	15	14	13	14	11	8	10	13	11	1
-	Require Automatic shut off valves	14	16	11			4	11			
	Provide "treegators" for residences	9	15	9	13	13	7	7	12	11	1:
	Drought landscaping ordinance	11	17	12	17	12	8	10	13	12	12
	Designate senior center as a cooling center	14	15	15	14	18	10	4	13	10	13
ANGE	Leverage relationship with Berkeley	13	0	8	12	15	0	7	9	7	8
CLIMATE CHANGE	work with EBMUD to ensure an adequate supply of water	14	19	13	17	17	8	3	13	11	13
CLIMA	Look into using the water tower	11	16	4	-7	0	1	2	11	11	

		Charlie Bryant	Dante Diotalevi	Cindy Montero	Louise Engel	Maurice Kaufman	Michael Parenti	Hilds Quiroz	Petiro Jimenez	Hoi Fei Mok	Average Rating
	Alternative Transportation (BikeShare)										0
	Construct a bioswale to drain Powell	18	14	16	20	19	8	3	13	11	14
	Build Levees	14	14	13	15	17	19	4	17	16	14
FLOODS	storm drain cleaning	14	17	16	18	18	12	9	17	9	14
5	update flood plain	11	10	7	11	12	5	2	11	9	9
	exterior public address system for Tsunamis	10	16	13	15	15	6	4	13	10	11
	Evacuation Route signs	11	14	12	16	14	12	5	13	10	12
	regarding Tsunamis be provided in hotels and restaurants	11	7	13	16	11	8	3	15	12	11
15	Community Initiative/Policing	14		16	0	17	11	5	9	11	9
CIVIL UNREST	Community meetings	10	15	12	0	16	9	5	10	11	10
š	De-escalation Techniques	11	15	15	15	16	6	7	9	12	12
	Wind+solar	12	8	17	11	12	9	4	5	10	10

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		Charlie Bryant	Dante Diotalevi	Cindy Montero	Louise Engel	Maurice Kaufman	Michael Parenti	Hilds Quiroz.	Pedro Ilmeries	Hor Fel Mok	Average Rating
	streamline process for solar panels	15	10	12	13	12	12	4	5	10	10
¥	windmills	12	6	16	11	13	7	4	5	10	9
OTHER PROPERTY OF PAILONE	Putting Film on all windows in City Hall to make them more energy efficient (and to help prevent shattering in the event of an earthquake)										0
	Encourage renewables by giving breaks to businesses (either in their business or property taxes or providing rebates) Smart Grid (develop microgrid with local communities)										0
	Moving critical services to a more secure location	11	14	15	10	10	10	4	11	10	11
	Train staff better	10	17	16	12	11	10	4	11	8	11
	Recovery Plan	9	11	15	12	12	10	11	11	11	11
	Work with Carrollton College	6		10	0	11	3	0	6	7	5
THREATS	Become a POD	9		11	12	14	1	3	6	10	7
THE	Medical Reserve Corps	9		11	12		1	3	6	13	6

AGENDA

LOCAL HAZARD MITIGATION PLAN UPDATE PLANNING TEAM MEETING CITY COUNCIL CHAMBERS MONDAY, DECEMBER 7, 2015 AT 11:00 AM

- I. Introductions
- II. Finish Evaluating and Rating of Identified Mitigation Ideas for all Identified Hazards
- III. Prioritizing Mitigation Ideas into High, Medium or Low Priority
- IV. Next Steps Public Meeting Date???
- V. Comments/Conclusion

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zənəmil orbəf	∞	15	17	18	16	11	13	15	13	15	17	•	1 (P
Hilda Quiroz	15	10	10	13	14	11	7	14	14	10	17	u	9 6	OH S
Michael Parenti	∞	80	11	5	10	8	6	6	Ŋ	14	6	4	- 4	1 0
Maurice Kaufman	ιO	7	13	12	12	12	14	10	7	13	12	on	1	9
Louise Engel	12	11	13	13	13	10	13	13	17	7	12	12	11	5
Cindy Montero	15	12	13	14	14	13	13	11	11	13	6	თ	17	5,
Dante Diotalevi	10	10	14	16		13	15		14	14	20	14	15	17
Charlie Bryant	12	12	12	15	14	10	14	14	14	14	11	10	12	14
	Fee Waiver	Transfer Tax	Automatic Gas Shutoff	Earthquake Warning System	Revamping CERT program	Offering GIS mapping online	Containers collect water	Undergound overhead utilities	Agreement with Caltrans	Police Station on Eastside	Increase earthquake risk awareness	Convert all 4 track lines to main lines	GIS Based system that maps hazarous pipelines in City	work with PG&E to upgrade system witih automatic shutoffs
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	Mass Notification System	Public Disposal sites for batteries & oil	Provide a general list of labs in the City with plume modeling	Request periodic updates from utlities	Work with EBRP District on Vegetation Management	Work with Red Cross to install smoke detectors in single family homes	Require Automatic shut off valves	Provide "treegators" for residences	Drought landscaping ordinance	Designate senior center as a cooling center	Leverage relationship with Berkeley	work with EBMUD to ensure an adequate supply of water	Look into using the water tower	Alternative Transportation (BikeShare)
Charlie Bryant	13	16	∞	10	17	15	14	0	11	14	13	14	11	
Ivalstoid atned	19	13	18	15	14	14	16	15	17	15	0	19	16	
Cindy Montero	15	12	S	17	12	13	11	6	12	15	∞	13	4	
ronise gugej	14	18	O	13	17	14		13	17	14	12	17	-7	
Maurice Kaufman	10	6	80	თ	10	11		13	12	18	15	17	0	
Michael Parenti	11	5	4	9	∞	00	4	7	00	10	0	00	П	
Hilda Quiroz	13	10	6	∞	12	10	11	7	10	4	7	ю	2	
Pedro Jimenez	13	80	11	11	13	13		12	13	13	თ	13	11	
Hoi Fei Mok	10	11	5	9	o	11		11	12	10	7	11	. 11	
Average	13	11	· თ	11	12	12	9	11	12	13	80	13	S	C

	Charlie Bryant	Dante Diotalevi	Cindy Montero	Fonize Eußel	Maurice Kaufman	Michael Parenti	(zoJino epili-	sanamit oʻba	loi Fei Mok	Average
Construct a bioswale to drain Powell	18	14	16	20	19	00	n	13	H 7	Simple
Build Levees	14	14	13	15	17	O	4	17	16	1, 1,
storm drain cleaning	14	17	16	18	18	∞	o	17	σ	CT V
update flood plain	11	10	7	11	- 21	u	,			+
exterior public address system for Tsunamis	10	16	13	15	15	0 9	4	13 11	9 0	0 5
Evacuation Route signs	11	14	12	16	14	12	50	2 2	5	, t
regarding Isunamis be provided in hotels and restaurants	11	7	13	16	11	00	o m	7 7	7 1	17
Community Initiative/Policing	14		16	0	17	11	<u>.</u> го	0	11 17	77
Community meetings	10	15	12	0	16	o	r	Ç	7	,
De-escalation Techniques	11	15	15	15	16	9		g	12	12
Wind+solar	12	00	17	11	12	6	4	n	10	10
streamline process for solar panels	15	10	12	13	12	12	4	īU	10	100
windmills	12	9	16	11	7		-	u	,	

	Charlie Bryant	Dante Diotalevi	Cindy Montero	ronize gußej	Maurice Kaufman	Michael Parenti	Hilda Quiroz	Pedro Jimenez	Hoi Fei Mok	Average Rating
Putting Film on all windows in City Hall to make them more energy efficient (and to help prevent shattering in the event of an earthquake)										0
Encourage renewables by giving breaks to businesses (either in their business or property taxes or providing rebates)										0
Smart Grid (develop microgrid with local communities)										0
Moving critical services to a more secure location	11	14	15	10	10	10	4	11	10	11
Train staff better	10	17	16	12	11	10	4	11	∞	11
Recovery Plan	6	11	15	12	12	10	11	11	11	11
Work with Carrollton College	9		10	0	11	м	0	9	7	Ŋ
Become a POD	60		11	12	14	Н	3	9	10	7
Medical Reserve Corps	б		11	12		1	3	9	13	9

AGENDA

LOCAL HAZARD MITIGATION PLAN UPDATE PLANNING TEAM MEETING CITY COUNCIL CHAMBERS THURSDAY, JANUARY 14, 2016 AT 11:00 AM

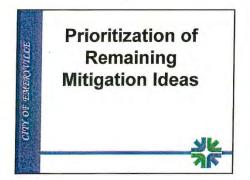
- I. Introductions
- Finish Prioritizing Rated Mitigation Ideas for all Identified Hazards II.
- Next Steps Public Meeting Date??? Comments/Conclusion III.
- IV.

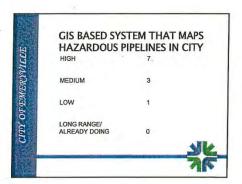
LOCAL HAZARD MITIGATION PLAN UPDATE 6th PLANNING TEAM MEETING January 14, 2016 11:00 AM

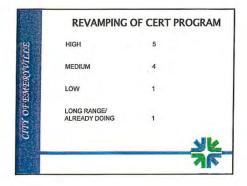
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AFFILIATION (CHECK ONE)	City). Public : Other	City): Public Other	: City X Public Other	X City 11 Public 11 Other	-X City !! Public : Other ACED	ACIty .: Public .: Other	Lefty 1 Public Other	City Public Other	1. City 1.1 Public 1.1 Other	11 City : Public . Other	to City (1 Public G Other	1. City 1: Public 11 Other	City : Public : Other	. City :: Public .: Other	City :: Public : Other	City :: Public Other	City Lightlic Other	: City : Public Other	Facilitator
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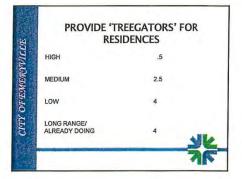


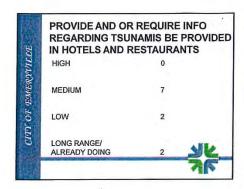


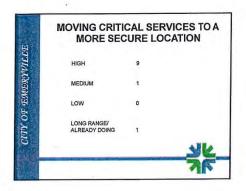


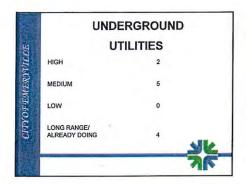


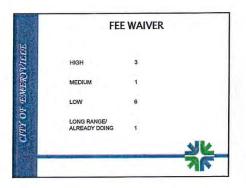


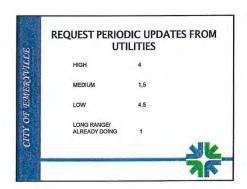


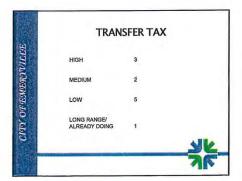


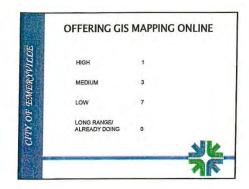


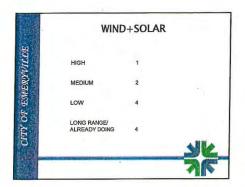


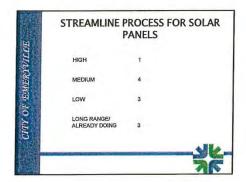




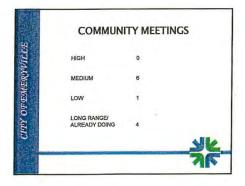


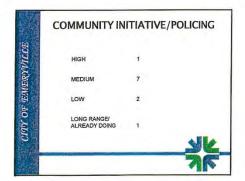


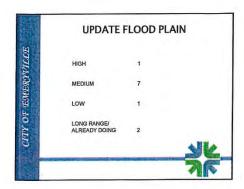


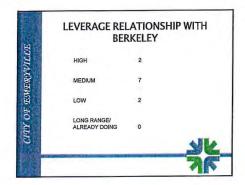


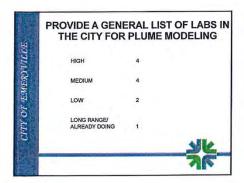




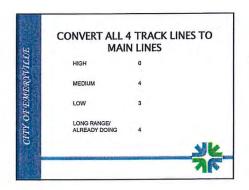


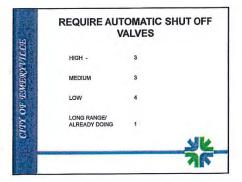






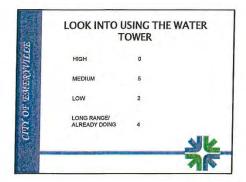


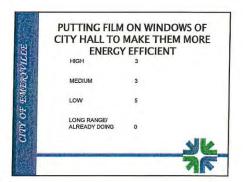


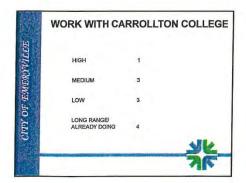


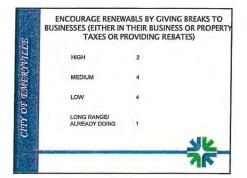


















PRIORITIZING OF IDENTIFIED LOCAL HAZARD MITIGATION IDEAS

High Priority	Medium Priority	Low Priority	Long Range Ideas/Already Cong.
Building a Bioswale	Storm Drain Cleaning	Gas shut off valves	Build I wood forcing to the
Earthquake Warning System	Increase Earthquake Awareness	work with the Red Cross to install smoke detectors in single family homes	Senior Center as a cooling center (already
Mass Notification System	Providing Tsunami information to retail, hotels and restaurants	Public Disposal of batteries & oil	Drought landscaping ordinance (already exists)
Work with EBMUD	underground utilities	Treegators for residences	Gity for use in the EOC (Already delay)
Police Substation	Leverage relationship with Berkeley Office of Emergency Services	Transfer Tax (% rebated to homebuver for earthquake retrofit	Offer CIS Manual Co. (All cauly doing)
Caltrans Agreement	Becoming a POD (both commodity & medical)	Requiring automatic gas shut off valves with remodels	Streamlining process for solar panels (already doing)
Deescalating Techniques	Medical Reserve Corps	Film on Windows at City Hall	Restoration/Build up of Wetlands against sea level rise (Long Range/Regional)
Recovery Plan (cyberterrorism)		Encourage renewables for businesses by giving tax breaks or rebates	Wind/Windmills (already doing)
Tsunamis and maybe the City as a whole			Community Policing (alcodo de care
Evacuation Route Signs			Update flood plain (being done by FEMA)
Train staff			Convert 4 track lines to main lines
Moving Critical services to more			Work with Carrollton College (Long Range)
secure location Fee waiver for Earthouske			Alternative Transportation (Bike Share) Already doing
retrofit projects on single family homes (Braces & Bolts)			Smart Grid (already dains)
Revamping City Web Page List of Labs/issues			(Sillon American)
		22	

Risks Identified in Rank Order with Mitigation Ideas

- 1. Earthquake
 - a. Ground shaking
 - b. Liquefaction
 - c. Fire
 - d. Built Environment
 - i. City owned buildings
 - ii. Privately Owned Buildings
 - iii. Soft Story Housing
 - iv. Unreinforced Masonry
 - e. Infrastructure
 - i. Utilities
 - 1. Water
 - 2. Gas
 - 3. Electricity
 - 4. Telecommunications
 - 5. Jet fuel line
 - 6. Sanitary sewer system
 - 7. Storm drain system
 - ii. Transportation
 - 1. City owned roads
 - 2. Interstates
 - 3. Railroad/train tracks
 - 4. Amtrak
 - 5. Emery Go Round
 - 6. Bridges
 - 7. Traffic Signals
 - f. Mitigation Ideas
 - 1. Fee Waivers
 - 2. Allow citizens to use a portion of the transfer tax towards retrofitting and foundation upgrade
 - 3. Require automatic gas shut off valves with any remodel
 - 4. Earthquake warning system for fire stations
 - 5. Revamping CERT program
 - 6. Offering GIS mapping online (links on our website)
 - 7. Provide containers to collect water
 - 8. Underground overhead utilities
 - 9. Establish an agreement with Caltrans and a plan to build a road across the freeway (if 880 should collapse).
 - 10. Police Substation on East Side of the freeway
 - Increase earthquake risk awareness on our website and ACFD
- 2. Hazardous Materials Release
 - a. Gas Main
 - b. Jet Fuel Line

- c. On the Freeway
- d. Train Derailment
- e. Development Dust
- f. Gas Explosion
- g. Release or spill
- h. Mitigation Ideas
 - i. Convert all 4 track lines to main lines (right now two are mainlines and two are considered part of West Oakland Yard
 - ii. GIS based system that maps hazardous pipelines in the city
 - iii. Work with PG&E to upgrade system to automate
 - iv. Mass Notification System
 - v. Public disposal sites for batteries & oil
 - vi. Provide a general list of labs in the city
 - 1. Plume modeling
 - vii. Request periodic updates from utilities companies

3. Fires

- a. Structural
- b. Wildfire
- c. Mitigation Ideas
 - i. Vegetation management (state park)
 - ii. Working with Red Cross to install smoke detectors in residences
 - iii. Automatic shut off valves (gas)

4. Climate Change

- a. Drought
- b. Sea Level Rise
- c. Extreme weather
 - i. Heat
 - ii. Freeze
 - iii. High winds
- d. Mitigation Ideas
 - Did Inventory trees in GIS. We trim some trees each year and every 4 to 5 years do them all.
 - ii. Provide Tree rings (to water street trees)
 - iii. We have drought landscaping ordinance (for all new development)
 - iv. Designate senior center as a spot (cooling center)
 - v. Leverage relationship with City of Berkeley
 - vi. Work with EBMUD to ensure an adequate supply of water
 - vii. Look into using our water tower in town

5. Floods

- a. Seasonal
- b. Tsunamis
- c. Dam Failure
- d. Mitigation Ideas
 - i. Construct a bioswale to drain Powell Street
 - ii. Build levees being studied on an regional basis
 - iii. Storm drain cleaning

- iv. Flood plain being updated now
- v. Exterior Public Address sytems for tsunamis
- vi. Evacuation Route Signs
- vii. Provide and require information be provided in hotels, restaurants and retail
- 6. Protest/Civil Unrest
 - a. Mitigation Ideas
 - i. Community Initiative/Policing
 - ii. Community meetings
 - iii. Deescalation techniques
- 7. Infrastructure/Utility Failure
 - a. Energy shortage
 - b. Mitigation Ideas
 - i. Wind+Solar
 - ii. Streamline process for solar panels ordinance took effect on October $1^{\rm st}$
 - iii. Windmill
- 8. Terrorism
 - a. Terrorism
 - b. Cyberterrorism
 - c. Mitigation Ideas
 - i. Moving critical services to more secure locations
 - ii. Train staff better
 - iii. Recovery plan
- 9. Biological Threats
 - a. Pandemic
 - b. Ebola
 - c. MERS
 - d. Biotech companies
 - e. Mitigation Ideas
 - i. Work with Carollton College (public market)
 - ii. PODs
 - iii. Medical Reserve Corps

MITIGATION IDEAS	Average Rating	Dante Diotalevi	Cindy Montero			Charlie Bryant		lagn3 eziuoJ	Christine Mason	zonlub ebliH	Michael Parenti	Hol Fel Mok
Tain staff better	77	Tri roug kange Medium	Medium	High	High	Medium	High	Low	High	Medium	Medium	High
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Provide "treegators" for residences	11	11 Long Range I nw	fow	One Rance Medium	Madina		rigin	ugu.	Nign	High	High	Low
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ransfer Tax	30	10 Medium	Low	Low	Low	Long Range Low	wol	High	4013	High/If not already		
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Average Rating	9	-	0	S	0	0	0	0
MITIGATION IDEAS	Medical Reserve Corps	Look into using the water tower	Mary 1970 III C. III	Nork With Carrollton College	Alternative Transportation (BikeShare)	Putting Film on all windows in City Hall to make them more energy efficient (and to help prevent shattering in the event of an earthquake)	Encourage renewables by giving breaks to businesses (either in their business or property taxes or providing rebates)	Smart Grid (develop microgrid with local communities)

COMMUNITY EVENTS



City of Emeryville



Community Expo Day

Date: Saturday, April 16

Location: Emeryville Center of Community Life

Basketball Gymnasium 1100 47th St.

Times: 10:00am-2:00pm



Come to this free event and take a look at all of the programs and services that the City of Emeryville and the Community Service Department has to offer!

Meet city staff, summer camp staff, aquatic staff and recreation class instructors, find out about our newly renovated Senior Center and senior programs, apply for aquatics and summer camp jobs and see demos from our many classes. We will also be doing swim test for spring and summer lessons along with other water safety activities.

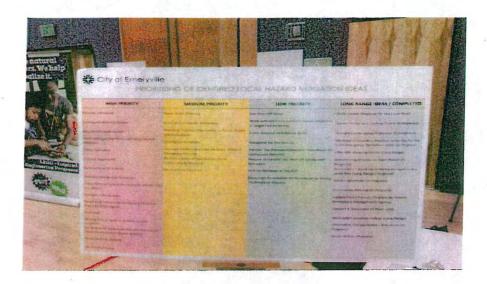
Other departments could include, Police, Fire, Emery Unified School District, Lifelong and many more departments, businesses and organizations.

- · Come enjoy free food and recreation activities and games
- · Giveaways and contest will be going on at the gym and pool.
- On this day only you can receive \$5 off programs/classes when they are paid in FULL. Receive a free Camp T-shirt for early summer camp registration



Emeryville Recreation Center 4300 San Pablo Ave, Emeryville, 94608 | www.emeryville.org | (510) 596-4395

COMMUNITY EXPO SATURDAY, APRIL 16, 2016







EMERYVILLE COMMUNITY EXPO SATURDAY, APRIL 16, 2016 LOCAL HAZARD MITIGATION PLAN UPDATE

Comments on the Identified Hazards and their Priority Ranking
HYDROGEN FUEL STAT
AC TRANSIT
2. Comments on the Identified Hazard Mitigation Ideas and their Priority Ranking
DATE: 4/16/16
EMERYVILLE COMMUNITY EXPO SATURDAY, APRIL 16, 2016 LOCAL HAZARD MITIGATION PLAN UPDATE
1. Comments on the Identified Hazards and their Priority Ranking Australia
and desatinate water for freshwater. It use
busys to collect knot, cenergy to turn it to electrical power. Can we do that here?
2. Comments on the Identified Hazard Mitigation Ideas and their Priority Ranking
SIGNATURE: Apr 1 to 2016

EMERYVILLE CLIMATE ACTION PLAN AND LOCAL HAZARD MITIGATION PLAN PUBLIC WORKSHOPS

MAY 7 AND 10, 2016

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Comments on the	Local Hazar	rd Mitiga	tion Plan	's identif	ied hazaro	ls and m	itigation idea

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STAFF REPORT / PRESENTATION





MEMORANDUM

DATE:

May 3, 2016

TO:

Carolyn Lehr, City Manager

FROM:

Ian Appleyard, Human Resources

SUBJECT:

Local Hazard Mitigation Plan And Climate Action Plan Updates

RECOMMENDATION

Staff recommends that the City Council provide input on the Local Hazard Mitigation Plan and Climate Action Plan Updates after receiving status reports on these two projects.

DISCUSSION

Local Hazard Mitigation Plan

The Disaster Mitigation Act of 2000 (DMA 2000) required all communities to establish a Local Hazard Mitigation Plan (LHMP) as a condition to receive federal hazard mitigation funding through the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation Grant Program (PDM), and the Flood Management Assistance Grant Program (FMA). In addition, as part of the DMA 2000, the LHMP must be updated every 5 years.

The City's original Local Hazard Mitigation Plan was approved in December 2009. Since then, the FEMA requirements for a Local Hazard Mitigation Plan update have changed with community involvement as a key element of the Plan.

In March 2015, staff published a Local Hazard Community Survey to obtain the community's input on local hazards and mitigation ideas. The survey was promoted through our E-Newsletter, on twitter, at the Police Citizens Academy and at the Spring Festival. Surveys were placed in City buildings as well as electronically distributed to city listservs. At this time, 52 responses have been received.

The initial planning meeting was held on June 18, 2015. The planning team is composed of City staff, a representative from Alameda County Fire and two community members. Two representatives from the California Office of Emergency Services Mitigation Unit were present at the first meeting to help guide the process.

In the initial meeting, the group reviewed Emeryville's most recent Local Hazard Mitigation Plan (2009), Berkeley's recent Local Hazard Mitigation Plan Update, ABAG's

Local Hazard Mitigation Plan Üpdate May 3, 2016 Page 2 of 2

2010 Regional Local Hazard Mitigation Plan and hazards identified in the Community Survey. From these sources, nine hazards were identified:

- 1) Earthquakes
- 2) Hazardous Materials Release
- 3) Fires
- 4) Climate Change
- 5) Floods
- 6) Civil Unrest
- 7) Utility/Infrastructure Failure
- 8) Terrorism
- 9) Biological Threats

The group has met on five occasions and prioritized the above list; discussed different mitigation ideas; and evaluated the mitigation ideas for feasibility, social benefits, economic benefits, environmental improvement and community objectives. As a result of these efforts, the mitigation ideas were included in the plan update and prioritized into high, medium and low priorities as indicated below:

High Priority

- 1. Building a bioswale
- 2. Earthquake Warning System for Fire Station Doors
- 3. Mass Notification System
- 4. Working with EBMUD
- 5. Police Substation
- 6. Caltrans Agreement
- 7. Deescalating techniques
- 8. Recovery Plan for Cyberterrorism
- 9. Public Address System for the Peninsula for Tsunamis
- 10. Evacuation Route signs for Peninsula and City as a whole
- 11. Revamping our CERT program
- 12. Train Staff
- 13. Moving critical services to a more secure location
- 14. Fee waiver for Earthquake retrofit projects on single family homes (Braces & Bolts)
- 15. Revamping City Web Page
- 16. Creating a listing of Laboratories in the City and their potential issues

Medium Priority

- 17. Storm drain cleaning
- 18. Increasing earthquake awareness in the community
- 19. Providing Tsunami information to retail, hotel and restaurant establishments
- 20. Undergrounding utilities
- 21. Leveraging our relationship with Berkeley's Office of Emergency Services
- 22. Becoming a POD (Point of Distribution) for both Commodity and medical services

Local Hazard Mitigation Plan Update May 3, 2016 Page 3 of 3

23. Establishing a Medical Reserve Corps

Low Priority

- 24. Gas shut off valves (PG&E)
- 25. Working with the Red Cross to install smoke detectors in single family homes
- 26. Providing public disposal sites for batteries & oil
- 27. Providing "Treegators" for residents
- 28. Transfer Tax (a % rebated to the homebuyer for earthquake retrofitting)
- 29. Requiring gas shut off valves for all remodels
- 30. Film on windows of City Hall for energy efficiency and to prevent shattering
- 31. Encourage renewables for businesses by giving tax breaks or rebates

Long Range Ideas/Already in Process

- 32. Building levees (Regional for Sea Level Rise) Long Range
- 33. Designating the Senior Center as a cooling center Already Done
- 34. Drought Landscaping Ordinance Already Done
- 35. GIS Maps of Hazardous Pipelines in the City for use in the EOC Already Doing
- 36. Offer GIS Mapping online Long Range
- 37. Restoration /Buildup of Wetlands against Sea Level Rise Long Range/Regional
- 38. Wind/Windmills Already in Process
- 39. Community Policing Already Doing
- 40. Update Flood Plain Being Done by FEMA
- 41. Convert 4 track lines to main lines Long Range
- 42. Work with Carrollton College to provide services during a pandemic Long Range
- 43. Alternative Transportation (BikeShare) Already Doing
- 44. Smart Grid

Climate Action Plan

Based on research of other leading cities and their Climate Action Plans and integration with existing City documents, the first draft of objectives and initiatives for the Climate Action Plan 2.0 has been written. The objectives include:

Objectives

- Create vibrant neighborhoods where residents can easily walk to their basic daily needs.
- 2. Reduce the total vehicle miles traveled of local traffic by 30%.
- 3. Reduce the carbon intensity of vehicles by 30%.
- Reduce the total energy use of buildings built in 2015 or before by 25%.
- 5. Achieve zero net carbon emissions for new construction.
- 6. Increase renewable energy capacity in Emeryville by 30%.
- 7. Reduce food scraps sent to landfills by 50%.
- 8. Achieve zero waste to landfills.

Local Hazard Mitigation Plan Update May 3, 2016 Page 4 of 4

- 9. Reduce consumption-related emissions by encouraging sustainable consumption and minimization of the carbon intensity of business supply chains.
- 10. Reduce water use in the community by 30%
- 11. Expand the urban forest with a minimum canopy cover of 25% in each residential neighborhoods and 15% in the central city and commercial areas.
- 12. Expand access to healthy and local food.
- 13. Reduce energy use in city facilities by 30%.
- 14. Reduce water use in city facilities by 30%.
- 15. Reduce emissions in the transportation sector by 30%.
- 16. Achieve zero waste from city facilities.

The next step for the Climate Action Plan is to solicit public feedback on priority objectives and initiatives as well as new ideas.

FISCAL IMPACT

This report is informational only and there is no fiscal impact.

OTHER ISSUES/CONCLUSION

As part of community outreach, the Public Works Department and Human Resources Department together will be hosting 3 community meetings on the Local Hazard Mitigation and Climate Actions Plan updates. These community meetings are scheduled for Saturday, May 7th and Tuesday, May 10th (lunch time and evening meetings) to solicit the communities input on these plan updates.

Staff would like Council's input and comments on these project updates.

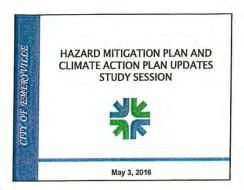
PREPARED BY: Lori Elefant, Management Analyst/HR

Hoi Fei Mok, CivicSpark Fellow, Public Works

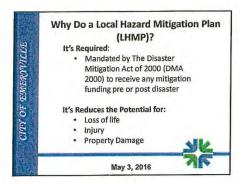
APPROVED AND FORWARDED TO THE CITY COUNCIL OF THE CITY OF EMERYVILLE:

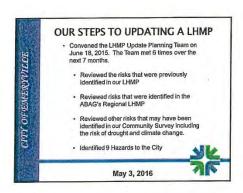
Carolyn Lehr, City Manager

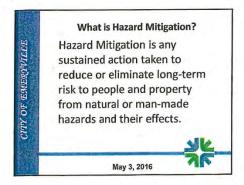
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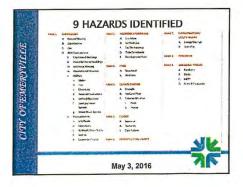


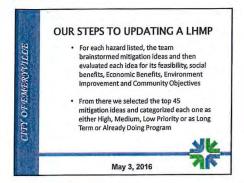




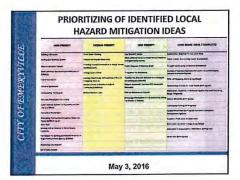


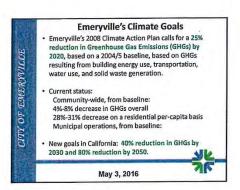




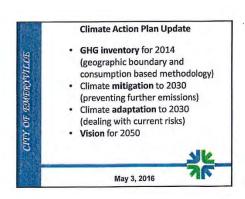


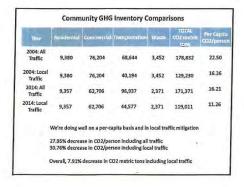


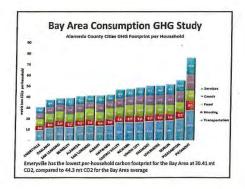






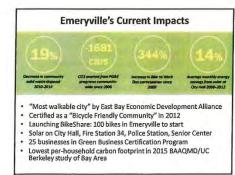


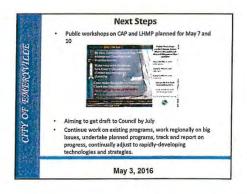


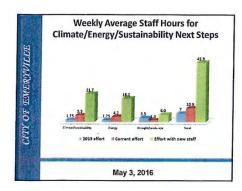


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PUBLIC OUTREACH COMMUNITY MEETINGS

LOCAL HAZARD MITIGATION PLAN UPDATE (INCLUDING CLIMATE CHANGE)

The Local Hazard Mitigation Plan Update Planning Team met 6 times over a period of 7 months and identified 9 Hazards that could affect the City of Emeryville as well as 45 mitigation ideas to minimize or eliminate the effects of these hazards.

Your task today is to twofold.

- 1. Review and discuss the 9 hazards identified and their rank order. If you feel that one of the identified hazards is incorrectly ranked (either individually or as a group), using a pink post-it, please write the rank number you feel the hazard should be and place the post-it next to the hazard. If you feel as a group or individually that there is a hazard that the team failed to identify, please complete a comment sheet.
- 2. Review and discuss the mitigation ideas identified and their prioritization. If you feel that a mitigation has been prioritized incorrectly, use the provided colored post-its as follows:
- If you feel that a mitigation idea should be high priority (and has not been identified as such), please place a red post it next to the mitigation idea.
- If you feet that a mitigation idea should be a medium priority (and has not been identified as such), please place a yellow post it next to the mitigation idea.
- If you feel that a mitigation idea should be a low priority (and has not been identified as such), please place a green post it next to the mitigation idea.
- If you feel as a group or individually that there is a mitigation idea that the team failed to identify, please complete a comment sheet.

NOTES FROM THE FIRST PUBLIC OUTREACH COMMUNITY MEETING

Saturday, May 7, 2016 10:00 AM TO 12:00 NOON

On Saturday, May 7, 2016, we held our first public outreach community meeting. This community meeting was a collaborative endeavor with the Public Works Department and was a workshop on both the Local Hazard Mitigation Plan and the Climate Action Plan Updates. We used a "World Café" format where we had 7 stations set up throughout the Council Chambers; however, do the low numbers of attendees rather than have the group move to the different stations, we brought the stations to the group.

The first station was for the Local Hazard Mitigation Plan Update. Participants were given two tasks. First task was to look at the 9 Identified Hazards and their priority rankings. If the group or a participant individually felt that a hazard was prioritized incorrectly, using a pink post-it, right the priority ranking they felt the hazard should be and place the pink post-it next the hazard.

The second task was to look at the 45 identified mitigation ideas and their priority rankings. If they felt that the mitigation was incorrectly prioritized, they were to use a red post it to indicate they felt the mitigation idea was a high priority, a yellow post it if they felt the mitigation idea was a medium priority and a green post it if they felt that the mitigation idea was a low priority.

If community members had additional hazards or comments they wanted included in the plan, they completed a comment sheet.

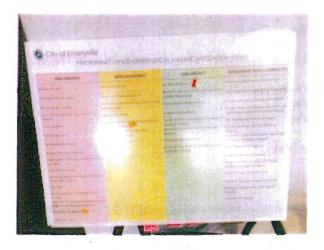
The results for the Ranking of Hazards:

- Fires should be ranked 5, with floods being number 4 and Climate Change being number 3.
- Energy should be added under Climate Change
- Dam Failure should be moved to under Earthquake (#1) as opposed to be under Floods
- Protests/Civil Unrest should be #8 (as opposed to #6)
- Protests/Civil Unrest should be #9
- Protests/Civil Unrest should be #9
- Terrorism should be #9 (Instead of #8)
- Biological Threats should be #2
- Biological Threats should be #4
- Remove Ebola as a concern under biological threats not big enough risk to worry about.

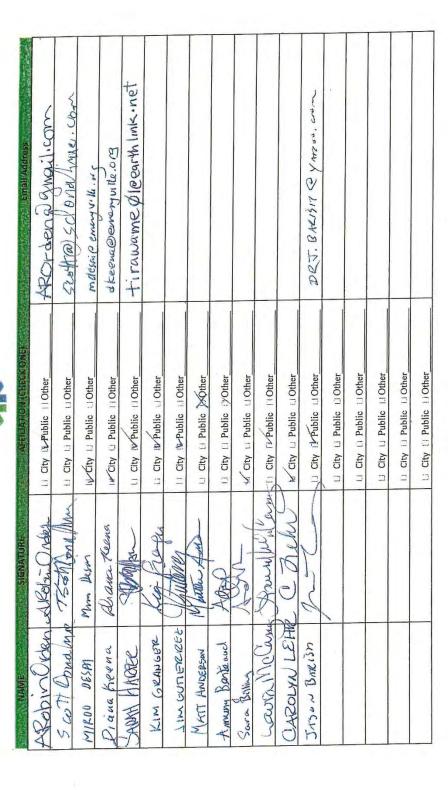


The results for the prioritization of mitigation ideas:

- Gas shut off valves should be a high priority
- · Revamping the City Website should be a medium priority
- Leveraging our relationship with Berkeley Office of Emergency Services should include the City of Oakland as well.



CLIMATE ACTION PLAN UPDATE COMMUNITY MEETING, SATURDAY, MAY 7, 2016 10:00 AM TO 12:00 NOON



NOTES FROM THE SECOND PUBLIC OUTREACH COMMUNITY MEETING

Tuesday, May 10, 2016 11:00 AM – 1:00 PM

On Tuesday, May 10, we held our second public outreach community meeting. Again, this community meeting was a collaborative endeavor with the Public Works Department and was a workshop on both the Local Hazard Mitigation Plan and the Climate Action Plan Updates. We used a "World Café" format where we had 7 stations set up throughout the Council Chambers; however, do the low numbers of attendees rather than have the group move to the different stations, we brought the stations to the group.

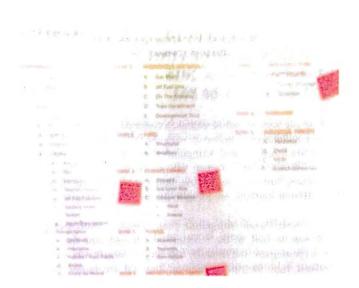
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The second task was to look at the 45 identified mitigation ideas and their priority rankings. If they felt that the mitigation was incorrectly prioritized, they were to use a red post it to indicate they felt the mitigation idea was a high priority, a yellow post it if they felt the mitigation idea was a medium priority and a green post it if they felt that the mitigation idea was a low priority.

If community members had additional hazards or comments they wanted included in the plan, they completed a comment sheet.

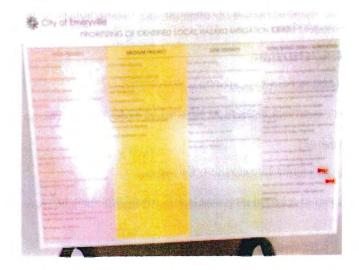
The results for the Ranking of Hazards:

- Climate Change should be moved ahead of Fires.
- Would like to see coastal erosion included as a hazard under Climate Change.
- Rank Climate Change #2
- Include water shortage under infrastructure/Utility Failure
- Remove the word protests as a hazard protesting is a 1st amendment right, move Civil Unrest to #9



The results for the prioritization of mitigation ideas:

Under Long Term/Regional Programs, highlight converting all 4 rail lines to main lines and working with Carrellton College and other medical resources in the City as a high priority.



CLIMATE ACTION PLAN UPDATE COMMUNITY MEETING, TUESDAY, MAY 10, 2016 11:00 AM TO 1:00 PM



CLIMATE ACTION PLAN UPDATE
COMMUNITY MEETING, TUESDAY, MAY 10, 2016
6:00 PM TO 8:00 PM

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NOTES FROM THE THIRD PUBLIC OUTREACH COMMUNITY MEETING Tuesday, May 10, 2016 6:00 PM - 8:00 PM

In the evening on Tuesday, May 10, we held our third public outreach community meeting regarding our identified hazards and mitigation ideas. Again, this community meeting was a collaborative endeavor with the Public Works Department and was a workshop on both the Local Hazard Mitigation Plan and the Climate Action Plan Updates. We used a "World Café" format where we had 7 stations set up throughout the Council Chambers; however, do the low numbers of attendees rather than have the group move to the different stations, we brought the stations to the group.

The first station was for the Local Hazard Mitigation Plan Update. Participants were given two tasks. First task was to look at the 9 Identified Hazards and their priority rankings. If the group or a participant individually felt that a hazard was prioritized incorrectly, using a pink post-it, write the priority ranking they felt the hazard should be and place the pink post-it next the hazard.

The second task was to look at the 45 identified mitigation ideas and their priority rankings. If they felt that the mitigation was incorrectly prioritized, they were to use a red post it to indicate they felt the mitigation idea was a high priority, a yellow post it if they felt the mitigation idea was a medium priority and a green post it if they felt that the mitigation idea was a low priority.

If community members had additional hazards or comments they wanted included in the plan, they completed a comment sheet.

The results for the Ranking of Hazards:

• Fires should be moved down in the priority rankings



The results for the prioritization of mitigation ideas:

Gas shut off valves should be moved to a high priority



KIM

EMERYVILLE CLIMATE ACTION PLAN AND LOCAL HAZARD MITIGATION PLAN PUBLIC WORKSHOPS

MAY 7 AND 10, 2016

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EMERYVILLE CLIMATE ACTION PLAN AND LOCAL HAZARD MITIGATION PLAN PUBLIC WORKSHOPS

MAY 7 AND 10, 2016

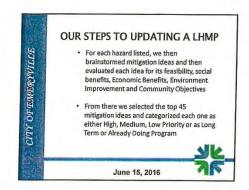
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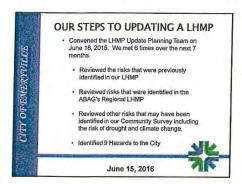
EMERYVILLE CLIMATE ACTION PLAN AND LOCAL HAZARD MITIGATION PLAN PUBLIC WORKSHOPS

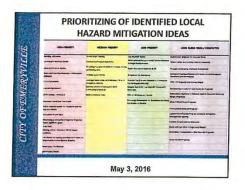
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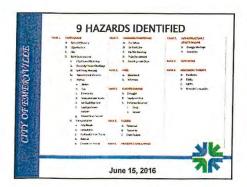
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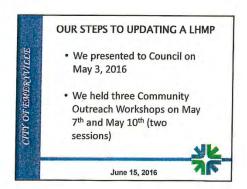








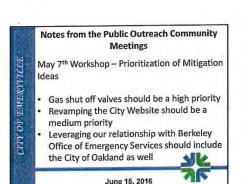


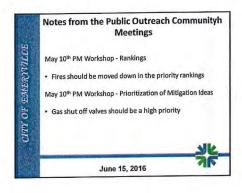


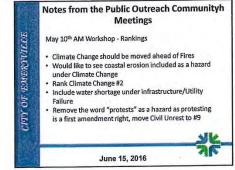
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Notes from the Public Outreach Community Meetings May 7th Workshop - Rankings • Fires should be ranked #5, with floods being #4 and Climate Change being #3 • Energy should be added under Climate Change • Dam Failure should be moved to under Earthquake as opposed to under Floods • Protests/Civil unrest should be moved to #8/#9 (2x) • Terrorism should be #9 Biological threats should #2/#4 • Remove Ebola as a concern

Notes from the Public Outreach Community Meetings May 10th AM Workshop – Prioritization of Mitigation Ideas • Under Long Term/Regional Programs, highlight converting all 4 rail lines to main lines (Nora's recommendation) and working with Carrellton College and other medical resources in the City as a high priority June 15, 2016









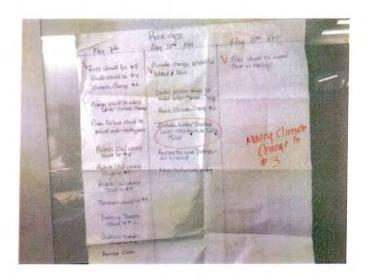
CLIMATE ACTION PLAN UPDATE TEAM MEETING, WEDNESDAY, JUNE 15, 2016 11:00 AM TO 12:00 PM



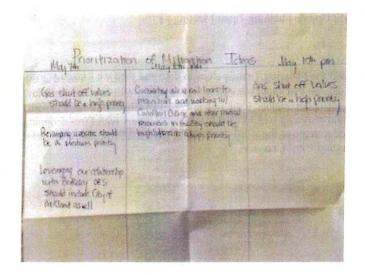
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Meeting Notes from LHMP Update Planning Team Meeting #7 June 15, 2016

At this meeting we recapped the Planning Team's steps to date and then we looked at the comments and recommendations that came out of the three public meetings held in May. Under rankings, the team decided to change the ranking order of Climate Change & Fires – i.e. Climate Change would move up to #3 in the priority rankings with Fires dropping down to #4 and they agreed to remove the word "protests" from the Protests/Civil Unrest hazard and just label the hazard Civil Unrest.



As far as the prioritization of the mitigation ideas, the team decided to add the City of Oakland to the mitigation idea of leveraging our relationship with Berkeley Office of Emergency Services.







PUBLIC COMMENT ON LOCAL HAZARD MITIGATION PLAN UPDATE

The Local Hazard Mitigation Plan (LHMP) identifies hazards to the community, assesses the City's vulnerability to those hazards and identifies specific actions that can be taken to reduce the risk. It also identifies projects that could potentially reduce risks in the community from these natural and man-made hazards. The City is required to adopt a LHMP every 5 years under the Federal Disaster Mitigation Act.

The City of Emeryville will be presenting the draft of the 2017 – 2022 Local Hazard Mitigation Plan Update at the <u>City's Community Advisory Committees' meetings</u> as shown below:

Sustainability Committee Monday, September 11, 2017 4:00 PM City Hall, Garden Level

Public Safety Committee Thursday, September 14, 2017 4:00 PM City Hall, Garden Level

Public Works and Transportation Committee Meeting Thursday, October 19, 2017 9:00 AM – City Hall, Garden Level

Planning Commission Thursday, October 26, 2017 6:30 PM City Hall, Council Chambers

City Council Meeting – Study Session Tuesday, November 7, 2017 6:00 PM City Hall Council Chambers

Emeryville residents and business owners are welcome and encouraged to attend these meetings, and to provide either written or oral comments. Please address all written comments to Lori Elefant, 1333 Park Avenue, Emeryville, CA 94608; (510) 420-1299 (fax); or via email at lelefant@emeryville.org.

The FINAL DRAFT Plan can be viewed by clicking on the Link below:

LOCAL HAZARD MITIGATION PLAN UPDATE 2017 – 2022

Lori Elefant

From: Lori Elefant

Sent: Wednesday, August 09, 2017 5:35 PM

To: David.rocha@acgov.org; esmith@alamedaca.gov; lcalkins@albanyca.org; 'Jeff Rasmussen'; tburroughs@cityofberkeley.info; 'gdong@cityofberkeley.info; 'Lana, Sarah'; rdifranco@fremont.gov; laurel.james@hayward-ca.gov; don.nichelson@hayward-ca.gov; terrence.grindall@newark.org;

tlangdon@acgov.org; dreiff@oaklandnet.com; GPastor-Cohen@oaklandnet.com; bmclaren@ci.piedmont.ca.us; hderespini@sanleandro.org; jmalloy@unioncity.org; hsmyth@ci.hercules.ca.us; waymire@walnut-creek.org; danab@abag.ca.gov; Lindy.lowe@bcdc.ca.gov; laurat@abag.ca.gov; scotth@ebmud.com; DFSCMiller@comcast.net;

Lindy.lowe@bcdc.ca.gov; laurat@abag.ca.gov; scotth@ebmud.com; DFSCMiller@comcast.net; Yolande Barial Knight; DFSCMiller@comcast.net; info@oaklandfiresafe.org; Carol Johnson; Frew, Steven (steven.frew@ebmud.com); Leung, Lilian (lilian.leung@ebmud.com); bob.braga@dot.ca.gov; michael.cadrecha@acgov.org; Michael Germeraad (MichaelG@abag.ca.gov); 'Reiff, Devan';

MBlagg@bart.gov; nicole_stewart@kindermorgan.com; HUNTINGTON, BRADLEY J (bh921j@att.com); 'Putnam, Les'; Casimere, Lincoln, ACFD; Winnacker, Dave, ACFD

(Dave:Winnacker@acgov.org) Lisa Lopez; Carolyn Lehr

Subject: RE: Public Meetings - City of Emeryville Local Hazard Mitigation Plan 2017 - 2022 Update



Cc:



PUBLIC COMMENT ON LOCAL HAZARD MITIGATION PLAN UPDATE

The Local Hazard Mitigation Plan (LHMP) identifies hazards to the community, assesses the City's vulnerability to those hazards and identifies specific actions that can be taken to reduce the risk. It also identifies projects that could potentially reduce risks in the community from these natural and man-made hazards. The City is required to adopt a LHMP every 5 years under the Federal Disaster Mitigation Act.

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Public Safety Committee Thursday, September 7, 2017 9:00 AM City Hall, Garden Level

Sustainability Committee Monday, September 11, 2017 4:00 PM City Hall, Garden Level

Planning Commission Thursday, September 28, 2017 6:30 PM City Hall, Council Chambers

Public Works and Transportation Committee Meeting Thursday, October 19, 2017 9:00 AM – City Hall, Garden Level

City Council Meeting – Study Session Tuesday, November 7, 2017 6:00 PM City Hall Council Chambers

Emeryville residents and business owners are welcome and encouraged to attend these meetings, and to provide either written or oral comments. Please address all written comments to Lori Elefant, 1333 Park Avenue, Emeryville, CA 94608; (510) 420-1299 (fax); or via email at lelefant@emeryville.org.

The FINAL DRAFT Plan can be viewed by clicking on the Link below:

Local Hazard Mitigation Plan 2017 - 2022 Update

Lori M. Elefant, ARM Management Analyst Human Resources City of Emeryville 1333 Park Avenue Emeryville, CA 94608 (510) 596-3797 (510) 420-1299 (FAX)

"We provide high quality support and services."