Maximizing the use of mitigation measures to prevent losses and reduce risk from natural hazards!

City of Culver City and Culver City Unified School District Multi-Jurisdictional Hazard Mitigation Plan

Culver City
Unified School District

PUBLIC REVIEW DRAFT

City of Culver City and Culver City Unified School District Multi-Jurisdictional Hazard Mitigation Plan

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SECTION 1.0: INTRODUCTION

Natural disasters can cause death and injuries, as well as significant damage to communities, businesses, public infrastructure, and the environment. Each year, natural disasters in the United States take the lives of hundreds of people and injure thousands more, and taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from these events. After disasters, repairs and reconstruction are often completed to simply restore the affected areas to their pre-disaster conditions. Such efforts expedite a return to normalcy; however, the replication of pre-disaster conditions results in a cycle of damage, reconstruction, and repeated damage. As the cost of damage from natural disasters continue to increase, communities realize the importance of identifying effective ways to reduce vulnerability to disasters. While it is not possible to prevent disasters from happening, their effects can be reduced or eliminated through well-organized public education and awareness efforts, preparedness, and mitigation. For those hazards that cannot be fully mitigated, the community must be prepared to provide efficient and effective response and recovery to them.

It is impossible to predict exactly when and where disasters will occur or the extent to which they will impact a community. However, with careful planning and collaboration among public agencies, stakeholders, and citizens, it is possible to minimize losses that may occur from disasters. Proactive mitigation planning will help reduce the cost of disaster response and recovery to the community and its property owners by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruption.

The City of Culver City (City) and the Culver City Unified School District (CCUSD) developed this Multi-Jurisdictional Hazard Mitigation Plan (MJHMP or Plan) in an effort to reduce future loss of life and property resulting from disasters and to provide increased resiliency, allowing the City and CCUSD to return to "normal" sooner, with fewer impacts to people, facilities and infrastructure. For those hazards that can be mitigated, the City and CCUSD must be prepared to implement efficient and effective short and long term actions where needed. The purpose of the MJHMP is to provide the City and CCUSD with clear direction for hazard mitigation action planning. This MJHMP identifies resources, information, and strategies for risk reduction and provides a tool to measure the success of mitigation implementation on a continual basis. The strategies identified in the MJHMP are developed with the following intentions:

- Risk reduction from natural hazards through a set of defined mitigation actions;
- Establishment of a basis for coordination and collaboration among resource agencies and the public; and
- Assisting in meeting the requirements of federal assistance programs.[1]

The MJHMP does not supersede current City and CCUSD plans and strategies, rather it enhances the ability to identify, inform, and mitigate natural hazard risk. Information in this Plan will be used to help guide and coordinate mitigation activities and serve as a tool for decision-makers to direct mitigation activities and resources. Proactive mitigation planning will help reduce

[1] The MJHMP is developed to ensure eligibility for federal and state disaster assistance, including the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation (PDM), Hazard Mitigation Grant Programs (HMGP), Flood Mitigation Assistance Program (FMA), and other hazard mitigation program funding available from applicable state and federal funding opportunities.

the cost of disaster response and recovery to the City, CCUSD, and Culver City residents and business owners by protecting critical community/school facilities, reducing liability exposure, and minimizing overall impacts and disruptions to the community from natural hazards.

1.1 PURPOSE OF THE PLAN AND AUTHORITY

Federal legislation has historically provided funding for disaster relief, recovery, and some hazard mitigation planning. The Disaster Mitigation Act of 2000 (DMA 2000) is the latest legislation to improve this planning process (Public Law 106-390). The legislation reinforces the importance of mitigation and emphasizes planning for disasters before they occur. As such, DMA 2000 establishes a pre-disaster hazard mitigation program and new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP).

Section 322 of DMA 2000 specifically addresses mitigation planning at the state and local levels. It identifies new requirements that allow HMGP funds to be used for planning activities and increases the amount of HMGP funds available to states and communities that have developed a comprehensive, enhanced mitigation plan prior to a disaster. States and communities must have an approved mitigation plan in place prior to receiving post-disaster HMGP funds. Local and tribal mitigation plans must demonstrate that their proposed mitigation measures are based on a sound planning process that accounts for the risks and capabilities of their communities.

State governments have certain responsibilities for implementing Section 322, including:

- Preparing and submitting a standard or enhanced state mitigation plan;
- Reviewing and updating the state mitigation plan every three years;
- Providing technical assistance and training to local governments to assist them in applying for HMGP grants and in developing local mitigation plans; and
- Reviewing and approving local plans if the state is designated a managing state with an approved enhanced plan.

DMA 2000 is intended to facilitate cooperation between state and local authorities, prompting them to work together. It encourages and rewards local and state pre-disaster planning and promotes sustainability as a strategy for disaster resistance. This enhanced planning network is intended to enable local and state governments to articulate accurate needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects.

The Federal Emergency Management Agency (FEMA) prepared an Interim Final Rule, published in the Federal Register on February 26, 2002 (44 CFR Parts 201 and 206), which establishes planning and funding criteria for states and local communities.

This MJHMP has been prepared to meet FEMA and the California Governor's Office of Emergency Services (Cal OES) requirements, thus making the City and CCUSD eligible for funding and technical assistance from state and federal hazard mitigation programs.

1.2 PLAN ADOPTION

Following FEMA approval, the City Council of the City and the CCUSD Board will each formally adopt the MJHMP as their own Hazard Mitigation Plan. Currently, the adoption process is scheduled for summer 2016. **NOTE:** This is a placeholder pending FEMA approval.

1.3 PLAN ORGANIZATION

The MJHMP is organized into seven sections to reflect the logical progression of activities undertaken to develop the Plan and includes all relevant documentation required to meet the necessary criteria for FEMA approval. Each section is briefly described below.

Section 1.0: Introduction describes the background and purpose of the Plan, as well as the authority established for its development.

Section 2.0: Planning Process describes the 10-step MJHMP planning process, as well as the meetings and outreach activities undertaken to engage City/CCUSD officials and staff and the public.

Section 3.0: Community Profile provides the history, geography, demographics, and socioeconomics of Culver City and the CCUSD, including land use and development trends.

Section 4.0: Hazards Assessment identifies and profiles the natural hazards affecting Culver City and CCUSD, identifies the vulnerability and risk associated with each natural hazard, and provides a vulnerability assessment to critical facilities in relation to those identified hazards.

Section 5.0: Mitigation Actions identifies the mitigation strategy and actions to reduce potential risks to the City's critical facilities, residents, and business owners and to CCUSD's critical facilities, staff, and students and assesses the City's and CCUSD's capabilities to implement and achieve the objectives of the mitigation actions.

Section 6.0: Plan Maintenance and Capabilities discusses implementation of the Plan, including the process to monitor, evaluate, update, and maintain the MJHMP, and identifies opportunities for continued public involvement.

Section 7.0: References identify the various resources utilized throughout the MJHMP.

1.4 MITIGATION GOALS

The City and CCUSD have adopted the following goals for reducing disaster risk:

Protect Life and Property

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from hazards.
- Reduce losses and repetitive damages from chronic hazard events while promoting insurance coverage for catastrophic hazards.

- Improve hazard assessment information to make recommendations for new development in high risk areas and encouraging preventive measures for existing development in areas vulnerable to hazards.

Public Awareness

- Develop and implement educational outreach programs to increase public awareness of the risks associated with hazards.

- Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

Natural Systems

- Balance natural resource management and land use planning with natural hazard mitigation to protect life, property, and the environment.

- Preserve, rehabilitate, and enhance natural systems to mitigate natural hazards.

Partnerships and Implementation

- Strengthen communication and coordinate participation among and within public agencies, residents, nonprofit organizations, business, and industry to develop a vested interest in implementation.

- Encourage leadership within public and private sector organizations to prioritize and implement local and regional hazard mitigation activities.

Emergency Services

- Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.

- Strengthen emergency operations by increasing coordination among public agencies, nonprofit organizations, business, and industry.

- Where appropriate, coordinate and integrate hazard mitigation activities with emergency operations plans and procedures.

SECTION 2.0: MULTI-JURISDICTIONAL HAZARD MITIGATION PLANNING PROCESS

This section describes each stage of the planning process used to develop the MJHMP. The MJHMP planning process provides a framework to document development and follows the FEMA-recommended steps. The MJHMP follows a prescribed series of planning steps which includes organizing resources, assessing risk, developing the mitigation plan, drafting the plan, reviewing and revising the plan, and adopting and submitting the plan for approval. Each step is described in this section.

Hazard mitigation planning in the United States is guided by the statutory regulations described in the DMA 2000 and implemented through 44 Code of Federal Regulations (CFR) Parts 201 and 206. FEMA's hazard mitigation plan guidelines outline a four-step planning process for the development and approval of HMPs. Table 2-1, *DMA 2000 CFR Crosswalk*, lists the specific CFR excerpts that identify the requirements for approval.

Table 2-1
DMA 2000 CFR Crosswalk

DMA 2000 (44 CFR 201.6)	2016 MJHMP Plan Section
(1) Organize Resources	Section 2
201.6(c)(1)	Organize to prepare the plan
201.6(b)(1)	Involve the public
201.6(b)(2) and (3)	Coordinate with other agencies
(2) Assess Risks	Section 4
201.6(c)(2)(i)	Assess the hazard
201.6(c)(2)(ii) and (iii)	Assess the problem
(3) Develop the Mitigation Plan	Section 5
201.6(c)(3)(i)	Set goals
201.6(c)(3)(ii)	Review possible activities (actions)
201.6(c)(3)(iii)	Draft an action plan
(4) Plan Maintenance	Section 6
201.6(c)(5)	Adopt the plan
201.6(c)(4)	Implement, evaluate, and revise

For the development of the Culver City and CCUSD MJHMP, the planning process was customized specifically for the City and CCUSD. All basic federal guidance documents and regulations are met through the customized process.

As documented in the corresponding sections, the MJHMP planning process included organizing resources, assessing risks, developing the mitigation action strategy, drafting the plan, reviewing and revising the plan, and adopting and submitting the plan.

2.1 ORGANIZING RESOURCES

One of the first steps in the planning process involved organization of resources, including identifying the Project Management Team, and convening the Steering Committee and performing document review.

2.1.1 PROJECT MANAGEMENT TEAM

The Project Management Team was responsible for the day-to-day coordination of the MJHMP work program, including forming and assembling the Steering Committee; scheduling Steering Committee meetings; preparing, reviewing, and disseminating Steering Committee meeting materials; coordinating, scheduling, and participating in community engagement activities and meetings; and coordinating document review. The Project Management Team included a representative from the City's Public Works Department and a representative from the CCUSD Business Services Department, both of whom also participated on the Steering Committee.

The Project Management Team worked directly with the MJHMP Consultant Project Management Team throughout development of the MJHMP. The Consultant Team, consisting of a variety of hazard mitigation/planning professionals, provided guidance and support to the City and CCUSD through facilitation of the planning process, data collection, community engagement, and meeting material and document development.

2.1.2 MJHMP STEERING COMMITTEE

In addition to City and CCUSD staff, an invitation via e-mail was sent to neighboring jurisdictions, the County of Los Angeles, and other agencies advising them of the City's and CCUSD's efforts to prepare a MJHMP and requesting their involvement in preparation of the plan, including an invitation to attend the MJHMP Steering Committee meetings. The City and CCUSD received responses from some agencies expressing interest in participating directly on the Steering Committee and others indicating their inability to participate but willingness to provide information. A copy of the correspondence is included in Appendix B.

The MJHMP Steering Committee consisted of staff members from the City and CCUSD, as well as representatives from other agencies. Members of the Steering Committee represented the following City/CCUSD departments and agencies:

City of Culver City
- City Attorney
- Community Development
- Public Works
- Fire
- Information Technology
- Parks, Recreation & Community Services
- Police
- Transportation

Culver City Unified School District
- Business Services

American Red Cross
- Disaster Preparedness

City of West Hollywood
- Public Safety

City of Santa Monica
- Office of Emergency Services

The MJHMP Steering Committee worked together to ensure the success of the planning process and is responsible for its implementation and future maintenance. The committee's key responsibilities included:

- Participation in Steering Committee meetings
- Collection of valuable local information and other requested data
- Decision on plan process and content
- Development and prioritization of mitigation actions for the MJHMP
- Review and comment on plan drafts
- Coordination and involvement in the public engagement process

Table 2-2, *MJHMP Steering Committee*, identifies the Steering Committee members and their roles in the MJHMP.

Table 2-2
MJHMP Steering Committee

Name	Title/Role	Organization	Steering Committee Role
Joe Susca	Senior Management Analyst/Culver City Project Manager	Culver City Public Works Department	Project Manager – Organization of Steering Committee and meetings, development of and participation in community outreach, hazard identification, capabilities assessment, mitigation actions and prioritization, plan coordination and review.
Mike Reynolds	Assistant Superintendent/CCUSD Project Manager	CCUSD	CCUSD Project Manager/Steering Committee Representative – Organization of Steering Committee and meetings, development of and participation in community outreach, hazard identification, capabilities assessment, mitigation actions and prioritization, plan coordination and review.
Christine Parra	Emergency Preparedness Coordinator	Culver City Fire Department	Outreach to potential Steering Committee members, participation in community outreach, hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.

Table 2-2 [continued]
MJHMP Steering Committee

Name	Title	Organization	Steering Committee Role
Tevis Barnes	Housing Administrator	Culver City Community Development Department	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Angelina Garcia	Assistant Chief Financial Officer	Culver City Finance Department	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Heidi Hattrup	Lieutenant	Culver City Police Department	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Aubrey Kellum	Lieutenant	Culver City Police Department	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Bill Browne	Lieutenant	Culver City Police Department	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Craig Johnson	Building Official	Culver City Community Development Department	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Jane Leonard	Senior Management Analyst	Culver City – Transportation Department	Participation in community outreach, hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Sean Kearney	Director of Fiscal Services	CCUSD	Represent CCUSD in absence of project manager, hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
David Leuck	Technical Services Manager	Culver City Information Technology	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Johnnie Griffing	Geographic Information Systems, Project Manager	Culver City Information Technology Department	Hazard identification, hazard mapping, capabilities assessment, mitigation actions and prioritization, plan review.
Jose Mendivil	Associate Planner	Culver City Community Development Department	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Charles Herbertson	Public Works Director/City Engineer	Culver City Public Works Department	Participation in community outreach, hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Patricia Mooney	Senior Management Analyst	Culver City Parks, Recreation & Community Services	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Diego Cevallos	Aquatics Coordinator	Culver City Parks, Recreation & Community Services	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.

Table 2-2 [continued]
MJHMP Steering Committee

Name	Title/Role	Organization	Steering Committee Role
Lisa Vidra	Senior Deputy City Attorney	Culver City-City Attorney's Office	Participation in community outreach, hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Jeanne Woo	Disaster Program Manager	American Red Cross	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Melissa Wilson	Disaster Preparedness Specialist	American Red Cross	Hazard identification, capabilities assessment, mitigation actions and prioritization, plan review.
Shirley Berry	Emergency Management Coordinator	City of West Hollywood	Overview and perspective of the plan preparation process and review, and information relevant to the surrounding area
Paul Weinberg	Emergency Services Administrator	City of Santa Monica Office of Emergency Services	Overview and perspective of the plan preparation process and review, and information relevant to the surrounding area.

The MJHMP Steering Committee held six meetings (a kickoff meeting, four MJHMP Steering Committee meetings, and a joint meeting with the Culver City/CCUSD Liaison Committee). Table 2-3, *Steering Committee Meeting Summary*, provides a summary of the meetings. Meeting materials, including PowerPoint presentations, sign-in sheets, agendas, notes, and other relevant handouts, are provided in Appendix B.

Table 2-3
Steering Committee Meeting Summary

Date	Meeting	Discussion Items
June 2, 2015	Kickoff (Steering Committee)	• Introductions • Preliminary Discussion of Community Engagement Strategy • Information Needs and Resources • Grant Requirement • Steering Committee Meeting Schedule • Overall Schedule
July 9, 2015	Steering Committee Meeting #1	• Purpose & Requirements of the MJHMP • Hazard Profiles • Review and Identification of Critical Facilities • Public Involvement Strategy
August 13, 2015	Steering Committee Meeting #2	• Summary of Hazard Profiles • Risk Assessment Methodology • Problem Statement Exercise • Public Involvement Update • Action Items
September 17, 2015	Steering Committee Meeting #3	• Risk Assessment/Vulnerability Overview • Capabilities Assessment • Mitigation Goals • Community Workshop
November 23, 2015	Steering Committee Meeting #4	• Risk Assessment/Vulnerability Overview including mapping of the Critical Facilities • Discussion of Community Survey Results • Discussion on Types and Examples of Mitigation • Discussion and Identification of Mitigation Actions
January 12, 2016	Joint Meeting of Culver City/CCUSD Liaison Committee and Steering Committee	• Discussion of Community Survey Summary Report • Review and Discussion of Mitigation Measures

2.1.3 CCUSD PLANNING TEAM

CCUSD was represented on the Steering Committee by the district's Assistant Superintendent of Business Services, who also serves as the CCUSD's MJHMP project manager. As representative for CCUSD, the project manager would regularly meet with the internal CCUSD Planning Team to obtain input and information for purposes of developing the MJHMP and provide feedback and direction received during the Steering Committee meetings. Table 2-4, *CCUSD Planning Team*, identifies the participants and their roles on the team.

Table 2-4
CCUSD Planning Team

Name	Title	Planning Team Role
Mike Reynolds	Assistant Superintendent, Business Services	CCUSD MJHMP Project Manager/Steering Committee Representative – Organization of Steering Committee and meetings, development of and participation in community outreach, hazard identification, capabilities assessment, mitigation actions and prioritization, and plan coordination and review. Relay information between Steering Committee and CCUSD Planning Team to obtain necessary information and feedback.
Sean Kearney	Director of Fiscal Services	Represent CCUSD at Steering Committee meetings in absence of project manager, assist with hazard identification, capabilities assessment, mitigation actions and prioritization, and plan review.
David LaRose	Superintendent	Review of information provided at Steering Committee Meetings for further discussion and input as it directly pertains to CCUSD. Provide input and feedback to CCUSD MJHMP Project Manager and Steering Committee Representative to take back to Steering Committee regarding community outreach, hazards profiles, critical facilities, risk assessment, and mitigation actions.
Kati Krumpe	Assistant Superintendent, Educational Services	Review of information provided at Steering Committee Meetings for further discussion and input as it directly pertains to CCUSD. Provide input and feedback to CCUSD MJHMP Project Manager and Steering Committee Representative to take back to Steering Committee regarding community outreach, hazards profiles, critical facilities, risk assessment, and mitigation actions.
Leslie Lockhart	Assistant Superintendent, Human Resources	Review of information provided at Steering Committee Meetings for further discussion and input as it directly pertains to CCUSD. Provide input and feedback to CCUSD MJHMP Project Manager and Steering Committee Representative to take back to Steering Committee regarding community outreach, hazards profiles, critical facilities, risk assessment, and mitigation actions.
Discussions specific to the MJHMP occurred at regularly scheduled CCUSD Cabinet Meetings.		

2.1.4 PUBLIC OUTREACH

A public outreach and engagement strategy was developed in order to maximize public involvement in the MJHMP planning process. The MJHMP public outreach strategy included a dedicated webpage, community survey, participation at the City's Fiesta La Ballona, a community workshop/learning event, presentation at a CCUSD Board meeting and a City Council meeting, CCUSD *Culver Currents* newsletter, Wave newspaper, postcard distribution, e-mail distribution, and Nixle notifications, as described below; refer to Appendix B.


CULVER CITY AND THE CULVER CITY UNIFIED SCHOOL DISTRICT
MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

WEBPAGE

A dedicated webpage was developed on the City's website for the MJHMP with a link to it available from the CCUSD website. The webpage provided information on the MJHMP and how the public can be involved in the planning process, and included a timeline with key milestones such as Steering Committee meetings, community events, and document preparation and review. Visitors to the webpage were able to sign-up for e-mail notifications and submit an e-mail with any comments or questions. A link to complete the community survey (discussed below) and a summary of the survey results were posted. The website was updated throughout the planning process and provided notifications and access to materials from the community workshop, City Council meeting, and CCUSD Board meeting. The draft MJHMP was also made available for review.

COMMUNITY SURVEY

A community survey was developed to obtain input from the community about various hazard mitigation topics. In addition to basic demographic information, the survey asked residents to identify specific safety concerns, including identifying what hazards they felt were most likely to impact their neighborhoods or property. Residents were also asked what actions they had taken to be more resistant to hazards, and how much money they would be willing to spend to protect their property from natural hazards. Additionally, the survey assessed community beliefs on developing hazard mitigation programs and strategies and what actions or incentives the community would like from the City/CCUSD or other agencies that would reduce damage and disruption from disaster or emergency events.

The survey was made available for completion on the MJHMP webpage and at the community workshop. A link to the survey was also distributed as part of a "Save the Date" e-mail notification and postcard advertising the community workshop. The e-mail was distributed to everyone who requested e-mail notifications specific to the MJHMP and to the City's existing e-mail distribution lists. The postcard was distributed at the Fiesta La Ballona and made available at City and CCUSD facilities. Eighty-one surveys were completed.

FIESTA LA BALLONA

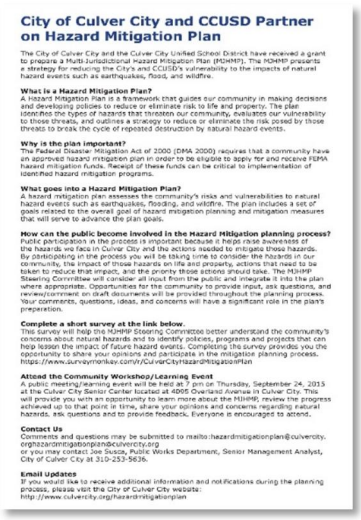
As part of the Fiesta La Ballona celebration held from August 28 to August 30, 2015, the City sponsored a booth to publicize and promote participation in various City programs, including development of the MJHMP. City and consultant staff distributed a "Save the Date" postcard at the booth that included a link to complete the community survey along with an invitation to attend an upcoming MJHMP community workshop. Visitors to the booth were invited to sign-up for e-mail updates for future events and information and were encouraged to ask questions or provide comments.

COMMUNITY WORKSHOP/LEARNING EVENT

A community workshop/learning event was held on September 24, 2015, at the Culver City Senior Center to discuss the MJHMP and to understand the community's perspective and personal experience with natural and man-made hazards that affect the City and CCUSD. A hybrid approach to the workshop was conducted with a formal presentation at the beginning informing the community about the MJHMP, the importance of their involvement, and the work program and schedule. The second part of the workshop involved an open house, providing attendees the opportunity to communicate safety issues of concern and provide recommendations on how the community could be made safer. In addition, hazard profile information and mapping was made available for attendees to provide input and ask questions. The community survey was also made available for completion by those in attendance.

CCUSD BOARD AND CITY COUNCIL MEETINGS

An overview of the preparation of the MJHMP was provided to the CCUSD Board and City Council as part of their regularly scheduled meetings on October 27, 2015, and November 9, 2015, respectively. The presentation included a description of the components that constitute the MJHMP, a description of its planning process, a list of the natural hazards that face the City and CCUSD, and examples of mitigation actions that may be taken to minimize the hazards' impacts. Opportunity for comments and questions from the public, the Board members, and City Council members was provided. No public comments were received. The City Council requested the MJHMP be included as a topic of discussion at the next meeting of the Culver City/CCUSD Liaison Committee (refer to Table 2-3 for information on the joint meeting).



City of Culver City and CCUSD Partner on Hazard Mitigation Plan

The City of Culver City and the Culver City Unified School District have received a grant to prepare a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). The MJHMP presents a strategy for reducing the City's and CCUSD's vulnerability to the impacts of natural hazard events such as earthquakes, flood, and wildfire.

What is a Hazard Mitigation Plan?
A Hazard Mitigation Plan is a framework that guides our community in making decisions and developing policies to reduce or eliminate risk to life and property. The plan identifies the types of hazards that threaten our community, evaluates our vulnerability to those threats, and outlines a strategy to reduce or eliminate the risk posed by those threats to break the cycle of repeated destruction by natural hazard events.

Why is the plan important?
The Federal Disaster Mitigation Act of 2000 (DMA 2000) requires that a community have an approved hazard mitigation plan in order to be eligible to apply for and receive FEMA hazard mitigation funds. Receipt of these funds can be critical to implementation of identified hazard mitigation programs.

What goes into a Hazard Mitigation Plan?
A hazard mitigation plan assesses the community's risks and vulnerabilities to natural hazard events such as earthquakes, flooding, and wildfire. The plan includes a set of goals related to the overall goal of hazard mitigation planning and mitigation measures that will serve to advance the plan goals.

How can the public become involved in the Hazard Mitigation planning process?
Public participation in the process is important because it helps raise awareness of the hazards we face in Culver City and the actions needed to mitigate those hazards. By participating in the process you will be taking time to consider the hazards in our community, the impact of those hazards on life and property, actions that need to be taken to reduce that impact, and the priority those actions should take. The MJHMP Steering Committee will consider all input from the public and integrate it into the plan where appropriate. Opportunities for the community to provide input, ask questions, and review/comment on draft documents will be provided throughout the planning process. Your comments, questions, ideas, and concerns will have a significant role in the plan's preparation.

Complete a short survey at the link below.
This survey will help the MJHMP Steering Committee better understand the community's concerns about natural hazards and to identify policies, programs and projects that can help lessen the impact of future hazard events. Completing the survey provides you the opportunity to share your opinions and participate in the mitigation planning process. https://www.surveymonkey.com/r/CulverCityHazardMitigationPlan

Attend the Community Workshop/Learning Event
A public meeting/learning event will be held at 7 pm on Thursday, September 24, 2015 at the Culver City Senior Center located at 4095 Overland Avenue in Culver City. This will provide you with an opportunity to learn more about the MJHMP, review the progress achieved up to that point in time, share your opinions and concerns regarding natural hazards, ask questions and to provide feedback. Everyone is encouraged to attend.

Contact Us
Comments and questions may be submitted to mailto:hazardmitigationplan@culvercity.orghazardmitigationplan@culvercity.org or you may contact Joe Susca, Public Works Department, Senior Management Analyst, City of Culver City at 310-253-5636.

Email Updates
If you would like to receive additional information and notifications during the planning process, please visit the City of Culver City website: http://www.culvercity.org/hazardmitigationplan

CCUSD *CULVER CURRENTS*

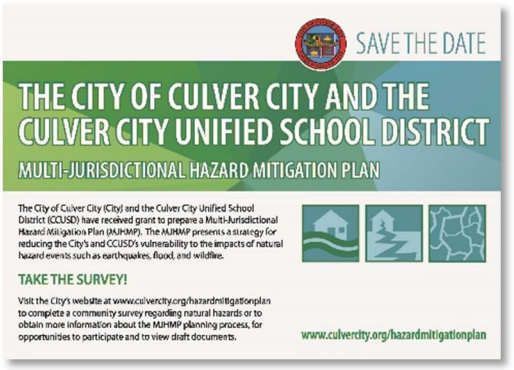
Information regarding CCUSD and the City partnering to develop a MJHMP was provided in the September 2015 *Culver Currents*, a monthly newsletter distributed by the CCUSD to approximately 3,500 people. The article provided an overview of the MJHMP, including its contents and why it is important. Information on how the public can be involved in the planning process was also provided along with a link to the community survey, the date and time of the community workshop/learning event, an e-mail address to send any comments or questions, and the link to sign up for future e-mail notifications regarding the MJHMP.

LOS ANGELES WAVE

The Los Angeles Wave is a community newspaper in Los Angeles that extends its reach north to the Hollywood Hills, south to Carson, east to Whittier and west to Culver City. It is accessed by approximately 1.2 million people each week. An article was posted in the September 18, 2015 edition of the Wave regarding the MJHMP and advertising the community workshop/learning event to be held on September 24, 2015.

E-MAIL AND NIXLE NOTIFICATIONS AND SOCIAL MEDIA

The City maintains an e-mail distribution list that allows subscribers to indicate preferences on the topics they are interested in and would like to receive e-mail notifications about. Approximately 2,813 subscribers from the "Public Notifications", "Public Safety Events", and "Volunteering in Culver City" lists were sent an e-mail notification regarding the MJHMP, which included a link to the webpage, the community survey, and information about the upcoming community workshop/learning event. This same information was posted on the City's Facebook page and Twitter.



In addition, the City uses Nixle to provide subscribers with public safety notifications and information. Approximately 1,250 Nixle subscribers were notified of the MJHMP. The e-mail notification included a link to the community survey and a "Save the Date" notice for the upcoming community workshop/learning event. A link to the MJHMP website and a dedicated e-mail address to submit comments or ask questions was also provided.

E-mail and Nixle subscribers were also notified of the availability of the draft MJHMP for review.

PUBLIC REVIEW DRAFT MJHMP – April 14, 2016 – May 13, 2016

The public review draft MJHMP was made available to the public for review and comment for a 30-day period beginning April 14, 2016 and concluding on May 13, 2016. The draft MJHMP was made available on the MJHMP webpage, at the City's Public Works, Community Development and Fire Department front counters, and at the CCUSD offices. Information was provided on how to submit comments or ask questions regarding the draft MJHMP.

2.1.5 REVIEW AND INCORPORATE EXISTING INFORMATION

The MJHMP Steering Committee reviewed and assessed existing plans, studies, and data available from local, state, and federal sources. Documents reviewed and incorporated as part of the MJHMP planning process are listed in Table 2-5, *Existing Plans, Studies, Reports, and Other Technical Data/Information*. A complete list of references is included in Section 7.0, *References*.

2.2 ASSESS RISKS

In accordance with FEMA requirements, the MJHMP Steering Committee identified and prioritized the natural hazards affecting Culver City and CCUSD and assessed the community's associated vulnerability from those hazards. Results from this phase of the MJHMP planning process aided subsequent identification of appropriate mitigation actions to reduce risk from these hazards; refer to Section 5.0, *Mitigation Actions*.

2.2.1 IDENTIFY/PROFILE HAZARDS

Based on a review of past hazards, as well as a review of existing plans, reports, and other technical studies, data, and information, the MJHMP Steering Committee determined if specific hazards were valid and identified other hazards that could affect the City and CCUSD. Content for each hazard profile is provided in Section 4.0, *Hazards Assessment*.

2.2.2 ASSESS VULNERABILITIES

Hazard profiling exposes the unique characteristics of individual hazards and begins the process of determining which areas within the City are vulnerable to specific hazard events. The vulnerability assessment included input from the MJHMP Steering Committee and a GIS overlaying method for hazard risk assessments. Using these methodologies, populations and infrastructure impacted by natural hazards were identified and potential loss estimates were determined. Detailed information on the vulnerability assessments for each hazard is provided in Section 4.0.

Table 2-5
Existing Plans, Studies, Reports, and Other Technical Data/Information

Existing Plans, Studies, Reports, and Other Technical Data/Information	Planning Process / Area of Document Inclusion
US Geological Survey	Hazard Profiles
State of California Multi-Hazard Mitigation Plan (2013)	Hazard Profiles
California Drought Contingency Plan	Drought Hazard Profile and Drought Mitigation Plan Development
California Drought Report 2010	Drought Hazard Profile and Drought Mitigation Plan Development
Culver City 2010 Urban Water Management Plan (August 2011)	Capabilities Assessment
The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2)	Earthquake Hazard Profile Development
California Geological Survey	Earthquake Hazard Profile Development
Southern California Earthquake Data Center	Earthquake and Geologic Hazard Profile Development
California Department of Conservation Seismic Hazard Zone Report	Earthquake and Geologic Hazard Profile Development
California Natural Resources Agency, California Climate Adaptation Planning Guide	Earthquake and Geologic Hazard Profile Development
FEMA Hazard Mitigation How-to Guides	2012 Hazard Mitigation Plan Development, Start to Finish
Los Angeles County All-Hazard Mitigation Plan (2014)	Hazard Profiles
Los Angeles County Emergency Response Plan (2012)	Hazard Profiles
Culver City Natural Hazard Mitigation Plan (September 13, 2004)	Hazard Profiles
Existing Zoning Ordinances	Mitigation Strategy
FEMA Disaster Declarations	Wildfire Hazard Profile
FEMA E-74 Reducing the Risks of Nonstructural Earthquake Damage – A Practical Guide	Earthquake Mitigation Strategy
FEMA Rapid Visual Screening of Buildings for Potential Seismic Hazards (2002)	Hazard Profiles Earthquake Mitigation Strategy
FEMA Local Mitigation Planning Handbook	Local Plan Integration Methods
FEMA Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)	Mitigation Strategy Development
NOAA Record Storm Events	Death and Injuries Report for past disaster declarations
NOAA Storm Prediction Center	Severe Weather Profile
Culver City General Plan	Local Plan Integration Existing/Planned Land Uses
Culver City Municipal Code (October 2005)	Hazard Profiles
California Department of Water Resources	Drought Hazard Profile
National Integrated Drought Information System (NIDIS)	Drought Hazard Profile
Cal-Adapt	Hazard Profiles
California Department of Forestry and Fire Protection (CalFire)	Wildfire Hazard Profile
EPA Climate Change Indicators in the United States	Wildfire Hazard Profile
Ballona Creek Watershed Management Plan (September 2004)	Flood Hazard Profile
Climate Change, Atmospheric Rivers, and Floods in California – A Multimodel Analysis of Storm Frequency and Magnitude Changes (*Journal of the American Water Resources Association,* June 2011)	Hazard Profiles
City of Santa Monica Hazard Mitigation Plan (April 25, 2013)	Hazard Profiles

2.3 DEVELOP MITIGATION PLAN

The MJHMP was prepared in accordance with DMA 2000 and FEMA's HMP guidance documents. This plan provides an explicit strategy and blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and the City and CCUSD's ability to expand on and improve these existing tools. Developing the mitigation plan involved identifying goals, assessing existing capabilities, and identifying mitigation actions. This step of the MJHMP planning process is detailed in Section 5.0 and summarized below.

2.3.1 IDENTIFY GOALS

The MJHMP Steering Committee reviewed the hazards profiles and vulnerability assessments, and developed goals and objectives for the MJHMP based on current information. The Mitigation Goals are presented in Section 1.4.

2.3.2 DEVELOP CAPABILITIES ASSESSMENT

A capabilities assessment is a comprehensive review of all the various mitigation capabilities and tools currently available to the City and CCUSD to implement the mitigation actions that are prescribed in the MJHMP. The MJHMP Steering Committee identified the technical, financial, and administrative capabilities to implement mitigation actions, as detailed in Section 5.3, *Capabilities Assessment*.

2.3.3 IDENTIFY MITIGATION ACTIONS

As part of the MJHMP planning process, the MJHMP Steering Committee worked to identify and develop mitigation actions, after which mitigation actions were prioritized as high, medium, or low. A detailed discussion of the identification and prioritization of mitigation actions, and the creation of the implementation strategy is provided in Section 5.0.

2.3.4 PLAN REVIEW AND REVISION

Once the draft MJHMP was completed, a public review period was provided from April 14, 2016 to May 13, 2016 to allow public review and comments. Comments received on the draft MJHMP were reviewed and the MJHMP was revised, as appropriate.

2.3.5 PLAN ADOPTION AND SUBMITTAL

NOTE: The following is a placeholder. This section will be completed after approval by Cal OES and FEMA.
This plan has been submitted and approved by FEMA and adopted by the City Council and the CCUSD Board as the official statement of their hazards. Copies of the resolutions are provided in Appendix A.

2.3.6 PLAN MAINTENANCE

Plan maintenance procedures, found in Section 6.0, include the measures the City and CCUSD will take to ensure the MJHMP's continuous long-term implementation. The procedures also include the manner in which the MJHMP will be regularly monitored, reported upon, evaluated, and updated to remain a current and meaningful planning document.

SECTION 3.0: COMMUNITY PROFILE

3.1 PHYSICAL SETTING

The City is located in the western portion of Los Angeles County, approximately 2.7 miles east of the Pacific Ocean; refer to Exhibit 3-1, *Regional Location*. The City is surrounded by the Los Angeles communities of Mar Vista and Palms to the north, Westchester to the south, Mid-City and West Adams to the east, Baldwin Hills and Ladera Heights to the southeast, and Venice, Playa Del Ray, and Marina Del Rey to the west; refer to Exhibit 3-2, *Local Vicinity*. Los Angeles International Airport is located approximately five miles south of the City. Regional access to the City is provided by the San Diego (I-405), Santa Monica (I-10) and Marina (CA-90) freeways. Ballona Creek extends through the City in a northeast to southwest direction.

CCUSD facilities are located entirely within the City. However, CCUSD serves students in the City and in unincorporated Los Angeles County; refer to Exhibit 3-3, *CCUSD Boundary*.

3.2 HISTORY

In 1865, La Ballona School opened, serving the area which became Culver City. Culver City was founded by Harry H. Culver, who planned to create an economically diverse and balanced community. He started plans for the city in 1913, which became an incorporated entity in 1917. He established the City in a temperate zone, along a transportation route, alongside railroad tracks, halfway between the growing pueblo of Los Angeles and Abbot Kinney's resort of Venice. Culver City began to develop itself as a 1.2 square mile area around a Main Street. The City's own Fire and Police Departments were established. In 1920, the name of the school district was changed from the Palms School District to the Culver School District. Culver CityBus became the first municipal transit agency in the state of California in 1928. The entertainment production studios formed the City's early economic base and remain an important component of the City's economy. Industry came in the form of Western Stove in 1922, then the Helms Bakeries in 1930, and the Hayden Industrial Tract was established in the 1940s. Prohibition spawned a plethora of night spots and bootlegging in the 1920s and 1930s, with World War II stalling growth in the 1940s. Car dealerships replaced the night spots on Washington Boulevard in the 1950s.

Over the years, more than 40 annexations increased the City's size to about five square miles. Culver City transitioned from a general law city to a charter city in 1947. In addition to City government, schools became a part of the community, and in 1949, the Culver City Unified School District (CCUSD) was established. In 1953, Culver City High School had its first graduating class. The five-member Board of Education governs the City's public schools just as the five member elected City Council governs the City through a Council / City Manager form of government. By the year 2000, the City had quadrupled in size and become a community of nearly 40,000 residents.

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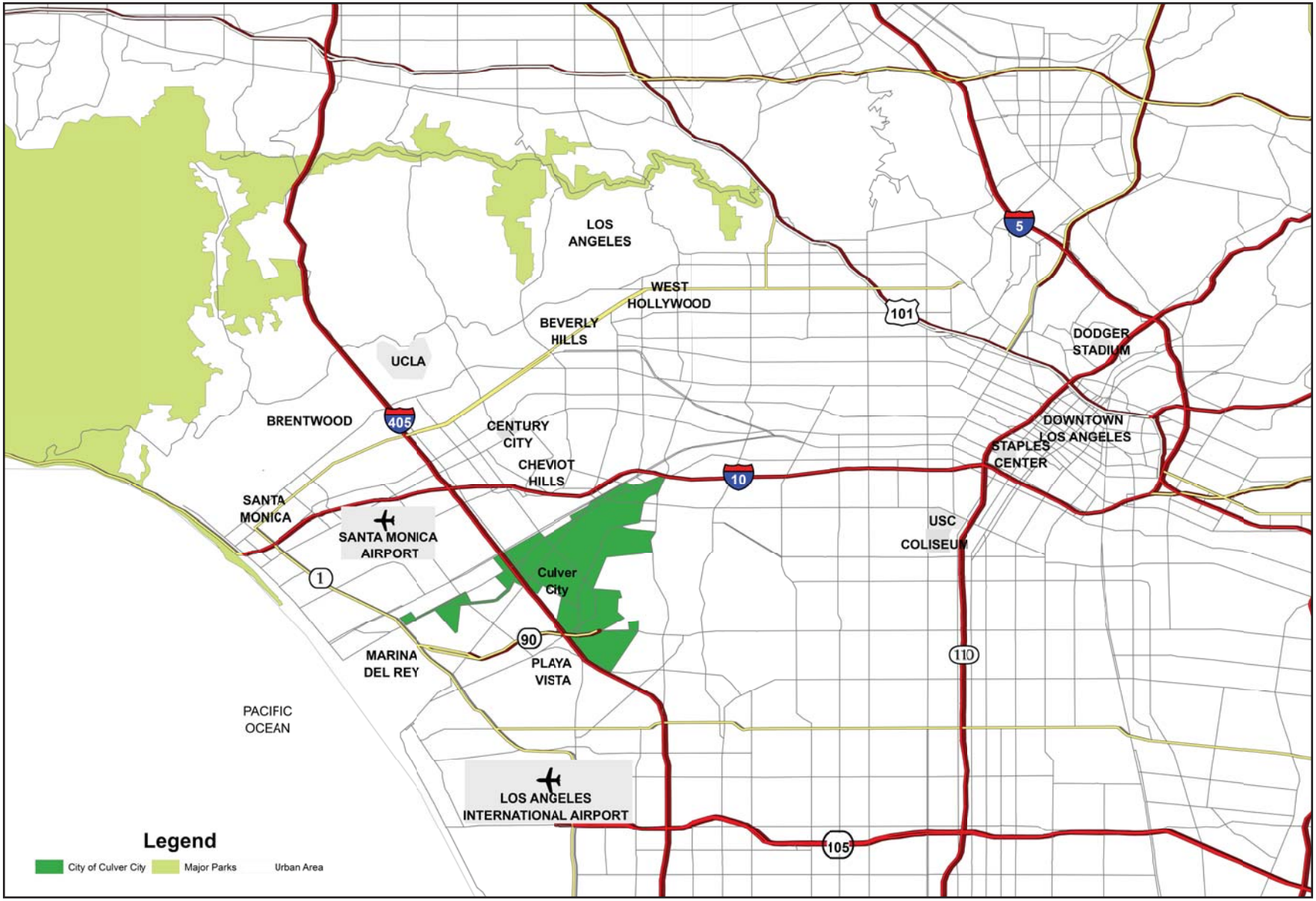
MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Regional Location

Exhibit 3-1



Source: City of Culver City, Information Technology Department, GIS; January 31, 2007.

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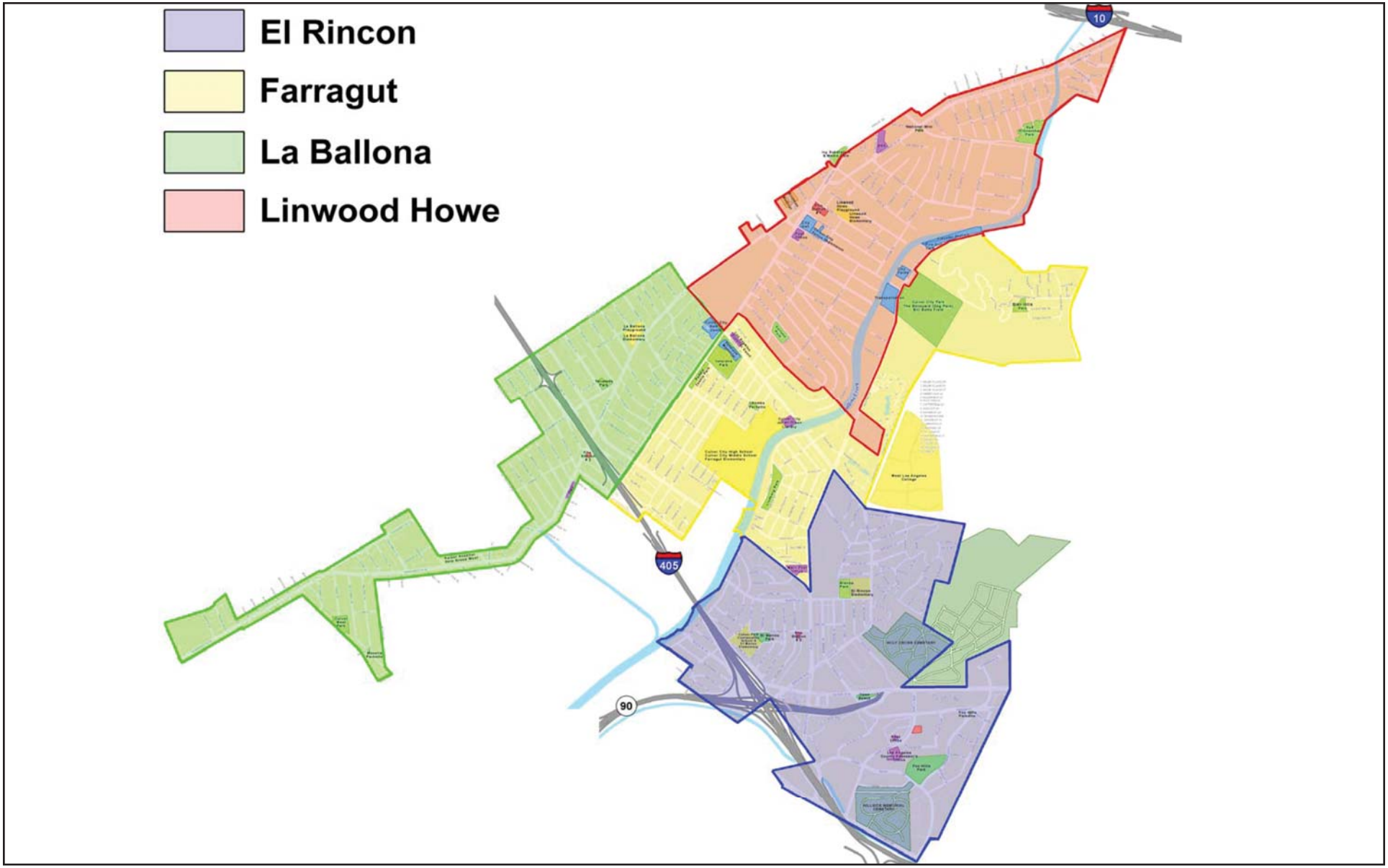
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Local Vicinity

Exhibit 3-2



Source: Culver City Unified School District, April 2016.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

CCUSD Boundary

Exhibit 3-3

3.3 SOCIOECONOMIC FACTORS

Population, education, employment, and housing factors of the City are described in this section. It should be noted that CCUSD facilities are located within the City limits. Thus, socioeconomic data is primarily provided for the entire city. However, where data is available specific to CCUSD, this information is also provided.

3.3.1 CULVER CITY POPULATION

Based on the 2009–2013 U.S. Census American Community Survey (ACS), Culver City's 2013 population was 39,105. Table 3-1, *Culver City Population Data*, provides an overview of the City's population data.

Table 3-1
Culver City Population Data

Category	Population
Total Population	39,105
Males	18,591
Females	20,514
Median Resident Age	40.6
Median Household Income	$77,333
Median House Value	$609,600

Sources: U.S. Census 2009–2013 5-Year American Community Survey, *DP05 Demographic and Housing Estimates,* 2013; U.S. Census 2009–2013 5-Year American Community Survey, *S2503 Financial Characteristics,* 2013.

In 2013, the median age of City residents was 40.6, compared to the median age of 35.4 for residents of California as a whole. Approximately 21.2 percent of the population is below the age of 20, approximately 37.0 percent of the population is between the ages of 20 and 44, and approximately 42.0 percent of the population is above the age of 45.

The largest ethnic group in the City is the non-Hispanic White population, which accounts for 48.8 percent of the City's total population. The City's ethnic makeup consists of White at 48.8 percent, Asian at 14.1 percent, Black or African American at 9.7 percent, American Indian and Alaskan Native at 0.1 percent, and Native Hawaiian and Other Pacific Islander at 0.1 percent.

Hispanic or Latino persons of any race constitute 23 percent of the City's residents; refer to Table 3-2, *Culver City Ethnicity*. Persons identifying as "Other race" account for 0.5 percent of the population, while those reporting two or more races make up 5.0 percent of the City's population.

Table 3-2
Culver City Ethnicity

Ethnicity	Number	Percentage of Population
White (non-Hispanic)	19,068	48.8
Asian	5,498	14.1
Black	3,778	9.7
American Indian and Alaskan Native	56	0.1
Native Hawaiian and Other Pacific Islander	42	0.1
Other Race	177	0.5
Two or More Races	1,499	3.8
Hispanic or Latino (of any race)	8,987	23.0

Source: U.S. Census 2009-2013 5-Year American Community Survey, *DP05 Demographic and Housing Estimates,* 2013.

3.3.2 CULVER CITY EDUCATIONAL ATTAINMENT

Based on the 2009–2013 U.S. Census ACS, 28,958 persons in the City were 25 years of age or older. Of that population (25 years and older), 20.8 percent attained a graduate degree or professional degree, 29.8 percent attained a bachelor's degree, 7.4 percent attained an associate degree, 12.3 percent attained a high school diploma, and 7.4 percent did not graduate from high school; refer to Table 3-3, *Culver City Educational Attainment*.

Table 3-3
Culver City Educational Attainment

Education Attainment (Age 25 and Over)	Number	Percentage of Population
Less than 9th Grade	927	3.2
9th to 12th Grade	1,216	4.2
High School Graduate	3,562	12.3
Some College, No Degree	6,429	22.2
Associates Degree	2,143	7.4
Bachelor Degree	8,629	29.8
Graduate or Professional Degree	6,023	20.8

Source: U.S. Census 2009-2013 5-Year American Community Survey, *S1501 Educational Attainment,* 2013.

3.3.3 CULVER CITY EMPLOYMENT

According to the 2009–2013 U.S. Census ACS, the City had 32,148 residents over 16 years of age as of 2013, of which 22,636 were in the labor force. Out of the 22,636 people in the labor force, 20,705 (64.4 percent) were employed and 1,931 (6.0 percent) were unemployed. The educational services and healthcare/social services sector employed the largest number of City residents (25.2 percent), followed by professional scientific, management, and administrative and waste management services (19.3 percent) and arts, entertainment, and recreation industry (9.5 percent). The median household income in the City was $77,333. Most residents worked in other communities, as only 10.4 percent were employed within the City itself. The communities that employed the largest number of Culver City residents in 2013 were Los Angeles (44.2 percent), Santa Monica (7.2 percent), and Burbank (5.0 percent). Similarly, only 3.0 percent of the jobs in the City were held by City residents; most jobs in the City were held by residents of other communities, predominantly Los Angeles.

3.3.4 HOUSING

In 2013, there were 17,424 housing units in the City. Of the total housing units, 16,605 were occupied and 819 vacant. The majority of housing units in the City were single-unit detached homes (39.1 percent). The second most prevalent type were multi-unit homes of 20 or more units (23.9 percent), followed by multi-unit homes of 3 or 4 units (10 percent), single-unit attached homes (9.1 percent), and multi-unit homes of 5 to 9 units (8.6 percent). Of the 16,605 occupied housing units, slightly more than half were owner-occupied (55 percent), while the remaining 45 percent were renter-occupied units. The homeowner vacancy rate was 0.9 percent and the rental vacancy rate was 3.8 percent. Approximately 87 percent of housing units in the City were constructed prior to 1980 and therefore are more susceptible to deterioration.

According to the 2009–2013 U.S. Census ACS, the average household size in the City was 2.42 persons per household as of 2013. An overcrowded housing unit is defined as a unit occupied by more than one person per room. Less than four percent of the City's households resided in overcrowded conditions, with the majority of housing units having one occupant or less per room (96.2 percent). Of the housing stock, the majority of owner-occupied units were valued at $500,000–$999,999 (58.1 percent), followed by those valued at $300,000–$499,999 (22.5 percent), $1,000,000 and above (7.6 percent), and $200,000–$299,999 (6.9 percent). The remaining housing units had values below $200,000 (4.9 percent).

3.3.5 CULVER CITY UNIFIED SCHOOL DISTRICT

CCUSD serves approximately 6,500 students in 11 schools; refer to Table 3-4, *Culver City Unified School District Schools*. The district consists of five K–5 elementary schools, one middle school, and one high school. It also includes an alternative high school, an independent study school, an adult school, and a preschool program. In addition to school facilities, CCUSD owns several other buildings, including the District Office and maintenance facilities.

Table 3-5, *Culver City Unified School District Ethnicity*, provides ethnicity information for CCUSD students and Table 3-6, *Culver City Unified School District Languages*, identifies languages spoken by families within the District.

Table 3-4
Culver City Unified School District Schools

School	Address	Grades	Enrollment
Office of Child Development	10800 Farragut Drive	Preschool and K–5[1]	292
El Marino Language School	11450 Port Road	K–5	826
El Rincon Elementary	11177 Overland Avenue	K–5	538
La Ballona Elementary	10915 Washington Boulevard	K–5	571
Linwood E. Howe Elementary	4100 Irving Place	K–5	528
Farragut Elementary	10820 Farragut Drive	K–5	569
Culver City Middle School	4601 Elenda Street	6–8	1,564
Culver City High School	4401 Elenda Street	9–12	2,110
Culver Park Continuation High School	5303 Berryman Avenue	10–12	34
Adult School	4909 Overland Avenue	Adult	30

Notes: 1. The Preschool program offers full and part day curriculum for children 3–4 years old. The School Age Before and After School Enrichment programs are offered to grades K–5 for before-and-after school care and for non-school days, winter break, spring break, and some holidays.

Source: Culver City Unified School District, District Website, http://www.ccusd.org/, accessed August 14, 2015.

Table 3-5
Culver City Unified School District Ethnicity

Ethnicity	Percentage of Student Population
American Indian	1
Asian	12
Black	18
Filipino	2
Hispanic	36
Pacific Islander	1
White	25
Two or More Races	6

Source: *Culver City Unified School District Facilities Master Plan*, revised January 10, 2014.

Table 3-6
Culver City Unified School District Languages

Language	Percentage of Families
Arabic	1
English	67
Japanese	4
Mandarin (Putonghua)	1
Spanish	20
Urdu	1
Other	6

Source: *Culver City Unified School District Facilities Master Plan*, revised January 10, 2014.

3.4 EXISTING LAND USE

Existing land use information was obtained from the *Culver City General Plan Land Use Element* and the Culver City Zoning Map. Exhibit 3-4, *General Plan Land Use Element Map*, presents the Land Use Map, which divides the City into residential, commercial, industrial, focused special study areas, and other land use designations. Table 3-7, *Land Use Designations*, identifies the General Plan land use designations and descriptions of the typical uses allowed in each designation.

The City has 15 distinct neighborhoods including: Carlson Park, Blair Hills, Blanco/Culver Crest, Clarkdale, Culver/West, Downtown, Fox Hills, Jefferson, Lucerne/Higuera, McLaughlin, McManus, Park East, Park West, Studio Village, Sunkist Park, and Washington Culver; refer to Exhibit 3-5, *Culver City Neighborhoods*.

3.5 CULVER CITY DEVELOPMENT TRENDS AND FUTURE DEVELOPMENT

As of April 2015, there are 55 development projects underway in the City.[1] The Culver City Community Development Department, Economic Development Division is partnering with multiple developers to bring a number of economic development projects to the City; refer to Table 3-8, *Economic Development Projects*. The City has pursued several major economic development initiatives within the study areas shown on Exhibit 3-6, *Economic Development Projects Map*. These include streetscape improvements as part of Area Improvement Plans (AIP), the West Washington mixed use development, the Washington Centinela Market Hall, along West Washington Boulevard, redevelopment of Parcel B (9300 Culver Blvd.), expansion of Town Plaza Downtown, development of the Jazz Bakery in Downtown, the Globe Avenue affordable housing development, improvements in the Fox Hills and Hayden Tract areas, and planning and implementation of the Washington National Transit Oriented Development (TOD), adjacent to the Culver City Expo Line Station. These projects will help grow creative office uses, promote small business attraction and expansion, expand affordable housing opportunities, and advance transit-oriented development.

3.5.1 CULVER CITY ECONOMIC DEVELOPMENT IMPLEMENTATION PLAN

In January 2014, the Culver City Community Development Department-Economic Development Division developed an *Economic Development Implementation Plan* (EDI Plan), which provides a detailed look at the City's economic base, identifies economic issues, and recommends a framework by which informed business, redevelopment, and economic development decisions can be made. The purpose of the EDI Plan is to survey the City's strengths and weaknesses, evaluate local market constraints, and provide a strategy going forward to address the EDI Plan findings. The EDI Plan was prepared with significant input from the public, including multiple meetings with members of the business and residential communities. The City's strengths as identified in the EDI Plan include the high quality public school system within CCUSD, excellent quality of life, a convenient and affordable Westside community, accessible local government staff and elected officials, and a strong jobs-to-housing ratio. The City's weaknesses include limited parking in many areas, congested traffic, lack of public transportation connections in all areas of the City, lack of walkability and high-speed fiber optics, lack of City branding and marketing, poorly defined commercial areas, lack of public improvements and maintenance in most commercial

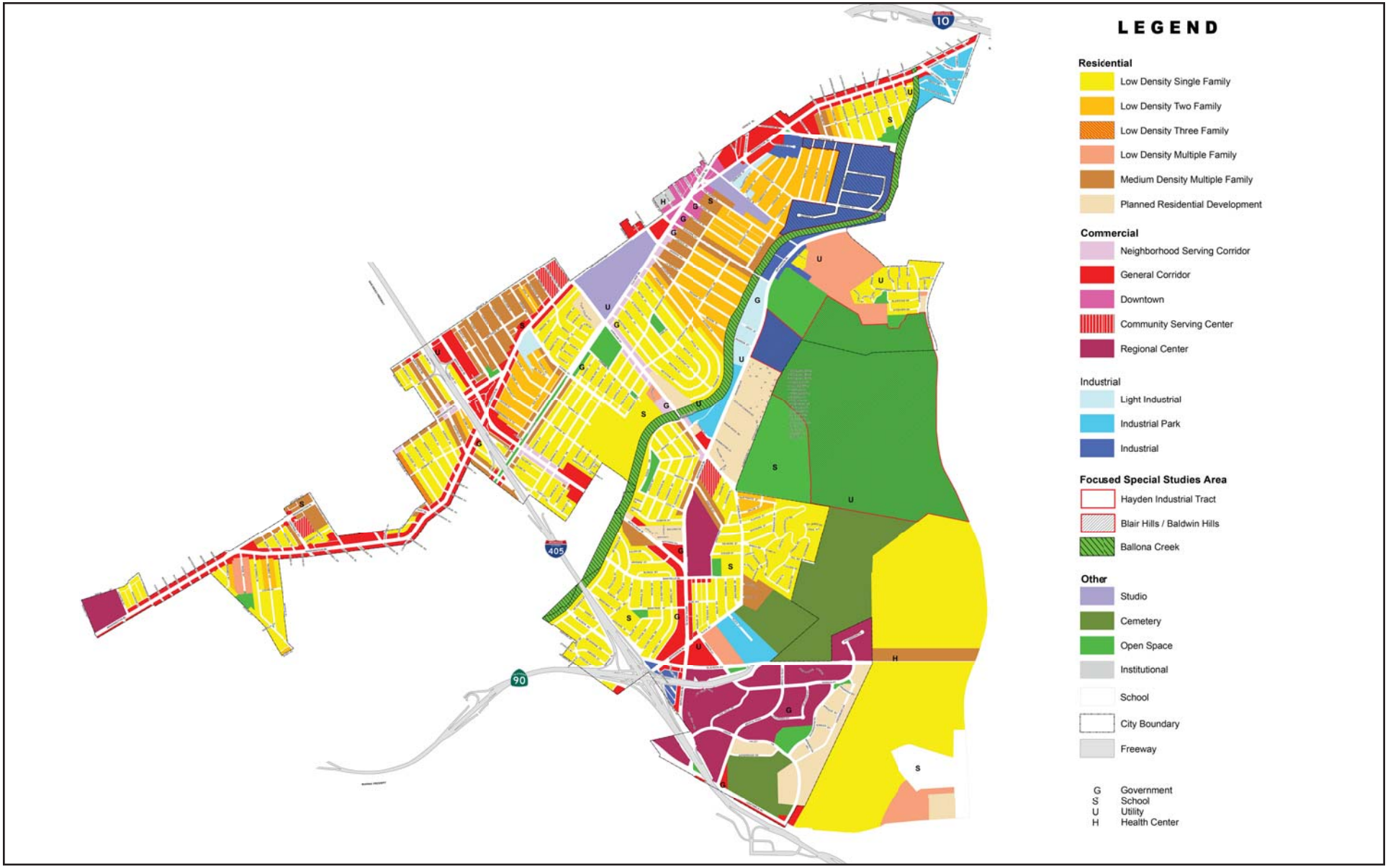
[1] City of Culver City, *Active Project List April 2015,* April 2015.

areas, and underdeveloped commercial areas with poor tenant diversity. In addition, the EDI Plan analyzes designated commercial districts to determine opportunities and challenges presented by each district. While the EDI Plan provides a road map, it is intended to be a living, working document; one that will be drawn upon frequently to refresh and remind all stakeholders of the desired direction in which to move the City.

Table 3-7
Land Use Designations

Land Use Designation	Density	Description
Residential – Low Density Single Family	8.7 du/acre	One dwelling unit per lot on lots not less than 5,000 square feet in area.
Residential – Low Density Two Family	17.4 du/ac	One to two dwellings per lot/parcel on parcels of not less than 5,000 square feet.
Residential – Low Density Three Family	29 du/ac	Up to three dwelling units per parcel at not less than 1,500 square feet of net lot area per unit.
Residential – Low Density Multiple Family	15 du/ac	Multiple family dwellings, as well as single family, two family and three family dwellings, on parcels of 15,000 square feet or more.
Residential – Medium Density Multiple Family	29 du/ac	Multiple family dwellings, as well as single family, two family and three family dwellings, on parcels of up to 13,000 square feet.
Residential – Planned Residential Development	43.5 to 82 du/ac	Large residential complexes which may consist of more than one building on a site of one acre or larger.
Commercial – Neighborhood Serving Corridor	—	A range of small-scale commercial uses with an emphasis on neighborhood serving retail, encouraging desirable existing and future uses such as sidewalk cafes, bakeries, dry cleaners, small markets, tax services, medical offices and small scale mixed-use residential opportunities.
Commercial – General Corridor	—	A range of small-to medium-scale commercial uses, with an emphasis on community-serving retail to which patrons often travel by car.
Commercial –Downtown	—	Medium and large-scale commercial uses and shared parking, with specific use restrictions and design standards.
Commercial –Community Serving Center	—	Medium-scale commercial uses that may share parking, serving both residential and business communities by providing uses such as supermarkets, pharmacies, restaurants, banks, office supplies, copy services and retail stores.
Commercial –Regional Center	—	Large-scale commercial uses that may share parking.
Industrial – Light Industrial	—	A limited variety of light manufacturing and industrial uses that can be contained within wholly enclosed structures. Commercial and live-work residential uses also would be allowed.
Industrial –Industrial Park	—	Industrial uses that can be contained within wholly enclosed structures and permits shared parking. It also would allow commercial uses such as office and only employee-supporting retail, but would preclude residential and large-scale retail uses.
Industrial –Industrial	—	A variety of manufacturing and industrial uses, but precludes heavy industry.
Other – Studio	—	Studio and media businesses.
Other – Cemetery	—	Cemeteries.
Other – Open Space	—	Open space resources, park/recreation facilities that include public or private land.
Other – Institutional	—	Civic Center, Schools, Health Centers.
Focused Special Studies Area – Hayden Industrial Tract	—	Open Space, Residential, and Industrial.
Focused Special Studies Area – Blair Hills / Baldwin Hills	—	Open Space.
Focused Special Studies Area – Ballona Creek	—	Industrial.

Source: City of Culver City, *City of Culver City General Plan Land Use Element,* July 22, 1996.



Source: City of Culver City, Information Technology Department, GIS; August 28, 2007.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

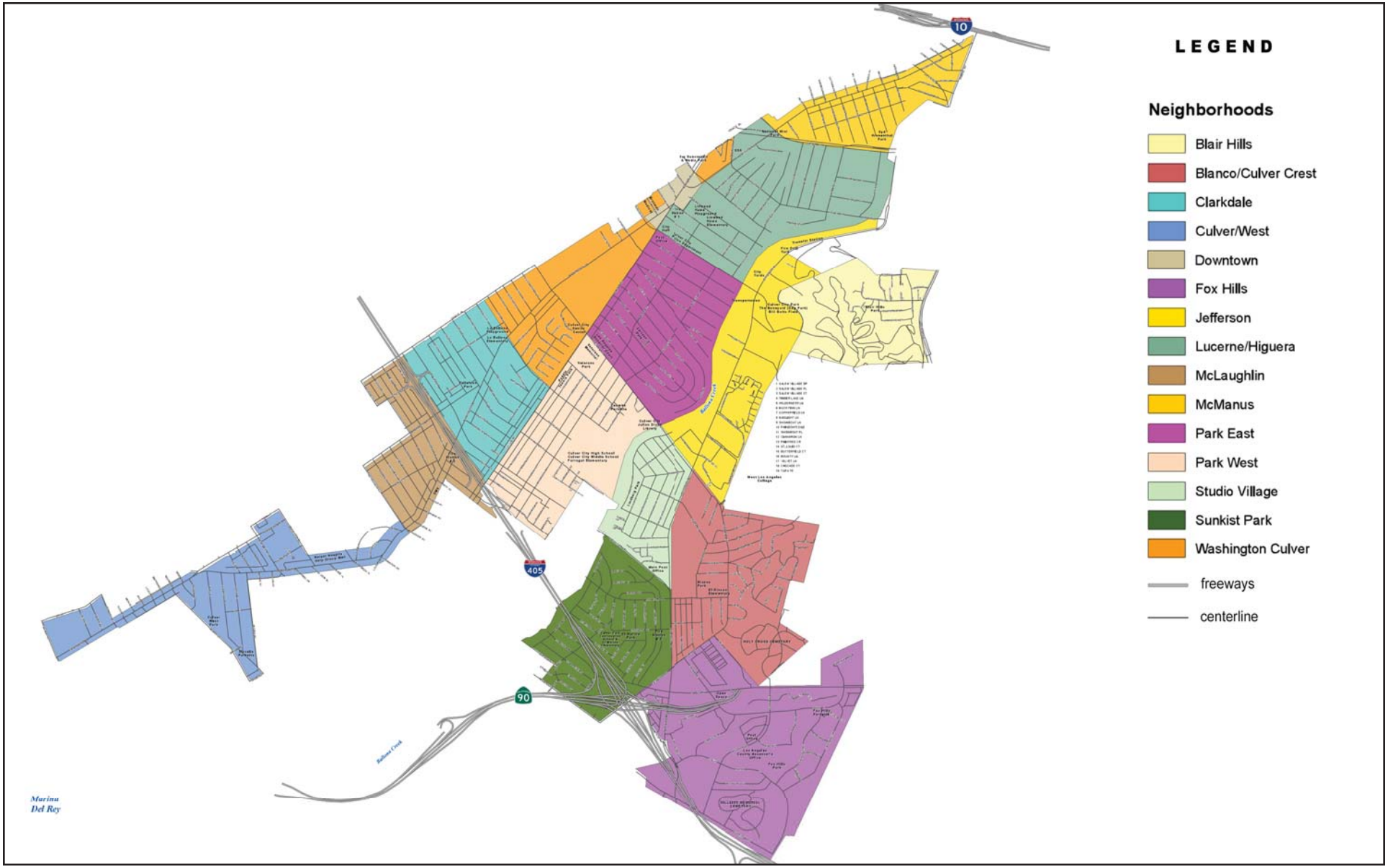
General Plan Land Use Element Map

Exhibit 3-4

Table 3-8
Economic Development Projects

No.	Project Name	Description
1	West Washington AIP Phase IV	The West Washington Area Improvement Program (AIP) is located on West Washington Boulevard between Walnut Avenue and Atlantic Avenue. The City has completed three phases of the program and will begin working with the businesses in the Phase IV area regarding installation of landscape medians to beautify the street and create a more pedestrian friendly environment.
2	Mixed Use – West Washington Project	The former Baldwin Motel property at 12803/12823 Washington Boulevard has been conveyed to the developer Axis-Mundi RE II pursuant to the Disposition and Development Agreement (DDA) executed in 2008. The 24,000 square foot property, bounded by Meier Street to the east and Moore Street to the west, will be used to develop a mixed-use project consisting of a ground floor retail component topped by approximately 27 residential apartments with a full complement of subterranean and ground-level parking. The City Council has approved the Developer's request for a density bonus allowing additional residential units in exchange for a community benefit consisting of 21 at-grade metered public parking spaces in the Project.
3	Washington/Centinela Market Hall	The Washington Centinela Market Hall Project is a 1.6-acre project located on the two northern corners (currently vacant) of Washington Boulevard at Centinela Avenue. The project is estimated to be approximately 33,000 square feet and will feature a market hall component where vendors can come together under one roof to sell their products such as purveyors of artisanal cheeses and charcuterie, a bakery, a chocolatier and related confections, wine, locally grown produce, specialty coffee, flowers, organic meats, and other high-quality products. The City is currently in negotiations with Regency Centers Acquisitions to develop and design the project.
4	West Washington AIP Phase V	Refer to Project No. 1 description. Phase V of the West Washington AIP will be developed in coordination with mixed-use development projects in the area.
5	Globe Affordable Housing Project	The Culver City Housing Authority is working with Habitat for Humanity of Greater Los Angeles to develop 10 affordable, for-sale housing units in the City. The City is contributing the land for the project, located at 4044—4068 Globe Avenue in Culver City.
6	Jazz Bakery	The City is partnering with the Jazz Bakery to develop a new 200-seat theatre in downtown Culver City. The Jazz Bakery has received a major donation and is moving forward with a capital campaign.
7	Downtown Parcel B and Town Plaza Expansion	The City is working with Combined Properties to develop the vacant Parcel B parking lot, located in downtown Culver City. The 115,000 square foot project will bring office and retail uses to the area, provide additional public parking and expand the size of the existing Town Plaza. The project has been conceptually designed and construction documents are being prepared.
8	Washington National Transit Oriented Development (TOD)	The City is working with Lowe Enterprises Real Estate Group to develop a 5.52-acre TOD to complement the existing light rail station on the northwest corner of Washington Boulevard at National Boulevard. The proposed $250 million project will include residential, office, retail, and restaurant uses and a boutique hotel and community open space. The project is currently in the conceptual design phase.
9	Hayden Tract Spur Parking	The City and the Hayden Tract Owners Association are partnering to convert a section of the former Metropolitan Transportation Authority (MTA) railroad spur property between Hayden and Eastham avenues into a landscaped, linear parking lot for the use of the owners participating in the association. This project will be jointly funded by the City and the association.
10	Reimagine Fox Hills	The Reimagine Fox Hills Project will transform the existing conventional office parks located in Fox Hills into a creative office area with enhanced pedestrian and commercial amenities including a new "main street," open space, bike paths, and fiber optic cable. Some of the proposed improvements will include retail, restaurants, and housing, new shared parking opportunities, installation of high-speed fiber optic cable infrastructure, shuttle service connecting Westfield with new center, new network of bike lanes and bike sharing, and new open floor plans and building formats to attract creative office tenants. Planning and visioning is currently underway.

Sources: City of Culver City, *Current Economic Development Projects,* http://www.culvercity.org/Business/AboutEconDev/Current Projects.aspx, accessed August 13, 2015; Culver City Community Development Department Economic Development Division, *Culver City Economic Development Implementation Plan,* January 2014.



Source: City of Culver City, Information Technology Department, GIS; February 5, 2007.

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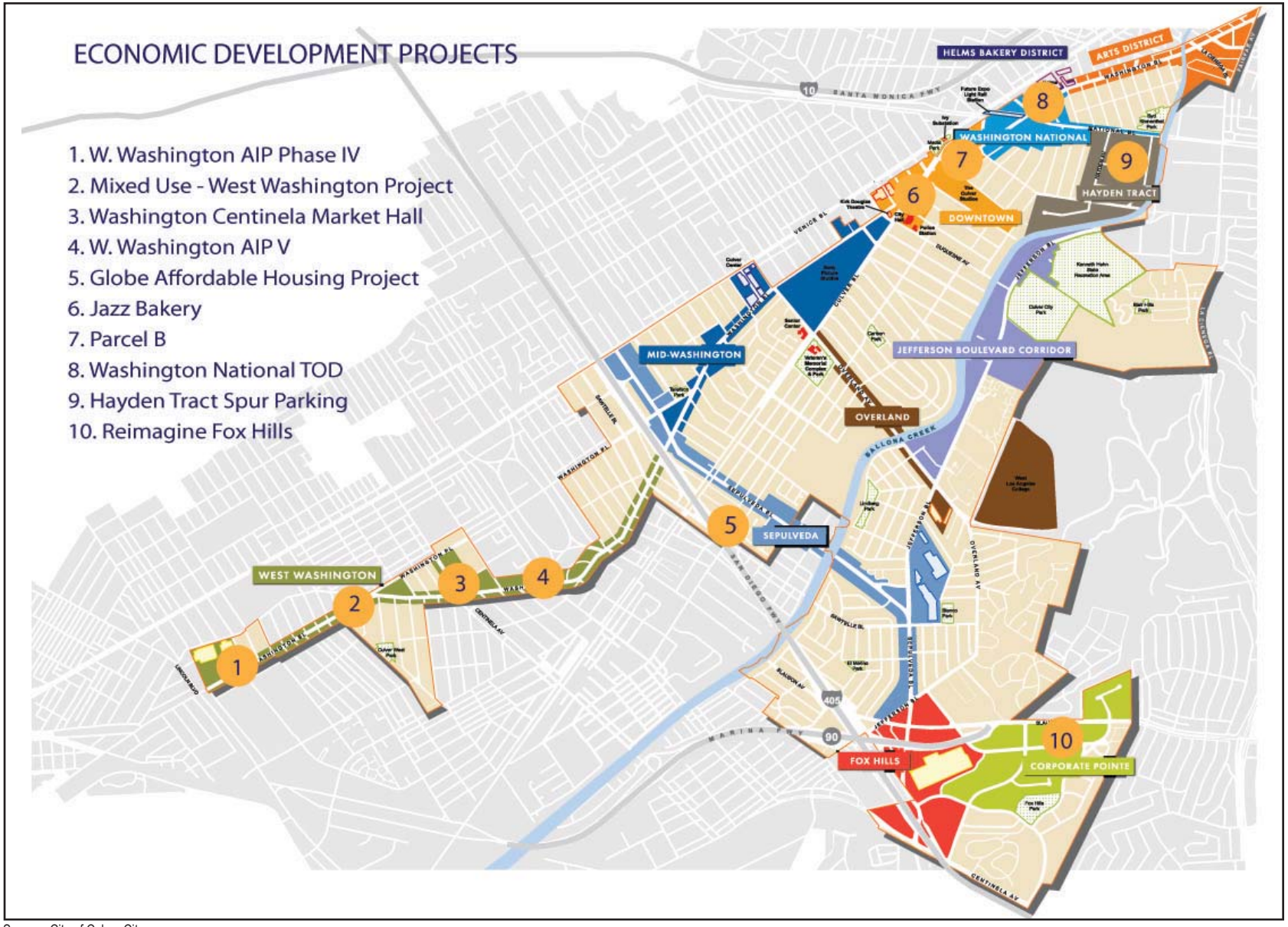
MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Culver City Neighborhoods

Exhibit 3-5



Source: City of Culver City.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Economic Development Projects Map

Exhibit 3-6

3.6 CCUSD FACILITY IMPROVEMENTS

The CCUSD Facilities Master Plan summarizes district, school, and site facility needs in order to determine the most immediate priorities. The Facilities Master Plan provides information and background for targeted, collaborative discussions and ultimately, board and community decision making.

The Facilities Master Plan addresses the district's capital needs along three essential themes: Safety, Security, Health and Wellness; Technological Infrastructure to Standardize Learning Spaces for 21st Century Skills; and Highly Effective, High Performing Learning Environments. Combined, needed projects are estimated to cost approximately $165 million. Potential projects include:

<u>Safety, Security, Health, and Wellness</u>

- Ceiling repairs
- Security system upgrades
- Plumbing and fixture upgrades
- Shade structures
- Paving improvements and associated grading and drainage improvements
- Seismic retrofitting for existing structures

<u>Technological Infrastructure to Standardize Learning Spaces for 21st Century Skills</u>

- Technology systems
- Telecommunication systems
- Classroom audiovisual equipment and accessories
- Electrical (power and equipment)

<u>Highly Effective, High Performing Learning Environments</u>

- HVAC, including energy efficiency improvements, filtering, and ventilation
- Roofing systems
- Doors
- Signage
- Windows
- Lighting
- Carpentry and framing
- Concrete
- Casework
- Plaster, drywall, and tile
- Carpeting/flooring
- Paneling
- Wall repairs
- Landscaping and irrigation
- Fire stopping improvements
- Parking improvements

Through the Measure CC Bond Program, CCUSD has begun to implement improvements identified in the Facilities Master Plan. CCUSD anticipates it will take approximately 12 years to complete all the improvements funded by the Measure CC bond issue. The first area of focus

has been to address the expansion and completion of pre-existing large scope projects, including additional improvements to the Athletic Complex at Culver City High School and renovations to Robert Frost Auditorium. The second major area of focus will involve performing deferred maintenance projects that are best conducted during summer, spring, and winter breaks when students and staff are not in the classrooms. The third area of focus will involve planning and implementing large-scale and long-range renovations at all of the schools over the next 12 years.

3.7 CRITICAL FACILITIES

3.7.1 CITY OF CULVER CITY CRITICAL FACILITIES

The MJHMP Steering Committee identified 31 critical facilities for incorporation in the hazard vulnerability/risk analysis; refer to Table 3-9, *Culver City Critical Facilities*, and Exhibit 3-7, *Culver City Critical Facilities*, for the facilities' locations within the City. These facilities include City Hall, a police station, fire stations, a fire training building, a public works yard, a sanitation transfer station, a transportation facility, several parks, and various sewage pump stations that provide important services to the community. Damage to these facilities caused by a hazard event has the potential to impair response and recovery from the event and may lead to disruption of services.

The MJHMP Steering Committee identified each facility's potential loss value, comprised of replacement and contents for each facility. If a facility is completely destroyed in a hazard event, the replacement and contents values indicate the cost to replace the facility. Typically, the cost to repair a damaged facility will be less than the replacement value. While the replacement and contents values are used throughout this Plan to estimate potential losses however, it is noted that the actual cost to recover from a hazard event will depend on the type and magnitude of the event.

3.7.2 CULVER CITY UNIFIED SCHOOL DISTRICT CRITICAL FACILITIES

The CCUSD Planning Team identified 16 critical facilities associated with the district for incorporation in the hazard vulnerability/risk analysis; refer to Table 3-10, *Culver City Unified School District Critical Facilities*, and Exhibit 3-8, *Culver City Unified School District Critical Facilities*, for their locations within the city. These facilities comprise the CCUSD district office, a high school, a middle school, elementary schools, and other schools and facilities that operate within CCUSD. Table 3-10 also identifies replacement and contents values for the CCUSD facilities.

The CCUSD Planning Team identified replacement and contents values for the facilities. Similar to the City facilities, these represent the total potential loss value for each facility however, it is noted that the actual cost to recover from a hazard event will depend on the type and magnitude of the event.

3.8 EVACUATION ROUTES

The Los Angeles Department of Public Works determined evacuation routes throughout the City, including highways and surface streets. Interstates 10 and 405, Venice Boulevard, Lincoln Boulevard, Jefferson Boulevard, and Sepulveda Boulevard all serve as potential evacuation routes, along with other roadways as needed.

Table 3-9
Culver City Critical Facilities

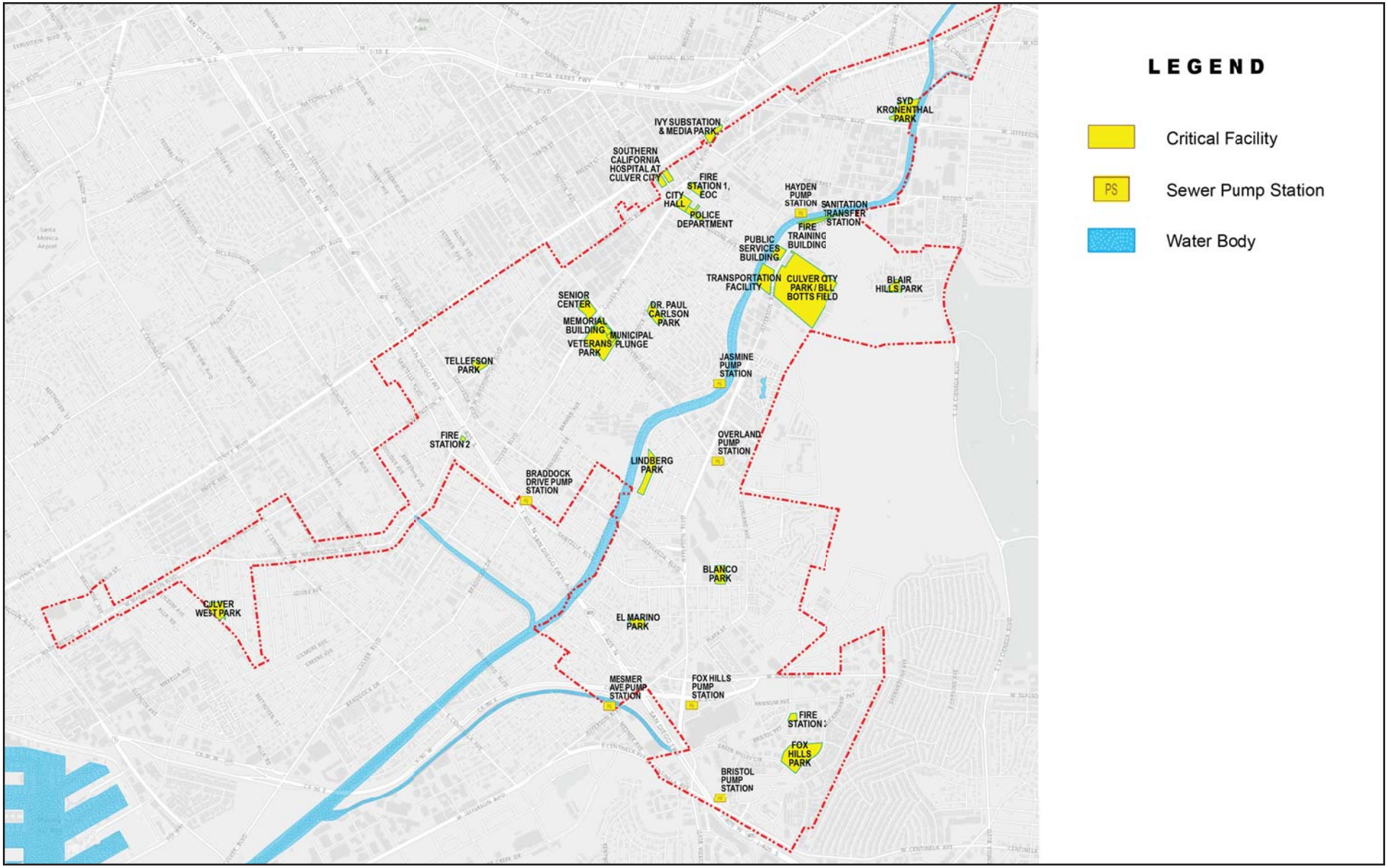
Map #	Facility	Facility Replacement Value	Contents Value	Total Value
City Buildings				
1	City Hall	$21,121,095	$2,174,676	$23,295,771
2	Police Department	$10,212,855	$1,752,325	$11,965,180
3	Fire Station No. 1/Emergency Operations Center (EOC)	$4,977,812	$269,107	$5,246,919
4	Fire Station No. 2	$1,706,216	$92,297	$1,798,513
5	Fire Station No. 3	$3,693,369	$203,414	$3,896,783
6	Fire Training Building	$282,256	$36,392	$318,648
7	Public Works Yard	$8,310,098	$1,786,196	$10,096,294
8	Sanitation Transfer Station	$4,026,878	$438,464	$4,465,342
9	Transportation Facility	$26,036,981	$2,761,451	$28,798,432
City Parks and Recreation				
10	Veterans Park & Memorial Building	$7,048,303	$443,126	$7,491,429
11	Syd Kronenthal Park	$942,611	$65,879	$1,008,490
12	Blanco Park	$164,087	$0	$164,087
13	Culver West Park	$912,258	$77,608	$989,866
14	Ivy Substation & Media Park	$1,400,523	$94,599	$1,495,122
15	El Marino Park	$287,818	$21,265	$309,083
16	Blair Hills Park	$95,777	$0	$95,777
17	Dr. Paul Carlson Park	$132,746	$0	$132,746
18	Culver City Park (Botts Field)	$459,048	$32,444	$491,492
19	Fox Hills Park	$309,863	$0	$309,863
20	Lindberg Park	$517,120	$30,584	$547,704
21	Tellefson Park	$124,611	$0	$124,611
22	Senior Center	$7,632,718	$413,472	$8,046,190
23	Municipal Plunge	$2,839,743	$94,380	$2,934,123
City Pump Stations				
24	Braddock Sewer Pump Station	$37,452	$109,616	$147,068
25	Bristol Sewer Pump Station	$61,597	$87,693	$149,290
26	Hayden Sewer Pump Station	$105,446	$38,366	$143,812
27	Fox Hills Sewer Pump Station	$90,215	$82,212	$172,427
28	Jasmine Sewer Pump Station	$237,974	$82,212	$320,186
29	Mesmer Sewer Pump Station	$50,996	$68,729	$119,725
30	Overland Sewer Pump Station	$90,215	$131,539	$221,754
Medical				
31	Southern California Hospital at Culver City	$83,222,155	$15,827,821	$99,049,976

Source: City of Culver City and CCUSD Steering Committee Meetings, November 2015.

Table 3-10
Culver City Unified School District Critical Facilities

Map #	Facility	Facility Replacement Cost	Content Replacement Cost	Total Value
1	School District Office	$6,277,215	$580,000	$6,857,215
2	High School	$41,376,330	$8,101,000	$49,477,330
3	Culver Park Continuation High School	$1,660,664	$321,000	$1,981,664
4	Middle School	$26,524,743	$2,598,000	$29,122,743
5	El Marino Language School	$8,348,419	$1,496,000	$9,844,419
6	El Rincon Elementary	$8,937,845	$1,332,000	$10,269,845
7	Farragut Elementary	$9,614,940	$1,572,000	$11,186,940
8	La Ballona Elementary	$8,459,008	$1,282,000	$9,741,008
9	Linwood E. Howe Elementary	$9,130,373	$1,679,000	$10,809,373
10	Office of Child Development	$1,084,116	$250,000	$1,334,116
11	Adult School	$4,000,000	$589,000	$4,589,000
12	Maintenance Facilities	$1,607,074	$258,000	$1,865,074
13	Natatorium	$3,762,509	$147,000	$3,909,509
14	Warehouse/District IMC	$1,339,000	$209,000	$1,548,000
15	Echo Horizon School (leased)	$5,112,000	$0	$5,112,000
16	Wildwood School (leased)	$8,165,000	$0	$8,165,000

Source: City of Culver City and CCUSD Steering Committee Meetings, November 2015.



Source: City of Culver City, Information Technology Department, GIS; April 12, 2016.

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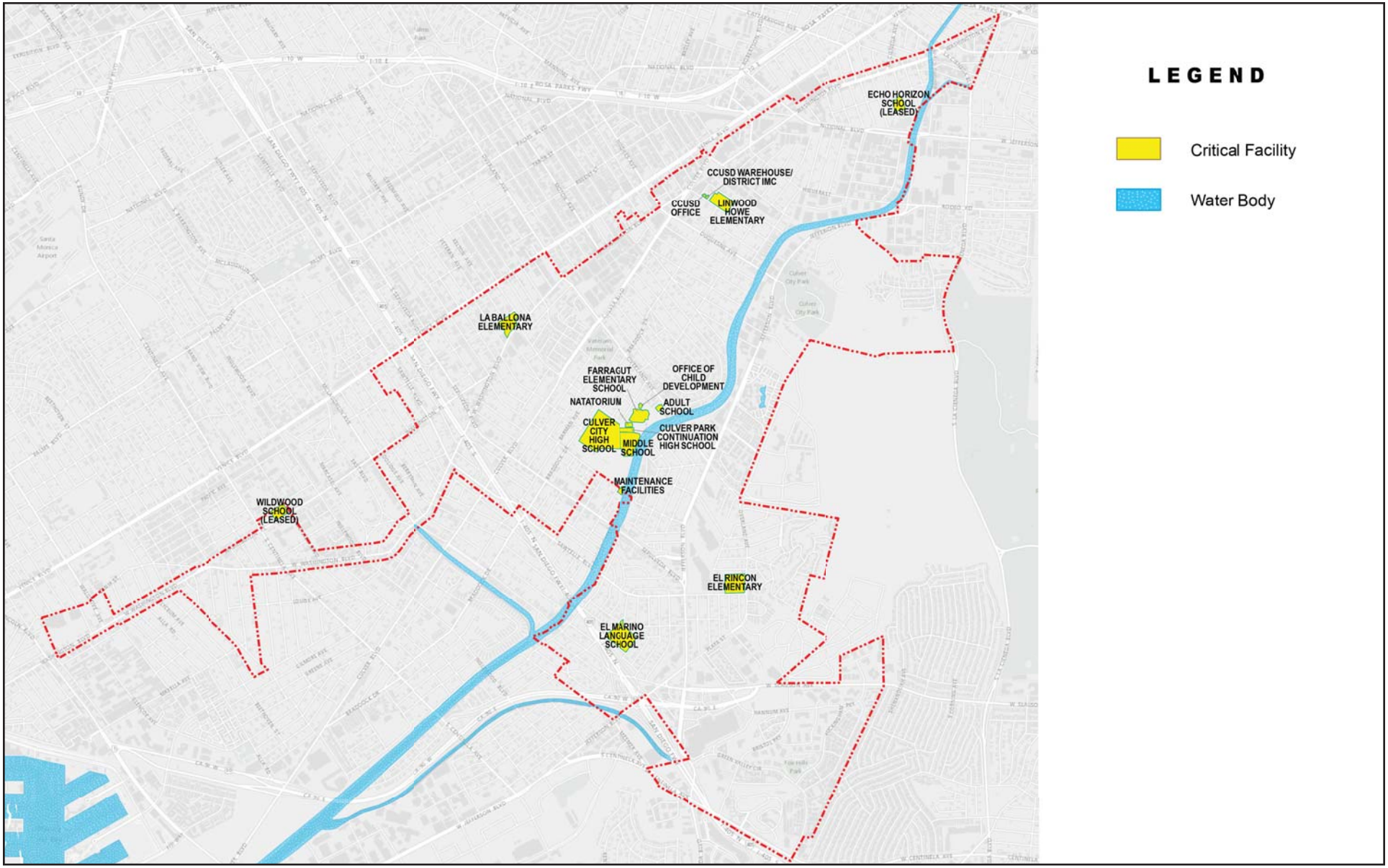
MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Culver City Critical Facilities

Exhibit 3-7



Source: City of Culver City, Information Technology Department, GIS; April 12, 2016.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Culver City Unified School District Critical Facilities

Exhibit 3-8

SECTION 4.0: HAZARDS ASSESSMENT

4.1 HAZARD IDENTIFICATION AND PRIORITIZATION

HAZARD IDENTIFICATION

The first step in developing the risk assessment is identifying the hazards. The Steering Committee reviewed the previously prepared, but unapproved hazard mitigation plan for the City and CCUSD, and discussed the County of Los Angeles All-Hazard Mitigation Plan (2014) and other hazard mitigation plans from neighboring jurisdictions, as well as other relevant information to determine the extent of natural hazards with potential to affect the City; refer to Table 2-5. A discussion of potential hazards during the first Steering Committee meeting resulted in the identification of the natural hazards that pose a potential risk to the City and CCUSD. Table 4-1, *Culver City and CCUSD Hazard Identification*, summarizes the Steering Committee's discussion of each of the natural hazards and indicates those identified for inclusion in the MJHMP.

Table 4-1
Culver City and CCUSD Hazard Identification

List of Hazards	Identified in Other Hazard Mitigation Plan	Include in MJHMP	Discussion Summary
Avalanche	No	No	Not applicable.
Coastal Erosion	Yes	No	Not applicable due to the distance from the coast.
Coastal Storm	Yes	No	Not applicable due to the distance from the coast.
Dam Failure	Yes	No	The Baldwin Hills Dam no longer exists. Other dams within the larger region are unlikely to impact the City. Further prioritization activities determined the hazard to be low and is therefore not included in this MJHMP.
Disease/Pest Management	Yes	No	The City has experienced some issues with infestation of trees in localized areas. Although the hazard was prioritized as medium (see below), further discussion determined this was a more discrete situation and therefore not included in the MJHMP.
Drought	Yes	Yes	The City depends on groundwater and imported surface water, both of which are susceptible to drought.
Earthquake Fault Rupture	Yes	Yes	A portion of the City is located within an Alquist-Priolo Fault Zone.
Expansive Soils	No	No	Expansive soils have not been identified within the City. As there is no historical risk of expansive soils hazards in the City, and since the Uniform Building Code effectively mitigated impacts that would occur if expansive soils were present, this MJHMP does not include expansive soils.
Extreme Heat	No	Yes	Extreme temperature events, such as heat waves, can be hazardous in Mediterranean climates like those experienced in the City because residents, especially vulnerable populations may not be prepared for the extremes.

Table 4-1 [continued]
Culver City and CCUSD Hazard Identification

List of Hazards	Identified in Other Hazard Mitigation Plan	Include in MJHMP	Discussion Summary
Flood	Yes	Yes	There are identified floodplains within the City. Some flooding has occurred associated with runoff and storm drain/catch basin failures.
Geological Hazards	Yes	Yes	The City is located in an area of geological hazards.
Hailstorm	No	No	There has been no significant damage from previous hail storms.
Hazardous Materials	Yes	No	Although prioritized as low (see below), further discussion determined hazardous materials are more appropriately covered through other City plans (EOP and General Plan Safety Element) and are therefore not addressed in this MJHMP.
Human-Caused Hazards	Yes	No	Human-caused hazards are covered through other City plans (EOP and General Plan Safety Element) and are therefore not addressed in this MJHMP.
Hurricane	No	No	Not applicable.
Land Subsidence	Yes	No	The City does not have any historical occurrences of land subsidence.
Landslide and Mudflow	Yes	Yes	A small portion of the City has experienced landslides/mudflows.
Lightning	Yes	No	There has been no significant damage from previous lightning events.
Liquefaction	Yes	Yes	The City is located in an area identified as having the potential for liquefaction.
Sea Level Rise	No	No	Not applicable due to the distance from the coast.
Seismic Hazards	Yes	Yes	The City is located in an area susceptible to earthquake ground shaking and associated seismic hazards.
Severe Winter Storm	Yes	No	Not applicable.
Tornado	Yes	No	Not applicable.
Tsunami	Yes	No	The City is not located in a tsunami inundation area. Although prioritized as low (see below), further discussion determined secondary impacts that may occur with a potential tsunami inundating a neighboring jurisdiction are best addressed through other City plans (EOP and General Plan Safety Element) and are therefore not included in this MJHMP.
Volcano	No	No	The City is not located in an active volcano area.
Wildfire	Yes	Yes	A portion of the City and surrounding area is located in a very high fire hazard zone.
Wind	Yes	No	Regular wind does not cause significant damage.
Windstorm	Yes	Yes	The City is prone to severe windstorms (Santa Ana winds) that commonly cause trees to fall or damage associated with falling limbs.

Table 4-1 [continued]
Culver City and CCUSD Hazard Identification

List of Hazards	Identified in Other Hazard Mitigation Plan	Include in MJHMP	Discussion Summary
Climate Change	Yes	Yes	Climate change is not a distinct hazard, but rather a phenomenon that could exacerbate hazards. Climate change will be considered as a factor for relevant identified hazards.

Notes: Other hazard mitigation plans refer to the County of Los Angeles and neighboring jurisdictions where the geography and environment are similar and would likely result in some of the same natural hazards.
The County of Los Angeles All-Hazard Mitigation Plan profiles earthquake, wildfire, and tsunami hazards. A variety of other hazards, including but not limited to, drought, landslide, and windstorm, are considered, but are identified as nonsignificant hazards.

HAZARD PRIORITIZATION

The Steering Committee used a Microsoft Excel-based tool to prioritize the identified hazards by assigning each hazard a ranking based on probability of occurrence and potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with the City's and CCUSD's vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)
- Location (size of potentially affected area)
- Maximum Probable Extent (intensity of damage)
- Secondary impacts (severity of impacts to community)

A value from 1 to 4 was assigned for each criterion. The four criteria were then weighted based on the Steering Committee's opinion of each criterion's importance. Table 4-2, *Hazard Rankings*, presents the results of the hazard rankings.

Table 4-2
Hazard Rankings

Hazard Type	Probability	Impact			Total Score	Hazard Planning Consideration
		Affected Area	Primary Impact	Secondary Impact		
Drought	4	4	4	4	64.00	High
Seismic Hazard	4	4	4	4	64.00	High
Earthquake Fault Rupture	4	2	4	4	51.20	High
Wildfire	3	3	4	4	43.20	High
Disease/Pest Management	4	4	1	1	35.20	Medium
Windstorm	4	4	1	1	35.20	Medium
Liquefaction	2	2	4	4	25.60	Medium
Flood	2	1	3	3	17.60	Medium
Landslide/Mudflow	2	1	3	3	17.60	Medium
Hazardous Materials	1	3	3	3	12.00	Low
Geologic Hazards	1	2	3	3	10.40	Low
Dam Failure	1	2	2	4	10.00	Low
Tsunami	1	1	2	2	6.40	Low

Scores are based on a scale from 1 to 4, where 4 is the highest score and 1 is the lowest. Refer to Table 4-3 for additional information.
The total score is based on an equation that weights categories by importance. Refer to Table 4-3 for additional information.

Table 4-3, *Hazard Ranking Methodology*, provides additional detail regarding how the probability, affected area, and impact categories are weighted and how the total score is calculated for the hazard rankings.

Table 4-3
Hazard Ranking Methodology

Probability	Importance	2.0
Based on estimated likelihood of occurrence from historical data		
Probability		*Score*
Unlikely (less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years)		1
Somewhat Likely (between 1% and 10% probability in next year or has a recurrence interval of 11 to 100 years)		2
Likely (between 10% and 100% probability in next year or has a recurrence interval of 10 years or less)		3
Highly Likely (near 100% probability in next year or happens every year)		4

Affected Area	Importance	0.8
Based on size of geographical area of community affected by hazard		
Affected Area		*Score*
Isolated		1
Small		2
Medium		3
Large		4

Primary Impact	Importance	0.8
Based on percentage of damage to typical facility in community		
Impact		*Score*
Negligible – less than 10% damage		1
Limited – between 10% and 25% damage		2
Critical – between 25% and 50% damage		3
Catastrophic – more than 50% damage		4

Secondary Impacts	Importance	0.5
Based on estimated secondary impacts to community at large		
Impact		*Score*
Negligible – no loss of function, downtime, and/or evacuations		1
Limited – minimal loss of function, downtime, and/or evacuations		2
Moderate – some loss of function, downtime, and/or evacuations		3
High – major loss of function, downtime, and/or evacuations		4

Total Score = Probability x Impact, where:
Probability = (Probability Score x Importance)
Impact = (Affected Area + Primary Impact + Secondary Impacts), where:
Affected Area = Affected Area Score x Importance
Primary Impact = Primary Impact Score x Importance
Secondary Impacts = Secondary Impacts Score x Importance

Hazard Planning Consideration			
Total Score	Range	Distribution	Hazard Level
0.0	20.0	0	Low
20.1	42.0	6	Medium
42.1	64.0	3	High

The probability of each hazard is determined by assigning a level, from unlikely to highly likely, based on the likelihood of occurrence from historical data. The total impact value includes the affected area, primary impact, and secondary impact levels of each hazard. Each level's score is reflected in the matrix. The total score for each hazard is the probability score multiplied by its importance factor times the sum of the impact level scores multiplied by their importance factors. Based on this total score, the hazards are separated into three categories based on the hazard level they pose to the communities: High, Medium, and Low.

Based on the ranking exercise with the Steering Committee and follow-up discussions with City staff, Table 4-4, *Culver City and CCUSD Prioritized Hazards*, identifies the prioritized hazards for this MJHMP.

Table 4-4
Culver City and CCUSD Prioritized Hazards

Identified Hazard	Hazard Planning Consideration
Drought	High
Ground Shaking	High
Earthquake Fault Rupture	High
Wildfire	High
Severe Weather (wind/rain)	Medium
Liquefaction	Medium
Flood	Medium
Landslide/Mudflow	Medium

It should be noted that for purposes of the hazard profiles, earthquake fault rupture, ground shaking, liquefaction, and landslide/mudflow are all addressed under the heading of Seismic Hazards and Severe Weather includes heavy winds and rain events, such as El Niño.

4.2 CLIMATE CHANGE CONSIDERATIONS

Climate change is expected to exacerbate existing hazards in the City. As such, the Steering Committee determined that it would be best to discuss climate change considerations throughout all applicable hazard profiles.

To address potential climate change impacts, the City and CCUSD have identified climate change considerations within each hazard profile. This discussion is intended to supplement, but not replace, the Probability of Future Occurrence discussion.

4.3 VULNERABILITY/RISK ASSESSMENT METHODOLOGY

The critical facilities listed in Section 3.0, *Community Profile*, were mapped in GIS and overlaid with mapped hazard areas to determine which assets are located in each hazard area. Hazard area and critical facility overlays were conducted for earthquake fault rupture, liquefaction, landslide/mudflow, flood, and wildfire.

Hazard and critical facility overlays were not conducted for drought, ground shaking, and severe weather. These hazards affect the entire City, therefore, all City and CCUSD facilities listed in the critical facility inventories could be potentially susceptible to damage from them.

Each hazard profile in the following section includes a Vulnerability and Risk Assessment section that presents the results of the method described above. Replacement and contents values for the facilities in each the hazard areas are tallied in each vulnerability table to estimate the total potential losses for each facility. It should be noted that the actual losses will depend on the type and extent of the hazard event.

4.4 HAZARD PROFILES

This section contains profiles for the hazards identified in Table 4-4. The profiles include a vulnerability analysis and risk assessment using the methods described in the Vulnerability and Risk Assessment section.

4.4.1 DROUGHT

DROUGHT DESCRIPTION

A drought is a period of drier-than-normal conditions that can result in decreases in water supplies. When precipitation is less than normal for a lengthy period of time, the flow of streams and rivers decline, water levels in lakes and reservoirs fall, and the depth to water in wells increases. If dry weather persists and water-supply problems develop, the dry period can become a drought. The term "drought" can have different meanings to different people, depending on how a water deficiency affects them. Drought is a complex natural hazard, which is reflected in the following four definitions commonly used to describe it:

- *Agricultural* – Drought is defined principally in terms of naturally occurring soil moisture deficiencies relative to water demands of plant life, usually arid crops.
- *Hydrological* – Drought is related to the effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.
- *Meteorological* – Drought is defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.
- *Socioeconomic* – Drought associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of weather-related supply shortfall. It may also be called a water management drought.

Although climate is a primary contributor to hydrological drought, other factors such as changes in land use (e.g., deforestation), land degradation, and the construction of dams all affect the hydrological characteristics of a particular region. Since regions are interconnected by natural systems, the impact of meteorological drought may extend well beyond the borders of the precipitation-deficient area. Changes in land use upstream may alter hydrologic characteristics such as infiltration and runoff rates, resulting in more variable stream flow and a higher incidence of hydrologic drought downstream. Land use change is one way human actions alter the frequency of water shortage even when no change in precipitation has been observed.[1]

PAST OCCURRENCES

Although the definition of drought has varied over time and defining drought can be challenging across a large geography, California has experienced numerous severe droughts over the past

[1] National Drought Mitigation Center, *Drought Basics*, http://drought.unl.edu/DroughtBasics.aspx, accessed August 5, 2015.

century. FEMA declared one drought emergency for California in January 1977, and other drought emergency declarations have been declared by the State. According to the 2013 State Hazard Mitigation Plan (SHMP), from 1972 to 2009, there have been eight drought State Emergency Proclamations in California. Through 2012, Cal OES administered costs due to drought that totaled $2,686,858,480. The most severe drought on record began in 2012 and continues through the current year of 2016. Table 4-5, *Historic Droughts in California*, shows the historical droughts that have occurred in California from 1827 through the present.

Table 4-5
Historic Droughts in California

Date	Area Affected	Notes
1827-1916	Statewide	Multiyear: 1827-29, 1843-44, 1856-57, 1863-64 (particularly extreme), 1887-88, 1897-1900, 1912-13
1917-21	Statewide except central Sierra Nevada and north coast	Simultaneous in affected areas, 1919-20. Most extreme in north.
1922-26	Statewide except central Sierra Nevada	Simultaneous in effect for entire state only during 1924, which was particularly severe.
1928-37	Statewide	Simultaneously in effect for entire state, 1929-34. Longest, most severe in state's history.
1943-51	Statewide	Simultaneously in effect for entire state, 1947-49. Most extreme in south.
1959-62	Statewide	Most extreme in Sierra Nevada and central coast.
1976-77	Statewide, with the exception of southwestern deserts	Driest two years in state's history. Most severe in northern two-thirds of state.
1987-1992	Statewide	Moderate, continuing through 1989. Most extreme in northern Sierra Nevada.
2000-2002	Statewide	Most severe in Southern California.
2007-2009	Statewide	12th driest three-year period on record at the time. Most severe in western San Joaquin Valley.
2012-2015	Statewide	Most severe California drought on record.

Sources: Paulson, R.W., E.B. Chase, R.S. Roberts, and D.W. Moody, Compilers, *National Water Summary 1988-89-- Hydrologic Events and Floods and Droughts: U.S. Geological Survey Water-Supply Paper;* California Department of Water Resources, *California's Most Significant Droughts: Comparing Historical and Recent Conditions,* February 2015.

Los Angeles County was included in the federally-declared drought disaster in 1977, as well as in multiple other State-declared droughts, mentioned above. Water years 2012 and 2013 were dry statewide, and the 2013 record-low precipitation worsened California's conditions for the 2014 water year (started in October 2013). Statewide reservoir storage is down significantly and impacts of three dry years in a row may cause significant water delivery issues in California. This recent dry hydrology has set many new statewide records, including the driest four-year period of statewide precipitation (2012-2015). On January 17, 2014, the governor of California declared a state-wide drought emergency and on April 1, 2014, the governor announced the first-ever 25 percent statewide mandatory water use reductions and a series of actions to help save water, increase enforcement to prevent wasteful water use, streamline the state's drought response and invest in new technologies that would make California more drought resilient. Most recently, on February 2, 2016, the State Water Board adopted an extended and revised emergency regulation to extend restrictions on urban water use through October 2016 while providing urban water suppliers more flexibility in meeting their conservation requirements.

LOCATION/GEOGRAPHIC EXTENT

Droughts are generally widespread events that could easily affect the entire Los Angeles County area and surrounding region. The geographic extent of drought conditions would extend to every resident and business owner receiving water from the Golden State Water Company (GSWC), and the Los Angeles Department of Water and Power, which are the water suppliers for the entire City, including CCUSD.

MAGNITUDE/SEVERITY

Drought severity depends on numerous factors, including duration, intensity, and geographic extent, as well as regional water supply demands by humans and vegetation. The severity of drought can be aggravated by other climatic factors, such as prolonged high winds and low relative humidity. The magnitude of drought is usually measured in time and the severity of the hydrologic deficit. As of January 2016, much of the state, including the City, is in a state of "exceptional drought", the most severe of five drought distinctions identified by the U.S. Drought Monitor, refer to Table 4-6, *Drought Severity Classification*. Exhibit 4-1, *U.S. Drought Monitor,* shows statewide drought conditions.

Table 4-6
Drought Severity Classification

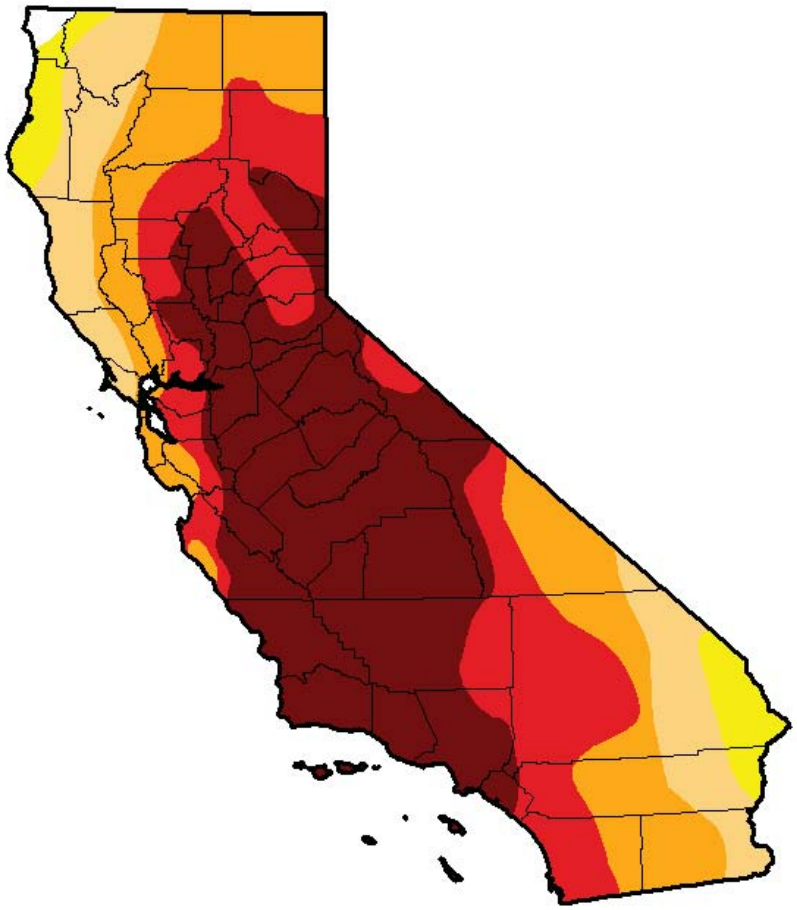
Category	Description	Possible Impacts
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.
D1	Moderate Drought	Some damage to crops, pastures; streams, reservoirs, or wells low, some water shortages developing or imminent; voluntary water-use restrictions requested.
D2	Severe Drought	Crop or pasture losses likely; water shortages common; water restrictions imposed.
D3	Extreme Drought	Major crop/pasture losses; widespread water shortages or restrictions.
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells creating water emergencies.

Source: United States Drought Monitor, *Drought Severity Classification,* http://www.droughtmonitor.unl.edu/AboutUs/ClassificationScheme.aspx, accessed August 10, 2015.

PROBABILITY OF FUTURE OCCURRENCES

Drought is one of the few hazards that have the potential to directly or indirectly impact each and every person within the larger region, as well as adversely affect the local economy. The impacts would be water restrictions associated with domestic supplies, agricultural losses, and economic impacts associated with those losses, economic impacts to tourism and recreation industries, hydroelectric power reductions, increased wildland firefighting costs, and increased costs for water.

U.S. Drought Monitor
California



March 1, 2016

(Released Thursday, Mar. 3, 2016)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.43	99.57	95.13	82.66	60.86	38.48
Last Week 2/23/2016	0.43	99.57	94.38	81.82	60.86	38.48
3 Months Ago 12/1/2015	0.14	99.86	97.33	92.26	70.55	44.84
Start of Calendar Year 12/29/2015	0.00	100.00	97.33	87.55	69.07	44.84
Start of Water Year 9/29/2015	0.14	99.86	97.33	92.36	71.08	46.00
One Year Ago 3/3/2015	0.16	99.84	98.10	93.44	67.46	39.92

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
David Miskus
NOAA/NWS/NCEP/CPC

http://droughtmonitor.unl.edu/

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

U.S. Drought Monitor

Exhibit 4-1

Exhibit 4-2, *U.S. Seasonal Drought Outlook*, shows the climatological dry season in the West, and indicates the current drought is likely to persist but improve somewhat throughout most of California, including the City. Improvement is likely to be a downgrade of at least 1 category in the Drought Severity Classification (e.g., the City is expected to go from D4 to D3 or lower). These improved conditions are expected to be largely the result of the El Niño phenomenon in the Pacific Ocean, which developed in 2015 and can cause increased precipitation in California during the winter months.[2]

CLIMATE CHANGE CONSIDERATIONS

According to the 2013 SHMP, climate scientists studying California find that drought conditions are likely to become more frequent and persistent over the 21st century due to climate change. The experiences water supply agencies faced during 2013, highlighted above, underscore the need to examine the City's water storage, distribution, management, conservation, and use policies more closely. Decreasing snowmelt, reduced precipitation, and higher temperatures are all expected effects of climate change. When coupled with increasing populations and increasing demand for water in southern portions of California, these conditions may result in water shortages for City residents. By the end of the century, if temperatures rise to the medium warming range and precipitation decreases as anticipated, late spring stream flow could decline by up to 30 percent.[3]

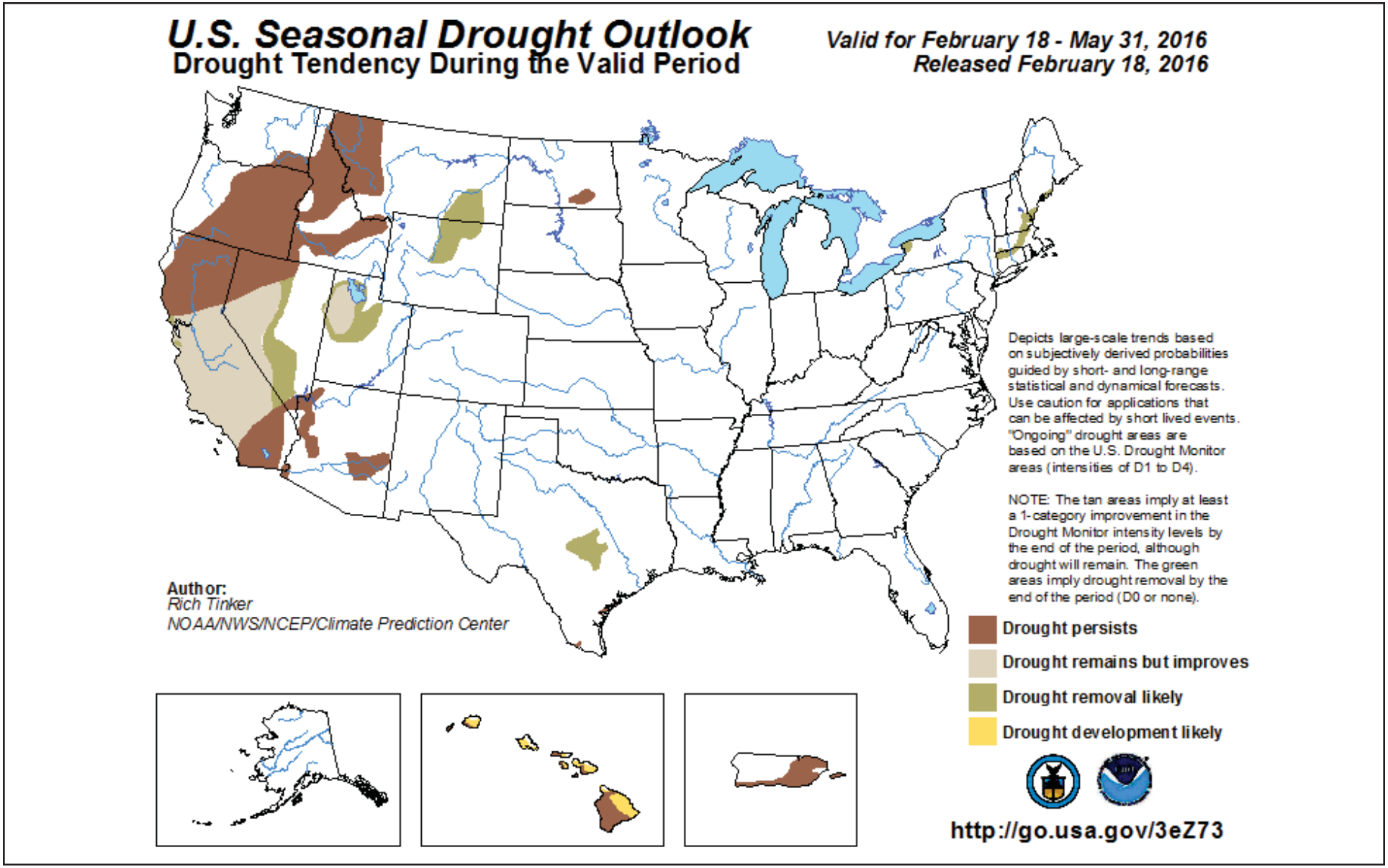
VULNERABILITY AND RISK ASSESSMENT

Past experience with drought indicates that impacts are felt first by those most dependent on or affected by annual rainfall—agencies fighting forest fires, ranchers engaged in dry-land grazing, rural residents relying on wells in low-yield rock formations, or small water systems lacking a reliable water source. Other disastrous drought damage could be sustained by parks, landscaping, and grounds around commercial and residential facilities, as well as by various plant and animal species, which depend on a delicate meteorological balance to survive. The primary risk to the City is damage to landscaping and the natural ecosystem, and potential economic impacts from increased water prices or an insufficient supply of water.

GSWC obtains its water supply for the Culver City System by purchasing imported water supplies from the West Basin Municipal Water District (WBMWD). Based on GSWC's long-term water supply planning projections, GSWC's water supply is projected to increase by 27 percent from 2010 to 2035 to meet the associated projected water demands, with all of this demand being met by imported water from WBMWD. GSWC is actively pursuing the availability of a reliable, cost-effective supply of imported water through the implementation of conjunctive use storage programs. Storage programs could use water imported from WBMWD or other suppliers. Additionally, GSWC still owns water rights in the Santa Monica Subbasin and is assessing the feasibility of potential groundwater development projects in several local basins. If developed, each of these projects would provide some increment of local groundwater that would improve the reliability of or displace the use of imported water in the Culver City System.

[2] National Weather Service Climate Prediction Center, *U.S. Seasonal Drought Outlook December 2015 – March 2016,* December 17, 2015.

[3] Cal-Adapt, *Securing an Adequate Water Supply,* April 12, 2011. http://cal-adapt.org/blog/2011/apr/12/securing-adequate-water-supply.



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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

U.S. Seasonal Drought Outlook

Exhibit 4-2

Although efforts to expand regional sources of water storage and groundwater are in progress, the entire City will continue to experience drought conditions and remain highly vulnerable to drought. Those that would be potentially affected by drought would include the CCUSD school population and the residents and employees within the City. Facilities that would be vulnerable to drought include open space, park and recreation facilities with several trees and grass areas, and schools. Drought conditions may cause loss of natural vegetation, potentially worsening the adverse effects of brushfires and floods, and may also cause economic impacts for commercial and residential property owners from landscape damage due to water shortages or rationing. Water agencies could experience reduced revenue when water usage declines due to use restrictions on water; and water supply agencies could experience increased operations cost and/or increased treatment costs as less desirable water supply sources are tapped.

4.4.2 SEISMIC HAZARDS

SEISMIC HAZARDS DESCRIPTION

Seismic hazards occur when accumulated stress between portions of the earth's crust is released, resulting in the sudden ground movement perceived as an earthquake. Primary seismic hazards are the direct result of the release of this accumulated stress and are typically characterized as earthquake fault rupture (displacement of the ground surface at the earthquake site) and seismic shaking (the ground movement itself, which can cause damage a significant distance from the earthquake site). Earthquakes can also cause secondary seismic hazards such as liquefaction and earthquake-induced landslides.

Primary Seismic Hazards

Seismic hazards are generally connected with faults, which are areas where large sections of the earth's surface called tectonic plates move past each other. The deformation of the plates and the accumulated stress between them causes faults in a wider area than the precise boundary between the plates. In California, the Pacific and North American plates are sliding horizontally past each other, creating what is known as a "strike-slip fault." The boundary between the two plates is known as the San Andreas Fault, although the stress caused by this movement has created thousands of fault areas throughout the state. Most of California lies on the North American plate, although the coastal areas of Central and Southern California, including the City, sit on the Pacific Plate. There are numerous faults in and around the City, including the Newport-Inglewood Fault Zone running through the community, the Whittier-Elsinore Fault Zone, and the San Andreas Fault. The Newport-Inglewood Fault Zone is capable of causing surface rupture in the City, and a number of other faults can create substantial ground shaking in the community. Some of the major faults near the City are discussed in the Probability of Future Occurrence subsection.

The California Department of Conservation maintains maps known as Alquist-Priolo maps that identify areas of potential fault surface rupture in the state. The Department of Conservation also provides maps identifying the potential severity of ground shaking hazards in California, based on proximity to major active faults and the geology of the region.

Secondary Seismic Hazards

Beyond the direct damage from the ground shaking posed by an earthquake, these events can also result in a seismic hazard called liquefaction, which occurs when the force of an earthquake's

shaking causes groundwater to mix with the soil. This mixture temporarily becomes a fluid and loses its strength, which may in turn cause buildings and other structures built on or in it to tilt, collapse, or otherwise suffer damage. Liquefaction can also occur independently of an earthquake, if any other sudden and significant stress causes the mixing of groundwater and soil. The risk of liquefaction depends on many different factors, including the height of the groundwater table and the types of soil in an area.

Earthquakes can also cause landslides, either directly as a consequence of the ground shaking or indirectly when soil loses its structural integrity due to liquefaction. Landslides can occur under multiple conditions, but they are most likely in areas with steep slopes with highly fractured rocks, areas with loose and weak soils, and areas on or near deposits of material caused by previous landslides.

PAST OCCURRENCES

Primary Seismic Hazards

Four comparatively large earthquakes have occurred around the City in recent history:

- In 1933, an earthquake off the coast of Long Beach measured an estimated 6.4 on the moment magnitude scale with an estimated Mercalli intensity of VIII. This earthquake killed 115 people, largely in southern Los Angeles and Long Beach.

- The 1971 San Fernando earthquake in the San Gabriel Mountains measured 6.5 on the moment magnitude scale and XI on the Mercalli intensity scale, killing 64 people and causing extensive damage to freeway structures and buildings.

- In 1987 an earthquake near Rosemead in the San Gabriel Valley, with a moment magnitude of 5.9 and a Mercalli intensity of VIII, killed three people and was widely felt throughout Southern California.

- The Northridge earthquake in 1994 measured 6.7 on the moment magnitude scale with a Mercalli intensity of IX. It killed 57 people, caused over 5,000 injuries, and spawned multiple strong aftershocks. This earthquake caused an estimated $20 billion or more in damages.

Some of the most extensive damage in the City occurred as a result of the Northridge earthquake. The Interstate 10 (I-10) overpasses at La Cienega Boulevard, Venice Boulevard, Fairfax Avenue, and Washington Boulevard, immediately north of the City, were significantly damaged and had to be rebuilt.

Secondary Seismic Hazards

The California Geological Survey does not identify any previous instances of liquefaction within City limits. Areas near the City, in Santa Monica and Marina Del Ray, have experienced past liquefaction events related to earthquakes. On a regional scale, liquefaction has caused damage in past earthquakes in the Los Angeles area, including the 1971 San Fernando earthquake and the 1994 Northridge earthquake. The California Geological Survey has noted evidence of

previous landslides in the Blair Hills neighborhood of the City, particularly near the Baldwin Hills Scenic Overlook.[4]

LOCATION/GEOGRAPHIC EXTENT

Primary Seismic Hazards

The City is located in a seismically active area; refer to Exhibit 4-3, *Regional Earthquake Faults*. Maps maintained by the California Department of Conservation place the City in an area at a high risk of ground shaking, although other areas in the region, such as the San Bernardino Valley, are deemed to be at higher risk.

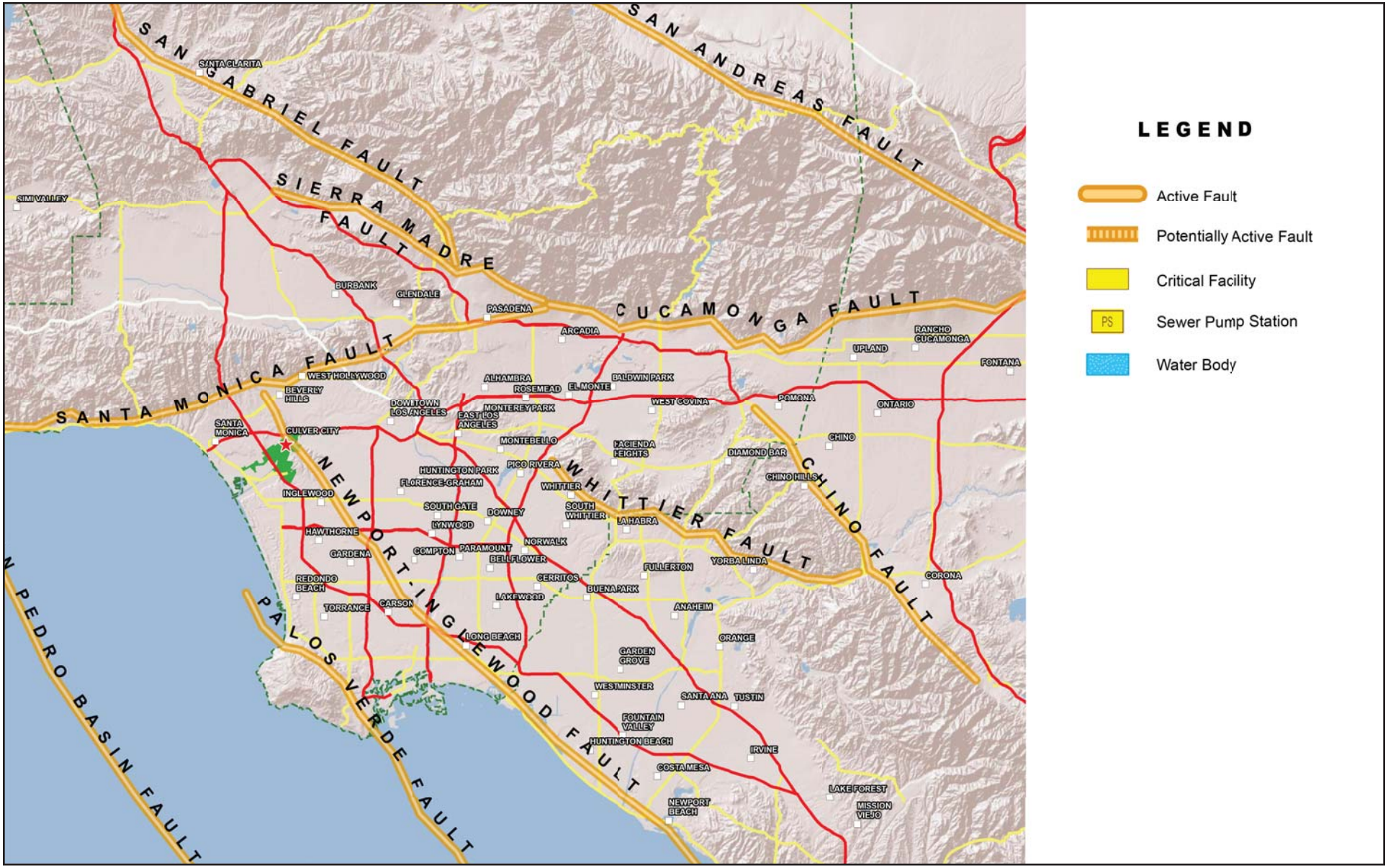
One fault, the Newport-Inglewood Fault Zone, runs from the Santa Monica Mountains near Beverly Hills southeast to Newport Beach, passing through the northern portion of the City; refer to Exhibit 4-4, *Local Earthquake Faults*. The fault zone is made up of three distinct segments and several faults and fractures, and is responsible for the topography of the Blair Hills area and nearby Ladera Heights. The Newport-Inglewood Fault Zone caused the 1933 Long Beach earthquake, which was the last major event along this fault. The Southern California Earthquake Center estimates that a future major event along this fault could measure 6.0 to 7.4 on the moment magnitude scale.[5] As a major fault passing through the City, it is capable of causing surface rupture in the community.

A number of other faults within 60 miles of the City are capable of producing earthquakes that could cause significant ground shaking, although these faults do not run through the community and so are unlikely to result in fault surface rupture in the City.

- The Palos Verdes Fault Zone extends from the Palos Verdes peninsula south out into the Pacific Ocean, running approximately 10 miles from the City at its closest point. It has not produced a significant earthquake in recorded history, although the last such event is believed to have happened within the past 10,000 years. The Southern California Earthquake Data Center estimates that this fault is capable of producing an earthquake measuring 6.0 to 7.0 or more on the moment magnitude scale.[6]

- The Sierra Madre Fault Zone runs along the southern edge of the San Gabriel Mountains from La Cañada-Flintridge to Claremont, approximately 16 miles from the City at its closest point. It is made up of five segments; scientists are unclear if any event along this fault could be limited to one segment or if events along multiple segments are possible. The last major event along the Sierra Madre Fault Zone is believed to have happened within the past 10,000 years, although no specific event is known. The Southern California Earthquake Data Center estimates that it is capable of producing an event measuring 6.0 to 7.0 on the moment magnitude scale.[7]

[4] California Department of Conservation Seismic Hazard Zone Reports, *Beverly Hills Quadrangle, Hollywood Quadrangle, Inglewood Quadrangle*, and *Venice Quadrangle*, 1998.
[5] Southern California Earthquake Data Center, *Newport-Inglewood Fault Zone*, http://scedc.caltech.edu/significant/newport.html, accessed August 11, 2015.
[6] Southern California Earthquake Data Center, *Palos Verdes Fault Zone*, http://scedc.caltech.edu/significant/palosverdes.html, accessed August 11, 2015.
[7] Southern California Earthquake Data Center, *Sierra Madre Fault Zone*, http://scedc.caltech.edu/significant/sierramadre.html, accessed August 11, 2015.



Source: City of Culver City, Information Technology Department, GIS; March 3, 2016.

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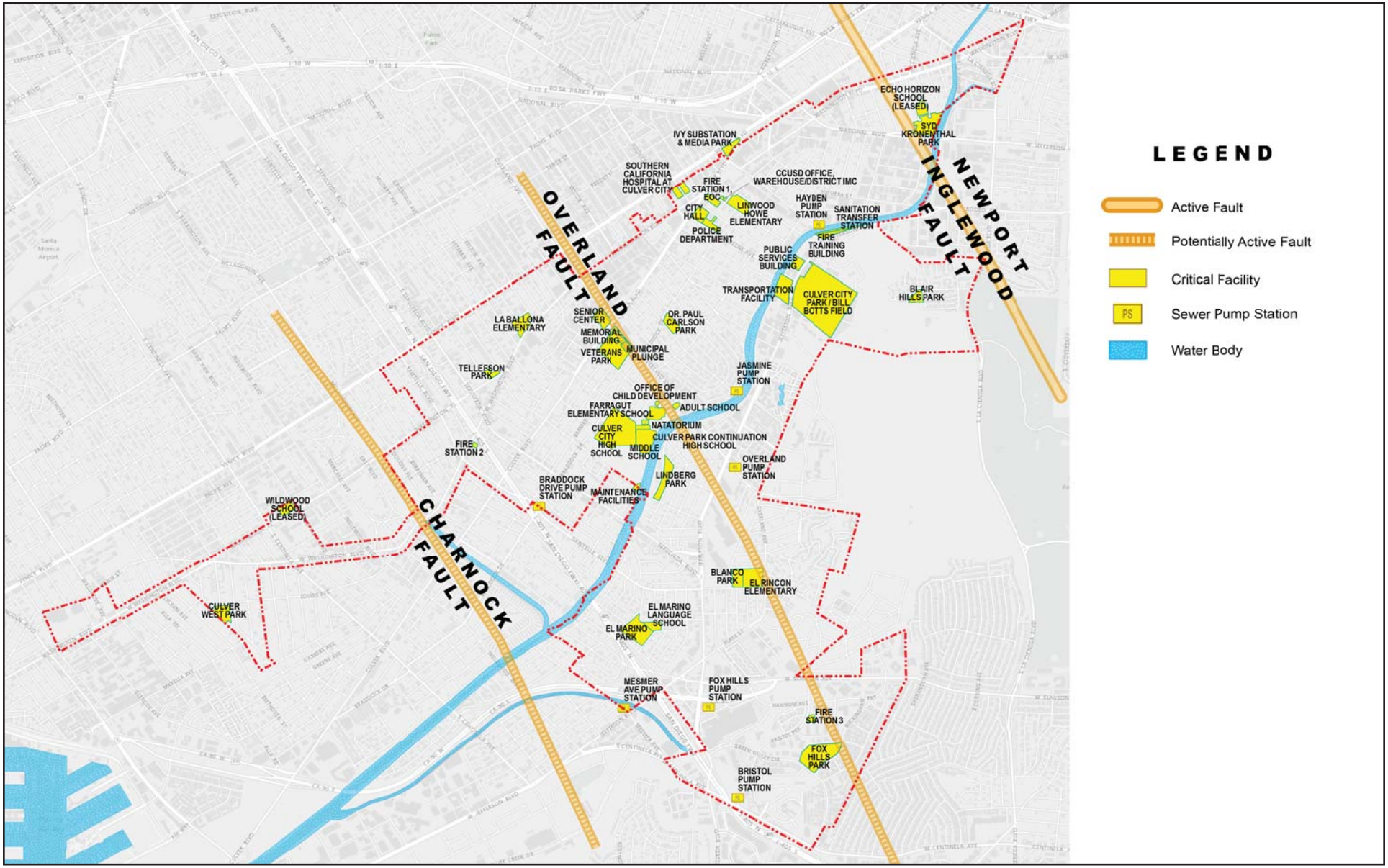
MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Regional Earthquake Faults

Exhibit 4-3



Source: City of Culver City, Information Technology Department, GIS; April 12, 2016.

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CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Local Earthquake Faults

Exhibit 4-4

- The Whittier-Elsinore Fault Zone runs from the Chino Hills region to the California-Mexico border, and is approximately 22 miles from the City at its closest point. Near Chino Hills it splits into two separate segments, the Chino Fault and the Whittier Fault. The last major event along this fault was a 1910 earthquake measuring an estimated 6.0 on the moment magnitude scale. This fault is believed to cause a major event approximately every 250 years with a probable magnitude of 6.5 to 7.5.[8]

- The San Andreas Fault, the largest and most well-known of California's faults, runs from Cape Mendocino to the Salton Sea. It is approximately 40 miles from the City at its closest point. It has caused numerous major earthquakes throughout California's history, including the 1906 San Francisco earthquake that destroyed much of that city and the 1989 Loma Prieta earthquake that caused widespread damage in the San Francisco Bay Area. The central portion of the San Andreas Fault was responsible for an earthquake measuring an estimated 7.9 on the moment magnitude scale, the strongest in California's recorded history in 1857 near the town of Parkfield (approximately 170 miles from the City). The Southern California Earthquake Data Center estimates that a future major event along the southern part of the San Andreas Fault could measure 6.8 to 8.0 on the moment magnitude scale. Scientists have noted that the southern portion of the fault has not seen a major event in at least 300 years, and they speculate that the risk of such an event may be increasing.[9]

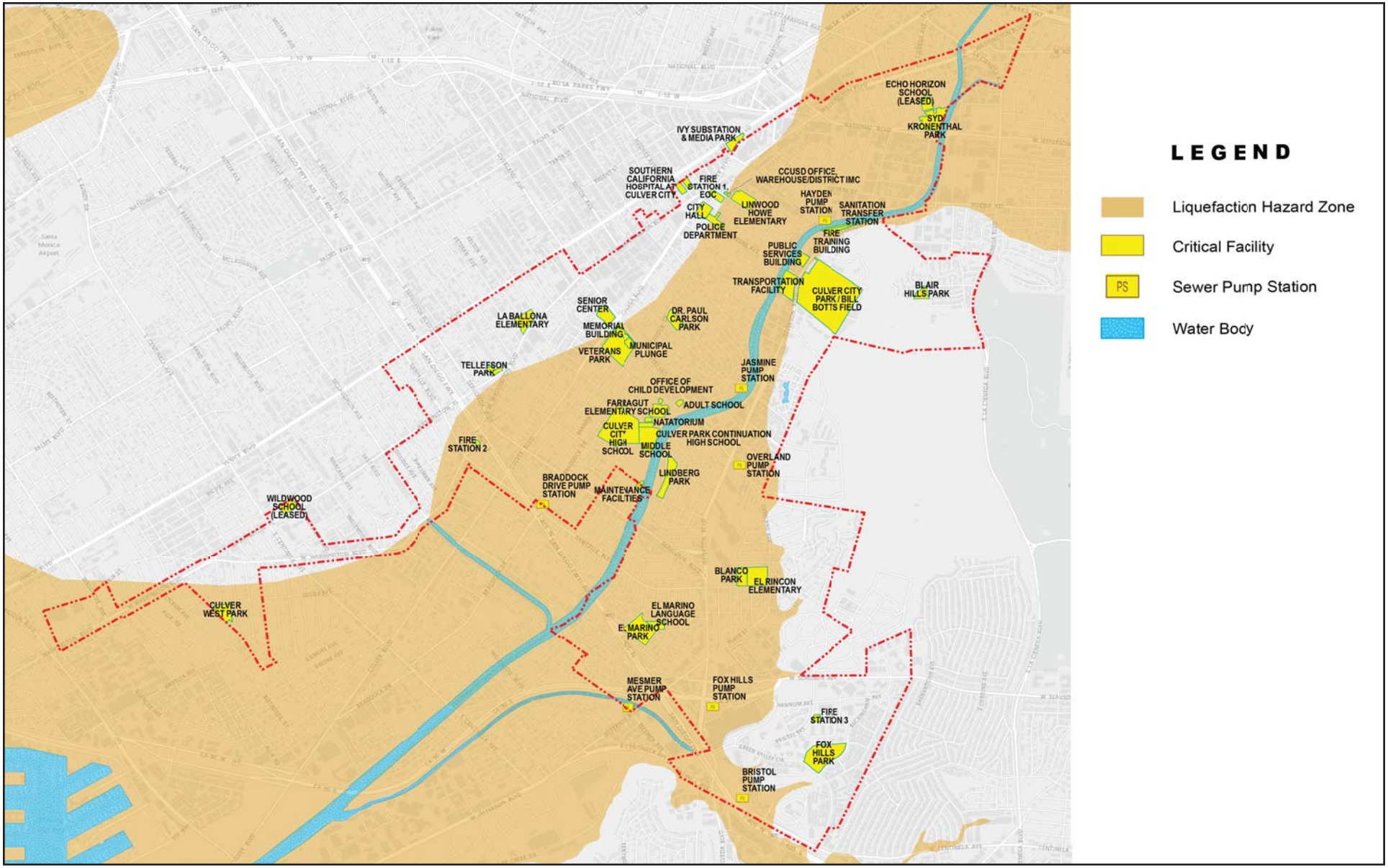
- The San Jacinto Fault Zone runs from San Bernardino to the Superstition Mountains south of the Salton Sea, and is approximately 60 miles from the City at its closest point. The last major event along this fault was the Borrego Mountain earthquake, which measured 6.8 on the moment magnitude scale. The Southern California Earthquake Data Center estimates that major events along this fault could measure 6.5 to 7.5 on the moment magnitude scale.[10]

The list above is not a comprehensive list of all known faults capable of producing a significant earthquake near the City. Additionally, there is a risk of earthquakes from faults that have not yet been discovered. The 1994 Northridge earthquake, which caused more property damage than any other earthquake in the United States and was the ninth most damaging earthquake in history, occurred along a then-undiscovered fault. A major earthquake along any of these faults could cause significant damage to the City.

Secondary Seismic Hazards

Most of the City is in an area of elevated liquefaction risk, except for the parts of the community near the City's northwestern border, the Blair Hills neighborhood, and the extreme southeastern part of the City; refer to Exhibit 4-5, *Liquefaction Potential Zone*. While the likelihood of liquefaction actually occurring in a future seismic event is dependent on a number of factors, there is a possibility for widespread and damaging liquefaction in the community.

[8] Southern California Earthquake Data Center, *Elsinore Fault Zone*, http://scedc.caltech.edu/significant/elsinore.html, accessed August 11, 2015.
[9] Southern California Earthquake Data Center, *San Andreas Fault Zone*, http://scedc.caltech.edu/significant/sanandreas.html, accessed August 11, 2015.
[10] Southern California Earthquake Data Center, *San Jacinto Fault Zone*, http://scedc.caltech.edu/significant/sanjacinto.html, accessed August 11, 2015.



Source: City of Culver City, Information Technology Department, GIS; April 12, 2016.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Liquefaction Potential Zone

Exhibit 4-5

The California Geologic Survey identifies the Blair Hills neighborhood as the primary location in the City with an elevated landslide risk; refer to Exhibit 4-6, *Landslide Potential Zone*. Past landslides in this area have been comparatively small, although still potentially large enough to significantly damage or destroy buildings. Seismic-related landslides would likely be confined to this specific region of the City, although under the right conditions there could be widespread damage or destruction in the Blair Hills neighborhood.[11]

MAGNITUDE/SEVERITY

Two scales are commonly used to measure earthquakes: the moment magnitude scale and the Mercalli intensity scale. The moment magnitude scale is based on the now largely-unused Richter scale and measures the amount of energy released by the earthquake. The Mercalli intensity scale measures the effects of the earthquake, and is based on qualitative observations rather than a rigorous quantitative calculation. Table 4-7, *Mercalli Intensity Scale*, shows the different categories of the Mercalli intensity scale.

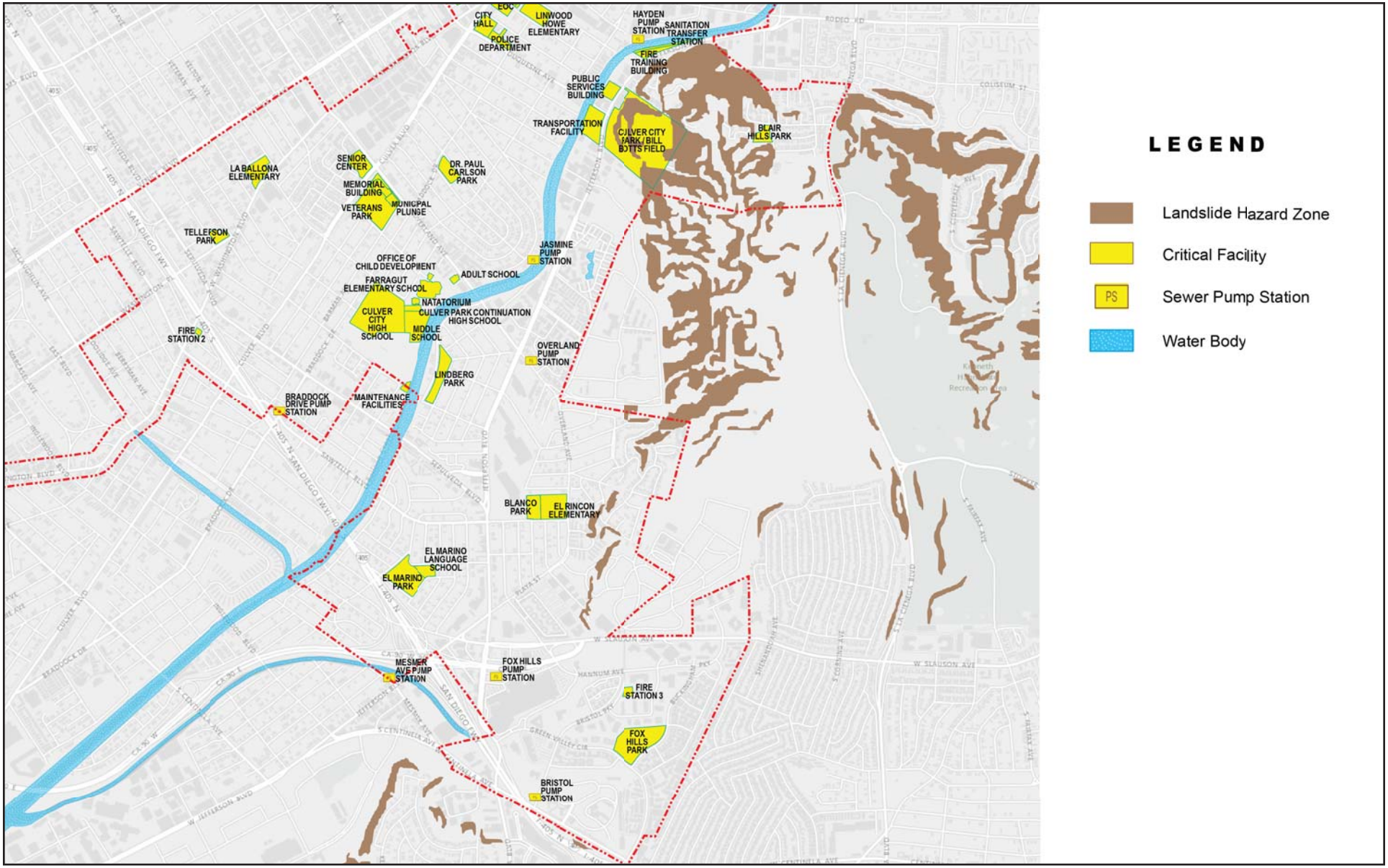
The moment magnitude and Mercalli intensity scales measure different elements of an earthquake. They do not precisely correlate to each other, although an approximate comparison is given in Table 4-8, *Approximate Comparison of Moment Magnitude and Mercalli Intensity Scales*.

Table 4-7
Mercalli Intensity Scale

Intensity	Description
I	Not felt, except by a very few people under especially favorable conditions.
II	Felt only by a few people at rest, especially on the upper floors of buildings.
III	Noticeable by people indoors, especially on the upper floors of buildings, although it is not widely recognized as an earthquake. Parked vehicles may move slightly.
IV	Felt indoors by many and felt outdoors by some. May awaken sleeping people. Dishes, windows, and doors disturbed. Parked vehicles move noticeably.
V	Felt by almost everyone. Sleeping people awakened, and some dishes and windows broken. Unstable objects overturned, and pendulum clocks may stop.
VI	Felt by everyone. Some heavy furniture moved, and some instances of falling plaster. Damage slight, although many people may be frightened.
VII	Considerable damage in poorly built or badly designed structures, slight to moderate damage in well-built ordinary structures, and negligible damage in buildings of good design and construction. Some chimneys broken.
VIII	Great damage in poorly built structures, considerable damage and partial collapse in well-built ordinary structures, and slight damage in specially designed structures. Chimneys, factory stacks, columns, monuments, and walls fall. Heavy furniture overturned.
IX	Well-designed structures thrown out of plum, considerable damage in specially-designed structures. Substantial buildings suffer great damage and partial collapse. Buildings shifted off of foundations.
X	Some well-built wood structures destroyed. Most masonry and frame structures and foundations destroyed. Rails bent.
XI	Few if any masonry structures remain standing. Bridges destroyed and rails greatly bent.
XII	Total damage. Lines of sight and level are distorted. Objects thrown into the air.

Source: USGS, *Magnitude/Intensity* Comparison, http://earthquake.usgs.gov/learn/topics/mag_vs_int.php, accessed August 11, 2015.

[11] California Department of Conservation, *Seismic Hazard Zone Report: Beverly Hills Quadrangle*, 1998.



Source: City of Culver City, Information Technology Department, GIS; April 12, 2016.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Landslide Potential Zone

Exhibit 4-6

Table 4-8
Approximate Comparison of Moment Magnitude and Mercalli Intensity Scales

Moment Magnitude	Mercalli Intensity
1.0 to 3.0	I
3.0 to 3.9	II to III
4.0 to 4.9	IV to V
5.0 to 5.9	VI to VII
6.0 to 6.9	VII to IX
7.0 and greater	VIII and greater

Source: USGS, *Magnitude/Intensity Comparison*, http://earthquake.usgs.gov/learn/topics/mag_vs_int.php, accessed August 11, 2015.

PROBABILITY OF FUTURE OCCURRENCES

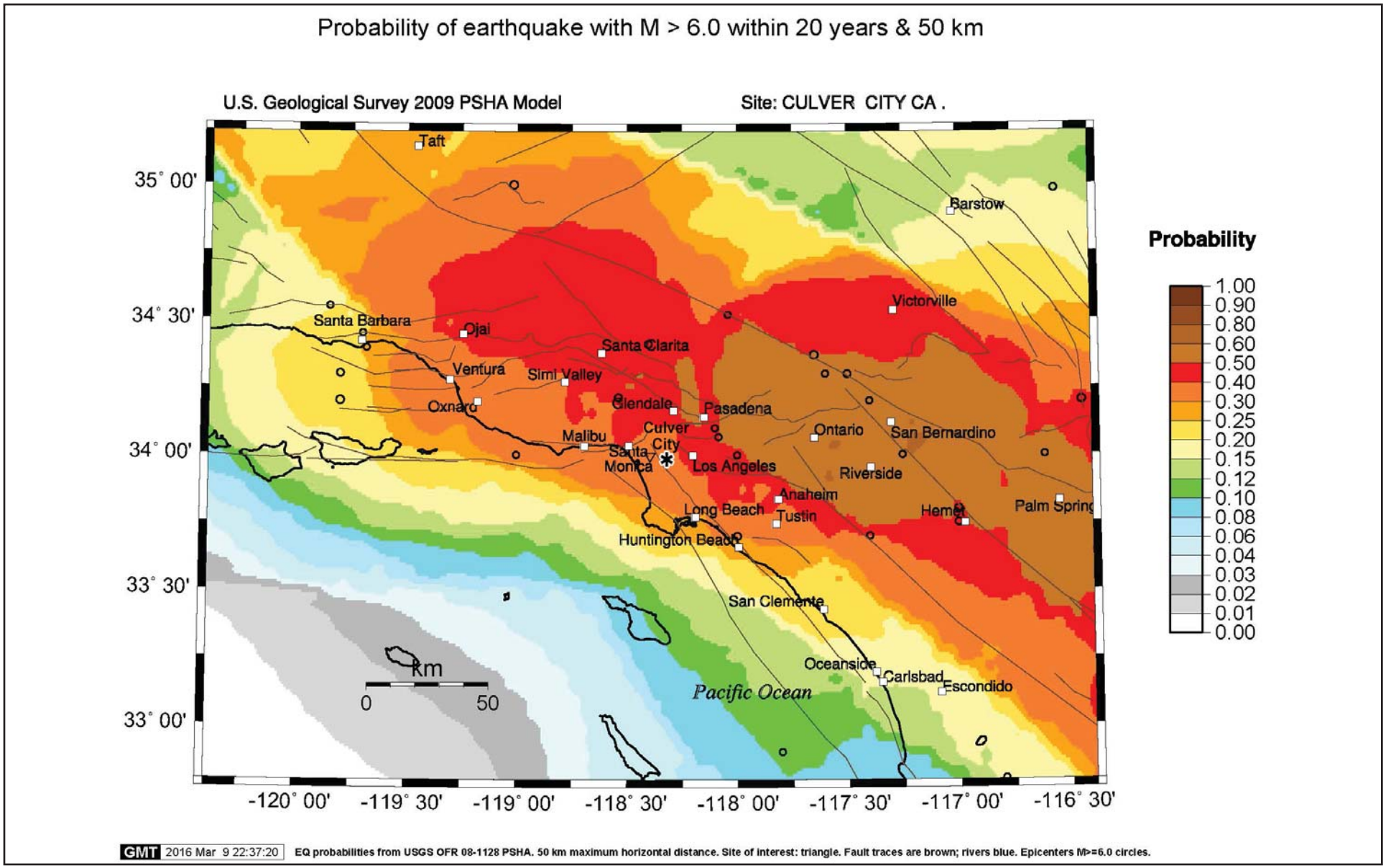
There are several faults and fault systems passing through and within 60 miles of the City, placing them in an area of high seismic risk and high probability of occurrence. As discussed above, the Southern California Earthquake Center estimates that a future major event along any of these faults (Newport-Inglewood Fault Zone; Palos Verdes Fault Zone; Sierra Madre Fault Zone; Whittier-Elsinore Fault Zone; San Andreas Fault Zone; and San Jacinto Fault Zone) could cause significant damage to the City. Of these faults, the Newport-Inglewood Fault presents a high seismic risk of causing surface rupture in the community as it passes through the City. The variable colored map in Exhibit 4-7, *Earthquake Probability*, is the Probabilistic Seismic Hazards Map (PSHM) for Magnitude 6.0 earthquakes or greater within the next 20 years in the City region.[12] The lower the probability of an earthquake, the further the area is away from known active faults. Areas identified in grey, blue, and green probability on the probability scale are predicted to experience lower levels of shaking less frequently. Exhibit 4-7 shows a 25 to 30 percent chance of an earthquake greater than Magnitude 6.0 occurring within the next 20 years.[13]

The impact and potential losses of such an event reveal significant risk and would be devastating to not only the City and Los Angeles County, but the entire Southern California region. With the highly concentrated population of over 10 million and the heavy use of the transportation infrastructure, a major earthquake could virtually shut down large portions of Southern California.

The probability that liquefaction will occur in the future in the City is dependent on many factors including the intensity of ground shaking, location of the earthquake, and subsurface conditions (including groundwater elevation). For those areas of the City identified with a high and very high liquefaction potential such as the Blair Hills neighborhood, it should be anticipated that potential damage could occur under future earthquakes.

[12] U.S. Geological Survey 2009 PSHA Model, *Probability of Earthquake with M>6.0 within 20 years & 50 km Culver City,* http://geohazards.usgs.gov/eqprob/2009/output/5126.pdf, accessed March 9, 2016.

[13] The 2009 Earthquake Probability Mapping considers the minimum earthquake magnitude for earthquake probabilities. For analysis purposes, the minimum magnitude of 6.0 was used based on the Southern California earthquake Center's estimate that a future major event along the Newport-Inglewood Fault Zone could measure 6.0 to 7.4 on the moment magnitude scale.



Source: U.S. Geological Survey 2009 PSHA Model, Culver City, CA; March 9, 2016.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Earthquake Probability

Exhibit 4-7

CLIMATE CHANGE CONSIDERATIONS

Seismic hazards are not directly affected by climate; thus, climate change is not expected to have any direct influence on the likelihood, size, and/or severity of any future primary seismic hazard. However, it is possible that anticipated changes to precipitation levels and storm intensity may have an impact on liquefaction. In the coastal areas of Southern California, climate change is expected to decrease overall precipitation levels and cause more frequent drought conditions, but there is also a possibility of an increased frequency in intense storms.[14] A decrease in precipitation levels, combined with an increased frequency of drought or near-drought events, may cause the groundwater level to drop, particularly if drought-stressed communities pump more water out of the ground to replace other sources of water that are no longer available. This decrease in groundwater supplies may make liquefaction less likely. At the same time it is possible that an increase in intense storms may create shallow groundwater deposits, potentially increasing the risk of liquefaction or increasing the area of the City that is vulnerable to liquefaction events. Periods of intense rainfall may also increase the risk of landslides, at least temporarily until the soil dries out. Additional research is needed to clarify the indirect connection between climate change and seismic hazards, and the possibility of a change in secondary seismic hazards as a result of climate change.

VULNERABILITY AND RISK ASSESSMENT

As noted in the hazard profile, seismic hazards include primary hazards (fault rupture and ground shaking), and secondary hazards (liquefaction and landslides). These hazards affect different areas of the City with varying degrees of severity. Both primary and secondary hazards affect the residential and business communities, as well as critical facilities that serve key public uses. Elderly persons and people with disabilities are likely to face increased risks from seismic hazards.

Seismic hazards, both primary and secondary, pose a greater risk to buildings that lack certain resilient features. Unreinforced masonry (masonry buildings that lack steel reinforcing) and soft-story buildings (buildings with large open spaces on the ground floor, such as garages and commercial space) face greater threats from fault rupture and ground shaking. Similarly, buildings with weak foundations and ground reinforcements, or lacking deep foundation pylons, may face increased risks from liquefaction and landslides. In general, older buildings that were constructed prior to modern building codes are more likely to have these vulnerable features and thus face greater vulnerabilities from seismic hazards. According to the US Census, over 87 percent of houses in the City were constructed prior to 1980, and therefore may be vulnerable if not retrofitted. Seismic hazards of all types may also interrupt service along important infrastructure networks such as power and communication lines, natural gas pipes, water and sewer pipes, and roadways. In addition to interrupting service, damage to natural gas pipes may cause gas leaks that could result in fires.

Although there is no specific estimate of damage in the City itself from future seismic events, the California Geological Survey regularly prepares earthquake damage scenarios for Southern California. A magnitude 6.9 earthquake on the Newport-Inglewood Fault, which runs through the

[14] California Natural Resources Agency, *California Climate Adaptation Planning Guide – Understanding Regional Characteristics*, http://resources.ca.gov/docs/climate/APG_Understanding_Regional_Characteristics.pdf, 2012 and Dettinger, M, *Climate Change, Atmospheric Rivers, and Floods in California – A Multimodel Analysis of Storm Frequency and Magnitude Changes*, http://tenaya.ucsd.edu/~dettinge/md_jawra2011.pdf, 2011.

City, would cause approximately $34 billion in building damage throughout the region, not including damage from liquefaction and landslides. The City would likely face significant damage from a hypothetical magnitude 7.1 earthquake on the Puente Hills Fault under downtown Los Angeles, which would cause an estimated $79 billion in damage, kill as many as 500 to 2,000 people, and displace approximately 58,000 households.[15]

Primary Seismic Hazards

The fault rupture hazard in the City is limited to a 500-foot buffer surrounding the fault rupture zones identified in the California Department of Conservation's Alquist-Priolo maps; refer to Exhibit 4-8, *Alquist-Priolo Fault Zone*. The total size of this buffer is 187.5 acres, or approximately 5.7% of the City. Ground shaking is not limited to a specific geographic region; depending on the location and severity of an earthquake, all of the City could be at risk from ground shaking.

Vulnerable Population and Businesses

There are 354 housing units in the City's fault rupture hazard zone, home to an estimated 736 people. Relative to all of the City, the residents of the fault rupture hazard zone have a higher average income and a higher level of educational attainment. Within the fault rupture hazard zone are 118 businesses employing an estimated 1,353 people. These businesses are largely service businesses and retail stores.

Critical Facilities

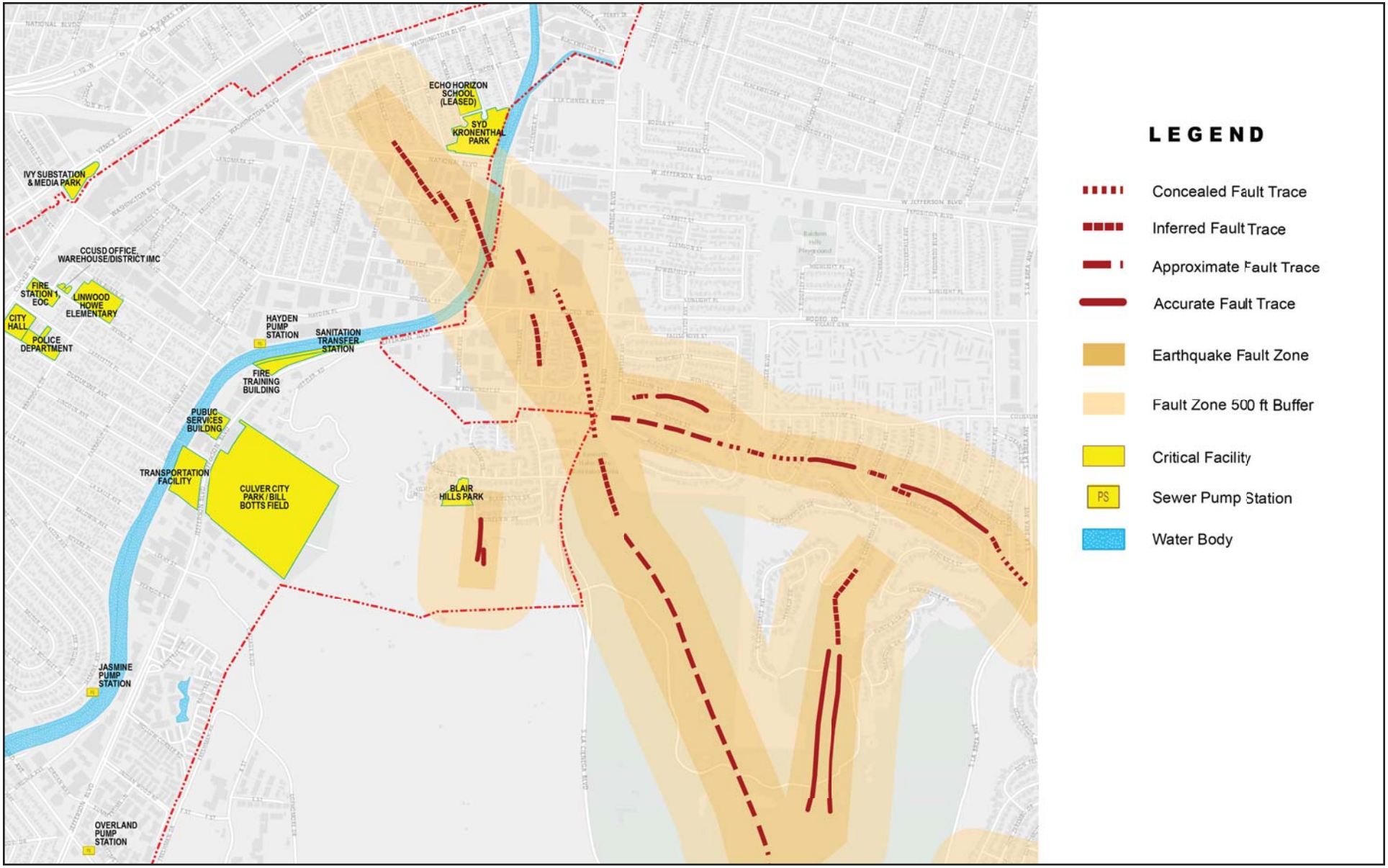
The City's fault rupture hazard zone contains three critical facilities: two City-owned facilities and one owned by CCUSD; refer to Exhibit 4-8. These three facilities and their contents have a total value of approximately $6.2 million, as shown in Table 4-9, *Critical Facilities in the Fault Rupture Hazard Zone*.

Table 4-9
Critical Facilities in the Fault Rupture Hazard Zone

Critical Facility Name	Location	Facility Replacement Cost	Content Replacement Cost	Total Insurable Value
Echo Horizon School (CCUSD)*	3430 McManus Avenue	$5,112,000	$0	$5,112,000
Syd Kronenthal Park (City)	3459 McManus Avenue	$942,611	$65,879	$1,008,490
Blair Hills Park (City)	5950 Wrightcrest Drive	$95,777	$0	$95,777
Total		**$6,150,388**	**$65,879**	**$6,216,267**

* The Echo Horizon School facility is owned by the CCUSD, but is leased to a private school.

[15] California Geologic Survey, HAZUS Scenario and Annualized Earthquake Loss Estimation for California, ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/2011%20Annualized%20Losses/CGS_SR222_%20Losses_Final.pdf, 2011.



Source: City of Culver City, Information Technology Department, GIS; April 12, 2016.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Alquist-Priolo Fault Zone

Exhibit 4-8

Secondary Seismic Hazards

The City's liquefaction hazard zone covers 1,996.9 acres (3.12 square miles), or approximately 60.7 percent of the community's total area. The landslide risk zone is significantly smaller and limited to the Blair Hills neighborhood, covering 111.9 acres or approximately or 3.4 percent of the City's total area.

Vulnerable Population and Businesses

Because the City's liquefaction hazard zone covers more than half of the community's land area, there is a large population within the vulnerable zone. The liquefaction zone encompasses 9,401 housing units, home to an estimated 22,084 people (approximately 56 percent of all City residents). Residents in the liquefaction hazard zone are more likely to have a higher household income and a higher degree of educational attainment, although the differences in these areas between residents in the liquefaction hazard zone compared to all of the City are minor. There are 2,103 businesses in the liquefaction hazard zone employing an estimated 24,120 people. Businesses in the services and retail trade industries make up a majority of the businesses in the liquefaction hazard zone.

No housing units or businesses are located within the landslide hazard area itself. However, debris flows from any landslides occurring in this area may cause structural damage or disrupt infrastructure services (for example, by blocking roads) in surrounding areas.

Critical Facilities

There are 29 critical facilities that are vulnerable to liquefaction; refer to Exhibit 4-5. Fourteen of these facilities are owned by CCUSD, while 15 are owned by the City itself. The CCUSD facilities have a current total enrollment of 6,491 students and 467 staff; some of these facilities are administrative buildings without any enrolled students. The critical City facilities include buildings vital to disaster response and recovery operations, such as the Police Department building and Fire Station No. 2. In total, these 29 facilities have an insurable value of $219,418,657. Table 4-10, *Critical CCUSD Facilities in the Liquefaction Hazard Zone*, shows the critical CCUSD facilities, while Table 4-11, *Critical City Facilities in the Liquefaction Hazard Zone*, shows the critical City-owned facilities.

Because a relatively small portion of the community is vulnerable to landslides, only two critical facilities are in the landslide hazard area, both of which are City-owned parks. These facilities are listed in Table 4-12, *Critical Facilities in the Landslide Hazard Zone*.

Table 4-10
Critical CCUSD Facilities in the Liquefaction Hazard Zone

Critical Facility Name	Location	Facility Replacement Cost	Content Replacement Cost	Total Insurable Value
Unified School District Office	4034 Irving Place	$6,277,215	$580,000	$6,857,215
High School	4401 Elenda Street	$41,376,330	$8,101,000	$49,477,330
Culver Park Continuation High School	4601 Elenda Street	$1,660,664	$321,000	$1,981,664
Middle School	4601 Elenda Street	$26,524,743	$2,598,000	$29,122,743
El Marino Language School	11450 Port Road	$8,348,419	$1,496,000	$9,844,419
El Rincon Elementary	11177 Overland Avenue	$8,937,845	$1,332,000	$10,269,845
Farragut Elementary	10820 Farragut Drive	$9,614,940	$1,572,000	$11,186,940
Linwood E. Howe	4100 Irving Place	$9,130,373	$1,679,000	$10,809,373
Office of Child Development	10800 Farragut Drive	$1,084,116	$250,000	$1,334,116
Adult School	4909 Overland Avenue	$4,000,000	$589,000	$4,589,000
Maintenance Facilities	11102 Lucerne Avenue	$1,607,074	$258,000	$1,865,074
Natatorium	4601 Elenda Street	$3,762,509	$147,000	$3,909,509
Warehouse/ District IMC	4034 Irving Place	$1,339,000	$209,000	$1,548,000
Echo Horizon School*	3430 McManus Avenue	$5,112,000	$0	$5,112,000
Total		**$128,775,228**	**$18,552,000**	**$147,907,228**

* The Echo Horizon School facility is owned by the CCUSD, but is leased to a private school.

Table 4-11
Critical City Facilities in the Liquefaction Hazard Zone

Critical Facility Name	Location	Facility Replacement Cost	Content Replacement Cost	Total Insurable Value
Police Department	4040 Duquesne Avenue	$10,212,855	$1,752,325	$11,965,180
Fire Station No. 2	11252 Washington Boulevard	$1,706,216	$92,297	$1,798,513
Fire Training Building	9275 Jefferson Boulevard	$282,256	$36,392	$318,648
Public Works Yard	9505 Jefferson Boulevard	$8,310,098	$1,786,196	$10,096,294
Sanitation Transfer Station	9255 Jefferson Boulevard	$4,026,878	$438,464	$4,465,342
Transportation Facility	4343 Duquesne Avenue	$26,036,981	$2,761,451	$28,798,432
Veterans Park & Memorial Building	4117 Overland Avenue	$7,048,303	$443,126	$7,491,429
Syd Kronenthal Park	3459 McManus Avenue	$942,611	$65,879	$1,008,490
Blanco Park	5801 Sawtelle Boulevard	$164,087	$0	$164,087
Culver West Park	4162 Wade Street	$912,258	$77,608	$989,866
El Marino Park	5301 Berryman Avenue	$287,818	$21,265	$309,083
Dr. Paul Carlson Park	4233 Motor Avenue	$132,746	$0	$132,746
Culver City Park (Botts Field)	9690 Jefferson Boulevard	$459,048	$32,444	$491,492
Lindberg Park	5401 Rhoda Way	$517,120	$30,584	$547,704
Municipal Plunge	4175 Overland Avenue	$2,839,743	$94,380	$2,934,123
Total		**$63,879,018**	**$7,632,411**	**$71,511,429**

Table 4-12
Critical Facilities in the Landslide Hazard Zone

Critical Facility Name	Location	Facility Replacement Cost	Content Replacement Cost	Total Insurable Value
Blair Hills Park (City)	5950 Wrightcrest Drive	$95,777	$0	$95,777
Culver City Park (Botts Field) (City)	9690 Jefferson Boulevard	$459,048	$32,444	$491,492
Total		**$554,825**	**$32,444**	**$587,269**

4.4.3 FLOOD HAZARDS

FLOOD HAZARDS DESCRIPTION

Flooding occurs when a waterway, either a natural one or an artificial drainage channel, receives more water than it is capable of conveying, causing the water level in the waterway to rise. Depending on how long these conditions last and the amount of water the waterway receives in proportion to its capacity, the rising water level may eventually overtop the waterway's banks or any other boundaries to the drainage area, resulting in flooding in the surrounding area. The severity of a flood event also depends on the local topography and the ability of the soil in the area to absorb water. Floods often occur during heavy precipitation events, when the amount of rainwater exceeds the capacity of storm drains or flood control channels. Floods can also happen when infrastructure such as levees, dams, or culverts fail, or when a section of drainage infrastructure fails and water cannot be drained from an area fast enough. These failures can be linked to precipitation events (e.g., when water erodes away a levee, allowing water to escape and flood nearby areas), or can be a consequence of other emergency situations (e.g. a dam collapsing due to an earthquake).

The force of a flood is sufficient to carry away large objects and damage structures, causing considerable damage to buildings and infrastructure. In severe instances, floodwaters themselves can destroy structures or move them off their foundation. Floods can saturate and weaken soil, potentially making structures built on them more susceptible to damage or collapse.

PAST OCCURRENCES

Floods are among the most common types of disaster in California. According to the SHMP, 63 percent of all federally-declared major disasters in California between 1954 and 2011 were floods. During that time, flood events in the state have killed close to 300 people and caused over $4.8 billion in damage.

The City has been relatively free of major flood events in previous years, although small-scale flooding has occurred during intense precipitation. Significant flooding has occurred in the wider Los Angeles area, largely in the areas immediately around the Los Angeles River, which is located approximately 9 miles from the City. The Los Angeles River experienced frequent and often significant flooding in the 1800s and early 1900s. A flood event in 1914 spurred widespread flood control efforts in the area, which were accelerated by a 1938 flood that killed approximately 115 people. The Los Angeles River and other waterways in the area have since been largely channelized, but this has not eliminated the risk.

The main waterway in the City is Ballona Creek, which runs approximately 9 miles from the Mid-Wilshire neighborhood of Los Angeles through the City and out to the Pacific Ocean at Marina Del Rey. Ballona Creek was channelized, straightened, and deepened in the 1930s to control flooding. A tributary of Ballona Creek, Centinela Creek, runs along part of the community's southern border and was channelized in the 1960s.[16]

[16] County of Los Angeles Department of Public Works, *Ballona Creek Watershed Management Plan, 2004,* http://ladpw.org/wmd/watershed/bc/bcmp/masterplan.cfm.

LOCATION/GEOGRAPHIC EXTENT

FEMA flood maps indicate that a few locations in the northern part of the City are at an elevated risk for flooding; refer to Exhibit 4-9, *FEMA Flood Zones*. A small area, bordered roughly by Ballona Creek, Fairfax Avenue, and Adams Boulevard lies within a 100-year flood zone for a 1 to 3 foot flood, meaning that there is a one in 100 chance that a flood event sufficient to cause 1 to 3 feet of inundation will occur in any given year (Zone AO).[17] Two additional areas nearby, one between Eastham Drive and Ballona Creek and the second in the area immediately adjacent to Ballona Creek between National Boulevard and Sentney Avenue, are also within a 100-year flood zone, although FEMA does not specify the potential amount of inundation in this area (Zone A). Another part of the City, between Adams Boulevard and Dauphin Street, is at risk from a flood capable of causing inundation of less than 1 foot with a chance of occurring between one in 100 and one in 500 in any given year (Zone X).

MAGNITUDE/SEVERITY

Magnitude and severity of flooding generally results from prolonged heavy rainfall and are characterized by high intensity, short duration runoff events. Floods usually occur during the season of highest precipitation events or during heavy rainfalls after long dry spells. Flooding is more severe when the ground is frozen and infiltration is minimal due to saturated ground conditions, or when rain-on-snow in the higher elevations adds snowmelt to rainfall runoff, resulting in intensified flood conditions.

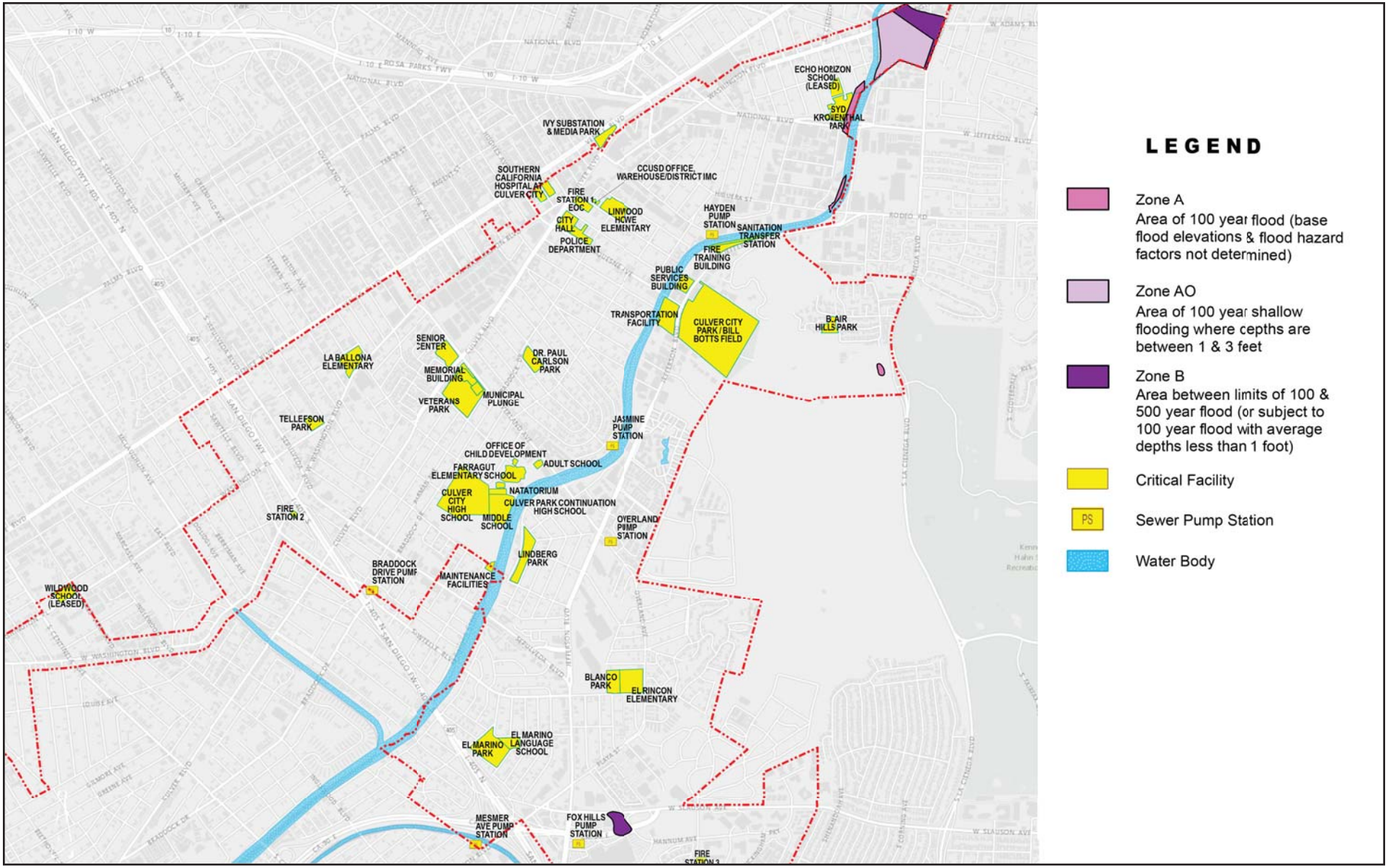
Shallow flooding, resulting from inadequate drainage and having an average depth of 1 foot, occurs on the east side of Ballona Creek Channel in the vicinity of the intersection of Adams and Washington Boulevards. In addition, shallow flooding with depths less than 1 foot occurs along the western border of Hannum Avenue, in the northeast section of the Fox Hills Mall.[18]

PROBABILITY OF FUTURE OCCURRENCES

FEMA defines flood zones based on the probability of occurrence, expressed in a percentage of the change of a flood of a specific extent occurring in any given year. For areas located within the 100-year flood zone, there is a 1 percent chance in a given year that this area will be inundated by flood waters. For moderate flood hazard areas located within the 500-year flood zone, this probability decreases to 0.2 percent. For minimal flood hazard areas, they are located outside of the 0.2 percent annual chance flood.

[17] A 100-year flood does not mean that such a flood event will occur only once every 100 years, but rather that the odds of such an event occurring in any given year is one in 100. It is possible to have multiple 100-year floods relatively close together.

[18] Federal Emergency Management Agency, *Flood Insurance Study Los Angeles County, California and Incorporated Areas,* September 26, 2008.



Source: City of Culver City, Information Technology Department, GIS; April 12, 2016.

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

FEMA Flood Zones

Exhibit 4-9

CLIMATE CHANGE CONSIDERATIONS

Although climate change is expected to cause an overall decrease in precipitation levels and a general increase in drought conditions, some evidence suggests it may result in an increase in the number of more intense storms due to a strengthening of the atmospheric river phenomenon, although more research is needed.[19] These two changes may both contribute to an increased flooding risk. More intense storms are likely to drop a larger amount of water in a shorter period of time, increasing the risk of the volume of water overwhelming the ability of the soil or infrastructure to drain it away, and thus creating flooding. The overall drier conditions are expected to dry out the soil, which makes it more difficult for water to soak into the ground, further increasing the risk of flooding. It is not yet known if climate change will affect the frequency or severity of El Niño events.

VULNERABILITY AND RISK ASSESSMENT

Flood events in the City can occur when precipitation events overwhelm existing drainage or flood control infrastructure, or from infrastructure failure such as a dam collapse. Flooding, particularly when caused by rainfall, can be exacerbated by clogged drains or other infrastructure impairments. Flooding may damage homes, buildings, and key infrastructure, and cause injury and death. As with many other hazards, elderly persons and people with disabilities may face increased vulnerability due to existing health conditions, limited mobility, and special healthcare requirements that may be challenging to obtain during a major disaster.

The flood hazard zone in the City is relatively small, covering 28.3 acres (approximately 0.8 percent of the community's land area) in the northeastern part of the community. However, major roadways such as Washington Boulevard and Fairfax Avenue run through the vulnerable area. Flooding events that disrupt these roadways may cause significant congestion and economic impacts for people and businesses throughout the City and in surrounding communities.

Vulnerable Population and Business

Table 4-13, *Acreage and Buildings by Flood Zone Type*, shows the acreage and number of buildings within each flood zone type.

Table 4-13
Acreage and Buildings by Flood Zone Type

Flood Zone Type	Size (acres)	Buildings
Zone AO	20.82	63
Zone A	6.17	6
Zone X	12.33	37

[19] Dettinger, M, *Climate Change, Atmospheric Rivers, and Floods in California – A Multimodel Analysis of Storm Frequency and Magnitude Changes*, http://tenaya.ucsd.edu/~dettinge/md_jawra2011.pdf, 2011.

The flood hazard zone in the City is primarily a commercial area. The area encompasses an estimated 46 businesses, employing 364 people. These businesses are primarily service industries and retail stores, with a smaller number of construction-related businesses and a handful of businesses related to various other industries. Estimates of vulnerable populations may not be very reliable due to the small size of the area and the few houses contained in this area; at most, there are 20 to 30 residents within the City's flood hazard zone.

Critical Facilities

The City has one critical facility within the flood hazard zone: a City-owned park, as shown in Table 4-14, *Critical Facilities in the Flood Hazard Zone*.

Table 4-14
Critical Facilities in the Flood Hazard Zone

Critical Facility Name	Location	Facility Replacement Cost	Content Replacement Cost	Total Insurable Value
Syd Kronenthal Park (City)	3459 McManus Avenue	$942,611	$65,879	$1,008,490

4.4.4 SEVERE WEATHER

SEVERE WEATHER DESCRIPTION

Severe weather can be defined as any destructive weather event with the potential to damage property or cause loss of life. In regards to the City, severe weather is generally any destructive weather event, but usually occurs as localized storms such as thunderstorms, winter storms, and strong wind events. Severe weather occurs in many forms and varies significantly in size, strength, intensity, duration, and impact. Severe weather may include:

- High winds, including Santa Ana winds
- Tornadoes
- Thunderstorms

For purposes of this document, this severe weather profile will include information on incidents that have occurred in or near the City boundaries.

High winds are defined as those that last longer than one hour at greater than 39 miles per hour (mph) or for any length of time at greater than 57 mph. They are the most frequent type of severe weather in the City. Windstorms that affect Los Angeles County, notably Santa Ana winds, are not location specific but rather impact a majority of the area. Santa Ana winds form when a high-pressure region sits over the Great Basin (the high plateau west of the Rockies and east of the Sierra Nevada), forcing air toward the Pacific coast. The air dries and heats up as it descends from the high plateau, creating the warm dry characteristics of the Santa Ana winds.

Severe windstorms pose a significant risk to life and property by creating conditions that disrupt essential systems such as public utilities, telecommunications, and transportation routes. High winds can and do occasionally cause damage to homes and businesses. The winds are not considered major widespread threats to population and property, but do involve responses from emergency service personnel. Severe windstorms can present a very destabilizing effect on the dry brush that covers local hillsides and wildland-urban interface areas and can increase wildfire threat. Destructive impacts to trees, power lines, and utility services also are associated with high winds. Falling trees can occasionally cause fatalities and serious structural damage while fallen power lines could cause widespread power outages and fire. These incidents are rare as well as localized.

Tornadoes are violently rotating columns of air reaching from the ground's surface to a cloud, usually a thundercloud. The very high wind speeds of tornadoes can directly damage structures and other objects, and can cause further damage by picking up heavy objects and hurling them around. Tornadoes are rare in California, but not unprecedented.

Thunderstorms are another type of severe weather which may affect the City. They bring lightning and thunder, and frequently (although not always), high winds and intense precipitation. While there are many types of thunderstorms of varying severity, they all form when warm moist air rises rapidly through an unstable atmosphere, allowing for the development of large thunderclouds. Lightning from thunderstorms can spark fires, and hailstorms can damage structures and injure people caught outside. Thunderstorms may also spark tornadoes, severe winds, and flooding from intense precipitation.

California is subject to wide variations in weather due to a phenomenon called the El Niño-Southern Oscillation (ENSO, often called El Niño[20]). ENSO is a cyclical pattern in the water temperatures of the equatorial eastern Pacific Ocean, off the coast of South America. It is not a form of severe weather by itself, but it can cause changes in global weather patterns, including influencing the likelihood of severe weather. There are three phases of ENSO: the "warm phase" (El Niño), the "cold phase" (known as La Niña), and the neutral phase in which conditions are normal. During the warm El Niño phase, California sees higher levels of precipitation. El Niño also causes more tropical storms in the eastern Pacific, which may result in severe weather such as thunderstorms over California. During the cool La Niña phases, these effects are reversed.

PAST OCCURRENCES

Windstorms

The majority of high wind incidents in the City are the result of the Santa Ana wind conditions and high winds associated with winter rainstorm activity. While high impact wind incidents are not frequent in the area, significant Santa Ana wind events have been known to negatively impact the Los Angeles region. Santa Ana winds are blustery, warm (often hot) dry winds that blow from the east or northeast and occur below the passes and canyons of the coastal ranges of Southern California, sweeping across the Los Angeles Basin. Table 4-15, *Major Windstorms in Los Angeles County*, identifies and describes past windstorm events from 1950 to 2015 in the surrounding Los Angeles region.

[20] The term "El Niño" is often used to refer to the entire ENSO cycle. However, strictly speaking, it refers only to the warm phase of the ENSO cycle.

Table 4-15
Major Windstorms in Los Angeles County

Date	Location/Event	Type	Magnitude (kts.)	Damage
11/25/1996	Santa Monica Mountains; Los Angeles County Coasts	High Wind	85	Numerous trees and power lines were blown down.
11/28/1996	Santa Monica Mountains; Los Angeles County Coasts	High Wind	52	Numerous trees and power lines were blown down.
12/14/1996	Los Angeles County Mountains; Santa Monica Mountains; Los Angeles County Coasts	High Wind	83	Extensive damage occurred, including many downed power lines, which left thousands without electricity. One person was killed and two people were injured.
12/17/1996	Los Angeles County Mountains	High Wind	61	Thousands were left without power as the winds snapped power lines. In addition, blowing debris and downed trees caused widespread damage.
1/5/1997	Los Angeles County Mountains; Santa Monica Mountains; Los Angeles County Coasts	High Wind	86	One person was killed.
12/9/1997	Los Angeles County Mountains	High Wind	63	One minor accident. Numerous power outages were reported across the Southland. On Santa Catalina Island, 15 boats were destroyed.
12/6/1998	Los Angeles County	High Wind	43	Six homes lost parts of their roofs while two cars were crushed by downed trees.
12/9/1998	Los Angeles County	High Wind	66	Numerous power lines were knocked down, producing many power outages. In Glendale, the strong winds fueled a 60-acre brushfire that was ignited by downed power lines.
4/9/1999	Los Angeles County	High Wind	40	Gusty winds knocked down a 60-foot palm tree onto a house in the community of Hancock Park. One man was injured.
11/21/1999	Los Angeles County	High Wind	63	In Studio City, the winds blew down a construction wall at Universal City Walk, injuring seven people.
11/25/2002	Los Angeles County	High Wind	61	Thousands were left without power as the winds snapped power lines. Many communities reported numerous trees were blown down. In Glendale, snapped power lines sparked three house fires.
1/6/2003	Los Angeles County	High Wind	65	In the Santa Monica mountain area, north of Malibu, the Santa Ana winds fueled a 2,200-acre brush fire which destroyed two structures. Numerous trees and power lines were knocked down.
12/22/2006	Los Angeles County Mountains	High Wind	54	Several thousand people lost power in Los Angeles County due to downed power lines.
12/27/2006	Los Angeles County Mountains	High Wind	65	Widespread power outages were reported across the area due to downed power lines.

Table 4-15 [continued]
Major Windstorms in Los Angeles County

Date	Location/Event	Type	Magnitude (kts.)	Damage
4/12/2007	Los Angeles County Mountains	High Wind	75	The gusty winds knocked down trees and power lines, producing widespread power outages across sections of Los Angeles County and a damaging wildfire in the Beverly Glen area.
1/16/2008	Los Angeles County Mountains; Santa Monica Mountains	High Wind	67	The Santa Ana winds knocked down numerous trees and power lines, producing scattered power outages.
11/30/2011, 12/1/2011	Los Angeles County Mountains	High Wind	52, 59	Widespread power outages were reported across the San Gabriel Valley where over 350,000 residents lost power. In Pasadena, significant wind damage was reported with 42 buildings red-tagged due to wind damage. Numerous trees were uprooted or severely damaged from La Canada-Flintridge to Monrovia.

Notes: kts = knots. One (1) knot is equal to 1.151 mph.
Source: National Oceanic and Atmospheric Administration National Climatic Data Center, *Storm Events Database,* http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=6%2CCALIFORNIA, accessed August 7, 2015.

City Tree Claims

Although trees are usually sufficiently rooted to withstand higher speed winds, broken and falling tree limbs can create significant hazards. Hazards created by wind-fallen trees or limbs can threaten property and have the potential for personal injury and even death. There were 48 claims filed against the City regarding fallen trees and tree limbs from January 1, 2010 through July 15, 2015.

Tornadoes

The south coastal region of California, including the Los Angeles Basin, has the greatest incidence of tornadoes in the state. From 1950 to 1992, the basin had 99 confirmed tornadoes. The cause of many, if not most, of the Los Angeles Basin tornadoes seemed to be linked to the terrain layout of the basin. Tornadoes in the Los Angeles Basin are typically less severe than those in other parts of the country.

Thunderstorms

A mass of warm, moist subtropical air occasionally overlies the Los Angeles Basin during the mid to late summer. The subtropical air mass originates in Mexico, then moves northwest into Arizona usually around the first week in July. The humid, sultry air frequently reaches into the Southern California deserts and occasionally extends into the coastal plain. During these periods, thunderstorms form mostly over the mountains of Southern California in the afternoons, then occasionally meander over the coastal lowlands during evening and nighttime hours.

Thunderstorms are not prevalent in the City and are infrequent in the Southern California area, occurring approximately 4.1 days per year in the downtown Los Angeles area.

El Niño-Southern Oscillation

The City has historically seen approximately 13 inches of rainfall each year, according to the Western Regional Climate Center. The vast majority of this rainfall occurs between November and April; only 0.88 inches, on average, falls between May and October.[21] Periods of intense rain can happen occasionally, usually as a result of a meteorological phenomenon called an "atmospheric river", which is a narrow band of very moist air that can deliver strong winter storms to California, particularly to coastal areas. Strong storms are also linked to El Niño events, which occur when the surface of the eastern tropical Pacific is warmer than normal and result in various climate extremes around the globe, often including increased precipitation in California. Intense storms capable of causing flooding can be linked to either or both of these phenomena, although such storms may also happen without an atmospheric river or El Niño event in place.

Changes in the El Niño-Southern Oscillation (ENSO) cycle have been regularly observed since 1951. The warm El Niño and the cool La Niña phases typically last nine to 12 months, although conditions may persist for multiple years. On average, El Niño and La Niña events occur every two to seven years. They can be characterized as weak, moderate, strong, or very strong (El Niño only), depending on how much the temperature of the ocean differs from normal conditions. Table 4-16, *El Niño and La Niña Events,* identifies the intensity of the event by year occurring from 1951 to 2015.

Table 4-16
El Niño and La Niña Events

El Niño				La Niña		
Weak	Moderate	Strong	Very Strong	Weak	Moderate	Strong
1951-1952*	1963-1964	1957-1958	1982-1983	1950-1951	1955-1956	1973-1974
1952-1953	1986-1987	1965-1966	1997-1998	1954-1955	1970-1971	1975-1976
1953-1954	1987-1988*	1972-1973	-	1964-1965	1998-1999	1988-1989
1958-1959	1991-1992	-	-	1967-1968	1999-2000	-
1968-1969*	2002-2003	-	-	1971-1972	2007-2008	-
1969-1970	2009-2010	-	-	1974-1975	2010-2011	-
1976-1977	-	-	-	1983-1984	-	-
1977-1978	-	-	-	1984-1985	-	-
1979-1980*	-	-	-	1995-1996	-	-
1994-1995	-	-	-	2000-2001	-	-
2004-2005	-	-	-	2011-2012	-	-
2006-2007	-	-	-	2012-2013	-	-
2012-2013	-	-	-	2013-2014	-	-
2014-2015	-	-	-	-	-	-

Source: Null, Jan, *El Nino and La Nina Years and Intensities,* http://ggweather.com/enso/oni.htm, updated September 3, 2015.

[21] Western Regional Climate Center, *Period of Record Monthly Climate Summary – Culver City, California (042214)*, http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2214, accessed August 11, 2015.

LOCATION/GEOGRAPHIC EXTENT

The weather conditions in the City are consistent with coastal southern California, characterized by cool summers, mild winters, frequent morning coastal stratus clouds, infrequent rainfall confined mainly from late fall to early spring and moderate onshore breezes. A threat of severe winter storms is greatest during December through March. The threat from tropical storms is greatest August through October as a result of hurricanes from Mexico. When such storms occur, the City and portions of the entire County are susceptible to these storms' effects.

MAGNITUDE/SEVERITY

Over the last 125 years, the average annual rainfall in Los Angeles County is 14.9 inches. But the term "average" means very little, as the annual rainfall during this time period has ranged from 38.2 inches in 1883-1884 to 4.35 inches in 2001-2002. In fact, in only 15 of the past 125 years, has the annual rainfall been within plus or minus 10 percent of the 14.9 inch average, and in only 38 years has the annual rainfall been within plus or minus 20 percent of the 14.9 inch average. This makes the Los Angeles basin a land of extremes in terms of annual precipitation. Another relatively regular source for heavy rainfall, particularly in the mountains and adjoining cities is from summer tropical storms. These tropical storms usually coincide with El Niño years. Over the past 80 years, the average annual precipitation in the City is 13.15 inches. There was no snowfall recorded in the City during the period of record (1/1/1935 to 1/20/2015).[22]

PROBABILITY OF FUTURE OCCURRENCES

Severe weather, including high winds and thunderstorms will continue to occur annually in the City. The probability of future occurrences is high. Tornadoes are substantially rarer in the area, but they will likely continue to occur infrequently.

CLIMATE CHANGE CONSIDERATIONS

It is anticipated that wind patterns and windstorm development may be altered due to climate change. The resulting change is expected to cause an increase in the number of intense storms, which could in turn lead to an increase in the frequency of strong winds, thunderstorms, and other severe weather. Some studies suggest that El Niño phases are occurring more frequently, but it is unclear if this is linked to climate change, or is part of a normal larger cycle of ENSO events. Scientists are not yet sure how the ENSO cycle will be affected by climate change, or if it will remain unchanged. It will be important for the City and CCUSD to consider how anticipated changes in weather patterns may change future events and how to mitigate hazards associated with these extreme events.

VULNERABILITY AND RISK ASSESSMENT

The entire community and all critical facilities are vulnerable to high winds. The majority of windstorm damage that occurs is associated with fallen trees and tree limbs. As a result, facilities located in close proximity to large trees may be more susceptible to windstorm damage. Thunderstorms may cause damage in the City through lightning strikes, intense rain or hail, high winds, or other weather conditions associated with these storms. The community is also vulnerable to tornadoes, despite their relative rarity. It is highly unlikely that severe weather would

[22] Western Regional Climate Center, *Period of Record Monthly Climate Summary, Culver City, California, Period of Record: 01/01/1935 to 01/20/2015.*

completely destroy any of the identified critical facilities. However, the replacement and content values for these facilities are referenced in Table 3-7 and Table 3-8 in Section 3.0, *Community Profile*.

4.4.5 WILDFIRE

WILDFIRE DESCRIPTION

Fire is an integral component of many of California's ecosystems. However, uncontrolled fire hazards threaten lives, property, and natural resources and also present a considerable risk to vegetation and wildlife habitat. Fires occur in wildland and urban areas.

Wildland Fires

A wildland fire is a large destructive fire that can spread quickly over woodland or brush. A wildfire is an uncontrolled fire spreading through vegetative fuels. Wildfires can be caused by human error (such as campfires), intentionally by arson, by mechanical sources of ignition (such as heaters and generators), and by natural events (such as lightning). Wildfires often occur in forests or other areas with ample vegetation. In areas where structures and other human development meets or intermingles with wildland or vegetative fuels (referred to as the wildland urban interface), wildfires can cause significant property damage and present extreme threats to public health and safety.

There are three categories of interface fire: the classic wildland urban interface exists where well-defined urban and suburban development presses up against open wildland areas; the mixed wildland urban interface is characterized by isolated homes, subdivisions and small communities situated predominantly in wildland settings; and the occluded wildland urban interface exists where islands of wildland vegetation occur inside a largely urbanized area. The wildland-urban interface is present in the eastern portion of the City. Wildland located within Los Angeles County are directly adjacent to the City communities of Blair Hills and Culver Crest.[23] Certain conditions must be present for significant interface fires to occur. The most common conditions include: hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel topography, weather, drought and development.

Southern California faces challenges with wildfire hazards from the increasing number of houses being built in the wildland-urban interface. Every year the growing population has expanded further and further into the hills and mountains, including into forest lands. The increased "interface" between urban/suburban areas and the open spaces created by this expansion has produced a significant increase in threats to life and property from fires and has pushed existing fire protection systems beyond original or current design and capability.

PAST OCCURRENCES

Wildland fires, have historically occurred within proximity to the City and the surrounding Los Angeles region. Table 4-17, *History of Significant Fires*, identifies notable significant fires which occurred from 1949 to 2003.

[23] Culver City Fire Department, *Community Risk Assessment and Standards of Cover,* 2014.

Table 4-17
History of Significant Fires

Year	Description	Location	Structures Destroyed
1949	Hollywood Park	Inglewood	Clubhouse, Grandstand
1961	Bel-Air[1]	Bel-Air	484
1978	Mandeville Canyon	Mandeville Canyon	20
1978	Kannan	Los Angeles County	224
1979	The Kirkwood Bowl/Laurel Canyon	West Hollywood, Laurel Canyon	23
1985	Baldwin Hills	Baldwin Hills	53
1989	Wilshire Terrace	Westwood	23
1993	Alta Dena and Kinneloa Mesa Estates	Pasadena	196
1993	Topanga	Malibu	323
2003	Padua	Los Angeles County	59

1. Major Disaster Declaration by Federal Emergency Management Agency.

Source: Federal Emergency Management Agency, Disaster Declarations, https://www.fema.gov/disasters, accessed August 6, 2015; Los Angeles Fire Department Historical Society, Famous Fires in Los Angeles, http://www.lafdmuseum.org/education_famousfires, accessed August 6, 2015; Los Angeles Fire Department, Historical Archive Major Incidents of the L.A.F.D, 1999; CalFire, Incident Information, http://cdfdata.fire.ca.gov/incidents/incidents_statsevents, accessed August 10, 2015.

In recent years, large regional incidents have affected Los Angeles County and entire portions of the state. Severe wildfires occurred across the state during the 2008 fire season causing extensive damage in the County and across California. Though none of the fire footprints were located within City boundaries, residents of the City experienced the secondary effects of wildfire including air quality degradation.

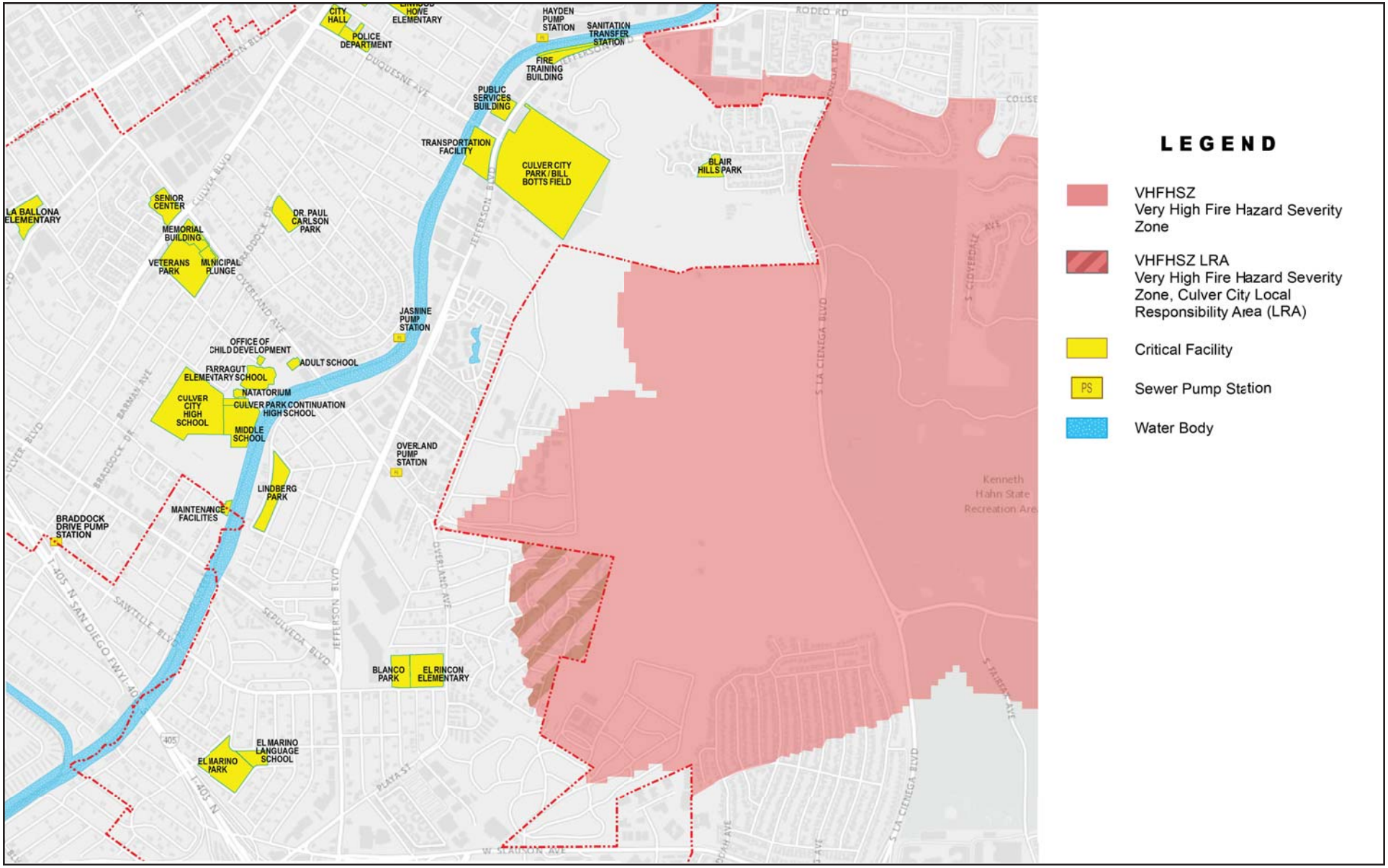
LOCATION/GEOGRAPHIC EXTENT

Cal Fire prepares fire hazard severity maps including mapping areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZ), define the application of various mitigation strategies and influence how people construct buildings and protect property to reduce risk associated with wildland fires. According to the Los Angeles County FHSZ map and shown in Exhibit 4-10, *Fire Hazards Area,* the eastern portion of the City is located in a Very High Fire Severity Zone (VHFHSZ).[24] The eastern portion of the City in the VHFHSZ consists of certain properties in the Blanco/Culver Crest neighborhood that are considered to be in a wildland-urban interface.[25] A wildland-urban interface is defined as anywhere the growth and spread of a fire may begin in a brush or wildland region, and then quickly enter an urban environment. Additional wildland areas located in Los Angeles County are directly adjacent to the City communities of Blair Hills and Culver Crest.[26]

[24] Cal Fire, Wildland Hazard & Building Codes, *Very High Fire Hazard Severity Zones in LRA, Culver City FHSZ Map,* September 2011.

[25] City of Culver City, *Culver City Fire Department Very High Fire Hazard Severity Zones (VHFHSZ) Map*, June 13, 2012 and the City of Culver City, *Culver City Neighborhoods,* February 5, 2007.

[26] Culver City Fire Department, *Community Risk Assessment & Standards of Cover,* 2014.



Source: City of Culver City, Information Technology Department, GIS; April 12, 2016.

NOT TO SCALE

Michael Baker INTERNATIONAL

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
CITY OF CULVER CITY AND CULVER CITY UNIFIED SCHOOL DISTRICT

Fire Hazards Area

Exhibit 4-10

Inglewood Oil Field

The Inglewood Oil Field is located in the City and the unincorporated area of Los Angeles County known as Baldwin Hills. The oil field is approximately 1,000 acres making it one of the largest contiguous urban oil fields in the United States. Ten percent of the oil field's acreage is in the City. In the past, the area has experienced brush fires, primarily as a result of electrical transformer failures. Because the Inglewood Oil Field and surrounding area are considered wildland-urban interface, the Culver City Fire Department is aware of the risk to the City and is prepared with equipment necessary to address wildland-urban interface fires in this area.

MAGNITUDE/SEVERITY

Wildfires are typically triggered by lightning or accidents. They can spread quickly, igniting brush, trees, and homes. As certain properties located in the Blanco/Culver Crest area have been identified by the CAL Fire as being in a VHFHSZ, the City requires properties in the designated area to meet State brush clearance/defensible space requirements, comply with specific California Building Code requirements including ignition resistant construction, fire retardant roofing materials, enclosed eves, vent mesh requirements, exterior wall coverings, windows and doors, and decking materials, and disclosure of VHFHSZ designation when transferring property ownership.[27] These requirements prepare the City in controlling the magnitude and severity of growth and spread of wildfire.

PROBABILITY OF FUTURE OCCURRENCES

Wildfires are a regular feature of many of California's ecosystems, and so will continue in the future. Since the eastern portion of the City and adjacent areas within Los Angeles County are considered wildland-urban interface areas, the City has a higher probability of wildfire risks in the specified Blair Hills and Culver Crest communities and the surrounding area. The specific chance of wildfire in the City's wildland-urban interface is not known, but the general vulnerability of this area to fires means that there is a reasonable possibility such an event will occur.

CLIMATE CHANGE CONSIDERATIONS

Although wildfires occur naturally and play a long-term role in the health of ecosystems, climate change threatens to increase the frequency, extent, and severity of fires through increased temperatures and drought.[28] The frequency of large wildfires and the total area burned have been steadily increasing in California and throughout the western United States, with climate change a major contributing factor.[29] Warmer springs and longer summer dry periods since the mid-1980s are linked to a four-fold increase in the number of major wildfires each year and a six-fold increase in the area of forest burned compared with the period between 1970 and 1986. The fire season stretches approximately 78 days longer and individual fires last approximately 30 days longer.

[27] Culver City Fire Department, *Wildfire,* http://www.culvercity.org/live/public-safety/emergency-preparedness/emergency-preparedness-for-specific-disasters/wildfire, accessed March 9, 2016.

[28] U.S. Environmental Protection Agency, *Climate Change Indicators in the United States: Wildfires,* http://www.epa.gov/climatechange/science/indicators/ecosystems/wildfires.html, accessed August 6, 2015.

[29] Westerling, A.L., H.G. Hidalgo, D.R. Cayan, and T.W. Swetnam, *Warming and Earlier Spring Increases Western U.S. Forest Wildfire Activity*, Science, 2006.

According to the Union of Concerned Scientists, if global warming emissions are not substantially reduced, large wildfires in California are projected to increase 55 percent.[30] If average statewide temperatures rise to the medium warming range (5.5 to 8 Fahrenheit [°F]), the risk of large wildfires in California is expected to increase 20 percent by mid-century and 50 percent by the end of the century. This is almost twice the wildfire increase expected if temperatures remain within the lower warming range. Global warming increases wildfire risk in several ways: [31]

- Longer fire seasons will result as spring runoff occurs earlier, summer heat builds up more quickly, and warm conditions extend further into fall. Western forests typically become combustible within a month of when snowmelt finishes.

- Drier conditions will increase the probability of fire occurrence. Summertime temperatures in western North America are projected to be 3.6 to 9 °F higher by mid-century, enhancing evaporation rates, while precipitation is expected to decrease by up to 15 percent. The Southwest will be hit particularly hard, perhaps shifting to a more arid climate.

- More fuel for forest fires will become available because warmer and drier conditions are conducive to widespread beetle and other insect infestations, resulting in broad ranges of dead and highly combustible trees.

- Increased frequency of lightning is expected as thunderstorms become more severe. In the western United States a 1.8 °F increase in temperature is expected to lead to a 6 percent increase in lightning. This means that lightning in the region could increase by 12 to 30 percent by mid-century.

VULNERABILITY AND RISK ASSESSMENT

The entire City, CCUSD, and all critical facilities are susceptible to fire damage; refer to Exhibit 4-10. Cal Fire identified areas of the eastern portion of the City as within a Very High Fire Hazard Severity Zone.[32] The VHFHSZ covers 48.1 acres of the City.

Vulnerable Population and Businesses

The very high fire hazard severity zone in the City is primarily a residential area. The VHFHSZ encompasses 83 homes, housing an estimated 190 people (approximately 0.48 percent of all the City residents). There are an estimated 8 businesses in this area, employing 72 people. These businesses include construction, real estate, and businesses related to automotive, health, and legal services.

Critical Facilities

Critical facilities incorporate essential facilities such as police and fire stations, public works facilities, sewer and water facilities, hospitals, and schools. Critical facilities are of particular concern because these entities provide essential products and services to the general public that

[30] Union of Concerned Scientists, *Global Warming and California Wildfires,* http://www.ucsusa.org/sites default/files/legacy/assets/documents/global/_warming/ucs-ca-wildfires-1.pdf, accessed August 6, 2015.
[31] National Wildlife Federation, *Increased Risk of Catastrophic Wildfires: Global Warming's Wake-Up Call for the Western United States,* 2008.
[32] Culver City Fire Department, *Culver City Very High Fire Hazard Severity Zones in LRA,* September 2011.

are necessary to preserve the welfare and quality of life in the City and fulfill important public safety, emergency response, and/or disaster recovery functions. Despite the fact that there has not been a recent wildland fire within the City limits, residential development continues to spread into wildland/urban interface areas increasing the danger to life and property should a fire occur. Areas of concern associated with wildland fire are those adjacent to natural areas that are heavily vegetated including Ballona Creek. These areas are even more susceptible if human activities are allowed, as these activities can introduce new ignition sources into natural areas. However, the MJHMP Steering Committee did not identify any critical facilities that could be affected by fire hazards in the fire hazard severity zone.

4.5 SUMMARY OF VULNERABILITY

Table 4-18, *Risk Assessment Summary Table*, shows a summary of critical facilities that intersect with hazard areas in the City. Those facilities that intersect with a hazard area are indicated with a "Y" and a red-shaded cell. Facilities that do not fall within the hazard area are designated with an "N" and a green-shaded cell. The risks of drought, ground shaking, and windstorm/heavy rain are equal throughout the community.

Table 4-18
Risk Assessment Summary Table

Facility	Hazard							
	Drought	Fault Rupture	Ground Shaking	Liquefaction	Landslide/ Mudflow	Wildfire	Severe Weather	Flood
City of Culver City								
Culver City Hall	Y	N	Y	N	N	N	Y	N
Culver City Police Department	Y	N	Y	Y	N	N	Y	N
Culver City Fire Station No. 1	Y	N	Y	N	N	N	Y	N
Culver City Fire Station No. 2	Y	N	Y	Y	N	N	Y	N
Culver City Fire Station No. 3	Y	N	Y	N	N	N	Y	N
Culver City Fire Training Building	Y	N	Y	Y	N	N	Y	N
Culver City Public Works Yard	Y	N	Y	Y	N	N	Y	N
Culver City Sanitation Transfer Station	Y	N	Y	Y	N	N	Y	N
Culver City Transportation Facility	Y	N	Y	Y	N	N	Y	N
Culver City Veterans Park & Memorial Building	Y	N	Y	Y	N	N	Y	N
Culver City Syd Kronenthal Park	Y	Y	Y	Y	N	N	Y	Y
Culver City Blanco Park	Y	N	Y	Y	N	N	Y	N
Culver City Culver West Park	Y	N	Y	Y	N	N	Y	N
Culver City Ivy Substation & Media Park	Y	N	Y	N	N	N	Y	N
Culver City El Marino Park	Y	N	Y	Y	N	N	Y	N
Culver City Blair Hills Park	Y	Y	Y	N	Y	N	Y	N
Culver City Dr. Paul Carlson Park	Y	N	Y	Y	N	N	Y	N
Culver City Culver City Park (Botts Field)	Y	N	Y	Y	Y	N	Y	N
Culver City Fox Hills Park	Y	N	Y	N	N	N	Y	N
Culver City Lindberg Park	Y	N	Y	Y	N	N	Y	N
Culver City Tellefson Park	Y	N	Y	N	N	N	Y	N
Culver City Senior Center	Y	N	Y	N	N	N	Y	N
Culver City Municipal Plunge	Y	N	Y	Y	N	N	Y	N
Culver City Braddock Sewer Pump Station	Y	N	Y	N	N	N	Y	N
Culver City Bristol Sewer Pump Station	Y	N	Y	N	N	N	Y	N
Culver City Hayden Sewer Pump Station	Y	N	Y	N	N	N	Y	N
Fox Hills Sewer Pump Station	Y	N	Y	N	N	N	Y	N

Table 4-18 [continued]
Risk Assessment Summary Table

Facility	Hazard							
	Drought	Fault Rupture	Ground Shaking	Liquefaction	Landslide/ Mudflow	Wildfire	Severe Weather	Flood
Culver City Jasmine Sewer Pump Station	Y	N	Y	N	N	N	Y	N
Culver City Mesmer Sewer Pump Station	Y	N	Y	N	N	N	Y	N
Culver City Overland Sewer Pump Station	Y	N	Y	N	N	N	Y	N
Southern California Hospital at Culver City	Y	N	Y	N	N	N	Y	N
Culver City Unified School District								
CCUSD Unified School District Office	Y	N	Y	Y	N	N	Y	N
CCUSD High School	Y	N	Y	Y	N	N	Y	N
CCUSD Culver Park Continuation High School	Y	N	Y	Y	N	N	Y	N
CCUSD Middle School	Y	N	Y	Y	N	N	Y	N
CCUSD El Marino Language School	Y	N	Y	Y	N	N	Y	N
CCUSD El Rincon Elementary	Y	N	Y	Y	N	N	Y	N
CCUSD Farragut Elementary	Y	N	Y	Y	N	N	Y	N
CCUSD La Ballona Elementary	Y	N	Y	N	N	N	Y	N
CCUSD Linwood E. Howe	Y	N	Y	Y	N	N	Y	N
CCUSD Office of Child Development	Y	N	Y	Y	N	N	Y	N
CCUSD Adult School	Y	N	Y	Y	N	N	Y	N
CCUSD Maintenance Facilities	Y	N	Y	Y	N	N	Y	N
CCUSD Natatorium	Y	N	Y	Y	N	N	Y	N
CCUSD Warehouse/District IMC	Y	N	Y	Y	N	N	Y	N
CCUSD Echo Horizon School (leased)	Y	Y	Y	Y	N	N	Y	N

SIGNIFICANT HAZARDS

The vulnerability assessments in each hazard profile are used to understand the varying levels of risk to the City and CCSUD. Based on these assessments, the planning team concluded that the hazards that pose the greatest risk to the City are seismic hazards and wildfire.

FACILITIES MOST AT RISK

The critical facility listed in Table 4-19, *Culver City Critical Facilities at Risk*, is the facility at risk to the greatest number of hazards in the Culver City. Although Section 4.2 lists various City and CCUSD critical facilities prone to seismic hazards, Syd Kronethal Park in multiple hazard zones making it susceptible to future damage from a variety of potential events.

Table 4-19
Culver City Critical Facilities at Risk

Facility	Drought	Seismic Hazards	Flood	Severe Weather	Wildfire
Syd Kronenthal Park	Y	Y	Y	Y	N

POTENTIAL LOSSES

Table 4-20, *Most Costly Culver City Critical Facilities*, and Table 4-21, *Most Costly CCUSD Critical Facilities*, identify the City and CCUSD with the greatest replacement value (combination of building replacement and contents value). Should these facilities be completely destroyed by a hazard event, their replacement will be the most costly compared to other identified critical facilities.

Table 4-20
Most Costly Culver City Critical Facilities

Facility	Replacement Value
Southern California Hospital at Culver City	$99,049,976
Culver City Transportation Facility	$28,798,432
Culver City City Hall	$23,295,771
Culver City Police Department	$11,965,180
Culver City Public Works Yard	$10,096,294
Culver City Senior Center	$8,046,190
Culver City Veterans Park & Memorial Building	$7,491,429
Culver City Fire Station No. 1	$5,246,919

Table 4-21
Most Costly CCUSD Critical Facilities

Facility	Replacement Value
CCUSD High School	$49,477,330
CCUSD Middle School	$29,122,743
CCUSD Farragut Elementary	$11,186,940
CCUSD Linwood E. Howe	$10,809,373
CCUSD El Rincon Elementary	$10,269,845

SECTION 5.0: MITIGATION ACTIONS

Hazard mitigation strategies are used to reduce hazard impacts on residents, employment centers, public infrastructure, and critical facilities. This section of the MJHMP is derived from an in-depth review of the vulnerabilities and capabilities described in this Plan. Overall, the actions represent the City's and CCUSD's risk-based approach for reducing and/or eliminating the potential losses as identified in the Vulnerability and Risk Assessment section of each hazard profile.

5.1 HAZARD MITIGATION OVERVIEW

FEMA'S NATIONAL FLOOD INSURANCE PROGRAM

In 1968, the U.S. Congress created the National Flood Insurance Program (NFIP). Participation in the NFIP by a community is voluntary; however, in order to receive funding from FEMA, a community is required to participate in the program.

The City participates in the NFIP and construction standards regarding development in the floodplain are regulated according to Chapter 15.03 (Construction in Flood Prone Areas) of the City's Municipal Code.

The Community Rating System (CRS) is a voluntary part of the NFIP that seeks to coordinate all flood-related activities, reduce flood losses, facilitate accurate insurance rating, and promote public awareness of flood insurance by creating incentives for a community to go beyond minimum discounts. CRS ratings are on a 10-point scale (from 10 to 1, with 1 being the best rating), with residents of the community who live within FEMA's Special Flood Hazard Areas receiving a five percent reduction in flood insurance rates for every class improvement in the community's CRS rating. The City does not currently participate in the CRS.

Repetitive Loss Properties

At this time, the City is not aware of any Repetitive Loss Properties under the NFIP.

HAZARD MITIGATION GOALS

The Plan goals, presented in Subsection 1.4 *Mitigation Goals*, serve as basis for direction to promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from hazards. The Plan goals guide the direction of future activities aimed at reducing risk and preventing loss from natural hazards. The goals also serve as checkpoints as agencies and organizations begin implementing mitigation action items.

The hazard mitigation actions identified below list those activities that the City and CCUSD will use to reduce their risk of potential hazards. These mitigation actions were identified through collaboration with the MJHMP Steering Committee. Some of these actions may be eligible for funding through federal and state grant programs and other funding sources as made available to the City and CCUSD. The mitigation actions are intended to address the comprehensive range of identified hazards. Some actions may address risk reduction from multiple hazards.

HAZARD MITIGATION PRIORITIZATION

The Steering Committee used the STAPLE/E (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria, as described in Table 5-1, *STAPLE/E Review and Selection Criteria*, when considering and prioritizing the most appropriate mitigation alternatives for the City and CCUSD. This methodology, as endorsed by FEMA, requires that social, technical, administrative, political, legal, economic, and environmental considerations be taken into account when reviewing potential actions. This process was used to help ensure that the most equitable and feasible actions would be undertaken based on the City's and CCUSD's unique capabilities.

HAZARD MITIGATION BENEFIT – COST REVIEW

FEMA requires local governments to analyze the benefits and costs of a range of mitigation actions that can reduce the effects of each hazard within their communities. Benefit-cost analysis is used in hazard mitigation to show if the benefits to life and property protected through mitigation efforts exceed the cost of the mitigation activity. Conducting benefit-cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now in order to avoid disaster-related damages later. The analysis is based on calculating the frequency and severity of a hazard, avoided future damages, and risk.

A hazard mitigation plan must demonstrate that a process was employed which emphasized a review of benefits and costs when prioritizing the mitigation actions. The benefit-cost review must be comprehensive to the extent that it can evaluate the monetary as well as the nonmonetary benefits and costs associated with each action. The benefit-cost review should at least consider the following questions:

- How many people will benefit from the action?
- How large an area is impacted?
- How critical are the facilities that benefit from the action (e.g., which is more beneficial to protect, the fire station or the administrative building)?
- Environmentally, does it make sense to do this project for the overall community?

These questions were used to help determine the appropriateness of mitigation actions. Those actions that did not have adequate benefits were excluded from the list of mitigation actions.

Table 5-1
STAPLE/E Review and Selection Criteria

STAPLE/E Review	Selection Criteria
Social	• Is the proposed action socially acceptable to the jurisdiction and surrounding community? • Are there equity issues involved that would mean that one segment of the jurisdiction and/or community is treated unfairly? • Will the action cause social disruption?
Technical	• Will the proposed action work? • Will it create more problems than it solves? • Does it solve a problem or only a symptom? • Is it the most useful action in light of other jurisdiction goals?
Administrative	• Can the jurisdiction implement the action? • Is there someone to coordinate and lead the effort? • Is there sufficient funding, staff, and technical support available? • Are there ongoing administrative requirements that need to be met?
Political	• Is the action politically acceptable? • Is there public support both to implement and to maintain the project?
Legal	• Is the jurisdiction authorized to implement the proposed action? • Are there legal side effects? Could the activity be construed as a taking? • Will the jurisdiction be liable for action or lack of action? • Will the activity be challenged?
Economic	• What are the costs and benefits of this action? • Do the benefits exceed the costs? • Are initial, maintenance, and administrative costs taken into account? • Has funding been secured for the proposed action? If not, what are the potential funding sources (public, nonprofit, and private)? • How will this action affect the fiscal capability of the jurisdiction? • What burden will this action place on the tax base or local economy? • What are the budget and revenue effects of this activity? • Does the action contribute to other jurisdiction goals? • What benefits will the action provide?
Environmental	• How will the action affect the environment? • Will the action need environmental regulatory approvals? • Will it meet local and state regulatory requirements? • Are endangered or threatened species likely to be affected?

5.2 HAZARD MITIGATION ACTIONS

The process used by the Steering Committee to identify hazard mitigation actions for this Plan included the following:

- Review of the 2015 Vulnerability and Risk Assessment presented in Section 4.0;
- Review of the 2015 Capabilities Assessment presented in Subsection 5.3 of this Plan;
- Review of the 2014 County of Los Angeles All-Hazard Mitigation Plan mitigation actions; and
- Team discussion of new concerns/issues that need to be addressed to reduce hazards to critical facilities.

Table 5-2, *Hazard Mitigation Actions*, identifies the hazard, proposed mitigation action, agency and/or department responsible for implementation, potential funding source(s), the target completion date, and priority.

Table 5-2
Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
Multiple Hazards					
1	**City:** Continue to use emergency alert systems, such as Nixle and Reverse 911, and coordinate with CCARES and CERT members to notify community members in the event of an imminent threat or a need to evacuate.	**City Manager**; Fire; Police; Information Technology; Transportation; PRCS	General Fund; grant opportunities for disaster preparedness, resiliency, etc.	Ongoing	High
2	**City and CCUSD:** Continue to provide back-up power and supplies at critical facilities and identify any critical facilities that may not currently have them in order to maintain basic functions during emergency situations.	**Public Works**; Information Technology; Transportation; **CCUSD**	General Fund; grant funding for disaster preparedness, resiliency, public health, etc.	Ongoing	High
3	**City:** Establish alternative bus routes as part of City Bus emergency planning efforts to maintain service in the event that key roads are blocked.	**Transportation**	General Fund	2017	Medium
4	**City:** Develop and maintain an evacuation plan for City to effectively distribute evacuation notices, and to ensure that evacuating traffic flows smoothly.	**Fire**; Police; Public Works; Transportation	General Fund	2017	Medium

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
5	**City and CCUSD:** Continue to distribute information about ways to reduce the threat of hazards to all community members through mailings, printed notifications, television and digital devices, and in-person events and workshops. This strategy would mitigate impacts from all priority hazards.	**City Manager**; Fire; Police; Community Development; Information Technology; Public Works; PRCS; **CCUSD**	General Fund; grant opportunities for disaster preparedness, public health, community engagement and outreach, etc.	Ongoing	Medium
6	**City and CCUSD:** Continue to incorporate hazards in the Plan into agency emergency planning and programs.	**Fire**; Public Works; Community Development; Police; **CCUSD**	General Fund	Ongoing	Medium
7	**City:** Review and update the City's Municipal Code and applicable ordinances, as appropriate, to implement the strategies identified in this Plan and other emergency planning efforts.	**Community Development**; Public Works; City Attorney	General Fund; grant opportunities for planning, disaster preparedness, resiliency, etc.	2021	Medium
8	**City and CCUSD:** Coordinate with regional and state agencies to monitor potential changes in severity, frequency, and affected areas from future emergency situations, especially due to climate change.	**Fire;** Public Works; Community Development; Police; **CCUSD**	General Fund; grant opportunities for resiliency.	Ongoing	Medium
9	**City and CCUSD:** Continue to conduct assessments of agency buildings, facilities, and infrastructure to identify vulnerabilities. Secure funding to retrofit vulnerable structures such as soft story and masonry buildings constructed prior to 1976. Encourage adjacent jurisdictions to conduct assessments of buildings, facilities, and infrastructure located adjacent to or serving the City.	**Public Works**; Community Development; **CCUSD**	General Fund; Capital Improvements Plan; grant opportunities for disaster preparedness, resiliency, seismic hazard mitigation, etc.	Ongoing	High
10	**City and CCUSD:** Avoid locating any new critical facilities within or immediately adjacent to hazard areas. If no reasonable alternative is available, use extensive mitigation features to reduce the impact.	**Community Development**; Public Works; **CCUSD**	General Fund; Capital Improvements Plan; bond financing	Ongoing	Medium

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
11	**City and CCUSD:** Conduct energy efficiency retrofits, expand energy conservation efforts, and pursue the use of renewable energy at agency facilities to help avoid service disruptions during emergency situations. Explore the use of microgrids (localized grids that disconnect from the traditional grid to mitigate grid disturbances) to support energy resiliency at key facilities.	**Public Works;** Transportation; **CCUSD**	General Fund; Capital Improvements Plan; grant funding; bond financing	2021	Medium
12	**City and CCUSD:** Conduct hazard vulnerability studies when constructing new City/CCUSD buildings /infrastructure. Based on study results, construct new buildings/infrastructure with features that improve resiliency to all applicable hazards. Encourage hazard vulnerability studies be conducted for new infrastructure/ development activities proposed in surrounding areas, especially when subject to natural hazards.	**Public Works**; Community Development; **CCUSD**	General Fund; Capital Improvements Plan; bond financing; grant opportunities for disaster preparedness, resiliency, seismic hazard mitigation, etc.	Ongoing	High/Medium
13	**City and CCUSD:** Continue to coordinate with the American Red Cross to maintain the list of City/CCUSD-owned facilities approved as community shelter sites, and ensure that such facilities continue to be equipped with shelter carts.	**Fire**; Public Works; PRCS; **CCUSD**	General Fund; grant opportunities for disaster preparedness.	Ongoing	Medium
14	**City:** Partner with the local community and other organizations, such as the American Red Cross, to work directly with vulnerable populations (elderly, homeless, low income, special needs, etc.) to identify opportunities to mitigate impacts in the event of a natural disaster, including the identification of available resources and how to access and implement those resources.	**City Manager**; Fire; Police; Community Development; Information Technology; Public Works; PRCS	General Fund; grant opportunities for disaster preparedness, public health, community engagement and outreach, etc.	2017/ Ongoing	High
15	**City:** Coordinate with the Southern California Hospital and West Los Angeles College to understand their capabilities and opportunities to partner in hazard mitigation activities.	**Public Works**	General Fund	2017/ Ongoing	Medium

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
16	**City:** Work with regional utility companies and service agencies, including electricity and natural gas providers, telecommunication providers, and transit agencies, to ensure that services remain fully active as much as safely possible during emergency events and that full service is fully restored as quickly as possible following an emergency.	**Public Works**; Community Development; Fire; Police; Transportation	General Fund	2018/ Ongoing	High
17	**City and CCUSD:** Continue to update emergency-related planning documents every five years to ensure consistency with state and federal law, best practices, local conditions, and recent science.	**Fire**; Police; Public Works; Community Development; **CCUSD**	General Fund; grant opportunities for disaster preparedness, hazard mitigation, resiliency, etc.	Ongoing	Medium
18	**City and CCUSD:** Work to continue to improve estimates of potential casualties and property damage under various emergency scenarios, and incorporate findings into emergency planning efforts as appropriate.	**Fire**; Police; Public Works; Community Development; **CCUSD**	General Fund, grant opportunities for disaster preparedness, hazard mitigation, resiliency, etc.	Ongoing	Medium
19	**City:** In coordination with state and regional agencies and other key stakeholders, continue to participate in and conduct disaster training events and drills.	**Fire**; Police; Public Works; Transportation	General Fund	2017/ Ongoing	Medium
20	**City:** Work with local real estate agents and landlords to require the disclosure of the presence of any natural hazard risk zones prior to the sale or lease of buildings.	**Community Development**	General Fund	2019/ Ongoing	Low
21	**CCUSD:** Conduct regular drills for students and school employees to ensure an effective response to emergency situations.	**CCUSD**	General Fund	2017/ Ongoing	High
22	**CCUSD:** Stock school facilities with supplies to meet the short-term basic needs of students and staff in the event of an emergency situation.	**CCUSD**	General Fund	2017/ Ongoing	High

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
Drought Hazards					
23	**City:** Work in coordination with the West Basin Municipal Water District to implement increased water conservation strategies that maximize the use of existing water resources.	**Public Works**; Community Development	General Fund; grant opportunities for drought mitigation and resiliency.	2018/ Ongoing	Medium
24	**City:** Identify and pursue alternative water sources to supplement imported West Basin Municipal Water District deliveries from the Metropolitan Water District in the event of regional drought conditions, including expanding groundwater recharge and making recycled water available in Culver City.	**Public Works**	Grant opportunities for drought mitigation, disaster preparedness, resiliency, climate change, sustainability, etc.	2021	Medium
25	**City:** Explore constructing additional water storage facilities and additional emergency connections to supplement water supplies during drought conditions or short-term shortages.	**Public Works**	General Fund; grant opportunities for disaster preparedness, drought mitigation, resiliency, etc.	2021	Medium
26	**City and CCUSD:** Develop and implement long-term strategies to reduce community water use, including mandatory use of drought-tolerant plants in new or replacement landscapes, and requirements to install water fixtures in new buildings that exceed minimum code requirements.	**Community Development**; Public Works, **CCUSD**	General Fund; grant opportunities for drought mitigation, resiliency, climate change, sustainability, etc.	2018/ Ongoing	Medium
27	**City:** Coordinate with the West Basin Municipal Water District to inform the public of water conservation restrictions and drought conditions.	**Public Works**	Water Conservation Plan; General Fund	2017/ Ongoing	Medium
28	**City and CCUSD:** Hold water saving workshops, drought-tolerant courses, and smart gardening classes, and educate community residents and businesses about available rebates for water-efficient and water-conserving equipment. CCUSD will support these City-lead workshops by notifying parents/students of the events and encouraging their attendance.	**Public Works**; **CCUSD**	Water Conservation Plan; General Fund; grant opportunities for drought mitigation, resiliency, climate change, sustainability, etc.	2017/ Ongoing	Low

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
29	**City:** Consider implementing additional mandatory restrictions on water use during drought conditions.	**Public Works**; Community Development	General Fund	Ongoing	Low
30	**City and CCUSD:** Incorporate drought-tolerant landscaping and materials at City park and recreation facilities and CCUSD properties where feasible.	**PRCS**; Public Works; **CCUSD**	General Fund; grant opportunities for drought mitigation, resiliency, climate change, etc.	2021	Medium
31	**City:** Continue to seek funding and provide rebate opportunities for residents and businesses to incorporate drought-tolerant landscaping.	**Public Works**	Water Conservation Plan; Turf Removal Rebate Program, grant opportunities for drought mitigation,	2018/ Ongoing	Medium
32	**City and CCUSD:** Add compost and mulch to landscaped areas as feasible to reduce water evaporation.	**PRCS**; Community Development; Public Works; **CCUSD**	General Fund; grant opportunities for drought mitigation, Water Conservation Plan	2021	Medium
33	**City:** Coordinate with water purveyors to ensure accurate land use and growth information is incorporated into projected water supply analyses as part of Urban Water Management Plan updates.	**Community Development**; Public Works	General Fund	2019	Medium
34	**City:** Partner with local organizations to offer low-cost or free water audits to residents and businesses.	**Public Works**	General Fund; grant opportunities for drought mitigation	2018	Low
Seismic Hazards					
35	**City:** Conduct an inventory of seismically vulnerable private buildings, including unreinforced masonry and soft first-story structures, and prioritize retrofits for more vulnerable structures and lower income housing. Identify potential funding sources to assist with seismic retrofits.	**Public Works; Community Development**	General Fund; development fees; grant opportunities for disaster preparedness, resiliency, seismic hazard mitigation, etc.	2020	Medium
36	**City:** Explore creating an ordinance requiring seismically vulnerable structures to conduct earthquake resistant retrofitting over a phased period and/or when major renovation occurs.	**Community Development**; City Attorney	General Fund	2020	Low

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
37	**City:** Require new development in the liquefaction vulnerability zone to conduct liquefaction vulnerability studies and conduct liquefaction mitigation activities as needed.	**Community Development**	Development fees	2017	High
38	**City:** Require new development in landslide-prone areas to include landslide resiliency features to minimize the risk of damage.	**Community Development**	Development fees	2017	High
39	**City:** Establish a zoning overlay for the Alquist-Priolo hazard zone, and create and enforce development standards for new construction activities in this hazard zone to improve the resiliency of new structures to seismic hazards.	**Community Development**	Development fees; General Fund	2017	Medium
40	**City and CCUSD:** Ensure that all tall furniture in City and school property is securely fastened to the wall to reduce damage during an earthquake. When purchasing furniture or reconfiguring rooms in City/CCUSD buildings, consider the potential impacts to seismic vulnerability.	**Public Works**; **CCUSD**	General Fund; grant opportunities for seismic hazard mitigation	2017/ Ongoing	High/Medium
41	**City and CCUSD:** Hold seismic preparation workshops to educate community residents and businesses about securing property to reduce damage during an earthquake. Consider coordination of the events to be advertised through the City and CCUSD and held at their facilities.	**Public Works; CCUSD**	General Fund; grant opportunities for seismic hazard mitigation	2017/ Ongoing	Medium
Flood Hazards					
42	**City:** Continue to evaluate the effectiveness of City-owned drain systems and carry out improvements as needed. Monitor City-owned drainage infrastructure during rain events, and take emergency action as necessary to avoid or minimize flooding.	**Public Works**	General Fund; Capital Improvements Plan; bond financing	Ongoing	Medium

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
43	**City:** Encourage property owners to improve drainage on their properties through low-impact development features, particularly property owners in and adjacent to flood hazard areas.	**Community Development**; Public Works	General Fund	2017	Medium
44	**City:** Update the Stormwater Master Plan to address drainage and flood control.	**Public Works**	General Fund; grant opportunities for hazard mitigation	2021	Medium
45	**City:** Maintain an adequate supply of sandbags and other low-cost flood control measures to protect City facilities and to meet public demand.	**Public Works**; Fire	General Fund	2017/ Ongoing	High/Medium
46	**City:** Retrofit public spaces, including sidewalks and parking lots, to include permeable paving and other low-impact development features.	**Public Works**	General Fund; Capital Improvements Plan; bond financing, grant opportunities for flood hazard mitigation	2020	Medium
47	**City:** Continue to participate in the National Flood Insurance Program.	**Public Works**	General Fund	Ongoing	Medium
48	**CCUSD:** Identify and upgrade deficient drainage systems on school property. Use low-impact development features to supplement drainage features as appropriate.	**CCUSD**	General Fund; Capital Improvements Plan; bond financing, grant opportunities for flood hazard mitigation	2020	Medium
Severe Weather Hazards					
49	**City and CCUSD:** Design future critical infrastructure to withstand wind events beyond minimum building code standards.	**Community Development**; Public Works; **CCUSD**	General Fund; grant opportunities for disaster preparedness, resiliency, etc.	2021	Low
50	**City:** Continue to work with Southern California Edison and the Los Angeles Department of Water and Power to relocate above-ground power lines and associated infrastructure underground in order to reduce damage from fallen power lines during severe wind events.	**Community Development**; Public Works	General Fund, grant opportunities for disaster preparedness, hazard mitigation, resiliency, etc.	Ongoing	Low

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
51	**City and CCUSD:** Continue to coordinate with Southern California Edison and the Los Angeles Department of Water and Power to implement an ongoing tree trimming program for trees located in close proximity to overhead power lines.	**Public Works; CCUSD**	General Fund	Ongoing	Medium
52	**City and CCUSD:** Monitor trees, limbs, and other vegetation near power lines, and promptly inform Southern California Edison and the Los Angeles Department of Water and Power of the need for any tree trimming.	**Public Works; CCUSD**	General Fund	Ongoing	Medium
53	**City:** Continue to coordinate with the National Weather Service Decision Support program to be advised of upcoming weather conditions in a manner that enables smart decisions and disaster preparedness.	**Fire**; Public Works; Police	General Fund	Ongoing	High/Medium
54	**City and CCUSD:** Continue to regularly monitor El Niño Southern Oscillation (ENSO) conditions, and incorporate forecasted conditions into short-term emergency planning.	**Fire**; Public Works; Police; **CCUSD**	General Fund	Ongoing	Medium
55	**City:** Monitor slope stability in landslide-prone areas, and issue evacuation notices if slopes appear unstable.	**Fire**; Public Works; Police;	General Fund	Ongoing	Medium
56	**City:** As part of regular emergency preparedness education, continue to notify community members of current or future El Niño conditions, the anticipated impacts, and appropriate ways to prepare.	**Fire**; Community Development; Public Works; Police	General Fund	Ongoing	Medium
Wildfire Hazards					
57	**City:** Adopt and enforce the most up-to-date California Building Code and California Fire Code, with local amendments as appropriate.	**Community Development**; Fire	General Fund	2019	Medium
58	**City:** Continue to maintain cooperative fire protection and fire prevention mutual aid agreements with relevant agencies.	**Fire**	General Fund	Ongoing	Medium

Table 5-2 [continued]
Culver City Hazard Mitigation Actions

Mitigation Reference Number	Mitigation Action	Responsible Agency and/or Department(s)	Potential Funding Source(s)	Target Completion Date	Priority
59	**City:** Continue to support the Culver City Fire Department, California State Fire Marshal, and other relevant agencies to promote the implementation and awareness of fire prevention programs.	**Fire**	General Fund	2017/ Ongoing	Medium
60	**City:** Identify inadequate access roadways. Develop a program to address inadequacies by altering the roadway design if possible.	**Public Works**; Community Development; Fire; Transportation	General Fund	2021	Medium

CCUSD = Culver City Unified School District; PRCS = Parks, Recreation & Community Services
Department/Agency identified in **BOLD** will have primary responsibility for implementation of the mitigation action with the other departments providing additional guidance, support, and resources.

5.3 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. To create this capability assessment, the Steering Committee collaborated to identify current local capabilities and mechanisms available to the City and CCUSD for reducing damage from future natural hazard events. These capabilities and resources were reviewed while developing the MJHMP.

KEY RESOURCES

The City and CCUSD have resources to support the implementation of mitigation actions including a variety of planning, regulatory, administrative, technical, financial, education, and outreach resources, as summarized below.

Table 5-3A
City of Culver City Planning and Regulatory Capabilities Summary

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Zoning Ordinances	Community Development Department	The means by which land use is controlled and public health, welfare and safety is protected. Allows the City to control and limit the type and density of development.
Subdivision Ordinance	Community Development Department	Regulates the development of housing, commercial, industrial, and other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development.
Building Codes, Permitting and Inspections	Community Development Department	Regulates construction standards and ensures enforcement of City's adopted standards. The City enforces the California Building Code with modifications.
Hazard Mitigation Plan	Public Works Department	Identifies how the City intends to reduce the impact of natural hazards on residents and assets in the City.
Emergency Operations Plan	Fire Department	Addresses the City's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies.
General Plan	Community Development Department	Establishes the overall vision for growth and development in the City and provides goals/policies to guide municipal decision-making.
Capital Improvement Plan	Public Works Department	Guides the scheduling of spending on Capital Improvement Projects (CIP), and serves as a mechanism to guide future development. The City updates projects on an annual basis.
Bicycle and Pedestrian Master Plan	Public Works Department	Guides future development of bicycle and pedestrian facilities, as well as education, enforcement, and encouragement programs to encourage walking and biking that result in reduced congestion, lower greenhouse gas emissions, and promote healthier lifestyles and improved quality of life.
Parks and Recreation Master Plan	Parks, Recreation, and Community Services Department	Guides open space and recreational planning within the City, including park/recreation facilities and the use of CCUSD facilities.
Water Conservation Plan	Public Works Department, in cooperation with Parks, Recreation, and Community Services Department	Establishes a plan for the City to achieve targeted water reductions in City facilities and guides residents to adhere to mandatory water use restrictions in order to respond to continuous drought conditions and resulting potable water shortage in California.
Urban Forest Master Plan	Public Works Department	Designates tree species for public street parkways and medians, including the use of drought-tolerant species that have low maintenance needs. City trees are continually maintained with trimming occurring once every three to four years. Also provides for the long-term management of the urban forest through tree planting, preservation, and maintenance. The plan is designed to support Culver City's environmental goals in regards to stormwater management and carbon sequestration; it also envisions increased shade for pedestrians and motorists, improved air quality, and increased opportunity for healthy recreation.

Table 5-3A [continued]
City of Culver City Planning and Regulatory Capabilities Summary

Ordinance/Plan/ Policy/Program	Responsible Agency or Department	Description/Comments
Economic Development Implementation Plan	Community Development	Provides strategies to improve economic development opportunities within the City including creating jobs, eliminating blight, revitalizing communities, and constructing affordable housing in order to provide a more sustainable economy.
Annual Catch Basin Cleaning Program	Public Works Department	The City provides regular maintenance and cleaning of its catch basins. There are more than 1,000 automatic retractable and connector pipe trash screens in storm drain catch basins to help prevent trash, leaves, and other debris from flowing into the storm drain system.
Mutual Aid Agreements	Police Department; Public Works Department; Transportation Department; and Fire Department	The City maintains various mutual aid agreements with surrounding jurisdictions and agencies to provide services and assistance in the event of a disaster.
Memorandum of Understanding (MOU) with Smart & Final	Fire Department	Access to emergency supplies in bulk quantities.
Informal Mutual Aid Agreement with Sony Pictures Studios	Fire Department	Sony has its own fire department on-site that works directly with the City's Fire Department. It has a dedicated emergency manager. The studio's emergency response infrastructure includes storing water in underground tanks and pumping out in pop-up tanks, sanitizers, pump system, emergency supplies, and an emergency app for mobile devices. Sony has a signed agreement with the American Red Cross to be a potential shelter station.

Table 5-3B
City of Culver City Administrative and Technical Capabilities Summary

Staff/Personnel or Type of Resource	Agency or Department	Description/Comments
City Council	City Manager's Office	Establishes overall policy direction and implementation.
Planning Commission	Community Development	Reviews planning and development within the City.
City Manager	City Manager's Office	Supports the development and implementation of the MJHMP by allocating the appropriate staff and resources.
Planners or engineers with knowledge of land development and land management practices	Community Development Department; Public Works Department	
Planners or engineers trained in building and/or infrastructure construction practices	Community Development Department; Public Works Department	
Planners or engineers with an understanding of natural hazards	Community Development Department; Public Works Department	
Certified Floodplain Manager	Public Works Department	
Licensed Land Surveyor	Public Works Department	The City typically enters into contracts with firms for land surveying services.
Staff with education or expertise to assess the community's vulnerability to hazards	Community Development Department; Public Works Department; Fire Department, Information Technology Department	Several staff reside in the City and could be available quickly in the event of a natural hazard.
Staff skilled in Geographic Information Systems (GIS)	Information Technology Department	
Emergency Management Coordinator	Fire Department	Coordinates with City staff on emergency preparedness, response, and mitigation activities. Educates City employees and residents on hazards awareness, prevention, and preparedness.
Emergency Response Team	Core City Staff, as identified in EOP	
Sewer Pipeline Repair	Public Works Department	In addition to in-house staff, the City enters into contracts with firms for on-call emergency services and repairs.
Specialized Analysis, Engineering or Design	Public Works Department	The City maintains a list of consultants for engineering, traffic, and design if needed.
Grant Application Writers	Community Development Department; Public Works Department; Transportation Department	Various City staff provide grant writing services.
Code Enforcement	Community Development Department	
Culver City Amateur Radio Emergency Service Volunteer (CCARES)	Coordination with Fire and Police Departments	Volunteer organization of area residents that work together to provide communication in case of emergencies.
Los Angeles County Community Disaster Resilience	Fire Department	City participates in the Community Resilience Coalition to strengthen partnership, engagement, education, and community self-sufficiency.

Table 5-3C
City of Culver City Financial Capabilities Summary

Financial Resources	Agency or Department	Description/Comments
General Fund	City Council; City Manager's Office; City Departments	Serves as the main operating fund for the City and is used to finance the most common municipal functions (e.g. police, fire, parks and recreation, etc.).
Capital Improvement Program	City Council and City Departments	Long-range plan for individual capital improvement projects and funding sources. Projects are considered unique construction projects that provide improvements or additions such as land, buildings, and infrastructure.
Community Development Block Grants (CDBG)	California Department of Housing and Community Development	Competitive grant funds for the following program activities: • Community Development (CD) • Economic Development (ED) • Disaster Recovery Imitative (DRI) • Neighborhood Stabilization Program (NSP)
Utility Users' Tax	Various utility providers	Culver City Municipal Code Chapter 3.08, Taxation, establishes a utility users' tax.
New Development Impact Fund	Community Development Department	Culver City Municipal Code Chapter 15.06, New Development Impact Fund, requires new developments pay into the fund for the privilege of development. Funds are for street improvements, traffic controls, and traffic management projects made necessary by the development.
State Gasoline Tax Funds	Public Works Department	The City receives funds for the acquisition of real property, or construction, maintenance or improvement of streets or highways.
Emergency Reserve Fund	City Council	The City maintains committed General Fund reserves for contingencies/ emergencies.
Emergency Management Performance Grant (EMPG)	U.S. Department of Homeland Security	Assists in providing resources to substance and enhance all-hazard emergency management capabilities and to assist with building effective prevention and response capabilities consistent to any threatened or actual disaster or emergency, regardless of cause.
Local Law Enforcement Grants	Police Department	Grant funding that can be used for additional police protection services.

Table 5-3D
City of Culver City Education and Outreach Capabilities Summary

Resource/Programs	Department/Agency	Description/Comments
Staff Training	Fire Department	The City provides staff training on emergency response and preparedness 1- 2 times per year (typically held in September and December).
City Website	Information Technology Department	The website provides news and announcements to the community, including community events related to safety and emergency preparedness and mitigation. It maintains information and resources pertaining to hazards and mitigation.
Social Media	City Manager; Fire Department; Police Department; Information Technology Department	The City and some individual departments have Facebook and Twitter accounts to provide information to the community.
Nixle	City Manager; Fire Department; Police Department; Public Works Department	The City utilizes Nixle as its emergency notification system.
Smart 911	Fire Department; Police Department	Allows residents to add information about their household that would help first responders in the event of an emergency.
Alert LA	County of Los Angeles	Emergency mass notification system to contact County residents and businesses in case of an emergency.
Community Emergency Response Team (CERT)	Fire Department	Educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations.
Communitywide Disaster Drill	Fire Department	The City's annual disaster drill takes place on the same day as the Great California ShakeOut.
Culver City Amateur Radio Emergency Service Volunteer (CCARES)	Coordination with Fire Department	Volunteer organization of area residents that work with the Fire Department to provide communication in case of emergencies.
Culver City Citizens Police Academy	Police Department	The program consists of two types of volunteers, the Volunteers in Patrol (VIP) and the Senior Volunteer Program (SVP), who are trained by the Police Department to provide support to both the department and the community. The goal is to open lines of communication and encourage interaction between police officers and the community.
American Red Cross	Coordination with Fire Department	Provide access to natural hazard information and resources, as well as educational and training programs.

Table 5-4A
Culver City Unified School District Planning and Regulatory Capabilities Summary

Plan/Regulations/Program	Responsible Agency or Department	Description/Comments
Culver City Unified School District Facilities Master Plan	Business Services Department	The 2013/2014 CCUSD Master Facility Plan is designed to inform, engage, and guide in developing an action plan that addresses CCUSD's district-wide capital needs. The plan offers a detailed list of both needs and estimated costs of the identified projects.
Hazard Mitigation Plan	Business Services Department	Identifies how the school districts intends to reduce the impact of natural hazards on staff/students and school assets.
The Field Act	Division of the State Architect (DSA)	Requires all school buildings be built using more stringent standards than those required for other building construction.
School Safety Plan	Security Department	All schools maintain a school safety plan.

Table 5-4B
Culver City Unified School District Administrative and Technical Capabilities Summary

Staff/Personnel or Type of Resource	Agency or Department	Description/Comments
Engineers trained in building construction practices.	Business Services Department	
Staff with an understanding of natural hazards	Business Services Department; Security Department	Public employees are Disaster Service Workers in the event a local or state emergency or federal disaster declaration has been made.
Emergency Operations Team	Security Department	Coordinates with Culver City Fire and Police Departments to develop comprehensive emergency response plans, training, and drills.

Table 5-4C
Culver City Unified School District Financial Capabilities Summary

Financial Resources	Agency or Department	Description/Comments
Annual Budget	Business Services Department	Identifies the revenue and expenditures for CCUSD. The district revises its budget and multi-year projects twice during the fiscal year.
Measure CC Bond Program	Business Services Department	Funding for a range of projects throughout CCUSD identified in the Facilities Master Plan.
Parcel Tax	Business Services Department	Special Parcel Tax assessment per parcel for five years to maintain: math, science, technology, music and art programs; updated instructional materials; quality teachers; school libraries; and small class sizes.

Table 5-4D
Culver City Unified School District Education and Outreach Capabilities Summary

Resource/Programs	Department/Agency	Description/Comments
Staff Training	Business Services Department; Security Department	CCUSD is required to plan for earthquakes, drills, hazard mitigation, and training.
CCUSD Website	Business Services Department; Security Department	The website provides information to staff, parents, and students regarding the school district, including school events and announcements, as well as emergency preparedness.
Culver Currents	Superintendent's Office	Monthly newsletter distributed to families.
Emergency Preparedness Newsletter	Security Department	Periodic newsletter focusing on emergency preparedness.
Social Media	Superintendent's Office	CCUSD maintains Twitter and Facebook accounts and subscriptions to CCUSD news feed.
Disaster Drills	Security Department	CCUSD conducts disaster drills (fire, earthquake, and lock downs) periodically throughout the year.
Community Emergency Response Team (CERT)	Culver City Fire Department; Security Department	The CCUSD Security Team has completed the CERT training course made available through the City. Staff members are encouraged to obtain certification.

SECTION 6.0: PLAN MAINTENANCE AND CAPABILITIES

This section identifies the formal process that will ensure that the MJHMP (Plan) remains an active and relevant document. The Plan maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing an update every five years.

This section describes how the City and CCUSD will integrate public participation throughout the Plan maintenance and implementation process. It also describes how the City and CCUSD intends to incorporate the mitigation actions outlined in this Plan into existing planning mechanisms and programs. The Plan's format allows the City and CCUSD to readily update sections when new data becomes available, ensuring the Plan remains current and relevant.

6.1 PURPOSE OF THE PLAN AND AUTHORITY

COORDINATING BODY

Under the direction of the Project Management Team, which is comprised of the City's Public Works Department Senior Management Analyst and CCUSD Assistant Superintendent, the MJHMP Steering Committee will be responsible for the on-going maintenance of this MJHMP. The Project Management Team will take the primary lead in MJHMP maintenance by coordinating maintenance of this Plan with the Steering Committee, including undertaking the formal review process and updating the Plan. Key City and CCUSD departments and staff positions are identified below.

- Finance Department
  - Assistant Chief Financial Officer
- Community Development Department
  - Planning Manager
  - Building Official
  - Housing Administrator
  - Planner
- Public Works Department
  - Senior Management Analyst
  - Public Works Director/City Engineer
- Transportation Department
  - Senior Management Analyst
- Information Technology Department
  - Technical Services Manager
  - Geographic Information Systems Project Manager
- Parks, Recreation & Community Services Department
  - Aquatics Coordinator
- City Attorney
  - Senior Deputy City Attorney
- Police Department
  - Lieutenant
  - Contract Administrator
- Fire Department
  - Emergency Preparedness Coordinator

- CCUSD
  - Assistant Superintendent
  - Director of Fiscal Services

The Project Management Team will facilitate the Steering Committee meetings, and will assign tasks such as updating and presenting the Plan to other departments, stakeholder groups, and/or elected officials. Plan implementation and evaluation will be a shared responsibility among all Steering Committee members.

EVALUATION

At a minimum, the ongoing annual MJHMP Steering Committee meeting will evaluate the progress of the Plan and incorporate the actions into other planning documents. This review will include the following:

- Summary of any hazard events that occurred during the prior year and their impacts on the community.
- Review of successful mitigation initiatives identified in the Plan.
- Brief discussion about why targeted mitigation strategies were not completed.
- Reevaluation of the mitigation actions to determine if the timeline for identified projects needs to be amended (such as changing a long-term project to a short-term project due to funding availability).
- Recommendations for new mitigation actions.
- Changes in, or potential for, new funding options/grant opportunities.
- Integration of new GIS data and maps that can be used to inform the Plan.
- Evaluation of any other planning programs or initiatives within the City or CCUSD that involve hazard mitigation.

The City and CCUSD will create a template to guide the Steering Committee in preparing a progress report. The City and CCUSD will also prepare a formal annual report on the progress of the MJHMP. This report will be used as follows:

- Distributed to City and CCUSD department heads for review.
- Posted on the City and CCUSD websites with the ability for the public to provide comments.
- Provided to the community and local media through an e-mail, tweet, and social media.
- Presented in the form of a report to the City Council and CCUSD Board.

6.2 METHOD AND SCHEDULE FOR UPDATING THE PLAN WITHIN FIVE YEARS

Section 201.6.(d)(3) of Title 44 of the Code of Federal Regulations requires that local hazard mitigation plans be reviewed, revised if appropriate, and resubmitted for approval in order to remain eligible for benefits awarded under the DMA. Monitoring the progress of the mitigation actions will be on-going throughout the five-year period between the adoption of the MJHMP and the next update effort. The MJHMP Steering Committee will meet on an annual basis to monitor the status of the implementation of mitigation actions and develop updates as necessary.

The City and CCUSD intend to update the Plan on a five-year cycle from the date of initial Plan adoption. It is anticipated that this update process will occur one year prior to expiration of the existing Plan. This cycle may be accelerated to less than five years based on the following triggers:

- A presidential disaster declaration that impacts the City.
- A hazard event that causes loss of life.

Should a significant disaster occur within the City, the MJHMP Steering Committee will reconvene within 30 days of the disaster to review and update the MJHMP as appropriate. The City Council and CCUSD Board will adopt written updates to the MJHMP.

PROCESS

The intent of the update process will be to add new planning process methods, community profile data, hazard data and events, vulnerability analyses, mitigation actions, and goals to the adopted Plan so that the MJHMP will always be current and up to date. Based on the needs identified by the Steering Committee, the update will, at a minimum, include the elements below:

1. The update process will be convened through a Steering Committee appointed by the Public Works Director/City Engineer and will consist of at least one member of the Community Development Department to ensure consistency with the City's General Plan.

2. The hazard risk assessment will be reviewed and updated using best available information and technologies on an annual basis.

3. The evaluation of critical structures and mapping will be updated and improved as funding becomes available.

4. The mitigation actions will be reviewed and revised to account for any actions completed, deferred, or changed to account for changes in the risk assessment or new City or CCUSD policies identified under other planning mechanisms, as appropriate (such as the City's General Plan).

5. The draft update will be sent to appropriate agencies for comment.

6. The public will be given an opportunity to comment prior to adoption.

7. The Culver City-City Council and CCUSD Board will adopt the updated MJHMP.

The MJHMP Steering Committee will coordinate with responsible City and CCUSD departments and agencies/organizations identified for each mitigation action. These responsible departments and agencies/organizations will monitor and evaluate the progress made on the implementation of mitigation actions and report to the MJHMP Steering Committee on an annual basis. Working with the MJHMP Steering Committee, these responsible departments and agencies/organizations will be asked to assess the effectiveness of the mitigation actions and modify the mitigation actions as appropriate. The MJHMP Mitigation Action Progress Report worksheet will assist mitigation leads in reporting on the status and assessing the effectiveness of the mitigation actions.

Information culminated from the mitigation leads or "champions" will be used to monitor mitigation actions and annual evaluation of the MJHMP. The following questions will be considered as criteria for evaluating the Plan's effectiveness:

- Has the nature or magnitude of hazards affecting the City changed?
- Are there new hazards that have the potential to impact the City?
- Do the identified goals and actions address current and expected conditions?
- Have mitigation actions been implemented or completed?
- Has the implementation of identified mitigation actions resulted in expected outcomes?
- Are current resources adequate to implement the MJHMP?
- Should additional local resources be committed to address identified hazards?

An Annual MJHMP Review Questionnaire worksheet will be used to provide guidance to the MJHMP Steering Committee on what should be included in the evaluation. Future updates to the MJHMP will account for any new hazard vulnerabilities, special circumstances, or new information that becomes available. Issues that arise during monitoring and evaluating the MJHMP, which require changes to the risk assessment, mitigation strategy and other components of the Plan, will be incorporated into the next update of the MJHMP in 2021. The questions identified above would remain valid during the preparation of the 2021 Plan update.

6.3 ADOPTION

The Culver City-City Council and CCUSD Board are responsible for adopting the MJHMP. This formal adoption should take place every five years. Once the Plan has been adopted, the City's Public Works Department will be responsible for final submission to the California Office of Emergency Services (Cal OES). Cal OES will then submit the Plan to FEMA for final review and approval.

6.4 IMPLEMENTATION THROUGH EXISTING PROGRAMS

The effectiveness of the nonregulatory MJHMP depends on the implementation of the Plan and incorporation of the outlined mitigation action items into existing City and CCUSD plans, policies, and programs. The Plan includes a range of action items that, if implemented, would reduce loss from hazard events in the City. Together, the mitigation action items in the MJHMP provide the framework for activities that the City and CCUSD may choose to implement over the next five years. The City and CCUSD have prioritized the Plan's goals and identified actions that will be implemented (resources permitting) through existing plans, policies, and programs.

The City's Public Works Department has taken on the responsibility for overseeing the Plan's implementation and maintenance through the City's existing programs. The Senior Management Analyst, or designated appointee, will assume lead responsibility for facilitating MJHMP implementation and maintenance meetings. Although the Public Works Department will have primary responsibility for review, coordination, and promotion, plan implementation and evaluation will be a shared responsibility among all departments identified as lead departments in the mitigation action plan, including CCUSD. The Public Works Department will continue to work closely with the Los Angeles County Disaster Management Area A Coordinator to ensure consistency with all relevant plans.

Similarly, the CCUSD Business Services Department is responsible for overseeing the Plan's implementation and maintenance through CCUSD's existing programs. The Assistant Superintendent, or designated appointee, will coordinate with the CCUSD Planning Team to facilitate MJHMP implementation and will be responsible for coordinating with the City's Senior Management Analysist for participation and coordination of maintenance meetings to ensure all information is coordinated.

6.5 INCORPORATION INTO EXISTING PLANNING MECHANISMS

The information on hazards, risk, vulnerability, and mitigation contained in this Plan is based on the best information and technology available at the time the MJHMP was prepared. The City's General Plan is considered to be an integral part of this Plan. The City, through adoption of its General Plan Safety Element goals, has planned for the impact of natural hazards. The MJHMP process has allowed the City to review and expand upon the policies contained in the General Plan Safety Element. The City views the General Plan and the MJHMP as complementary planning documents that work together to achieve the ultimate goal of the reduction of risk exposure to the citizens of the City. Many of the ongoing recommendations identified in the mitigation strategy further the goals and policies of the General Plan and other adopted plans. The City will coordinate the recommendations of the MJHMP with other planning processes and programs including the following:

- Culver City General Plan Updates
- Los Angeles County All-Hazard Mitigation Plan (2014)
- Culver City Capital Improvement Program
- Culver City Building Codes

As a guidance document, implementation of the mitigation actions can be accomplished most effectively by integrating the MJHMP into ongoing district-wide programs, policies, and practices. Opportunities to integrate the mitigation actions include the following:

- Incorporating actions into the CCUSD Facilities Master Plan to ensure that development does not encroach on known hazard areas in the community and that needed improvements to facilities located within hazard areas are identified and prioritized.

- Integration of mitigation actions in emergency response and post-disaster recovery planning.

- Ongoing education and outreach programs to increase staff, parent, student, and overall community awareness of the risks associated with natural hazards.

- Continued coordination with the City and other agencies on emergency operations and training opportunities.

6.6 CONTINUED PUBLIC INVOLVEMENT

The public will continue to be apprised of the MJHMP actions through the City and CCUSD websites and through the provision of copies of the annual progress report to the community and the media. Copies of the Plan will be distributed to the City branch of the Los Angeles County Library System. Upon initiation of the MJHMP update process, a new public involvement strategy will be developed based on guidance from the Steering Committee. This strategy will be based on the needs and capabilities of the City and CCUSD at the time of the update. At a minimum, this strategy will include the use of the City and CCUSD website, e-mail distribution lists, social media, and local media outlets within the planning area.

6.7 POINT OF CONTACT

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