



2024 Hazard Mitigation Plan

Contra Costa County,
California

City of
Walnut Creek
Annex

DRAFT



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1. INTRODUCTION

This Annex details the hazard mitigation elements specific to the City of Walnut Creek, a participating jurisdiction to the 2024 Contra Costa County Hazard Mitigation Plan update. This Annex is not intended to be a standalone document but supplements the information contained in **Volume 1 (Planning Area-wide Elements)**. Therefore, all sections of **Volume 1** including the planning process, hazard identification and risk assessment, mitigation strategy, and plan maintenance apply to and were met by the City of Walnut Creek. This Annex provides additional information specific to the City, with a focus on providing additional details on the hazard risk assessment and mitigation strategy (i.e., mitigation actions) for this community.

2. LOCAL PLANNING TEAM

The City of Walnut Creek Local Planning Team was comprised of the members listed on **Table 1**.

Table 1. City of Walnut Creek Local Planning Team Members

Name	Title	Department
Ryndie Azevedo	Administrative Analyst II	City of Walnut Creek City Manager's Office
Bruce Jower	Lieutenant	City of Walnut Creek Police Department
Frank Kong	Chief Building Officer	City of Walnut Creek Community Development Department (Building Division)
Carla Hansen	Deputy City Manager	City of Walnut Creek City Manager's Office
Rich Payne	Public Works Manager	City of Walnut Creek Public Works Department
Candice Rankin Mumby	Sustainability Manager	City of Walnut Creek City Manager's Office

3. JURISDICTION PROFILE

The City of Walnut Creek was incorporated on October 21, 1914. The City offers suburban convenience with a walkable downtown full of shopping, dining, and cultural activities and ranks as one of the California cities offering the most open space per capita. The City of Walnut Creek is located at the foot of Mount Diablo, 23 miles east of San Francisco at the junction of the highways from Sacramento and San Jose (Interstate 680) and San Francisco/Oakland (State Road 24). Portions lie in both the San Ramon Valley and the Ygnacio Valley. The City has a total area of 19.45 square miles.

3.1. Population

The City of Walnut Creek had a population of 68,969 as of July 1, 2022. Between 2010 and 2020, the population increased by approximately 9.3%; however, a slight decrease of 1.7% occurred between 2020 and 2022. **Table #** shows the City of Walnut Creek's population distribution between 2010 and 2022.¹

¹ United States Census Bureau. (2022). Quick Facts: City of Walnut Creek. Retrieved from <https://www.census.gov/quickfacts/fact/table/walnutcreekcitycalifornia/>.



Table 2. Population Estimates

Jurisdiction	2010	2020	2022	Population Change (2010 – 2022)
City of Walnut Creek	64,173	70,127	68,969	7.5%

3.1.1. Underserved Population

The 2023 California State Hazard Mitigation Plan identifies the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) as the most appropriate and authoritative dataset to identify areas where efforts can be prioritized to ensure equitable outcomes from mitigation planning and actions.

CDC's SVI combines 16 social factors, within four (4) themes (i.e., socioeconomic status, household characteristics, racial and ethnic minority status, and housing type and transportation), to identify areas of social vulnerability. **Table 3** outlines the SVI information for the City of Walnut Creek.

Note: ArcGIS mapping analysis was performed utilizing Census Tract data by overlaying Census Tracts with the City of Walnut Creek planning area boundary. The information outlined in this section includes data from the Census Tracts that intersect the jurisdiction.

Table 3. Social Vulnerability Index (2020)

Theme	Social Factors	Population	Percent
Socioeconomic Status	People below 150% poverty estimate	9,233	13.2%
	Unemployed (Civilian 16 years old and older)	2,849	4.1%
	Housing Cost Burden	10,410	14.8%
	No High School Diploma	2,049	2.9%
	No Health Insurance	2,366	3.4%
Household Characteristics	65 years old and older	31,498	44.9%
	17 years and younger	22,225	31.7%
	Civilian with a Disability	14,011	20.0%
	Single-Parent Household	1,759	2.5%
	English Language Proficiency	2,847	4.1%
Racial and Ethnic Minority Status	- Hispanic or Latino (of any race) - Black or African American - Asian - American Indian or Alaska Native - Native Hawaiian or Pacific Islander - Two or More Races - Other Races	42,783	61.0%



Theme	Social Factors	Population	Percent
Housing Type and Transportation	Multi-Unit Structures	11,712	16.7%
	Mobile Homes	95	0.1%
	Crowding	1,180	1.7%
	No Vehicle	3,639	5.2%
	Group Quarters	2,684	3.8%

3.2. Brief History

The Walnut Creek area has been home to people for thousands of years. The first known inhabitants were the Bolbones and the Saclans, tribes of the Bay Miwok linguistic group. Spanish explorers arrived in the region in 1772, and by the early 1800s, most indigenous people had been driven from their lands.

In 1821, following the Mexican Revolution, the California territory was acquired by Mexico. Walnut Creek is located amidst the earlier site of four (4) Mexican land grants. A grant of nearly 18,000 acres in what is today the Ygnacio Valley, was made to Juana Sanchez de Pacheco, who deeded it to her two (2) grandsons, Ysidro and Ygnacio Sibrian. Ygnacio created the first roofed home in the valley in about 1850 and is the namesake of Ygnacio Valley. The grant was called Rancho Arroyo de Las Nueces y Bolbones, named after the principal waterway, Arroyo de las Nueces (Spanish for Walnut Creek) as well as for the Bolbones. Following the Mexican-American War, California became a United States territory and subsequently a state in 1850.

Walnut Creek was first known as “The Corners”, named because it was the place where roads from Pacheco and Lafayette met. Today, those “corners” are at the intersection of Mount Diablo Boulevard and North Main Street. The town’s first American settler was William Slusher, who built a dwelling on the bank of Walnut Creek, called Arroyo de las Nueces, in 1849. In 1855, Milo Hough of Lafayette built a hotel named Walnut Creek House in The Corners. A blacksmith shop and a store soon joined the hotel, and a year later, Hiram Penniman (who built Shadelands Ranch) laid out the town site and realigned the Main Street of today.

Continued growth led to the establishment of a United States Post Office in December 1862, around which time the community was renamed Walnut Creek. The Southern Pacific Railroad service arrived in 1891. On October 21, 1914, the City, and the surrounding area of 500 acres, were incorporated as the eighth city in Contra Costa County.

With the opening of the Broadway Shopping Center, Contra Costa County’s first major retail center, in 1951, the City took off in a new direction, and its population more than tripled from 2,460 in 1950 to 9,903 in 1960.

In the early 1970s, faced with rapid growth, the City and the public moved to preserve the open space surrounding Walnut Creek. In 1974, Walnut Creek voters approved a \$6.7 Million bond measure that allowed the City to purchase 1,800 acres of undeveloped hillsides, ridge lines, and park sites. Walnut Creek owns parts of Lime Ridge Open Space, Shell Ridge Open Space, Acalanes Ridge Open Space, and Sugarloaf Open Space.



In the 1990s and 2000s, many of City's current municipal buildings were built including a renovated City Hall, the Leshner Center for the Arts, the Shadelands Arts Center, Veteran's Memorial Plaza, and the Walnut Creek Library in Civic Park.

The current East Bay Regional Park Iron Horse Trail, used by walkers, runners, and bikers, runs over what used to be portions of the Southern Pacific Railroad line and the Antioch/Pittsburg/Bay Point – SFO Line of the Bay Area Rapid Transit (BART) serves Walnut Creek with a station adjacent to Interstate 680. Walnut Creek, the actual waterway, has been routed underneath downtown through a series of tunnels from near the Walnut Creek Library to south of Broadway Plaza.

Today, Walnut Creek is the vibrant home of nearly 70,000 residents and a large number of guests that come to the City for work, recreation, and to enjoy the vibrant downtown amenities.

3.3. Governing Body Format

As a general law city, the City of Walnut Creek operates under a City Council/City Manager form of government with five (5) City Council members elected at large, serving staggered four (4) year terms. The City employs approximately 388 regular employees and fire protection services are supplied by the Contra Costa Fire Protection District. Official City business is administered by the City Manager's Office. The City Council assumes responsibility for the adoption of this Plan and the City Manager will oversee its implementation.

4. DEVELOPMENT TRENDS

California Law requires counties and cities to prepare and adopt a General Plan, a comprehensive long-range plan to guide community development. The General Plan must contain seven (7) state-mandated elements – land use, housing, circulation, safety, open space, conservation, and noise – and may contain additional elements as a jurisdiction sees fit. Additionally, the General Plan must comprise an integrated and internally consistent set of goals, policies, and implementation measures. The City of Walnut Creek adopted its General Plan under this law most recently in April 2006.

There are 33,564 housing units in Walnut Creek as of 2018, with a median single-family home price of \$1.5 Million and a median townhouse-condo price of \$1.1 Million. The majority of recent developments have been in commercial development and infill housing with an emphasis on growth close to downtown and the BART stations. No development changes have affected the City's overall vulnerability in the last five (5) years.

Table 4 summarizes development trends in the performance period since development of the previous hazard mitigation plan and expected future development trends.

Table 4. Recent and Expected Development Trends

Criteria	Response
Has your jurisdiction annexed any land since the development of the previous Hazard Mitigation Plan?	No
<i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	N/A



Criteria	Response
Is your jurisdiction expected to annex any areas during the performance period of this Plan?	No
Are any areas targeted for development or major redevelopment in the next five (5) years?	Yes
<i>If yes, please briefly describe</i>	BART Transit Village
Please provide the number of permits for each hazard area or provide a qualitative description of where development has occurred.	The City does not currently track the number of permits issued in various hazard zones. For those hazards with a clearly defined extent and location, the City cannot estimate specific development impacts. For those hazards with impacts Citywide, it is safe to assume that this new development could be subject to impacts from those hazards. However, it is important to note that all new development was consistent with General Plan policies and municipal code standards and as a result most development has occurred outside of identified hazard zones.

5. CAPABILITY ASSESSMENT

Federal regulations require hazard mitigation plans to identify goals for reducing long-term vulnerabilities to the identified hazards in the planning area (Section 201.6(c)(3)(i)). A critical step in the development of specific hazard mitigation actions and projects is assessing existing authorities, policies, programs, and resources and capabilities to use or modify local tools to reduce losses and vulnerability from profiled hazards.

A capability assessment was conducted for the City of Walnut Creek and participating jurisdictions' authorities, policies, programs, and resources. Goals and mitigation actions were developed using input from this assessment. This section also includes information regarding the City's jurisdictions' implementation of and continued participation in the National Flood Insurance Program (NFIP).

The Local Planning Team assessed the City's capabilities that can contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include the following categories:

- Planning and Regulatory Capabilities
- Administrative and Technical Capabilities
- Financial Capabilities
- Education and Outreach Capabilities

Additionally, ways to expand on and improve these existing policies and programs to integrate hazard mitigation into the day-to-day activities and programs of the City were considered.

5.1. Planning and Regulatory Capabilities

These include local ordinances, policies, and laws to manage growth and development (e.g., land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes, and zoning ordinances). The City of Walnut Creek will adopt the approved 2024 Contra Costa County Hazard Mitigation Plan into the City's General Plan Safety Element for AB 2140 compliance. **Table 5** contains a list of legal and regulatory capabilities. The description section of each



Planning and Regulatory Capability includes a paragraph on expansion, implementation, and improvement.

Table 5. Planning and Regulatory Capabilities

City Code, Title 3, Chapter 2: Civil Defense			
The purpose of the Civil Defense Code is to provide for the preparation and carrying out of plans for the protection of people and property within the City in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of the City with all other public agencies, corporations, organizations, and affected private people. Expansion, Implementation, and Improvement: The hazard identification and risk analysis in this Hazard Mitigation Plan should be used to inform emergency preparedness programs. Reducing risk by mitigation actions supports emergency preparedness goals.			
Lead Department	City of Walnut Creek City Manager's Office	Hazards Addressed	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire
City Code, Title 9: Building Regulations			
<i>Includes: Building Code, Electrical Code, Housing Code, House Moving, Grading, Community Preservation, Fire Code, Abatement of Dangerous Buildings Code, Industrial Safety</i> The purpose of the Building Code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation, occupancy, and maintenance or use of all buildings and structures, electrical conductors and equipment, plumbing and drainage systems, mechanical systems, heating, ventilating, cooling, refrigeration systems, or other heat-producing appliances, swimming pools, spas or hot tub systems, or solar energy systems within this jurisdiction. City Building Regulations (incorporates by reference and is based upon the 2022 California Building Code, 2022 California Residential Code, 2022 California Green Building Standards Code, and 2022 California Existing Building Code [all codified in California Code of Regulations, Title 24]); adopted November 17, 2022. Expansion, Implementation, and Improvement: The Building Code will be reviewed based on developing trends in identified hazards and mitigation measures that can make them more effective at preventing losses. It will be updated to comply with the latest International and State building codes.			
Lead Department	City of Walnut Creek Community Development Department	Hazards Addressed	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Severe Weather, Wildfire
City Code, Title 9, Chapter 12: Floodplain Management			
The Floodplain Management Code is designed to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific flood hazard areas through the establishment of comprehensive regulations for the management of flood hazard areas. Expansion, Implementation, and Improvement: The FEMA Flood Insurance Rate Maps (FIRMs) will be used in selecting mitigation items related to flooding. Development in the 100 and 500 year floodplains will be monitored and adhered to flood safe practices. As the FIRMs are updated, new mitigation activities will be considered.			
Lead Department	City of Walnut Creek Public Works Department	Hazards Addressed	Flood



City Code, Title 9, Chapter 16 Stormwater Management and Discharge Control

The intent of this Chapter is to protect and enhance the water quality in the City of Walnut Creek's watercourses pursuant to, and consistent with the Porter-Cologne Water Quality Control Act. This chapter also carries out the conditions in the city's National Pollutant Discharge Elimination System (NPDES) permit that require implementation of appropriate source control and site design measures and stormwater treatment measures for development projects.

Expansion, Implementation, and Improvement: Guidelines for developing Stormwater Pollution Prevention Plans should include mitigation measures that are identified within this Hazard Mitigation Plan.

Lead Department	City of Walnut Creek Public Works Department	Hazards Addressed	Flood, Severe Weather
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City Code, Title 10, Chapter 1: Subdivisions

The Subdivisions Code is designed to regulate and control the division of land within the City and to supplement the provisions of the Subdivision Map Act concerning the design, improvement, and survey data of subdivisions. Additionally, it outlines the form and content of all maps provided and the procedure to be followed in securing the official approval of the Design Review Commission, Planning Commission, the City Engineer, the Zoning Administrator, the Community Development Department and City Council.

Expansion, Implementation, and Improvement: Subdivisions Code should be modified and updated to support changes in land use development. It should be implemented to require adequate infrastructure to support residential area populations.

Lead Department	City of Walnut Creek Community Development Department	Hazards Addressed	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Severe Weather, Wildfire
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City Code, Title 10, Chapter 2: Zoning

The regulations contained in the Zoning Code are deemed necessary in order to encourage a more appropriate use of land, to conserve and stabilize the value of land, to provide adequate open spaces for light and air, to prevent and fight fires, to prevent undue congestion of population, to lessen congestion on streets, to facilitate provision of adequate community utilities (e.g., transportation, water, sewerage, schools, parks and other public requirements), and to promote the health, safety, comfort, convenience, prosperity and general welfare of its citizens, all in accordance with the long-range, comprehensive General Plan of the City, and thus to provide the economic and social advantages resulting from the orderly, planned use of land resources.

Expansion, Implementation, and Improvement: Zoning Code should be modified and updated to reflect changes in development. The Code may be used to address land use regulations that support mitigation actions such as development in wetlands and floodplains and preservation of open space

Lead Department	City of Walnut Creek Community Development Department	Hazards Addressed	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Severe Weather, Wildfire
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City General Plan

The purpose of the City General Plan, updated in 2006, is to express the broad goals and policies, and specific implementation measures, which will guide decisions on future growth, development, and the conservation of resources. The General Plan includes eight (8) elements:

- Chapter 1: Introduction
- Chapter 2: Quality of Life
- Chapter 3: Natural Environment
- Chapter 4: Build Environment
- Chapter 5: Transportation
- Chapter 6: Safety and Noise
- Chapter 7: Governance
- Chapter 8: Implementation
- Appendix A: Glossary
- Appendix B: Walnut Creek Hillside/Open Space Protection Ordinance

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan will be incorporated in the General Plan Safety and Noise Element. The General Plan will include specific actions that support mitigation throughout the City. The opportunity to incorporate additional hazard mitigation and abatement measures will be contemplated for inclusion into the updated General Plan.

Lead Department	City of Walnut Creek Community Development Department	Hazards Addressed	Climate Change, Drought, Earthquake, Flood, Severe Weather, Wildfire
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City Sustainability Action Plan

The City Sustainability Action Plan, adopted in 2023, serves as the City's Climate Action Plan and includes additional actions to improve community health and resiliency. The Plan allows the City of Walnut Creek's decision makers and staff and the Walnut Creek community to understand the sources and magnitude of local greenhouse gas emissions (GHG) and the impacts of climate change on the community, prioritize steps to achieve long-term GHG emissions-reduction targets, and increase resilience to climate change related hazards.

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan will support mitigation measures compatible with the Sustainability Action Plan to reduce the impact of hazards caused or worsened by a changing climate including severe heat, drought, and wildfire smoke.

Lead Department	City of Walnut Creek City Manager's Office	Hazards Addressed	Climate Change, Drought, Severe Weather, Wildfire
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County Climate Action Plan

The Contra Costa County Climate Action Plan (CAP), adopted in December 2015, is the County's strategic approach to reduce greenhouse gas (GHG) emissions from sources throughout the unincorporated area. The CAP reflects the County's programs and actions to decrease energy use, improve energy efficiency, develop renewable energy, reduce vehicle miles traveled, increase multi-modal travel options, expand green infrastructure, reduce waste, and improve the efficiency of government operations.

Expansion, Implementation, and Improvement: The CAP will be updated in parallel with the General Plan. The General Plan will provide the long-term resiliency framework of goals and policies, and the CAP will provide strategic implementation programs to show how the County will reduce GHG emissions in support of the State's adopted reduction targets for 2030 and 2050, reducing GHG emissions 40 percent below 1990 levels by 2030, with consideration of the State's long-term goal to reduce GHG emissions to 80% below 1990 levels by 2050.

Lead Department	Contra Costa County Department of Conservation and Development	Hazards Addressed	Climate Change, Drought, Flood, Sea Level Rise, Severe Weather, Wildfire
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Contra Costa Hazardous Materials Plan / Hazardous Material Business Plan

Addresses the storage, use, and emergency planning for hazardous materials and extremely hazardous substances in the community and businesses.

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan will support mitigation measures compatible with the County Hazardous Materials Plan to reduce potential hazardous materials releases.

Lead Department	Contra Costa Health Services, Hazardous Materials Program Office; Contra Costa County Fire Protection District	Hazards Addressed	Hazardous Materials Incidents
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Emergency Management Plan

The City of Walnut Creek Emergency Management Plan (EMP) is an all-hazards plan designed as a reference and guidance document, serving as the foundation for disaster response and recovery operations for the City of Walnut Creek.

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan will be used as an essential tool to update the City EOP. California Office of Emergency Services (Cal OES) requires that EOPs describe applicable hazards as part of the Plan. The latest Hazard Mitigation Plan hazards descriptions will be included. Mitigation actions that are preparedness and response in nature will be analyzed for applicability for inclusion in the description of EOP processes and procedures.

Lead Department	City of Walnut Creek City Manager's Office	Hazards Addressed	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire
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Capital Investment Program

The 2024-2033 Ten-Year Capital Investment Program (CIP) is a planning tool to prioritize and schedule projects for five (5) two (2) year budget cycles. It is a dynamic document that will be updated every two (2) year cycle. Approval of the CIP does not constitute an appropriation of funds to a specific project. CIP projects are funded by the separate City Council action approving a two (2) year Capital Budget.

The Capital Budget maintains the quality of life in Walnut Creek through the creation and preservation of the community's physical infrastructure including roads and bridges, storm water systems, public buildings, parks, open spaces, and trails.

Expansion, Implementation, and Improvement: The CIP should include mitigation measures such as improvements to stormwater collection systems, elevation of roadways at risk for flooding and strengthening of structures.

Lead Department	City of Walnut Creek Public Works Department	Hazards Addressed	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire
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Alameda and Contra Costa County Regional Wildfire Prevention Plan

The Contra Costa Resource Conservation District (CCRCD) and the Alameda City Resource Conservation District (ACRCD) worked jointly with funding from the Coastal Conservancy to develop a Regional Priority Plan (RPP) for Contra Costa and Alameda counties. The goal of the RPP process was to identify regional natural resource concerns that could be exacerbated by catastrophic wildfire and develop projects or other methods to remedy those issues ahead of the next wildfire event. The planning process started in November 2020 and completed in September 2022.

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan and Regional Wildfire Prevention Plan should be aligned where mitigation actions in this Hazard Mitigation Plan support the goals of the Regional Wildfire Prevention Plan. The wildfire analysis in this Hazard Mitigation Plan can inform updates and revisions to the Wildfire Prevention Plan.

Lead Department	Contra Costa County Fire Protection District	Hazards Addressed	Wildfire
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Contra Costa County Community Wildfire Protection Plan

The Contra Costa County Wildfire Protection Plan (CWPP), updated in 2019, provides an analysis of wildfire hazards and risk in the wildland urban interface (WUI) in Contra Costa County. The Plan follows the standards for CWPPs established by the Federal Healthy Forest Restoration Act.

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan and County Community Wildfire Protection Plan should be aligned where mitigation actions support the goals of the CWPP. The wildfire analysis in this Hazard Mitigation Plan can inform updates and revisions to the CWPP.

Lead Department	Contra Costa County Fire Protection District	Hazards Addressed	Wildfire
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5.2. Administrative and Technical Capabilities

The administrative and technical capabilities include community (i.e., public and private) staff and their skills and tools, which can be used for mitigation planning and implementation. This capability includes engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers. Small communities may rely on other government entities, such as counties or special districts, for resources. These capabilities may be used to support mitigation activities. **Table 6** lists administrative and technical capabilities.

Table 6. Administrative and Technical Capabilities

Planners, Engineers, Building Officials, and Code Enforcement

The planners, engineers, building officials, and code enforcement personnel issue building permits, review plans for new construction and improvements; conduct plan checks; work with architects, engineers, designers, and building owners during pre-construction; inspect all phases of residential and commercial/industrial construction for compliance; enforce municipal code violations.

Expansion and Improvement: Provide opportunities for continued education to Community Development staff to maintain state of the art knowledge of new code and regulatory requirements.

Department	City of Walnut Creek Community Development Department
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Planners, Engineers, Analysts, and General Staff

The planners, engineers, analysts, and general staff plan future City land use; develop and implement the General Plan, land use regulations through zoning and subdivision codes, and environmental review of development; administer the Community Development Block Grant Program (CDBG), conduct Code Compliance Program with the Building Division; conduct conditional use permits, variances, land subdivision, California Environmental Quality Act (CEQA) review, public hearings, noise permits, and zoning information.

Expansion and Improvement: Provide opportunities for continued education to Community Development staff to maintain state of the art knowledge of new code and regulatory requirements.

Department	City of Walnut Creek Community Development Department
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Director, Assistant Director, Supervisor, Engineers, Analysts, General Staff

Directors, assistant directors, supervisors, engineers, analysts, and general staff oversee public and private improvements in the public right of way; develop and implement the Capital Investment Program by providing staff support to the City relative to City streets, sanitary sewer, storm drains, water system facilities, traffic signals, park, and recreational facilities; maintain and upgrade public infrastructure; provide services related to traffic issues; monitors the street lighting system maintained by the City and PG&E; keeps and maintains record drawings of City owned infrastructure; conducts traffic committee meetings with the Police Department; and provides engineering support to other City departments and divisions within the Public Works Department.

Expansion and Improvement: Provide opportunities for continued education to Public Works staff to maintain state of the art knowledge of new code and regulatory requirements.

Department	City of Walnut Creek Public Works Department
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City Manager's Office

The City Manager's Office provides for the coordinated response and recovery from major emergencies and disasters; develops, administers and coordinates the emergency planning preparedness program in conformity with local, State, and Federal requirements; develops emergency management and hazard mitigation plans; provides training to City staff in emergency planning and preparedness; develops, maintains, and coordinates the City Emergency Operations Center (EOC); provides businesses and residents with emergency planning and preparedness material to help reduce the loss of life and property resulting from a disaster; coordinates with City, County, State, and Federal counterparts; prepares emergency management grants; coordinates the efforts of volunteer organizations.

Expansion and Improvement: Provide training to EOC staff, and other key personnel to better prepare for potential hazards and take action to report them. Continue to train EOC staff, community volunteers, and disaster service workers to respond to disasters. Additionally, provide opportunities for continued education to City Manager's Office staff and others to maintain state of the art knowledge of best practices and regulatory requirements.

Department	City of Walnut Creek City Manager's Office
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Floodplain Manager

As a member of the NFIP, the Floodplain Administrator is responsible for collaborating with stakeholders to ensure the Floodplain Management Ordinance is followed within the City.

Expansion and Improvement: Continue to manage the City's NFIP participation. Support the development of mitigation activities consistent with the best practices for floodplain management.

Department	City of Walnut Creek Public Works Department
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Communications	
The Communications Division conducts public affairs programs including public and internal communications, and community and media relations. They also produce City news, other major publications, video productions and cable programming, and manage special programs and the City's website and social media channels. Expansion and Improvement: Continue to use public information officers to promote awareness of this Hazard Mitigation Plan and activities associated with individual mitigation projects as they are implemented.	
Department	City of Walnut Creek City Manager's Office
Information Technology (IT) and Geographic Information System (GIS)	
Information technology (IT) and Geographic Information Systems (GIS) provide the technical resources and support necessary to operate all of the applications relating to the City's information resources; respond to the service needs to all departments based on Citywide priorities as established by the City Manager; responsible for the training and effective use of all City technology computer hardware, software, and peripherals; provide internal coordination of technology efforts Citywide including substantial interface with all technology vendors to assure cost-effective, secure, and reliable technologies compatible with the long-range needs of the City; provide high-quality spatial data to City departments. Expansion and Improvement: Provide opportunities for continued education to Information Technology and Geographic Information Systems staff to maintain state of the art knowledge.	
Department	City of Walnut Creek Administrative Services Department
Risk Management	
Risk Management provides services to assist City departments in managing their risk of injury to employees, City property, and the public at large; purchase insurance for City departments and act in an advisory capacity with respect to workers' compensation, public liability, City property, and City contracts. Expansion and Improvement: Continue to have the Risk Manager provide input to support the analysis of potential losses due to hazards.	
Department	City of Walnut Creek City Manager's Office
County Flood Control and Water Conservation District	
The Contra Costa County Flood Control and Water Conservation District serves an advisory capacity to the Engineering Division and the Planning Commission relative to drainage and flood control problems.	
Department	Contra Costa County Flood Control and Water Conservation District

5.3. Financial Resources

Table 7 contains a list of financial capabilities available to the City. These financial resources may be used to support mitigation activities based on procedures for each resource.

Table 7. Financial Resources

General Fund	
The General Fund is the City's primary operating fund. It accounts for all financial resources necessary to carry out basic governmental activities of the City which are not accounted for in another fund. Expansion and Improvement: Hazard mitigation projects may be considered during the annual budgeting process for funding from the General Fund.	
Administrator	City of Walnut Creek Administrative Services Department



Special Revenue Funds	
Special Revenue Funds account for monies received that must be used for a specific project or purpose. Most special revenue funds were established to mitigate the impact of projects approved in certain areas of the City and are intended for uses that will benefit the quality of life for the communities in which the project is approved.	
Expansion and Improvement: Hazard mitigation projects may be considered during the annual budgeting process for funding from Special Revenue Funds.	
Administrator	City of Walnut Creek Administrative Services Department
National Pollutant Discharge Elimination System (NPDES)	
The National Pollutant Discharge Elimination System (NPDES) is a joint effort of the Engineering and Public Works Department through the Contra Costa County Clean Water Program. Since 1993, the City has worked with Contra Costa County Flood Control and Water Conservation District, and 15 other cities within the County to meet federal mandates for minimizing pollutants in stormwater runoff. This revenue is used to fund its pro-rated share of the Clean Water Program's staffing, overhead costs, and local level activities necessary to comply with the joint Municipal Regional Permit (MRP) provisions.	
Expansion and Improvement: Where permissible, NPDES funding may be considered during the annual budgeting process for funding mitigation projects.	
Administrator	City of Walnut Creek Public Works Department
Community Development Block Grant (CDBG)	
The Community Development Block Grant (CDBG) Program provides funding for eligible senior activities such as in-home care, art classes, counseling, and home-delivered meals. The United States Department of Housing and Urban Development (HUD) also provides Disaster Recovery Assistance in the form of flexible grants to help cities, counties, and states recover from Presidentially Declared Disasters, especially in low income areas, subject to the availability of supplemental appropriations.	
Expansion and Improvement: Where applicable, mitigation projects that enhance the resiliency of low income and underserved communities should be considered for CDBG funding.	
Administrator	United States Department of Housing and Urban Development, City of Walnut Creek Community Development Department
Hazard Mitigation Grant Program (HMGP)	
The Hazard Mitigation Grant Program (HMPG) provides support for post-disaster mitigation plans and projects.	
Expansion and Improvement: Train staff on notice of intent (NOI) procedures and track opportunities on the Cal OES mitigation website to initiate applications for grant funding.	
Administrator	Federal Emergency Management Agency
Building Resilient Infrastructure and Communities (BRIC)	
Building Resilient Infrastructure and Communities (BRIC) provides support for pre-disaster mitigation plans and projects.	
Expansion and Improvement: Train staff on notice of intent (NOI) procedures and track opportunities on the Cal OES mitigation website to initiate applications for grant funding.	
Administrator	Federal Emergency Management Agency



Flood Mitigation Assistance (FMA) Grant Program

The Flood Mitigation Assistance (FMA) Grant Program mitigates structures and infrastructure with repetitive losses.

Expansion and Improvement: Train staff on notice of intent (NOI) procedures and track opportunities on the California OES mitigation website to initiate applications for grant funding.

Administrator	Federal Emergency Management Agency
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5.4. Education and Outreach Capabilities

Table 8 lists the City's financial and public outreach capabilities. These capabilities include fire safety programs, hazard awareness campaigns, public information, and communications offices. Education and outreach capabilities can be used to inform the public about current and potential mitigation activities.

Table 8. Education and Outreach Resources

City Emergency Preparedness Website

<https://www.walnutcreekca.gov/emergency/>

The Public Safety Department's website has educational material on numerous programs, including making an emergency plan, stocking supplies, staying informed, and getting involved in community preparedness programs. The material is available in multiple languages.

Expansion and Improvement: Maintain City Emergency Preparedness Website and provide links to County, FEMA, and other hazard mitigation resources.

Lead Organization	City of Walnut Creek City Manager's Office
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City Social Media Accounts

Facebook: <https://www.facebook.com/cityofwalnutcreek/>

Facebook: <https://www.facebook.com/walnutcreekpd/>

X (formerly Twitter): <https://twitter.com/walnutcreekgov/>

X (formerly Twitter): <https://twitter.com/walnutcreekpd/>

Instagram: <https://www.instagram.com/walnutcreekgov/>

Instagram: <https://www.instagram.com/walnutcreekpd/>

The City uses its social media accounts to post information to collect input on updating this Hazard Mitigation Plan. These social media accounts can have links to other City webpages that provide details on mitigation projects and activities. They can also provide information and links to County, State and Federal emergency preparedness sites that provide information on individual and family preparedness.

Expansion and Improvement: Develop a communication plan to utilize social media to inform residents on mitigation activities.

Lead Organization	City of Walnut Creek City Manager's Office
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County Public Safety and Emergency Information

<https://www.contracosta.ca.gov/5435/Public-Safety-Emergency-Info>

Provides resources and links for public safety and emergency information in Contra Costa County.

Expansion and Improvement: Provide additional links to other organizations such as FEMA and PG&E.

Lead Organization	Contra Costa County Office of Emergency Services
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Walnut Creek Community Emergency Response Team

<https://www.walnutcreekca.gov/CERT>

Community Emergency Response Team (CERT) is part of a nationally supported, locally implemented initiative that teaches people how to better prepare themselves for hazards that may affect their communities. CERT trains the public in basic disaster response skills such as team organization, disaster medical operations, fire safety, and light search and rescue.

Walnut Creek CERT was founded in 2006. The Team is an all-volunteer community based and community supported disaster preparedness and response organization sponsored by the City of Walnut Creek and trained in the FEMA program.

Trained CERT members are sworn in as volunteer Disaster Service Workers for the City of Walnut Creek. They receive approximately 20 hours of basic training to safely respond to the needs of their neighborhoods following disaster, and to serve as the eyes and ears of the City's Emergency Operations Center and first responders..

Expansion and Improvement: Conduct coordinated training and exercises with Walnut Creek CERT and the Police Department to improve interoperability. Explore opportunities for exercising and training with other CERT programs within the County.

Lead Organization	City of Walnut Creek Police Department
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WCAAlert

WCAAlert is a communication system used by the City of Walnut Creek to share emergency preparedness information or information about local incidents with the public that do not require the public to take a protective action, such as severe weather preparation and traffic alerts. It is also used internally to activate the Emergency Operations Center and communicate with EOC staff during an activation.

Expansion and Improvement: Conduct internal drills using WCAAlert to implement the exercise.

Lead Organization	City of Walnut Creek City Manager's Office
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Community Warning System

The Community Warning System (CWS) can alert residents and businesses within Contra Costa County that are impacted by or are in danger of being impacted by an emergency. The CWS message will include basic information about the incident and what specific protective actions (e.g., shelter in place, lockdown, evacuate, avoid the area) are necessary for life safety and health.

Expansion and Improvement: Coordinate community evacuation drills using the CWS to implement the exercise. Conduct post exercise information fairs at evacuation collection points.

Lead Organization	Contra Costa Sheriff's Office
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6. HAZARD MITIGATION PLAN INTEGRATION

The information on hazards, risk, vulnerability, and mitigation contained in this Hazard Mitigation Plan is based on the best available data at the time of the Plan update. Plan integration consists of the incorporation of hazard mitigation into other relevant planning mechanisms (e.g., general planning and capital improvement planning). It includes the integration of natural hazard information and mitigation policies, principles, and actions into local planning mechanisms and vice versa. Additionally, plan integration is achieved through the involvement of key staff and community officials in collaborative hazard mitigation planning.



6.1. Existing Plan Integration

In the performance period since the adoption of the previous Hazard Mitigation Plan, City of Walnut Creek made progress on integrating components of the hazard mitigation strategy (e.g., goals, objectives, and actions) into the planning initiatives listed in **Table 9**.

Table 9. Current Plan Integration

Planning Initiative	Description
City General Plan (Safety Element)	The City's General Plan incorporates information on natural hazard risk and policies to reduce risk in its Safety Element. Per Senate Bill 379, the Safety Element must be updated to incorporate climate adaptation and resiliency strategies at the time of the next Housing Element update. To meet this requirement, City can incorporate this Hazard Mitigation Plan into the Safety Element.
Walnut Creek Capital Investment Program	Identifies, prioritizes, and budgets capital improvement projects. The Capital Improvement Plan includes projects that can help mitigate potential hazards. The City acts to ensure consistency between this Hazard Mitigation Plan and the current and future Capital Investment Programs. The 2024-2033 Capital Investment Program provides flood mitigation for Walker Homestead area. The Hazard Mitigation Plan can identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.
Building Code Adoption	The City Building Code that was adopted includes standards relevant for hazard mitigation.
Sustainability Action Plan	Identifies risks posed due to effects of climate change and strategies to prevent or adapt to them. The Sustainability Action Plan includes analysis from a vulnerability assessment which identifies hazards and predicts how they will evolve in a changing climate. The City will continue to implement the Sustainability Action Plan to reduce greenhouse gas emissions.
Emergency Management Plan (EMP)	The City of Walnut Creek Emergency Management Plan (EMP) is an all-hazards plan designed as a reference and guidance document, serving as the foundation for disaster response and recovery operations for the City of Walnut Creek. The Plan incorporates the hazards and information identified in this Hazard Mitigation Plan and works towards mitigation measures related to the Emergency Operations Center (EOC).

6.2. Potential Future Integration

As the Hazard Mitigation Plan is implemented, the City of Walnut Creek will use information from the Plan as the best available science and data on hazards. The capability assessment presented in Section 5 of this Annex identifies codes, plans, and programs that provide opportunities for integration. The Citywide and local action plans developed for this Hazard Mitigation Plan are related to plan integration. The capability assessment identified plans and programs, listed in **Table 10**, that do not currently integrate goals and recommendations of this Plan but provide opportunities to do so in the future.



Table 10. Potential Future Integration

Planning Initiative	Description
City General Plan	The Contra Costa County Hazard Mitigation Plan, including the City's Annex, will be reviewed and incorporated, as appropriate, in the next update of the General Plan, especially as related to flood control, urban watershed management, habitat conservation and growth control. Also, the City is considering updates to the downtown section of the Land Use element, and there is an opportunity to incorporate flood hazard mitigation concepts into this section.
Public Outreach	Targeted outreach for flood zones will be conducted using information obtained in the development of this Plan.
Walnut Creek Capital Investment Program	Include mitigation of flood hazards and possible seismic upgrades of City facilities.
Sustainability Action Plan	This Hazard Mitigation Plan will support mitigation measures compatible with the Sustainability Action Plan to reduce the impact of hazards caused or worsened by a changing climate including severe heat, drought, and wildfire smoke.

7. SIGNIFICANT HAZARD PAST EVENTS

A complete risk assessment, including past incidents, for each identified hazard of concern can be found in **Volume 1** of this Plan. **Table 11** provides information on significant hazard events that uniquely impacted the City of Walnut Creek.

Table 11. Significant Past Events

Date	Event Type	Description
December 2020	Hazardous Materials Incidents	Kinder Morgan Pipeline Spill: A leak was detected along the side of the roadway where the pipeline runs along the east side of the South Broadway exit from Highway 680. In December 2020, it was discovered that additional fuel had leaked into the San Ramon Bypass flood control channel near Civic Park. Much of the fuel product was successfully removed with remediation continuing for several years. A portion of the pipeline was replaced, and monitoring wells were installed.

8. NATIONAL FLOOD INSURANCE PROGRAM

The City of Walnut Creek is a member of the National Flood Insurance Program (NFIP) but has chosen to not participate in the NFIP's Community Rating System (CRS). The City's NFIP participation information is listed in **Table 12**.

Table 12. NFIP Participation Information

CID	Community Name	NFIP Participation Date	Current Effective FIRM Date	CRS Entry Date	CRS Current Effective Date	CRS Class
065070	City of Walnut Creek	11/8/1974	3/21/2017	10/1/1991	5/1/2011	8



8.1. Floodplain Manager

As an NFIP participating jurisdiction, the City of Walnut Creek has a designated Floodplain Manager that is charged with enforcing floodplain regulations, routinely monitoring the floodplains, and providing community assistance such as encouraging owners to maintain flood insurance. The City's Floodplain Manager information is listed in **Table 13**.

Table 13. Floodplain Manager

Jurisdiction	Department	Name	Title	Phone Number
City of Walnut Creek	Public Works	Heather Ballenger	Director	(925) 943-5854

8.2. Participation Activities

The City of Walnut Creek NFIP participation activities over the last five (5) years include the following:

- Provides the following services – permit review, GIS, inspections, and engineering capability.
- The City educates private owners and other stakeholders about the importance of flood insurance through public outreach events, workshops, and/or seminars.
- Enforces local floodplain regulations and monitors compliance.
- Floodplain management regulations meet or exceed FEMA or State minimum requirements.

8.2.1. Substantial Damage

Substantial damage means damage of any origin sustained by a structure by which the cost of restoring the structure to its before damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred. (*Municipal Code Title 9, Chapter 12 – Floodplain Management*)

8.2.2. Substantial Improvement

Substantial improvement means any combination of repair, reconstruction, rehabilitation, alteration, addition, or other improvement of a building or structure, taking place during a three (3) year period, the cumulative cost of which equals or exceeds 50% of the market value of the structure before the improvement or repair is started. The period of accumulation begins when the first improvement or repair of each building is permitted subsequent to October 12, 2000. When the structure has sustained *substantial damage*, any repairs are considered *substantial improvement* regardless of the actual repair work performed. The term does not, however, include either:

- Any project for improvement of a structure to correct existing health, sanitary, or safety code violations identified by the Building Official and that are the minimum necessary to assure safe living conditions.
- Any alteration of a historic structure; provided, that the alteration will not preclude the structure's continued designation as a historic structure. (*Municipal Code Title 9, Chapter 12 – Floodplain Management*)



8.3. Repetitive Loss and Severe Repetitive Loss Properties

The Federal Emergency Management Agency (FEMA) defines a Repetitive Loss property as an NFIP insured structure with two (2) or more claims of more than \$1,000 each within any rolling 10-year period, since 1978.²

A Severe Repetitive Loss property is defined by FEMA as any NFIP insured structure for which either of the following is true when at least two (2) of the claims are within 10 years of each other (claims made within 10 days will be counted as one (1) claim):³

- That has incurred flood related damage for which four (4) or more separate claims payments have been made, with the amount of each claim (including buildings and contents payments) exceeding \$5,000, and with the cumulative amount of such claims exceeding \$20,000.
- For which at least two (2) separate claims payments (building payments only) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the building.

Repetitive loss records from the City of Walnut Creek are listed in **Table 14**.

Table 14. Repetitive Loss Properties

Jurisdiction	Repetitive Loss Properties	Severe Repetitive Loss Properties	Mitigated Properties
City of Walnut Creek	3	0	Unknown

9. HAZARD VULNERABILITY AND IMPACT ASSESSMENT

Exposure and vulnerability to certain hazards affect the entire County and others are geographically defined. Although the entire County may be vulnerable to these hazards, their impacts may vary based on existing community conditions (e.g., underserved, or functional access needs populations may be more susceptible based on certain conditions, vulnerabilities, or needs).

A complete risk assessment for each identified hazard of concern is in **Volume 1** of this Plan. **Table 15** provides information on a several key vulnerabilities for the City of Walnut Creek.

² Federal Emergency Management Agency. (2020). Repetitive Loss Structure. Retrieved from <https://www.fema.gov/node/405233>.

³ Federal Emergency Management Agency, National Flood Insurance Program. (2022). Flood Insurance Manual: Risk Rating 2.0: Equity in Action Edition. Retrieved from https://www.fema.gov/sites/default/files/documents/fema_nfip-flood-insurance-full-manual_102022.pdf.



Table 15. Hazard Vulnerability and Impact Assessment

Hazards	Vulnerabilities and Impacts
Climate Change	Climate change will increase existing wildfire danger areas including wooded areas around Rossmoor and in neighborhoods adjacent to open space. The increased size and frequency of wildfires in the State and region will exacerbate air quality issues. Changes to weather patterns may increase existing risks of flooding. High-intensity floods are expected to become larger and more severe under climate change. As storms become more intense, areas of Walnut Creek that were not previously susceptible to flooding may become vulnerable. Conversely, climate change is also expected to lead to more frequent and more intense droughts. Walnut Creek is vulnerable to heat and has a significant percentage of senior residents who may be more vulnerable to heat related injury and illness. As the years progress, the City is projected to have a higher number of extreme heat days and due to the City's location in a valley, a greater number of warm nights in extreme heat periods. Based on a vulnerability analysis conducted by the City in 2020, the number of extreme heat days in Walnut Creek is projected to increase from four (4) days historically to an average of 34 extreme heat days per year by the end of the century. The number of warm nights is projected to increase from five (5) to 79. Higher temperatures can also increase surface ozone concentrations as increased water vapor in the air can trap ozone. Landslides can be triggered by heavy rainfall and wildfire, so based on the projected increase in frequency in those hazards due to climate change, landslide frequency is also expected to increase.
Dam and Levee Failure	A failure of the Lafayette Reservoir Dam would have significant impacts in the downtown area. Within the Walnut Boulevard Channel/Homestead Creek sub basin area is a privately owned and maintained lake (commonly referred to as Lake Lakewood) and a privately maintained dam. Lake Lakewood has a history of overflowing and overtopping its dam during periods of heavy rainfall. Flooding from the Lakewood dam could cause damage to areas downstream, including the Walnut Boulevard and Homestead neighborhoods.
Drought	Walnut Creek is home to many creeks and waterways that provide habitat for aquatic and riparian wildlife. Habitats are located around creeks. The aquatic habitat and riparian woodland habitats that depend on water from Tice Creek, San Ramon Creek, Las Trampas Creek, Walnut Creek, and Pine Creek are most vulnerable. Declining stream baseflows could lower water quality and raise water temperatures, causing lower dissolved oxygen levels and algae growth that can harm a variety of fish and other aquatic species. Riparian woodland habitats can experience increased soil erosion, degradation of landscape quality and loss of biological productivity. Drought conditions can also dry out vegetation and increase wildfire conditions which could put a strain on firefighting equipment and personnel.



Hazards	Vulnerabilities and Impacts
Earthquake	The City of Walnut Creek City Hall, City owned parking garages, Leshner Center for the Arts, Corporation Yard, and other City owned facilities may be vulnerable to severe earthquakes. Soft story apartment buildings located within Walnut Creek are vulnerable to earthquake as well.
Flooding	311 acres are located in the 100-year floodplain, while an additional 158 acres are located in other flood prone areas. The City has had several stormwater conveyance systems that have a history of flooding. Specifically, Lancaster, Eccleston, Walnut Boulevard, Homestead, Pine Creek, and Walker neighborhoods are vulnerable to flooding.
Landslides	The City contains multiple open space areas including Lime Ridge, Sugar Loaf, Alcalanes, Shell Ridge, Briones, and Rossmoor. The Whitecliff area has had reoccurring landslides. The top of Ygnacio Valley Road, a major arterial road for the region, is threatened by landslide. The Rancho Paraiso and Rudgear neighborhoods are also vulnerable.
Severe Weather	Changes in weather patterns may increase existing risks of flooding and strong winds/damaging winds events. The Lancaster, Walnut Boulevard, and Pine Creek neighborhoods are currently prone to flooding and other areas may become vulnerable due to climate change. The City of Walnut Creek has a mature urban forest as well as overhead powerlines that have not been buried, both of which can be vulnerable to strong winds/damaging winds events. Windstorms can damage bridges, commercial and residential structures, and harm major employers, individuals, and community services if power outages are widespread and extensive. Some of the City's major, regional arterial roadways, including Ygnacio Valley Road, have powerlines that have not been placed underground.
Wildfire	The Rossmoor neighborhood, home to about 10,000 residents, is located in a high hazard fire zone and has only one (1) road for public egress. Other areas of the City that are adjacent to open space areas are also vulnerable to wildfire, sitting on a wildland urban interface (WUI).
Hazardous Materials	Along the Interstate 680 corridor, the Kinder Morgan pipeline lies alongside the Iron Horse Trail and runs through the City of Walnut Creek. The pipe moves a variety of hazardous liquids, such as gasoline and jet fuel from Kinder Morgan's Concord pumping station to a distribution site in the South Bay.
Utility Interruptions	Many of the City's powerlines are above ground, making them vulnerable to strong winds/damaging winds events. Additionally, parts of the City may be impacted by Public Safety Power Shutoffs events resulting from severe weather.

9.1. FEMA National Risk Index

In the National Risk Index (NRI), risk is defined as the potential for negative impacts as a result of a natural hazard. The Risk Index is based on three (3) components – a natural hazards component (Expected Annual Loss), a consequence enhancing component (Social Vulnerability), and a consequence reduction component (Community Resilience). Using these components, the composite and hazard type Risk Index values are calculated for each community (county and Census Tract). Risk Index values form an absolute basis for measuring Risk within the NRI and are used to generate Risk



Index percentiles and ratings across communities.⁴ **Table 16** illustrates the Risk Index rating and score for the City of Walnut Creek.

Note: ArcGIS mapping analysis was performed utilizing Census Tract data by overlaying Census Tracts with the City of Walnut Creek planning area boundary. The information outlined in this section includes data from the Census Tracts that intersect the jurisdiction.

Table 16. Risk Index Score (FEMA National Risk Index)

Jurisdiction	Rating	Score
City of Walnut Creek	Very High	87.7
<i>Risk Index scores are calculated using an equation that combines scores for Expected Annual Loss due to natural hazards, Social Vulnerability and Community Resilience (Expected Annual Loss x Social Vulnerability / Community Resilience = Risk Index).</i>		

9.1.1. Expected Annual Loss

The FEMA NRI Expected Annual Loss (EAL), the natural hazards component of the NRI, represents the average economic loss in dollars resulting from natural hazards each year. It is calculated for each hazard type and quantifies loss for relevant consequence types – buildings, people, and agriculture. The EAL score and rating represent a community's relative level of expected losses each year when compared to all other communities at the same level. Since the score is associated to a community's risk; the higher EAL score results in a higher Risk Index score.⁵ **Table 17** illustrates each hazard EAL for the City of Walnut Creek.

Table 17. Expected Annual Loss (FEMA National Risk Index)

Hazard	Population Equivalence	Building Value	Agriculture Value	Total Expected Annual Loss	Expected Annual Loss Score	Rating
Coastal Flooding (Sea Level Rise)	\$0	\$0	n/a	\$0	0.0	No Expected Annual Losses
Drought	n/a	n/a	\$4	\$4	5.2	Very Low
Earthquake	\$757,486	\$2.3 Million	n/a	\$3.1 Million	97.8	Very High
Hail (Severe Weather)	\$42	\$235	\$0	\$277	28.3	Relatively Low
Heat Wave (Severe Weather)	\$10,553	\$3	\$0	\$10,556	54.3	Relatively Moderate
Landslide	\$99	\$1,019	n/a	\$1,118	61.9	Relatively High
Riverine Flooding (Flood)	\$14,426	\$15,137	\$0	\$29,563	47.3	Relatively Moderate

⁴ Federal Emergency Management Agency. (2023). Determining Risk. Retrieved from <https://hazards.fema.gov/nri/determining-risk>.

⁵ Federal Emergency Management Agency. (2023). Expected Annual Loss. Retrieved from <https://hazards.fema.gov/nri/expected-annual-loss>.



Hazard	Population Equivalence	Building Value	Agriculture Value	Total Expected Annual Loss	Expected Annual Loss Score	Rating
Strong Winds (Severe Weather)	\$56	\$29	\$0	\$85	5.4	Very Low
Tornado (Severe Weather)	\$1,473	\$5,070	\$0	\$6,542	18.5	Very Low
Tsunami	\$0	\$0	n/a	\$0	0.0	No Expected Annual Losses
Wildfire	\$393	\$18,117	\$0	\$18,510	50.3	Relatively Moderate

Expected annual loss scores are calculated utilizing an equation that combines values for exposure, annualized frequency, and historic loss ratios (Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio).

An EAL score and rating is calculated independently for each consequence type (i.e., buildings, population, and agriculture) for each county and Census Tract. The population EAL is measured in fatalities and injuries while the building and agriculture values are measured in dollars. However, for consistency in the unit of measurement, the population EAL was monetized into population equivalence using a value of statistical life (VSL) approach where each fatality or 10 injuries is treated as \$11.6 Million of economic loss.

9.1.2. Social Vulnerability

Social vulnerability, the consequence enhancing risk component of the NRI, measures the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. The Social Vulnerability score and rating represent the relative level of a community's social vulnerability compared to all other communities at the same level. A higher Social Vulnerability score results in a higher Risk Index score.⁶ **Table 18** illustrates the Social Vulnerability rating and score for City of Walnut Creek.

Table 18. Social Vulnerability (FEMA National Risk Index)

Jurisdiction	Rating	Score
City of Walnut Creek	Relatively Low	27.6

Social Vulnerability is measured using the Social Vulnerability Index (SoVI) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).

9.1.3. Community Resilience

Community resilience, the consequence reduction risk component, measures the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. The Community Resilience score and rating represent the relative level of a community's resilience compared to all other communities at the same level. Since the score is inversely

⁶ Federal Emergency Management Agency. (2023). Social Vulnerability. Retrieved from <https://hazards.fema.gov/nri/social-vulnerability>.



proportional to a community's risk; the higher Community Resilience score results in a lower Risk Index score.⁷ **Table 19** illustrates the Community Resilience rating and score for the City of Walnut Creek.

Table 19. Community Resilience (FEMA National Risk Index)

Jurisdiction	Rating	Score
City of Walnut Creek	Relatively High	66.4
<i>Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).</i>		

9.1.4. Annualized Frequency

Annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. It is a natural hazard incidence factor for Expected Annual Loss, the natural hazards component of the National Risk Index. A higher annualized frequency value results in higher Expected Annual Loss and Risk Index scores. The annualized frequency is derived from either the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year (e.g., earthquake).⁸ **Table 20** outlines the annualized frequency for each hazard, based on FEMA NRI data, for the City of Walnut Creek.

Table 20. Hazard Annualized Frequency (FEMA National Risk Index)

Hazard	Period of Record	Events on Record	Annualized Frequency
Coastal Flooding (Sea Level Rise)	Various datasets	n/a	0.0 events per year
Drought	22 years	1,047	47.6 events per year
Earthquake	2021 dataset	n/a	0.010% chance per year
Riverine Flooding (Flood)	24 years	2	0.0 events per year
Hail (Severe Weather)	34 years	30	1.9 events per year
Heat Wave (Severe Weather)	16 years	0.0	0.0 events per year
Landslide	12 years	31	1.0 events per year
Strong Winds (Severe Weather)	34 years	2	0.0 events per year
Tornado (Severe Weather)	72 years	0	0.0 events per year
Tsunami	222 years	0	0.0 events per year
Wildfire	2021 dataset	n/a	0.001% events per year

10. HAZARD RISK RANKING

Table 21 presents the local hazard ranking for the City of Walnut Creek of all hazards of concern listed in **Volume 1** of this Plan. This ranking summarizes how hazards vary for this jurisdiction. As described in

⁷ Federal Emergency Management Agency. (2023). Community Resilience. Retrieved from <https://hazards.fema.gov/nri/community-resilience>.

⁸ Federal Emergency Management Agency. (2023). Annualized Frequency. Retrieved from <https://hazards.fema.gov/nri/annualized-frequency>.



detail in **Volume 1**, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy.

Table 21. Hazard Risk Ranking

Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score (Probability x Consequence)
Earthquake	2	18	17	36	71	68
Heavy Rainfall (Severe Weather)	3	9	14	15	38	56
Flood (Urban/Flash Flood)	2	15	12	29	56	55
Wildfire	2	12	12	31	55	54
Severe Thunderstorm (Severe Weather)	3	6	16	14	36	54
Strong Winds/ Damaging Winds (Severe Weather)	3	9	11	16	36	54
Climate Change	2	9	16	27	52	52
Heat Wave/Extreme Heat	3	9	10	15	34	51
Utility Interruptions	3	9	7	18	34	51
Drought	2	18	12	20	50	50
Flood (Riverine/Creek)	2	12	7	27	46	47
Hazardous Materials Incidents	2	15	9	16	40	41
Landslide	2	9	9	20	38	40
Cybersecurity Threats	2	12	7	13	32	34
Active Shooter Incidents	2	9	5	15	29	32
Terrorism (Weapons of Mass Destruction)	1	18	11	27	56	31
Dam and Levee Failure	1	15	11	30	56	31
Tornado (Severe Weather)	1	6	6	14	26	16
Sea Level Rise	0	0	1	6	7	0



Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score (Probability x Consequence)
Tsunami	0	0	0	1	1	0
<i>Consequence:</i> Sum of <u>all</u> weighted factors. <i>Extent:</i> Sum of the weighted <u>Extent</u> factors. <i>Vulnerability:</i> Sum of the weighted <u>Vulnerability</u> factors. <i>Impact:</i> Sum of the weighted <u>Impact</u> factors. Total Risk Score* = Probability x Consequence * Normalized to 100						
Total Risk Score Legend						
Classification	Probability Factor	Extent	Vulnerability	Impact	Consequence Score	Total Risk Score
Low (L)	1	0 – 6	0 – 6	0 – 12	0 – 24	0 – 24
Medium (M)	2	7 – 12	7 – 12	13 – 26	25 – 50	25 – 54
High (H)	3	13 – 18	13 – 18	27 – 39	51 – 75	55 and above
<i>The legend—specifically the assignment of low, medium, and high—provides an additional means to qualitatively assess the probability factor, sum of weighted factors, and the total risk scores for each hazard. The Consequence Score represents the sum of the Extent, Vulnerability, and Impact Factors. The Total Risk Score is a measure of Probability and Consequence.</i>						



11. MITIGATION ACTIONS

This section includes the mitigation actions that were developed to address identified risks and vulnerabilities to hazards identified in this Plan. This Plan serves only to recommend mitigation measures based on the potential for risk reduction and available funding. Implementation of mitigation actions is dependent on risk reduction priorities, feasibility, and available funding. It is also dependent on the cooperation and support of the jurisdiction and/or department responsible for each action item.

The City of Walnut Creek agreed upon **27** mitigation actions that apply to the jurisdiction's properties where they have jurisdictional responsibility and authority. One (1) mitigation action was completed, and two (2) mitigation actions were deleted/no longer needed. A summary of the City's mitigation actions status is listed in **Table 22**.

Table 22. City of Walnut Creek Mitigation Actions Summary

Status		Mitigation Action Total	
Ongoing		15	
In Progress/In Work		0	
Not Started		4	
Delayed/Deferred		0	
New		8	
TOTAL		27	
Completed		1	
Deleted/No Longer Needed		2	
Mitigation Actions per Hazard			
Climate Change	13	Landslide	14
Dam and Levee Failure	10	Sea Level Rise	11
Drought	13	Severe Weather	20
Earthquake	14	Tsunami	11
Flood	18	Wildfire	14
Other Hazards of Concern: Utility Interruptions (2)			

These shared actions, some of which address all hazards, help to meet the following requirements:

- Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure?
- Does the Plan include one (1) or more action(s) per jurisdiction for each hazard identified within the risk assessment?

A detailed explanation of the Mitigation Strategy can be found in Chapter 5 of **Volume 1**.



Mitigation Action	Where appropriate, support retrofitting or relocation of structures in high hazard areas, prioritizing structures that have experienced repetitive losses.				
Action Number	WC-1	Year Initiated	2018 or before	Prioritization Score	Medium
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 1, 4, 7, 9, 12, 14, 15, 17	Hazard(s) Mitigated	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization		City of Walnut Creek Public Works Department, City of Walnut Creek Community Development Department (Planning Division)	Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>		N/A			
Project Duration		Long Term	Estimated Cost	High	
Potential Funding Source		HMGP, FMA, BRIC	If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	N/A	
Implementation Priority	Medium	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the General Plan, Sustainability Action Plan, and the Capital Improvement Program.				
Action Number	WC-2	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 1, 4, 5, 7, 11, 12, 14, 17	Hazard(s) Mitigated	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization	City of Walnut Creek Public Works Department, City of Walnut Creek Community Development Department (Planning Division)		Supporting Agency / Organization <i>(If applicable)</i>	City of Walnut Creek City Manager's Office	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Ongoing		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Actively participate in the Hazard Mitigation Plan maintenance protocols outlined in Volume 1 of the Contra Costa County Hazard Mitigation Plan.				
Action Number	WC-3	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 3, 8, 16	Hazard(s) Mitigated	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek Public Works and Engineering Department (Engineering Division)		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Short Term		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you <u>must</u> identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Funds (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Continue to maintain good standing and compliance under the National Flood Insurance Plan (NFIP) through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements. These include: - Enforce the flood damage prevention ordinance. - Participate in floodplain identification and mapping updates. - Provide public assistance/information on floodplain requirements and impacts.				
Action Number	WC-4	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 3, 5, 6, 9, 10, 11, 15	Hazard(s) Mitigated	Dam and Levee Failure, Flood, Severe Weather	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek Public Works and Engineering Department (Engineering Division)		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Ongoing		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Funds (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Seismic upgrade/retrofit to Corporation Yard.				
Action Number	WC-5	Year Initiated	2018 or before	Prioritization Score	Medium
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 1, 2, 7, 13	Hazard(s) Mitigated	Earthquake	
Project Status		Deleted/No Longer Needed	If Deleted/No Longer Needed, provide reason.	Replacing with more expansive mitigation action.	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization	City of Walnut Creek Public Works and Engineering Department		Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	HMGP, BRIC		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	N/A	
Implementation Priority	Medium	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Develop a soft story building inventory.				
Action Number	WC-6	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed	Goals: 1, 2, 3, 4, 5 Objectives: 1, 2, 6, 7, 15, 16		Hazard(s) Mitigated	Earthquake	
Project Status	Not Started		If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)	High				
Lead Agency / Organization	City of Walnut Creek Public Works Department, City of Walnut Creek Community Development Department (Building Division)		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Short Term		Estimated Cost	Medium	
Potential Funding Source	Local Budgeted Funds	If Other, you must identify a funding source.		N/A	
		Please provide further detail on Potential Funding Source.		General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Identify ownership of ditches to determine responsibility of cleaning and then implement maintenance program to maintain conveyance.				
Action Number	WC-7	Year Initiated	2018 or before	Prioritization Score	Low
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 1, 3, 10	Hazard(s) Mitigated	Flood, Severe Weather	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Short Term		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	Low	Integration Ideas (Optional)			



Mitigation Action	Construct Tice Creek Bypass Project.				
Action Number	WC-8	Year Initiated	2018 or before	Prioritization Score	Low
Goal(s) / Objective(s) Addressed		Goals: 2, 3, 4, 5 Objectives: 1, 10	Hazard(s) Mitigated	Flood, Severe Weather	
Project Status		Not Started	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, BRIC, HMGP, FMA, Other		If Other, you <u>must</u> identify a funding source.	Assessment District Grants	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	Low	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Implement improvements/enhancements to the Walnut Boulevard drainage system.				
Action Number	WC-9	Year Initiated	2018 or before	Prioritization Score	Medium
Goal(s) / Objective(s) Addressed		Goals: 2, 3, 4, 5 Objectives: 1, 10	Hazard(s) Mitigated	Flood, Severe Weather	
Project Status		Not Started	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, BRIC, HMGP, FMA, Other		If Other, you must identify a funding source.	Assessment District Grants	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	Medium	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Partner with Pleasant Hill and Contra Costa County Flood Control Project.				
Action Number	WC-10	Year Initiated	2018 or before	Prioritization Score	Low
Goal(s) / Objective(s) Addressed		Goals: 2, 3, 4, 5 Objectives: 1, 10	Hazard(s) Mitigated	Flood, Severe Weather	
Project Status		Deleted/No Longer Needed	If Deleted/No Longer Needed, provide reason.	Low benefit to cost ratio.	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	Contra Costa County Flood Control District		Supporting Agency / Organization (If applicable)	City of Pleasant Hill Public Works Department, City of Walnut Creek Public Works Department	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, Other		If Other, you <u>must</u> identify a funding source.	Assessment District Grants	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	Low	Integration Ideas (Optional)			



Mitigation Action	Conduct a study, design, and implement Lancaster Neighborhood flood improvements.				
Action Number	WC-11	Year Initiated	2018 or before	Prioritization Score	Medium
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 1, 10	Hazard(s) Mitigated	Flood, Severe Weather	
Project Status		Not Started	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC, FMA		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	Medium	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Conduct a study to mitigate the Upper Ygnacio Valley Road for landslide stabilization and implement the recommendations from the study.				
Action Number	WC-12	Year Initiated	2018 or before	Prioritization Score	Low
Goal(s) / Objective(s) Addressed		Goals: 1, 3, 5 Objectives: 2, 3, 4, 5	Hazard(s) Mitigated	Landslide	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		Medium			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, BRIC, HMGP		If Other, you <u>must</u> identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	Low	Integration Ideas (Optional)			



Mitigation Action	Continue to support and promote the Community Emergency Response Team (CERT) program within Walnut Creek.				
Action Number	WC-13	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 3, 5 Objectives: 2, 3, 4, 5	Hazard(s) Mitigated	Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek Police Department		Supporting Agency / Organization (If applicable)	City of Walnut Creek City Manager's Office	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Ongoing		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds, EMPG		If Other, you <u>must</u> identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)	Utilize CERT to assist Search and Rescue for Missing Person Investigations.		



Mitigation Action	Study, design, and implement Overlook landslide prevention mitigation.				
Action Number	WC-14	Year Initiated	2018 or before	Prioritization Score	Low
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 1, 2, 13	Hazard(s) Mitigated	Landslide	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		Medium			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, BRIC, HMGP		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	Low	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Implement drought tolerant landscaping ordinance.				
Action Number	WC-15	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 5 Objectives: 1, 2, 3, 11, 12	Hazard(s) Mitigated	Drought	
Project Status		Completed	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		Low			
Lead Agency / Organization	City of Walnut Creek Public Works Department, City of Walnut Creek Community Development Department (Planning Division)		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Short Term		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Continue working with the Contra Costa County Fire Protection District to keep open space fire breaks.				
Action Number	WC-16	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 1, 2, 16	Hazard(s) Mitigated	Wildfire	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization (If applicable)	Contra Costa County Fire Protection District	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Short Term		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you <u>must</u> identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Provide grants and low cost permits to property owners to strengthen soft story buildings.				
Action Number	WC-17	Year Initiated	2018 or before	Prioritization Score	Medium
Goal(s) / Objective(s) Addressed	Goals: 1, 2, 3, 4, 5 Objectives: 1, 3, 4, 7, 15		Hazard(s) Mitigated	Earthquake	
Project Status	Ongoing	If Deleted/No Longer Needed, provide reason.		N/A	
Benefits (Loss Avoided)	High				
Lead Agency / Organization	City of Walnut Creek Community Development Department (Building Division)		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Long Term		Estimated Cost	Medium	
Potential Funding Source	Local Budgeted Funds, BRIC	If Other, you <u>must</u> identify a funding source.		N/A	
		Please provide further detail on Potential Funding Source.		General Fund (Staff Time)	
Implementation Priority	Medium	Integration Ideas (Optional)			



Mitigation Action	Support Countywide initiatives identified in Volume 1 of the Contra Costa County Hazard Mitigation Plan.				
Action Number	WC-18	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed	Goals: 1, 2, 3, 4, 5 Objectives: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18		Hazard(s) Mitigated	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status	Ongoing	If Deleted/No Longer Needed, provide reason.		N/A	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Walnut Creek Community Development Department (Planning Division)		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Ongoing	Estimated Cost		Low	
Potential Funding Source	Local Budgeted Funds	If Other, you must identify a funding source.		N/A	
		Please provide further detail on Potential Funding Source.		General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Continue participation in the National Flood Insurance Program (NFIP) Community Rating System (CRS).				
Action Number	WC-19	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 3, 4, 5, 7, 9	Hazard(s) Mitigated	Flood	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		Low			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Short Term		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you <u>must</u> identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Develop and maintain a system of interoperable communications for first responders from local, State and Federal agencies.				
Action Number	WC-20	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 2, 13, 16	Hazard(s) Mitigated	Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek Police Department		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Ongoing		Estimated Cost	Medium	
Potential Funding Source	State Special Funds		If Other, you <u>must</u> identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Community Project Funding Request thru Congressman DeSaulnier	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Maintain the City Emergency Operations Center (EOC) in a fully functional state of readiness.				
Action Number	WC-21	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 2, 13, 16	Hazard(s) Mitigated	Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization	City of Walnut Creek City Manager's Office (City Emergency Manager)		Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Ongoing		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Maintain and update, as necessary, the City’s Comprehensive Emergency Management Plan (CEMP) to meet Standardized Emergency Management System (SEMS) standards.				
Action Number	WC-22	Year Initiated	2018 or before	Prioritization Score	High
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5 Objectives: 2, 13, 16	Hazard(s) Mitigated	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		Ongoing	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek City Manager’s Office (City Emergency Manager)		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Ongoing		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you <u>must</u> identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Identify facilities that can serve as Resilience Hubs and furnish them with the necessary supplies and equipment.				
Action Number	WC-23	Year Initiated	2024	Prioritization Score	39/40
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5	Hazard(s) Mitigated	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		New	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization	City of Walnut Creek City Manager's Office		Supporting Agency / Organization <i>(If applicable)</i>	City of Walnut Creek Public Works, City of Walnut Creek Arts and Recreation	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Short Term		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds, Private/Non-Profit Funds, HMGP, BRIC		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time), Capital Improvement Budget, Other Grant Opportunities	
Implementation Priority	High	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Study, design, and implement secondary power sources for City owned buildings that are used as emergency facilities, shelters, and Resiliency Hubs. Buildings may include, but are not limited to, City Hall, Tice Valley Community Center, Shadelands Community Center, Civic Park Community Center, Heather Farm Community Center, and the Corporation Yard. Secondary power sources could include, but are not limited to, solar panels, battery backups, electric transfer switches, generators, and microgrids.				
Action Number	WC-24	Year Initiated	2024	Prioritization Score	34/40
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 4, 5	Hazard(s) Mitigated	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		New	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		High			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Ongoing		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time), Capital Improvement Budget	
Implementation Priority	High	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Build or develop a new secondary Emergency Operation Center (EOC) facility to mitigate hazards faced by the current EOC facility (e.g., earthquakes and dam and levee failure). Ensure new site includes mitigation alternatives for seismic hazards and is reinforced to withstand severe weather incidents for continuity of operations. One potential option is the new Heather Farm Park Community and Aquatic Center which is currently being designed.				
Action Number	WC-25	Year Initiated	2025	Prioritization Score	36/40
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 4, 5	Hazard(s) Mitigated	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		New	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek City Manager's Office		Supporting Agency / Organization (If applicable)	City of Walnut Creek Public Works Department	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Short Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, Local or State Special Taxes, HMGP, BRIC		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Capital Fund), Measure O Fund, Capital Improvement Fund	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Underground power utility lines on Ygnacio Valley Road, a major, regional arterial roadway that is currently vulnerable to severe weather which results in downed powerlines and utility interruptions.				
Action Number	WC-26	Year Initiated	2026	Prioritization Score	27/40
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5	Hazard(s) Mitigated	Landslide, Severe Weather, Wildfire, Utility Interruptions	
Project Status		New	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	PG&E, City of Walnut Creek Public Works Department		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Private/Non-Profit Funds		If Other, you <u>must</u> identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Utility Fees	
Implementation Priority	Medium	Integration Ideas (Optional)			



Mitigation Action	Require new and retrofitted large municipal and privately owned hardscaped areas to include mature trees, swales, native and drought tolerant landscaping, and other green infrastructure features consistent with current and future climate conditions and other guidelines.				
Action Number	WC-27	Year Initiated	2029	Prioritization Score	37/40
Goal(s) / Objective(s) Addressed		Goals: 2, 3, 4, 5	Hazard(s) Mitigated	Climate Change, Drought, Flood, Severe Weather	
Project Status		New	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		Medium			
Lead Agency / Organization	City of Walnut Creek Community Development Department		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Long Term		Estimated Cost	Low	
Potential Funding Source	Local Budgeted Funds		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Plant shade trees or install shade structures at City owned parks, public transit stops, plazas, and other outdoor gathering spaces.				
Action Number	WC-28	Year Initiated	2027	Prioritization Score	33/40
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 4	Hazard(s) Mitigated	Climate Change, Severe Weather	
Project Status		New	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		Low			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization (If applicable)	N/A	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, BRIC		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time), Tree Replacement Fund, In-Lieu Fund, Capital Improvement Program, Other grant opportunities	
Implementation Priority	High	Integration Ideas (Optional)			



Mitigation Action	Develop and implement an Urban Forestry Management Plan.				
Action Number	WC-29	Year Initiated	2024	Prioritization Score	36/40
Goal(s) / Objective(s) Addressed		Goals: 1, 3, 4	Hazard(s) Mitigated	Climate Change, Drought, Severe Weather, Wildfire, Utility Interruptions	
Project Status		New	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits <i>(Loss Avoided)</i>		Medium			
Lead Agency / Organization	City of Walnut Creek Public Works Department		Supporting Agency / Organization <i>(If applicable)</i>	N/A	
Additional Participating Jurisdictions <i>(If applicable)</i>	N/A				
Project Duration	Short Term		Estimated Cost	Medium	
Potential Funding Source	Local Budgeted Funds, Other		If Other, you must identify a funding source.	US Forest Service Urban and Community Forestry Grant	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Integration Ideas <i>(Optional)</i>			



Mitigation Action	Conduct a seismic evaluation and retrofitting for City owned buildings including, but not limited to, the older portion of City Hall, City owned parking garages, Lesher Center for the Arts, Civic Park Community Center, and Shadelands Community Center.				
Action Number	WC-30	Year Initiated	2028	Prioritization Score	33/40
Goal(s) / Objective(s) Addressed		Goals: 1, 2, 3, 4, 5	Hazard(s) Mitigated	Earthquake	
Project Status		New	If Deleted/No Longer Needed, provide reason.	N/A	
Benefits (Loss Avoided)		High			
Lead Agency / Organization	City of Walnut Creek Community Development Department		Supporting Agency / Organization (If applicable)	City of Walnut Creek Public Works Department	
Additional Participating Jurisdictions (If applicable)	N/A				
Project Duration	Long Term		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, BRIC, HMGP		If Other, you must identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Budget	
Implementation Priority	High	Integration Ideas (Optional)			



APPENDIX A. PUBLIC ENGAGEMENT

[This section will be populated after the Public Comment Period ends.]



APPENDIX B. PLAN ADOPTION

[Placeholder for adoption documentation after State and FEMA Approval]