



GENERAL PLAN

SAFETY ELEMENT



City of
MONTEBELLO
CALIFORNIA

Draft Plan
January 15, 2017

Approved by
Planning Commission
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Montebello City Council
March 8, 2017



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KURT JOHNSON, FIRE MARSHALL

CONSULTANTS

CALIFORNIA CONSULTING
EMERGENCY PLANNING CONSULTING



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1.0 INTRODUCTION

PURPOSE AND SCOPE

The Safety Element is one of seven General Plan elements required by the State of California. This document provides the City of Montebello with background information on hazards and public safety services, and establishes goals, policy direction, and implementation measures intended to limit the community's exposure to a range of hazards. This element is a comprehensive update and merging of the 1975 Safety Element and Seismic Safety Element, incorporating the latest available information from local, state, and federal sources regarding public safety and hazards. This element includes:

- A discussion of seismic and geologic hazards, including surface rupture and ground shaking and ground failure resulting from earthquakes, liquefaction, slope instability leading to landslides, subsidence, soil settlement, and expansion.
- A discussion of hazardous materials impacts, with a focus on identifying and minimizing risks associated with oil production, storage, and transportation activities.
- A discussion of other hazards, including fires, flooding, dam failure, and evacuation routes.
- Background information on existing and planned police, fire, and medical services serving the City.
- Goals, policies, and implementation measures that provide direction and guidance for the City of Montebello to minimize impacts resulting from hazards over future decades.
- In order to ensure compliance with California Assembly Bill 2140, the 2017 Hazard Mitigation Plan is an attachment to the 2017 Safety Element.

Like all General Plan elements, the Safety Element serves as a long-range planning document. The planning period for this document is through 2030.

In essence, the Safety Element aims at reducing deaths, injuries, property damage, and economic and social dislocation resulting from natural and manmade hazards. The Safety Element evaluates potential risks associated with the effects of seismically induced surface fault rupture, co-seismic ground deformation, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence and other known geologic hazards; flooding; urban fires; crime; terrorism; and hazardous materials. The Element also addresses evacuation routes, peak load water supply requirements, and minimum road widths and clearances around structures.

REGULATORY FRAMEWORK

The State of California has mandated that each city and county prepare a Safety Element as part of its General Plan. Section 65302(g) of the California Government Code (CGC) requires that a Safety Element provide:

[...] for the protection of the community from any unreasonable risks associated with the effects of seismically-induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards identified pursuant to Chapter 7.8



(commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards. [...]

Section 65302(g)(2) of the CGC establishes additional requirements for Safety Elements revised in 2009 or later. These requirements provide for the inclusion of additional information and analysis of flood hazards. This revision to the Montebello Safety Element meets all state requirements described in the CGC. *Note: As there are no military installations within Montebello, that topic will not be further discussed in this document.*

RELATIONSHIP TO OTHER ELEMENTS

General plan elements provide important policy guidance to assist in decision-making. All of the elements of the City's General Plan are related and interdependent to some degree. However, the Safety Element is most closely related to the Land Use, Housing, and Circulation Elements.

The objective of the Safety Element is to provide guidelines that minimize the impacts of potential hazards to humans and property. Where hazard areas are identified, the Land Use and Housing Elements should provide guidelines and standards that establish appropriate development intensities and require enhanced analysis and mitigation of potential risks. Similarly, the Circulation Element's plans and policies should take into account Safety Element recommendations to ensure the City's emergency access vehicles can access hazard-prone areas.

ELEMENT ORGANIZATION

This element is organized into five sections:

1.0 Introduction – a discussion of the Purpose and Scope, Regulatory Framework, Relationship to Other Elements, and Element Organization.

2.0 Existing Conditions – a discussion of the City's Profile, Public Safety Services and other pertinent conditions.

3.0 Hazards – a discussion of known hazards with potential to significantly impact the area.

4.0 Goals, Policies, & Implementation Actions – Goals, Policies, and Implementation Actions intended to minimize or eliminate impacts from hazards.

5.0 References Cited – a list of Local, State, Federal, and other sources cited in this document.

Appendix A – City of Montebello Hazard Mitigation Plan



2.0 EXISTING CONDITIONS

This section includes information about the Montebello community, the delivery of public safety services, and other pertinent existing conditions.

COMMUNITY PROFILE

Geography and the Environment

According to the City's General Plan Housing Element (2013), the City of Montebello has a total land area of 8.25 square miles. The City of Montebello is located approximately 7 miles southeast of downtown Los Angeles and is bounded by the cities of Monterey Park and Rosemead on the north, the City of Commerce and unincorporated portions of Los Angeles County on the west, the Whittier Narrows Recreation area on the east, the City of Commerce on the southwest and the City of Pico Rivera on the southeast.

Originally an agricultural community, Montebello had an ideal climate, productive soil, and an abundance of water for farming. From the turn of the century continuing through the 1920's, the area was well known for its production of flowers, vegetables, berries, and fruits. The discovery of oil by Standard Oil Company on the Anita Baldwin property in 1917, brought about a new era for the City. By 1920, Montebello oil fields accounted for one-eighth of total California crude oil production. On October 19, 1920, Montebello was incorporated as the 35th of the present cities in Los Angeles County.

Climate

The City of Montebello is located 15 miles inland from the Pacific providing a moderate Mediterranean climate. Marine layer clouds are common early in the day before giving way to sunny afternoons. The City experiences dry summers with an average temperature of about 71°F and cool, wet winters with an average temperature of 57°F. Montebello receives an average of 17 inches of rainfall per year.

As the State of California and the Los Angeles region has undergone a several-year drought, rainfall has been much lower in the City. However, rainfall totals should increase as the City is expected to be in an El Niño year for 2016.

Furthermore, actual rainfall in the Southern California region tends to fall in large amounts during sporadic and often heavy storms rather than consistently over storms at somewhat regular intervals. In short, rainfall in Southern California might be characterized as feast or famine within a single year.

Natural Resources

The Montebello Oilfield property is owned by Freeport-McMoRan Copper & Gold Inc. (FCX) and covers approximately 480 acres bounded on the east by San Gabriel Boulevard, on the north and west by Montebello Boulevard, and along the southerly boundary by Lincoln Avenue and existing home subdivisions. The landform is essentially an east-west trending hill with moderately steep slopes and canyons. Elevations range from approximately 220 to 595 feet above sea level.

Discovered in the early 1920's by Chevron's predecessor company, Standard Oil Company of California, the field still has daily production of approximately 2,300 barrels of crude oil and 700 MCF (thousand cubic feet) of natural gas from approximately 120 active wells. The field is



operated as a waterflood unit, meaning the approximate 2 million barrels of water produced each month with the oil is recycled through injection wells to maintain reservoir pressure. (There are 42 gallons in a barrel).

Associated facilities include a tank battery, gas treatment plant and field office. Following separation and basic treatment, the oil is shipped via underground pipeline to a refinery and the natural gas is delivered by pipeline to a major gas gathering system.

Peakload Water Requirements

The City operates storage reservoirs and pumping facilities, providing water for domestic, fire-fighting, and other purposes. The reservoir and pumping facility have a storage capacity of nearly 22 million gallons, including 8.5 million in City-owned storage. The City can also receive imported water supply from a service connection to the Metropolitan Water District. Existing reservoirs, pumping facilities, and imported water supply are adequate for the City's projected growth and no further expansion of the system is considered necessary to meet 6 million gallon peakload demands.

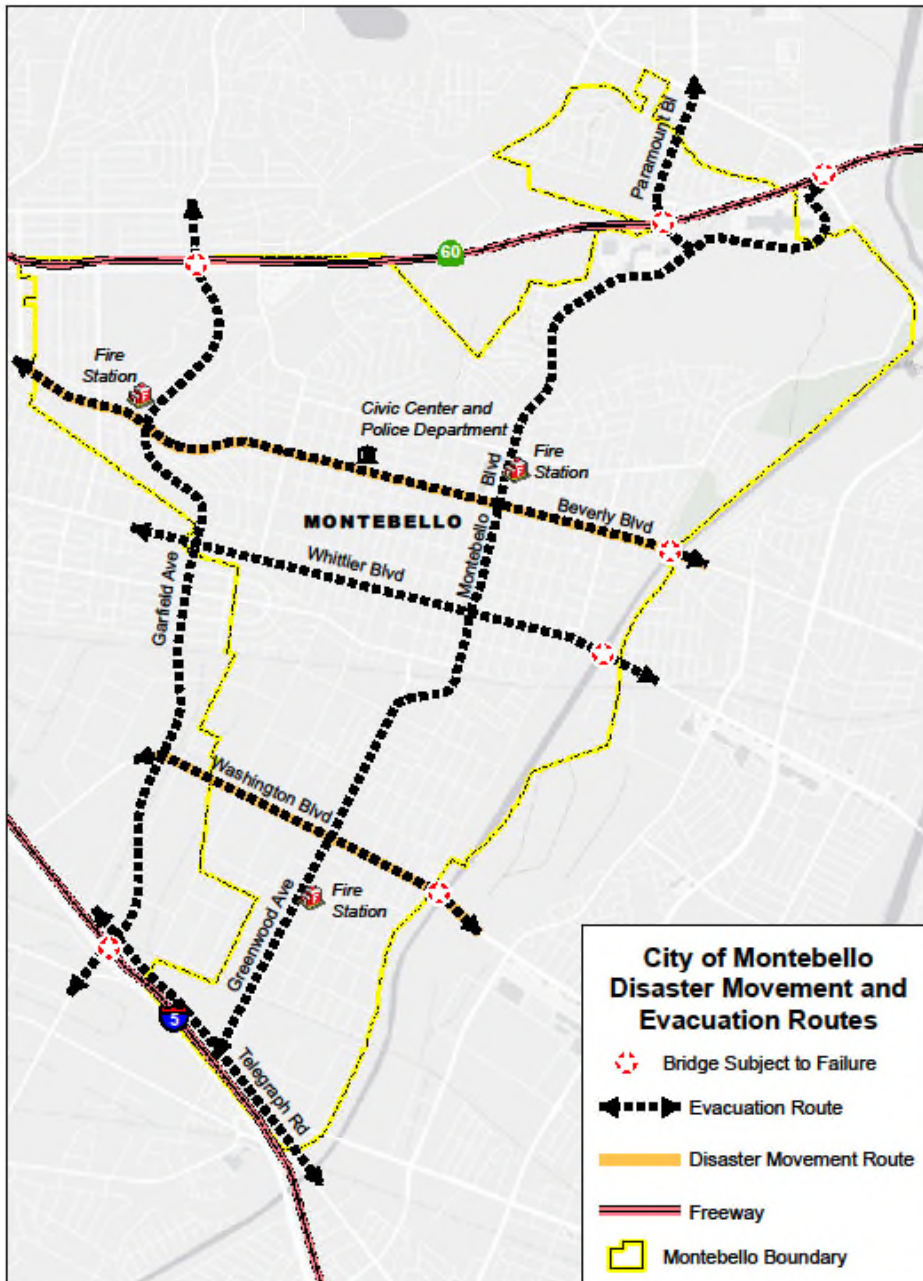
Evacuation and Disaster Routes

The roadway grid in and around Montebello provides for multiple means of for both distribution of emergency resources (Disaster Routes) and mass evacuation from the City (Evacuation Route). Disaster Movement routes include State Highway 60, Interstate 605, and Garfield Avenue. The Evacuation Routes are the major roads within the City drivers use when told to evacuate (see **Map 1: Disaster Movement and Evacuation Routes**).

Future development in the City would be required to meet minimum roadway widths and subdivision design requirements as established by SHMC Titles 15 (Building and Construction) and 18 (Subdivisions). These standards ensure that roadways are wide enough to allow emergency vehicle access during emergencies and permit the efficient movement of large numbers of people.



MAP 1: DISASTER MOVEMENT AND EVACUATION ROUTES
 SOURCE – EMERGENCY PLANNING CONSULTANTS





PUBLIC SERVICES

Fire Protection

Montebello Fire Department (MFD) is charged with protecting the lives and property of the citizens of Montebello. The department is divided into five divisions:

Fire Administration provides overall administration control over Fire Department functions including budget, policy, personnel, etc.

Operations provides all emergency response including Emergency Medical Services, Fire/Rescue, and Special Operations including Urban Search and Rescue and Swiftwater Rescue.

Communications handles and coordinates all fire communications for the City.

Fire Prevention is responsible for fire inspections including maintenance of fire protection systems, fire and building code enforcement, and arson investigation.

Emergency Preparedness is responsible for coordinating and maintaining the City's ability to respond to major disasters.



The Montebello Fire Department's Operation's Division is commanded by the On-Duty Battalion Chief, who is responsible for and oversees the daily emergency operations and responses within the City of Montebello. Primary response to incidents within Montebello is provided by three (3) strategically located fire stations:

Station 55 – Headquarters | 600 N. Montebello Boulevard

Equipment:

- Paramedic Engine Company
- Truck Company
- Air/Light Unit
- U.S.A.R. Unit
- Battalion Chief

Station 56 | 1166 S. Greenwood Avenue

Equipment:

- Paramedic Engine Company
- Truck Company



Station 57 | 2950 Via Acosta

Equipment:

- Paramedic Engine Company

Montebello firefighters are trained in fire suppression as well as provision of emergency medical services. The average response time for the City of Montebello is 4:57 for EMS and 5:32 for



Fire. Montebello receives an average of ~6,000 calls for service per year (EMS and Fire combined). Fire stations in the area are listed in **Table 1: Fire Stations**.

TABLE 1: FIRE STATIONS

FIRE STATION	ADDRESS	NUMBER OF PERSONNEL
STATION 55	600 N. Montebello Boulevard	Engine 55 (4 personnel per day) Truck 55 (4 personnel per day) Battalion 55 (1 personnel per day) Total: 27 personnel with an additional 2 staff positions (Fire Chief and Secretary)
STATION 56	1166 S. Greenwood Avenue	Engine 56 (4 personnel per day) Total: 12 personnel with an additional 1 staff position (Fire Marshal)
STATION 57	2950 Via Acosta	Engine 57 (4 personnel per day) Total: 12 personnel

Emergency Medical Services

The fundamental goal of the Emergency Medical Services (EMS) section is to deliver the highest quality life-saving care, with compassion, and dignity to every person in our community. The department accomplishes its goal with ongoing training and highly motivated Firefighters that are certified, and licensed as Emergency Medical Technicians, and Paramedics.

The department is continually working to improve our level of service to the community. The most recent advancement to our service level is the inclusion of 12 lead ECG capabilities. With this advancement Paramedics can detect a probable Heart attack in the field, and deliver life-saving care, and improve the recovery of the heart attack victim.

The EMS section of the Fire Department is maintained by its members, and supported with a staff of three fire personnel, and one contract Nurse Educator. The objective of the staff is to coordinate all aspects of compliance with state and local authorities, train and educate all fire personnel to current standards to maintain licensing requirements.

The demands placed on the departments Emergency Medical Services continue to rise with the ongoing changes to the health care system. The staff of the EMS section continually reviews the needs of our community, and will be well placed to serve the community in the future.

Emergency Preparedness

Montebello’s Emergency Operations Plan (EOP) provides detailed guidance to emergency service providers, City staff, and elected officials on actions required to maximize the City’s preparedness for disaster, and to react effectively when disasters occur. The current EOP was updated in 2005 and includes three goals:

- To provide effective life safety measures and reduce property loss.
- To provide for the rapid resumption of impacted businesses and community services.



- To provide accurate documentation and records required for cost recovery efforts.

The Fire Department’s Emergency Services Coordinator is responsible for the coordination of training events and exercises in support of the EOP, and for coordinating and disseminating annual reviews and updates to the document. Additional information about the City’s Emergency Management Organization is located below.

Police Protection

The Montebello Police Department (MPD) is a full-service organization committed to traditional values of close community involvement. The agency is authorized for 75 police officers, 29 full time professional staff and 17-part time civilian staff organized into three divisions:

Field Services is the largest in the organization and provides around the clock law enforcement services. Specialized units within the Bureau include the K9 Service Bureau, Traffic Bureau, Air Support Bureau, SORT team and the Jail Facility that all augment Patrol Services.



Investigative Services provides follow-up investigations arising from crime reports taken by patrol officers and from information received through other sources such as informants and concerned citizens.

Support Services serves as a constant information liaison to the officers in the field. Support Services consists of the Communications Bureau, Records Bureau, and the Volunteers in Policing.

A Reserve Officer Corps, a Police Chaplain Corps, a Police Explorer Program and a civilian Citizen’s on Patrol program augment the Department. The department maintains specialized units in many areas including, Traffic Investigations, Adult and Juvenile Investigations, Narcotics Investigations, Gang Investigations, K-9 unit, and a Training bureau.

The Department management team consists of the Chief of Police, two Captains, two Lieutenants, ten Sergeants, and two Civilian Supervisors.

The Montebello Police Department is a modern, progressive agency, which takes advantage of the rapid advancements in law enforcement technology. The Communications, Records, and Investigative units make extensive use of computer aided dispatching and report management systems.

Mutual aid agreements are in place with the Los Angeles County Sheriff’s Department and other regional law enforcement agencies. These agreements allow for assistance from other agencies in the event of a major crime or natural disaster that could not effectively be handled with the resources available to the MPD. Montebello police stations are listed in **Table 2: Police Stations**.



TABLE 2: POLICE STATIONS

POLICE STATION	ADDRESS	NUMBER OF PERSONNEL
Headquarters	1600 W. Beverly Boulevard	75 Police Officers 29 Full time Professional Staff 17 Part-time Civilian Staff

TABLE 3: MONTEBELLO CRIME STATISTICS

SOURCE – MONTEBELLO POLICE DEPARTMENT

YTD	1/1/16-9/30/16	1/1/15-9/30/15	SEPTEMBER
CRIMES REPORTED	YTD 2016	YTD 2015	%CHG
TOTAL	1800	1589	12%
HOMICIDE	0	3	-100%
ROBBERY	88	52	41%
RAPE	6	7	-14%
AGG ASSAULT (PART I)	50	51	-2%
AGG ASSAULT (PART II)	86	74	14%
DV BATTERY (PART I)	89	73	22%
DV BATTERY (PART II)	64	49	23%
OTHER BURGLARY	61	42	45%
COMMERCIAL	112	68	39%
RESIDENTIAL	82	76	7%
VEHICLE	295	251	15%
OTHER THEFTS/BUILDING	182	177	3%
VEHICLE	91	83	10%
SHOPLIFT	211	222	-5%
GRAND THEFT AUTO	383	361	6%

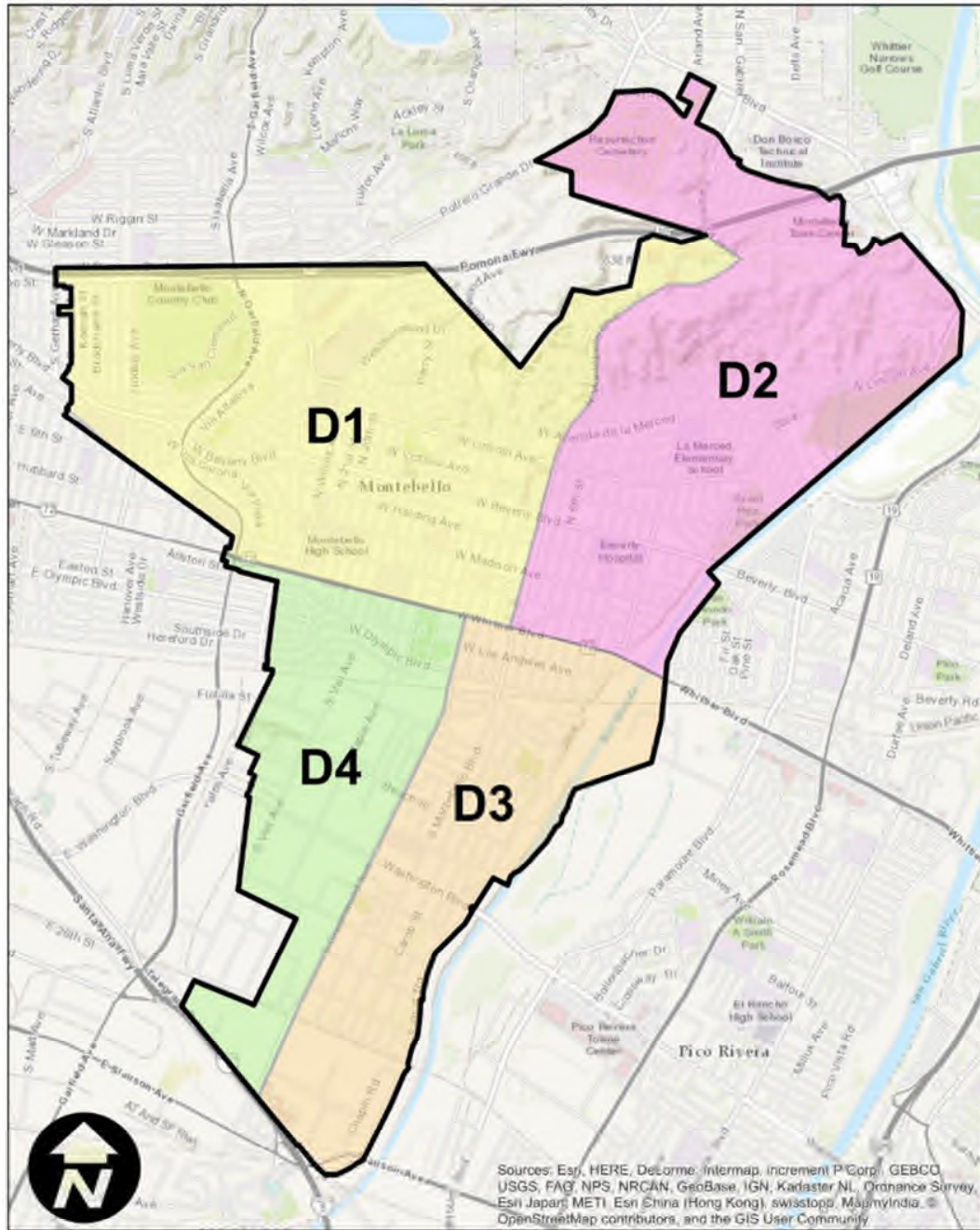


District Policing

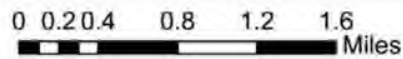
In order to best serve our community, the Montebello Police Department divides the City into four districts as shown on **Map 2: District Policing Zones**. The District Policing model supports the vision for developing a continuous improvement focus based policing culture in Montebello.

MAP 2: DISTRICT POLICING ZONES

SOURCE – EMERGENCY PLANNING CONSULTANTS



City of Montebello Policing Districts





Medical Services

Montebello is served by the 224-bed Beverly Hospital located at the center of the City on Beverly Boulevard.

Beverly Hospital has maintained a tradition for providing high quality care to local residents of Montebello, Pico Rivera, Monterey Park, El Monte, Whittier, East Los Angeles and surrounding communities. From emergency room and hospitalization to outpatient procedures, Beverly Hospital offers a full range of services with the latest technology on diagnostic and treatment options. A medical staff of over 300 physicians, representing a wide spectrum of specialties, is supported by experienced and dedicated employees and volunteers, who strive to deliver high-tech, high-touch services, preventive education and patient care.

TABLE 4: MEDICAL FACILITIES

MEDICAL FACILITY	ADDRESS	NUMBER OF BEDS
Beverly Hospital	309 W. Beverly Boulevard	224



Emergency Management Organization

The City’s Emergency Operations Plan describes the City’s emergency response and recovery operations. Emergency operations are managed in one of three modes, depending on the magnitude of the event:

- **Level One — Decentralized Coordination and Direction.** A minor to moderate incident wherein local resources are adequate and available. A local emergency may or may not be proclaimed. The Emergency Operations Center (EOC) may or may not be activated. Off-duty personnel may be recalled.
- **Level Two — Centralized Coordination and Decentralized Direction.** A moderate to severe emergency wherein local resources are not adequate and mutual aid may be required. Key management level personnel from the principal involved agencies will co-locate in a central location to provide jurisdictional or multi-jurisdictional



coordination. A local emergency will be proclaimed. The EOC should be activated. Off-duty personnel may be recalled.

- **Level Three — Centralized Coordination and Direction.** A major local or regional disaster wherein resources in or near the impacted area are overwhelmed and extensive state and/or federal resources are required. A local emergency will be proclaimed. All response and early recovery activities will be conducted from the EOC. All off-duty personnel will be recalled.

The City EOC is located at The Corporate Yard, 311 S. Greenwood and serves as a centralized location for emergency management. The alternate EOC is located at City Hall Training Room or Police Department Briefing Room, 1600 W. Beverly Boulevard. The EOC totals 950 square feet and includes an operations area, radio room, kitchen, conference rooms, bathrooms, and office areas. A diesel generator provides emergency power. The emergency fuel reserve is sufficient for four hours. Re-supply of emergency fuel will be obtained through fire department personnel. Power will provide for lighting panels, selected wall circuits, telephones and radios. The EOC has the capability to house and feed staff for 48 consecutive hours.

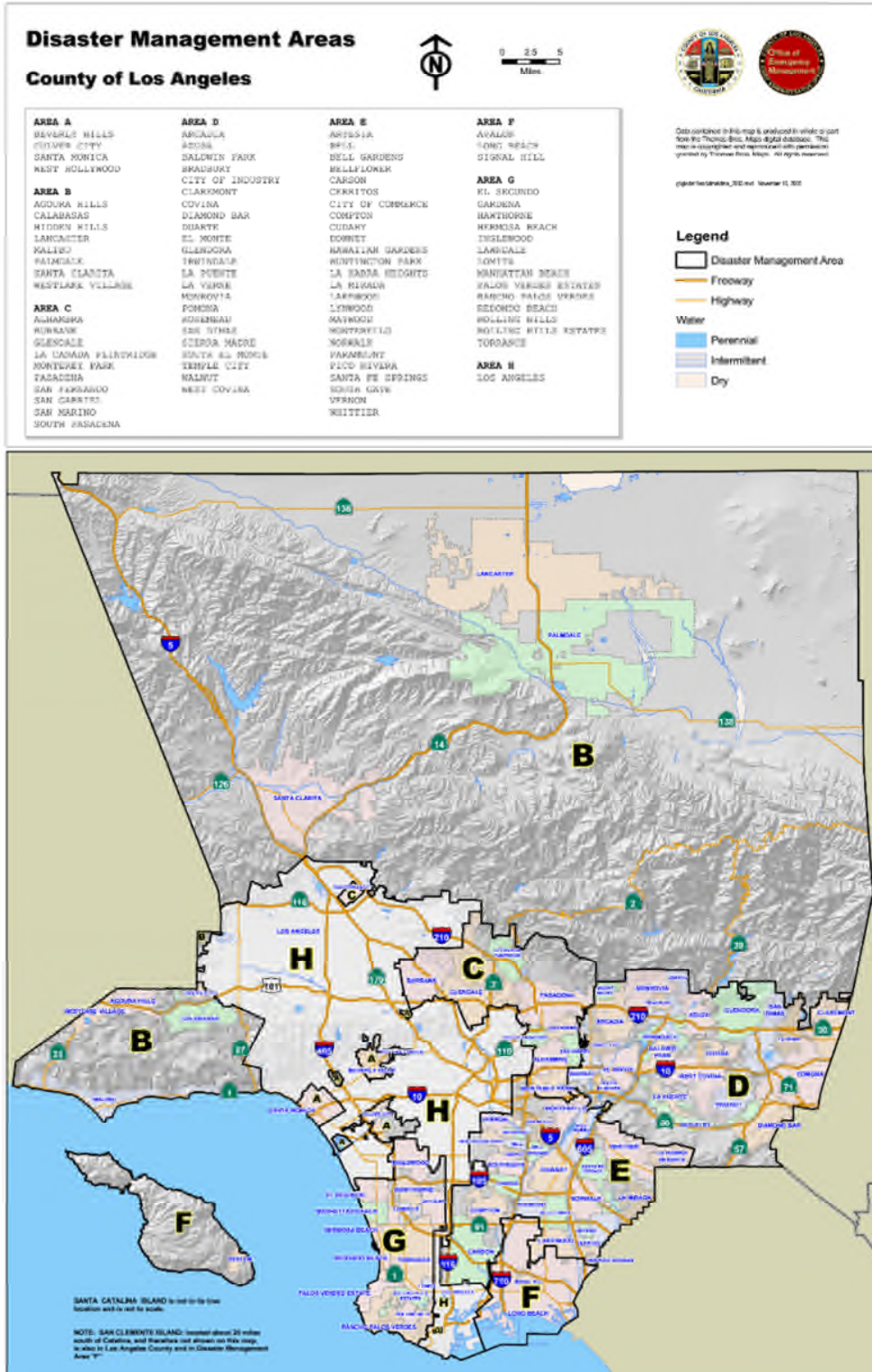
Montebello Municipal Code Chapter 2.20.020 (Mutual Aid - Agreements) allows the City Council to develop emergency and mutual aid plans and agreements. The City Council, upon the recommendation of the fire chief or police chief, may adopt mutual aid agreements to provide for fire and police protection for the City and any adjoining municipality, county fire protection district, or any agency rendering fire or police protection. Any member of the police or fire department who renders services outside of the City limits, pursuant to the provisions of any mutual aid agreement, adopted by the City, either pursuant to the provisions of this section or otherwise, shall be deemed to be acting within the scope and course of his employment by the City.

Montebello's emergency management programs maintain compliance with the federally-mandated National Incident Management System (NIMS) and the state Standardized Emergency Management System (SEMS) through regular training and disaster preparedness exercises for employees and the community. SEMS (Title 19, Division 2 of the Code of California Regulations) requires local governments within each county be organized into a single operational area for the purposes of emergency management. Montebello is part of the Los Angeles County Operational Area, which is managed by the Los Angeles County Office of Emergency Management (LACOEM). This Operational Area is further divided into eight Disaster Management Areas. Montebello is part of Disaster Management Area E, which also includes the cities of Artesia, Bell, Montebello, Carson, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, La Mirada, Lakewood, Lynwood, Maywood, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, South Gate, Vernon, and Whittier.



MAP 3: DISASTER MANAGEMENT AREAS

SOURCE – COUNTY OF LOS ANGELES OFFICE OF EMERGENCY MANAGEMENT





Hazard Mitigation Plan

Montebello minimizes or eliminates threats associated with natural, technological, and human-caused hazards through its Hazard Mitigation Plan (HMP). Last updated in 2017, the HMP is an Annex to the General Plan Safety Element. The HMP has five goals: to protect life and property, enhance public awareness, preserve natural systems, encourage partnerships and implementation, and strengthen emergency services. To accomplish these goals, the HMP analyzes hazards impacting the City and establishes mitigation actions intended to reduce or eliminate risk. A range of hazards were assessed in the plan, and six hazards considered most likely to impact the City were analyzed in greater detail: **earthquakes, wildfires, flooding, dam failure, drought, and climate change**. The mitigation plan discusses potential funding sources and assigns responsibility for the accomplishment of each mitigation measure. The HMP remains a relevant and vital document through annual reviews and plan revisions every five years.

Critical Facilities

Both the HMP and EOP analyze risks to critical facilities in and serving the City. The Federal Emergency Management Agency (FEMA) separates critical buildings and facilities into the five categories shown below based on their loss potential. All the following elements are considered critical facilities:

Essential Facilities are essential to the health and welfare of the whole population and are especially important following hazard events. Essential facilities include hospitals and other medical facilities, police and fire stations, emergency operations centers, and evacuation shelters.

Transportation Systems include airways – airports, heliports; highways – bridges, tunnels, roadbeds, overpasses, transfer centers; railways – trackage, tunnels, bridges, rail yards, depots; and waterways – canals, locks, seaports, ferries, harbors, drydocks, piers.

Lifeline Utility Systems such as potable water, wastewater, oil, natural gas, electric power and communication systems.

High Potential Loss Facilities are facilities that would have a high loss associated with them, such as nuclear power plants, dams, and military installations.

Hazardous Material Facilities include facilities housing industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins.



Table 5: Critical Facilities lists critical facilities (excluding roadways and bridges) identified in both the HMP and EOP.

TABLE 5: CRITICAL FACILITIES

Type of Critical Facility	Name of Facility & Address
Essential Facilities	City Hall, 1600 W. Beverly Boulevard
	Montebello Fire Department Headquarters & Fire Station No. 55, 600 N. Montebello Boulevard
	Montebello Fire Station No. 56, 1166 S. Greenwood Avenue
	Montebello Fire Station No. 57, 2950 Via Acosta Street
	Montebello Police Department, 1600 W. Beverly Boulevard
	Beverly Hospital, 309 W. Beverly Boulevard
	Senior Center, 115 S. Taylor
	Youth Center, 236 George Hensel Drive
	City Yard and Emergency Operations Center, 311 Greenwood
High Potential Loss Facilities	Whittier Narrows Dam, 909 N. Lincoln Avenue
Transportation Systems	Highway, Bridges, Overpasses, Rail
Lifeline Utility Systems	1) Hillside Reservoir – 1019 Iguala 2) Town Center Reservoir – 1343 N. Montebello Blvd 3) Westmoreland Pump Station – N/O Perry 4) Gage Reservoir – N/O Union 5) Water Well 1 – Bluff Rd N/O of Maynard
Hazardous Material Facilities	Chevron Transfer Facility

Community Organizations, Volunteer Groups, and Safety Programs

A range of community organizations, volunteer groups, and safety programs are in place to assist with public safety and emergency management in the City. Among these are:

- Citizens’ Police Academy.** The City of Montebello offers the Citizens’ Police Academy, a program taught by police officers and staff members and which gives an inside look at law enforcement in the community. Attendees learn about patrol operations, criminal law, narcotics enforcement, investigative techniques, crime prevention, emergency dispatch procedures, the court system, and many other areas of law enforcement.



- **Explorer Scout Program – Post #1034.** The Post is sponsored by the Montebello Police Department and is affiliated with the Boy Scouts of America. Members of the Explorer Scout Program receive basic instruction in all phases of law enforcement, including crime prevention, search and seizure, crowd and traffic control, firearms, radio procedures, discipline, and self-defense.
- **Community Emergency Response Team (CERT).** CERT members assist citizens and police, fire, and medical professionals during major disasters. The City of Montebello in conjunction with the LACFD, offers CERT training to the public. Training is free of charge and provided in emergency preparedness, fire safety, light search and rescue operations, medical operations, disaster psychology, and disaster simulation.
- **Emergency Network of Los Angeles.** This network consists of Los Angeles County nonprofit community based organizations that provide assistance to individuals, families, and organizations following emergencies and disasters. Network organizations include the American Red Cross – Los Angeles Region, Los Angeles Regional Food Bank, the Salvation Army, and others.



3.0 HAZARDS

The hazards addressed in this section have the potential to affect the population, property and environment as well as its social and economic conditions within the City. These events and their potential impacts are the basis for establishing the goals, policies, and implementation actions.

GEOLOGIC, SOIL, AND GROUNDWATER CONDITIONS

Specific issues included in the geology, seismic, and soils analysis are generally limited to the boundaries of the City except for elements of seismicity which have a much broader effect on the scope of the study, including:

- A discussion of the general stratigraphy (rock type and age), and the structural geology (earth structure, faults and folds).
- The classification and location of active and potentially active faults throughout Southern California which may affect the City.
- An assessment of the major seismic parameters for ground and surface motion.
- An evaluation of the potential for ground failure or other seismically induced damage to the ground surface.
- A review of historic earthquakes (historic seismicity) for Southern California as they affect the City.

Geology and Soils

The distribution of surficial units on **Map 4: Geology** shows the four identified units based on California Geotechnical Survey (2012) mapping. The youngest unit (map symbol Qw) has a limited distribution associated with most recent deposition from the Rio Hondo along the eastern boundary of the City. The next oldest unit (Qyf) is mainly distributed east of the eastern city boundary and isolated patches appear on the northwest. The young alluvial fan deposits on the east generally represent deposition predominantly by the Rio Hondo and San Gabriel River. The next oldest unit exposed is Qof, having a large map distribution of the City. These old alluvial fan deposits were generally deposited during the late to middle Pleistocene epoch. The tertiary age Fernando Formation (Tss) is mainly distributed in the Montebello Hills, north of the City. The Fernando formation generally consists of sandstones and Pliocene age conglomerates of the Los Angeles Basin.

The City generally consists of old alluvial fan deposits. The Rio Hondo along the eastern City boundary is a concrete lined river with concrete lined slopes and serves as a tributary for the San Gabriel River to the east via the Whittier Narrows Reservoir. The original naturally wandering channels apparently were filled when the channel was straightened. The locations of the original channels and the quality of the fills are unknown.



MAP 4: GEOLOGY

SOURCE – DIAZ-YOURMAN & ASSOCIATES

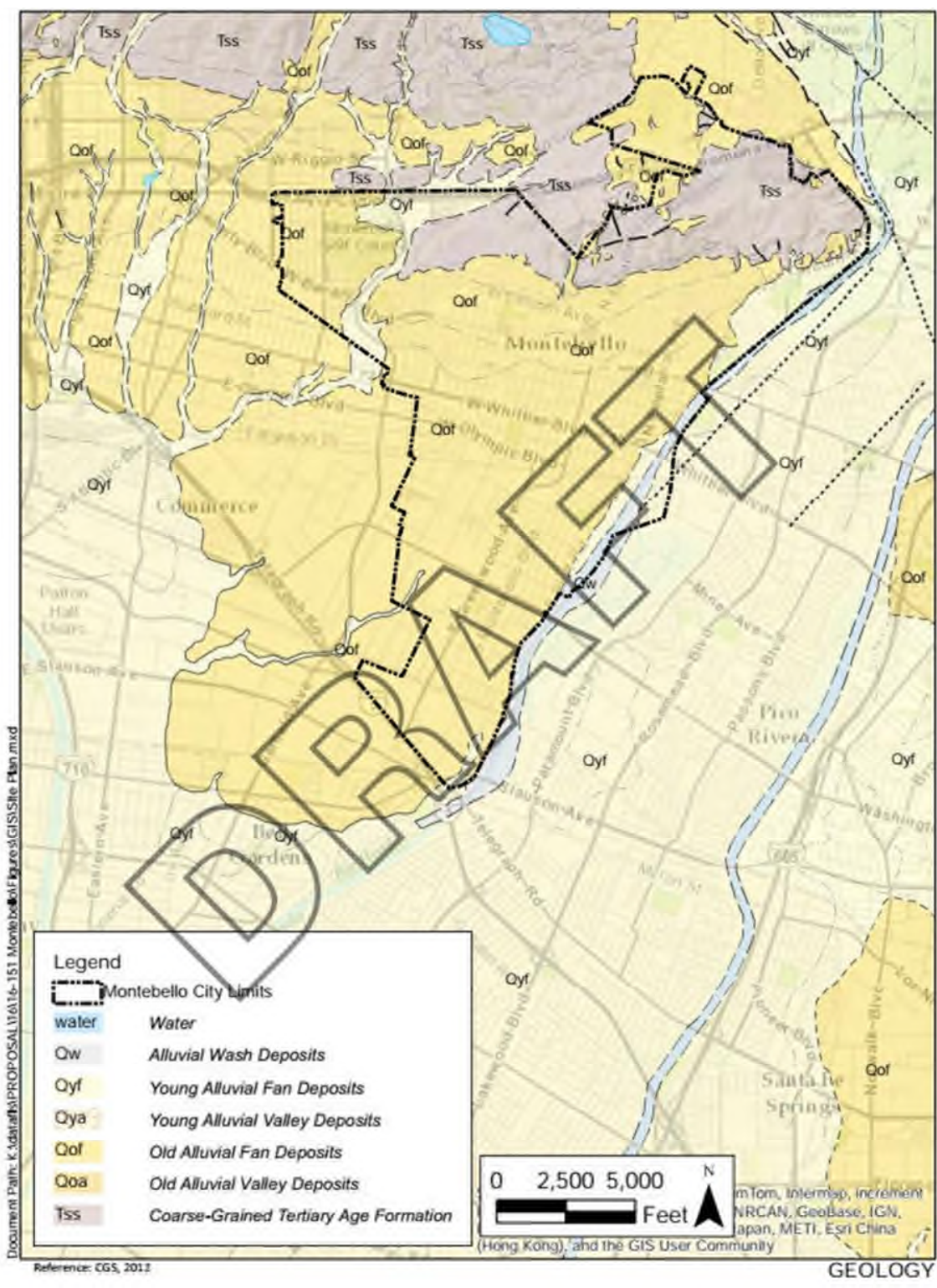




TABLE 6: GEOLOGIC UNITS

SOURCE – CALIFORNIA DEPARTMENT OF CONSERVATION

Unit	Description
Qof	Old Alluvial Fan Deposits - slightly to moderately consolidated, moderately dissected boulder, cobble, gravel, sand, and silt deposits issued from a confined valley or canyon.
Qyf	Young Alluvial Fan Deposits - unconsolidated to slightly consolidated, undissected to slightly dissected boulder, cobble, gravel, sand, and silt deposits issued from a confined valley or canyon.
Tss	Coarse-grained Tertiary age formations - primarily sandstone and conglomerate.
Qw	Alluvial Wash Deposits - unconsolidated sandy and gravelly sediment deposited in recently active channels of streams and rivers; may contain loose to moderately loose sand and silty sand
Qya	Young Alluvial Valley Deposits - unconsolidated to slightly consolidated, undissected to slightly dissected clay, silt, sand, and gravel along stream valleys and alluvial flats of larger rivers
Qoa	Old Alluvial Valley Deposits - slightly to moderately consolidated, moderately dissected clay, silt, sand, and gravel along stream valleys and alluvial flats of larger rivers

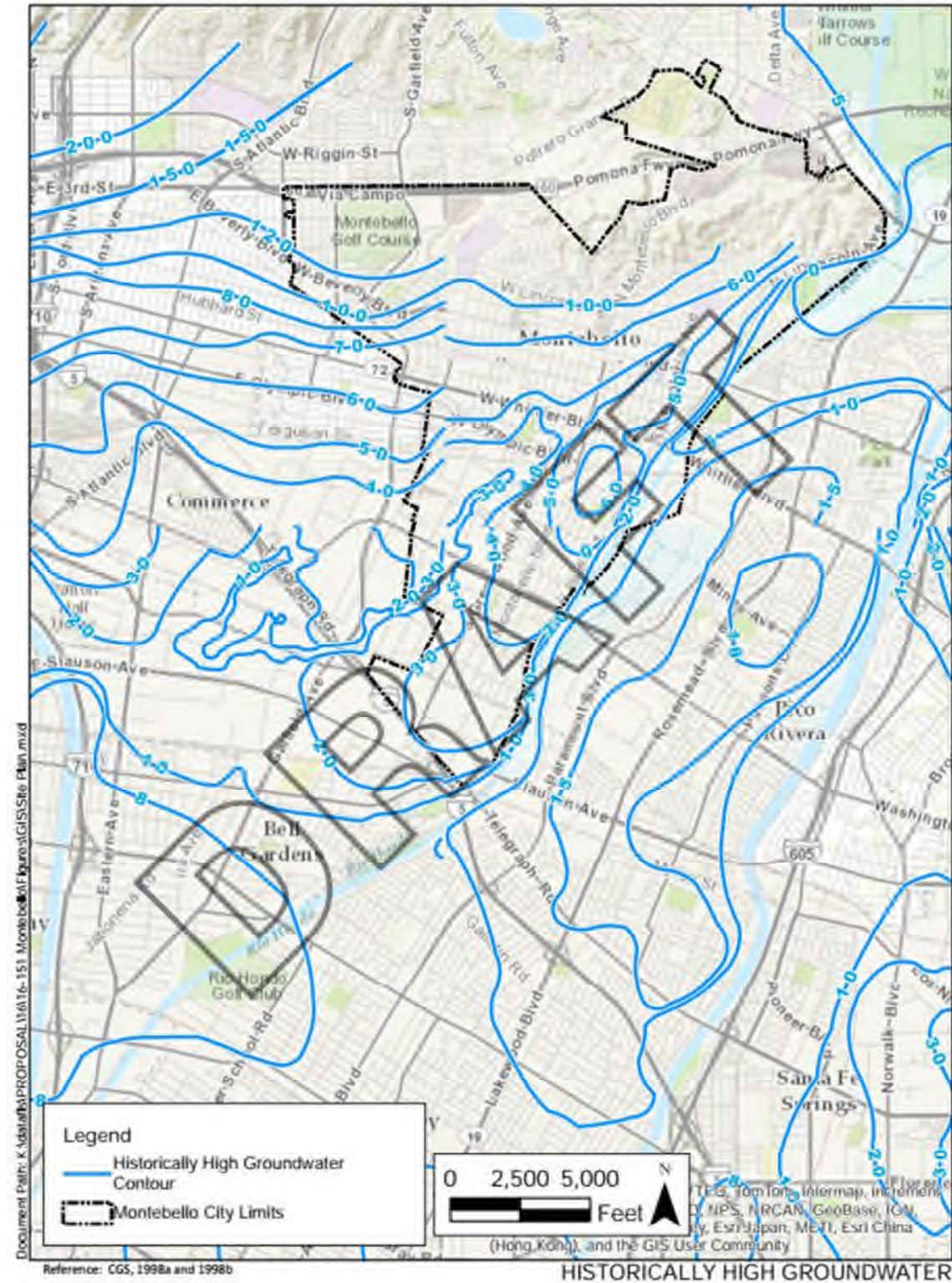
Groundwater

Groundwater within the City is generally deep within the north and western City limit and becomes shallower towards the south and eastern City limit. Studies prepared by CGS provide groundwater depth maps compiled from multiple sources are summarized in **Map 5: Historically High Groundwater**. These maps indicate historically highest groundwater levels (shallowest depths) from about 5 feet on the east to over 100 feet on the north. Based on multiple groundwater monitoring wells located near the eastern boundary of the City, owned by the Los Angeles County Department of Public Works, groundwater is projected to be at depths over 50 feet.

CITY OF MONTEBELLO – GENERAL PLAN SAFETY ELEMENT



MAP 5: HISTORICALLY HIGH GROUNDWATER
SOURCE – DIAZ-YOURMAN & ASSOCIATES





SEISMICITY, EARTHQUAKE GROUND SHAKING, AND FAULTS

Faults

No Alquist-Priolo Earthquake fault zone, or groundwater barrier is known to directly underlie the City of Montebello, however the East Montebello fault is located approximately ¼ mile to the northeast of the City. The entire City of Montebello is also mapped on the Puente Hills Blind Thrust Fault Zone (PHT). There is limited direct local evidence of different potential impacts, and information regarding degree of activity and damage-generating potential by the PHT. The PHT poses a potential ground surface co-seismic deformation hazard in the northern portion of the City, as shown on **Map 6: Puente Hills Blind Thrust Contours**. The City of Montebello does not contain an active fault identified within its boundaries. Thus, the City is not required to withhold permit issuance or require geologic investigations to demonstrate structural safety associated with fault rupture. However, since Montebello is located close to the Whittier Fault and atop the Puente Hills Blind Thrust faults, all structures must abide by seismic reinforcement requirements of the City's Building Code.

The faults of most concern to the City are the following:

- Puente Hills Blind Thrust
- East Montebello Fault

The expected return period for such large earthquake events is very long, probably several thousand years. Various levels of uncertainty relative to the location and the potential for future movement (in a timeframe that may impact planned development in the City) characterize all of the faults identified above.

The Puente Hills Blind Thrust Contours (and some regional faults) are displayed in **Map 6: Puente Hills Blind Thrust Contours**. A closer look at local faults is available in **Map 7: Fault Map**.

Earthquake faults posing the greatest threat to the City would originate from the closest faults: Puente Hills Blind Thrust or East Montebello Fault. Other regional faults including Newport-Inglewood, San Andreas, Whittier, Puente Hills, and Sierra Madre Faults are close or capable of generating strong shaking. Following is a summary of the various faults:

Newport-Inglewood Fault Zone

The Newport-Inglewood Fault Zone lies approximately 14 miles southwest of Montebello. The Newport-Inglewood Fault System is a nearly linear alignment of faults extending 45 miles along the southwestern side of the Los Angeles basin. It can be traced as a series of topographic hills, ridges, and mesas from the Santa Monica Mountains to Newport Beach, where it trends offshore. Structures along the zone of deformation act as groundwater barriers and, at greater depths, as petroleum traps. Continuing seismic activity has been evidenced most prominently in recent times by the 1920 Inglewood and 1933 Long Beach earthquakes.

San Andreas Fault Zone

The San Andreas Fault Zone is located approximately 34 miles northeast of the City of Montebello. This fault zone extends from the Gulf of California northward to the Cape Mendocino area where it continues northward along the ocean floor. The total length of the San Andreas Fault Zone is approximately 750 miles. The activity of the fault has been recorded during historic events, including the 1906 (M8.0) event in San Francisco and the 1857 (M7.9) event between Cholame and San Bernardino, where at least 250



miles of surface rupture occurred. These seismic events are among the most significant earthquakes in California history. Geologic evidence suggests that the San Andreas Fault has a 50 percent chance of producing a magnitude 7.5 to 8.5 earthquake (comparable to the great San Francisco earthquake of 1906) within the next 30 years.

Whittier Fault Zone

The Whittier fault zone lies approximately 7 miles southeast of Montebello. The Whittier Fault is a 25 mile right-lateral strike-slip fault that runs along the Chino Hills range between the cities of Chino Hills and Whittier. It is estimated that this fault could generate up to a magnitude 7.2 earthquake.

Puente Hills Fault Zone

The Puente Hills Fault is located approximately 8 miles south of the City. According to USGS, the Puente Hills Fault was most recently responsible for the M5.1 La Habra earthquake on March 28, 2014 which caused an estimated \$2.6 million in damage. The USGS estimates that a future, larger M7.5 earthquake along the Puente Hills Fault could kill 3,000 to 18,000 people and cause up to \$250 billion in Southern California region. In contrast, a larger M8.0 quake along the San Andreas would cause an estimated 1,800 deaths.

Sierra Madre Fault Zone

The Sierra Madre Fault Zone lies approximately 12 miles northeast of Montebello. This fault zone is a series of moderate angle, north-dipping, reverse faults (thrust faults). Movement along these frontal faults has resulted in the uplift of the San Gabriel Mountains. According to the Southern California Earthquake Data Center, rupture on the Sierra Madre Fault Zone (theoretically) could be limited to one segment at a time, it has recently been suggested that a large event on the San Andreas Fault to the north (like that of 1857) could cause simultaneous rupture on reverse faults south of the San Gabriel Mountains – the Sierra Madre Fault Zone being a prime example of such. Whether this could rupture multiple Sierra Madre Fault Zone segments simultaneously is unknown. Seismic activity on the Sierra Madre Fault is expected to have a maximum Magnitude 7.2.



The San Andreas Fault is the most significant regional fault, and is capable of producing an earthquake of magnitude 8.0+ on the Richter scale. In 2007, the Working Group on California Earthquake Probabilities projected that the Southern California segment of the San Andreas Fault has a 59 percent chance of producing a magnitude 6.7 or greater earthquake within 30 years. Despite this risk and because the San Andreas Fault is located over 34 miles from Montebello.

Table 7: Major Historical Earthquakes lists the earthquakes experienced in Montebello over the past century.

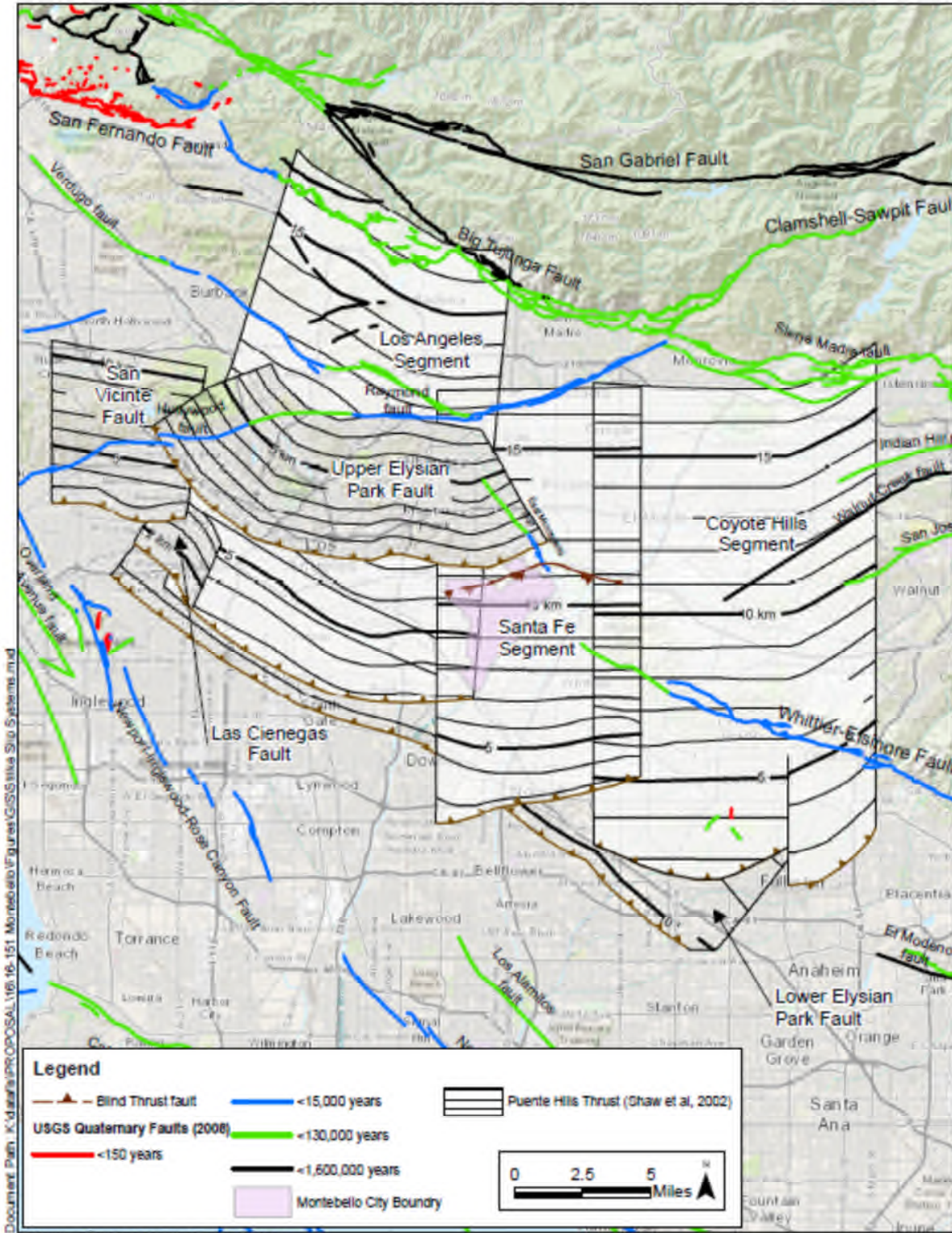
TABLE 7: MAJOR HISTORICAL EARTHQUAKES

Year	Magnitude	Name	Fault
1933	6.4	Long Beach	Newport-Inglewood Fault
1971	6.6	San Fernando (Sylmar)	San Fernando Fault
1987	5.9	Whittier Narrows	Whittier Fault
1994	6.7	Northridge	Northridge Thrust



MAP 6: PUENTE HILLS BLIND THRUST FAULT CONTOURS

SOURCE – DIAZ-YOURMAN & ASSOCIATES

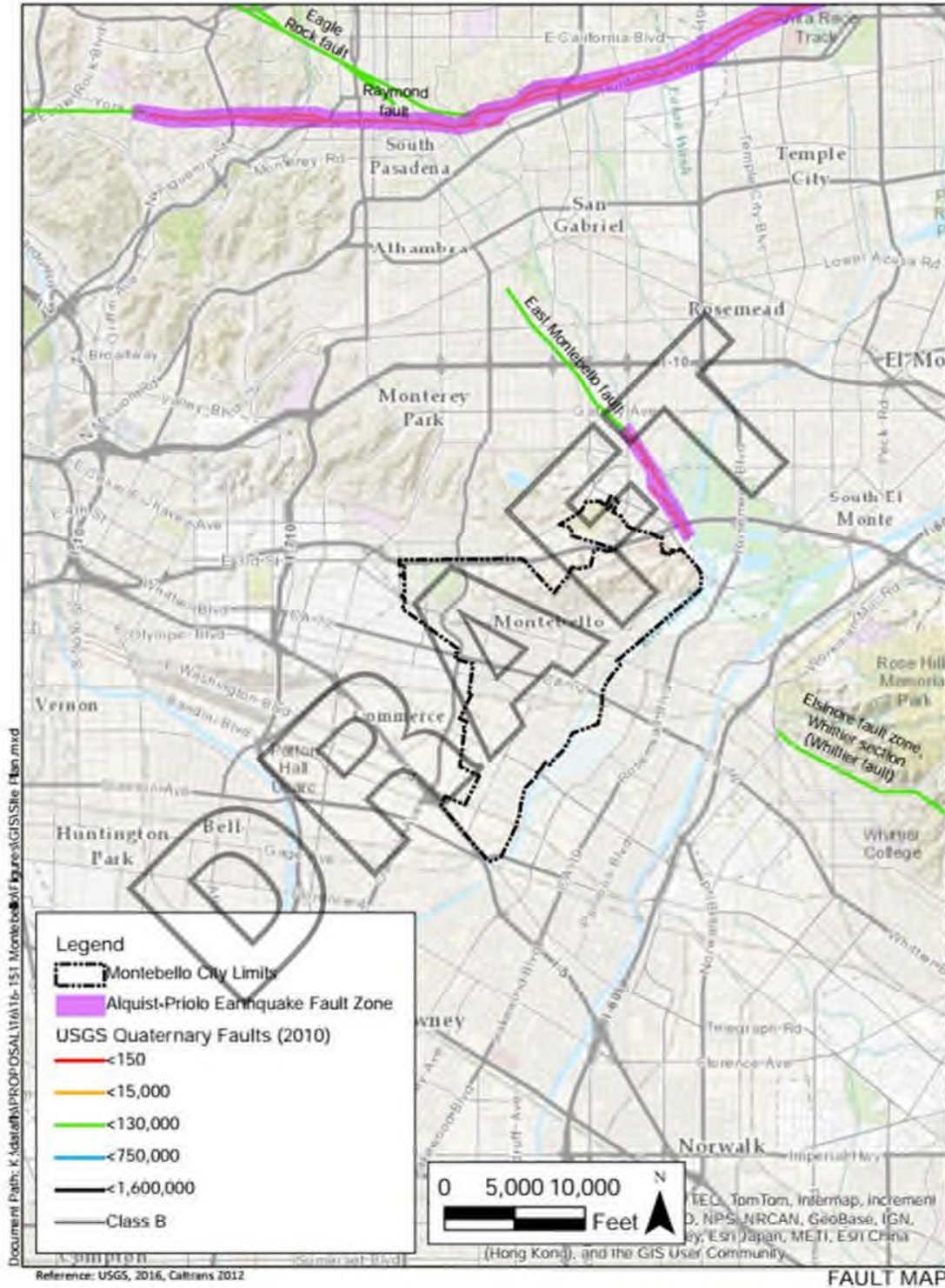


CITY OF MONTEBELLO – GENERAL PLAN SAFETY ELEMENT



MAP 7: FAULT MAP

SOURCE – DIAZ-YOURMAN & ASSOCIATES





Ground Shaking

Abundant evidence of seismic activity in California is found in the 200 years of records since Gaspar de Portola reported a strong earthquake while camped near the Santa Ana River in Orange County in 1769. The effect of an earthquake is most often presented as the severity of ground shaking, in terms of peak ground acceleration (PGA), which is the recorded spectral acceleration at the ground surface. The PGA is presented as the percentage of the force of gravity, which is termed “1g” for one unit of gravitational force, or 100% gravity. Therefore, 0.50g is 50% the force of gravity. Ground-shaking estimates of peak horizontal acceleration based on CBC 2013 site class D range from approximately 0.8g to 0.95g, but can change based on site specific geological features. This peak horizontal acceleration could result in severe to violent shaking and moderate to heavy damage. The effects of the geology, e.g., “soil sites,” can change the actual ground acceleration for specific locations. Therefore, site-specific geology, geotechnical, and earthquake engineering studies are mandatory for evaluating critical, sensitive, or high-occupancy structures.

Alquist-Priolo Earthquake Fault Zones

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 was created to prohibit the location of most structures for human occupancy across the traces of active faults, thus lessening the hazard of fault rupture.

The three main provisions of the Act:

- require the California Geological Survey to produce maps of the surface traces of known active faults, including both the best known location where faults cut the surface and a buffer zone around the known trace(s);
- require property owners (or their real estate agents) to disclose that their properties lie within identified hazard zones; and,
- prohibit new construction of projects, as defined by the Alquist-Priolo Act, within these identified hazard zones until a comprehensive geological study has been completed.

Unreinforced Masonry Structures

The Unreinforced Masonry (URM) Law requires cities and counties within Seismic Zone 4 (including Montebello) to identify hazardous unreinforced masonry buildings and consider local regulations to abate risks associated with such buildings through retrofitting and demolition. The URM Law does not apply to the following types of structures: warehouses and similar structures not used for human habitation, residential structures with five or fewer dwelling units, and historical properties. The City of Montebello has completed a building inventory and determined that there are no unreinforced masonry structures present within the City that require action under the URM Law.

Liquefaction

Liquefaction is a geologic process that causes various types of ground failure. Liquefaction typically occurs when loose, saturated sediment of primarily sandy composition is subject to strong ground shaking. When liquefaction occurs, the sediments involved experience a total or substantial loss of shear strength and behave like a liquid substance. Depending on other conditions, such as density, ground slope, and stratification, the temporary loss of strength may result in foundation failures, landslides, and subsidence.



To have a potential for liquefaction, three simultaneous conditions are necessary: 1) generally cohesionless soils, 2) high groundwater, and 3) ground shaking. California's Seismic Hazards Mapping Act provides for statewide mapping of seismic hazards based in part on an examination of these conditions.

As required by the Seismic Hazards Mapping Act, areas at risk of liquefaction have been mapped where the historical occurrence of liquefaction and/or local geological, geotechnical, and groundwater conditions indicate a potential for future permanent, liquefaction-induced ground displacements such that mitigation would be required. Such mitigation would be intended to minimize seismic risks.

The City of Montebello is generally not susceptible to liquefaction, except for the eastern City limit that bounds the Rio Hondo Channel. Liquefaction occurs primarily in saturate, loose, and fine to medium-grained soils in areas where the ground water table is 50 feet or less below the ground surface. When these sediments are shaken, such as during an earthquake, a sudden increase in pore water pressure causes the soils to lose strength and behave as a liquid. Excess water pressure is vented upward through fissures and soil cracks causing a water-soil slurry to bubble onto the ground surface. The resulting features are called sand boils, sand blows or "sand volcanoes." Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and flow failures of slumping (Yerkes, 1985).

Within the eastern City boundary and immediately adjacent areas of influence, the liquefaction areas are identified on **Map 8: Landslide and Liquefaction Hazard Zones** corresponding to alluvial deposits Qw and Qyf indicated within the City (**Map 4: Geology**) and historically shallow groundwater as illustrated on **Map 5: Historically High Groundwater**. The areas with shallowest groundwater tend to be in the east and south. Although there is some potential for deep liquefaction greater than about 50 below ground surface, liquefaction potential is substantially higher where water is less than 50 feet deep.

Portions of the Montebello Hills area, within the City, are susceptible to landslides as mapped on **Map 8: Landslide and Liquefaction Hazard Zones**, as mapped by the California Geological Survey.

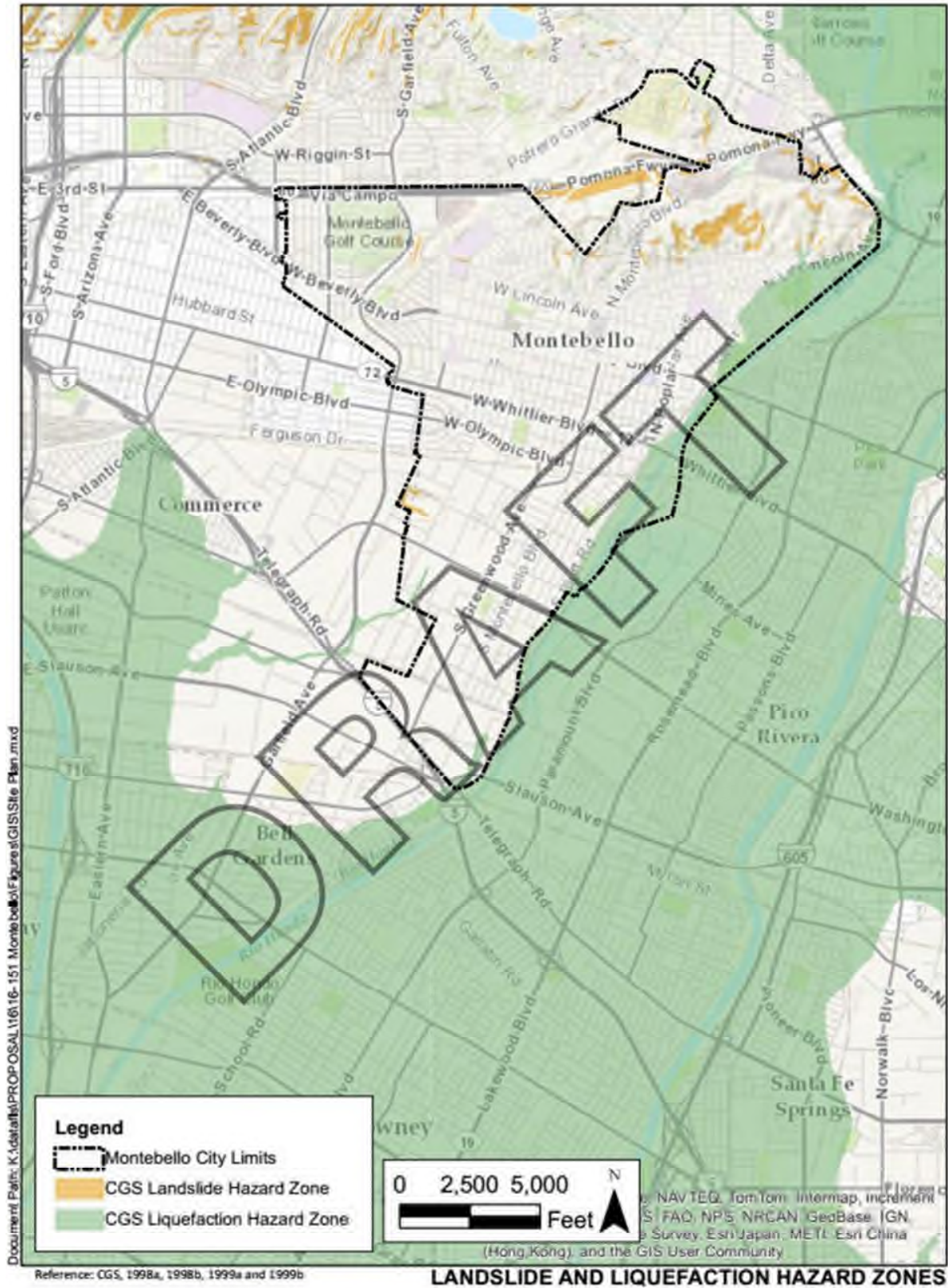
Earthquake-Induced Landslides

Generally, these types of failures consist of rock falls, disrupted soil slides, rock slides, soil lateral spreads, soil slumps, soil block slides, and soil avalanches. Areas having the potential for earthquake-induced landslides generally occur in areas of previous landslide movement, or where local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.



MAP 8: LANDSLIDE AND LIQUEFACTION HAZARD ZONES

SOURCE – DIAZ-YOURMAN & ASSOCIATES





FIRE HAZARDS

Wildland Fires

Wildland fires are those fires of any size that burn in woodland, brushland and grassland areas. Urban fires are those fires which burn in developed urbanized areas and include commercial, industrial and residential fires. At the interface between brush-woodland area and urban areas, wildland fires can become urban fires and vice versa. This vulnerability is especially critical when strong Santa Ana winds are present. Due to low density, character of the community and sparse wildland areas in the City of Montebello the wildland and urban fire hazard is considered insignificant to low.

Residential Fires

Building materials greatly affect the susceptibility of a structure to fire. Thus, in addition to the restrictions established in the Building Code, regulation of materials such as wood shingle roofs should be studied. Since residential structures are limited to two and one-half stories (or 30 feet, whichever is lesser), rescue of persons in the upper floors can be accomplished by conventional Fire Department ladder companies.



Commercial Fires

Development projects are reviewed by the Building and Safety Division and, depending on the size and type of project, by the Fire Department. Through this process smoke detector, fire sprinkler, and other requirements are administered. Problems can arise, however, with taller buildings since the upper floors and inaccessible to conventional ladder companies. Therefore, the Fire Department should be contacted to determine the maximum height reachable from a ladder company. Then, additional fire safety requirements should be considered. For instance, high-rise structures should be required to provide heliports or some other rescue facilitation.

Industrial Fires

Industrial properties may store chemicals or flammable materials in greater quantities. Thus, an inventory of properties containing such products should be prepared. In addition, industrial zones should not be situated adjacent to residential uses, hospitals, senior residential care facilities or other similar land uses.





FLOOD HAZARDS

The Rio Hondo Channel lies adjacent and east of the City, and is designed to contain a 100-year flood. The Channel is fully operational and is maintained by the U.S. Army Corps of Engineers (USACE) and the Los Angeles County Department of Public Works. The channel improvements of the Rio Hondo authorized in 1950 reduced the local area's risk of flooding.

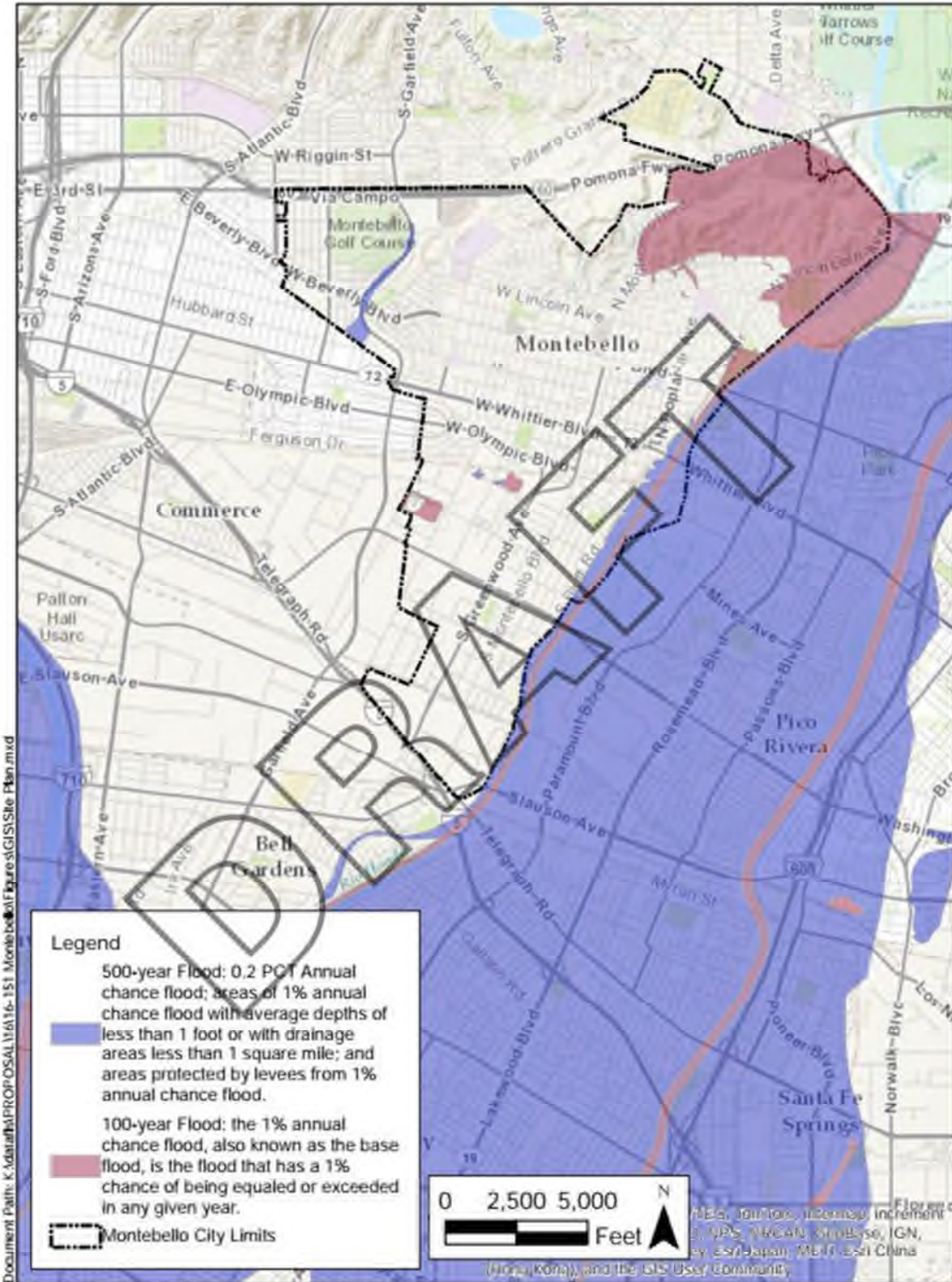
The City participates in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP). The NFIP prepares a Flood Insurance Rate Map (FIRM) that identifies the flooding potential in the City as depicted on Map 6 for a 100-year flood (1 percent chance of occurring in any year) and a 500-year flood (0.2 percent chance of occurring in any year). The eastern boundary of the City is mapped map for a 500-year flood zone and the northeast portion mapped for a 100-year flood zone.

Some of the structures of concern that may cause a flood event are Whittier Narrows Dam and Santa Fe Dam, located upstream, on Rio Hondo and San Gabriel Rivers. The City is also located east of the Garvey reservoir located up stream. Failure of Whittier Narrows or Santa Fe during a time when significant water is impounded could cause inundation of residences, businesses, and infrastructure, as shown on **Map 9: FEMA Flood Zones**.



MAP 9: FEMA FLOOD ZONES

SOURCE – DIAZ-YOURMAN & ASSOCIATES



Document Path: K:\data\GIS\PROPOSAL\1616-151_Montebello\Figure\GIS\Site Plan.mxd

Reference: FEMA FIRM MAp No 6037C1585F, 06037C1595F, 06037C1605F, 06037C1610F, 060371615F and 06037C1620F, September 26, 2008



DAM FAILURE

Dam failure can result in large-scale flooding of downstream areas. There are several dams in the Montebello area with the potential to cause flooding within or near the City. **Map 10: Dam Inundation** shows possible inundation from a spectrum of dams and reservoirs in the nearby region. The two posing the most immediate threat are Whittier Narrows Dam and Garvey Reservoir.

Whittier Narrows Dam

According to the U.S. Army Corps of Engineers, Whittier Narrows Dam is a flood risk management and water conservation project constructed in 1957 and operated by the U.S. Army Corps of Engineers, Los Angeles District. The project is located, as its name implies, at the "Whittier Narrows," a natural gap in the hills that form the southern boundary of the San Gabriel Valley. The Rio Hondo and the San Gabriel rivers flow through this gap and are impounded by the reservoir. The communities of Montebello and Pico Rivera are located immediately downstream.

Whittier Narrows Dam, a typically dry flood risk management structure located 11 miles east of downtown Los Angeles, has been reclassified from Dam Safety Action Classification (DSAC) 2 to DSAC 1.

The DSAC 1 rating indicates that the U.S. Army Corps of Engineers considers the incremental risk – the combination of life or economic consequences with the likelihood of failure – to be very high. The reclassification as DSAC 1 identifies the dam as one of the highest priority dam safety projects in the Corps' portfolio of dams.

In a May 25, 2016, memorandum to Col. Kirk Gibbs, commander of the Corps' Los Angeles District, Mr. James Dalton, chief of Engineering and Construction at Corps headquarters, emphasized that new findings with respect to the anticipated performance of the spillway gates drove the reclassification.

The Los Angeles District is currently working with a nationwide team of experts to develop a plan to reduce the risk associated with the spillway. The Corps anticipates that some of the potential solutions will be in operation prior to the 2016-2017 winter rains; other measures will likely be installed before the end of 2017.

Garvey Reservoir

Garvey Reservoir, owned by the Metropolitan Water District of Southern California (MWD), stores municipal water supplies for MWD customers. The reservoir lies impounded behind a north dam and a south dam. MWD completed a substantial overhaul of the facility in 1999 to address seepage and ensure overall reservoir integrity. The state Department of Conservation, Division of Dam Safety conducts periodic dam inspections to verify the dams' ability to withstand seismic stresses. A major seismic event has the potential to cause significant damage and potential failure at this facility.

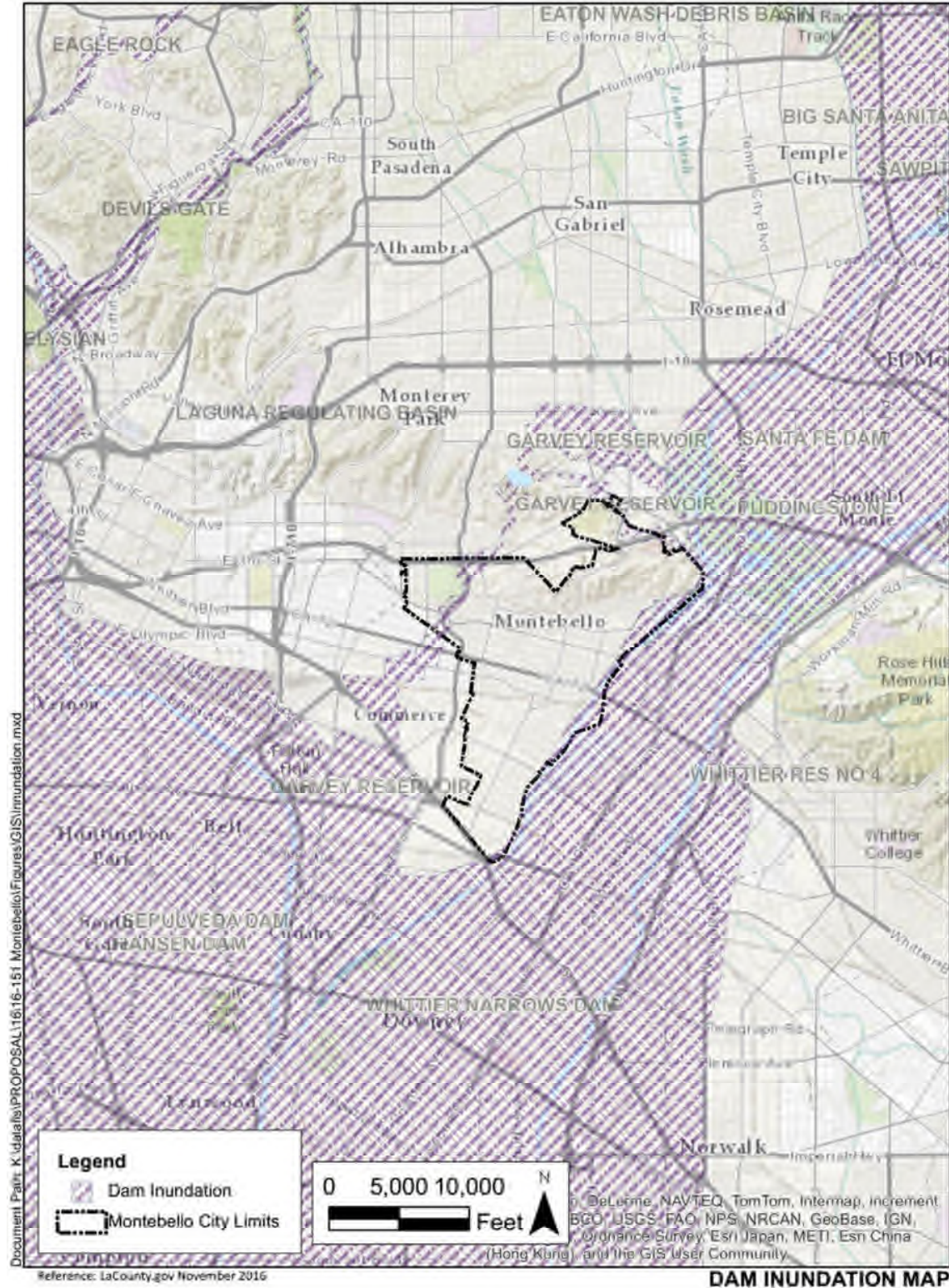
According to the City of Monterey Park's website, in the unlikely event of a conjectured catastrophic failure at Garvey Reservoir, properties to the north and south of the reservoir could be flooded. If the south dam failed, flood waters of average depth six to seven feet would cascade down the slope bank and into the residential neighborhoods below. At the Pomona Freeway, the water would spread laterally along the north side of the freeway before flowing through freeway under crossings into the City of Montebello.

CITY OF MONTEBELLO – GENERAL PLAN SAFETY ELEMENT



MAP 10: DAM INUNDATION

SOURCE – DIAZ-YOURMAN & ASSOCIATES





CLIMATE CHANGE

Climate includes patterns of temperature, precipitation, humidity, wind and seasons. Climate patterns play a fundamental role in shaping natural ecosystems, and the human economies and cultures that depend on them. “Climate change” refers to seasonal changes over a long period of time. It is generally perceived in the emergency management profession that climate change will have a measurable impact on the occurrence and severity of natural hazards around the world. Impacts include:

- Sea ice and snow cover losses will continue, and declining snowpack will affect snow-dependent water supplies and stream flow levels around the world.
- Sea level is projected to rise 7 to 23 inches during the 21st century due to melting snow and ice on land and thermal expansion of ocean waters.
- The risk of drought and the frequency, intensity, and duration of heat waves are expected to increase.
- More extreme precipitation is likely, increasing the risk of flooding; if the world’s average temperature warms only an additional 2.7°F to 4.5°F above pre-industrial levels, an estimated 20 to 30 percent of known plant and animal species would be at increasingly high risk of extinction.

Climate change will affect communities in a variety of ways. Impacts could include an increased risk for extreme events such as drought, storms, flooding, and forest fires; more heat-related stress; the spread of existing or new vector-borne disease into a community; and increased erosion and inundation of low-lying areas along coastlines. In many cases, communities are already facing these problems to some degree.

Climate change raises the stakes in managing these problems by changing the frequency, intensity, extent, and/or magnitude of the problems.

The City’s Hazard Mitigation Plan includes a discussion on the probable impacts of projected climate change on each of the identified hazards.



4.0 GOALS, POLICIES, & IMPLEMENTATION ACTIONS

Certain human activities and natural conditions discussed in the Safety Element create hazards in Montebello. These hazards in turn pose risks to individuals and properties that affect how property is developed and used. Risk from such hazards can be reduced or avoided by recognizing the hazards and adopting and implementing land use and emergency response policies that provide the degree of protection the community desires.

Underlying all goals and policies is the precept that all buildings and structures in the City of Montebello should conform to the appropriate building standards in order to protect every citizen to the degree practical.

GOAL 1: Identify and appraise the geologic and seismic hazards within the community.

POLICY 1.1: To promote consideration of seismic standards and criteria for existing structural hazards.

POLICY 1.2: To develop land use standards and development regulations related to the level of seismic hazards.

POLICY 1.3: To establish a seismic hazards review procedure.

POLICY 1.4: Maintain, revise, and enforce appropriate standards and codes to minimize seismic and geologic risks.

GOAL 2: Reduce the loss of life, damage to property, and the economic and social dislocations resulting from future earthquakes.

POLICY 2.1: To assure consistency of all elements of the General Plan.

POLICY 2.2: To define and coordinate a disaster preparedness program in conjunction with other General Plan Elements.

GOAL 3: Prevent or minimize the loss of life and injuries from all hazards.

POLICY 3.1: Identify and implement programs to minimize damages.

POLICY 3.2: Regulate the location, use, storage, and transportation of hazardous and toxic materials and protect the public from these hazards.

POLICY 3.3: Encourage the maintenance or improvement of buildings' structural integrity to protect residents and preserve communities.

POLICY 3.4: As development and population growth occurs, review service levels and adjust service accordingly to meet the demands of continued growth and development, tourism, and other factors which could change the needs for emergency services.

POLICY 3.5: Maintain communications with the Montebello Fire Department to ensure that the department is continually equipped and trained to respond to fires and other emergencies.



POLICY 3.6: Undertake preventive measures both for catastrophic events and for more frequent incidents such as structural fires and localized flooding.

POLICY 3.7: Regulate development in Alquist-Priolo Earthquake Fault Zones consistent with levels of acceptable risk. Require the submission of geologic and seismic reports, as well as soils engineering reports, in relation to applications for land development permits whenever seismic or geologic problems are suspected.

POLICY 3.8: Recognize the need for greater protection and safety of critical use facilities through careful site selection and comprehensive geotechnical evaluation that considers seismic and other geotechnical hazards.

POLICY 3.9: Update the Hazard Mitigation Plan every five years and evaluate the mitigation plan annually to determine the effectiveness of programs and to reflect changes in land development or programs that may affect mitigation priorities.

GOAL 4: Prevent or minimize property damage and social and economic disruption resulting from all hazards.

POLICY 4.1: Achieve the most effective and economical balance of costs and benefits in disaster prevention and planning.

POLICY 4.2: Prepare Grading Ordinance.

GOAL 5: Maintain capability to respond to an emergency in the City within 3 to 5 minutes.

POLICY 5.1: Maintain and promote safety programs which create a sense of community security and well-being.

POLICY 5.2: Locate, staff, and equip Fire Department and Police Department to meet established response times. Response time objectives are to be based on national standards.

POLICY 5.3: Regulate the amount and type of new development in areas susceptible to all hazards.



GOAL 6: Minimize personal and property damage from all hazard events.

POLICY 6.1: Require all new development (including City-owned facilities) and existing retrofitted non-reinforced masonry buildings to comply with established seismic safety standards.

POLICY 6.2: As needed, review and improve Montebello’s disaster response capabilities.

POLICY 6.3: Require that each new development be built incorporating the criteria of safety into the design.

POLICY 6.4: Continue to update the City’s Emergency Operations Plan every five years.

POLICY 6.5: Require new or substantially remodeled development located within areas of liquefaction potential to be properly designed and constructed for earthquake safety.

POLICY 6.7: Request that the Los Angeles County Flood Control District and Army Corps of Engineers assess all dams upstream from Montebello for various hazards.

GOAL 7: Provide adequate fire protection to each area of the City.

POLICY 7.1: Develop a “City of Montebello Water Master Plan”, upgrade water lines throughout the City to ensure that they provide adequate fire flows.

POLICY 7.2: Continue to use the development review process to project plans to the Fire Department and other reviewing agencies for fire safety review, including building materials, access and circulation.

POLICY 7.3: Inspect all fire hydrants for operational readiness on an annual basis.

POLICY 7.4: Repair and/or replace all defective hydrants.

GOAL 8: Minimize the risks to persons and property from flooding.

POLICY 8.1: Cooperate with the Los Angeles County Flood Control District (LACFCD), Federal Emergency Management Agency (FEMA), and other local, state, and federal agencies involved in preparing and implementing flood standards and regulations.

POLICY 8.2: Support public education programs on flood protection, and emergency preparedness and procedures.

GOAL 9: Provide adequate police protection for all residents and businesses.

POLICY 9.1: Expand the City’s Neighborhood Watch Programs

POLICY 9.2: Route development and site plans to the Police Department for public safety suggestions.

POLICY 9.3: Utilize site planning mechanisms such as security lighting and well-designed parking lots to minimize crime opportunities.



POLICY 9.4: Address special crime problems and areas in the City.

POLICY 9.5: Actively remove graffiti and encourage citizens to promptly report incidences of graffiti.

GOAL 10: The City of Montebello will act in cooperation with federal, state, and county agencies responsible for the enforcement of planning statutes, environmental laws, and building codes to minimize, to the extent practical, risks to people and property damage, risks related economic and social disruption, and other impacts resulting from 1) geologic and soil hazards, 2) seismic hazards including primary and secondary effects of seismic shaking, fault rupture, and other earthquake-induced ground deformation in Montebello, and 3) dam failure-induced flood and inundation hazards, while reducing the disaster recovery time due to hazard incidents in Montebello. The City of Montebello will update the HAZUS-based loss estimation analysis in the 2017 Hazard Mitigation Plan every five years to more fully quantify potential physical damage, economic loss, and social impacts from these events.

Geology and Soil Hazards

POLICY 10.1: The City will update the Safety Element every five years in coordination with the update to the Hazard Mitigation Plan.

POLICY 10.2: Encourage development in low hazards areas and implement actions that minimize changes to the natural topography and drainages, while protecting public safety and reducing potential property damage due to geologic and soil hazards through the use of proper design and construction techniques.

POLICY 10.3: Assure that all aspects of the geotechnical and engineering geology evaluation process (planning, investigation, analysis, reporting, review, construction, and operations) for new development and redevelopment are conducted, and independently reviewed, by qualified professionals.

Earthquake (Seismic) and Fault Hazards

POLICY 10.4: Minimize the exposure of people and property to primary and secondary earthquake-related hazards, while allowing properly designed projects to be developed in appropriate locations.

POLICY 10.5: Assure that all aspects of the earthquake, fault rupture, liquefaction, and related seismic hazard evaluation process (planning, investigation, analysis, reporting, review, construction, and operations) for new development and redevelopment are conducted, and independently reviewed, by qualified professionals.

POLICY 10.6: Require all development (including City-owned facilities) and to comply with established seismic safety standards.

POLICY 10.7: Require new or substantially remodeled development located within areas of liquefaction potential to be properly designed and constructed for to earthquake safety.



POLICY 10.8: Consider the potential for strong seismic shaking from the Puente Hills Blind Thrust Fault Zone underlying the northern portion of the City.

POLICY 10.9: In the northern portion of the City above the projected location of the Puente Hills Blind Thrust Fault Zone, consider the development of potential Co-Seismic Hazard Management Zones (CSHMZs) for new construction and redevelopment to evaluate the potential impacts of surface movements such as uplift and ground tilting.

Dam-Inundation Flood Hazards

POLICY 10.10: Minimize development of important facilities in flood-prone areas to the extent possible in order to protect public safety and reduce potential property damage due to dam failure-induced flooding.

POLICY 10.11: Assure that all aspects of the dam failure flood/inundation evaluation process (planning, investigation, analysis, reporting, review, construction, and operations) for new development and redevelopment are conducted, and independently reviewed, by qualified professionals.

POLICY 10.12: Cooperate with the Los Angeles County Flood Control District (LACFCD), Federal Emergency Management Agency (FEMA), and other local, state, and federal every five years in preparing and implementing flood standards and regulations.

POLICY 10.13: Request that the Los Angeles County Flood Control District assess all dams upstream from Montebello for earthquake soundness.

POLICY 10.14: Support public education programs on flood protection, and emergency preparedness and procedures.

Disaster Preparedness and Communication

POLICY 10.15: Create and maintain emergency preparedness and evacuation plans; create public information/education programs to help assure coordinated response, recovery, and mitigation efforts carried out by the City and other governmental agencies.

POLICY 10.16: Foster cooperation with neighboring cities and agencies to enhance mutual aid opportunities following natural hazard events.

POLICY 10.17: Include earthquake preparedness in all regular inspections by the Fire Department.

Goal 11: Take necessary steps to allow for effective responses to disasters.

POLICY 11.1: Ensure operational readiness of the City's EOC.

POLICY 11.2: Adopt, monitor, and maintain service delivery objectives based on time standards for all fire, rescue and emergency response services.

POLICY 11.3: Coordinate with healthcare providers so that the expansion or construction of new healthcare facilities addresses General Plan and community plan goals.



POLICY 11.4: Coordinate with other area jurisdictions and local community groups and businesses to execute a variety of exercises to test operational and emergency plans and identify potential deficiencies in services that would occur during a disaster.

POLICY 11.5: Address any deficiencies identified during emergency operations testing exercises by amending the City's Emergency Operations Plan accordingly.

Goal 12: Plan for efficient and rapid recovery from disasters.

POLICY 12.1: To the maximum extent possible, assist in the orderly and efficient reconstruction of Montebello following a major disaster.

POLICY 12.2: Ensure that disaster recovery efforts involving the disposal of materials adhere to federal, state and City regulations when feasible.

POLICY 12.3: To the extent possible, ensure that appropriate and effective action is taken to safeguard life and property during and immediately after emergencies, and assist in returning their lives and businesses to normal following a major event.

POLICY 12.4: Ensure transparency and access to public information throughout the recovery process.

Goal 13: Plan to facilitate traffic movement and alleviate congestion in and around the City.

POLICY 13.1: To improve north-south circulation in Montebello by providing at least one major street with a grade-separated railroad crossing.

POLICY 13.2: To provide a circulation system for the Montebello Hills which services the various types of residential and commercial development but at the same time preserves the unique environmental and aesthetic qualities of the hill area.

Goal 14: Plan to develop a circulation system which provides for continuous movement to and from adjacent communities.

POLICY 14.1: To provide a circulation system for the Montebello Hills which services the various types of residential and commercial development but at the same time preserves the unique environmental and aesthetic qualities of the hill area.

POLICY 14.2: To provide a crossing of the Santa Ana Freeway at Greenwood Avenue.



TABLE 8: IMPLEMENTATION ACTIONS

Implementation Action		Corresponding Goals and Policies
1	To define acceptable and unacceptable seismic risks in the framework of a feasible implementation to reduce unacceptable seismic risks.	Goal 1, Policy 1.2
2	To identify and evaluate structural hazards of existing buildings that may constitute unacceptable seismic risks.	Goal 2, Policy 1.3
3	To seek reduction of unacceptable structural hazards	Goal 1, Policy 1.2
4	To incorporate a seismic risk review procedure in the evaluation of all developments.	Goal 1, Policy 1.2 & 1.3
5	To emphasize seismic risks as part of the City's disaster preparedness plans.	Goal 2, Policy 2.1 & 2.2
6	To promote public awareness of potential seismic risk, hazards, and mitigating measures.	Goal 2, Policy 2.2
7	Regulate the development, maintenance and use of property in the City so as to minimize the occurrence of fire and minimize spread.	Goal 3, Policy 3.1
8	Promote mutual and aid agreements and other joint activities which will improve an all-hazards response.	Goal 3, Policy 3.1
9	Require engineering geologic report for all development.	Goal 1, Policy 1.3
10	Maintain and update the Disaster Movement and Evacuation Route Map in the Safety Element.	Goal 2, Policy 2.2 and 6.4
11	Require water systems capable of meeting fire flow requirements, designed to deliver flows under emergency conditions when damages or failures occur in the system.	Goal 7, Policy 7.1-4
12	Maintain and improve the City Emergency Operations Plan.	Goal 6, Policy 6.4
13	Maintain and improve the City's rescue, emergency and public service capabilities.	Goal 5, Policy 5.2
14	Review all land development proposals from the standpoint of minimizing hazards.	Goal 1, Policy 1.2-4 Goal 3, Policy 3.2-4 Goal 5, Policy 5.3 Goal 6, Policy 6.3 Goal 7, Policy 7.2 Goal 9, Policy 9.2-3 Goal 10, Policy 10.2-3, 10.6-7, 10.12 Goal 12, Policy 12.1-2
15	Review City's Capital Improvement Plan for consistency with the seismic safety policies governing the location of critical public facilities.	Goal 1, Policy 1.1, 1.4
16	Inspect critical public facilities for structural integrity, and require correction as necessary.	Goal 6, Policy 6.1, 6.3 Goal 10, Policy 10.6 Goal 11, Policy 11.3
17	Require all private roads to conform to the existing City standards concerning safety, movement, and access for emergency vehicles.	Goal 1, Policy 1.3-4 Goal 6, Policy 6.3 Goal 11, Policy 11.2 Goal 12, Policy 12.1



Implementation Action	Corresponding Goals and Policies
<p>18 Develop a public information program on, hazard prevention and disaster response and disseminate information on public safety to all residents and businesses in the City on a regular basis. As funding becomes available, assist lower-income households with the purchase of earthquake safety devices, such as gas turn-off wrenches, and smoke alarms.</p>	<p>Goal 2, Policy 2.2, 3.1, 4.1, 5.1, 8.2, 9.1, 10.16, 10.17, 12.4</p>
<p>19 Add State of California’s “MyHazards.com” to the City’s website which will allow the user to enter an address and gain access to a range of geologic, soil, and earthquake hazard maps along with flood and other hazard-related information.</p>	<p>Goal 1, Policy 1.1-1.4</p>
<p>20 Avoid grading and development that requires filling natural drainages or changing natural surface water flow patterns.</p>	<p>Goal 4, Policy 4.2 Goal 10, Policy 10.2</p>
<p>21 As required by law and statute, the City shall implement applicable federal, State, and County regulations related to geologic and soils investigations, analyses, designs, and construction, including but not limited to implementing the most up-to-date California Building Code (CBC) provisions regarding lateral forces (Chapter 23) and grading (Chapter 70), and incorporate and adopt City of Montebello amendments to the CBC.</p>	<p>Goal 1, Policy 1.1-2, 1.4 Goal 10, Policy 10.1-3</p>
<p>22 Require proper geotechnical and engineering geological investigations and reports that address and evaluate necessary analyses of (for example) soil foundation conditions (i.e., expansivity, collapse, seismic settlement), slope stability, surface and subsurface water, and provide necessary design recommendations for grading and site stability, such as excavation, fill placement, and stabilization or remediation measures. These investigations should include review of historical topographic maps and aerial photographs to identify the location man made fills, such as filled-in stream channels, old borrow site quarry pits, and development grading. Such reviews should also include Division of Oil, Gas, and Geothermal Resources (DOGGR) maps of locations of idle and abandoned oil wells.</p>	<p>Goal 1, Policy 1.1 - 4 Goal 10, Policy 10.3-8, 10.11</p>
<p>23 Require routine inspection of grading operations by properly qualified City representatives to assure site safety and compatibility with approved plans and specifications.</p>	<p>Goal 4, Policy 4.2</p>
<p>24 Regularly review the technical data on public safety and seismic safety for use in the planning process and undertake revisions or updates to the Safety Element as needed.</p>	<p>Goal 10, Policy 10.1</p>
<p>25 Verify that existing ordinances for the evaluation and abatement of structural hazards (i.e., pre-1971 and URM-type buildings, parapet ordinance and hazardous building ordinance requiring repair, rehabilitation, or demolition of hazardous structures following structural evaluation) are up-to-date. As appropriate, prepare multi-lingual materials that discuss hazardous structures and provide suggestions for the mitigation of structural hazards.</p>	<p>Goal 1, Policy 1.1, 1.4 Goal 6, Policy 6.1</p>
<p>26 Require new or substantially remodeled development located within areas of liquefaction potential to be properly designed and constructed for earthquake safety. Required liquefaction assessment studies and/or slope stability analyses shall be conducted in accordance with the California Geological Survey’s Special Publication 117A.</p>	<p>Goal 10, Policy 10.5, 10.7</p>



Implementation Action	Corresponding Goals and Policies
<p>27 As required by law and statute, the City shall implement applicable federal, State, and County regulations related to earthquake hazard investigations, analyses, designs, and construction, including but not limited to the adoption of applicable sections of the current California Building Code and the County of Los Angeles Geotechnical Guidelines, Hazard Mitigation Plan, and compliance with the State Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act requirements.</p>	<p>Goal 1, Policy 1.1-4 Goal 6, Policy 6.1 Goal 10, Policy 10.5-7</p>
<p>28 Ensure that no structure for human occupancy, other than single-family wood-frame and steel-frame dwellings that are less than three stories and are not part of a development of four units or more, shall be permitted within fifty feet of an active fault trace as defined by geologic investigations conducted in accordance with the intent of the Alquist-Priolo Earthquake Fault Zoning Act, and the guidelines contained in the California Geological Survey Notes 48 and 49.</p>	<p>Goal 10, Policy 10.5, 10.19 Goal 12, Policy 12.4</p>
<p>29 Where construction of important facilities (e.g., critical, essential, sensitive, and high-occupancy buildings and critical infrastructure) within known, or suspected earthquake-related hazard zones is proposed, require proper geotechnical and engineering geology investigations and reports that include necessary analyses of (for example) strong ground shaking, fault rupture, liquefaction, lateral spreading, ground subsidence and slope instability, and that provide necessary design recommendations for grading and site stability, such as building setbacks, special foundation considerations, dewatering, ground improvement, and other stabilization or remediation measures.</p>	<p>Goal 1, Policy 1.3-4, 3.3, 3.7-9 Goal 6, Policy 6.4 Goal 10, Policy 10.1-8 Goal 12, Policy 12.4</p>
<p>30 Minimize the construction of Important Facilities (e.g., critical, essential, sensitive, and high-occupancy buildings and critical infrastructure) within potential dam failure-induced flood/inundation areas.</p>	<p>Goal 10, Policy 10.12-16 Goal 12, Policy 12.4</p>
<p>31 Require proper hydrology and flooding investigations and reports that include necessary analyses of (for example) pre- and post-development flow characteristics, changes to surface drainage network, potential environmental impacts on existing development down-gradient from new construction in upstream areas, and adequacy of current and proposed culverts, debris basins, and storm drain systems.</p>	<p>Goal 8, Policy 8.1-2 Goal 10, Policy 10.12-16 Goal 12, Policy 12.4</p>
<p>32 Upgrade and improve Greenwood Avenue and Montebello Boulevard as the community’s major north-south connector.</p>	<p>Goal 13, Policy 13.1</p>
<p>33 Improvement of Greenwood Avenue and Montebello Boulevard should include widening, grade separation structures and signalization.</p>	<p>Goal 13, Policy 13.1</p>
<p>34 Seek to provide an adequate circulation system in the hills which services major regional traffic generators, yet preserves areas which are attractive for residential, open space or recreational development.</p>	<p>Goal 13, Policy 13.1, Goal 14, Policy 14.1</p>
<p>35 Resist the bisecting of the City of Montebello by a new freeway route.</p>	<p>Goal 14, Policy 14.2</p>
<p>36 Grading Ordinance will cover subject areas not already included in the Los Angeles Building Code and will require the input of licensed professionals</p>	



5.0 REFERENCES CITED

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