



TO: Mayor and Councilmembers

FROM: Jaime A. Valdez, Neighborhood Services Director

CONTACT: Michael Baris, Emergency Services Coordinator

SUBJECT: Adoption of the 2023 City of Goleta Annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan

RECOMMENDATION:

- A. Adopt Resolution No. 23-___ entitled, “A Resolution of the City Council of the City of Goleta, California, Adopting the 2023 City of Goleta Annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan”; and
- B. Direct staff to initiate a General Plan Amendment to incorporate the updated Local Hazard Mitigation Plan into the Safety Element.

BACKGROUND:

All city agencies are required to have an updated Hazard Mitigation Plan (HMP) filed with the California Office of Emergency Services (CalOES) and the Federal Emergency Management Agency (FEMA). HMPs are updated every five (5) years to stay in compliance with state and federal standards and are important for securing grant funding for local projects and receiving financial reimbursement in the event of a disaster. The latest Goleta HMP was adopted in 2017 and expired in September of 2022. FEMA and CalOES policy allowed for the latest HMP to be in effect while a new HMP was under review.

The City of Goleta’s HMP is an annex to the wider Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) that is managed by the County of Santa Barbara. The County has been leading the effort in updating this MJHMP alongside a contractor, Wood PLC, and Goleta staff have been participating in the process since May 2021. The draft MJHMP was ready for CalOES and FEMA review in January 2022. On March 1st, 2022, the Council received an update on the HMP process and was made aware of the plan’s submission to FEMA and CalOES for approval.

Local feedback to the Goleta HMP was received in 2021. City departments and outside agencies provided their feedback during this process, and included agencies such as Wood PLC, Santa Barbara County Fire, Santa Barbara County Sheriff, and the Santa Barbara County Office of Emergency Management. Public feedback was received via County-led Virtual Town Hall meetings that City staff shared with Goleta community members and attended. On February 17, 2022, the Public Safety and Emergency Preparedness Standing Committee (Committee) met and received an update on the progress of the Goleta HMP update, and the Committee concurred with staff's recommendation and approach. The Committee further recommended that the HMP be adopted via resolution once FEMA and CalOES approval documentation was received.

March 25th, 2022 was a 'point of no return' in the project. As per FEMA policy, approval documentation is provided to local jurisdictions after the federal review process is complete. The approval documentation is specific to the HMP they reviewed, thus any changes made to the HMP now will render the approval documentation null and void. City staff received this approval documentation on March 23, 2023 (Attachment 1).

DISCUSSION:

Staff recommend that the City Council adopt Resolution 23-___ (Attachment 2) so that the City has an active and approved HMP (Attachment 3).

Staff also recommend that the City Council direct staff to incorporate the HMP into the Safety Element of the General Plan via a General Plan Amendment. This will allow the City to take full advantage of disaster funding and create stronger documentation to cite when pursuing grant funds.

To complete this General Plan Amendment, staff must follow GMC 17.67.030 and will need adequate time for public noticing and public hearing. Staff will be returning to Council at a later date to complete the next step of this General Plan Amendment process.

FISCAL IMPACTS:

There are no direct fiscal impacts associated with the adoption of the HMP. Failing to comply with HMP standards will result in the loss of grant funding opportunities for mitigation projects and the loss of reimbursement dollars following a disaster.

ALTERNATIVES:

No *feasible* alternatives exist to the adoption of the HMP. Failing to adopt the approved draft HMP will leave the City with no active HMP and will place the City at risk of losing grant funding and ineligibility for receiving federal disaster assistance.

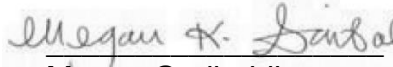
The Council could choose not to direct staff to incorporate the HMP into the City's General Plan via the Safety Element. As a result, the documents will not be incorporated together which may place the City at risk of losing grant funding and federal disaster assistance.

Reviewed By:



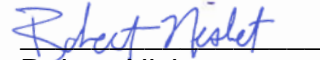
Kristine Schmidt
Assistant City Manager

Legal Review By:



Megan Garibaldi
City Attorney

Approved By:



Robert Nisbet
City Manager

ATTACHMENTS:

1. FEMA Documentation - Approval Pending Adoption Notice
2. Resolution No. 23-__ entitled, "A Resolution of the City Council of the City of Goleta, California, Adopting the 2023 City of Goleta Annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan"
3. City of Goleta Local Hazard Mitigation Plan (Annex)

ATTACHMENT 1

FEMA Documentation - Approval Pending Adoption Notice



FEMA

March 23, 2023

J.D. Saucedo
Emergency Manager
Santa Barbara County Office of Emergency Management
4408 Cathedral Oaks Road
Santa Barbara, CA 93110

Dear J.D. Saucedo:

The Federal Emergency Management Agency (FEMA) has completed its review of the *Santa Barbara County Multi-Jurisdiction Hazard Mitigation Plan 2022* and has determined that this plan is eligible for final approval pending its adoption by Santa Barbara County and all participating jurisdictions. Please see the enclosed list of approvable pending adoption jurisdictions.

FEMA recently updated the [Local Mitigation Planning Policy Guide](#) which will take effect on April 19, 2023. **In order for your plan to be approved under the 2011 [Local Mitigation Plan Review Guide](#) under which it was reviewed, formal adoption documentation from at least one (1) jurisdiction must be submitted to FEMA Region 9 prior to April 19, 2023.** If the first formal adoption documentation is received between April 19, 2023, and March 23, 2024, the plan must be re-reviewed for adherence to the new 2023 policy guidance and sections of the plan may need to be revised.

Once the plan is approved, each participating jurisdiction must adopt the plan within five calendar years of the date of the approval. The adoption of the plan by each jurisdiction ensures that jurisdiction's continued eligibility for funding under FEMA's Hazard Mitigation Assistance (HMA) programs. All requests for funding, however, will be evaluated individually according to the specific eligibility, and other requirements of the particular program under which applications are submitted.

If you have any questions regarding the planning or review processes, please contact the FEMA Region 9 Hazard Mitigation Planning Team at fema-r9-mitigation-planning@fema.dhs.gov.

Sincerely,

A handwritten signature in black ink that reads "Alison Kearns".

Digitally signed by
ALISON KEARNS
Date: 2023.03.23
16:08:38 -07'00'

Alison Kearns
Planning and Implementation Branch Chief
Mitigation Division
FEMA Region 9

Enclosures (2)

Santa Barbara County Plan Review Tool, dated March 23, 2023
Status of Participating Jurisdictions, dated March 23, 2023

cc: Ron Miller, Mitigation Quality Assurance Division Chief, California Governor's Office
of Emergency Services
Blythe Denton, Hazard Mitigation Grants Division Chief, California Governor's Office
of Emergency Services
Victoria LaMar-Haas, Hazard Mitigation Planning Chief, California Governor's Office of
Emergency Services

Status of Participating Jurisdictions as of March 23, 2023

Jurisdictions – Adopted and Approved

#	Jurisdiction	Date of Adoption
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

Jurisdictions – Approvable Pending Adoption

#	Jurisdiction
1	City of Buellton
2	City of Carpinteria
3	City of Goleta
4	City of Guadalupe
5	City of Lompoc
6	City of Santa Barbara
7	City of Santa Maria
8	City of Solvang
9	Cachuma Operations and Maintenance Board
10	Carpinteria Valley Water District
11	Goleta Water District
12	Montecito Fire Protection District
13	Montecito Water District
14	Santa Maria Valley Water Conservation District

ATTACHMENT 2

Resolution No. 23-__ entitled, "A Resolution of the City Council of the City of Goleta, California, Adopting the 2023 City of Goleta Annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan"

RESOLUTION NO. 23-__

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GOLETA, CALIFORNIA, ADOPTING THE 2023 CITY OF GOLETA ANNEX TO THE SANTA BARBARA COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

WHEREAS, the Federal Disaster Mitigation Act of 2000 (“Act”), as described in Title 44 of the Code of Federal Regulations Section 201.6 (44 CFR § 201.6) mandates local governments to submit and maintain a Federal Emergency Management Agency (“FEMA”) approved local hazard mitigation plan; and

WHEREAS, the City of Goleta has participated in and coordinated with the Santa Barbara County Office of Emergency Management’s hazard mitigation planning efforts to create a Multi-Jurisdictional Hazard Mitigation Plan (“Plan”); and

WHEREAS, the Plan and the Goleta Annex identify operational area-wide risk assessment and mitigation strategies to reduce impacts of natural, technological, and human caused disasters on the public and local government; and

WHEREAS, the Plan and the Goleta Annex identify a citywide risk assessment that will assist in response planning, exercise development, public education and awareness, and other emergency management functions; and

WHEREAS, the Act specifies that the Plan be approved by FEMA and formally adopted by the City of Goleta City Council.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GOLETA, AS FOLLOWS:

SECTION 1.

The City Council hereby adopts the City of Goleta Annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan.

SECTION 2.

The City Council directs City staff to integrate the updated Plan by reference into the Safety Element of the General Plan with the next Safety Element update in accordance to the requirements of Government Code sections 65302, 65302.6 and 8685.9 (AB 2140 (2006)), and there is no possibility that the activity in question may have a significant impact on the environment and is therefore exempt from the provisions of CEQA, General Rule-Section 15061(b)(3).

SECTION 3.

The City Clerk shall certify to the passage and adoption of this resolution and enter it into the book of original resolutions.

PASSED, APPROVED AND ADOPTED this ___ day of _____ 2023.

PAULA PEROTTE, MAYOR

ATTEST:

APPROVED AS TO FORM:

DEBORAH S. LOPEZ
CITY CLERK

MEGAN GARIBALDI
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SANTA BARBARA) ss.
CITY OF GOLETA)

I, DEBORAH S. LOPEZ, City Clerk of the City of Goleta, California, DO
HEREBY CERTIFY that the foregoing Resolution No. 23-___ was duly adopted
by the City Council of the City of Goleta at a regular meeting held on the ___ day
of _____, 2023 by the following vote of the Council:

AYES:

NOES:

ABSENT:

(SEAL)

DEBORAH S. LOPEZ
CITY CLERK

ATTACHMENT 3

City of Goleta Local Hazard Mitigation Plan

(City of Goleta Annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan)

City of Goleta Local Hazard Mitigation Plan



**An Annex to the Santa Barbara County
Multi-Jurisdictional Hazard Mitigation Plan**

February 2023



This Page Intentionally Left Blank

Table of Content

1.0	Introduction.....	1
2.0	Plan Purpose and Authority.....	2
3.0	Planning Process.....	6
3.1	Overview.....	6
3.2	Mitigation Advisory Committee (MAC).....	7
3.3	Local Planning Team (LPT).....	8
3.4	Public Outreach and Engagement.....	9
4.0	Capability Assessment.....	10
4.1	Development Trends and Demographics.....	10
4.2	Key Departments.....	10
4.2.1	Goleta City Council.....	11
4.2.2	Goleta City Manager’s Office (Office of Emergency Services).....	11
4.2.3	City of Goleta Finance Department.....	12
4.2.4	City of Goleta Planning and Environmental Review Department (includes Building Inspection, Code Enforcement and GIS).....	12
4.2.5	Public Works/Engineering/Parks and Open Space Maintenance.....	12
4.2.6	City of Goleta Public Safety –Police Services.....	13
4.2.7	City of Goleta Public Safety – Fire Services.....	13
4.3	Administrative and Technical Capacity.....	13
4.4	Legal and Regulatory Capabilities.....	14
4.5	Financial Resources.....	15
4.6	Education and Outreach Capabilities.....	16
4.7	Relevant Plans, Policies, and Ordinances.....	16
4.7.1	City of Goleta Economic Development Strategic Plan.....	16
4.7.2	City of Goleta Emergency Operations Plan and Threat Analysis.....	17
4.7.3	City of Goleta Municipal Codes for Flood Risk.....	18
4.7.4	Repetitive Loss Properties.....	19
4.7.5	City of Goleta Stormwater Management Plan.....	19
4.7.6	City of Goleta Strategic Plan and Capital Improvement Plan.....	21
4.7.7	City of Goleta General Plan/Coastal Land Use Plan.....	21
4.8	Opportunities for Mitigation Capability Improvements.....	22
5.0	Hazard Assessment.....	23
5.1	Overview.....	23
5.2	Hazard Screening/Prioritization.....	23
5.3	Wildfire.....	25
5.3.1	Description of Hazard.....	25
5.3.2	Location and Extent of Hazard in the City of Goleta.....	25
5.3.3	History of Hazard in the City of Goleta.....	26
5.3.4	Probability of Occurrence.....	26
5.3.5	Climate Change Considerations.....	27
5.4	Earthquake & Liquefaction.....	27
5.4.1	Description of Hazard.....	27
5.4.2	Location and Extent of Hazard in the City of Goleta.....	28
5.4.3	History of Hazard in the City of Goleta.....	29
5.4.4	Probability of Occurrence.....	29
5.4.5	Climate Change Considerations.....	29
5.5	Flood.....	31
5.5.1	Description of Hazard.....	31
5.5.2	Location and Extent of Hazard in the City of Goleta.....	31
5.5.3	History of Hazard in the City of Goleta.....	32

5.5.4	Probability of Occurrence.....	32
5.5.5	Climate Change Consideration	32
5.6	Coastal Hazards.....	33
5.6.1	Description of Hazard.....	33
5.6.2	Location and Extent of Hazard in the City of Goleta	33
5.6.3	History of Hazard in the City of Goleta	33
5.6.4	Probability of Occurrence.....	34
5.6.5	Climate Change Considerations.....	34
5.7	Tsunami	34
5.7.1	Description of Hazard.....	34
5.7.2	Location and Extent of Hazard in the City of Goleta	34
5.7.3	History of Hazard in the City of Goleta	35
5.7.4	Probability of Occurrence.....	35
5.7.5	Climate Change Considerations.....	35
6.0	Vulnerability Assessment.....	35
6.1	Wildfire	39
6.2	Earthquake & Liquefaction	42
6.3	Flood	48
6.4	Coastal Hazards	51
6.5	Tsunami	52
7.0	Mitigation Strategy	52
7.1	Mitigation Priorities	52
7.1.1	Goals and Objectives	52
7.2	Mitigation Progress	54
7.3	Mitigation Approach.....	55
7.4	Implementation Plan.....	58
7.4.1	Climate Change Induced Mitigation Actions	62
8.0	Plan Maintenance.....	63
8.1	Monitoring, Evaluating, and Updating the plan	63
8.2	Implementation through Existing Plans and Programs	64
8.3	Ongoing Public Outreach and Engagement.....	65
8.4	Point of Contact.....	65
9.0	References.....	65

List of Figures

Figure 5-1.	Santa Barbara County Probability of Shaking 2% in 50 Years.....	30
Figure 6-1.	City of Goleta Critical Facilities within Wildfire Threat Zones	41
Figure 6-2.	City of Goleta Critical Facilities and Earthquake Groundshaking Potential (Red Mountain Fault 7.4 Magnitude ShakeMap).....	46
Figure 6-3.	City of Goleta Critical Facilities and Liquefaction Potential	47
Figure 6-4.	City of Goleta Critical Facilities in FEMA Flood Hazard Zones	50

List of Tables

Table 3-1.	Mitigation Advisory Committee (MAC) Meetings Summary	7
Table 3-2.	City of Goleta Local Planning Team 2022	8
Table 3-3.	Local Planning Team Activity Summary	9
Table 4-1.	City of Goleta Administrative and Technical Capacity	13
Table 4-2.	City of Goleta Legal and Regulatory Capability	14
Table 4-3.	City of Goleta Fiscal Capability	15
Table 5-1.	City of Goleta Local Priority Hazards	24
Table 5-2.	Richter Scale	27
Table 6-1.	Critical Facilities in the City of Goleta	36
Table 6-2.	Summary of Potential Impacts on Critical Facilities	38
Table 6-3.	City of Goleta at Risk to Wildfire Threat	39
Table 6-4.	City of Goleta Critical Facilities Vulnerable to Wildfire	40
Table 6-5.	City of Goleta at Risk to Liquefaction Hazard by Property Type	42
Table 6-6.	City of Goleta Critical Facilities Vulnerable to Liquefaction	43
Table 6-7.	City of Goleta FEMA Floodplain Exposure and Loss	48
Table 6-8.	City of Goleta Critical Facilities at Risk to Flood Hazard	49
Table 6-9.	City of Goleta at Risk to Sea Level Rise Coastal Hazards by Property Type	51
Table 6-10.	City of Goleta Critical Facilities Vulnerable to Coastal Hazards	51
Table 7-1.	Status of City of Goleta Previous Mitigation Actions	54
Table 7-2.	2022 City of Goleta Mitigation Actions and Prioritization	57

This Page Intentionally Left Blank

1.0 INTRODUCTION

Natural and human-caused disasters can lead to death, injury, property damage, and interruption of business and government services. When they occur, the time, money, and effort to respond to and recover from these disasters divert public resources and attention from other important programs and problems.

However, the impact of foreseeable yet often unpredictable natural and human-caused events can be reduced through mitigation planning. History has demonstrated that it is less expensive to mitigate against disaster damage than to repeatedly repair damage in the aftermath. A mitigation plan states the aspirations and specific courses of action jurisdictions intend to follow to reduce vulnerability and exposure to future hazard events.

The City of Goleta (City) recognizes the consequences of disasters and the need to reduce the impacts of all hazards, natural and human-caused. This annex was prepared in 2022 as part of the update to the County of Santa Barbara (County) Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). This annex serves as the Local Hazard Mitigation Plan (LHMP) for the City. The LHMP was last comprehensively updated in 2017 as an annex to the 2017 MJHMP. Since 2017, the City has:

- Incorporated the LHMP goals, objectives, and mitigation actions into its local plans and processes, including the General Plan Safety Element by reference and specific hazard planning efforts (e.g., Stormwater Management Plan).
- Used the LHMP's assessment of capabilities, hazards, and vulnerabilities to inform planning, capital improvements, programs, decision-makers, and the public.
- Implemented mitigation actions through the City's general plan, capital improvement program, maintenance programs, grant programming, community outreach, and budget process.
- Reviewed and evaluated mitigation actions before and after disasters, including the Thomas Fire and Holiday Fire.

This 2022 update to the LHMP builds on and refines the MJHMP's assessment of hazards and vulnerabilities countywide to develop a mitigation plan for the City. The City participated in the 2022 MJHMP Mitigation Advisory Committee (MAC) and Local Planning Team (LPT), reviewed all portions of the MJHMP pertaining to the City, and incorporated relevant components into this annex. It contains updated capability assessment information, a current vulnerability assessment, and an updated/revised mitigation strategy. The methodology and process for developing this annex build on approaches employed in the 2022 MJHMP and are explained throughout the following sections.

The 2022 MJHMP update was prepared with input and coordination from each of the county's eight incorporated cities, six special districts, the County, citizen participation, responsible officials, and support from the State of California Governor's Office of Emergency Services (CalOES) and the Federal Emergency Management Agency (FEMA). The process to update the MJHMP and this LHMP included over a year of coordination with representatives from all participating agencies within the County and County representatives who comprised the MAC (described further in Section 3.0 below). The City is a participating agency in the County's MJHMP update.

The City's LHMP is used by local emergency management teams, decision-makers, and agency staff to implement needed mitigation to address known hazards. The MJHMP and this annex can also be

used as a tool for all stakeholders to increase community awareness of local hazards and risks and provide information about options and resources available to reduce those risks. Informing and educating the public about potential hazards helps all county residents and visitors protect themselves against their effects.

Risk assessments were performed that identified and evaluated priority hazards that could impact the City. Vulnerability assessments summarize the identified hazards' impact on the City. Estimates of potential dollar losses to vulnerable structures are presented. The risk and vulnerability assessments were used to determine mitigation goals and objectives to minimize near-term and long-term vulnerabilities to the identified hazards. These goals and objectives are the foundation for a comprehensive range of specific attainable mitigation actions (see Section 7.0, *Mitigation Strategy*).

2.0 PLAN PURPOSE AND AUTHORITY

Federal legislation historically provided funding for disaster preparedness, response, recovery, and mitigation. The Disaster Mitigation Act (DMA) of 2000, also commonly known as “The 2000 Stafford Act Amendments” (the Act), constitutes an effort by the federal government to reduce the rising cost of disasters. The legislation reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur.

Section 322 of the DMA requires local governments to develop and submit mitigation plans to qualify for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP) funds. The 2022 MJHMP meets the statutory requirements of DMA 2000 (P.L. 106-390), enacted October 30, 2000, and 44 CFR Part 201 – Mitigation Planning, Interim Final Rule, published February 26, 2002. The HMA grants include the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM) program, and the Flood Mitigation Assistance (FMA) program. Additional FEMA mitigation funds include the HMGP Post Fire funding associated with Fire Management Assistance Grant (FMAG) declarations and the Building Resilient Infrastructure and Communities (BRIC) funding associated with the 2018 Disaster Recovery Reform Act (DRRA).

DMA 2000 specifically addresses mitigation planning at the state and local levels. It identifies requirements that allow HMGP funds to be used for planning activities and increases the amount of HMGP funds available to states that have developed a comprehensive, enhanced mitigation plan before a disaster. State, county, and local jurisdictions must have an approved mitigation plan in place before receiving post-disaster HMGP funds. These mitigation plans must demonstrate that their proposed projects are based on a sound planning process that accounts for the risk to and the capabilities of the individual communities.

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

- Preparing and submitting a local mitigation plan;
- Reviewing and updating the plan every five years; and
- Monitoring mitigation actions and projects.

To facilitate implementation of the DMA 2000, FEMA created an Interim Final Rule (the Rule), published in the Federal Register in February of 2002 at section 201 of 44 CFR. The Rule spells out

the mitigation planning criteria for states and local communities. Specific requirements for local mitigation planning efforts are outlined in section §201.6 of the Rule.

In March 2013, FEMA released The Local Mitigation Planning Handbook (Handbook) as the official guide for local governments to develop, update and implement local mitigation plans. The Handbook complements and references the October 2011 FEMA Local Mitigation Plan Review Guide (Guide) to help “Federal and State officials assess Local Mitigation Plans in a fair and consistent manner.” Local jurisdictions must demonstrate that proposed mitigation actions are based upon a sound planning process that accounts for the inherent risk and capabilities of the individual communities as stated in section §201.5 of the Rule. The Handbook and Guide were consulted to ensure thoroughness, diligence, and compliance with the DMA 2000 planning requirements.

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

This LHMP was prepared as an annex to the County’s MJHMP in compliance with DMA 2000 and applicable FEMA guidance. The following pages show the resolutions that adopt the City’s 2022 LHMP.

[INSERT CITY RESOLUTION(S) ADOPTING PLAN UPDATE]

[INSERT CITY RESOLUTION(S) ADOPTING PLAN UPDATE]

3.0 PLANNING PROCESS

3.1 OVERVIEW

The planning process implemented for the County's 2022 MJHMP update, including the City's LHMP update, utilized two different planning teams to review progress, inform and guide the update, and directly review and prepare portions of the plan, including each jurisdictional annex. The first team is the Mitigation Advisory Committee (MAC) and the second is the Local Planning Team (LPT).

All eight incorporated cities and the six special districts joined the County as participating agencies in the preparation of the MJHMP update, including the cities of Buellton, Carpinteria, Goleta, Guadalupe, Lompoc, Santa Barbara, Santa Maria, and Solvang; and special districts Cachuma Operation and Maintenance Board (COMB), Carpinteria Valley Water District (CVWD), Goleta Water District (GWD), Montecito Fire Protection District (MFPD), Montecito Water District (MWD), and Santa Maria Valley Water Conservation District (SMVWCD). Each of the participating agencies had representation on the MAC and was responsible for the administration of their own LPT. In addition, the MAC included representatives from other state and local agencies with an interest in hazard mitigation in Santa Barbara County, including local non-profit organizations, special districts, and state and federal agencies. This composition ensures diverse input from an array of voices representing all communities within Santa Barbara County.

Both the MAC and the LPTs focused on these underlining philosophies, adopted from the FEMA Local Mitigation Plan Review Guide:

- **Focus on the mitigation strategy**

The mitigation strategy is the plan's primary purpose. All other sections contribute to and inform the mitigation strategy and specific hazard mitigation actions.

- **Process is as important as the plan itself**

In mitigation planning, as with most other planning efforts, the plan is only as good as the process and people involved in its development. The plan should also serve as the written record, or documentation, of the planning process.

- **This is the community's plan**

To have value; the plan must represent the current needs and values of the community and be useful for local officials and stakeholders. Develop the mitigation plan in a way that best serves your community's purpose and people.

- **Intent is as important as Compliance**

Plan reviews will focus on whether the mitigation plan meets the intent of the law and regulation; and ultimately that the plan will make the community safer from hazards.

As a result, the planning process incorporated the following steps:

- **Plan Preparation**

- Form/validate planning team members
- Establish common project goals
- Set expectations and timelines
- **Plan Development**
 - Validate and revise the existing conditions/situation within the planning area
 - Develop and review the risk to hazards (exposure and vulnerability) within the planning area
 - Review and identify mitigation actions and projects within the planning area
- **Finalize the Plan**
 - Review and revise the plan
 - Approve the plan locally and with state and federal reviewers
 - Adopt and disseminate the plan

3.2 MITIGATION ADVISORY COMMITTEE (MAC)

The City participated as a MAC member to prepare this LHMP as an annex to the 2022 MJHMP. The City was represented by Michael Baris, Emergency Services Coordinator, on the MAC.

The MAC meetings were designed to discuss each component of the MJHMP with MAC members and coordinate annex updates. Table 3-1 below provides a list and the main purpose and topics of each MAC meeting.

Table 3-1. Mitigation Advisory Committee (MAC) Meetings Summary

Date	Purpose
March 2021	<p>MAC Meeting #1 (virtual) Provided an overview of the project and why the plan is being revised Reviewed FEMA guidance and processes Discussed roles and responsibilities of the participating jurisdictions</p>
September 2021	<p>MAC Meeting #2 (virtual) Reviewed goals of the project, role of the MAC Summarized public outreach results Presented hazards assessment and displayed select draft hazard maps Conducted interactive exercise to rank hazards</p>
October 2021	<p>MAC Meeting #3 (virtual) Provided results of hazard ranking methodology Presented vulnerabilities assessment Discussed mitigation goals, objectives, and strategies Reviewed County goals from 2017 and compared them to new goals Conducted interactive exercise on potential mitigation goals and strategies</p>
October 2021	<p>MAC Meeting #4 (virtual) Collected feedback on 2017 mitigation strategies</p>

Date	Purpose
October 2021	MAC Meeting #4 (virtual) - continued Conducted interactive exercise on mitigation strategies for key hazards unaddressed in previous MJHMP Discussed annex updates
January 2022	MAC Meeting #5 (virtual) Presented draft plan Discussed key MAC/LPT review needs and key issues Discussed annex updates to dovetail with plan update
March 2022	MAC Meeting #6 (virtual) Review and discuss public comments received on the draft plan Recommend a revised draft plan to decision-makers Review annex updates for review and approval

3.3 LOCAL PLANNING TEAM (LPT)

Table 3-2 lists the City’s LPT. These individuals collaborated to identify the City’s critical facilities, provide relevant plans, report on the progress of City mitigation actions, and provide suggestions for new mitigation actions.

Table 3-2. City of Goleta Local Planning Team 2022

Department	Title	Name
Planning and Environmental Review Department	Advance Planning Manager	Anne Wells
Public Works Department	Environmental Services Coordinator	Melissa Nelson
Neighborhood Services Department	Emergency Services Coordinator	Michael Baris
Public Works Department	Project Manager	Teresa Lopes
Finance Department	Accountant	Brenda Robinson
City Manager’s Department	City Manager	Michelle Greene
County Fire	Fire Marshal	Rob Hazard
Santa Barbara Sheriff’s Office	Goleta Chief of Police	Lt. Rich Brittingham
Neighborhood Services Department	Director of Neighborhood Services	Jaime Valdez

The Goleta LPT members worked directly with the Santa Barbara County Office of Emergency Management (OEM), the consultant team, and each other to provide data, recommended changes, and continually work on the MJHMP and LHMP updates throughout the planning process. The City LPT met virtually as needed during the planning process to discuss data needs and organize data collection. Table 3-3 below outlines a timeline of the LPT’s activities throughout the planning process.

Table 3-3. Local Planning Team Activity Summary

Meeting Dates	Summary of Activity
February 2020	LPT kickoff meeting to discuss stakeholder and public involvement and refine the scope of hazard analysis
April 2021 to January 2022	Collated data to share with hazard mitigation planning team, including hazard identification, refreshed data layers for maps, and geographic settings. Completed Plan Update Guides to directly inform hazard priorities and mitigation capabilities
December 2021	LPT meeting (12/16/21) with consultant team to discuss ongoing mitigation strategies and identify areas to improve within the plan
January and February 2022	Reviewed new maps and local vulnerabilities. Provided input on the status of 2017 LHMP mitigation strategies. Reviewed draft mitigation strategies and provide feedback. Reviewed and finalized 2022 LHMP
March 2022	LPT meeting to discuss the final draft of the local annex LPT presented a staff report to the public and Goleta City Council regarding the LPT's efforts in updating the City's annex

3.4 PUBLIC OUTREACH AND ENGAGEMENT

As a participating agency in the 2022 MJHMP update, the City was directly involved in the outreach program undertaken by the County for the 2022 MJHMP update, which involved extensive outreach during 2021 and early 2022. The City's MAC and LPT members participated in public outreach efforts for the MJHMP and LHMP update planning process by distributing notices for the 6-month-long community hazards survey (refer to Section 3.4.1 of the 2022 MJHMP) and three public workshops (refer to Section 3.4.4 of the MJHMP). The Public Outreach Plan (POP) employed a diversity of tools to maximize notification and participation. The POP was responsive to limitations presented by the Coronavirus (COVID-19) pandemic and focused on direct bilingual outreach using a variety of digital tools, including a fact sheet, social media posts, emails, and press releases. Multiple platforms and tools were used to publicize opportunities to participate. All public and stakeholder meetings were hosted virtually through Microsoft Teams, and all outreach completed for the project was conducted via electronic communications. Many of the meetings used an interactive tool called Slido to collect feedback during meetings. Slido allows audience members to answer questions during presentations, helping the County collect direct detailed feedback and facilitate discussion. All written notices were made available in English and Spanish.

In March 2022, a staff report was brought to the Goleta City Council and the public announcing the intent to submit the LHMP draft to FEMA and CalOES. The opportunity to review documents was announced through social media and the City's website. The community was welcome to submit written or verbal comments to the City's Emergency Services Coordinator. In addition, the opportunity for the community to be heard was permitted during the City Council meeting before the adoption of this plan.

Additionally, the City of Goleta conducts ongoing public outreach by utilizing several platforms to educate the public about hazards in the community, relevant programs to safeguard and protect

themselves from disaster, and actions they can take to prepare themselves for events. Below is a list of the different platforms used and a summary of some of the programs:

- Ready SBC Website
- Social Media (Facebook, Twitter, NextDoor)
- Meetings/Workshops including noticing through GovDelivery System
- Public Surveys
- Community Emergency Response Team Training (CERT)
- Monthly Community Online Newsletter, *The Monarch Press*

4.0 CAPABILITY ASSESSMENT

The City LPT identified current capabilities and mechanisms available for implementing hazard mitigation activities. This section presents a discussion of the roles of key departments, administrative and technical capacity, fiscal resources, and summaries of relevant planning mechanisms, codes, and ordinances.

4.1 DEVELOPMENT TRENDS AND DEMOGRAPHICS

The City is located about eight miles west of the City of Santa Barbara, with a swath of unincorporated urban area between the two cities, and is adjacent to the Santa Barbara Airport and the University of California at Santa Barbara (UC Santa Barbara). Located along the coast, the town has 7.9 square miles of land area, comprising a total of 5,075 acres. Goleta is in an excellent position, as it develops its policies and governance through planning and regulatory development, to institutionalize mitigation into its government operations.

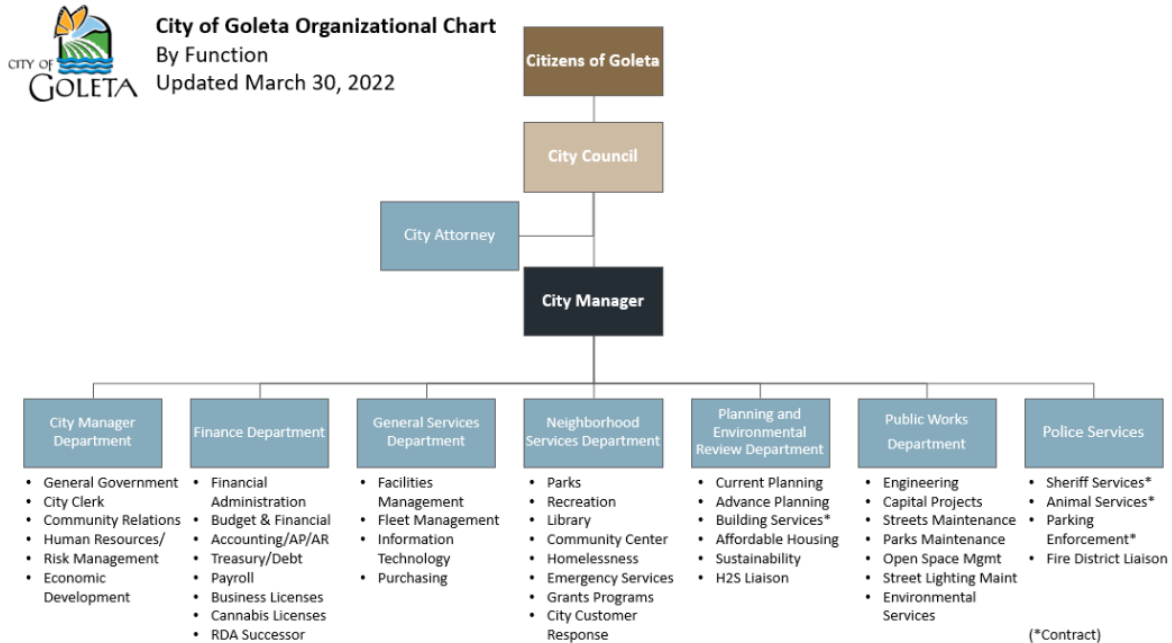
The City of Goleta is a mostly suburban residential community with high-tech entrepreneurial business areas. The City is located in the commercial and industrial heart of the County and has in recent years drawn many high technology companies to the area. The City is now home to approximately 80 research and development firms in the hi-tech field including those that specialize in electronics, telecommunications, medical research, national security, and remote sensing manufacturing that contribute significantly to the local economy. The City is also a regional shopping hub with several “big box” retailers not found elsewhere in the south coast area.

According to 2019 U.S. Census Bureau data, the City is home to 32,413 residents. This population is projected to grow to 34,884 residents by 2050 (SBCAG 2018). The average household size in the City is 3.73 and the median household income is \$92,195. Approximately 51.8 percent of City of Goleta residents identify as White, 34.7 percent identify as Hispanic, and 13.5 percent identify as Asian, Black, Mixed, or Other (US Census Bureau 2019)

4.2 KEY DEPARTMENTS

The following is a summary of existing departments in Goleta and their responsibilities related to hazard mitigation planning and implementation, as well as existing planning documents and regulations related to mitigation efforts within the community. Specific resources reviewed include

those involving technical personnel such as planners/engineers with knowledge of land development and land management practices, engineers trained in construction practices related to building and infrastructure, planners and engineers with an understanding of natural, floodplain managers, surveyors, personnel with GIS skills and scientists familiar with hazards in the community. The organizational chart below presents the structure of the City’s government:



4.2.1 Goleta City Council

- Provides a vision, adopts policies and regulations, and approves funding requests/budgets over all aspects of City government

4.2.2 Goleta City Manager’s Office (Office of Emergency Services)

- Provides the leadership and supervision that, in turn, implements the policies and decisions of the Goleta City Council, thereby ensuring the delivery of services to the community. The City Manager oversees law enforcement and acts as a liaison to the County Fire District.
- City Manager serves as OEM Director. As noted above, Goleta is a relatively new city and has employed a full-time emergency management staff member since October 2018. The City Neighborhood Services Department is responsible for emergency preparedness and EOC operations and will be responsible for the implementation of emergency management programs for the City. Currently, Fire and Law Enforcement services are contracted through Santa Barbara County Fire and the Santa Barbara County Sheriff’s Office.
- Various staff within the City Manager’s Office, Public Works Department, and Neighborhood Services Department prepare grant applications for the City.

4.2.3 City of Goleta Finance Department

The Finance Department will have a role in the implementation of the actions identified in this plan:

- Provides services associated with cost tracking and financial management of Grant Funded and other capital improvement projects.
- Assures all aspects of City financing, funding, and expenditures are within legal, prescribed guidelines and regulations. The Department tracks and audits expenditures.

4.2.4 City of Goleta Planning and Environmental Review Department (includes Building Inspection, Code Enforcement andGIS)

- The Department is responsible for updating the City's General Plan and Coastal Land Use Plan.
- Guides the physical development of the City through the implementation of the General Plan/Coastal Land Use Plan, Zoning Code and Building Codes and is committed to enhancing the quality of life in the community by planning for sound infrastructure and public services, protecting the environment, and promoting high quality social and economic growth.
- Enforces Title 17 Zoning of the Goleta Municipal Code.
- Implements and/or enforces programs, plans, ordinances, and policies of the City over a wide range of activities related to code enforcement.
- Regulates land uses and land development under plans, policies, and regulations adopted by the City Council. Enforces local, state, and federal requirements for land development, building construction, and specific uses. Recommends additions and revisions to existing ordinances, plans, and policies when necessary.

4.2.5 Public Works/Engineering/Parks and Open Space Maintenance

- Enforces Floodplain Management Ordinance
- Oversee flood control and infrastructure development and improvement projects
- Provides a variety of engineering services including the review and inspection of privately constructed public facilities, infrastructure, and subdivisions; design and inspection of publicly funded infrastructure improvements; management and monitoring of existing and projected traffic conditions throughout the City; preparation of the City's long-term Capital Improvement Program. Engineering also provides fiscal management for the City's Parks and Open Space Maintenance, Community Facility Districts, and Development Impact Fees (currently only transportation impact).
- Implements and enforces programs, plans, policies, and regulations over land development and redevelopment to assure adequate and maintainable infrastructure.
- Public Works Department, Public Works Operations is a first responder in disaster emergencies.

4.2.6 City of Goleta Public Safety –Police Services

Through a contract with the County, the Sheriff's Department protects the community through the enforcement of laws and the analysis/reduction/elimination of risks and, in times of emergency, provides for the orderly and rapid implementation of emergency plans. The Sheriff's Department is a first responder in natural and manmade emergencies.

4.2.7 City of Goleta Public Safety – Fire Services

- The City's fire services are covered through the Santa Barbara County Fire Protection District. The County Fire Department serves and safeguards the community through a professional, efficient, and effective system of services, which protect life, environment, and property.
- Implements programs, policies, and regulations over a wide range to reduce the loss of life, environment, and property. The Fire Department is a first responder in natural and manmade emergencies.

4.3 ADMINISTRATIVE AND TECHNICAL CAPACITY

The administrative and technical capabilities of the City, as shown in Table 4-1, include staff, personnel, and department resources available to implement the actions identified in Section 7.0, Mitigation Plan of this LHMP. Specific resources reviewed include those involving technical personnel such as planners/engineers with knowledge of land development and land management practices, engineers trained in construction practices related to building and infrastructure, planners and engineers with an understanding of natural or manmade hazards, and floodplain managers. The City's department heads multitask in many areas. The City of Goleta has an Emergency Services Coordinator position to oversee all factors of Emergency Management within the City.

Table 4-1. City of Goleta Administrative and Technical Capacity

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	Public Works Department
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Public Works Department
Planner/engineer/scientist with an understanding of natural hazards	Yes	Public Works Department
Personnel skilled in GIS	Yes	Planning and Environmental Review
Full-time building official	Yes	Contractor, Willdan in Planning and Environmental Review
Floodplain manager	Yes	Public Works Department

Personnel Resources	Yes/No	Department/Position
Emergency manager	Yes	Neighborhood Services Department
Grant writer	Yes	Neighborhood Services & Public Works Departments
Other personnel	N/A	
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	Planning and Environmental Review / Contractor
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)	Yes	City Manager's Office (PIO)
Other	N/A	

4.4 LEGAL AND REGULATORY CAPABILITIES

The legal and regulatory capabilities of the City are shown in Table 4-2, including existing ordinances and codes that affect the physical or built environment of Goleta. Examples of legal and/or regulatory capabilities can include the City's building codes, zoning ordinances, subdivision ordinances, special purpose ordinances, growth management ordinances, site plan review, general plans, capital improvement plans, economic development plans, emergency response plans, and real estate disclosure plans.

Table 4-2. City of Goleta Legal and Regulatory Capability

Regulatory Tool (ordinances, codes, plans)	Yes/No
General Plan	Yes
Zoning ordinance	Yes
Subdivision ordinance	Yes
Growth management ordinance	No
Floodplain ordinance	Yes
Other special-purpose ordinances (stormwater, steep slope, wildfire)	Yes, Community Wildfire Protection Plan
Building code	Yes
Fire code	Yes
Fire department ISO rating	Through a contract with Santa Barbara County Fire Department
Erosion or sediment control program	Yes
Stormwater management program	Yes
Site plan review requirements	Yes

Regulatory Tool (ordinances, codes, plans)	Yes/No
Capital improvements plan	Yes
Economic development plan	Yes
Local emergency operations plan	Yes
Other special plans	
Flood insurance study or other engineering studies for streams	Yes
Elevation certificates (for floodplain development)	Yes

4.5 FINANCIAL RESOURCES

Goleta's FY 2020-2021 General Fund revenue increased over the prior year's (2019-2020) budget from \$28.35 million to \$28.80 million. The Fiscal Year 2020-2021 General Fund budget included over \$11.7 million for General Government, Neighborhood & Public Safety Services, and Planning and Environmental Services. The General Fund balance is an important element that can show Goleta's financial strength.

Table 4-3 shows specific financial and budgetary tools available to the City such as community development block grants; capital improvements project funding; authority to levy taxes for specific purposes; fees for water, sewer, gas, or electric services; ability to incur debt through general obligations bonds; and withholding spending in hazard-prone areas.

Table 4-3. City of Goleta Fiscal Capability

Financial Resources	Accessible or Eligible to Use (Yes/No)	Has This Been Used for Mitigation in the Past?	Comments
Community Development Block Grants (CDBG)	Yes	Yes	San Jose Creek Flood Control Project
Capital improvements	Yes	Yes	
Authority to levy taxes for specific purposes	Yes	No	
Fees for water and sewer service	Yes	No	
Incur debt through general obligation bonds	No	No	
Incur debt through special tax bonds	No	No	

Financial Resources	Accessible or Eligible to Use (Yes/No)	Has This Been Used for Mitigation in the Past?	Comments
Incur debt through private activity bonds	No	No	
Federal Grant Programs (Hazard Mitigation Grant Program)	Yes	Yes	

4.6 EDUCATION AND OUTREACH CAPABILITIES

This type of local capability refers to education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Examples include natural disaster or safety-related school programs; participation in community programs such as Firewise or StormReady; and activities conducted as part of hazard awareness campaigns such as an Earthquake Awareness Month (February each year), National Preparedness Month (September), or the Great California ShakeOut (a statewide earthquake drill that happens annually on the third Thursday of October). The City can capitalize on its existing educational capacities, even non-hazard related such as school partnerships, and build new capabilities to educate the larger community on hazard risk and mitigation options.

In addition to the countywide resources described in Section 4.2.5, *County Education and Outreach Capabilities*, the City conducts community outreach to its citizens on special events and community information updates. Information about community hazards and actions is provided on the City’s website and social media platforms.

4.7 RELEVANT PLANS, POLICIES, AND ORDINANCES

The City has a range of guidance documents and plans for each of its departments. These include a general plan, public works, and public utility plans, capital improvement plans, and emergency management plans. The City uses building codes, zoning ordinances, subdivision ordinances, and various planning strategies to address how and where development occurs. One of the essential ways the City guides its future is through policies laid out in the General Plan/Coastal Land Use Plan. The LHMP directly informs these plans and is used to evaluate the need for adjustments or updates to existing plans and programs. The City considers the LHMP’s assessment of capabilities, hazards, and vulnerabilities to inform planning, capital improvements, programs, decision-makers, and the public. The City also implements mitigation actions through the City’s general plan, capital improvement program, maintenance programs, grant programming, community outreach, and budget process.

4.7.1 City of Goleta Economic Development Strategic Plan

Goleta’s Economic Development Strategic Plan (“EDSP”) seeks to accomplish two primary goals: job creation and job retention. It attempts to leverage local strengths and capitalize on local opportunities. Its goals are to create a diverse employment base and a balanced approach to economic development; to establish a plan to increase tourism; to improve access to financial capital

and human resources; to establish the City of Goleta as a “green tech” and sustainable community; to increase and expand local partnerships; to continue to improve and enhance the City’s permitting process; and to focus economic development on Old Town and update the Old Town Revitalization Plan. The Plan also guides decisions related to land use and economic development and outlines strategies to retain, enhance and expand the City’s business base.

Amongst the many themes within the General Plan, *Protecting Health and Safety* is most relevant toward striving to maintain the environments necessary to minimize health and safety hazards – including hazardous materials, flooding, geological hazards, and excessive noise. Similar to the Strategic Plan, the Economic Development Plan acknowledges the need to re-invest in and to revitalize Old Town. Its goal is to secure funding to complete the San Jose Creek Flood Control Project since the existing infrastructure inhibits economic development efforts. Moreover, it justifies such an investment by proposing that the additional loan, insurance costs, and requirements create a difficult re-investment environment. The Economic Plan also emphasizes the need to work with the County Flood Control District to explore additional funding options to create improvements to the San Jose Flood Control Channel and other similar projects.

In summary, by providing an economic perspective on the need to reduce areas susceptible to hazards – such as floods – greater impetus may be delivered for the funding of such mitigation projects. This would result in a more attractive economic environment, which would, in turn, result in the revitalization of Old Town. The last EDSP was completed in 2009, and the City is in the process of updating the document.

4.7.2 City of Goleta Emergency Operations Plan and Threat Analysis

The City of Goleta recognizes that the planning process must address each hazard that threatens the City and addressed major threats in a December 2021 revised plan. There are three broad categories of hazards: natural, technological or man-made, and national security. The section of the Emergency Operations Plan consists of a series of threat assessments, which individually or jointly could require evacuation and/or sheltering of the population. They are:

Earthquake. Within the larger jurisdictional area of Santa Barbara County – which includes the City of Goleta- numerous faults are located both on- and off-shore. The economic impact on the City would be considerable in terms of loss of employment and loss of tax base. Expected ramifications include long-term homelessness, significant disruptions to business and local commerce, and reduced government resources. Damages are expected along U.S. Highway 101, State Route-154, Highway 150, Santa Barbara airport, local railroads, harbor facilities, and other critical facilities and utilities.

When notified of a short-term earthquake prediction, the area at risk is responsible to inform all cities within the County. (A notification procedure is listed in the EOP). Resources would then be concentrated in this area. Agencies would inspect and prepare those facilities and systems which are essential to conduct emergency operations, advise and provide guidance to the public on precautions, and take any other precautions necessary.

Hazardous Material. The increasing volume and variety of hazardous materials that are generated, stored, or transported within Santa Barbara County is a problem of great concern to public officials and the community. The threat of a major hazardous material incident in Santa

Barbara County exists from four different sources. These are commercial vehicles, rail and air transportation, pipeline, fixed facility, and clandestine dumping. With regards to emergency response actions, the authority is vested in the Santa Barbara County Certified Unified Program Agency, or CUPA, which is the agency responsible for the development and implementation of the Santa Barbara County Hazardous Materials Emergency Response Plan. The Santa Barbara County Area Plan includes information on agency responsibilities, evacuation procedures, cleanup funding, emergency medical resources, as well as an inventory of supplies and communications equipment.

Flooding. The Goleta Valley is subject to flooding from the overflow of local streams, which along with their respective evacuation routes are identified through flood maps. Although there are nine major dams in Santa Barbara County with known populations in their inundation areas, the City of Goleta did not identify dam failure as a major threat to its population.

Wildfire. Annually, the County experiences fires that often burn “out of control” and can damage the watershed and structures. County, city fire departments, State and federal agencies have developed emergency response actions associated with wildfire disasters. Copies of these plans are on file in the City of Goleta’s Emergency Operating Center.

Hydrogen Sulfide. Hydrogen sulfide is a gas that can cause odors from natural seeps, well drilling, agricultural irrigation, and oil industry activities. Exposure can cause respiratory symptoms and can eventually be fatal.

4.7.3 City of Goleta Municipal Codes for Flood Risk

The City of Goleta participates in the National Flood Insurance Program. To minimize the risk of flooding, the City of Goleta has alerted property owners that the Flood Plain Management Ordinance applies to their property. It intends to avoid exposing new development to flood hazards. As part of this strategy, the Flood Hazard Overlay Map is developed, which reflects the boundaries of special flood hazard areas as shown on the current Federal Emergency Management Agency (FEMA) maps on file with the office of the City Clerk. Whether or not any proposed development is subject to the provisions of Chapter 15.10, Floodplain Management, of the Goleta Municipal Code, is determined by the City’s Public Works Director.

Various municipal codes refer to flood risk, including:

GMC 15.10.020 Findings of Fact. This municipal code acknowledges flood hazard areas and the potential impact on the City of Goleta. It states the potential losses include loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base. It also acknowledges that flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities.

GMC 15.10.030 Statement of Purpose. This refers to the purpose of Chapter 15, which is to promote public health, safety, general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed: to protect human life and health; to minimize publicly funded expenditures; to help maintain a stable tax base with minimal interruption to business; and to inform buyers of flood hazard areas.

GMC 15.10.040 Methods of Reducing Flood Losses. This section includes provisions for restricting uses dangerous to health, safety, and property due to water or erosion hazards, which may result in increases in erosion or flood heights or velocities; requiring that uses vulnerable to floods are protected against flood damage; controlling the alteration of natural floodplains, stream channels, and natural protective barriers which help accommodate or channel flood waters; controlling filling, grading and dredging which may increase flood damage; and preventing or regulating the construction of flood barriers which will unnaturally divert flood water or which may increase flood hazards in other areas.

GMC 15.10.070 Basis for Establishing the Areas of Special Flood Hazard. This section states that all areas of special flood hazard identified by the Federal Insurance Administration of the Federal Emergency Management Agency in the Flood Insurance Study dated September 1978 and the Flood Insurance Rate Map (FIRM), dated March 15, 1979, and all subsequent amendments and/or revisions, are adopted.

GMC 15.10.220 Coastal High Hazard Areas. Requirements for new construction along coastal high hazard areas are listed in this section. Primarily, it states that all new developments and substantial improvements within these areas be elevated on adequately anchored pilings or columns, with the lowest horizontal structural member being at or above the base flood level. Furthermore, it requires that new construction be located landward of the reach of mean high tide; excavation of dunes is not permitted; and structural support cannot be defined by fill. The floodplain administrator would obtain and maintain structure certification with section 15.10.220.A.

GMC 15.10.160 Standards of Construction. This section provides details on the structural requirements to minimize flooding. They include standards for anchoring and elevations as adopted by the jurisdiction, the Federal Insurance Administration, and the Federal Emergency Management Agency.

4.7.4 Repetitive Loss Properties

Repetitive loss properties are defined as property that is insured under the NFIP that has filed two or more claims over \$1,000 each within any consecutive 10-year period since 1978. The City is unaware of any repetitive loss properties within the City of Goleta.

4.7.5 City of Goleta Stormwater Management Plan

In the State of California, the State Water Resources Control Board (SWRCB) and the various Regional Water Resource Control Boards (RWRCBs) implement mandates of the Federal Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) permit program. During one of their studies, the SWRCB determined that urban runoff is a leading cause of pollution through the state and a contributor to pollutants of concern (POC), such as nutrients, pathogens, hydrocarbons, metals, trash, and pesticides to waterways. In compliance with various federal and state requirements, the City as a municipality and operator of a separate stormwater system (MS4) has prepared the Stormwater Management Plan (SWMP) to guard against the detrimental effects on human health and the surrounding ecosystems.

The City's SWMP was approved by the Central Coast Regional Water Quality Control Board (CCRWQCB) (Water Board) on February 4, 2010. The goal of the SWMP for the City of Goleta

is to reduce the discharge of storm water pollutants into water bodies and to protect and improve water quality within the city.

Illicit Discharge and Detection and Elimination

The goal of this control measure is to identify and eliminate sources of illicit discharge and illegal dumping. The BMPs proposed by the City of Goleta include mapping of the storm drainage system and the adoption of a new storm water discharge ordinance that will address all forms of illicit discharges, including all animal waste, and/or waste disposal which affect water quality.

Construction Site Runoff Control

The purpose of construction site runoff controls is to prevent soil and construction waste from entering storm water. It is required that construction sites implement best management practices and emergency response plans in order to protect surrounding creeks and watersheds.

Post-Construction Stormwater Management in New Development and Redevelopment

One of the most effective ways to reduce pollution from urban runoff is through Low Impact Development (LID) design strategies. Once a project is built, it is complex and expensive to correct runoff problems. The goal of the program is to integrate basic and practical storm water management techniques into new development and redevelopment projects to protect water quality.

The City of Goleta will also develop regional watershed management plans. Regional watershed management plans will decrease pollution from development and will help decrease pollution from any debris generating events. Pollution Prevention/Good Housekeeping for Municipal Operation

The City examines any actions that will reduce the amount and type of pollution that 1) collects on public streets, open spaces, storage areas, and infrastructure that is discharged into local waterways; and 2) results from actions that may environmentally damage land development and flood management practices or affect the maintenance of storm and sewer systems. Performing proper and timely maintenance on storm water systems may allow the City to avoid costly repairs from age and neglect.

In summary, though these new standards reflect the compliance of water quality standards by the City of Goleta, their effects are also translated into a reduction of flood risk. This is evidenced through stormwater drainage maintenance and repair, public outreach efforts on pollution and overall stormwater events, and the development of new pre- and post-construction regulations. Alongside pollution prevention controls and good housekeeping, it is expected that not only would residents be better protected from contaminated waters, but it would also establish the best management practices that would minimize the risk of flooding.

Full Trash Capture

The purpose of this program is to prevent all trash pollution from entering City watersheds and creeks through installation of full trash capture systems or equivalent measures such as cleanup programs, litter removal, and more.

4.7.6 City of Goleta Strategic Plan and Capital Improvement Plan

The City of Goleta's Strategic Plan is used as an important organization and management tool to help establish priorities, connect staff actions to Council goals, and inform the public of the City's vision for the community.

The 2019-2021 Strategic Plan includes safety objectives such as continuing CERT training and reviewing current evacuation plans and procedures. Goals include increasing visibility for pedestrian and traffic safety and improving fire service response times.

4.7.7 City of Goleta General Plan/Coastal Land Use Plan

Safety Element

The City of Goleta has adopted several policies identified in the Safety Element in the Goleta General Plan. **The LHMP is incorporated by reference in the Safety Element.** The City of Goleta's primary objectives are to avoid siting of development or land use activities in hazardous areas, and if required, apply appropriate mitigation measures to lessen or minimize exposure to hazards. Additional significant Safety Element objectives include:

- Minimizing the risk of potential short- and long-term hazards associated with the operation of the Venoco Ellwood facilities and other oil and gas extraction, processing, and transportation facilities.
- Attaining a high level of emergency preparedness to limit damage and risks to public safety from natural and industrial hazards and to have effective and efficient emergency recovery procedures in place to minimize social, environmental, and economic disruption following an emergency.
- Working with the City of Santa Barbara to minimize the risk of potential hazards associated with aircraft operations at the Santa Barbara Airport.
- Minimizing the potential for loss of life, property, economic and social disruption resulting from earthquakes or seismically induced hazards through the adoption of updated California Building Code requirements and requiring geotechnical studies for new construction where appropriate.

Land Use Element

The Land Use Element of the General Plan suggests that the City would like to concentrate development within the City limits and the Urban Growth Boundary line. Its Sphere of Influence is **coterminous** with the City Limits and Urban Growth Boundary. Therefore, growth patterns in the near future would be infill. The preference of not expanding the Sphere of Influence is mandated in the General Plan so that agricultural, watershed and open space lands are not prematurely or unnecessarily converted to other non-agricultural or non-open space uses without public debate and a vote of the people. The protection of such lands not only ensures the continued viability of agriculture, but also contributes to flood control and protection of wildlife, environmentally sensitive areas, and irreplaceable natural resources.

The Land Use Element contains several policies that promote hazard mitigation. New development is restricted from areas where natural conditions are likely to pose a substantial threat to public

safety or produce excessive maintenance costs. To ensure all residents do not lack necessary utilities, all new development is not allowed unless adequate public services are available to serve the development. The City will also investigate the potential for changing land use designations and zoning districts for properties subject to flooding and with limited access to open space as needed through amendments to the Land Use Element as needed. As part of this LHMP update, there have been no changes to land use vulnerabilities that would require amendments to the Land Use Element.

Since the last update of the City's LHMP in 2017, the City adopted a new zoning code in March 2020. During that process, Goleta's Planning and Environmental Review Department reviewed land use and population data and found no significant changes have occurred relative to the City's vulnerability to hazards. Some additional measures were put into place such as stream-side protection requirements that would reduce flood hazards. Among other changes were additional protection relative to airport safety. For example, within the approach zone certain uses were prohibited such as storage of hazardous materials.

Further, minimal development has occurred consistent with the adopted Land Use Element and has primarily compromised infill development and redevelopment within the City limits. There has been no expansion of the City boundary or its Sphere of Influence (SOI) and no comprehensive changes to the Land Use Element that would result in substantial densification. As a result, the City's level of vulnerability to hazards analyzed in Section 6.0, Vulnerability Assessment, has not substantially changed due to land use, development, or population growth.

4.8 OPPORTUNITIES FOR MITIGATION CAPABILITY IMPROVEMENTS

The City continuously strives to mitigate the adverse effects of potential hazards through its existing capabilities while also evaluating the opportunities for improvements. Based on the capability assessment, the City has existing regulatory, administrative/technical, education/outreach, and fiscal mechanisms in place that help to mitigate hazards. In addition to these existing capabilities, there are opportunities for the City to expand or improve on these policies and programs to further protect the community:

- **Regulatory Opportunities:** As part of this update, the City will comply with AB 2140 by amending its Safety Element to incorporate the LHMP by reference. The City will consider the LHMP in policy, land use plans, and programs, including wildfire management and coastal hazard and sea level rise planning.
- **Administrative/Technical Opportunities:** The City continues to improve its resilience to ensure emergency response operations are sustained during a hazardous event, including improvements to public safety facilities and planning. The City aims to improve its resilience to ensure emergency response operations are sustained during a hazardous event, including seismic upgrades to critical facilities such as the Goleta Community Center, updating its Community Wildfire Protection Plan (CWPP), and developing a new fire station in western Goleta to improve emergency response. The City aims to address hydrologic issues through continued improvements to its drainage and stormwater management infrastructure. Enhancements to hazard training for staff in partnership with the County and other agencies or

stakeholders would improve the City's ability to mitigate hazards with the latest knowledge and resources.

- **Outreach Opportunities:** Enhanced community outreach, emergency notifications, and trainings would further enhance the City's capabilities to respond to and recover from hazards. The City could expand outreach through digital tools such as social media, participate in the Great California ShakeOut, and increase FireWise outreach events and media coverage. Community outreach especially to the City's Spanish-speaking population, emergency notifications, and trainings would further enhance the City's capabilities to respond to and recover from hazards.
- **Fiscal Opportunities:** The City can update its CIP to include hazard mitigation actions from the LHMP and related documents such as Economic Development Strategic Plan. The City will continue to seek grants (e.g., HMGP, BRIC) to fund these CIP projects and related projects in the City's mitigation strategy. The City can seek opportunities to partner with the County and/or other stakeholder agencies in grant applications to address regional hazards more effectively. The City could also consider expanding its fiscal capabilities through its annual budget process and other revenue measures (e.g., raising taxes, property assessments, bonds).

5.0 HAZARD ASSESSMENT

5.1 OVERVIEW

The purpose of this section is to review, update, and/or validate the hazards identified for the 2022 City of Goleta LHMP. The intent is to confirm and update the description, location and extent, and history of hazards facing the City now and in the future. This assessment also considers the potential exacerbating effects of climate change. The importance of this review is to ensure that decisions and mitigating actions are based on the most up-to-date information available.

Another purpose of this section is to screen the hazards to determine their relative probability and severity to inform the risk posed to various communities and resources. This assessment will provide an understanding of the significance by ranking hazards by their priority in the City.

In 2021, the MAC reviewed and revised 1) the list of hazards by community or geographic area; 2) the information and material presented for each hazard; and 3) the prioritization of the hazards. The City refined the list of hazards applicable to the City and confirmed the hazard prioritization. The following sections provide the results of this effort.

5.2 HAZARD SCREENING/PRIORITIZATION

The Hazard Assessment presented here reflects the City's 2022 review and modifications to the updated risk assessment presented in Chapter 5.0, *Hazard Assessment*, and Chapter 6.0, *Vulnerability Assessment* of the 2022 MJHMP. Applicable hazard information from the City's 2017 LHMP was incorporated during the development of this section. A comprehensive treatment of hazards and their descriptions may be found in Chapter 5.0 of the Santa Barbara County 2022 MJHMP.

The potential extent, probability, frequency, and magnitude of future occurrences were all used to identify and prioritize the list of hazards most relevant in the City. The City LPT completed the Plan Update Guide to rank the hazards and identify key hazards to help inform this assessment (Appendix A). As summarized in Table 5-1, the local priority hazards in the City are based on the screening of frequency/probability of occurrence, geographic extent, potential magnitude/severity of the hazard, and overall significance. Local experience, MAC/LPT input, and community feedback also informed the assessment of local priority hazards. After reviewing the localized hazard maps and exposure/loss assessment provided in the 2022 MJHMP, the following hazards were identified by the Goleta LPT as their top priorities (Appendix A). A brief rationale for each hazard is included below. This assessment of key hazards in the City is provided in addition to the 2022 MJHMP’s comprehensive assessment of regional hazards that may affect the City.

Table 5-1. City of Goleta Local Priority Hazards

Hazard Type and Ranking	Score	Planning Consideration Based on Hazard Level
Wildfires	11	Significant
Earthquakes	11	Significant
Flooding	9	Moderate
Coastal Hazards	4	Low
Tsunamis	4	Low

To continue compliance with the DMA of 2000, the City accepts the County’s natural hazard profiles presented in Chapter 5.0, *Hazard Assessment* with the following notes and refinements or elaborations provided specifically for the City in subsections below. After reviewing the County’s hazard ranking, the City’s LPT decided to remove several hazards (e.g., windstorm, hailstorm, tornado, oil spill, terrorism, civil disturbance, etc.) from the detailed analysis given the low significance of these hazards for the City. The remaining hazards were ranked based on the planning consideration for them, and it was decided that Wildfires Earthquakes, and Flooding all required significant planning consideration, while Coastal Hazards and Tsunamis only require limited planning consideration. Based on these rankings, the City’s LHMP focuses on the most significant hazards facing the community: Wildfires, Earthquakes, Flooding and to a lesser extent, Coastal Hazards and Tsunamis. While other hazards (including Agricultural Pests, Aircraft Crash, Civil Disturbance, Cyber Threat, Dam Failure, Drought, Energy Shortage & Resiliency, Extreme Heat/Freeze, Geologic Hazards, Hazardous Material Releases, Invasive Species, Landslides, Mudflow and Debris Flow, Natural Gas Pipeline Rupture and Storage Facility Incidents, Oil Spills, Pandemic/Public Health Emergencies, and Train Accidents) have the potential to occur within the City, these hazards are covered in greater detail in the 2022 MJHMP.

For example, the City identified power outages/public safety power shutoffs as a potential hazard in the City. The most recent public safety power shutoffs in the City occurred on January 18, 2021, and are likely to happen again as Southern California Edison improves its infrastructure and wildfire conditions become year-round concerns. Power outages can be life-threatening for residents that rely on life-sustaining technology like oxygen concentrators. Power is often shut off during high heat weather events and other natural hazard events, such as wildfire and flood. Power outages and

public safety power shutoffs would threaten residents that are sensitive to heat. This hazard is discussed further in section 5.6.1, *Energy Shortage and Resiliency*, within the MJHMP.

5.3 WILDFIRE

5.3.1 Description of Hazard

Wildfires can be classified as either a wildland fire or a wildland-urban interface (WUI) fire. The former involves situations where wildfire occurs in an area that is relatively undeveloped except for the possible existence of basic infrastructures such as roads and power lines. A WUI fire includes situations in which a wildfire enters an area that is developed with structures and other human developments. In WUI fires, the fire is fueled by both naturally occurring vegetation and the urban structural elements themselves. According to the National Fire Plan issued by the U.S. Departments of Agriculture and Interior, the wildland-urban interface is defined as “...the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.” WUI areas in the City include developed single-family neighborhoods immediately adjacent to the foothills of the Santa Ynez Mountains and Los Padres National Forest (refer to Figure 5-2 of the MJHMP).

Certain conditions must be present for a wildfire hazard to occur; a large source of fuel must be present, the weather must be conducive (generally hot, dry, and windy), and fire suppression sources must not be able to easily suppress and control the fire. The cause of a majority of wildfires is human-induced or lightning; however, once burning, wildfire behavior is based on three primary factors: fuel, topography, and weather. Fuel will affect the potential size and behavior of a wildfire depending on the amount present, its burning qualities (e.g., level of moisture), and its horizontal and vertical continuity. Topography affects the movement of air, and thus the fire, over the ground surface. The terrain can also change the speed at which the fire travels, and the ability of firefighters to reach and extinguish the fire. Weather as manifested in temperature, humidity, and wind (both short and long term) affect the probability, severity, and duration of wildfires. The climate, topography, and vegetation in Santa Barbara County are conducive to wildfires.

5.3.2 Location and Extent of Hazard in the City of Goleta

Santa Barbara County Fire has synthesized data at a more local level to convey communities at risk. To help protect people and their property from potential catastrophic wildfire, the National Fire Plan directs funding to be provided for projects designed to reduce the fire risks to communities. A fundamental step in achieving this goal was the identification of communities that are at high risk of damage from wildfire. These high-risk communities identified within the WUI were published in the Federal Register in 2001. At the request of Congress, the Federal Register notice only listed those communities neighboring federal lands. The list represents the collaborative work of the 50 states and five federal agencies using a standardized process, whereby states were asked to submit all communities within their borders that met the criteria of a structure at high risk from wildfire. The list of federally regulated (communities that adjoin federal lands) communities at risk within Santa Barbara County includes the City of Goleta.

The City of Goleta ranked the wildfire hazard as being a significant planning concern for the City. For example, Goleta has significant fire risk due to the invasive Eucalyptus trees in open spaces and existing development along the foothills creating a significant wildland-urban interface area. A complete description of wildfire hazards within the County is provided in Section 5.3.1 of the MJHMP.

5.3.3 History of Hazard in the City of Goleta

Because Santa Barbara County is prone to wildfires, there is a long history of wildfires in the County. However, not all of these fires threatened the City of Goleta. Over the last ten years, Santa Barbara County experienced 9 major fires. Three of these fires had the potential to impact the City of Goleta (refer to Figure 5-4 of the MJHMP):

- The Alisal Fire in 2021 burned 16,970 acres, shut down Highway 101, and forced dozens of people to evacuate. The fire destroyed 12 homes and damaged one other. OEM issued an evacuation order for about 300 residents in the Alisal Fire burn area (CBS Los Angeles 2021).
- The Whittier Fire in 2017 burned over 18,000 acres above Camp Whittier on the north slope of the Santa Ynez near Lake Cachuma primarily within the Los Padres National Forest and private ranchlands. The fire was active for 167 days. In total, 16 homes and 30 outbuildings were destroyed. One home and six outbuildings were damaged. Thousands of campers in and around the Cachuma Lake Recreation area and nearby Paradise Road had to flee, leaving eerie ghost towns of pitched tents and picnic lunches on the tables as they fled (Santa Maria Times 2021).
- The Sherpa Fire burned over 7,400 acres in Santa Barbara County, west of Goleta, for 27 days (National Interagency Fire Center 2021). The blaze prompted evacuation orders for El Capitan and Refugio State Beaches as well as for the ranches in El Capitan Canyon. The fire destroyed the water system for El Capitan State Beach, which remained closed for weeks. At the peak of the fire, 2,000 firefighters were on site to try to contain the fire (Santa Maria Times 2021).
- The Holiday Fire burned 113 acres in July of 2018. The fire highly impacted Goleta with residents being evacuated north of Patterson and Cathedral Oaks. The direct impacts associated with the fire led to the creation of the Emergency Services Coordinator position within the City. The cause of the fire was due to a combination of strong sundowner winds, unkept vegetation, and electrical utility equipment.
- The Gap Fire burned almost 10,000 acres and began to the northeast of Goleta in 2008. 5,000 people would be displaced due to evacuation orders, and 150,000 Southern California Edison customer were without power.

5.3.4 Probability of Occurrence

Vegetation and topography are significant elements in the identification of the fire threat zones. A substantial amount of the vegetation in Santa Barbara is commonly called chaparral, it is a dense and scrubby bush that has evolved to persist in a fire-prone habitat. Chaparral plants will

eventually age and die; however, they will not be replaced by new growth until a fire rejuvenates the area. Chamise, manzanita, and ceanothus are all examples of chaparral which are quite common in Santa Barbara County and the foothills above Goleta.

Santa Barbara County was subject to 42 major wildfires over 88 years, resulting in a 48 percent chance of occurrence in any given year. Fire threat is a combination of two factors: 1) fire frequency or the likelihood of a given area burning, and 2) potential fire behavior. These two factors are combined to create four threat classes ranging from Moderate to Extreme. While the probability for the City of Goleta is likely lower due to the Pacific Ocean to the south and agricultural orchards to the north, the threat remains Moderate. However, portions of western Goleta are adjacent to High and Very High threat areas.

5.3.5 Climate Change Considerations

Climate change plays a significant role in wildfire hazards. The changing conditions from wet to dry can create more fuel; the increased possibility of high winds increase risk and present a challenge, and drought conditions could hinder the ability to contain fires. Large wildfires also have several indirect effects beyond those of a smaller, local fire. These may include air quality and health issues, road closures, business closures, and other forms of losses. Furthermore, large wildfires increase the threat of other disasters such as landslides and flooding.

5.4 EARTHQUAKE & LIQUEFACTION

5.4.1 Description of Hazard

The City of Goleta ranked the earthquake hazard as being a significant planning concern for the City. An earthquake is caused by a release of strain within or along the edge of the Earth's tectonic plates producing ground motion and shaking, surface fault rupture, and secondary hazards, such as ground failure. The severity of the motion increases with the amount of energy released decreasing with distance from the causative fault or epicenter and is amplified by soft soils. After just a few seconds, earthquakes can cause massive damage and extensive casualties.

Most people are familiar with the Richter scale, a method of rating earthquakes based on strength using an indirect measure of released energy. The Richter scale is logarithmic. Each one-point increase corresponds to a 10-fold increase in the amplitude of the seismic shock waves and a 32-fold increase in energy released. For example, an earthquake registering 7.0 on the Richter scale releases over 1,000 times more energy than an earthquake registering 5.0.

Table 5-2. Richter Scale

Richter Magnitudes	Earthquake Effects
Less than 3.5	Generally not felt but recorded.
3.5-5.4	Often felt, but rarely causes damage.

Richter Magnitudes	Earthquake Effects
5.5-6.0	Slight damage to well-designed buildings. Can cause major damage to poorly constructed buildings over small regions.
6.1-6.9	Can be destructive in areas up to about 100 kilometers across residential areas.
7.0-7.9	Can cause serious damage to larger areas.
8 or greater	Can cause serious damage in areas several hundred kilometers across.

Peak ground acceleration (PGA) is a measure of the strength of ground shaking. Larger peak ground accelerations result in greater damage to structures. PGA is used to depict the risk of damage from future earthquakes by showing earthquake ground motions that have a specified probability (10%, 5%, or 2%) of being exceeded in 50 years return period. These values are often used for reference in construction design, and in assessing relative hazards when making economic and safety decisions.

Liquefaction is the phenomenon that occurs when ground shaking causes loose, saturated soils to lose strength and act as a viscous fluid. Liquefaction causes two types of ground failure: lateral spread and loss of bearing strength. Lateral spreads develop on gentle slopes and entail the sidelong movement of large masses of soil as an underlying layer liquefies. Loss of bearing strength occurs when the soil supporting structures liquefy, causing the structures to settle; resulting in potential damage.

5.4.2 Location and Extent of Hazard in the City of Goleta

As previously mentioned, Santa Barbara County is located in a high seismic activity zone in the Transverse Range geologic province. The movement of continental plates manifests primarily on the San Andreas Fault system. The San Andreas Fault is situated seven miles northeast of Santa Barbara County; active faults in the San Andreas Fault system that fall within Santa Barbara County include the Nacimiento, Ozena, Suey, and Little Pine faults. Other active faults in the region include the Big Pine, Mesa, Santa Ynez, Graveyard-Turkey Trap, More Ranch, Pacifico, Santa Ynez, and Santa Rose Island faults. The Santa Barbara County Comprehensive Plan Seismic Safety and Safety Element provides descriptions of all faults in Santa Barbara County. This list includes historically active, active, potentially active, and inactive faults, as well as their location and fault length. Maps included in this plan are based on data provided by the County of Santa Barbara, consistent with the MJHMP that this report is an annex to. Actual shaking during an earthquake will vary depending on the location and nature of the fault rupture. Figure 5-1 shows the probability of areas of the county experiencing 2 percent shaking within the next 50 years. These values are often used for reference in construction design, and in assessing relative hazards when making economic and safety decisions.

After earthquakes, some regions may be prone to liquefaction. On level ground, liquefaction results in water rising to the ground surface. On sloping ground, liquefaction will usually result in slope

failure such as the event at the Sheffield Dam in the aftermath of the 1925 Santa Barbara earthquake. Liquefaction risk is considered high if there are soft soils (Types D or E) present.

The National Earthquake Hazards Reduction Program (NEHRP) rates soils from hard to soft and gives the soils ratings from Type A through Type E. The hardest soils are rated Type A, and the softest soils are rated Type E. The majority of the soils in Santa Barbara County are types A-C, with some areas having type D. There have been no Type E soils identified. Liquefaction risk is also determined by the depth to groundwater. Most of the low coastal plain and valley bottoms are underlain by alluvium and given a moderate rating with respect to liquefaction potential.

5.4.3 History of Hazard in the City of Goleta

Santa Barbara County is located in a high seismic activity zone and as such has a long history of earthquakes. Although most seismic activity in California occurs on the San Andreas Fault system, most historic seismic events in the Santa Barbara region have been centered offshore on an east-west trending fault between Santa Barbara and the Channel Islands. Several smaller earthquakes have taken place in the past years, including two magnitude 2.0 earthquakes in March 2021 in the Santa Ynez Valley and a magnitude 2.3 earthquake in April 2021 near the City of Lompoc (Earthquake Track 2021). These approximate magnitude 2.0 earthquakes are fairly common in the county.

While more extensive discussion of previous earthquakes in Santa Barbara County is available in the Seismic and Safety Element of the Santa Barbara County Comprehensive Plan, Table 5-9 of the MJHMP provides an overview of significant events within the last 50 years. Figure 5-10 of the MJHMP displays historical epicenters of earthquakes located in Santa Barbara County since 1700.

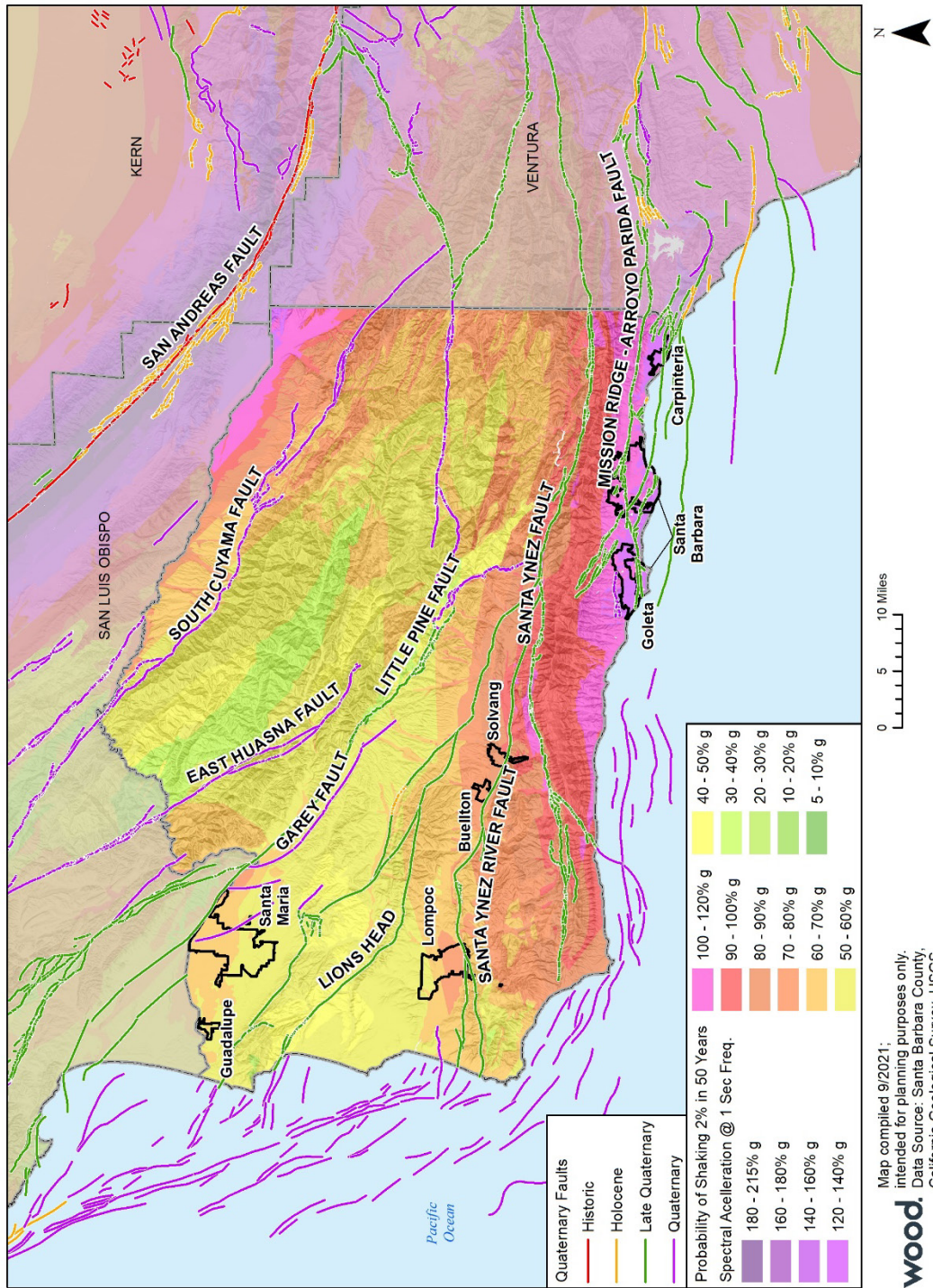
5.4.4 Probability of Occurrence

The USGS and their partners, as part of the latest Uniform California Earthquake Rupture Forecast Version 3, have estimated the chances of having large earthquakes throughout California over the next 30 years. Statewide, the rate of earthquakes around magnitude 6.7 (the size of the 1994 Northridge earthquake) has been estimated to be one per 6.3 years (more than 99 percent likelihood in the next 30 years); in southern California, the rate is one per 12 years (93 percent likelihood in the next 30 years) (refer also to Table 5-10 of the MJHMP).

5.4.5 Climate Change Considerations

While climate change is not expected to directly affect earthquake frequency or intensity; it could exacerbate indirect or secondary impacts of earthquakes. For example, climate change could increase the frequency and intensity of extreme precipitation events, which in turn increases the probability of landslides and liquefaction events during an earthquake if the earthquake coincided with a wet cycle (California Natural Resources Agency 2018).

Figure 5-1. Santa Barbara County Probability of Shaking 2% in 50 Years



5.5 FLOOD

5.5.1 Description of Hazard

A flood is a general and temporary condition of partial or complete inundation on land that is normally dry. Several factors determine the severity of floods, including rainfall intensity and duration, antecedent moisture conditions, surface permeability, and geographic characteristics of the watershed such as shape and slope.

A large amount of rainfall in a short time can result in flash flood conditions, as can a dam failure or other sudden spill. The National Weather Service's definition of a flash flood is a flood occurring in a watershed where the time of travel of the peak of flow from one end of the watershed to the other is less than six hours.

Another form of flooding occurs when coastal storms produce large ocean waves that sweep across coastlines making landfall. Storm surges inundate coastal areas, destroy dunes, and cause flooding. If a storm surge occurs at the same time as high tide, the water height will be even greater. The County historically has been vulnerable to storm surge inundation associated with tropical storms and El Nino events.

5.5.2 Location and Extent of Hazard in the City of Goleta

The geographical location, climate, and topography of Santa Barbara County make the county prone to flooding. In regions such as Santa Barbara, without extended periods of below-freezing temperatures, floods usually occur during the season of highest precipitations or during heavy rainfalls after long dry spells. Additionally, due to the Mediterranean climate and the variability of rainfall, streamflow throughout the County is highly variable and directly impacted by rainfall. Watercourses can experience a high amount of sedimentation during wet years and high amounts of vegetative growth during dry and moderate years.

The drainages in the southern part of the County are characterized by high intensity, short duration runoff events, due to the relatively short distance from the top of the Santa Ynez Mountains to the Pacific Ocean. In particular, the City experiences flooding along Hollister Road between Los Carneros and Highway 217. Runoff from high intensity, short-duration storm events can cause inundation of overbank areas, debris including sediment, rock, downed trees in the water that can plug culverts and bridges, erosion and sloughing of banks, and loss of channel capacity due to sedimentation.

The City is traversed by the floodplains of creeks that drain the Santa Ynez Mountains, with the degree of flood hazard varying substantially by community and creek. Las Vegas Creek has been channelized and San Jose Creek has been partially channelized, reducing but not eliminating, flood hazards. Other creeks such as Maria Ygnacia Creek in the Goleta Valley remain in a more natural condition with the corresponding potential for flood hazards. Flood control debris basins have been constructed on many of these creeks to intercept sediment and debris, reducing the potential for plugging of downstream creek channels and associated flood hazards.

Another contributing factor to flooding is the county's location along the Pacific Ocean. With its 110 miles of coastline, low-lying portions of communities in the county are susceptible to wave attack,

coastal flooding, and storm surge. In particular, Goleta Beach County Park is subject to wave attacks, coastal flooding, and storm surges. Additionally, portions of the City are subject to flooding due to flash flooding, urban flooding, river channel overflow, and downstream flooding.

5.5.3 History of Hazard in the City of Goleta

Flooding has been a major problem throughout Santa Barbara County's history. Santa Barbara County has several hydrologic basins that have different types of flooding problems, including over bank riverine flooding, flash floods, tidal flooding/tsunamis, and dam failure. The most common flooding in Santa Barbara is due to riverine flooding and flash flood events.

Between 1906 and 2018, Santa Barbara County experienced 22 significant inland flood events. Eight of these floods received Presidential Disaster Declarations. Section 5.3.4 of the MJHMP describes the floods, including information concerning the nature of the flooding and the extent of the damages.

The most damaging flood in the City occurred on January 10, 1995. In Goleta, debris clogged culverts under Los Carneros Road and Highway 101, causing the Los Carneros and San Pedro creeks to overtop the highway and flow down Calle Real. Homes in the vicinity were flooded with up to three feet of mud and debris. Significant localized flooding also occurred in the commercial district known as Old Town Goleta. This flood and mudslide affected approximately 510 properties along the South Coast and caused roughly \$50 million of damage (County Flood Control 1995; Santa Barbara Bucket Brigade 2019).

5.5.4 Probability of Occurrence

The 100-year flood is a flood that has a one percent chance in any given year of being equaled or exceeded. The 500-year flood is the flood that has a 0.2 percent chance of being equaled or exceeded in any given year.

5.5.5 Climate Change Consideration

Climate change is projected to amplify existing flood hazards through increased frequency and strength of El Niño events and rainfall intensity. Extreme weather events have become more frequent over the past 40 to 50 years and this trend is projected to continue. Up to half of California's precipitation comes from a relatively small number of intense winter storms, which are expected to become more intense with climate change. For example, what is currently a 200-year storm, or one that has a 1 in 200 chance of occurring in a given year, by 2100 would increase in frequency by 40 to 50 years (to a 1 in 150/160 chance in a given year). This means that the 100-year and 500-year floodplains may expand, and the current floodplains may become 40- to 50-year floodplains (Santa County Barbara Planning and Development Department 2021). The frequency and intensity of heavy rainstorms are projected to increase, causing fluvial flooding along the City's creeks, although overall annual precipitation levels are expected to increase only slightly. For discussion regarding the impacts of climate change on coastal flooding and sea level rise, see Section 5.1.4, *Coastal Hazards*.

5.6 COASTAL HAZARDS

5.6.1 Description of Hazard

Erosion is a natural process that alters existing geomorphic features. Erosion can occur due to several factors, including winter storms, tidal action, wind-generated high surf, wave action, and rising sea levels.

Coastal storms produce large ocean waves that sweep across low-lying coastlines making landfall. Storm surges can inundate coastal areas, destroy dunes, and cause flooding. If a storm surge occurs at the same time as high tide, the water height will be even greater. Historically, the county has also been vulnerable to storm surge inundation associated with El Niño events and a related increase in storm severity.

5.6.2 Location and Extent of Hazard in the City of Goleta

The impacts from wave runup and erosion affect portions of the western Goleta coastline and areas south of Goleta around the Santa Barbara Airport and unincorporated Goleta Beach area.

Existing coastal hazards along the county's 110-mile-long shoreline tend to be concentrated along the South Coast due to extensive existing shoreline development. The South Coast has a long history of exposure to coastal hazards from bluff retreat to coastal erosion and flooding. Low-lying areas such as Goleta Beach County Park have experienced coastal flooding due to storms surges and wave attacks. Bluff erosion is another serious local hazard with annual bluff erosion rates generally varying from 6 inches to one foot per year, depending upon location. Wave attack and coastal erosion at Goleta Beach County Park have been a long-running policy dispute regarding how to manage this vulnerable public facility. In response to these coastal hazards, private property owners and local governments have erected rock revetments and seawalls to attempt to protect public and private improvements from coastal hazard damage. The UPRR has also installed both concrete seawalls and rock revetments to protect the railroad tracks along the South Coast from Carpinteria to Gaviota. The long-term effects of such coastal protection structures are subject to debate, as well as their secondary impacts on natural coastal processes and sand supply.

5.6.3 History of Hazard in the City of Goleta

Historical coastal erosion is a recurring and ongoing hazard in south county and is particularly severe along the City's coastline and adjoining areas in the unincorporated community of Isla Vista. Following severe coastal storms, such as the El Niño's of 1983 and in 2015/2016, serious beach erosion and damage occurred at Goleta Beach County Park. Subsequent storms in 2017 destroyed recently installed geotextile revetment structures and severe erosion at the Park. Coastal erosion hazards have resulted in the adoption of required city and County blufftop setbacks for development in coastal communities generally require a minimum of 75 years of structural life. In the City of Goleta, the majority of coastline adjoins the Ellwood-Mesa Open Space Area.

5.6.4 Probability of Occurrence

Coastal flooding from tidal inundation and wave attack and associated erosion of coastal bluffs and beaches occurs during many winters but is most pronounced during past major El Niño events, which have return intervals of 2 to 7 years. Although many private coastal properties and public facilities have been protected by rock revetments or seawalls, coastal flooding, beach and bluff erosion continue in areas such as the City. While the existing probability of occurrence is typically confined to El Niño seasons or major storm events, as discussed below, climate change and sea level rise are projected to increase in frequency and severity of occurrence.

5.6.5 Climate Change Considerations

Climate change is both a present threat and a slow-onset disaster. It acts as an amplifier of existing hazards. Extreme weather events have become more frequent over the past 40 to 50 years and this trend is projected to continue. Rising sea levels, changes in rainfall distribution, and intensity are expected to have a significant impact on coastal communities, including portions of Goleta. Sea level rise (SLR) is defined as the rising of the level of the sea as a result of the so-called greenhouse effect or global warming. SLR can occur through one or more of three processes that include eustasy, isostasy, or thermal expansion. SLR coupled with increased frequency, severity, and duration of high tide and storm events related to climate change will result in more frequent and severe extreme events along the coast. These events could expose the coast to severe flooding and erosion, damage to coastal structures and real estate, and salinity intrusion into delta areas and coastal aquifers (Projecting Future Sea Level, A Report from the California Climate Change Center, 2006).

5.7 TSUNAMI

5.7.1 Description of Hazard

The City of Goleta ranked the tsunami hazard as being a limited planning concern for the City, but it is worth mentioning as a subset of earthquake hazards. A tsunami is a series of long waves generated in the ocean by a sudden displacement of a large volume of water. Underwater earthquakes can cause this displacement. Tsunami waves travel at speeds averaging 450 to 600 miles per hour. As a tsunami nears the coastline, its speed diminishes, its wavelength decreases, and its height increases. Depending on the type of event that creates the tsunami, as well the remoteness of the event, the tsunami could reach land within a few minutes or after several hours. Low-lying areas could experience severe inland inundation of water and deposition of debris more than 3,000 feet inland.

5.7.2 Location and Extent of Hazard in the City of Goleta

Areas prone to tsunami hazards in the county are limited to coastal areas and offshore areas. The cities of Santa Barbara and Carpinteria are most susceptible to tsunami hazards, given that they are located on or near several offshore geological faults, the more prominent faults being the Mesa Fault, the Santa Ynez Fault in the mountains, and the Santa Rosa Fault (refer to Section 5.3.3 of the MJHMP). Other unnamed faults in the offshore area of the Channel Islands may present tsunami

hazards. These faults have been active in the past and can subject the entire county coastal area to seismic action at any time.

5.7.3 History of Hazard in the City of Goleta

Thirteen possible tsunamis have been observed or recorded in the county from local earthquakes between 1812 and 1988; however, there have been no recorded locally generated tsunamis since 1988. Additionally, these tsunami events were poorly documented, and the precise extent of environmental and public impacts is uncertain (refer to Section 5.3.9 of the MJHMP).

5.7.4 Probability of Occurrence

The University of Southern California (USC) Tsunami Research Group has modeled areas in the county that could potentially be inundated in the event of a tsunami. In 2001, the Tsunami Research Group concluded the walls of the basin that form the Santa Barbara Channel are susceptible to submarine slope failures in at least two mapped locations (USC 2001). This model is based on potential earthquake sources and hypothetical extreme undersea, near-shore landslide sources. The data was mapped by the California Geological Survey and Cal OES for Tsunami Evacuation Planning. The maps and data are compiled with the best currently available scientific information and represent areas that could be exposed to tsunami hazards during a tsunami event. The tsunami inundation map helps to assist cities and counties in identifying their tsunami hazard areas. Figure 5-20 shows tsunami hazard areas of Santa Barbara County and Figure 5-21 provides a closer look at tsunami hazard areas of Santa Barbara County's south coast. Given, there is a medium probability of an earthquake, which would result in high impacts including potential tsunami events in the City, the City is has a low risk of future tsunami events.

5.7.5 Climate Change Considerations

Tsunamis are created by earthquakes or other earth movements. To date, no direct relationship has been made between climate change and the occurrences of earthquakes or other earth movements.

6.0 VULNERABILITY ASSESSMENT

The vulnerability assessment builds on the hazard assessment provided in Section 5.0 to estimate losses where data is available and consider a specific list of critical facilities identified within the City of Goleta. The City identified 70 critical facilities to be included in the Vulnerability Assessment portion of the LHMP. These facilities primarily included utilities, government, and educational structures. Of the available data, it was shown that these buildings are worth approximately \$22,948,787 in total building value (i.e., structural and content value) (Table 6-1). No values were able to be obtained for some major facilities, so the actual value may be much more than this amount.

Table 6-1. Critical Facilities in the City of Goleta

Type	Name	Address	Total Building Value
Power Plant	Ellwood	30 Las Armas Rd	-
Food Market	Camino Real Marketplace	704 Market Place Dr	-
Shelter	SB AHR Shelter Main Office	5473 Overpass Rd	\$309,034
RMP Facilities	Raytheon Vision Systems	75 Coromar Dr	-
RMP Facilities	Venoco S. Ellwood Onshore Oil And Gas Plant	7979 Hollister Ave	-
Animal Shelter	Sb Ahr Dog Kennel (Old)	5473 Overpass Rd	\$155,070
Clinic	Goleta Valley Hospital	351 South Patterson Ave	-
Clinic	Sansum Clinic-Patterson	122 S. Patterson Ave	-
Clinic	Buena Vista Care Center	160 South Patterson Ave	-
EMS Station	Santa Barbara County Fire Department Station 14	320 Los Carneros Rd	-
EMS Station	Santa Barbara County Fire Department Station 12	5330 Calle Real	-
EMS Station	Santa Barbara County Fire Department Station 11	6901 Frey Way	-
EMS Station	American Medical Response Station 5	104 South Patterson Avenue	-
Nursing Home	Mariposa At Ellwood Shores	190 Viajero Dr	-
Nursing Home	Maravilla	5486 Calle Real	-
Nursing Home	Buena Vista Care Center	160 S Patterson Ave	-
Education	Ellwood Elementary	7686 Hollister Ave	-
Education	Learning Tree Preschool	401 N. Fairview Ave	-
Education	Dos Pueblos Senior High	7266 Alameda Ave	-
Education	La Patera Elementary	555 N. La Patera Ln	-
Education	Kellogg Elementary	475 Cambridge Ave	-
Education	Brandon Elementary	195 Brandon Dr	-
Education	Santa Barbara Charter	6100 Stow Canyon Rd	-
Education	Goleta Valley Junior High	6100 Stow Canyon Rd	-
Education	Montessori Center School	401 N Fairview Ave # 1	-
Education	Coastline Christian Academy	5950 Cathedral Oaks Rd	-
Education	Waldorf School of Santa Barbara	7421 Mirano Dr	-
Fire Station	Fire Station #14	320 Los Carneros Rd	\$452,156
Fire Station	Fire Station #14 Generator House	320 Los Carneros Rd	\$17,401
Government	Goleta Valley Community Center	5679 Hollister Avenue	\$15,000,000
Government	City Of Goleta Corporation Yard Building/Public Works	6735 Hollister Avenue	\$2,000,000
Government	Goleta City Hall	130 Cremona Drive	-
Highway Patrol	California Highway Patrol - Santa Barbara	6465 Calle Real	-
Library	Goleta Library	500 N. Fairview Avenue	\$5,000,000

Type	Name	Address	Total Building Value
Sheriff	Sheriff Hollister Substation	5827 Hollister Ave	\$7,140
Sheriff	Sheriff Calle Real Marketplace Substation	7042 Marketplace Drive	\$7,986
Sheriff	Santa Barbara County Sheriff's Department - City of Goleta Substation	130 Cremona Drive, City Hall - Bottom Floor - Suite B	-
Bridge	Bridge	HWY 101 / 'WINCHESTER CREEK'	-
Bridge	Bridge	SR-217 / 'HOLLISTER AVE'	-
Bridge	Bridge	'LOS CARNEROS Rd / 'US HIGHWAY 101'	-
Bridge	Bridge	'CATHEDRAL OAKS Rd / 'US HIGHWAY 101'	-
Bridge	Bridge	'GLEN ANNIE ROAD' / 'GLEN ANNIE CREEK'	-
Bridge	Bridge	'HOLLISTER AVE' / 'MARIA YGNACIO CREEK'	-
Bridge	Bridge	'HOLLISTER AVE' / 'SAN JOSE CREEK'	-
Bridge	Bridge	'STOW CANYON RD' / 'SAN PEDRO CREEK'	-
Bridge	Bridge	'LOS CARNEROS RD' / 'CARNEROS CREEK'	-
Bridge	Bridge	'CALLE REAL RD' / 'LAS VEGAS CREEK'	-
Bridge	Bridge	'PATTERSON AVE' / HWY 101	-
Bridge	Bridge	N HWY 101 - W SR217 CONNECTR' / 'UPRR HWY 101'	-
Bridge	Bridge	HWY 101 / 'CARNEROS CREEK'	-
Bridge	Bridge	HWY 101 / 'GLEN ANNIE CREEK'	-
Bridge	Bridge	'E217-S101 CONNECTR' / 'UPRR HWY 101 OFFRMP'	-
Bridge	Bridge	HWY 101 NB ONRAMP' / 'TECOLOTITO CREEK'	-
Bridge	Bridge	'STORKE ROAD' / HWY 101	-
Bridge	Bridge	'FAIRVIEW AVE' / HWY 101	-
Bridge	Bridge	HWY 101 / 'LAS VEGAS CREEK'	-
Bridge	Bridge	HWY 101 -FAIRVIEW AVE' / 'LAS VEGAS CREEK'	-
Bridge	Bridge	HWY 101 / 'SAN PEDRO CREEK'	-
Bridge	Bridge	PATTERSON AVE / UPRR	-
Bridge	Bridge	'CALLE REAL' / 'SAN JOSE CREEK'	-
Bridge	Bridge	'CATHEDRAL OAKS RD' / 'SAN PEDRO CREEK'	-

Type	Name	Address	Total Building Value
Bridge	Bridge	'CATHEDRAL OAKS RD' / 'CARNEROS CREEK'	-
Bridge	Bridge	'CATHEDRAL OAKS RD' / 'GLEN ANNIE CREEK'	-
Bridge	Bridge	'LOS CARNEROS RD' / 'TECOLOTITO CREEK'	-
Bridge	Bridge	'SHIRRELL WAY' / 'LAS VEGAS CREEK'	-
Bridge	Bridge	'STORKE RD' / UPRR	-
Bridge	Bridge	'LOS CARNEROS RD' / UPRR	-
Bridge	Bridge	'CATHEDRAL OAKS RD' / UPRR	-
Bridge	Bridge	HWY 101 / San Jose Creek	-
Bridge	Bridge	HWY 101 NB / San Jose Creek	-

Using a GIS and the mapped extents of the hazards affecting the City, it was determined which critical facilities are exposed to which hazards depending on whether they fall within the mapped hazard area. The results of the exposure analysis are included in this section. A further description of the threats and methodologies used in this analysis is provided in Chapter 6.0, *Vulnerability Assessment of the 2022 MJHMP*. As the City continues to assess its vulnerability, the collection of better and more complete data will help to improve the risk assessment process to direct planning and mitigation decisions.

Table 6-2. Summary of Potential Impacts on Critical Facilities

Hazard Type	Specific Risk	Count	% of Critical Facilities Impacted	Exposure (\$)
Flood	FEMA 1% Chance Flood Zone	15	21%	\$15,007,140
	FEMA 0.2% Chance Flood Zone	3	4%	\$-
Coastal Hazards	Sea Level Rise (200 cm)	2	3%	\$-
Tsunami		0	0	\$0
Wildfire	Low Wildfire Threat	3	4%	\$-
	Moderate Wildfire Threat	1	1%	\$2,000,000
Earthquake	Low Liquefaction Potential	17	24%	\$7,986

Hazard Type	Specific Risk	Count	% of Critical Facilities Impacted	Exposure (\$)
	Moderate Liquefaction Potential	3	4%	\$-
	High Liquefaction Potential	50	71%	\$22,940,801
	Regional Ground Shaking	70	100%	\$22,948,787

6.1 WILDFIRE

The county has extensive areas within mapped Fire Hazard Severity Zones and Wildland-Urban Interface (WUI) areas. These hazard areas generate vulnerability for life and structures, including critical facilities, throughout the county, but most severely within rural foothills areas where dry vegetation, steep slopes, and difficult access combine to create a high probability of wildfire. Based on these maps, the City has 4 acres (0.8 percent) within Very High Wildfire Threat areas, 52 acres (1.02 percent) within High Wildfire Threat areas, 599 acres (11.86 percent) within Moderate Wildfire Threat areas, and 267 acres (5.28 percent) within Low Wildfire Threat areas. These vulnerable areas are home to 1,709 residents and are valued at \$876,655,035.

Based on the GIS analysis conducted for the 2022 MJHMP, in Goleta, 652 properties with a total value of over \$876 million are vulnerable to wildfire. Most of these areas are residential with limited vulnerabilities in commercial, agricultural, and industrial areas. In Goleta, approximately 1,709 residents live in high, moderate, or low wildfire threat areas. This information is summarized in Table 6-3 below.

Table 6-3. City of Goleta at Risk to Wildfire Threat

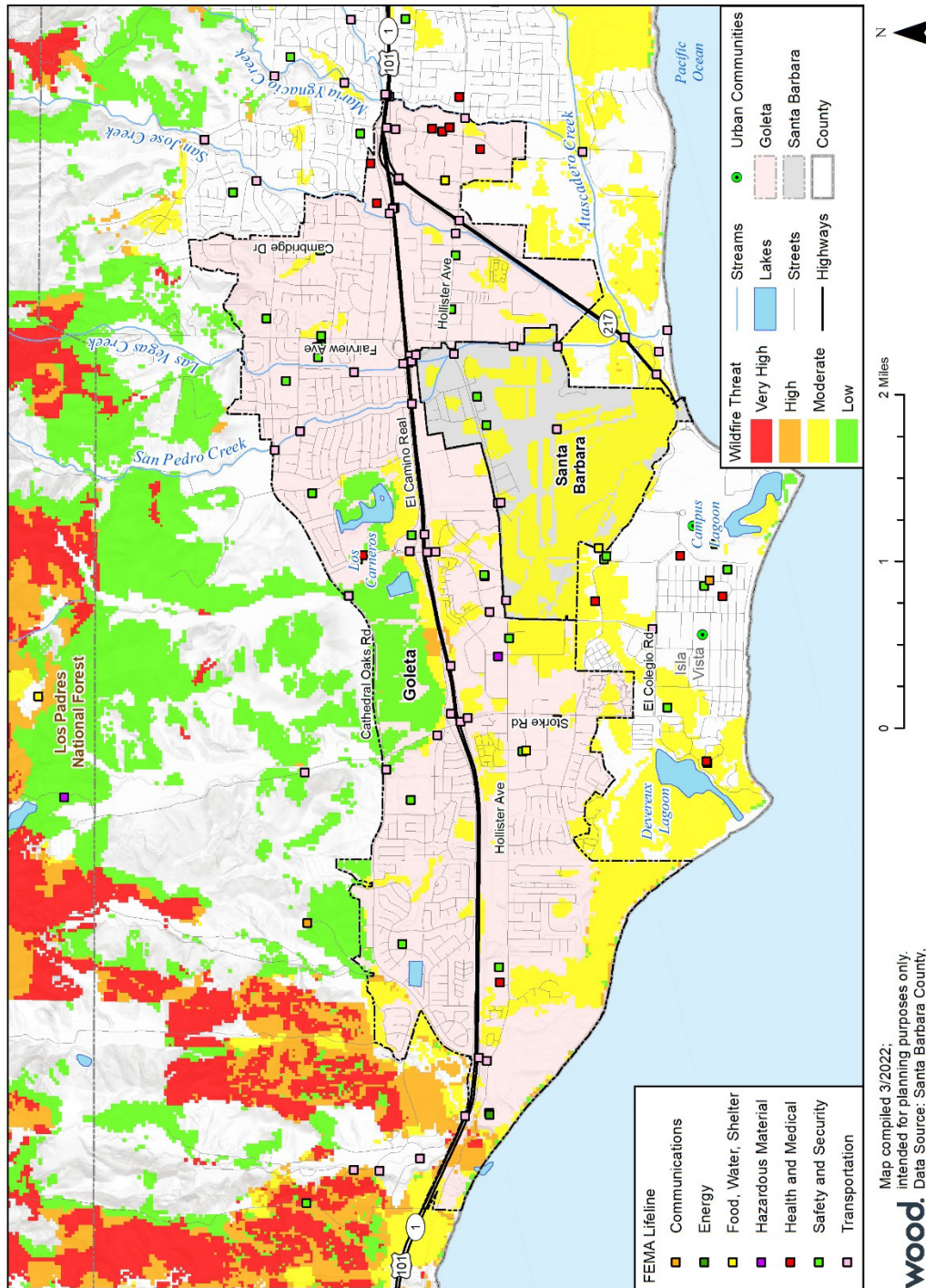
Property Type	Improved Parcel Count by Wildfire Threat Level						Total Value	Population
	Extreme	Very High	High	Moderate	Low	Total		
Agricultural	0	0	0	1	2	3	\$1,126,116	
Commercial	0	0	0	12	0	12	\$132,850,720	
Exempt	0	0	0	3	2	5	\$2,520,690	
Industrial	0	0	0	6	0	6	\$24,089,715	
Mixed Use	0	0	0	0	0	0	\$0	0
Residential	0	0	1	624	1	626	\$716,067,794	1,709
Improved Vacant	0	0	0	0	0	0	\$0	
Total	0	0	1	646	5	652	\$876,655,035	1,709

Four of the City’s critical facilities fall within moderate or low wildfire threat areas, as listed in Table 6-4 (see also, Section 6.3.1, *Wildfire* of the 2022 MJHMP).

Table 6-4. City of Goleta Critical Facilities Vulnerable to Wildfire

Type	Name	Hazard Source/Type	Total Building Value
EMS Station	Santa Barbara County Fire Department Station 14	Low Wildfire Threat	-
Government	City of Goleta Corporation Yard Building/Public Works	Moderate Wildfire Threat	\$2,000,000
Bridge	Bridge	Low Wildfire Threat	-
Bridge	Bridge	Low Wildfire Threat	-

Figure 6-1. City of Goleta Critical Facilities within Wildfire Threat Zones



6.2 EARTHQUAKE & LIQUEFACTION

Chapter 6.0, *Vulnerabilities Assessment* of the 2022 MJHMP addresses regional seismicity under two scenarios that include the City of Goleta. The 2,500-year scenario considers general seismicity from multiple faults in the region and a 7.0 magnitude event. The methodology utilizes probabilistic seismic hazard contour maps developed by the U.S. Geological Survey (USGS) for the 2018 update of the National Seismic Hazard Maps that are included with Hazus-MH. A deterministic scenario was also prepared to predict the outcome of a specific earthquake event. The deterministic scenarios used USGS provided ShakeMap datasets to model a Magnitude 7.4 earthquake of the Red Mountain Fault. This scenario assesses the effect that an earthquake sourced from this fault would generate in terms of damages and losses for the chosen area of interest (i.e., southern Santa Barbara County, including the City). Figure 6-1 is the ShakeMap produced for this scenario.

As described in the MJHMP, regional losses to people and property would include the City. As shown in the Red Mountain Fault ShakeMap scenario, the south and central parts of the county would perceive much stronger shaking and would likely receive the most severe damage when compared to the rest of the county. The entire City would perceive severe to extreme shaking and would likely receive moderate/heavy to very heavy damage. Direct effects of ground shaking could damage buildings and create dangerous debris and unstable structures. Displaced residents would likely seek shelter in the City, including residents from outside the City. Further, fires often occur after an earthquake. Because of the number of fires and the lack of water to fight the fires, they can often burn out of control.

Unreinforced masonry building type structures consist of buildings made of unreinforced concrete and brick, hollow concrete blocks, clay tiles, and adobe. Buildings constructed of these materials are heavy and brittle and typically provide little earthquake resistance. In small earthquakes, unreinforced buildings can crack, and in strong earthquakes, they tend to collapse. The City does not have any known unreinforced masonry buildings.

The City lies in an area with low, moderate, and high liquefaction severity classes. Regional earthquakes could cause liquefaction in the City, which could damage buildings and utilities when soils become unstable. Based on the GIS analysis conducted for the 2022 MJHMP, the City has 9,125 improved parcels valued at over \$7 billion in the liquefaction severity zones. Based on this analysis, which accounts for residents only and not workers, 23,303 residents are living in this hazard zone within the City. While liquefaction would not likely affect all areas uniformly during an earthquake, this analysis indicates the extent and scale of vulnerabilities to liquefaction during a large earthquake.

Table 6-5. City of Goleta at Risk to Liquefaction Hazard by Property Type

Property Type	Improved Parcel Count	Total Value	Population
<i>High Liquefaction Hazard</i>			
Agricultural	4	\$1,189,658	
Commercial	288	\$782,936,722	
Exempt	32	\$457,565,106	
Industrial	153	\$746,789,160	

Property Type	Improved Parcel Count	Total Value	Population
Mixed Use	6	\$31,031,524	16
Residential	3,949	\$1,800,461,862	10,781
Improved Vacant	1	\$18,060	
Total High Liquefaction	4,433	\$3,819,992,092	10,797
<i>Moderate Liquefaction Hazard</i>			
Agricultural	1	\$84,492	
Commercial	6	\$25,050,458	
Exempt	0	\$0	
Industrial	8	\$28,461,538	
Mixed Use	0	\$0	0
Residential	325	\$120,414,996	887
Improved Vacant	0	\$0	
Total Moderate Liquefaction	340	\$174,011,484	887
<i>Low Liquefaction Hazard</i>			
Agricultural	3	\$1,337,856	
Commercial	54	\$413,071,582	
Exempt	13	\$49,557,904	
Industrial	25	\$397,769,283	
Mixed Use	0	\$0	0
Residential	4,256	\$2,426,929,638	11,619
Improved Vacant	1	\$193,778	
Total Low Liquefaction	4,352	\$3,288,860,041	11,619
Total Liquefaction Hazard	9,125	\$7,282,863,616	23,303

As listed in Table 6-6, 53 critical facilities in the City would be vulnerable to damage or destruction from liquefaction during a significant regional earthquake (see also, Section 6.2.1, *Earthquake (Groundshaking)* and Section 6.3.3, *Liquefaction (Earthquake)* of the 2022 MJHMP).

Table 6-6. City of Goleta Critical Facilities Vulnerable to Liquefaction

Type	Name	Hazard Type/Source	Total Building Value
Power Plant	Ellwood	Moderate	-
Shelter	Sb Ahr Shelter Main Office	High	\$309,034
RMP Facilities	Raytheon Vision Systems	High	-
RMP Facilities	Venoco S. Ellwood Onshore Oil And Gas Plant	Moderate	-
Animal Shelter	Sb Ahr Dog Kennel (Old)	High	\$155,070
Clinic	Goleta Valley Hospital	High	-
Clinic	Sansum Clinic-Patterson	High	-
Clinic	Buena Vista Care Center	High	-

6.0. Vulnerability Assessment

Type	Name	Hazard Type/Source	Total Building Value
EMS Station	Santa Barbara County Fire Department Station 14	High	-
EMS Station	Santa Barbara County Fire Department Station 12	High	-
EMS Station	American Medical Response Station 5	High	-
Nursing Home	Maravilla	High	-
Nursing Home	Buena Vista Care Center	High	-
Education	Learning Tree Preschool	High	-
Education	La Patera Elementary	High	-
Education	Kellogg Elementary	High	-
Education	Santa Barbara Charter	High	-
Education	Goleta Valley Junior High	High	-
Education	Montessori Center School	High	-
Education	Coastline Christian Academy	High	-
Education	Waldorf School Of Santa Barbara	High	-
Fire Station	Fire Station #14	High	\$452,156
Fire Station	Fire Station #14 Generator House	High	\$17,401
Government	Goleta Community Center	High	\$15,000,000
Government	City Of Goleta Corporation Yard Building/Public Works	High	\$2,000,000
Government	Goleta City Hall	High	-
Highway Patrol	California Highway Patrol - Santa Barbara	High	-
Library	Goleta Library	High	\$5,000,000
Sheriff	Sheriff Hollister Substation	High	\$7,140
Sheriff	Santa Barbara County Sheriff's Department - City Of Goleta Substation	High	-
Bridge	Bridge	Moderate	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-

Type	Name	Hazard Type/Source	Total Building Value
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-
Bridge	Bridge	High	-

Figure 6-2. City of Goleta Critical Facilities and Earthquake Groundshaking Potential (Red Mountain Fault 7.4 Magnitude ShakeMap)

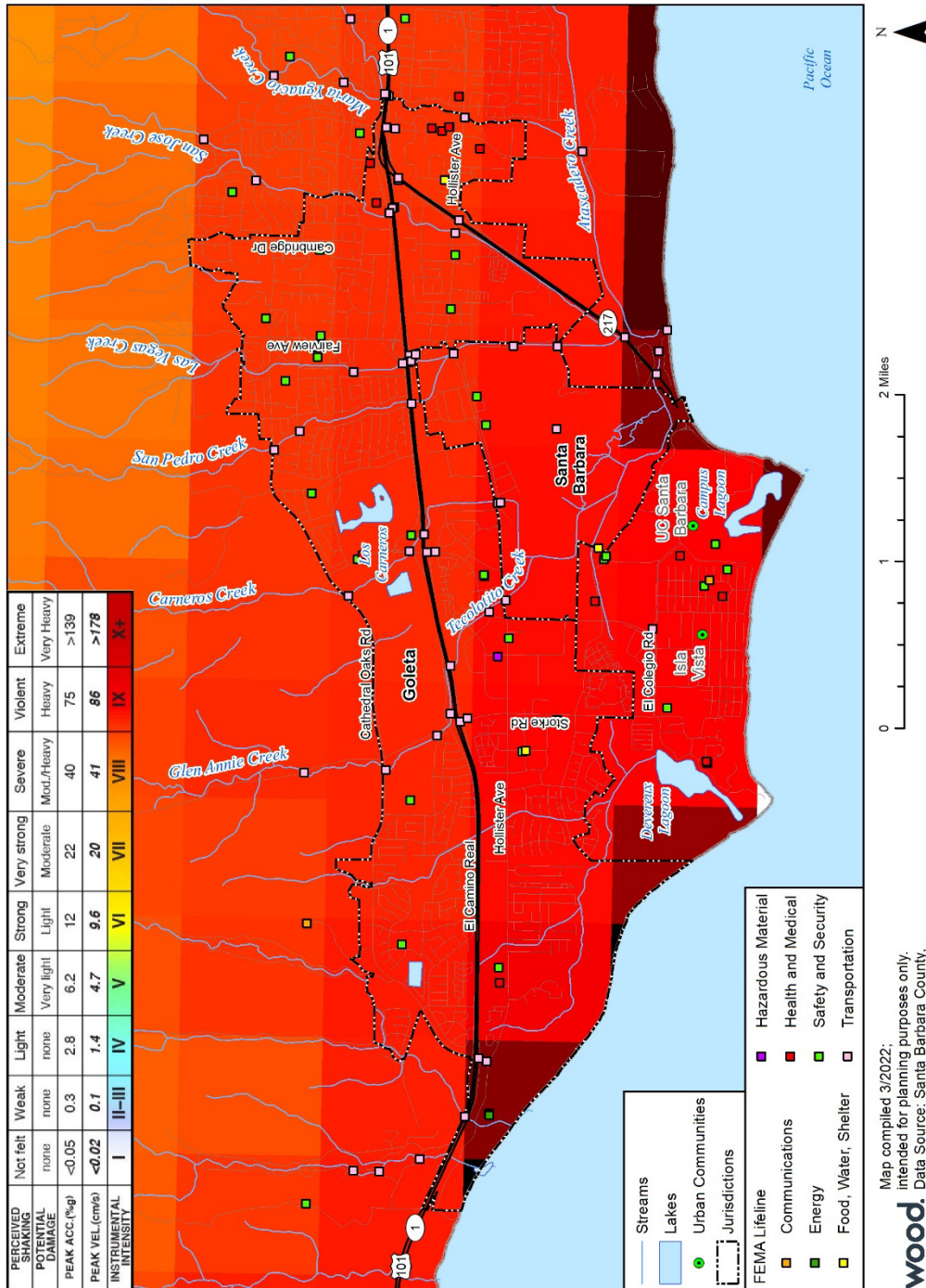
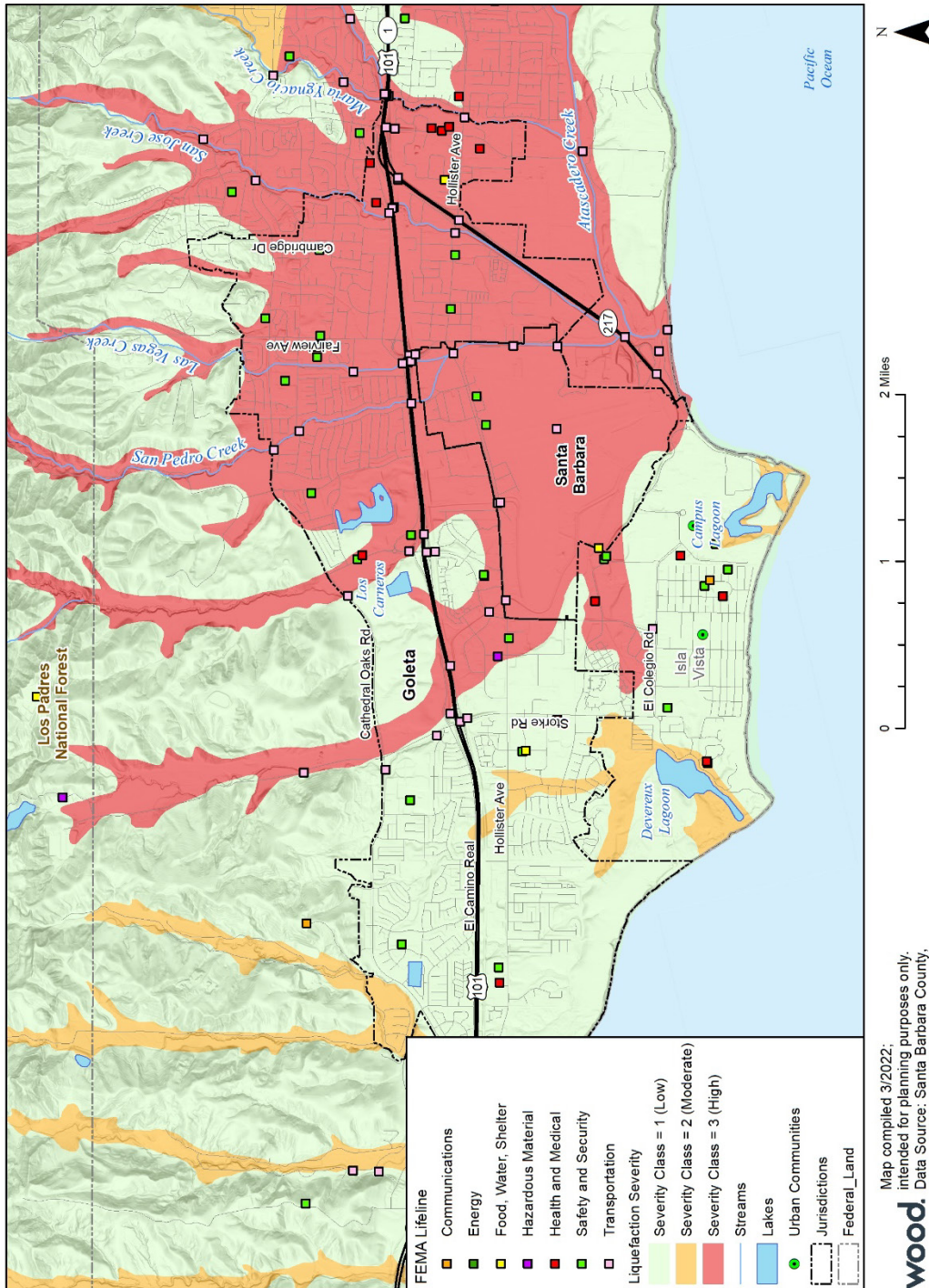


Figure 6-3. City of Goleta Critical Facilities and Liquefaction Potential



6.3 FLOOD

The geographical location, climate, and topography of the Goleta Valley make some areas of the City prone to flooding. Flooding presents a hazard to development in floodplains. In addition to the damage to properties, flooding can also cut off access to utilities, emergency services, transportation, and may impact the overall economic well-being of an area. Emergency response can be interrupted by damaged roads and infrastructure. Fire can break out as a result of dysfunctional electrical equipment. Hazardous materials can also get into floodways, causing health concerns and polluted water supplies. During a flood, the drinking water supply can be contaminated. Climate change is expected to increase the frequency and intensity of heavy rainstorms that cause riverine flooding.

Based on the GIS analysis conducted for the 2022 MJHMP, the City has 721 improved parcels valued at over \$710 million in the 1-percent annual chance floodplain. Based on this analysis, which accounts for residents only and not workers, 1,466 residents are living in the 1-percent annual chance floodplain throughout the City. An additional 486 improved parcels and over \$520 million in value fall within the 0.2-percent annual chance floodplain. Areas of the City vulnerable to the 0.2-percent annual chance riverine flood are home to 1,152 residents. Development in the 0.2-percent annual chance floodplain is typically not regulated, thus a large flood event could be extremely damaging in the City. This information is summarized in Table 6-7 below.

Table 6-7. City of Goleta FEMA Floodplain Exposure and Loss

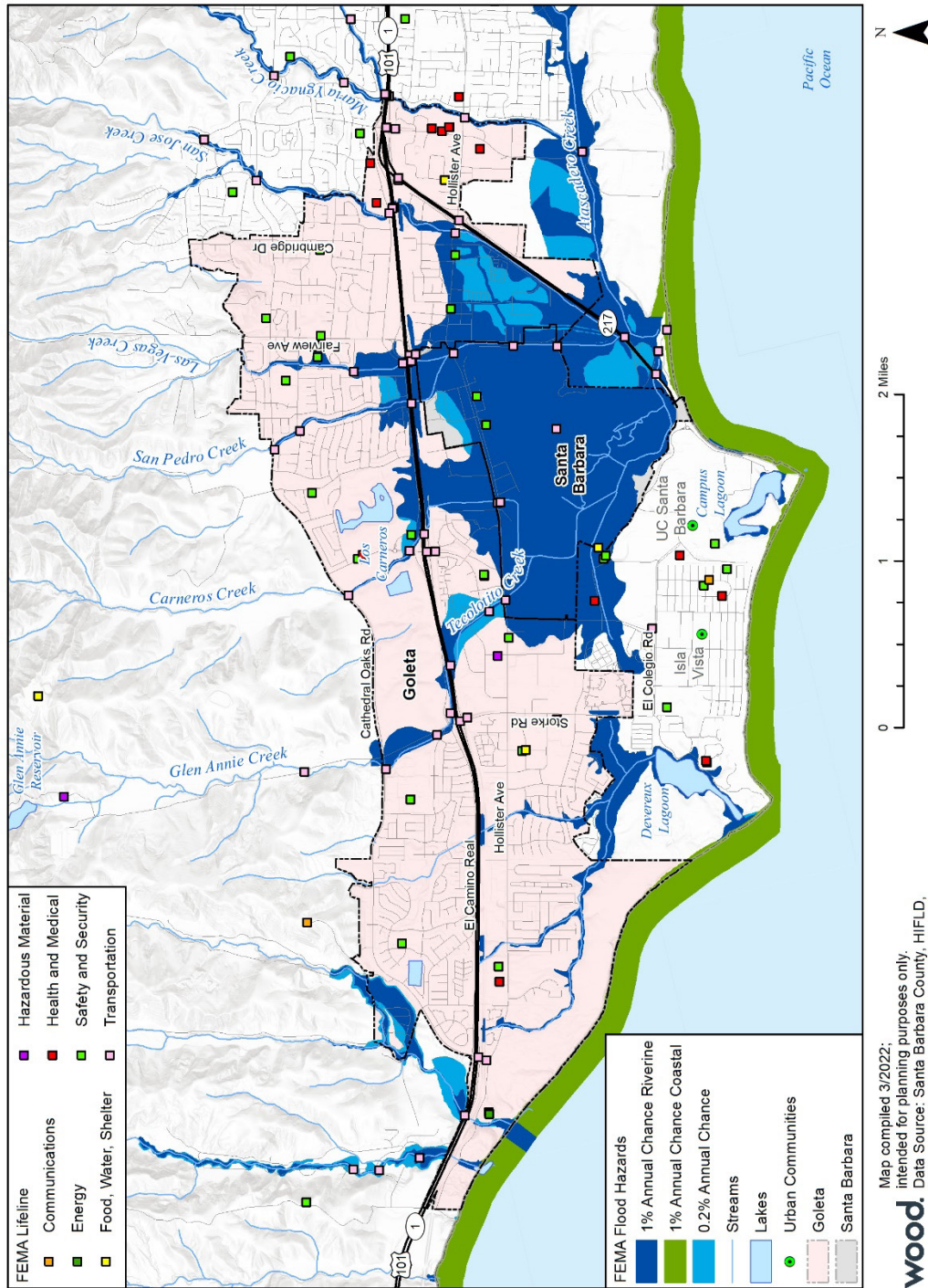
Property Type	Improved Parcel Count	Total Value	Estimated Loss	Population
<i>Riverine 1% Annual Chance Floodplain Exposure and Loss</i>				
Agricultural	2	\$507,008	\$126,752	1,466
Commercial	129	\$234,516,140	\$58,629,035	
Exempt	3	\$5,616,882	\$1,404,221	
Industrial	50	\$226,743,688	\$56,685,922	
Mixed Use	3	\$4,200,488	\$1,050,122	
Residential	534	\$239,159,219	\$59,789,805	
Total	721	\$710,743,424	\$177,685,856	
<i>Riverine 0.2% Annual Chance Floodplain Exposure and Loss</i>				
Commercial	19	\$59,458,240	\$14,864,560	1,152
Exempt	2	\$136,540	\$34,135	
Industrial	43	\$174,133,500	\$43,533,375	
Residential	422	\$286,461,527	\$71,615,382	
Total	486	\$520,189,807	\$130,047,452	

As listed in Table 6-8, 15 critical facilities in the City with a total value of \$15,007,140 would be vulnerable to damage or destruction from 1-percent or 0.2-percent annual chance flood (Figure 6-4; see also, Section 6.3.3, *Flood of the 2022 MJHMP*).

Table 6-8. City of Goleta Critical Facilities at Risk to Flood Hazard

Type	Name	FEMA Flood Chance	Total Building Value
Education	Learning Tree Preschool	1% Chance	-
Government	Goleta Community Center	1% Chance	\$15,000,000
Highway Patrol	California Highway Patrol - Santa Barbara	1% Chance	-
Sheriff	Sheriff Hollister Substation	1% Chance	\$7,140
Bridge	Bridge	0.2% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	0.2% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	0.2% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	1% Chance	-
Bridge	Bridge	1% Chance	-

Figure 6-4. City of Goleta Critical Facilities in FEMA Flood Hazard Zones



6.4 COASTAL HAZARDS

Approximately 100 acres of the City are susceptible to sea level rise by 2030 (10.2 inches) and 145 acres by 2060 (27.2 inches). Based on the GIS analysis conducted for the 2022 MJHMP, the City has 173 improved parcels valued at over \$184 million in sea level rise coastal hazard zones. Based on this analysis, which accounts for residents only and not workers, 278 residents are living in this hazard zone within the City.

Table 6-9. City of Goleta at Risk to Sea Level Rise Coastal Hazards by Property Type

Property Type	Improved Parcel Count	Total Value	Population
<i>2030 Sea Level Rise</i>			
Commercial	5	\$877,542	
Industrial	4	\$1,373,228	
Residential	9	\$1,237,410	25
Total 2030 Sea Level Rise	18	\$3,488,180	25
<i>2060 Sea Level Rise</i>			
Commercial	5	\$877,542	
Industrial	5	\$1,400,375	
Residential	9	\$1,237,410	25
Total 2060 Sea Level Rise	19	\$3,515,327	25
<i>200cm Sea Level Rise</i>			
Commercial	19	\$14,209,396	
Exempt	1	\$0	
Industrial	32	\$70,455,265	
Mixed Use	1	\$1,030,196	3
Residential	83	\$91,977,432	227
Total 200cm Sea Level Rise	136	\$177,672,289	229
Total Sea Level Rise Hazard	173	\$184,675,796	278

While no critical facilities are susceptible to sea level rise by 2030 or 2060, two facilities would be susceptible to 200 cm of sea level rise (Table 6-10) (see also, Section 6.3.6, *Coastal Hazards of the 2022 MJHMP*).

Table 6-10. City of Goleta Critical Facilities Vulnerable to Coastal Hazards

Type	Name	2030	2060	200 cm	Total Building Value
Power Plant	Ellwood	No	No	Yes	-
RMP Facilities	Venoco S. Ellwood Onshore Oil And Gas Plant	No	No	Yes	-

Coastal flooding resulting from sea level rise is also documented in the 2015 City of Goleta Coastal Hazards Vulnerability and Fiscal Impact Report. The report identifies the following specific vulnerabilities in the City.

- The Bacara Resort and Spa Beach House, in addition to the coastal public access to Haskell's Beach, are vulnerable to all existing hazards, including creek flooding, coastal erosion, and coastal flooding. The estimated replacement and relocation costs are approximately \$420,000.
- The two active Lease 421 oil wells are threatened by existing coastal hazards.
- The existing coastal armoring is severely outdated and derelict, and the structure will continue to erode and become a nuisance over time. The cost of removing this structure is approximately \$1 million. The City's financial liability is approximately 25 percent of this amount or equates to approximately \$250,000.
- The City faces a serious potential threat from oils spills, both from active and inactive wells. The costs of mitigating these issues are high. The estimates range from \$7.9 million to \$63.2 million for capping and/or recapping the existing wells.
- The low-lying Placencia neighborhood and nearby roads are already susceptible to substantial flooding during closed Goleta Slough conditions and creek flooding.
- FEMA has mapped 640 acres or 12 percent of the City in an existing 100-year creek flood hazard zone.

6.5 TSUNAMI

Tsunami vulnerable areas of the City include 1 improved parcel which is home to 3 residents and is valued at \$186,506. No critical facilities are vulnerable to this tsunami hazard zone (see also, Section 6.3.9, *Tsunami* of the 2022 MJHMP).

7.0 MITIGATION STRATEGY

In preparation for the 2022 LHMP update, the City's LPT made no revisions to the countywide goals and objectives because they continue to reflect the needs of the City; see also, Chapter 7.0, *Mitigation Plan* of the 2022 MJHMP. This section contains the City's updated and most current mitigation strategy as of 2022.

7.1 MITIGATION PRIORITIES

7.1.1 Goals and Objectives

The City's LPT accepted and agreed to the following goals and objectives for the 2022 update. These goals and objectives represent a vision of long-term hazard reduction or enhancement of capabilities.

The updated goals and objectives of this plan are:

Goal 1: Ensure future development is resilient to known hazards.

Objective 1.A: Ensure development in known hazardous areas is limited or incorporates hazard-resistant design based on applicable plans, development standards, regulations, and programs.

Objective 1.B: Educate developers and decision-makers on design and construction techniques to minimize damage from hazards.

Goal 2: Protect people and community assets from hazards, including critical facilities, infrastructure, water, and public facilities.

Objective 2.A: Enhance the ability of community assets, particularly critical facilities, to withstand hazards.

Objective 2.B: Use the best available science and technology to better protect life and property.

Objective 2.C: Upgrade and replace aging critical facilities and infrastructure.

Objective 2.D: Ensure mitigation actions encompass vulnerable and disadvantaged communities to promote social equity.

Goal 3: Actively promote understanding, support, and funding for hazard mitigation by participating agencies and the public.

Objective 3.A: Engage, inform, and educate the public on tools and resources to improve community resilience to hazards, reduce vulnerability, and increase awareness and support of hazard mitigation activities.

Objective 3.B: Ensure effective outreach and communications to vulnerable and disadvantaged communities.

Objective 3.C: Increase awareness and encourage the incorporation of hazard mitigation principles and practice among public, private, and nonprofit sectors, including all participating agencies.

Objective 3.D: Ensure interagency coordination and joint partnerships with the County, cities, state, tribal, and federal governments.

Objective 3.E: Continuously improve the County's capability and efficiency at administering pre- and post-disaster mitigation programs, including providing technical support to cities and special districts and providing support for implementing local mitigation plans.

Objective 3.F: Monitor and publicize the effectiveness of mitigation actions implemented countywide.

Objective 3.G: Position the County and participating agencies to apply for and receive grant funding from FEMA and other sources.

Goal 4: Minimize the risks to life and property associated with urban and human-caused hazards.

Objective 4.A: Minimize risks from biological hazards, including disease, invasive species, and agricultural pests.

Objective 4.B: Be prepared and respond to urban hazards, including terrorism, cyber threats, and civil disturbance.

Objective 4.C: Minimize risks from energy production, including hazardous oil and gas activities.

Goal 5: Prepare for, adapt to, and recover from, the impacts of climate change and ensure regional resiliency.

Objective 5.A: Use the best available climate science to implement hazard mitigation strategies in response to climate change.

Objective 5.B: Identify, assess, and prepare for impacts of climate change.

Objective 5.C: Coordinate with the public, private, and nonprofit sectors to implement strategies to address regional hazards exacerbated by climate change.

Objective 5.D: Ensure climate change hazard mitigation addresses vulnerable and disadvantaged communities.

7.2 MITIGATION PROGRESS

Since 2017, the City has incorporated the LHMP goals, objectives, and mitigation actions into its local plans and processes, including the General Plan Safety Element by reference, specific hazard planning efforts (e.g., Strategic Plan), the City’s grant pursuits, and capital improvement planning. Ongoing monitoring and evaluation of the LHMP by the City ensured mitigations are implemented and tracked. Key mitigation actions completed since 2017 include improving the resilience of coastal structures, including rehabilitating the Lake Los Carneros Outlet Structure, improving stormwater infrastructure in on San Pedro Creek and Avenida Gorrion, and making substantial progress in developing Fire Station 10 to serve western Goleta. The City’s LPT reviewed the mitigation actions listed in the 2017 LHMP to determine the status of each action. Once reviewed, deferred projects from 2017 were renumbered to reflect 2022 updates (see Table 7-1).

Table 7-1. Status of City of Goleta Previous Mitigation Actions

Mitigation Action No.	Mitigation Action Description	Status	Comments	In 2022 Update?
2011 LHMP				
2011-1	San Jose Creek/Hollister Ave Bridge Replacement Project	In Progress	The City of Goleta approved a Mitigated Negative Declaration (MND) for the project in August 2015. The final design, right of way, and permitting phases are currently underway. The final design is at the 95% development stage. Construction is anticipated in 2025	X
2011-2	Lake Los Carneros Outlet Structure Rehabilitation	Completed		

Mitigation Action No.	Mitigation Action Description	Status	Comments	In 2022 Update?
2011-3	Join the NFIP Community Rating System (CRS)	Completed	The City of Goleta joined the National Flood Program in 2018. Verified by the FEMA Community Status Book	
2011-4	San Pedro Creeks Culvert Modifications	Completed	Capacity improvements were made in 2016 to the San Pedro and Las Vegas Creeks through the replacement of culverts at Calle Real and Hwy 101 as well as replacement UPRR bridges over the two creeks. The project was led by Santa Barbara County Flood Control and Caltrans.	
2011-5	Develop New Fire Station in Western Goleta (Fire Station 10)	In Progress	The CA Coastal Commission approved the project in Sept 2020 and project projected to go to bid for construction in the first half of 2023. Construction projected to begin in late 2023.	X
2011-6	Avenida Gorrion New Storm Drain	Completed	Completed in 2016	
2017 LHMP				
2016-1	Cathedral Oaks/Camino Laguna Vista Storm Drain	In Progress	Renamed to Covington Drainage System Improvements	X
2016-2	Misc. Old Town Drainage Improvements	In Progress	Drainage improvements are a constant project City staff have ongoing. No specific project is identified in Old Town currently. Therefore, this action is not included in the 2022 LHMP	
2016-3	Goleta Community Center – Seismic Upgrades	In Progress	A 2021 survey showed that the main auditorium cannot be used for safety reasons. Funding for ADA and seismic concerns was awarded to the City in May 2020. Design work has begun for these improvements.	X

7.3 MITIGATION APPROACH

Similar to the 2022 MJHMP, the City LPT used a STAPLEE methodology developed by FEMA to allow emergency managers to apply consistent analysis to the range of mitigation options available. Once the available mitigation actions were identified by the City LPT, each was evaluated against the STAPLEE criteria to assist in prioritizing each measure. The STAPLEE criteria include the following:

- **Social:** Will the measure be accepted by the community? Does the measure adversely affect or inequitably benefit any segment of the population? (e.g., disadvantaged communities, vulnerable populations, different groups or areas)?
- **Technical:** How effective will the action be at protecting lives and preventing injuries? How significant will the action be at eliminating or reducing damage to structures and infrastructure? Would the action solve the root problem rather than a symptom?
- **Administrative:** Does the county have the personnel and administrative capabilities to implement and manage the project (i.e., adequate staffing and operational capabilities to implement the project)?
- **Political:** Will the measure have political and/or public support? Does the measure have a local champion to lead its development and implementation?
- **Legal:** Does the jurisdiction have the legal authority to implement the action? Is it legal? Is there potential for a legal challenge?
- **Economic:** Are the costs to implement the action commensurate with the benefits achieved? Is there funding available? Will the action contribute to the local economy?
- **Environmental:** Does the action comply with environmental regulations? Will there be negative environmental consequences from the action?

The City LPT used STAPLEE criteria to evaluate and prioritize the mitigation actions included in the LHMP. Each mitigation action was assigned a numeric rank (-1, 0, or 1) for each of the evaluation criteria, as follows

- 1 = Highly effective or feasible
- 0 = Neutral or not applicable
- 1 = Ineffective or not feasible

Based on the evaluation score of each STAPLEE Criteria, mitigation actions received a cumulative score. The cumulative score indicates the priority of mitigation actions and put the City's mitigation actions in priority order:

Per the DMA requirements, an emphasis was placed on the importance of benefit-cost analysis in determining action priority. Other criteria used to assist in evaluating the benefit-cost of a mitigation action included:

- Does the action address hazards or areas with the highest risk?
- Does the action protect lives?
- Does the action protect infrastructure, community assets, or critical facilities?
- Does the action meet multiple objectives (Multiple Objective Management)?
- What will the action cost?
- What is the timing of available funding?

The process of identification and analysis of mitigation options allowed the City LPT to come to a consensus and to collectively prioritize recommended mitigation actions. During the City's planning

process, emphasis was placed on the importance of a benefit-cost review in determining project priority; however, this was not a quantitative analysis.

Benefit-cost was considered in the development of the Mitigation Implementation Plan detailed below in Section 7.4. Each action developed for this plan contains a description of the proposed project, expected project benefits, the entity or entities with primary responsibility for implementation, a cost estimate (if available), potential funding sources (if known or available), and a conceptual implementation schedule. Development of these project details relative to the STAPLEE Criteria for each action led to the determination of priority for each action. Cost-effectiveness will be further considered in greater detail through formal benefit-cost analyses when seeking FEMA mitigation grant funding for eligible actions associated with this plan.

The intent of prioritizing mitigation actions is to help the City focus and concentrate its efforts; however, it should be noted that when and if specialized grants and/or funds are made available that could finance a mitigation action, the City may adjust the ranking to enable them to implement the mitigation action.

This plan also carries forward some mitigation actions developed during the 2017 and 2011 planning processes (refer to Section 7.2, *Status of Previous Mitigation Actions*). The City LPT reviewed their existing mitigation actions and reported on the progress made toward implementation to decide whether any incomplete actions should be carried forward for continued or future implementation or be deleted. In some cases, mitigation actions were adjusted to reflect new situations or priorities. These measures were previously prioritized using the STAPLEE approach in 2017; however, to account for changes to goals and objectives and changes to hazard priorities for this plan, the MAC re-evaluated the priority of all measures included in Section 7.4.

Table 7-2 presents the prioritized list of mitigation actions that will be considered and implemented. See attached STAPLEE scoring matrix that informed this plan update.

Table 7-2. 2022 City of Goleta Mitigation Actions and Prioritization

ID No.	Action Title	Total Score	Priority
1	Goleta Community Center Seismic Upgrades	12	1
2	Develop New Fire Station in Western Goleta	11	2
3	Ellwood Mesa Neighborhood Hazard Fill Reduction Project	11	3
4	Lake Los Carneros Master Plan and Dam Improvement Project	11	4
5	Evergreen Park Drainage Repair Improvements	7	5
6	Update to Goleta Community Wildfire Protection Plan	6	6
7	San Jose Creek/Hollister Ave Bridge Replacement Project	5	7
8	Covington Drain System Improvements	5	8
9	Cathedral Oaks Crib Wall Repair	4	9
10	Ellwood Beach Drive Drainage Infrastructure Replacement	4	10

7.4 IMPLEMENTATION PLAN

All of the mitigation actions below have been incorporated into the City’s Capital Improvement Program, which is reviewed annually to determine if additional projects are needed to address potential hazards.

2022-1. Goleta Community Center Seismic Upgrades

The seismic project is in the final design phase. This project is also one of multiple concerns being addressed in a wider community center upgrade project.

Mitigation Priority and Performance	
Priority	1
Hazards Mitigated	Earthquake
Estimated Timeline	2024
Estimated Cost/Funding Source	\$5,300,000/ BRIC and Hazard Mitigation Grant Program (HMGP) grants
Responsible Agency/Department	City Public Works Department and Neighborhood Services
Comments	

2022-2. Develop New Fire Station in Western Goleta

This is a joint City/County project. It has long been documented that fire service in Western Goleta does not meet the National Fire Protection Association (NFPA) guidelines for emergency response time and population to firefighter ratio. A new fire station is needed in Western Goleta to provide adequate fire protection services.

The project consists of the design and construction of a new fire station, approximately 11,600 square feet in size, with associated landscaping and appurtenant facilities on a City-owned parcel located at 7952 Hollister Avenue. The site is adjacent to the Cathedral Oaks Interchange and across the street from Sandpiper Golf Course. It is anticipated that the new fire station will be a three-bay, single-story building and have a community meeting room. Site improvements will include an emergency generator, an above-ground fueling facility, eight visitor parking spaces, and a landscaped pedestrian path and striped bike path along Hollister Avenue.

Mitigation Priority and Performance	
Priority	2
Hazards Mitigated	All
Estimated Timeline	2024
Estimated Cost/Funding Source	\$24,000,000/ Fire Facility Development Impact Fees and other developer mitigation fees, statewide loans, and local tax options
Responsible Agency/Department	Department of Neighborhood Services (lead), County Fire Protection District
Comments	

2022-3. Ellwood Mesa Neighborhood Hazard Fill Reduction Project

The project will address extremely high levels of downed, dead, flammable vegetation, including large Eucalyptus trees. Over 90 acres of Eucalyptus forest abut residential neighborhoods and a focused program of chipping and mowing to reduce wildfire risk is proposed. The project will also ensure wildlife resources are protected, including habit for monarch butterflies.

Mitigation Priority and Performance	
Priority	1
Hazards Mitigated	Wildfire
Estimated Timeline	2023
Estimated Cost/Funding Source	\$1,700,000/ FEMA grants, CalFire grants
Responsible Agency/Department	City Public Works Department
Comments	

2022-4. Lake Los Carneros Master Plan and Dam Improvement Project

The project will address long term safety of the earthen dam at Lake Los Carneros. Lake Los Carneros Dam is an impoundment structure that creates standing water for Lake Los Carneros in Goleta. It creates a recreation amenity and protected wildland habitat. It serves as a retention basin for flood control.

The design lifespan of the operational appurtenances has passed and replacement is necessary. Burrowing animals and concrete erosion have also contributed to the threats facing the dam. The project will address these risks.

A full master improvement plan for Lake Los Carneros can be found on the City website.

Mitigation Priority and Performance	
Priority	4
Hazards Mitigated	Flooding, Earthquake
Estimated Timeline	2026
Estimated Cost/Funding Source	\$1,500,000/ BRIC and Pre-Disaster Mitigation (PDM) and Flooding Mitigation Assistance (FMA) grants; City CIP funding
Responsible Agency/Department	City Public Works Department
Comments	

2022-5. Evergreen Park Drainage Repair Improvements Project

The project consists of the complete replacement of the existing 24 inch corrugated metal pipe storm drain system starting at the 12 ft curb opening drainage inlet at the intersection of Padova and San Rossano Drive and extending approximately 250 ft south into Evergreen Park where it outlets into an existing concrete lined ditch. Past winter storms showed evidence that the existing pipe system was failing with a sink hole which developed near the existing 36 inch junction structure at the down-drain section of the drainage system. Field investigations determined the bottom of the existing 24 inch pipe had completely corroded away and runoff entering into the system was running beneath the pipe undermining the entire system. As a result, the entire pipe system and all

junction structures will need to be removed and replaced. To protect the public using the park, the sink hole and down-drain portion of the drainage system has been fenced off.

Mitigation Priority and Performance	
Priority	5
Hazards Mitigated	Flooding, Earthquake
Estimated Timeline	2023
Estimated Cost/Funding Source	\$178,000 / City CIP General Fund
Responsible Agency/Department	Public Works Department
Comments	

2022-6. Update to the Goleta Community Wildfire Protection Plan (CWPP)

Goleta’s most recent CWPP was completed in 2012. CWPPs identify and prioritize areas for wildfire fuel reduction, and the science and equipment available to measure these areas have increased in capability. An updated CWPP will guide future actions taken to mitigate wildfire risk in Goleta and the surrounding area.

This project is in its first stages.

Mitigation Priority and Performance	
Priority	6
Hazards Mitigated	Wildfire
Estimated Timeline	2025
Estimated Cost/Funding Source	\$200,000/ CalFire grants
Responsible Agency/Department	Public Works Department
Comments	

2022-7. San Jose Creek/Hollister Avenue Bridge Replacement Project

This project will construct capacity improvements to the San Jose Creek Channel that will increase the design storm from a 25-year to a 100-year storm event. The new channel will be 50 feet wide with vertical walls and an articulated concrete revetment bottom. The revetment will include a fish passage. The project will require the reconstruction of the entire channel and the replacement of the Hollister Avenue Bridge over San Jose Creek. The channel work has been completed. This second phase of the project will replace the Hollister Avenue Bridge over San Jose Creek. The new bridge will have a 100-year storm flow capacity and will be designed to fit with the San Jose Creek project.

The project will reduce flooding and related impacts within Old Town Goleta by increasing the capacity of the channel to accommodate a 100-year storm event. The project will result in a redrawing of the FEMA flood plain maps to remove approximately 200 parcels from the flood plain.

- Construction of channel improvements completed.
- Obtain permits

- Construct bridge project

Mitigation Priority and Performance	
Priority	7
Hazards Mitigated	Flooding, Earthquake
Estimated Timeline	2025
Estimated Cost/Funding Source	\$22,000,000/ Federal Highway Bridge Program (HBP) funds. The project will be funded 88.53% by the HBP
Responsible Agency/Department	Public Works Department – Engineering Planning and Environmental Review Department – Building and Safety
Comments	

2022-8. Covington Drainage System Improvements

This is a City flood control project proposed. Insufficient capacity of the existing storm drain system causes repeated flooding in the area. Installation of a new storm drain line will reduce or eliminate flooding during storm events.

- Identify funding
- Design and construct the project

Mitigation Priority and Performance	
Priority	8
Hazards Mitigated	Flooding
Estimated Timeline	2026
Estimated Cost/Funding Source	\$3,700,000/ Pre-Disaster Mitigation (PDM) and Flood Mitigation Assistance (FMA) grants; City CIP funding
Responsible Agency/Department	City Public Works
Comments	

2022-9. Cathedral Oaks Crib Wall Repair

The project includes repairing the crib walls and multi-purpose path along the north side of Cathedral Oaks Road damaged during past storm events. A Geotechnical Engineering firm performed a comprehensive and systematic full-scale geotechnical investigation of the two crib walls along the northern side of Cathedral Oaks Road to determine the potential failure mechanisms related to the crib wall design and construction.

There have been structural damages to the crib wall structure and backfill due to 2017 (January) winter storms. High-intensity rainfall caused runoff to infiltrate backfill and caused extensive damage to wall backfill, including material loss and scouring of wall structure embedment.

Unknown limits of damage to backfill, and potential for wall failure to affect Cathedral Oaks Road and bike path resulting in the decision to close both facilities. The roadway has subsequently been reopened. The bike path remains closed.

The project is in the conceptual design phase.

Mitigation Priority and Performance	
Priority	9
Hazards Mitigated	Flooding
Estimated Timeline	2024
Estimated Cost/Funding Source	\$8,000,000/ HWA's Emergency Restoration (ER) program and FEMA Disaster Relief (DR) funds
Responsible Agency/Department	City Public Works Department
Comments	City Project No. 9053

2022-10. Ellwood Beach Drive Drainage Infrastructure Replacement

The project consists of reconstruction of the drainage system and repair of eroded slope at the end of Ellwood Beach Drive. The existing downdrain pipe at the end of the Ellwood Beach Drive is nonfunctioning causing drainage to bypass the down drain pipe and erode the existing slope. The existing downdrain system must be removed and a new downdrain constructed including repair of the eroded slope area. Existing pipes may need to be upsized to handle runoff. The project is located within the Coastal Zone and within an ESHA area. Environmental review and coordination with California Coastal Commission are integral tasks of the project. The system must be replaced to prevent further erosion which if left unaddressed could extent into the existing sidewalk and building located immediately adjacent to the project.

Mitigation Priority and Performance	
Priority	10
Hazards Mitigated	Flooding
Estimated Timeline	2024
Estimated Cost/Funding Source	\$350,000/ Pre-Disaster Mitigation (PDM) and Flood Mitigation Assistance (FMA) grants; City CIP funding
Responsible Agency/Department	City Public Works Department
Comments	

7.4.1 Climate Change Induced Mitigation Actions

Over the next five years, the City will also be examining mitigation actions considering the findings and recommendations resulting from predicted climate change conditions identified in the 2015 Draft City of Goleta Coastal Hazards Vulnerability Assessment and Fiscal Impact Report, the findings of which are summarized below:

- Existing creek hazards (FEMA) are the highest hazard in the City. Coastal flooding will be exacerbated by SLR, however future climate impacts on creek flooding are not available.
- Coastal flooding damages to structures in Goleta could increase dramatically by 416% between the time horizons of 2060 and 2100.
- Adaptation costs to elevate and accommodate coastal flooding by 2100 (\$175 million) exceed damages (\$14 million) and cleanup (approximately \$5 million) by an order of magnitude.

- The Storke Ranch neighborhood becomes exposed around 2100 when Goleta and Devereux Sloughs come together.
- Coastal flooding impacts the light manufacturing sector the greatest between 2 and 5 feet of SLR from 2060 to 2100.

Recommendations:

- Conduct coastal confluence modeling to better assess future vulnerabilities associated with stream flood hazards exacerbated by sea level rise to provide projections of future flood extents and depths.
- Engage in regional inlet management discussions with the City of Santa Barbara and the County of Santa Barbara.
- Establish a repetitive loss policy to trigger eminent domain in combination with a Transfer of Development (TDR) Program. Once a property had multiple flood insurance claims the policy would take effect.
- Adjust building codes to allow for increased building heights by additional freeboard based on sea level rise projections for parcels projected to be impacted by flooding after 2060.
- Implement the Short-Lived Climate Pollutant Reduction Act requirements. This will lessen the City's contribution to greenhouse gases and climate change.

Adaptation strategies are discussed in detail in Section 5 of the 2015 City of Goleta Coastal Hazards Vulnerability Assessment and Fiscal Impact Report.

8.0 PLAN MAINTENANCE

8.1 MONITORING, EVALUATING, AND UPDATING THE PLAN

Since the last LHMP in 2017, the LPT has monitored, evaluated, and updated the plan on a continuing and as-needed basis. The City was very successful in implementing the 2017 mitigation actions as noted in Table 7-1. The remaining mitigation actions outlined in the 2017 LHMP are ongoing at the time of this 2022 update.

The City of Goleta will be responsible for ensuring that this annex is monitored on an ongoing basis. The City will continue to participate in the countywide MAC and attend the annual meeting organized by the County Office of Emergency Management to discuss items to be updated/added in future revisions of this plan. The MJHMP is evaluated by the MAC annually to determine the effectiveness of programs, and to reflect changes in land development or programs that may affect mitigation priorities. This includes re-evaluation of goals, objectives, and mitigation actions for each jurisdiction by the MAC. The MAC also reviews the goals and mitigation actions to determine their relevance to changing situations in the county, as well as changes in State or Federal regulations and policy. The MAC reviews the risk assessment portion of the MJHMP and its annexes to determine if this information should be updated or modified, given any new available data. The responsible parties for the mitigation actions report on the status of their projects, the success of various implementation processes, difficulties encountered, success of coordination efforts, and which

strategies should be revised. Any updates or changes necessary for the City's LHMP will be forwarded to the County Office of Emergency Management for inclusion in further updates to the MJHMP.

Major disasters affecting the City of Goleta's community, legal changes, notices from Santa Barbara County (lead agency for the County-wide Plan), and other significant events may trigger revisions to this plan or the convening of the LPT. The City LPT, in collaboration with the Santa Barbara County Office of Emergency Management, and the other communities of the County, will determine how often and when the plan should be updated.

To remain eligible for mitigation grant funding from FEMA, the City is committed to revising the plan at a minimum of every five years. The City's Emergency Services Coordinator or the City's designee will contact the County four years after this plan is approved to ensure that the County plans to undertake the plan update process. The jurisdictions within Santa Barbara County should continue to work together on updating the multi-jurisdictional plan, including this annex.

8.2 IMPLEMENTATION THROUGH EXISTING PLANS AND PROGRAMS

The City implements the LHMP through existing plans, programs, and procedures, as detailed in Section 4.0, *Capability Assessment*. This LHMP provides a baseline of information on the hazards impacting the City and the existing institutions, plans, policies and ordinances that help to implement the LHMP (e.g., General Plan, building codes, floodplain management ordinance). The General Plan/Coastal Land Use Plan and the LHMP annex are complementary documents that work together to achieve the goal of reducing risk exposure to the City's citizens. An update to the General Plan may trigger an update to the LHMP. Implementation responsibilities of mitigation actions is integrated into the operational functions of the responsibility parties identified, including responsibility for seeking funding needed for implementation.

The City incorporates the LHMP by reference into its General Plan Safety Element. Under AB 2140, the City may adopt its current, FEMA-approved LHMP into the Safety Element of the General Plan. This adoption makes the City eligible to be considered for part or all of its local-share costs on eligible Public Assistance funding to be provided by the state through the California Disaster Assistance Act (CDAA) (see Section 2.0, *Plan Purpose and Authority* for the adopting resolutions). The LHMP has also been prepared to support the City's Emergency Operations Plan and Threat Analysis, including completion of Fire Station No. 10 to serve western Goleta and updating the City's CWPP. The City's Municipal Codes for Flood Risk and Stormwater Management Plan apply in concert with the City's zoning ordinance and building codes to reduce flooding hazards from land use. The LHMP includes several mitigations addressing flood control infrastructure to support the City's efforts to reduce flooding hazards.

The information contained within this LHMP, including results from the Vulnerability Assessment and the Mitigation Strategy, is used by the City to help inform updates and the development of local plans, programs, and policies. The City may utilize the hazard information when developing and implementing the City's capital improvement programs and the Planning and Environmental Review Department, including its Building Division, may utilize the hazard information when reviewing a site plan or other type of development applications. Further, the City incorporates the LHMP by reference into its General Plan/Coastal Land Use Plan Safety Element. Under AB 2140, the City

may adopt its current, FEMA-approved LHMP into the Safety Element of its General Plan/Coastal Land Use Plan. This adoption makes the City eligible to be considered for part or all of its local-share costs on eligible Public Assistance funding to be provided by the state through the California Disaster Assistance Act (CDAA) (see Section 2.0, *Plan Purpose and Authority* for the adopting resolutions).

8.3 ONGOING PUBLIC OUTREACH AND ENGAGEMENT

The public will continue to be involved whenever the plan is updated and as appropriate during the monitoring and evaluation process. Before the adoption of updates, the City will provide the opportunity for the public to comment on the updates. A public notice (in English and in Spanish) will be published before the meeting to announce the comment period and meeting logistics. Moreover, the City will engage stakeholders in community emergency planning. As described in Section 3.4, *Public Outreach and Engagement*, the public outreach strategy used during development of the current update will provide a framework for public engagement through the plan maintenance process. It can be adapted for ongoing public outreach as determined to be feasible by the MAC and the LPT.

8.4 POINT OF CONTACT

Comments or suggestions regarding this plan may be submitted at any time to the Neighborhood Services Director using the following information:

Jaime Valdez
 City of Goleta
 Attn: Neighborhood Services Dept./Emergency Services
 130 Cremona Drive #B
 Goleta, CA 93117
 jvaldez@cityofgoleta.org
 (805) 961-7500

9.0 REFERENCES

CBS Los Angeles. 2021. Drenching Rain Forces Alisal Fire Burn Area Residents In Santa Barbara County To Evacuate. Accessed: 26 October 2021. Retrieved from: <https://losangeles.cbslocal.com/2021/10/25/residents-in-santa-barbara-near-alisal-fire-burn-area-brace-for-approaching-rain-storm/>

Santa Maria Times. 2021. Judith Dale: Wildfires in Santa Barbara County, 2016 to 2019. Accessed: 26 October 2021. Retrieved from: https://santamariatimes.com/lifestyles/judith-dale-wildfires-in-santa-barbara-county-2016-to-2019/article_ba567bff-ad16-5a6e-9d85-226bcb76cce9.html.

Earthquake Track. 2021. Recent Earthquakes near Santa Barbara, California, United States. Accessed: Retrieved from: <https://earthquaketrack.com/us-ca-santa-barbara/recent>.

California Natural Resources Agency. 2018. California's Fourth Climate Change Assessment. Accessed: 26 October 2021. Retrieved from:

https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

County Flood Control. 1995. 1995 Floods. Accessed: 29 October 2021. Retrieved from: <https://www.countyofsb.org/uploadedFiles/pwd/Content/Water/1995FloodsRpt.pdf>

California Department of Water Resources (DWR). 2021. Best Available Map (BAM). Accessed: 1 November 2021. Retrieved from: <https://gis.bam.water.ca.gov/bam/#skip-to-content>

Santa County Barbara Planning and Development Department. 2021. Draft Climate Change Vulnerability Assessment. Accessed: 26 October 2021. Retrieved from: https://s3-us-west-2.amazonaws.com/mysocialpinpoint/uploads/redactor_assets/documents/8c4aa5d7d81a96f8896bce055b229c2e7ec3c010a9866b35a18b7ae86aef7067/44589/SantaBarbaraCounty_CCVA_Report_PublicDraft_withExecSummary__09-21-21_reduced.pdf

The University of Southern California. 2001. "A Tsunami 50 Feet High Could Hit Southern California." <https://news.usc.edu/6031/A-Tsunami-50-Foot-High-Could-Hit-Southern-California/>