



**SEABROOK CITY COUNCIL
NOTICE OF REGULAR CITY COUNCIL MEETING
TUESDAY, OCTOBER 21, 2025 - 6:00 PM**

For city information visit www.seabrooktx.gov
For agendas visit www.seabrooktx.gov/agendas

NOTICE IS HEREBY GIVEN THAT THE SEABROOK CITY COUNCIL WILL MEET ON **TUESDAY, OCTOBER 21, 2025 AT 6:00 PM** IN THE CITY HALL CITY COUNCIL CHAMBERS, 1700 1ST STREET, SEABROOK, TEXAS, **TO DISCUSS, CONSIDER, AND IF APPROPRIATE, TAKE ACTION** WITH RESPECT TO THE ITEMS LISTED BELOW.

PLEDGE OF ALLEGIANCE

1. PUBLIC COMMENTS AND ANNOUNCEMENTS

At this time we would like to listen to any member of the audience on any subject matter, whether or not that item is on the agenda. All comments are limited to a maximum of four minutes for each speaker, shall be limited to City business or City-related business or matters of general public interest, and shall not include any personal attacks or abusive language.

All public remarks shall be addressed to the Chair. Comments shall not be directed toward individual Councilmembers, City staff, or other members of the public.

In accordance with the Texas Open Meetings Act, members may not discuss or take action on any item that has not been posted on the agenda. When your name is called, please come to the podium and state your name and address clearly into the microphone before making your comments. Thank you.

REGISTER ONLINE TO SPEAK IN PERSON DURING PUBLIC COMMENTS:
www.seabrooktx.gov/publiccomment

1.1 Mayor, City Council and/or members of the City staff may make announcements about City/Community events. *City Council*

1.2 City Manager update and report to City Council on various items that require no action, including Seabrook Boards and Commissions, Transportation Projects, and City of Seabrook CIP Projects.

2. PRESENTATIONS

2.1 Mayor Sweeney to present a proclamation declaring November 3, 2025 through November 7, 2025 as Municipal Court Week in the City of Seabrook.

2.2 Mayor Sweeney to present a proclamation declaring October 2025 as Breast

Cancer Awareness Month in the City of Seabrook.

2.3 Hear and receive a report on the City's Financial Report for the period ending September 30, 2025, and the Fiscal Year 2025 Year-End Summary *Michael Gibbs, Director of Finance*

2.4 Presentation of an update to the City of Seabrook Strategic Plan *Gayle Cook, City Manager*

3. CONSENT AGENDA

3.1 Approve the minutes of the October 7, 2025 City Council Meeting.

3.2 Consider and take all appropriate action on the second reading of Ordinance 2025-09 a request to amend the Seabrook Code of Ordinances, Appendix A, "Comprehensive Zoning," Article 2, "Administration," Section 2.03.5, "Prohibited Uses," to modify the ordinance adoption process by reducing the required number of readings and to create a special exception permitting the use of shipping/storage containers in the construction of above-ground and below-ground swimming pools.

AN ORDINANCE AMENDING THE SEABROOK CITY CODE OF ORDINANCES, APPENDIX A, COMPREHENSIVE ZONING, "ARTICLE 2, "ADMINISTRATION", SECTION 2.03.5, "PROHIBITED USES", BY REVISING THE ORDINANCE ADOPTION PROCESS BY REDUCING THE REQUIRED NUMBER OF READINGS; AND CREATE A SPECIAL EXCEPTION PERMITTING THE USE OF SHIPPING/STORAGE CONTAINERS IN THE CONSTRUCTION OF ABOVE-GROUND AND BELOW-GROUND SWIMMING POOLS; PROVIDING A PENALTY NOT TO EXCEED \$2,000 FOR VIOLATION OF ANY PROVISION HEREOF; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HERewith; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

3.3 Consider and take all appropriate action on the second reading of Ordinance 2025-14 a request to amend the Seabrook Code of Ordinances, Chapter 18, Division 9, "Swimming Pools," to adopt the 2021 Edition of the International Swimming Pool and Spa Code and to create an amendment allowing an alternative construction method using shipping/storage containers for above-ground and below-ground swimming pools, including all related regulations and amendments.

AN ORDINANCE AMENDING THE SEABROOK CITY CODE OF ORDINANCES, CHAPTER 18, "BUILDINGS AND BUILDING REGULATIONS", DIVISION 9, "SWIMMING POOLS", BY REVISING SECTION 18-356, "SWIMMING POOL CODE – ADOPTED", TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL SWIMMING POOL AND SPA CODE; AND BY AMENDING SECTION 18-357, "AMENDMENTS", TO CREATE AN ALTERNATIVE CONSTRUCTION METHOD ALLOWING THE USE OF SHIPPING OR STORAGE CONTAINERS FOR ABOVE-GROUND AND BELOW-GROUND SWIMMING POOLS; PROVIDING A PENALTY NOT TO EXCEED \$2,000 FOR VIOLATION OF ANY PROVISION HEREOF; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HERewith; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

3.4 Consider and take all appropriate action on approval on the second reading of Ordinance 2025-21 updating Section 2-47 "Agenda; establishing" to reflect changes enacted by voters in the 2025 Special Charter Election, as well as new requirements by the State of Texas.

AN ORDINANCE AMENDING SECTION 2-47 OF THE CODE OF ORDINANCES OF THE CITY OF SEABROOK, TEXAS, ENTITLED "AGENDA; ESTABLISHING," BY REVISING SUCH SECTION TO REQUIRE THE PLACING OF ITEMS ON THE AGENDA TO COMPLY WITH NEW TEXAS LAW AND APPLICABLE CITY CHARTER PROVISIONS; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES INCONSISTENT OR IN CONFLICT HEREWITH; PROVIDING FOR SEVERABILITY; PROVIDING FOR NOTICE; AND PROVIDING FOR OPEN MEETINGS ACT COMPLIANCE.

3.5 Consider and take all appropriate action on Resolution 2025-26 updating the Harris County Multi-Jurisdiction Hazard Mitigation Action Plan.

A RESOLUTION ADOPTING ALL OF VOLUME 1 AND THE CITY OF SEABROOK'S PORTION OF VOLUME 2 OF THE HARRIS COUNTY MULTI-JURISDICTION HAZARD MITIGATION ACTION PLAN.

4. WORKSHOP SESSION

4.1 Discussion and possible direction regarding funding options and conceptual designs for the Pine Gully Pier project and review of Quality of Life Capital Improvement Projects (CIPs) including those with unfunded or TBD funding sources, and potential new projects such as donated property and the Seabrook Skatepark.
Jim Sweeney, Mayor of Seabrook, Angela Cervantes, At-Large Position 4

5. ADJOURN WORKSHOP SESSION AND ENTER BACK INTO REGULAR SESSION

6. NEW BUSINESS

6.1 Consider and take all appropriate action on the approval of the video recording of all City board, commission, and corporation meetings. *Angela Cervantes, At-Large Position 4, Tyler Kubena, At-Large Position 1*

6.2 Hear a presentation and take all appropriate action on the overview of a financing plan and a schedule of events for the General Obligation Bonds, Series 2025, regarding the construction of the City Pool. *City Financial Advisor John Robuck*

6.3 Consider and take all appropriate action on an updated Water and Sewer Impact Fee Study Proposal from Cobb Fendley. *Brian Craig, Director of Public Works | City Engineer*

6.4 Consider and take all appropriate action to approve the allocation not to exceed \$15,000 from the Hotel Occupancy Tax Fund (HOT) to sponsor a Seabrook-themed fiberglass soccer ball in the Houston 'Art of Soccer' public art program as a participant in the display in Houston's display for the FIFA World Cup 2026. *Gayle Cook, City Manager*

6.5 Consider and take all appropriate action on approval of a Medical Director Agreement with Dr. Madain and authorize the City Manager to execute. *Robert Turner, Emergency Medical Services Chief*

7. EXECUTIVE SESSION

7.1 7.1 Conduct a Closed Session pursuant to Texas Government Code Sections:
Sec. 551.074 Personnel Matters
Annual evaluation of the performance and duties of the City Secretary

8. OPEN SESSION

Council will reconvene in Open Session to allow for possible action on any of the agenda items listed above under "Closed Executive Session".

9. ROUTINE BUSINESS

9.1 Establish future meeting dates and agenda items.

THE CITY COUNCIL RESERVES THE RIGHT TO HEAR ANY OF THE ABOVE DESCRIBED AGENDA ITEMS THAT QUALIFY FOR AN EXECUTIVE SESSION IN AN EXECUTIVE SESSION BY PUBLICLY ANNOUNCING THE APPLICABLE SECTION NUMBER OF THE OPEN MEETINGS ACT, (CHAPTER 551 OF THE TEXAS GOVERNMENT CODE) THAT JUSTIFIES EXECUTIVE SESSION TREATMENT.

THIS FACILITY IS WHEELCHAIR ACCESSIBLE AND ACCESSIBLE PARKING SPACES ARE AVAILABLE. REQUESTS FOR OTHER ACCOMMODATIONS OR INTERPRETIVE SERVICES, MUST BE MADE, 48 HOURS PRIOR TO THIS MEETING. PLEASE CONTACT THE CITY SECRETARY'S OFFICE AT (281) 291-5663 OR CITYSEC@SEABROOKTX.GOV FOR FURTHER INFORMATION.

I certify that this notice was posted on the bulletin board on or before Wednesday, October 15, 2025, no later than 6:00 p.m. and that this notice will remain posted until the meeting has ended.

Rachel Lewis, TRMC





Proclamation

WHEREAS, Municipal Courts play a significant role in preserving public safety and promoting quality of life in Texas; and

WHEREAS, more people come in contact with municipal courts than all other Texas courts combined and public impression of the Texas judicial system is largely dependent upon the public's experience in municipal court; and

WHEREAS, the City of Seabrook is committed to the notion that our legal system is based on the principle that an independent, fair, and competent judiciary will interpret and apply the laws that govern us and that judges and court personnel should comply with the law and act in a manner that promotes public confidence in the integrity and impartiality of the judiciary; and

WHEREAS, Seabrook Municipal Judges are not policy makers for the City of Seabrook but are bound by the law and the Canons of Judicial Conduct and required to make decisions independent of the governing body of the City Council, city officials, and employees; and

WHEREAS, the City Council recognizes that the Constitution and laws of the State of Texas contain procedural safeguards in criminal cases for all defendants, including indigent defendants, and supports the Seabrook Municipal Court in complying with such legal requirements.

NOW THEREFORE, I, Jim Sweeney, Mayor of the City of Seabrook do hereby proclaim the week of **November 3rd-7th, 2025** as

Municipal Court Week

In Witness Whereof: I have hereto set my hand and caused the Seal of the City to be affixed hereto, this, the 21st day of October, 2025.

City of Seabrook

Jim Sweeney, Mayor



Proclamation

WHEREAS, breast cancer is the most common cancer among women worldwide and a significant health concern in our community; and

WHEREAS, early detection through screening and increased awareness can save lives and improve outcomes for those affected by breast cancer; and

WHEREAS, it is essential to promote education, awareness, and support for individuals and families impacted by breast cancer within the City of Seabrook; and

WHEREAS, the City of Seabrook recognizes the importance of uniting our community in the fight against breast cancer and honoring survivors, those currently battling the disease, and those who have lost their lives to it.

NOW THEREFORE, I, Jim Sweeney, Mayor of the City of Seabrook in recognition of this event do hereby proclaim the month of **October, 2025** as

Breast Cancer Awareness Month

In Witness Whereof: I have hereto set my hand and caused the Seal of the City to be affixed hereto, this, the 21st day of October, 2025.

City of Seabrook

Jim Sweeney, Mayor



STRATEGIC PLAN



FISCAL YEAR 2025-2026

This plan is organized with Areas of Emphasis, Initiatives, and Goals. Areas of Emphasis represent the key priorities that will ensure pursuit of the future.



**Economic
Development**



City Services



Infrastructure



**Engagement
& Branding**



Quality of Life

CITY OFFICIALS



**MAYOR
JIM SWEENEY**



TYLER KUBENA

At-Large Position 1



JARED SESSUM

At-Large Position 2



TOM TOLLETT

At-Large Position 3



ANGELA CERVANTES

At-Large Position 4



BUDDY HAMMANN

At-Large Position 5



SUMMER SANFORD

At-Large Position 6

City Manager, Gayle Cook | Deputy City Manager, Sean Landis | City Secretary, Rachel Lewis

TABLE OF CONTENTS

INTRODUCTION	5
What is Strategic Planning?	7
City Council Retreat Report	8
Vision, Mission, Values	11

AREAS OF EMPHASIS	13
Economic Development	14
City Services	16
Infrastructure	17
Engagement & Branding	18
Quality of Life	19



INTRODUCTION



Strategic planning gives Seabrook a clear way to look ahead and act now. While taking direction from business owners and residents, City Council and staff met throughout the year to talk about our future and agree on actions for the next fiscal year. The result is this 2025-2026 Strategic Plan.

The plan serves two purposes:

1.

GUIDE

It sets priorities, timelines, and yardsticks so everyone can see where we are headed.

2.

PROMISE

It shows how tax dollars will be used wisely and how progress will be reported.

The plan will be reviewed each year and updated as needed, keeping Seabrook safe, strong, and welcoming for all.



Economic
Development



City Services



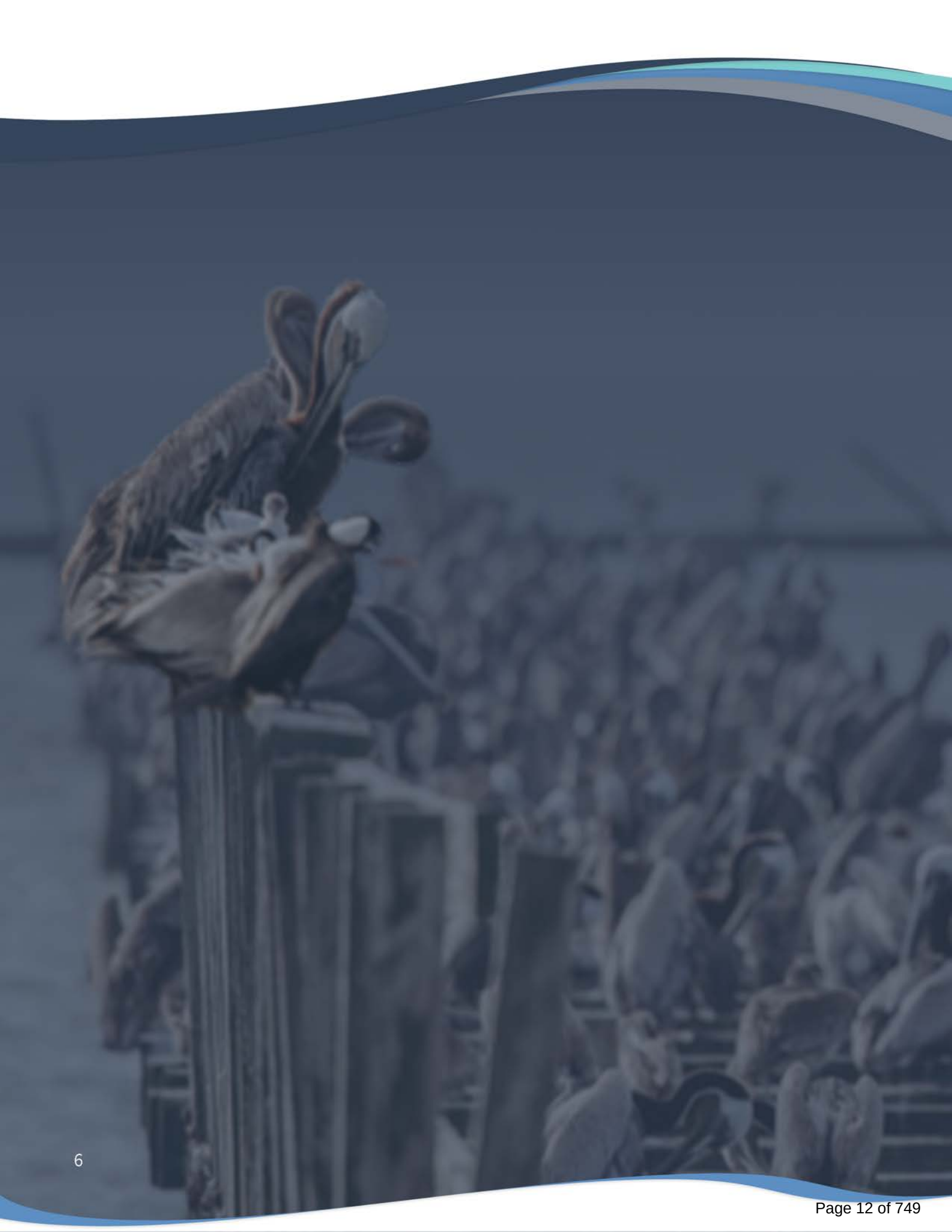
Infrastructure



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WHAT IS STRATEGIC PLANNING?

Highly effective organizations regularly engage in the strategic planning process to define the long-term vision for the future and to create short-term action plans in pursuit of that vision. Strategic plans consider current opportunities and challenges and help prioritize resources. The Seabrook City Council and staff have engaged in the strategic planning process this year and have drafted a strategic plan that establishes areas of emphasis, initiatives, and goals to commence within the next year. Once implemented, this plan is designed to move the City of Seabrook toward its future by giving guidance to staff, setting internal and external expectations, and creating measurements of success.

WHAT IS A VISION?

A vision statement is a collective aspiration of what we desire to be. It describes why we do what we do and serves as inspiration and motivation to become a greater version of ourselves.

WHAT ARE VALUES?

These are the guiding principles of how the City of Seabrook performs the work that serves its citizens. They shape the organizational culture and thus our actions.

PROPOSED 2025-2026 STRATEGIC PLAN

This plan is organized with Areas of Emphasis, Initiatives, and Goals. Areas of Emphasis represent the key priorities that will ensure pursuit of the future. Each Area of Emphasis has Initiatives that prescribe particular strategies, and each Initiative has Goals which describe steps to be taken to advance the Initiatives. (Numbers are for organizational purposes and do not assign priority or order.)



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Development**



City Services



Infrastructure



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Quality of Life

CITY COUNCIL RETREAT REPORT

The City Council of Seabrook, Texas, held a strategic planning retreat June 6, 2025, to review the Council's strategic plan and to establish new strategic priorities and goals. The retreat was attended by Mayor Sweeney and Councilmembers Cervantes, Kubena, Sanford, Sessum, and Tollett. Mayor Pro Tem Hammann was unable to attend but provided his input in advance. City Manager Cook and her executive staff were also present. The retreat was facilitated by Hilary Shine of SGR. Below is a summary of the main discussions at the retreat.

GOVERNANCE

Hilary Shine presented a session on the principles of good governance and governance as a system. Strong governance provides structure, stability, and transparency through effective processes, clear policies, and shared priorities. It also creates organizational accountability. We discussed strengthening Seabrook's governance practices in order to build trust with the community.

INDIVIDUAL PERSPECTIVES

Interviews were conducted with each member of the City Council prior to the retreat. A series of questions were asked in order to gain individual perspectives on group dynamics, strengths, weaknesses, opportunities and threats, strategic issues and strategic priorities. The results of those interviews were presented in the following composite lists:

WHAT MAKES SEABROOK SPECIAL

Each member was asked this open-ended question to gather personal sentiments about what is loved about the community. This helps set the foundation for what we hope to maintain or enhance as we move the city into the future. Members provided the following responses:

- Location
- Water, coastal community
- Parks, trails, green space, nature
- Small town feel
- Peaceful, relaxed
- Privacy
- Welcoming, friendly
- The people, caring for one another
- Care for the community
- Diversity
- History
- Access to government

SWOT ASSESSMENT

Composite lists of strengths, weaknesses, opportunities, and threats were presented to the Council for discussion and to frame the current feelings related to the organization and community.



STRENGTHS

- Location
- Waterfront
- Parks, trails, green space
- Strong finances
- Great staff, well-run services
- Volunteerism
- Sense of community
- Engaged community
- Hwy 146 improvements
- Properties ripe for development
- Safe
- Good Schools

WEAKNESSES

- Community division
- Lack of trust
- Financial questioning
- Lack of communication, storytelling
- Lack of identity, image
- Bar issue
- No boat dock
- Bypass traffic
- Insurance

OPPORTUNITIES

- Capitalize on location
- Attraction, draw
- Moving forward strategically
- Setting strategic vision, goals
- More community involvement
- Better communication
- Better relationships with partners
- Signage
- Ecotourism
- Creating community spaces, opportunities
- Events that bring people together

THREATS

- Legislature, loss of local decision-making
- Local division
- Loss of trust
- Short-term focus
- Focus on negative
- Personal interest over community need
- Industrialization of port
- Water, storms, flooding
- Loss of insurance

LONG-TERM GOALS

Councilmembers were asked if there were specific projects or programs that they believed should be considered, although they may take five to 20 years to complete. The following list was generated from their responses:

- Economic development (small, large commercial)
- Changing the business/homeowner ad valorem tax proportion
- An attraction
- Space for entertainment, gathering
- An identity
- City-wide signage
- More activity in Old Seabrook
- New Police Station (needs)
- Hardened storm system
- Town Center built
- Fully developed green initiatives
- Connected parks
- Boat ramps
- Amenities, programs for kids

SHORT-TERM GOALS

Councilmembers were asked if there were specific projects or programs that they would like to see started or completed in the next one to two years. The following list provides their responses:

- Economic development
- Convention Center project moving
- Carothers Gardens filled out
- Bayside Park completed
- Draw attention to fish markets
- Trail signage
- Improve appearance of city and entrances
- Start developing an identity
- Citizen Police bond committee
- Begin green initiatives
- Work better with partners, non-profits
- Review, update codes
- Upgrade permitting system
- Encourage more community involvement
- Program to get youth involved in city government

AREAS OF FOCUS

The following areas were identified when Councilmembers were asked if there were particular areas that should be of focus when planning the city's near-term goals:

- Restoring reputation
- Enhancing the trail system and connections
- Ecotourism
- Green initiatives (nature, sustainability, preservation)
- Creating identity
- Economic development
- Becoming more customer-friendly

We compared the above list to the 2023-2024 Strategic Plan's Areas of Emphasis and determined the following categories were still complete and correct:

- Economic Development
- City Services
- Infrastructure
- Engagement and Branding
- Quality of Life



Economic Development



City Services



Infrastructure



Engagement & Branding



Quality of Life

VISION, MISSION, VALUES

Organizational culture is created through shared goals and beliefs, so the group discussed whether Seabrook's current vision, mission, and values statements are still relevant and resonant. The Council revised the vision statement and values. They chose to have the staff develop the mission statement.

VISION

Seabrook is a sustainable, vibrant, and welcoming coastal community that embraces its natural environment, fosters safe neighborhoods, and promotes ecotourism and economic diversity.

MISSION

Seabrook is charting a bold course—protecting our coastline, inspiring community pride, and creating a thriving future where nature, neighbors, and opportunity meet.

VALUES

- Proactive communication
- Collaborative spirit
- Integrity, honesty, and respect
- Financial stewardship
- Nurture collective trust



Economic
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City Services



Infrastructure



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Quality of Life



AREAS OF EMPHASIS

ESTABLISHMENT OF INITIATIVES AND GOALS:

With the Areas of Emphasis confirmed, Council established initiatives and goals to support each. The result is this draft 2025-2026 City of Seabrook Strategic Plan.

The plan groups our work into five Areas of Emphasis. Each Area supports the vision and values and contains detailed Initiatives and Goals that appear in later pages.

AREA	PURPOSE & DESIRED RESULT
Economic Development	Support existing businesses, attract new investment, and grow jobs so that all residents benefit from a diverse local economy.
City Services	Deliver reliable police, fire, public works, and administrative services through skilled staff, sound facilities, and modern technology.
Infrastructure	Maintain and improve streets, water, and other core systems to keep the city running today and ready for tomorrow.
Engagement & Branding	Share timely, accurate information and create a strong city identity that invites citizens, businesses, and visitors to connect with Seabrook.
Quality of Life	Expand parks, trails, and water access so residents enjoy a healthy, active lifestyle in a beautiful coastal setting.



**Economic
Development**



City Services



Infrastructure



**Engagement
& Branding**



Quality of Life

ECONOMIC DEVELOPMENT

Economic development strategies need to reflect the diversity, values, interests, and desires of individual local communities and their citizenry.

INITIATIVE 1.1

Establish a program for promoting existing businesses

- **Goal 1.1.1:** Re-establish the shop local program with special programs to focus/assist revitalization of struggling businesses post SH146
- **Goal 1.1.2:** Establish criteria for determining the businesses to be promoted and media to be used
- **Goal 1.1.3:** Hold two to four promotional campaigns per year
- **Goal 1.1.4:** Establish an interactive map locating businesses

INITIATIVE 1.2

Establish a business signage program

- **Goal 1.2.1:** Develop and execute a Request for Proposal (RFP) for economic wayfinding and directional signage that will inventory, evaluate, take input from business community to recommend best signage options for each business district
- **Goal 1.2.2:** Ensure adequate funding is planned for directional signage programs for businesses

INITIATIVE 1.3

Engage small businesses

- **Goal 1.3.1:** Partner to bring training programs to Seabrook
- **Goal 1.3.2:** Create networking opportunities

INITIATIVE 1.4

Commercial zoning policy and process review

- **Goal 1.4.1:** Develop public education plan and resources
- **Goal 1.4.2:** Review the Comprehensive Plan (2027)



INITIATIVE 1.5

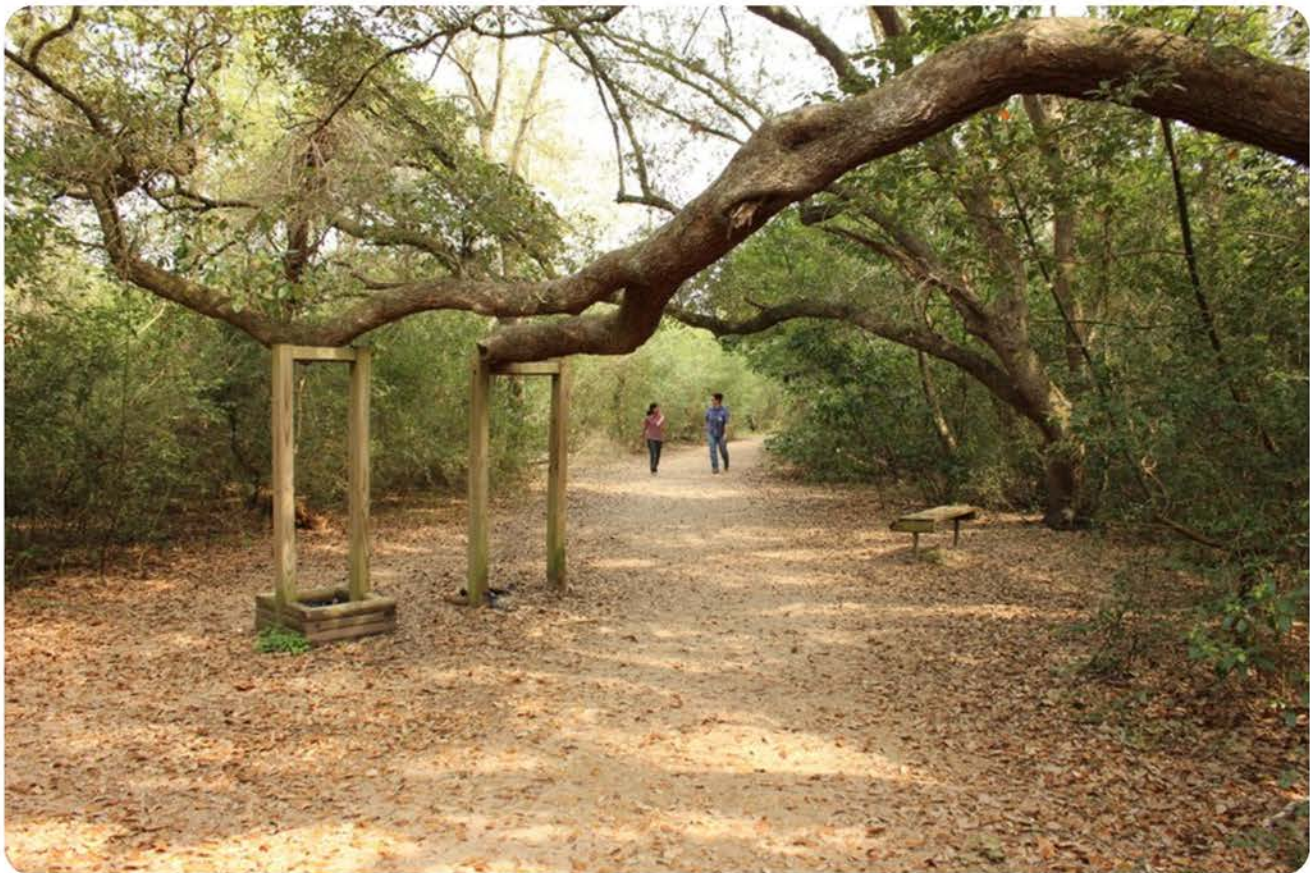
Explore large development incentives to create buffers

- **Goal 1.5.1:** Research and propose incentive options for developers
- **Goal 1.5.2:** Develop and market incentives

INITIATIVE 1.6

Engage ecotourism expert to explore feasibility

- **Goal 1.6.1:** Assess Seabrook's Ecotourism Potential
- **Goal 1.6.2:** Assess Infrastructure, Resources, and Real Property Needs
- **Goal 1.6.3:** Develop a Plan with Actionable Recommendations



**Economic
Development**



City Services



Infrastructure



**Engagement
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Quality of Life

CITY SERVICES

To be the driving force that serves the city and community.

INITIATIVE 2.1

Improve City facilities

- **Goal 2.1.1:** Establish a Public Safety facility Ad Hoc Committee
- **Goal 2.1.2:** Create a Facility Maintenance Plan

INITIATIVE 2.2

Produce high-quality services through best practices, support, and staff planning.

- **Goal 2.2.1:** Engage in organizational succession planning
- **Goal 2.2.2:** Conduct ongoing annual salary survey
- **Goal 2.2.3:** Develop a Police recruitment and retention strategy

Initiative 2.3

Enhance technology systems to improve internal efficiency and external services

- **Goal 2.3.1:** Cyber security enhancements
- **Goal 2.3.2:** Online permitting system
- **Goal 2.3.3:** Digitize records



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City Services



Infrastructure



**Engagement
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Quality of Life

INFRASTRUCTURE

To provide for the infrastructure needs of the City of Seabrook.

INITIATIVE 3.1

Establish long-term strategies for future infrastructure that is financially sustainable

- **Goal 3.1.1:** Continue funding and allocating for Pavement Management Plan
- **Goal 3.1.2:** Identify resiliency projects

INITIATIVE 3.2

Long-Term Initiatives for Independent Water Supply

- **Goal 3.2.1:** Diversify water supply sources
- **Goal 3.2.2:** Collaborate with regional partners to seek independent water supply sources

INITIATIVE 3.3

District parking in the Old Seabrook District

- **Goal 3.3.1:** Support projects to identify and fund additional parking options in the district



Economic
Development



City Services



Infrastructure



Engagement
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Quality of Life

ENGAGEMENT & BRANDING

To inform and engage citizens, businesses, and visitors by providing and responding with timely, reliable, and accurate information.

INITIATIVE 4.1

Enhance City signage to support placemaking and tourism

- **Goal 4.1.1:** Establish a committee to advise on signage
- **Goal 4.1.2:** Install trail signage
- **Goal 4.1.3:** Increase citywide beautification efforts

INITIATIVE 4.2

Improve the City website to streamline access to information

- **Goal 4.2.1:** Gather User Feedback
- **Goal 4.2.2:** Improve Site Navigation

INITIATIVE 4.3

Enhance communication with the public

- **Goal 4.3.1:** Create project/program updates to include videos
- **Goal 4.3.2:** Create a Council communication strategy
- **Goal 4.3.3:** Identify and create communication partnerships
- **Goal 4.3.4:** Youth outreach

INITIATIVE 4.4

Establish customer service protocols

- **Goal 4.4.1:** Create an inviting environment for engagement with citizens
- **Goal 4.4.2:** Establish customer service improvement plans



**Economic
Development**



City Services



Infrastructure



**Engagement
& Branding**



Quality of Life

QUALITY OF LIFE

To provide citizens with amenities and services that enhance the quality of life.

INITIATIVE 5.1

Plan and provide for increased water access opportunities

- **Goal 5.1.1:** Increase and enhance public water access points
- **Goal 5.1.2:** Plan for the availability of more water recreational offerings

INITIATIVE 5.2

Improve and enhance parks, open spaces, and expand trail network

- **Goal 5.2.1:** Continue to implement the Open Space Master Plan (2020) with the addition of new trail segments and connections
- **Goal 5.2.2:** Seek to expand a green barrier between adjoining industrial and residential areas
- **Goal 5.2.3:** Explore adding parking at parks
- **Goal 5.2.4:** Pier restoration

INITIATIVE 5.3

Communicate Proactively and Strategically

- **Goal 5.3.1:** Community branding
- **Goal 5.3.2:** Citizen education



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Infrastructure



Engagement
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Quality of Life



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**MEETING MINUTES
OCTOBER 7, 2025**

**SEABROOK CITY COUNCIL
REGULAR CITY COUNCIL MEETING**

Mayor Jim Sweeney called the Seabrook Council Meeting to order at 6:00 p.m. in the Council Chambers in Seabrook City Hall. Present were City Councilmembers Jim Sweeney, Buddy Hammann, Tyler Kubena, Jared Sessum, Angela Cervantes, Summer Sanford. Also in attendance were: City Manager Gayle Cook, City Secretary Rachel Lewis, and City Attorney David Olson. Pledges were conducted.

1. PUBLIC COMMENTS AND ANNOUNCEMENTS

There were no citizen comments.

1.1 Mayor, City Council and/or members of the City staff may make announcements about City/Community events.

Councilmember Kubena made the following event announcements:

National Night Out on October 7, 2025

Costume Paw Parade on October 25, 2025

National Drug Take Back Day on October 25, 2025

1.2 City Manager update and report to City Council on various items that require no action, including Seabrook Boards and Commissions, Transportation Projects, and City of Seabrook CIP Projects.

City Manager Gayle Cook provided the update. **See Attachment A.**

2. PRESENTATIONS

2.1 Presentation of a Life Saving Award for assisting in a water rescue to the Seabrook Volunteer Fire Department (SVFD), Assistant Fire Chief, Seabrook Police and Communications Officers.

Councilmember Jared Sessum presented the award to the Seabrook Volunteer Fire Department, Assistant Fire Chief Andy Castiglione.

2.2 Mayor Sweeney to present a proclamation declaring the week of October 5, 2025 through October 11, 2025 as Fire Prevention Week in the City of Seabrook, Texas.

Mayor Sweeney presented the proclamation to Fire Marshal Kevin Rodgers and the Seabrook Volunteer Fire Department.

2.3 Mayor Sweeney to present a proclamation declaring the month of October, 2025 as Domestic Violence Awareness month in the City of Seabrook.

Mayor Sweeney presented the proclamation to Emanuel Walker of Bay Area Turning Point.

2.4 Hear a presentation from Driver & Rescue, LLC on the agreement between the City of Seabrook and Driver & Rescue Club LLC, lessee of the property located at 2613 1/2 NASA Parkway (operating as 'The Yard' at Barge295) for temporary conditional exceptions to codes and ordinances due to Hurricane Beryl damage to the primary structure of the Barge.

Patrick and Michael Robinson with Barge 295 presented the updates needed for an extension of the agreement. **See Attachment B.**

Mayor Sweeney adjourned the meeting into an Executive Session under Texas Government Code Section 551.071 at 6:30 pm.

Mayor Sweeney reconvened into Open Session at 6:53 pm.

3. SPECIFIC PUBLIC HEARING

- 3.1 Conduct a public hearing to consider a request to amend the Seabrook Code of Ordinances, Appendix A, “Comprehensive Zoning,” Article 2, “Administration,” Section 2.03.5, “Prohibited Uses,” to modify the ordinance adoption process by reducing the required number of readings and to create a special exception permitting the use of shipping/storage containers in the construction of above-ground and below-ground swimming pools.**

Assistant City Manager Sean Landis presented the request. **See Attachment C.**

There were no public comments. Mayor Sweeney closed the Public Hearing.

- 3.2 Conduct a public hearing to consider a request to amend the Seabrook Code of Ordinances, Chapter 18, Division 9, “Swimming Pools,” to adopt the 2021 Edition of the International Swimming Pool and Spa Code and to create an amendment allowing an alternative construction method using shipping/storage containers for above-ground and below-ground swimming pools, including all related regulations and amendments.**

Assistant City Manager Landis presented the request. **See Attachment D.**

There were no public comments. Mayor Sweeney closed the Public Hearing.

4. CONSENT AGENDA

- 4.1 Approve the minutes of the September 16, 2025 and September 25, 2025 City Council Meetings.**
- 4.2 Consider and take all appropriate action on the approval of Resolution 2025-18, Authorizing the City of Seabrook to Participate in the National Opioid Settlement for Secondary Manufacturer’s Settlement and its Affiliated Debtors and authorizing the City Manager to execute related documents.**
- 4.3 Consider and take all appropriate action on Resolution 2025-25, Investment Policy correcting the Resolution number.**

Motion:	To Approve the Consent Agenda
Made By:	Mayor Pro Tem, At-Large Position 5 Hammann
Seconded By:	At-Large Position 2 Sessum
Vote:	Passed unanimously by all present

5. BOARDS AND COMMISSIONS

- 5.1 Consider and take all appropriate action on the appointment of members to the Ethics Review Commission, with terms to expire on October 15, 2027.**

Councilmember Kubena recommended Helen Hanks, Galvin Moore, and Brandi Tallady be appointed as members, and George Harris be appointed as the alternate member.

Motion:	To Approve as recommended
Made By:	At-Large Position 1 Kubena
Seconded By:	Mayor Pro Tem, At-Large Position 5 Hammann
Vote:	Passed unanimously by all present

6. NEW BUSINESS

- 6.1 **Consider and take all appropriate action on the Supplement to the Agreement Between the City of Seabrook and Morgan Southwest Land Company, and Driver & Rescue Club LLC, lessee of the property located at 2613 ½ NASA Parkway (operating as ‘The Yard’ at Barge295).**

Motion:	To extend the agreement with the understanding that at the end of the 1st quarter of 2026 the tent be removed.
Made By:	Mayor Pro Tem, At-Large Position 5 Hammann
Seconded By:	At-Large Position 2 Sessum
Vote:	Passed unanimously by all present

- 6.2 **Consider and take all appropriate action on the first reading of Ordinance 2025-09 a request to amend the Seabrook Code of Ordinances, Appendix A, “Comprehensive Zoning,” Article 2, “Administration,” Section 2.03.5, “Prohibited Uses,” to modify the ordinance adoption process by reducing the required number of readings and to create a special exception permitting the use of shipping/storage containers in the construction of above-ground and below-ground swimming pools.**

Motion:	To Approve
Made By:	Mayor Pro Tem, At-Large Position 5 Hammann
Seconded By:	At-Large Position 1 Kubena
Vote:	Passed with Councilmembers Kubena, Hammann, Sweeney, Cervantes, and Sessum voting in favor and Councilmember Sanford voting opposed.

- 6.3 **Consider and take all appropriate action on the first reading of Ordinance 2025-14 a request to amend the Seabrook Code of Ordinances, Chapter 18, Division 9, “Swimming Pools,” to adopt the 2021 Edition of the International Swimming Pool and Spa Code and to create an amendment allowing an alternative construction method using shipping/storage containers for above-ground and below-ground swimming pools, including all related regulations and amendments.**

Motion:	To Approve
Made By:	Mayor Pro Tem, At-Large Position 5 Hammann
Seconded By:	At-Large Position 1 Kubena
Vote:	Passed unanimously by all present

- 6.4 Consider and take all appropriate action on approval on the first reading of Ordinance 2025-21 updating Section 2-47 "Agenda; establishing" to reflect changes enacted by voters in the 2025 Special Charter Election, as well as new requirements by the State of Texas.**

Motion:	To Approve
Made By:	Mayor Pro Tem, At-Large Position 5 Hammann
Seconded By:	At-Large Position 6 Sanford
Vote:	Passed unanimously by all present

- 6.5 Consider and take all appropriate action on Resolution 2025-23, Nominating a Candidate or Candidates to the Board of Directors for Harris Central Appraisal District (HCAD).**

Motion:	To Approve Bill Frazier and Melissa Noriega
Made By:	At-Large Position 4 Cervantes
Seconded By:	Mayor Pro Tem, At-Large Position 5 Hammann
Vote:	Passed unanimously by all present

- 6.6 Consider and take all appropriate action on submission of the official ballot for the election of the Region 14 Director of the TML Board of Directors.**

Motion:	To Approve Sally Branson
Made By:	At-Large Position 6 Sanford
Seconded By:	At-Large Position 2 Sessum
Vote:	Passed unanimously by all present

- 6.7 Consider and take all appropriate action on Resolution 2025-17 designating Around the Bay News as the official newspaper of the City of Seabrook.**

Councilmember Cervantes expressed concerns about Around the Bay News being an insert into Hometown Press. She also asked that Bay Area Observer be considered as well. City Secretary Rachel Lewis stated Hometown Press had been in circulation for more than one year and City Attorney David Olson stated this satisfied the state requirement.

Motion:	To Approve
Made By:	Mayor Pro Tem, At-Large Position 5 Hammann
Seconded By:	At-Large Position 6 Sanford
Vote:	Passed unanimously by all present

- 6.8 Consider and take all appropriate action on waiving or modifying the City fees for the electronic message board for use by Ed White Elementary PTA and Bay Elementary PTA for their school fall festivals.**

Councilmember Cervantes presented the need to reduce the fee to a flat fee of \$100. Councilmember Sanford expressed concerns about setting a precedent for non-profit organizations requesting future fee waivers if this request was

granted.

Motion:	To Approve
Made By:	Mayor Pro Tem, At-Large Position 5 Hammann
Seconded By:	At-Large Position 4 Cervantes
Vote:	Passed unanimously by all present

Motion:	To Amend the motion for a \$100 fee for a 3-day period
Made By:	Mayor Pro Tem, At-Large Position 5 Hammann
Seconded By:	At-Large Position 4 Cervantes
Vote:	Passed unanimously by all present

- 6.9 Consider and take all appropriate action on the approval of a proposal to construct and install a fire training tower with burn room at the Fire Training Grounds on 1200 Red Bluff in an amount of \$499,892.70 with WHP Training Towers through a cooperative purchasing contract with Sourcewell, and authorizing the City Manager to execute any and all necessary documents.**

Motion:	To Approve
Made By:	At-Large Position 2 Sessum
Seconded By:	Mayor Pro Tem, At-Large Position 5 Hammann
Vote:	Passed unanimously by all present

7. DISCUSSION

- 7.1 Discuss potential amendments to the Seabrook Code of Ordinances regarding trailered restrooms, portable toilets, and portalets, and provide direction to staff on drafting ordinance language for future Council consideration.**

Assistant City Manager Sean Landis presented the item. He explained any amendment would need to be considered by Planning and Zoning, and he recommended a workshop session be scheduled with the Planning and Zoning Commission and Council. Council gave direction to staff to investigate options, specifications, and schedule a joint workshop with the Planning & Zoning Commission.

8. ROUTINE BUSINESS

- 8.1 Establish future meeting dates and agenda items.**

City Secretary Rachel Lewis informed Council the next Regular Council Meeting was scheduled for October 21, 2025 at 6:00 pm.

There being no further business Mayor Sweeney adjourned at 7:36 pm.

Signature Page:

APPROVED:

Jim Sweeney
Mayor

DATE:

ATTEST:

Rachel Lewis, TRMC
City Secretary



Agenda Briefing

Date of Meeting: October 21, 2025

Responsible Department: Community Development

Presenter:

Briefing Prepared By: Sean Landis

Strategic Focus Area:

General Information:

Consider and take all appropriate action on the second reading of Ordinance 2025-09 a request to amend the Seabrook Code of Ordinances, Appendix A, “Comprehensive Zoning,” Article 2, “Administration,” Section 2.03.5, “Prohibited Uses,” to modify the ordinance adoption process by reducing the required number of readings and to create a special exception permitting the use of shipping/storage containers in the construction of above-ground and below-ground swimming pools.

Executive Summary / Background:

Alex Grous, the owner of the property located at **3010 Todville Road**, has submitted a request to modify Section 2.03.5, “*Prohibited Uses*,” to allow a special exception permitting the use of shipping/storage containers in the construction of an above-ground or below-ground swimming pool.

The Planning and Zoning Commission considered this request at its meetings held on **May 22, June 19, July 17, and August 21**.

After extensive deliberation and consideration, the Commission has concluded its review and **recommends the following amendments to the zoning code:**

Sec. 2.03.5. – PROHIBITED USES.

The comprehensive zoning ordinance has been written to include a list of permitted uses within the city. Uses not listed in the comprehensive land use regulation matrix are not permitted anywhere within the City of Seabrook. Any applicant wishing to add a use shall follow the proper zoning change procedures listed elsewhere in this chapter under “new and unlisted uses,” including the passage of an amending ordinance after proper notification to the public and [~~three~~] **two** readings of the amending ordinance.

From time to time, amendments may be made to the comprehensive zoning ordinance to specifically preclude a use from being added as a "new and unlisted use." This may be done when establishment of the use may pose a threat to health, safety and welfare of the community and/or the establishment of that use may be in direct violation of other city ordinances such as the noise ordinance. The addition of a specifically prohibited use may also be included in this section to clarify to the public that such a use was considered and rejected by the community. A listing of specifically prohibited uses will inform potential applicants that the absence of such uses in the matrix was not due to oversight on the part of the planning and zoning commission or the city council.

Uses specifically prohibited within the city limits and which shall not be added according to the procedures listed in section 2.07, "New and unlisted land uses," are as follows:

1. Rail tracks, lines, spurs, yards, storage and marshaling areas and all other associated rail uses are prohibited within all zoning districts in the City of Seabrook.
2. Shipping/storage containers whether used for outside storage, as an inhabited structure or for any other purpose.
- 3. Exception: Shipping/storage containers may be permitted exclusively for conversion into above-ground or below-ground swimming pools or spas, provided they comply with all applicable construction codes as prescribed by Division 9 (Swimming Pools), safety regulations, and permitting requirements. Use of containers under this exception shall not include any form of habitation or storage unrelated to the swimming pool or spa function. All such uses shall be reviewed and approved by the city's building official prior to installation or construction. All required permits shall be obtained prior to commencing any work.**

Funding / Fiscal Information:

Supporting Materials Attached:

1. Staff Presentation
2. Ordinance 2025-09

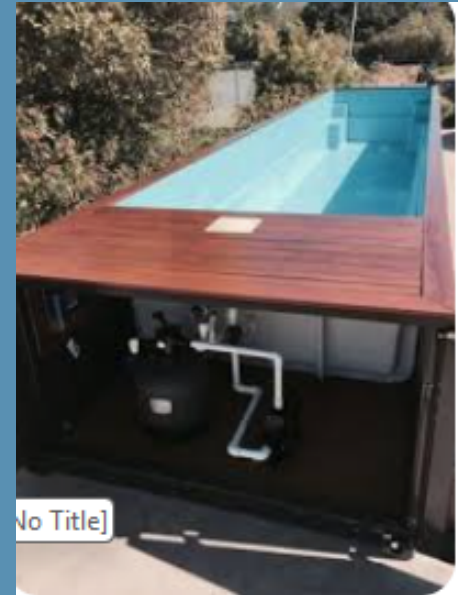
Prior Action / Review by Council, Boards, Commissions:

Staff Recommendation:

All requests must be submitted to the City Secretary's Office no later than 12:00 p.m. on the Monday, one week prior to the regular Tuesday Council Meeting. All required attachments are to be submitted with the request. Incomplete items cannot be placed on the agenda.

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City of Seabrook City Council Meeting October 7, 2025



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DIVISION 9. - SWIMMING POOLS

Sec. 18-356. - Swimming pool code—Adopted.

The International ~~[Residential Code]~~ Swimming Pool and Spa Code (ISPSC), 2021 edition, [Appendix G,] is adopted as the swimming pool code of the city. Copies of the code adopted in this section shall be retained on file in the office of the city building official, with the enumerated exceptions and/or deletions.

Sec. 18-357. - Same—Amendments.

The swimming pool code adopted by reference in section 18-356 shall be amended as follows:

- (1) Section 101.1, Insert: City of Seabrook.
- (2) Section 103.1, Insert: Building Department.
- (3) Section 108 Fees: Delete.
- (4) Section 111 Means of Appeals, 112 Board of Appeals, and 113 Violations: Delete.
- (5) Swimming pools and spas shall not occupy a required front or corner side yard or project beyond the front building line of the principal structure on the site. The water's edge of a swimming pool or spa shall be set back a minimum of five feet from side and rear property lines. No swimming pool or spa may be constructed within any utility or drainage easement.

~~[(5)]~~ (6) Any private pool or spa located within the city shall not remain in a condition so as to create a public health or safety hazard or a nuisance to the general public. Anytime a private pool or spa contains any amount of water, the owner or occupant of the premises shall:

- (a)** Maintain water clarity so that all parts of the bottom can be seen.
- (b)** Maintain the pool or spa in such a manner so that the water in the pool does not become unwholesome. Unwholesome water means any condition that exists in water and is characterized by bacterial growth, algae, insect infestation, and the remains of litter, trash, debris, garbage, refuse, rubbish, or any other foreign matter which, because of its nature or location, constitutes an unhealthy, unsafe or unsightly condition.
- (c)** Maintain proper fencing as required under this code.
- (d)** Secure and lock all access gates to any pool located on unoccupied property.

~~[(6)]~~ (7) It shall be unlawful and declared a nuisance for any person owning, claiming, occupying or having supervision or control of any real property, occupied or unoccupied, that contains a private pool or spa on said real property to permit or allow a condition to exist that is not in compliance with the conditions set forth in subsection ~~[(5)]~~ (6).

(8) Shipping and Storage Container Swimming Pools and Spas

(a) General Allowance: Above-ground and below-ground swimming pools and spas constructed from shipping or storage containers are permitted, subject to the following provisions.

(b) Alternative Method of Construction: Shipping and storage container swimming pools and spas shall be considered an alternative method of construction and shall comply with the provisions of the International Swimming Pool and Spa Code (ISPSC), 2021 edition.

(c) Engineering and Design Requirements: All elements of the construction shall be designed and sealed by a professional engineer licensed in the State of Texas. The engineering submittal shall include, but is not limited to, the following components:

1. Structural Design – Reinforcement, supports, and load calculations to ensure safety, durability, and prevention of flotation or shifting in a design flood or hurricane event.
2. Waterproofing Systems – Interior lining or coatings to maintain water containment and prevent leakage.
3. Corrosion Protection – Materials and methods for preventing rust and degradation of metal surfaces.
4. Plumbing Systems – Design and routing of all water supply, drainage, gas and circulation lines, shall comply with the provisions of the International Plumbing Code, 2021 edition, as amended and the International Fuel Gas Code, 2021 edition, as amended.
5. Electrical Systems – All electrical components, including bonding, grounding, and lighting, shall comply with the provisions of the NFPA 70, National Electrical Code, 2020 edition, as amended.
6. Mechanical Systems – Including pumps, heaters, and filtration systems, as required by the provisions of the International Mechanical Code, 2021 edition, as amended.

All construction drawings and documents shall be submitted with the required permit applications and shall bear the seal and signature of the licensed engineer.

(d) Height and Depth Requirements:

1. Above-Ground Shipping/Storage Container Pools

(a) Maximum Height (from finished grade): 54 inches

(e) Additional Compliance: All installations shall comply with the International Building Code, 2021 edition, as amended, and adopted zoning codes.



No Title]



M-W









Questions?

ORDINANCE NO. 2025-09
AMENDMENT TO ARTICLE 2, “ADMINISTRATION”, SECTION 2.03.5,
“PROHIBITED USES”

AN ORDINANCE AMENDING THE SEABROOK CITY CODE OF ORDINANCES, APPENDIX A, COMPREHENSIVE ZONING, "ARTICLE 2, "ADMINISTRATION", SECTION 2.03.5, "PROHIBITED USES", BY REVISING THE ORDINANCE ADOPTION PROCESS BY REDUCING THE REQUIRED NUMBER OF READINGS; AND CREATE A SPECIAL EXCEPTION PERMITTING THE USE OF SHIPPING/STORAGE CONTAINERS IN THE CONSTRUCTION OF ABOVE-GROUND AND BELOW-GROUND SWIMMING POOLS; PROVIDING A PENALTY NOT TO EXCEED \$2,000 FOR VIOLATION OF ANY PROVISION HEREOF; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HERewith; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Council and Planning and Zoning Commission of the City of Seabrook is continually reviewing the provisions of the Code of Ordinances relating to the elimination of hazards, nuisances and other circumstances which negatively impact the health, safety and well-being of residents, citizens and inhabitants; and

WHEREAS, the Planning and Zoning Commission of the City of Seabrook has conducted a public hearing, received input from staff and is of the opinion and has issued its final report that the amendments hereto are necessary for the public safety, health and welfare and for protection of the residents; and

WHEREAS, the City Council finds that it is of paramount interest to protect public health, safety, property, and the general welfare of the public by updating its building, as referenced hereafter; and

WHEREAS, the Planning and Zoning Commission recommended approval of this amendment at its meeting of August 21, 2025, and has made its final report; and

WHEREAS, all public notices have been posted and published and all required hearings on this matter have been held in accordance with the city's ordinance and law; now, therefore,

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SEABROOK,
STATE OF TEXAS:**

SECTION 1. FINDING OF FACT.

That the facts and matters set forth in the preamble of this Ordinance are hereby found to be true and correct.

SECTION 2. AMENDMENT TO THE SEABROOK CITY CODE OF ORDINANCE BY REVISING “ARTICLE 2, “ADMINISTRATION”, SECTION 2.03.5.

“PROHIBITED USES”, BY REVISING THE ORDINANCE ADOPTION PROCESS BY REDUCING THE REQUIRED NUMBER OF READINGS; AND CREATE A SPECIAL EXCEPTION PERMITTING THE USE OF SHIPPING/STORAGE CONTAINERS IN THE CONSTRUCTION OF ABOVE-GROUND AND BELOW-GROUND SWIMMING POOLS:

Sec. 2.03.5. – PROHIBITED USES.

The comprehensive zoning ordinance has been written to include a list of permitted uses within the city. Uses not listed in the comprehensive land use regulation matrix are not permitted anywhere within the City of Seabrook. Any applicant wishing to add a use shall follow the proper zoning change procedures listed elsewhere in this chapter under "new and unlisted uses," including the passage of an amending ordinance after proper notification to the public and ~~three~~ **two** readings of the amending ordinance.

From time to time, amendments may be made to the comprehensive zoning ordinance to specifically preclude a use from being added as a "new and unlisted use." This may be done when establishment of the use may pose a threat to health, safety and welfare of the community and/or the establishment of that use may be in direct violation of other city ordinances such as the noise ordinance. The addition of a specifically prohibited use may also be included in this section to clarify to the public that such a use was considered and rejected by the community. A listing of specifically prohibited uses will inform potential applicants that the absence of such uses in the matrix was not due to oversight on the part of the planning and zoning commission or the city council.

Uses specifically prohibited within the city limits and which shall not be added according to the procedures listed in section 2.07, "New and unlisted land uses," are as follows:

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3. Exception: Shipping/storage containers may be permitted exclusively for conversion into above-ground or below-ground swimming pools or spas, provided they comply with all applicable construction codes as prescribed by Division 9 (Swimming Pools), safety regulations, and permitting requirements. Use of containers under this exception shall not include any form of habitation or storage unrelated to the swimming pool or spa function. All such uses shall be reviewed and approved by the city's building official prior to installation or construction. All required permits shall be obtained prior to commencing any work.

SECTION 4. PENALTY CLAUSE; INCLUSION INTO THE CODE.

This Ordinance is hereby incorporated into and made a part of the Seabrook City Code. Any person who shall violate any provision of this Ordinance shall be deemed guilty of a

misdeemeanor and, upon conviction, shall be fined in an amount not more than Two Thousand Dollars (\$2,000.00) per offense. Each day of violation shall constitute a separate offense.

SECTION 5. REPEAL OF CONFLICTING ORDINANCES.

All ordinances or parts of ordinances inconsistent or in conflict herewith are, to the extent of such inconsistency or conflict, hereby repealed.

SECTION 6. SEVERABILITY.

In the event any clause, phrase, provision, sentence, or any part of this Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Seabrook, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

SECTION 7. NOTICE BY PUBLICATION

The City Secretary shall give notice of the enactment of this Ordinance by promptly publishing it or its descriptive caption and penalty after final passage in the official newspaper of the City; the Ordinance to take effect upon publication.

PASSED AND APPROVED on first reading with a quorum present, by an affirmative vote of a majority of Council Members present, in accordance with Seabrook City Charter Section 2.10 on this 7th day of October 2025.

PASSED AND APPROVED on final reading with a quorum present, by an affirmative vote of a majority of Council Members present, in accordance with Seabrook City Charter Section 2.10 on this 21st day of October 2025.

By: _____
James J Sweeney, Mayor

ATTEST:

By: _____
Rachel Lewis, TRMC
City Secretary

138 APPROVED AS TO FORM:

139

140

141 By: _____

142 David Olson

143 City Attorney



Agenda Briefing

Date of Meeting: October 21, 2025

Responsible Department: Community Development

Presenter:

Briefing Prepared By: Sean Landis

Strategic Focus Area:

General Information:

Consider and take all appropriate action on the second reading of Ordinance 2025-14 a request to amend the Seabrook Code of Ordinances, Chapter 18, Division 9, “Swimming Pools,” to adopt the 2021 Edition of the International Swimming Pool and Spa Code and to create an amendment allowing an alternative construction method using shipping/storage containers for above-ground and below-ground swimming pools, including all related regulations and amendments.

Executive Summary / Background:

Alex Grous, the owner of the property located at **3010 Todville Road**, has submitted a request to modify Chapter 18, Division 9 of the City Code of Ordinance to allow a special exception permitting the use of shipping/storage containers in the construction of an above-ground or below-ground swimming pool.

The Planning and Zoning Commission considered this request at its meetings held on **May 22, June 19, July 17, and August 21**.

After extensive deliberation and consideration, the Commission has concluded its review and **recommends the following amendments to the zoning code:**

DIVISION 9. SWIMMING POOLS

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(c) Maintain proper fencing as required under this code.

(d) Secure and lock all access gates to any pool located on unoccupied property.

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State of Texas. The engineering submittal shall include, but is not limited to, the following components:

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(d) Height and Depth Requirements:

1. Above-Ground Shipping/Storage Container Pools

(a) Maximum Height (from finished grade): 54 inches

(e) Additional Compliance: All installations shall comply with the International Building Code, 2021 edition, as amended, and adopted zoning codes.

Funding / Fiscal Information:

Supporting Materials Attached:

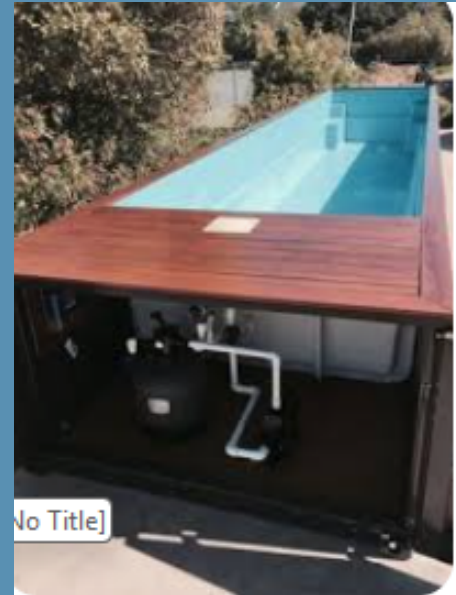
1. Staff Presentation
2. Ordinance 2025-14

Prior Action / Review by Council, Boards, Commissions:

Staff Recommendation:

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City of Seabrook City Council Meeting October 7, 2025



Sec. 2.03.5. - Prohibited uses.

The comprehensive zoning ordinance has been written to include a list of permitted uses within the city. Uses not listed in the comprehensive land use regulation matrix are not permitted anywhere within the City of Seabrook. Any applicant wishing to add a use shall follow the proper zoning change procedures listed elsewhere in this chapter under "new and unlisted uses," including the passage of an amending ordinance after proper notification to the public and ~~[three]~~ two readings of the amending ordinance.

From time to time, amendments may be made to the comprehensive zoning ordinance to specifically preclude a use from being added as a "new and unlisted use." This may be done when establishment of the use may pose a threat to health, safety and welfare of the community and/or the establishment of that use may be in direct violation of other city ordinances such as the noise ordinance. The addition of a specifically prohibited use may also be included in this section to clarify to the public that such a use was considered and rejected by the community. A listing of specifically prohibited uses will inform potential applicants that the absence of such uses in the matrix was not due to oversight on the part of the planning and zoning commission or the city council.

Uses specifically prohibited within the city limits and which shall not be added according to the procedures listed in section 2.07, "New and unlisted land uses," are as follows:

1. Rail tracks, lines, spurs, yards, storage and marshaling areas and all other associated rail uses are prohibited within all zoning districts in the City of Seabrook.
2. Shipping/storage containers whether used for outside storage, as an inhabited structure or for any other purpose.
3. Exception: Shipping/storage containers may be permitted exclusively for conversion into above-ground or below-ground swimming pools or spas, provided they comply with all applicable construction codes as prescribed by Division 9 (Swimming Pools), safety regulations, and permitting requirements. Use of containers under this exception shall not include any form of habitation or storage unrelated to the swimming pool or spa function. All such uses shall be reviewed and approved by the city's building official prior to installation or construction. All required permits shall be obtained prior to commencing any work.

DIVISION 9. - SWIMMING POOLS

Sec. 18-356. - Swimming pool code—Adopted.

The International ~~[Residential Code]~~ Swimming Pool and Spa Code (ISPSC), 2021 edition, [Appendix G,] is adopted as the swimming pool code of the city. Copies of the code adopted in this section shall be retained on file in the office of the city building official, with the enumerated exceptions and/or deletions.

Sec. 18-357. - Same—Amendments.

The swimming pool code adopted by reference in section 18-356 shall be amended as follows:

- (1) Section 101.1, Insert: City of Seabrook.**
- (2) Section 103.1, Insert: Building Department.**
- (3) Section 108 Fees: Delete.**
- (4) Section 111 Means of Appeals, 112 Board of Appeals, and 113 Violations: Delete.**
- (5) Swimming pools and spas shall not occupy a required front or corner side yard or project beyond the front building line of the principal structure on the site. The water's edge of a swimming pool or spa shall be set back a minimum of five feet from side and rear property lines. No swimming pool or spa may be constructed within any utility or drainage easement.**

~~[(5)]~~ (6) Any private pool or spa located within the city shall not remain in a condition so as to create a public health or safety hazard or a nuisance to the general public. Anytime a private pool or spa contains any amount of water, the owner or occupant of the premises shall:

- (a)** Maintain water clarity so that all parts of the bottom can be seen.
- (b)** Maintain the pool or spa in such a manner so that the water in the pool does not become unwholesome. Unwholesome water means any condition that exists in water and is characterized by bacterial growth, algae, insect infestation, and the remains of litter, trash, debris, garbage, refuse, rubbish, or any other foreign matter which, because of its nature or location, constitutes an unhealthy, unsafe or unsightly condition.
- (c)** Maintain proper fencing as required under this code.
- (d)** Secure and lock all access gates to any pool located on unoccupied property.

~~[(6)]~~ (7) It shall be unlawful and declared a nuisance for any person owning, claiming, occupying or having supervision or control of any real property, occupied or unoccupied, that contains a private pool or spa on said real property to permit or allow a condition to exist that is not in compliance with the conditions set forth in subsection ~~[(5)]~~ (6).

(8) Shipping and Storage Container Swimming Pools and Spas

(a) General Allowance: Above-ground and below-ground swimming pools and spas constructed from shipping or storage containers are permitted, subject to the following provisions.

(b) Alternative Method of Construction: Shipping and storage container swimming pools and spas shall be considered an alternative method of construction and shall comply with the provisions of the International Swimming Pool and Spa Code (ISPSC), 2021 edition.

(c) Engineering and Design Requirements: All elements of the construction shall be designed and sealed by a professional engineer licensed in the State of Texas. The engineering submittal shall include, but is not limited to, the following components:

1. Structural Design – Reinforcement, supports, and load calculations to ensure safety, durability, and prevention of flotation or shifting in a design flood or hurricane event.
2. Waterproofing Systems – Interior lining or coatings to maintain water containment and prevent leakage.
3. Corrosion Protection – Materials and methods for preventing rust and degradation of metal surfaces.
4. Plumbing Systems – Design and routing of all water supply, drainage, gas and circulation lines, shall comply with the provisions of the International Plumbing Code, 2021 edition, as amended and the International Fuel Gas Code, 2021 edition, as amended.
5. Electrical Systems – All electrical components, including bonding, grounding, and lighting, shall comply with the provisions of the NFPA 70, National Electrical Code, 2020 edition, as amended.
6. Mechanical Systems – Including pumps, heaters, and filtration systems, as required by the provisions of the International Mechanical Code, 2021 edition, as amended.

All construction drawings and documents shall be submitted with the required permit applications and shall bear the seal and signature of the licensed engineer.

(d) Height and Depth Requirements:

1. Above-Ground Shipping/Storage Container Pools

(a) Maximum Height (from finished grade): 54 inches

(e) Additional Compliance: All installations shall comply with the International Building Code, 2021 edition, as amended, and adopted zoning codes.

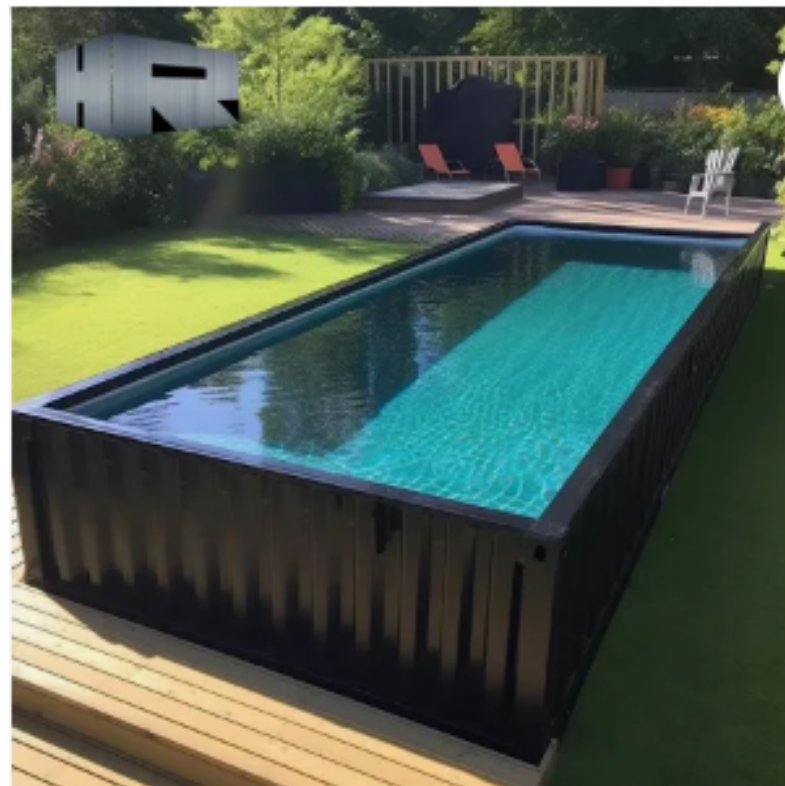


No Title]



M-W









Questions?

ORDINANCE NO. 2025-14
AMENDMENT TO CHAPTER 18, “BUILDING AND BUILDING REGULATIONS”,
DIVISION 9, “SWIMMING POOLS”

AN ORDINANCE AMENDING THE SEABROOK CITY CODE OF ORDINANCES, CHAPTER 18, “BUILDINGS AND BUILDING REGULATIONS”, DIVISION 9, “SWIMMING POOLS”, BY REVISING SECTION 18-356, “SWIMMING POOL CODE – ADOPTED”, TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL SWIMMING POOL AND SPA CODE; AND BY AMENDING SECTION 18-357, “AMENDMENTS”, TO CREATE AN ALTERNATIVE CONSTRUCTION METHOD ALLOWING THE USE OF SHIPPING OR STORAGE CONTAINERS FOR ABOVE-GROUND AND BELOW-GROUND SWIMMING POOLS; PROVIDING A PENALTY NOT TO EXCEED \$2,000 FOR VIOLATION OF ANY PROVISION HEREOF; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HERewith; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Council and Planning and Zoning Commission of the City of Seabrook is continually reviewing the provisions of the Code of Ordinances relating to the elimination of hazards, nuisances and other circumstances which negatively impact the health, safety and well-being of residents, citizens and inhabitants; and

WHEREAS, the Planning and Zoning Commission of the City of Seabrook has conducted a public hearing, received input from staff and is of the opinion and has issued its final report that the amendments hereto are necessary for the public safety, health and welfare and for protection of the residents; and

WHEREAS, the City Council finds that it is of paramount interest to protect public health, safety, property, and the general welfare of the public by updating its building, as referenced hereafter; and

WHEREAS, the Planning and Zoning Commission recommended approval of this amendment at its meeting of August 21, 2025, and has made its final report; and

WHEREAS, all public notices have been posted and published and all required hearings on this matter have been held in accordance with the city's ordinance and law; now, therefore,

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SEABROOK,
STATE OF TEXAS:**

SECTION 1. FINDING OF FACT.

That the facts and matters set forth in the preamble of this Ordinance are hereby found to be true and correct.

SECTION 2. AMENDMENT TO THE SEABROOK CITY CODE OF ORDINANCE BY REVISING CHAPTER 18 "BUILDINGS AND BUILDING REGULATIONS", MORE SPECIFICALLY, DIVISION 9, "SWIMMING POOLS", SECTION 18-356, "SWIMMING POOL CODE – ADOPTED", TO ADOPT THE 2021 EDITION OF THE INTERNATIONAL SWIMMING POOL AND SPA CODE; AND BY AMENDING SECTION 18-357, "AMENDMENTS", TO CREATE AN ALTERNATIVE CONSTRUCTION METHOD ALLOWING THE USE OF SHIPPING OR STORAGE CONTAINERS FOR ABOVE-GROUND AND BELOW-GROUND SWIMMING POOLS:

DIVISION 9. - SWIMMING POOLS

Sec. 18-356. - Swimming pool code—Adopted.

The International ~~[Residential Code]~~ Swimming Pool and Spa Code (ISPSC), 2021 edition, [Appendix G,] is adopted as the swimming pool code of the city. Copies of the code adopted in this section shall be retained on file in the office of the city building official, with the enumerated exceptions and/or deletions.

Sec. 18-357. - Same—Amendments.

The swimming pool code adopted by reference in section 18-356 shall be amended as follows:

(1) Section 101.1, Insert: City of Seabrook.

(2) Section 103.1, Insert: Building Department.

(3) Section 108 Fees: Delete.

(4) Section 111 Means of Appeals, 112 Board of Appeals, and 113 Violations: Delete.

(5) Swimming pools and spas shall not occupy a required front or corner side yard or project beyond the front building line of the principal structure on the site. The water's edge of a swimming pool or spa shall be set back a minimum of five feet from side and rear property lines. No swimming pool or spa may be constructed within any utility or drainage easement.

~~[(5)]~~ **(6)** Any private pool or spa located within the city shall not remain in a condition so as to create a public health or safety hazard or a nuisance to the general public. Anytime a private pool or spa contains any amount of water, the owner or occupant of the premises shall:

(a) Maintain water clarity so that all parts of the bottom can be seen.

(b) Maintain the pool or spa in such a manner so that the water in the pool does not become unwholesome. Unwholesome water means any condition that exists in water and is characterized by bacterial growth, algae, insect infestation, and the remains of litter, trash, debris, garbage, refuse, rubbish, or any other foreign matter which, because of its nature or location, constitutes an unhealthy, unsafe or unsightly condition.

(c) Maintain proper fencing as required under this code.

(d) Secure and lock all access gates to any pool located on unoccupied property.

~~[(6)]~~ **(7)** It shall be unlawful and declared a nuisance for any person owning, claiming, occupying or having supervision or control of any real property, occupied or unoccupied, that contains a private pool or spa on said real property to permit or allow a condition to exist that is not in compliance with the conditions set forth in subsection ~~[(5)]~~ **(6)**.

(8) Shipping and Storage Container Swimming Pools and Spas

(a) General Allowance: Above-ground and below-ground swimming pools and spas constructed from shipping or storage containers are permitted, subject to the following provisions.

(b) Alternative Method of Construction: Shipping and storage container swimming pools and spas shall be considered an alternative method of construction and shall comply with the provisions of the International Swimming Pool and Spa Code (ISPSC), 2021 edition.

(c) Engineering and Design Requirements: All elements of the construction shall be designed and sealed by a professional engineer licensed in the State of Texas. The engineering submittal shall include, but is not limited to, the following components:

1. Structural Design – Reinforcement, supports, and load calculations to ensure safety, durability, and prevention of flotation or shifting in a design flood or hurricane event.

2. Waterproofing Systems – Interior lining or coatings to maintain water containment and prevent leakage.

3. Corrosion Protection – Materials and methods for preventing rust and degradation of metal surfaces.

4. Plumbing Systems – Design and routing of all water supply, drainage, gas and circulation lines, shall comply with the provisions of the International Plumbing Code, 2021 edition, as amended and the International Fuel Gas Code, 2021 edition, as amended.

5. Electrical Systems – All electrical components, including bonding, grounding, and lighting, shall comply with the provisions of the NFPA 70, National Electrical Code, 2020 edition, as amended.

6. Mechanical Systems – Including pumps, heaters, and filtration systems, as required by the provisions of the International Mechanical Code, 2021 edition, as amended.

All construction drawings and documents shall be submitted with the required permit applications and shall bear the seal and signature of the licensed engineer.

(d) Height and Depth Requirements:

1. Above-Ground Shipping/Storage Container Pools

o Maximum Height (from finished grade): 54 inches

(e) Additional Compliance: All installations shall comply with the International Building Code, 2021 edition, as amended, and adopted zoning codes.

SECTION 4. PENALTY CLAUSE; INCLUSION INTO THE CODE.

This Ordinance is hereby incorporated into and made a part of the Seabrook City Code. Any person who shall violate any provision of this Ordinance shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined in an amount not more than Two Thousand Dollars (\$2,000.00) per offense. Each day of violation shall constitute a separate offense.

SECTION 5. REPEAL OF CONFLICTING ORDINANCES.

All ordinances or parts of ordinances inconsistent or in conflict herewith are, to the extent of such inconsistency or conflict, hereby repealed.

SECTION 6. SEVERABILITY.

In the event any clause, phrase, provision, sentence, or any part of this Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Seabrook, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

SECTION 7. NOTICE BY PUBLICATION

The City Secretary shall give notice of the enactment of this Ordinance by promptly publishing it or its descriptive caption and penalty after final passage in the official newspaper of the City; the Ordinance to take effect upon publication.

PASSED AND APPROVED on first reading with a quorum present, by an affirmative vote of a majority of Council Members present, in accordance with Seabrook City Charter Section 2.10 on this 7th day of October 2025.

PASSED AND APPROVED on final reading with a quorum present, by an affirmative vote of a majority of Council Members present, in accordance with Seabrook City Charter Section 2.10 on this 21st day of October 2025.

By: _____
James J Sweeney, Mayor

ATTEST:

By: _____
Rachel Lewis, TRMC
City Secretary

APPROVED AS TO FORM:

178 By: _____
179 David Olson
180 City Attorney



Agenda Briefing

Date of Meeting: October 21, 2025

Responsible Department: City Secretary's Office

Presenter:

Briefing Prepared By: Rachel Lewis

Strategic Focus Area: CITY SERVICES

General Information:

Consider and take all appropriate action on approval on the second reading of Ordinance 2025-21 updating Section 2-47 "Agenda; establishing" to reflect changes enacted by voters in the 2025 Special Charter Election, as well as new requirements by the State of Texas.

Executive Summary / Background:

The State Law has been amended to require agendas to be posted at least three business days prior to the scheduled meetings, replacing the previous 72-hour requirement. Additionally, the results of the 2025 Special Charter Election introduced a provision mandating that two members of the City Council must jointly place an item on the agenda. Although Part 1 has been updated within the City's codes to incorporate changes to the Charter, this specific section also requires revision to ensure consistency and compliance with all updated requirements.

Funding / Fiscal Information:

NA

Supporting Materials Attached:

1. Ordinance 2025-21

Prior Action / Review by Council, Boards, Commissions:

NA

Staff Recommendation:

Staff recommends approval of Ordinance 2025-22 which updates these new provisions in the City's codes.

All requests must be submitted to the City Secretary's Office no later than 12:00 p.m. on the Monday, one week prior to the regular Tuesday Council Meeting. All required attachments are to be submitted with the request. Incomplete items cannot be placed on the agenda.

**CITY OF SEABROOK
ORDINANCE NO. 2025-21**

AGENDA ORDINANCE

AN ORDINANCE AMENDING SECTION 2-47 OF THE CODE OF ORDINANCES OF THE CITY OF SEABROOK, TEXAS, ENTITLED “AGENDA; ESTABLISHING,” BY REVISING SUCH SECTION TO REQUIRE THE PLACING OF ITEMS ON THE AGENDA TO COMPLY WITH NEW TEXAS LAW AND APPLICABLE CITY CHARTER PROVISIONS; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES INCONSISTENT OR IN CONFLICT HERewith; PROVIDING FOR SEVERABILITY; PROVIDING FOR NOTICE; AND PROVIDING FOR OPEN MEETINGS ACT COMPLIANCE.

WHEREAS, the City Council of the City of Seabrook recognizes the need for City regulations to be consistent with new State law and the recently approved City Charter provisions;

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SEABROOK, TEXAS, AS FOLLOWS:

SECTION 1. FINDING OF FACT.

The facts and matters set forth in the preamble of this Ordinance are hereby found to be true and correct.

SECTION 2. AMENDMENT TO THE CODE.

That Section 2-47 entitled, “Agenda; establishing,” be amended to now read as follows:

“Sec. 2-47. Agenda; establishing.

Placing items on the agenda. Placing items on the agenda shall be accomplished as follows:

- (1) All agenda items, including proposed ordinances, and all accompanying backup material must be provided to the city secretary by 12:00 noon on the Thursday ~~Monday~~ seven (7) business days prior to ~~of the week before~~ the regular Tuesday council meeting. All agenda items for special meetings must be provided to the city secretary by noon of the Monday ~~Wednesday~~ of the week before the special meeting. Agenda deadlines may be adjusted by the city secretary or city manager due to holiday or special scheduling issues provided that notice by e-mail is given to the mayor and council, department heads and the city attorney at least 72 hours in advance of the revised deadline. Agenda items and backup material submitted by city staff are to be submitted in the approved electronic format.
- (2) An item may be placed on the agenda in any of the following ways:

- a. At the request of ~~two~~~~one~~ councilmembers. Agenda items submitted by a councilmembers do not require approval by any other person.
 - b. Where council approval is required as a result of a charter requirement, code requirement or council action, such as approval of minutes, bid awards, parade permits, street closing applications, zoning change requests.
 - c. At the request of the city manager, city secretary, city attorney or municipal court judge within the scope of their duties.
 - d. At the request of a department head with the approval of the city manager.
 - e. At the request of a city board or commission with the approval of the city manager or mayor or sponsorship of a council member.
- (3) After the agenda deadline for regular meetings, the city manager or designee will hold an agenda meeting with the city secretary and department heads to review the draft agenda to ensure that all agenda items have been placed on the agenda and to review agenda attachments. Following this meeting, the city secretary shall send an electronic copy of the draft agenda to the city manager, city attorney, city manager and mayor. Agenda meetings are not customarily held before special meetings.
 - (4) Following the staff agenda meeting, the city manager, mayor, city attorney and city secretary will hold an agenda meeting to review and finalize the agenda for the regular meeting. The mayor may change the order of items within each agenda category at this time. The city attorney may suggest alternate wording of an agenda item to assure compliance with law. The city secretary shall send the draft agenda to the city attorney to review any new language for special council meetings.
 - (5) The electronic agenda packets for all council meetings will be available on the ~~Thursday~~ ~~Friday~~ afternoon preceding the meetings. This will afford ample time for all councilmembers to inquire into the nature of each matter to be discussed or to personally investigate the matter so as to be better informed before a council meeting.
 - (6) Emergency items may be added if it is posted for at least two hours before the meeting is convened. Emergency items are defined as those items which constitute an emergency or an urgent public necessity for which immediate action is required because of an imminent threat to public health or safety or a reasonably unforeseen situation, as provided by law. Conditions for adding emergency ordinances are specifically defined in the Charter, section 2.12 and V.T.C.A., Government Code §§ 551.045 and 551.047.
 - (7) Limited effect. Failure to comply with this division shall not affect the validity of any action subsequently taken.”

SECTION 4. REPEAL OF CONFLICTING ORDINANCES.

All ordinances or parts of ordinances inconsistent or in conflict herewith are, to the extent of such inconsistency or conflict, hereby repealed.

SECTION 5. SEVERABILITY.

In the event any clause, phrase, provision, sentence, or any part of the Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Ordinance as whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Seabrook, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

SECTION 6. NOTICE BY PUBLICATION.

The City Secretary shall give notice of the enactment of the Ordinance by promptly publishing it or its descriptive caption and penalty after final passage in the official newspaper of the City, the Ordinance to take effect upon publication.

SECTION 7. OPEN MEETING COMPLIANCE

That it is hereby officially found and determined that the meeting at which this Ordinance was passed was open to the public as required by law and that public notice of the time, place and purpose of said meeting was given as required by the Texas Open Meeting Act, Texas Government Code, Chapter 551.

PASSED AND APPROVED on first reading with quorum present, by an affirmative vote of a majority of Councilmembers present, in accordance with Seabrook City Charter Section 2.10 on this 7th day of October, 2025.

PASSED, APPROVED, AND ADOPTED on final reading with quorum present, by an affirmative vote of a majority of Councilmembers present, in accordance with Seabrook City Charter Section 2.10 on this 21st day of October, 2025.

By: _____
Jim Sweeney, Mayor

ATTEST:

By: _____
Rachel Lewis, TRMC
City Secretary

APPROVED AS TO FORM:

By: _____
David W. Olson, City Attorney

EXECUTIVE SUMMARY

Hazard Mitigation Overview

Hazard mitigation is the use of long-term and short-term policies, programs, projects, and other activities to minimize the loss of life, injury, and property damage that can result from a disaster. Communities, residents, and businesses across the United States have been faced with continually increasing costs associated with natural and human-caused hazards. Hazard mitigation is the first step in reducing risk and is the most effective way to reduce costs associated with hazards. This hazard mitigation plan examines Harris County's vulnerability to natural and technological hazards and identifies actions that Harris County and participating agencies can take to mitigate those hazards.

Harris County first prepared a hazard mitigation plan in 2005, which included 26 jurisdictions participating as partners in the plan. Since then, Harris County has updated the plan every five years, in compliance with State of Texas and federal guidelines. This 2025 update to the plan was coordinated with 42 planning partners in the County. This coordination in planning facilitates a more efficient planning process than each jurisdiction developing their own plan and allows these planning partners to pool resources and eliminate redundant activities.

The plan complies with federal and state hazard mitigation planning requirements to establish the Planning Partners' eligibility for funding under Federal Emergency Management Agency (FEMA) grant programs. FEMA has issued guidelines for the development of multi-jurisdictional hazard mitigation plans. The federal Disaster Mitigation Act of 2000 requires state and local entities to implement pre-disaster mitigation planning and develop hazard mitigation plans. The Texas Department of Emergency Management (TDEM) supports plan development for jurisdictions in Texas, ensuring alignment with federal standards and enhancing community resilience through coordinated, proactive risk-reduction strategies.

The Planning Process

The effort to update the Harris County Multi-Jurisdictional Hazard Mitigation Plan (MJ-HMP) was led by a core planning team of staff from the Harris County Office of Homeland Security and Emergency Management (HCOHSEM) and consultant Tetra Tech, Inc. In addition, working as subconsultants to Tetra Tech, Resalire Infrastructure Solutions, Incorporated, and Bent Ear Solutions, LLC, also played an active role in development of the plan. In initiating the planning project, Harris County sought input and involvement from the Harris County community through the following activities:

- Developed a Steering Committee consisting of key stakeholders.
- Reviewed the 2020 Harris County Multi-Hazard Mitigation Action Plan (HC MH-MAP)
- Identified hazards of concern to the County to be included in the update
- Profiled the hazards of concern
- Estimated the inventory at risk and potential losses associated with these hazards
- Reviewed and updated the mitigation goals and objectives
- Reviewed mitigation strategy and actions outlined in the 2020 HC MH-MAP to indicate progress
- Developed new mitigation actions to reduce the vulnerability of assets from hazards of concern
- Involved a wide range of stakeholders and the public in the plan update process

- Developed mitigation plan maintenance procedures to be executed after obtaining approval of the plan from TDEM and FEMA

Involvement by Stakeholders and the Public

The Planning Partners kept stakeholders and the public informed throughout the planning process and provided opportunities for public comment and input. In addition, numerous agencies and stakeholders participated as core or support members of the Steering Committee or Planning Partnership, providing input and expertise throughout the planning process.

Participating Jurisdictions Involved in the Mitigation Planning Effort

The following are the local governments/agencies in Harris County that participated as Planning Partners in the 2025 MJ-HMP update:

- Harris County
- Harris County Flood Control District
- Harris County Office of County Administration
- City of Bellaire
- City of Bunker Hill Village
- City of Deer Park
- City of Friendswood
- City of Galena Park
- City of Hedwig Village
- City of Humble
- City of Hunters Creek Village
- City of Jacinto City
- City of Jersey Village
- City of Katy
- City of La Porte
- City of Missouri City
- City of Morgan's Point
- City of Nassau Bay
- City of Pasadena
- City of Piney Point Village
- City of Seabrook
- City of Shoreacres
- City of Southside Place
- City of Spring Valley Village
- City of Stafford
- City of Taylor Lake Village/ City of El Lago
- City of Tomball
- City of Waller
- City of Webster
- City of West University Place
- Cypress Creek Drainage District
- Cypress Fairbanks Independent School District
- Goose Creek Independent School District
- Gulf Coast Authority
- Harris Health System

- Houston Community College
- Lee College
- San Jacinto College
- Spring Independent School District
- University of Houston
- Varnett Public School

The participating jurisdictions provided significant input into the preparation of the plan, in particular the preparation of jurisdiction-specific annexes included in Volume II.

Multiple Agency Support for Hazard Mitigation

Primary responsibility for the development and implementation of mitigation strategies and policies lies with local governments. However, local governments are not alone; various partners and resources at the regional, state, and federal levels are available to assist communities in the development and implementation of mitigation strategies. In Texas, TDEM is the lead agency providing hazard mitigation planning assistance to local jurisdictions. In addition, FEMA provides grants, tools, guidance, and training to support mitigation planning.

In updating the MJ-HMP, the participating jurisdictions fully coordinated with and solicited participation from county and local governments, relevant organizations and groups, state and federal agencies, and the public. This coordination ensured that stakeholders had established communication channels and relationships to support mitigation planning and mitigation actions included in the plan.

Additional input and support for this planning effort was obtained from a wide range of agencies as well as through public involvement. Under the project management of HCOHSEM, the Harris County Hazard Mitigation Steering Committee provided oversight for the preparation of this plan. The Steering Committee includes representatives from the following agencies:

- HCOHSEM
- Harris County Office of County Administration
- Harris County Flood Control District
- City of Bellaire
- City of Deer Park
- City of El Lago
- City of Friendswood
- City of Jersey Village
- City of La Porte
- City of Missouri City
- City of Pasadena
- City of Seabrook
- City of Shoreacres
- City of Taylor Lake Village
- North Houston Association
- Houston Community College
- San Jacinto College
- Houston-Galveston Area Council (H-GAC)
- Cypress Creek Drainage Improvement District
- Coastal Prairie Conservancy
- Greens Bayou Coalition
- Cy-Fair Independent School District
- Partnership Lake Houston
- SouthEast Texas Regional Advisory Council

- Houston Arts Alliance
- Houston Society for the Prevention of Cruelty to Animals
- Harris County Department of Education

Risk Assessment for Local Hazards of Concern

The Planning Partners evaluated each jurisdiction's risk and vulnerability due to each of the hazards of concern, based on past events, past and predicted future losses, and the expected probability of future occurrence.

From these evaluations, hazards were ranked as high, medium, or low risk to each jurisdiction. The hazard rankings were used to focus and prioritize individual jurisdictional mitigation strategies. Summary overall hazard rankings for all of Harris County are presented in Table ES-1. Information on each of the hazards of concern can be found in Part 2: Risk Assessment of Volume I of this plan.

Hazard of Concern	Hazard Ranking
Coastal Erosion	Low
Dam/Levee Failure	Moderate
Drought	High
Earthquake	Low
Energy Pipeline Failure	Moderate
Extreme Cold	Moderate
Extreme Heat	High
Flood	High
Hurricane/Coastal Storms	High
Mass Movement	Low
Public Health Emergency	Moderate
Severe Weather	High
Technology Failure	Moderate
Toxic Release/Hazardous Materials Incident	Moderate
Tsunami	Low
Utility Failure	Moderate
Wildfire	Low

Mitigation Strategy

Hazard Mitigation Plan Goals and Objectives

It is a federal requirement for hazard mitigation plans to include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards of concern.

The Harris County MJ-HMP planning process included a review and update of mitigation goals and objectives that were previously established to guide the selection of mitigation actions addressing all hazards of concern. Mitigation goals were updated based on the updated risk assessment, discussions, research, and input from plan participants and stakeholders.

The goal development process also considered the goals expressed in the 2023 Texas State Hazard Mitigation Plan, as well as other relevant county and local planning documents. The goals and objectives for the 2025 MJ-HMP are stated in Table ES-2.

Table ES-2. 2025 Hazard Mitigation Goals and Objectives

2025 Goals	Description of Goal	2025 Objectives	Description of Objective
1	Improve and coordinate data collection efforts to fully maximize mitigation capabilities	1a	Implement wildfire mitigation and watershed protection strategies through local, state, tribal, federal, and private partnerships
		1b	Improve understanding of the locations, potential impacts, and linkages among threats, hazards, vulnerability, and measures needed to protect life safety, health, and property
2	Enhance public outreach strategies to improve information sharing regarding hazards, including risk reduction strategies	2a	Improve and expand systems that provide ongoing preparedness education, warning, and emergency communications to the whole community
3	Reduce the impacts of hazards on people and property and protect natural and cultural resources	3a	Reduce the impacts of hazards on individuals with disabilities and others with access and functional needs
		3b	Coordinate state and local efforts to reduce greenhouse gas emissions and implement climate adaptation strategies through hazard mitigation plans and actions
		3c	Control access and provide buffers to maximize resource protection where possible
		3d	Encourage all state, regional, and local hazard mitigation projects and planning programs to protect the environment and promote implementation of sustainable mitigation and climate actions
2025 Goals	Description of Goal	2025 Objectives	Description of Objective
		3e	Encourage hazard mitigation measures that promote and enhance natural processes and minimize adverse impacts on the ecosystem
		3f	Encourage the building of redundant systems needed to support public health and quality of life
4	Work to improve and coordinate existing local plans, policies, codes, and regulations to reduce hazard impacts	4a	Promote enforcement of relevant state regulations and development of local ordinances that significantly reduce life loss and injuries
		4b	Encourage all cities, counties, special districts, Councils of Governments and tribal organizations to develop, adopt, and implement local hazard mitigation principles to be integrated with local general plan safety elements, local coastal plans, facilities master plans, and other local plan initiatives
		4c	Implement wildfire mitigation and watershed protection strategies through local, state, tribal, federal and private partnerships
		4d	Advance community resilience through preparation, adoption, and implementation of state, regional and local multi-hazard mitigation plans and projects
5	Implement property protection measures to reduce or eliminate repetitive loss occurrences.	5a	Retrofit, elevate, purchase, or relocate structures in high-hazard areas, especially those known to be repetitively damaged
6	Investigate and implement a range of structural projects that will reduce the effects of hazards on public and private property throughout the County	6a	Encourage projects that simultaneously reduce risk while increasing resilience and sustainability
		6b	Support the protection of vital and essential records, and strengthening or replacement of buildings, infrastructure, and lifelines to minimize post-disaster disruption and facilitate short-term and long-term recovery
		6c	Encourage life and property protection measures for all communities and structures located in the greater Harris County region

		6d	Manage development in geologically hazardous areas and floodplains to protect life and property
7	Investigate and implement a range of nature-based solutions that utilize, enhance, and protect natural resources and their ability to reduce hazard impacts.	7a	Support the protection of vital and essential records, and strengthening or replacement of buildings, infrastructure, and lifelines to minimize post-disaster disruption and facilitate short-term and long-term recovery
		7b	Encourage life and property protection measures for all communities and structures located in the greater Harris County region
		7c	Promote disaster resistant development
		7d	Manage development in geologically hazardous areas and floodplains to protect life and property
8	Advance hazard analysis and mitigation strategies to reflect interdependencies across infrastructure and community lifelines	8a	Encourage private and public sector agencies and organizations to work together in the development of plans, strategies, and projects to mitigate identified hazards
9	Prioritize mitigation investments to inform and support efforts to seek funding	9a	Identify funding sources and increase awareness of funding sources to obtain funding for mitigation projects from a variety of federal, state, regional, and local entities.

Implementation of the 2025 Plan

The status of the mitigation projects identified in the 2020 HC MH-MAP was reviewed for this MJ-HMP. Numerous projects and programs have been implemented that have reduced hazard vulnerability to assets in the planning area. Uncompleted projects have been reevaluated, modified as necessary, and incorporated into this plan. The Planning Partners' annexes describe these mitigation activities in more detail, and plan maintenance procedures have been developed to encourage thorough integration with local decisions and processes and regular review of implementation progress.

2025 Mitigation Strategy

There are 880 hazard mitigation actions identified in the plan by the 42 planning partners. The general categories of these hazard mitigation actions include the following:

- Drainage improvements
- Generators
- Building codes/code enforcement
- Flood proofing structures (elevation, retrofitting, or relocation)
- Harden critical infrastructure
- Public threat warning systems
- Surge protection
- Public education
- NFIP compliance
- Cooling and/or warming centers
- Tree management
- Chemical release warning systems/air monitoring systems
- Cybersecurity measures
- Saferooms

More detail on the hazard mitigation actions identified by each of the planning partners can be found in the jurisdictional annexes found within Volume II of this plan.

2025

Harris County
Multi-Jurisdictional
Hazard Mitigation Plan

PLANNING PARTNER ANNEXES

VOLUME 2



2025 Harris County Multi-Jurisdictional Hazard Mitigation Plan Update

July 2025
#105s045090

PREPARED FOR

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TABLE OF CONTENTS

.....

15. CITY OF JACINTO CITY 15-1

16. CITY OF JERSEY VILLAGE 16-1

17. CITY OF KATY 17-1

18. CITY OF LA PORTE 18-1

19. CITY OF MISSOURI CITY 19-1

20. CITY OF MORGAN’S POINT 20-1

21. CITY OF NASSAU BAY 21-1

22. CITY OF PASADENA 22-1

23. CITY OF PINEY POINT VILLAGE..... 23-1

24. CITY OF SEABROOK 24-1

25. CITY OF SHOREACRES 25-1

26. CITY OF SOUTHSIDE PLACE..... 26-1

27. CITY OF SPRING VALLEY VILLAGE..... 27-1

28. CITY OF STAFFORD..... 28-1

29. CITY OF TAYLOR LAKE VILLAGE 29-1

15. CITY OF JACINTO CITY

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Jacinto with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Jacinto City, describes who participated in the planning process, assesses Jacinto City’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

15.1 HAZARD MITIGATION PLANNING TEAM

The City of Jacinto identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Jacinto City Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 15-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 15-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Lon Squyres/ City Manager Address: 1301 Mercury Dr., Houston, TX 77029 Phone Number: 832-725-8954 Email: Lon.squyres@jacintocity-tx.gov	Name/Title: Christal Rodriguez/City Secretary Address: 1301 Mercury Dr., Houston, TX 77029 Phone Number: 713-674-8424 Email: Christal.rodriguez@jacintocity-tx.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: Lon Squyres/ City Manager Address: 1301 Mercury Dr., Houston, TX 77029 Phone Number: 713-674-8424 Email: lon.squyres@jacintocity-tx.gov	
Additional Contributors	
Name/Title: Mike Bodak/Lieutenant FD Method of Participation: Local Mitigation Planning Team (LMPT)	
Name/Title: Thomas Rogers/PW Director Method of Participation: Local Mitigation Planning Team (LMPT)	
Name/Title: Mark Longrigg/Captain PD Method of Participation: Local Mitigation Planning Team (LMPT)	

15.2 COMMUNITY PROFILE

The City of Jacinto City is a small urban municipality located in eastern Harris County, Texas, approximately 10 miles east of downtown Houston. It is part of the Houston metropolitan area and serves as a residential and light industrial suburb. Jacinto City was incorporated in 1946 and has since developed into a close-knit, family-oriented community with a strong emphasis on public services and quality of life.

15.2.1 Population and Demographics

According to the U.S. Census, the 2020 population for Jacinto City was 9,613 (Census 2025). Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the U.S. Census Bureau 2023 American Community Survey (ACS) indicates that 7.8 percent of the population is 5 years of age or younger, 13.8 percent is 65 years of age or older, 4.7 percent is non-English speaking, 18.8 percent is below the poverty threshold, and 15.8 percent is considered disabled (U.S. Census Bureau 2023 American Community Survey; STATS America).

15.2.2 Economy

Jacinto City's economy is supported by a combination of small businesses, retail, light manufacturing, and service industries. Many residents commute to jobs in Houston or nearby industrial sectors along the Houston Ship Channel. The city has worked to maintain economic stability by supporting infrastructure development and commercial revitalization projects.

15.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Jacinto City performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Jacinto City to identify opportunities for integrating mitigation concepts into ongoing City procedures.

15.3.1 Planning and Regulatory Capability and Integration

Table 15-2 summarizes the planning and regulatory tools that are available to Jacinto City.

Table 15-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	<i>IBC 2021</i>	<i>Municipal</i>	<i>Building Official</i>
Zoning/Land Use Code	Yes	<i>Zoning ordinance 1981</i>	<i>Municipal</i>	<i>Building Official</i>
Subdivision Code	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Site Plan Code	—	—	—	—
Stormwater Management Code	Yes	<i>93-3</i>	<i>State</i>	<i>Building Code</i>
Post-Disaster Recovery/ Reconstruction Code	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Real Estate Disclosure Requirements	No	<i>N/A</i>	<i>State</i>	<i>N/A</i>
Growth Management	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Environmental Protection Ordinance(s)	No	<i>N/A</i>	<i>State</i>	<i>N/A</i>
Flood Damage Prevention Ordinance	Yes	<i>Chapter 9, Article 2A, 10/6/2014</i>	—	—
Wellhead Protection	—	—	—	—
Emergency Management Ordinance	Yes	<i>2006-4</i>	<i>Municipal</i>	<i>EMC</i>
Climate Change Ordinance	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Other	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
PLANNING DOCUMENTS				
General/Comprehensive Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Capital Improvement Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Disaster Debris Management Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Floodplain Management or Watershed Plan	Yes	<i>2023</i>	<i>County</i>	<i>Building Official</i>
Stormwater Management Plan	Yes	<i>93-3</i>	<i>Municipal</i>	<i>Public Works</i>

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Stormwater Pollution Prevention Plan	<i>Yes</i>	<i>93-3</i>	<i>Municipal</i>	<i>Public Works</i>
Open Space Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Urban Water Management Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Habitat Conservation Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Economic Development Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Shoreline Management Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Community Wildfire Protection Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Community Forest Management Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Transportation Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Agriculture Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Climate Action/Resilience/Sustainability Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Tourism Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Business/ Downtown Development Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Other	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	<i>Yes</i>	<i>Harris County Plan</i>	<i>County</i>	<i>OEM</i>
Continuity of Operations Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Substantial Damage Response Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Threat and Hazard Identification and Risk Assessment	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Post-Disaster Recovery Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Public Health Plan	<i>No</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Other:	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>

N/A = Not applicable

— = Unavailable

15.3.2 Development and Permitting Capability

Table 15-3 summarizes the capabilities of Jacinto City to oversee and track development.

Table 15-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	<i>No</i>	—
- If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?	<i>N/A</i>	—
Are permits tracked by hazard area? (For example, floodplain development permits.)	<i>No</i>	—
Do you have a buildable land inventory?	<i>No</i>	
If you have a buildable land inventory, please describe	<i>N/A</i>	—
Describe the level of buildout in your jurisdiction.	99%	—

N/A = Not applicable

— = *Unavailable*

15.3.3 Administrative and Technical Capability

Table 15-4 summarizes potential staff and personnel resources available to Jacinto City and their current responsibilities that contribute to hazard mitigation.

Table 15-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	—
Zoning Board of Adjustment	Yes	—
Planning Department	Yes	—
Mitigation Planning Committee	<i>No</i>	—
Environmental Board/Commission	<i>No</i>	—
Open Space Board/Committee	<i>No</i>	—
Economic Development Commission/Committee	<i>No</i>	—
Public Works/Highway Department	Yes	—
Construction/Building/Code Enforcement Department	Yes	—
Emergency Management/Public Safety Department	Yes	—
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	—
Mutual aid agreements	Yes	—
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	<i>No</i>	—
Other	—	—

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	No	—
Engineers or professionals trained in building or infrastructure construction practices	No	—
Planners or engineers with an understanding of natural hazards	No	—
Staff with expertise or training in benefit/cost analysis	No	—
Professionals trained in conducting damage assessments	No	—
Personnel skilled or trained in GIS and/or Hazus applications	No	—
Staff that work with socially vulnerable populations or underserved communities	No	—
Environmental scientists familiar with natural hazards	No	—
Surveyors	No	—
Emergency manager	Yes	—
Grant writers	Yes	—
Resilience Officer	No	—
Other (this could include stormwater engineer, environmental specialist, etc.)	—	—

N/A = *Not applicable*

— = *Unavailable*

15.3.4 Fiscal Capability

Table 15-5 summarizes the financial resources available to the City of Jacinto City.

Table 15-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

N/A = *Not applicable*

15.3.5 Education and Outreach Capability

Table 15-6 summarizes the education and outreach resources available to the City of Jacinto City.

Table 15-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	No	Not Sole Duty
Personnel skilled or trained in website development	No	—
Hazard mitigation information available on your website	No	—
Social media for hazard mitigation education and outreach	No	—
Citizen boards or commissions that address issues related to hazard mitigation	No	—
Warning systems for hazard events	No	—
Natural disaster/safety programs in place for schools	No	—
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	—
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	No	—

N/A = Not applicable

— = Unavailable

15.3.6 Community Classifications

Table 15-7 summarizes classifications for community programs available to Jacinto City.

Table 15-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	—	—
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	—	Currently under review.
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	6	—
National Weather Service StormReady Certification	No	—	—
Firewise Communities classification	No	—	—
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable

— = Unavailable

15.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 15-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 15-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Weak
Drought	Weak
Earthquake	Moderate
Extreme Cold	Weak
Extreme Heat	Weak
Flooding	Moderate
Hurricane, Coastal Storm	Moderate
Mass Movement	Weak
Severe Weather	Strong
Tsunami	Weak
Wildfire	Weak
Energy Pipeline Failure	Moderate
Public Health Emergency	Moderate
Technology Failure	Moderate
Toxic Release/Hazardous Materials	Moderate
Utility Failure	Moderate

15.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 15-1 is responsible for maintaining this information.

15.4.1 NFIP Statistics

Table 15-9 summarizes the NFIP policy and claim statistics for the City of Jacinto City.

Table 15-9. Jacinto City NFIP Summary of Policy and Claim Statistics

# Policies	16
# Claims (Losses)	60
Total Loss Payments	\$1,741,861.67
# Repetitive Loss Properties (NFIP definition)	1
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: HCFCFCD - policies, claims, and repetitive loss data are valid as of 1/30/25

15.4.2 Flood Vulnerability Summary

Table 15-10 provides a summary of the NFIP program in Jacinto City.

Table 15-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	<i>Areas immediately adjacent to Hunting Bayou (within 500 ft)</i>
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	Yes
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	26
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	>50% value
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	14
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	4
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes

NFIP Topic	Comments
NFIP Compliance	
What local department is responsible for floodplain management?	<i>Building Official</i>
Are any certified floodplain managers on staff in your jurisdiction?	<i>No</i>
Do you have access to resources to determine possible future flooding conditions from climate change?	<i>No</i>
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	<i>Yes</i>
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	<i>Permit review & inspections</i>
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	<i>Value</i>
What are the barriers to running an effective NFIP program in the community, if any?	<i>N/A</i>
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	<i>N/A</i>
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	<i>N/A</i>
What is the local law number or municipal code of your flood damage prevention ordinance?	<i>We use the county code.</i>
What is the date that your flood damage prevention ordinance was last amended?	<i>Yes</i>
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	<i>Yes</i>
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	<i>Yes</i>
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	<i>Yes</i>

15.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 15-11 through Table 15-13.

Table 15-11. Building Permits for New Construction Issued Since the Previous HMP

Type of Development	2020		2021		2022		2023		2024		2025	
	Number of Building Permits for New Construction Issued Since the previous HMP											
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single-Family	—	0	—	0	—	0	—	0	—	0	—	0
Multi-Family	—	0	—	0	—	0	—	0	—	0	—	0

Type of Development	2020		2021		2022		2023		2024		2025	
	Number of Building Permits for New Construction Issued Since the previous HMP											
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Other (commercial, mixed-use, etc.)	—	0	—	0	—	0	—	0	—	0	—	0
Total Permits Issued	—	0	—	0	—	0	—	0	—	0	—	0

— = Unavailable

SFHA = Special Flood Hazard Area (1% flood event)

Table 15-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Addition to Faust Dist.	Commercial	1	TRS 6B-1 & 31C	No	In Progress

* Only location-specific hazard zones or vulnerabilities identified.

Table 15-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Warehouse	Commercial	1	RES A BLK 1	No	Unknown

15.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding vulnerability to the identified hazards, including summaries of Jacinto City’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

15.6.1 Hazard Event History

The history of natural and non-natural hazard events in Jacinto City is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 15-14 provides details on loss and damage in Jacinto City during hazard events since the last hazard mitigation plan update.

Table 15-14. Hazard Event History in Jacinto City

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jacinto City
August 2017	DR-4332-TX Energy Pipeline Failure Technology Failure Toxic Release/HazMat Utility Failure	Federal	Hurricane Harvey produced severe flooding which disrupted pipeline infrastructure, leading to temporary shutdowns and fuel supply concerns. Toxic chemicals like Benzene and other Volatile Organic Compounds were released after flooding from Harvey damaged chemical plants in the County. Flooding also led to server and data center failures, disrupting emergency response coordination.	—
March 2019	Toxic Release/HazMat Utility Failure	No	ITC Chemical Fire – a fire at the Intercontinental Terminals Company facility in Deer Park disrupted local utilities and air quality monitoring systems	—
May 2019	Energy Pipeline Failure	No	Baytown Refinery Pipeline Leak – a pipeline leak at the ExxonMobil Baytown Refinery resulted in an oil spill, prompting environmental concerns.	—
November 2019	Energy Pipeline Failure	No	Pipeline Explosion near Houston – a natural gas pipeline explosion in Mont Belvieu, just outside of Harris County, caused a fire and temporary evacuations.	—
1/10/2020	Thunderstorm Wind	No	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	—
1/20/2020 - 5/11/2023	DR-4485, EM-3458 Biological	State, Federal	COVID-19	—
3/11/2020	—	Yes	Public Health Emergency – local disaster declared as COVID-19 swept the region.	—
4/18/2020	Hail	N/A	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jacinto City
5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	—
5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	—
7/25/2020 - 7/31/2020	EM-3530 Hurricane	State	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	—
8/23/2020 - 8/27/2020	EM-3540 Hurricane	State	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There we no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	—
9/21/2020	Storm Surge Flash Flood Flood	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jacinto City
2021	Technology Failure	No	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	—
2/11/2021 - 2/21/2021	DR-4586, EM-3554 Severe Ice Storm Power Failure Extreme Cold Technology Failure Utility Failure	State, Federal	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	Damage was limited to residential water lines, which required a great deal of support from our Public Works Dept. During the peak of the low temperatures, our Water Department clerks worked from home using VOIP phones to provide 24/7 service to our residents.
5/18/2021	Thunderstorm Wind Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area	—
July 2021	Toxic Release/HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	—
December 2021	Toxic Release/HazMat	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jacinto City
1/8/2022	Tornado Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	—
8/10/2022	Lightning Thunderstorm Wind	N/A	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	—
December 2022	Technology Failure	N/A	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jacinto City
1/24/2023	Tornado	N/A	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended east northeast, then northeast from there, across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage, but there were some spots with more severe damage, rated EF2. These included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	—
4/5/2023	Hail	N/A	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	—
5/5/2023	Toxic Release/HazMat	N/A	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	—
5/8/2023	Thunderstorm Wind Flash Flood Hail	N/A	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	—
6/23/2023	Hail	N/A	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail.	—
4/26/2024 - 6/5/2024	DR-4781 Flooding	Federal	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jacinto City
5/2/2024	Severe Weather Flooding	Yes	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	Heavy tree damage causing large debris field.
5/16/2024	DR-4781 Severe Weather Tornadoes Strong Wind Hail Flooding	Yes & Federal	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	—
7/5/2024 - 7/9/2024	DR-4798 Hurricane	Yes & Federal	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	Heavy tree damage causing large debris field.

*EM = Emergency Declaration (FEMA); FEMA = Federal Emergency Management Agency; DR = Major Disaster Declaration (FEMA); N/A = Not applicable;
— = Information not provided*

Sources: (USDA 2025); (FEMA 2025); City of Jacinto City

15.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding vulnerability to the identified hazards. The following presents key risk assessment results for Jacinto City.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Jacinto City reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. Table 15-15 shows Jacinto City's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 15-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricane, Coastal Storm	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release/Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 15-16 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 15-16. Jacinto City Critical Facilities Vulnerability

Hazard Area	Number of Critical Facilities
1% Annual Chance Riverine Flood	5
1% Annual Chance Coastal Flood	0
Hurricane Harvey Flood Extent	29
Addicks Dam Inundation Area	4
Barker Dam Inundation Area	1
Lake Houston Dam Inundation Area	0
Low Wildfire Threat	7
Moderate Wildfire Threat	0
High Wildfire Threat	0
Very High Wildfire Threat	0

Source: Harris County

15.6.3 Identified Issues

After review of Jacinto City’s hazard event history, hazard rankings, hazard location, and current capabilities, the City identified no vulnerabilities within the community.

15.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

15.7.1 Past Mitigation Action Status

The City of Jacinto City was not a participant in the 2020 Harris County MJ HMP, and therefore, there are no past mitigation actions to review.

15.7.2 Additional Mitigation Efforts

Jacinto City identified the following mitigation efforts completed since the last HMP:

- Not applicable

Since the adoption of the County's first HMP, Jacinto City has made significant mitigation progress in the following areas:

- Not applicable

15.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Jacinto City participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Jacinto City would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 15-17 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 15-18 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 15-17. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	X	-	-	X	X	X	X	-	-	X
Dam/Levee Failure	X	-	-	X	X	X	X	-	-	X
Drought	X	-	-	X	X	X	X	-	-	X
Earthquake	X	-	-	X	X	X	X	-	-	X
Extreme Cold	X	-	-	X	X	X	X	-	-	X
Extreme Heat	X	-	-	X	X	X	X	-	-	X
Flooding	X	-	-	X	X	X	X	-	-	X
Hurricanes / Coastal Storms	X	-	-	X	X	X	X	-	-	X
Mass Movement	X	-	-	X	X	X	X	-	-	X
Severe Weather	X	-	-	X	X	X	X	-	-	X
Tsunami	X	-	-	X	X	X	X	-	-	X
Wildlife	X	-	-	X	X	X	X	-	-	X
Energy Pipeline Failure	X	-	-	X	X	X	X	-	-	X
Technology Failure	X	-	-	X	X	X	X	-	-	X
Toxic Release / HazMat	X	-	-	X	X	X	X	-	-	X
Utility Failure	X	-	-	X	X	X	X	-	-	X
Public Health Emergency	X	-	-	X	X	X	X	-	-	X

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 15-18. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
JAC_1	Establish a county-wide, robust public alert system capable of crossing jurisdictional boundaries	1	1	1	1	1	1	0	1	1	1	0	1	1	0	11	High
AW_2	Continue to maintain and update the Hazard Mitigation Plan website with relevant information on the plan's implementation such as: annual progress reports, grant funding opportunities, public comment opportunities and plan integration opportunities. Each planning partner can support this initiative by creating a link to the County hazard mitigation website on their jurisdictional websites	1	1	1	1	1	1	1	1	1	1	1	1	1	0	13	High
AW_4	Strive to capture time-sensitive, perishable data—such as high-water marks, extent and location of hazard, and loss information—following hazard events to support future updates to the risk assessment as well as other plans and programs that utilize hazard extent and location data	1	1	1	1	1	1	1	1	1	1	1	1	1	0	13	High
AW_7	Retrofit and harden critical facilities for continuity during disasters.																

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
AW_8	Implement nature-based solutions for flood reduction and shoreline stabilization																
AW_9	Develop a countywide utility resilience and redundancy plan																
AW_10	Conduct pipeline and hazardous materials risk assessments and land use planning																
AW_11	Launch public drought and water conservation education initiatives																
AW_12	Update land use policies to integrate hazard maps and discourage development in high-risk zones																

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

16. CITY OF JERSEY VILLAGE

This jurisdictional annex to the Harris County Multi-Jurisdictional (MJ) Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Jersey Village with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Jersey Village, describes who participated in the planning process, assesses Jersey Village’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

16.1 HAZARD MITIGATION PLANNING TEAM

The City of Jersey Village identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Jersey Village Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 16-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 16-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Mark Bitz/Fire Chief, EMC Address: 16501 Jersey Dr. Jersey Village, TX 77040 Phone Number: 713-446-9993 Email: mbitz@jerseyvillagetx.com	Name/Title: Jacob Daily/Asst. Fire Chief, AEMC Address: 16501 Jersey Dr. Jersey Village, TX 77040 Phone Number: 346-679-1102 Email: jdaily@jerseyvillagetx.com
National Flood Insurance Program Floodplain Administrator	
Name/Title: Miesha Johnson Address: 16501 Jersey Dr., Houston, TX 77040 Phone Number: 713-466-2141 Email: mjohnson@jerseyvillagetx.com	
Additional Contributors	
Name/Title: Austin Bleess Method of Participation: Local Mitigation Planning Team	
Name/Title: Robert Basford Method of Participation: Local Mitigation Planning Team	
Name/Title: Danny Keele Method of Participation: Local Mitigation Planning Team	
Name/Title: Danielle Cordova Method of Participation: Local Mitigation Planning Team	

16.2 COMMUNITY PROFILE

City of Jersey Village was incorporated in April 16, 1956. The 1936 Harris County highway map indicated several residences in the area. Clark W. Henry owned 1,236 acres of land on which he operated F&M Dairy and raised Jersey cattle. Henry discontinued his dairy when his health declined, and he gave the land up so a residential community could be built in 1953. Henry and LeRoy Kennedy, members of the Garden Oaks Baptist Church, began developing the community in February 1954. At first the city had 5 miles of streets and drainage, gas, sewage, and water services. Several houses were established along Jersey Drive. The first family moved to the subdivision in late October 1954. The community developed a school, a park, and an 18-hole golf course. When Jersey Village incorporated on April 16, 1956, all 58 votes were in favor of incorporation and a volunteer police force. Because of the incorporation, Houston did not incorporate Jersey Village's territory into its city limits.

16.2.1 Location

Jersey Village is in Northwest Harris County. The current boundaries generally extend from Highway 290 at Sam Houston Tollway West to Eldridge Parkway from FM 529 North up Jones Road to the 8800 block, from the Sam Houston Tollway to Eldridge Parkway, encompassing an area of 3.5 square miles. City of Jersey Village was incorporated in April 16, 1956. The 1936 Harris County highway map indicated several residences in the area. Clark W. Henry owned 1,236 acres of land on which he operated F&M Dairy and raised Jersey cattle. Henry discontinued his dairy when his health declined, and he gave the land up so a residential community could be built in 1953. Henry and LeRoy Kennedy, members of the Garden Oaks Baptist Church, began developing the community in February 1954. At first the city had 5 miles of streets and drainage, gas, sewage, and water services. Several houses were established along Jersey Drive. The first family moved to the subdivision in late October 1954. The community developed a school, a park, and an 18-hole golf course. When Jersey Village incorporated on April 16, 1956, all 58 votes were in favor of incorporation and a volunteer police force. Because of the incorporation, Houston did not incorporate Jersey Village's territory into its city limits. According to the U.S. Census, the 2020 population for Jersey Village was 7,921, a 4 percent increase from the 2010 Census.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 6.3 percent of the population is 5 years of age or younger, 21.5 percent is 65 years of age or older, 2.2 percent is non-English speaking, 5.1 percent is below the poverty threshold, and 10.4 percent is considered disabled.

16.2.2 Governing Body Format

Jersey Village has a home rule charter and a council manager form of government. The city manager acts as the city's chief executive officer. The council, consisting of the mayor and five elected members, serves as the city's legislative body and votes on matters related to city

government. The mayor and each council member have two year terms. Each member is limited to four terms as mayor, council member, or both. The mayor votes if the city council has a tie vote. The city manager has no voice in the city council; the city manager attends all council meetings and provides advice. The city manager manages all city affairs assigned to the city manager by the charter, implements city council directives, and ordinances. The city manager also manages and directs the city organization and employees. The City of Jersey Village assumes responsibility for the adoption of this plan; City of Jersey Village will oversee its implementation.

16.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Jersey Village performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Jersey Village to identify opportunities for integrating mitigation concepts into ongoing City procedures.

16.3.1 Planning and Regulatory Capability and Integration

Table 16-2 summarizes the planning and regulatory tools that are available to Jersey Village.

Table 16-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	<i>International Building Code, Code of Ordinances Chapter 14 Article VIII</i>	<i>Local</i>	Building Official
Zoning/Land Use Code	Yes	<i>Code of Ordinances – Chapter 14 Article IV</i>	<i>Local</i>	Building Official
Subdivision Code	Yes	<i>Chapter 14 Article III and Article IX</i>	<i>Local</i>	Building Official
Site Plan Code	Yes	<i>Code of Ordinances Chapter 14 Article 1 Section 14-6</i>	<i>Local</i>	Building Official
Stormwater Management Code	Yes	<i>Code of Ordinances Chapter 14 Article XXI</i>	<i>Local</i>	Building Official
Post-Disaster Recovery/ Reconstruction Code	Yes	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Real Estate Disclosure Requirements	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Growth Management	Yes	<i>Code of Ordinances Chapter 14 Article I Section 14-3</i>	<i>Local</i>	<i>N/A</i>
Environmental Protection Ordinance(s)	Yes	<i>Chapter 14 Article IX</i>	<i>Local</i>	<i>N/A</i>
Flood Damage Prevention Ordinance	Yes	<i>Code of Ordinances Chapter 14 Article IX</i>	<i>Local</i>	<i>N/A</i>
Wellhead Protection	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Emergency Management Ordinance	Yes	<i>Code of Ordinances Chapter 22 Article II</i>	<i>Local</i>	Emergency Management
Climate Change Ordinance	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Other	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	<i>Comprehensive Plan adopted January 2021. New one being worked on now with expected completion in 2025.</i>	<i>Local</i>	Building Official
Capital Improvement Plan	Yes	<i>Contracts and memorandums of understanding are reviewed on an annual basis</i>	<i>Local</i>	All Departments
Disaster Debris Management Plan	Yes	<i>Contracts and memorandums of understanding are reviewed on an annual basis</i>	<i>Local</i>	All Departments
Floodplain Management or Watershed Plan	Yes	<i>Chapter 14 Article IX</i>	<i>Local</i>	Building Official
Stormwater Management Plan	Yes	<i>Chapter 14 Article IX and Article XXI</i>	<i>Local</i>	Building Official
Open Space Plan	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Urban Water Management Plan	Yes	<i>Chapter 14 Article XXI</i>	<i>Local</i>	Building Official

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Habitat Conservation Plan	N/A	N/A	N/A	N/A
Economic Development Plan	Yes	<i>Incorporating this into 2025 Comp Plan</i>	Local	N/A
Community Wildfire Protection Plan	No	<i>The City of Jersey Village does not have its own CWPP implemented. Harris County has completed a county-wide CWPP; which includes all incorporated jurisdictions within Harris County</i>	County	Unknown Maybe Fire Marshal
Community Forest Management Plan	N/A	N/A	N/A	N/A
Transportation Plan	N/A	N/A	State	N/A
Agriculture Plan	N/A	N/A	N/A	N/A
Climate Action/Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	No	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Annex in Harris County Mitigation Plan	Local, County	Emergency Management
Continuity of Operations Plan	Yes	<i>Government Code 418 grants political subdivisions the option to adopt plans for continuity of functions but is not mandated. The City of Jersey Village does have department Continuity of Operations Plans.</i>	Local	All Departments
Substantial Damage Response Plan	N/A	N/A	N/A	N/A
Threat and Hazard Identification and Risk Assessment	No	<i>A regional THIRA is conducted on an annual basis for UASI and HGAC.</i>	N/A	N/A
Post-Disaster Recovery Plan	Yes	<i>Annex J – Recovery is required for local jurisdictions to address local recovery programs, damage assessments, Public Assistance and Individual Assistance programs</i>	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Public Health Plan	Yes	Annex H – Health and Medical is a component of the Emergency Operations Plan and addresses public health, environmental health, and medical response capabilities. The City does not maintain a standalone Public Health Plan.	County	Harris County Public Health

16.3.2 Development and Permitting Capability

Table 16-3 summarizes the capabilities of Jersey Village to oversee and track development.

Table 16-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?		
- If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?	Yes	<i>Community Development</i>
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	<i>N/A</i>
Do you have a buildable land inventory?		
If you have a buildable land inventory, please describe	Yes	Vacant Lots are known
Describe the level of buildout in your jurisdiction.		97%

16.3.3 Administrative and Technical Capability

Table 16-4 summarizes potential staff and personnel resources available to Jersey Village and their current responsibilities that contribute to hazard mitigation.

Table 16-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Community Development and outside consultants
Zoning Board of Adjustment	Yes	Community Development and outside consultants
Planning Department	Yes	Community Development and outside consultants
Mitigation Planning Committee	No	<i>N/A</i>
Environmental Board/Commission	No	<i>N/A</i>
Open Space Board/Committee	Yes	Parks and Recreation Committee

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Economic Development Commission/Committee	No	N/A
Public Works/Highway Department	Yes	N/A
Construction/Building/Code Enforcement Department	Yes	N/A
Emergency Management/Public Safety Department	Yes	N/A
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	N/A
Mutual aid agreements	Yes	N/A
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	N/A
Other	N/A	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	<i>Community Development / Public Works</i>
Engineers or professionals trained in building or infrastructure construction practices	Yes	<i>Permits and Inspections / Community Development / Public Works</i>
Planners or engineers with an understanding of natural hazards	Yes	<i>Community Development / Public Works</i>
Staff with expertise or training in benefit/cost analysis	Yes	<i>City Manager's Office / Public Works / Finance</i>
Professionals trained in conducting damage assessments	N/A	N/A
Personnel skilled or trained in GIS and/or Hazus applications	No	N/A
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	Yes	<i>Emergency Manager's Office</i>
Grant writers	Yes	<i>Multiple Departments</i>
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	N/A

16.3.4 Fiscal Capability

Table 16-5 summarizes financial resources available to Jersey Village.

Table 16-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes, Water and Sewer
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	N/A
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	N/A
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

16.3.5 Education and Outreach Capability

Table 16-6 summarizes the education and outreach resources available to Jersey Village.

Table 16-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	N/A
Personnel skilled or trained in website development	Yes	N/A
Hazard mitigation information available on your website	Yes	<i>The website provides links to all our plans including flood plan and comprehensive plan just to name two.</i>
Social media for hazard mitigation education and outreach	Yes	<i>We posted recently the Hazard Mitigation Process for public remarks on Facebook & Twitter</i>
Citizen boards or commissions that address issues related to hazard mitigation	No	N/A
Warning systems for hazard events	Yes	<i>Social Media and Storm Siren</i>
Natural disaster/safety programs in place for schools	N/A	N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	N/A	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	<i>Website, newsletters, Social Media</i>

16.3.6 Community Classifications

Table 16-7 summarizes classifications for community programs available to Jersey Village.

Table 16-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	6	October 2024
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4	October 23, 2018
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	3	November 2015
National Weather Service StormReady Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable

— = Unavailable

16.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 16-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 16-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Moderate
Earthquake	Weak
Extreme Cold	Strong
Extreme Heat	Strong
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong
Tsunami	Weak
Wildfire	Moderate
Energy Pipeline Failure	Strong
Public Health Emergency	Moderate
Technology Failure	Weak
Toxic Release / Hazardous Materials	Weak
Utility Failure	Moderate

16.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 16-1 is responsible for maintaining this information.

16.4.1 NFIP Statistics

Table 16-9 summarizes the NFIP policy and claim statistics for Jersey Village.

Table 16-9. Jersey Village NFIP Summary of Policy and Claim Statistics

# Policies	1,134
# Claims (Losses)	1,237
Total Loss Payments	\$76,500,360.73
# Repetitive Loss Properties (NFIP definition)	90
# Repetitive Loss Properties (FMA definition)	61
# Severe Repetitive Loss Properties	21
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: Harris County Flood Control District, 2025

16.4.2 Flood Vulnerability Summary

Table 16-10 provides a summary of the NFIP program in Jersey Village.

Table 16-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Concentrated on areas along white oak bayou

NFIP Topic	Comments
Do you maintain a list of properties that have been damaged by flooding?	Yes – Repetitive Loss Areas
Do you maintain a list of property owners interested in flood mitigation?	We keep a list of homeowners who would be interested in having their home elevated through grants.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	N/A
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	City officials conduct visual assessments of properties after events to determine substantial damage. No substantial damages have been declared since the Tax Day Floods.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	28 Homes Elevated – 7 In Progress for Elevation (Grant Funded)
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	28 Homes Elevated – 7 In Progress for Elevation (Grant Funded)
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes – It should be updated to show the impact of the improvements from the White Oak Bayou Project and Berm project however.
NFIP Compliance	
What local department is responsible for floodplain management?	Community Development
Are any certified floodplain managers on staff in your jurisdiction?	We use a third party consultant company for buildings and permits that has a CFM.
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	We get training from FEMA resources of TWDB
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Flood Insurance Information, Flood zone determination, FIRM information, Historical Flood related data, Property Protection Measures, Natural Flood Plain Functions, Special Flood Related Hazards, Permit Review. Education/Outreach, GIS and Mapping, Inspections
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Based on previous work done to the structure (permits) and the HCAD home valuation.
What are the barriers to running an effective NFIP program in the community, if any?	Staffing needs to ensure compliance.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2023

NFIP Topic	Comments
What is the local law number or municipal code of your flood damage prevention ordinance?	Municode Section 14-225, 2022
What is the date that your flood damage prevention ordinance was last amended?	2022
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Exceed – We have freeboard requirements + 36 inches for Floodway and critical facilities, +24 inches for AE, We do not allow Fill in the 100 year
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes, current building codes and site plan review
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	We are a CRS Class 5 City interested in improving.

16.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 16-11 through Table 16-13.

Table 16-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	1	0	0	1
Permits within SFHA	1	0	0	1
2021				
Total Permits	2	0	3	5
Permits within SFHA	1	0	0	1
2022				
Total Permits	3	0	1	4
Permits within SFHA	1	0	0	1
2023				
Total Permits	0	0	1	1
Permits within SFHA	0	0	0	0
2024				
Total Permits	2	0	0	2
Permits within SFHA	2	0	0	2

SFHA = Special Flood Hazard Area (1% flood event)

Table 16-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

** Only location-specific hazard zones or vulnerabilities identified.*

Table 16-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

16.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Jersey Village’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

16.6.1 Hazard Event History

The history of natural and non-natural hazard events in Jersey Village is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 16-14 provides details on loss and damage in Jersey Village during hazard events since the last hazard mitigation plan update.

Table 16-14. Hazard Event History in Jersey Village

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jersey Village
1/10/2020	- Thunderstorm - Wind	No	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	N/A
1/20/2020 – 5/11/2023	Biological (DR-4485; EM-3458)	No	COVID-19	The beginning of Covid (10/30/2020 through 9/30/2022) required expenses to prepare EMS crews for response. Spent \$11,728.72
3/11/2020	Biological	Yes	Public Health Emergency – local disaster declared as COVID-19 swept the region.	N/A
4/18/2020	Hail	No	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	N/A
5/6/2020 – 2/18/2020	Drought (USDA S4669)	Yes	N/A	N/A
5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jersey Village
5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	N/A
7/25/2020 – 7/31/2020	Hurricane (EM-3530)	No	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	N/A
8/23/2020 – 8/27/2020	Hurricane (EM-3540)	No	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There were no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	N/A
9/21/2020	- Storm Surge - Flash Flood - Flood	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	N/A
2021	Technology Failure	No	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jersey Village
2/11/2021 – 2/21/2021	- Severe Ice Storm - Power Failure - Extreme Cold - Technology Failure - Utility Failure (DR-4586; EM-3554)	No	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	In February 2021 a winter storm coated the region in ice and snow, causing widespread power outages due to demands on the system. Wintry precipitation continued through 2/17 and many homes suffered from burst pipes due to the cold temperatures. Spent \$4,323.56
5/18/2021	Thunderstorm Wind, Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A
7/2021	Toxic Release/HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	N/A
12/2021	Toxic Release/HazMat	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jersey Village
1/8/2022	- Tornado - Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
3/15/2022 – N/A	Drought (USDA S5188)	Yes	N/A	N/A
4/5/2022 – N/A	Drought (USDA S5209)	Yes	N/A	N/A
4/12/2022 – N/A	Drought (USDA S5214)	Yes	N/A	N/A
5/1/2022 – 9/30/2022	Excessive Heat (USDA S5350)	Yes	N/A	N/A
5/10/2022 – N/A	Drought (USDA S5197)	Yes	N/A	N/A
6/14/2022 – N/A	Drought (USDA S5221)	Yes	N/A	N/A
7/19/2022 – N/A	Drought (USDA S5240)	Yes	N/A	N/A
8/2/2022 – N/A	Drought (USDA S5252)	Yes	N/A	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jersey Village
8/10/2022	- Lightning - Thunderstorm - Wind	No	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	N/A
12/2022	Technology Failure	No	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A
1/24/2023	Tornado	No	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended east northeast, then northeast from there, across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage, but there were some spots with more severe damage, rated EF2. These included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	N/A
4/5/2023	Hail	No	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jersey Village
5/5/2023	Toxic Release / HazMat	No	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	N/A
5/8/2023	- Thunderstorm - Wind - Flash Flood - Hail	No	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail	No	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	N/A
8/15/2023 – N/A	Drought (USDA S5499)	Yes	N/A	N/A
8/22/2023 – N/A	Drought (USDA S5511)	Yes	N/A	N/A
11/1/2023 – N/A	Drought (USDA S5683)	Yes		N/A
4/26/2024 – 6/5/2024	Flood (DR-4781)	No	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	N/A
5/2/2024	Severe Weather & Flooding	Yes	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	N/A
5/16/2024	- Severe Weather - Tornadoes - Strong Wind - Hail - Flooding (DR-4781)	Yes	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	We experienced a Derecho which knocked down trees within our jurisdiction. Spent \$353,294.11

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Jersey Village
7/5/2024 – 7/9/2024	Hurricane (DR-4798)	Yes	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	Beryl made landfall at the coast near Matagorda, TX as a hurricane, downgraded to a tropical storm and the eye traveled close to the city, which created significant vegetative debris within the jurisdiction. The City received 7-8 inches of rainfall. Spent \$327,082.68

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025);

16.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding vulnerability to the identified hazards. The following presents key risk assessment results for Jersey Village.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Jersey Village reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. Table 16-15 shows Jersey Village’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 16-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release / Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 16-16 identifies critical facilities in the community located in the 1 percent.

Table 16-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	0	0%
Energy	0	0%
Food, Hydration, Shelter	0	0%
Hazardous Materials	0	0%
Health and Medical	0	0%
Safety and Security	0	0%
Transportation	0	0%
Water Systems	0	0%
Other Critical Facilities	0	0%

Source: Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

16.6.3 Identified Issues

After review of Jersey Village’s hazard event history, hazard rankings, hazard location, and current capabilities, Jersey Village identified the following vulnerabilities within the community:

- None identified

16.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

16.7.1 Past Mitigation Action Status

Table 16-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

16.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 16-17, Jersey Village identified the following mitigation efforts completed since the last HMP:

- JRV_10: Golf Course Water Detention Upgrade
- JRV_16: Install Wind Monitoring Equipment
- JRV_18: Heat Index on Website
- JRV_22: Develop Ordinance for Hazardous Material Storage on Residential Property
- JRV_24: Develop a Detailed Pipeline Risk Map

Since the adoption of the County’s first HMP, Jersey Village has made significant mitigation progress in the following areas:

- None identified

Table 16-17. Status of Previous Mitigation Actions

JRV_1: Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas	
Hazards Addressed	N/A
Responsible Party	City Administration
Summary of Original Problem	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_2: Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Wildfire, Severe Weather
Responsible Party	City Administration
Summary of Original Problem	We should continually work to make sure this plan is integrated with all plans and ordinances.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	We should continually work to make sure this plan is integrated with all plans and ordinances.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_3: Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan

Hazards Addressed	N/A
Responsible Party	City Administration
Summary of Original Problem	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Should be done annually
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_4: Continue to maintain a good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, enforce the flood damage prevention ordinance, participate in floodplain identification and mapping updates, and provide public assistance/ information on floodplain requirements and impacts

Hazards Addressed	Flooding
Responsible Party	City Administration
Summary of Original Problem	There is a continual need for this.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

**JRV_5: Elevation of Pre-Existing Homes that are prone to repetitive Flood. Project Schedule/Completion
Timeframe: 10 Years**

Hazards Addressed	Flooding
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	Repetitive flooding
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_6: Demolition of existing homes that are prone to repetitive Flood

Hazards Addressed	Flooding
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	Repetitive flooding
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_7: Retrofit Critical Infrastructure with Backup Generation

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	We have completed Fire Station, Police Station, and Village water plant using HMGP funding.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_8: Electric Surge Protection on Public Infrastructure	
Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
JRV_9: Community Rating System Participation	
Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	We were a CRS level 7 community and moved to Level 5. We want to continue to maintain this.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
JRV_10: Golf Course Water Detention Upgrade	
Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	\$7 Million Grant (HMGP CDBG-DR, State)
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_11: Add Impact Glazing to the International Electrical Conservation Code	
Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	We are outside of the area of impact for this.
JRV_12: Implement a Tree Management Program	
Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
JRV_13: Add an Ordinance to add Safe Rooms in Homes	
Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_14: Identify and Protect vulnerable city assets from Hail

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Some is done with the garage spaces
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_15: Installation of water supply to area without current water

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_16: Install Wind Monitoring Equipment

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	Complete – City funds
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_17: Implement waste water reuse program to water golf course

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	This project is not a Priority

JRV_18: Heat Index on Website

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	City Funds
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_19: Install Cooling area during times of power loss

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_20: Develop a Winter Storm Protocol for response during winter storms

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_21: We are turning a fire truck into a blocking apparatus for incidents on roadways. This truck will have cones, traffic directional capabilities and sign board.

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	\$50,000
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_22: Develop Ordinance for Hazardous Material Storage on Residential Property

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	City Fund
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_23: Upgrade and move all business pre-plans to computer

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_24: Develop a Detailed Pipeline Risk Map

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	City Funds
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_25: Develop a yearly inspection of pipelines

Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

JRV_26: Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan	
Hazards Addressed	N/A
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	N/A
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
JRV_27: Modernization of critical water and wastewater treatment facilities to ensure safe drinking water and effective wastewater treatment operations during hazardous events.	
Hazards Addressed	All Hazards
Responsible Party	City of Jersey Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	We have CIP plan for this project in place.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

16.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Jersey Village participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Jersey Village would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 16-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Table 16-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	X	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	X	-	-	-	-	-	-	-	-
Drought	-	X	-	-	-	-	-	-	-	-
Earthquake	-	X	-	-	-	-	-	-	-	-
Extreme Cold	X	X	-	-	-	-	-	-	-	X
Extreme Heat	X	X	-	-	-	-	-	-	-	X
Flooding	X	X	-	-	X	X	-	-	X	-
Hurricanes and Coastal Storms	-	X	-	-	-	X	-	-	-	-
Mass Movement	-	X	-	-	-	-	-	-	-	-
Severe Weather	-	X	-	-	-	-	-	-	-	X
Tsunami	-	X	-	-	-	-	-	-	-	-
Wildlife	-	X	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	X	-	-	-	-	-	-	-	-
Public Health Emergency	-	X	-	-	-	-	-	-	-	-
Technology Failure	-	X	-	-	X	-	-	-	-	-
Toxic Release / HazMat	-	X	-	-	-	-	-	-	-	-
Utility Failure	X	X	-	-	X	X	-	-	-	X

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 16-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 16-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
JRV_2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
JRV_3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
JRV_4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
JRV_5	Elevation of Pre-Existing Homes that are prone to repetitive Flood. Project Schedule/Completion Timeframe: 10 Years	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
JRV_6	Demolition of existing homes that are prone to repetitive Flood	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
JRV_7	Retrofit Critical Infrastructure with Backup Generation	1	1	1	0	0	1	1	1	0	1	1	1	1	0	10	Medium
JRV_8	Electric Surge Protection on Public Infrastructure	1	1	1	0	0	1	1	-1	1	1	1	-1	0	0	6	Low
JRV_9	Community Rating System Participation	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
JRV_12	Implement a Tree Management Program	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
JRV_13	Add an Ordinance to add Safe Rooms in Homes	1	1	1	0	0	1	1	1	0	1	1	1	1	0	10	Medium
JRV_14	Identify and Protect vulnerable city assets from Hail	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
JRV_15	Installation of water supply to area without current water																High
JRV_19	Install Cooling area during times of power loss	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
JRV_20	Develop a Winter Storm Protocol for response during winter storms	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
JRV_21	Purchase a trailer with road barricades and cones for traffic control	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
JRV_23	Upgrade and move all business pre-plans to computer	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
JRV_26	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan	1	1	1	0	0	1	1	1	0	1	1	1	1	0	10	Medium
JRV_27	Modernization of critical water and wastewater treatment facilities to ensure safe drinking water and effective wastewater treatment operations during hazardous events.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action JRV_28 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	Harris County Flood Control District
Hazard(s) of Concern:	Flooding
Action Description:	Widen and deepen existing drainage channels to improve flood conveyance capacity during high rainfall events.
Description of the Problem:	Current drainage channels are undersized for current and future rainfall volumes, resulting in localized flooding.
Description of the Solution:	Design and construct improvements to channel cross sections and sediment removal to increase conveyance.
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA BRIC, HCFCD, CDBG-MIT
Implementation Timeline:	Long-term (> 5 years)
Goals Met:	3, 6, 8
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Increases resilience to more intense and frequent rainfall events.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	High

Action JRV_29 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	N/A
Hazard(s) of Concern:	Flooding, Utility Failure
Action Description:	Retrofit sanitary sewer lift stations to elevate electrical systems and improve flood resilience.
Description of the Problem:	Sewer lift stations are vulnerable to floodwater intrusion, leading to service disruption and public health risks.
Description of the Solution:	Elevate motors and electrical panels, install flood-resistant access hatches, and integrate back-up pumps.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	SRF, CDBG, FEMA HMGP
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 5, 6
Benefits:	N/A
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Addresses risk from increasing storm intensity and floodwater levels.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Property Protection
Priority	High

Action JRV_30 Worksheet

Lead Agency:	Emergency Management
Supporting Agencies:	Police, Fire, Public Works
Hazard(s) of Concern:	Extreme Cold, Extreme Heat, Utility Failure
Action Description:	Develop formal emergency protocols for activation during extreme cold, extreme heat, and utility failure events.
Description of the Problem:	Existing protocols do not adequately address activation procedures for warming/cooling centers or resource distribution.
Description of the Solution:	Develop written protocols including triggers, staffing, facility readiness, public messaging, and partner coordination.
Estimated Cost:	Low (<\$10,000)
Potential Funding Sources:	Local operating budgets, TDEM, FEMA NPS
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 4, 8
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Supports climate adaptation by addressing extremes in temperature.
Mitigation Category	Local Plans and Regulations (LPR)
CRS Category	Emergency Services (ES)
Priority	High

Action JRV_31 Worksheet

Lead Agency:	City Administration
Supporting Agencies:	N/A
Hazard(s) of Concern:	Extreme Cold, Extreme Heat, Utility Failure
Action Description:	Install permanent standby generators at designated warming and cooling centers to ensure continuity of service.
Description of the Problem:	Warming and cooling centers lack backup power and may be unusable during blackouts.
Description of the Solution:	Procure and install generators with automatic transfer switches.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	FEMA HMGP, BRIC, ARPA
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6, 9
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Provides resilience during climate-related extreme weather events.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES)
Priority	High

Action JRV_32 Worksheet

Lead Agency:	IT Department
Supporting Agencies:	Emergency Management
Hazard(s) of Concern:	Technology Failure, Utility Failure
Action Description:	Harden communications infrastructure against cyber and physical threats to reduce service disruptions.
Description of the Problem:	City communication systems are at risk from cyberattacks and system failures during disasters.
Description of the Solution:	Install redundant communication lines, off-site backups, and cybersecurity upgrades.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	FEMA EMPG, SHSP, ARPA
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 8
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Not climate-related, but ensures system resilience.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Preventative Measures (PR)
Priority	High

Action JV_33 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	Engineering
Hazard(s) of Concern:	Flooding, Hurricane, Utility Failure
Action Description:	Retrofit water infrastructure including well houses, control panels, and chemical storage to be flood- and wind-resistant.
Description of the Problem:	Water infrastructure is vulnerable to service disruption from floods, wind, and utility failures.
Description of the Solution:	Upgrade facilities to include watertight panels, wind-load rated structures, elevated platforms, and protective enclosures.
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA BRIC, HMGP, TWDB
Implementation Timeline:	Long-term (> 5 years)
Goals Met:	3, 6, 8
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Protects essential services under future more frequent/intense weather events.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Property Protection (PP)
Priority	High

Action JRV_34 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	Engineering
Hazard(s) of Concern:	Flooding, Hurricane, Utility Failure
Action Description:	Reinforce and elevate sewer infrastructure to reduce exposure to flooding, wind, and storm surge impacts.
Description of the Problem:	Sewer facilities are exposed to hazards that lead to overflow, infiltration, or complete shutdowns.
Description of the Solution:	Retrofit lift stations, force mains, and manholes using water-resistant materials and elevation of controls.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	FEMA HMGP, CDBG-MIT, TWDB
Implementation Timeline:	Long-term (> 5 years)
Goals Met:	3, 6, 8
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Protects critical sanitation services against hazard intensification.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Property Protection (PP)
Priority	High

Action JV_35 Worksheet

Lead Agency:	City Administration
Supporting Agencies:	Public Works
Hazard(s) of Concern:	Extreme Cold, Extreme Heat, Severe Weather, Utility Failure
Action Description:	Install permanent generators and/or solar generation at all city facilities required for emergency and continuity of operations.
Description of the Problem:	Critical facilities are unable to function during power outages caused by storms or grid failure.
Description of the Solution:	Install generators with transfer switches and fuel security and/or solar generation with adequate battery storage.
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA BRIC, EMPG, ARPA
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6, 9
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Supports continuity of government under more frequent weather extremes.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES)
Priority	High

Action JRV_36 Worksheet

Lead Agency:	Community Development
Supporting Agencies:	Emergency Management
Hazard(s) of Concern:	Flooding
Action Description:	Maintain existing CRS activities and pursue additional ones to reduce flood insurance costs and improve resilience.
Description of the Problem:	Residents face high flood insurance costs, and risk communication can be improved.
Description of the Solution:	Implement new CRS-eligible activities such as higher regulatory standards, outreach, and flood response planning.
Estimated Cost:	Low (<\$10,000)
Potential Funding Sources:	Local budgets
Implementation Timeline:	Ongoing
Goals Met:	1, 4, 9
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Promotes proactive risk reduction.
Mitigation Category	Local Plans and Regulations (LPR)
CRS Category	Preventative Measures (PR)
Priority	Medium

Action JV_37 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	City Administration
Hazard(s) of Concern:	Flooding
Action Description:	Update the city's flood project scoping plan after issuance of new FEMA or local floodplain mapping.
Description of the Problem:	Projects may be misaligned with actual flood risks if based on outdated mapping.
Description of the Solution:	Create protocol to revise project scoping plan within 18 months of new floodplain data release.
Estimated Cost:	Low (<\$10,000)
Potential Funding Sources:	Local budgets, FEMA planning grants
Implementation Timeline:	Ongoing
Goals Met:	1, 4, 9
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Allows responsive adjustments to new risk conditions.
Mitigation Category	Local Plans and Regulations (LPR)
CRS Category	Preventative Measures (PR)
Priority	Medium

Action JRV_38 Worksheet

Lead Agency:	Community Development
Supporting Agencies:	City Administration
Hazard(s) of Concern:	Flooding
Action Description:	Identify and offer voluntary elevation support for homes currently below the 500-year floodplain elevation.
Description of the Problem:	Many homes remain at risk with FFE's being lower than the 500 year floodplain.
Description of the Solution:	Use updated flood risk data to prioritize and elevate homes; seek grant funding to assist owners.
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA FMA, HMGP, BRIC
Implementation Timeline:	Long-term (> 5 years)
Goals Met:	3, 5, 9
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Protects structures from future floodplain expansion due to changing rainfall trends.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Property Protection (PP)
Priority	High

Action JRV_39 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	City Administration
Hazard(s) of Concern:	Flooding
Action Description:	Expand and upgrade street-level drainage and storm sewer systems to accommodate larger rainfall volumes and reduce urban flooding.
Description of the Problem:	Existing storm sewer infrastructure is undersized for recent rainfall intensities, leading to street and property flooding
Description of the Solution:	Increase pipe sizes, improve inlets, and construct parallel storm sewers where needed based on updated hydrology and hydraulic studies
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA BRIC, CDBG-MIT, City CIP
Implementation Timeline:	Long-term (> 5 years)
Goals Met:	3, 6, 9
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Addresses projected increases in rainfall intensity and reduces localized flood risk.
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	High

17. CITY OF KATY

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Katy with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Katy, describes who participated in the planning process, assesses Katy’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

17.1 HAZARD MITIGATION PLANNING TEAM

The City of Katy identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Katy Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 17-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 17-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Gred Goedecker/EMC Address: 901 Avenue C Katy, TX 77493 Phone Number: 832-418-1574 Email: ggoedecker@cityofkaty.com	Name/Title: Jason Rivera/Public Works Director Address: 901 Avenue C Katy, TX 77493 Phone Number: 281-391-4796 Email: jrivera@cityofkaty.com
National Flood Insurance Program Floodplain Administrator	
Name/Title: Cindy Kuykendall Address: 901 Avenue C, Katy, TX 77493 Phone Number: 281-391-4830 Email: ckuykendall@cityofkaty.com	
Additional Contributors	
Name/Title: Elaine Lutringer Method of Participation: Local Mitigation Planning Team	
Name/Title: Ian Clowes Method of Participation: Local Mitigation Planning Team	
Name/Title: Rachel Lazo Method of Participation: Local Mitigation Planning Team	
Name/Title: Christian Zepeda Method of Participation: Local Mitigation Planning Team	

Primary Point of Contact	Alternate Point of Contact
Name/Title: Dan Jeannerat Method of Participation: Local Mitigation Planning Team	
Name/Title: Becky McGrew Method of Participation: Local Mitigation Planning Team	
Name/Title: Kenneth Parker Method of Participation: Local Mitigation Planning Team	
Name/Title: Jerod Stewart Method of Participation: Local Mitigation Planning Team	

17.2 COMMUNITY PROFILE

Katy was incorporated in 1945. In the beginning Katy was only a wide open prairie, the hunting ground of the Karankawa Indian tribes, the winter feeding grounds of great herds of buffalo and large flocks of wild ducks, geese, sandhill and whooping cranes, and numerous other game birds, and home to longhorn cattle, deer, and wolves.

Earliest settlement of the community known as Cane Island, for Cane Island Creek that runs through it, was in 1872. The townsite of Katy was laid out and platted by J. O. Thomas, L. C. Luckel, and R. M. Cash in 1895, supposedly named for the M-K-T Railroad that runs through it. Katy has always been a traditional family style community; however, it also played a major role as a rail hub, a rice farming and agricultural center, and one of the largest gas fields in this part of Texas.

17.2.1 Location

The City of Katy is the Hub City of Three Counties. Katy lies in the western portion of Harris County, the far southeastern portion of Waller County, and the northern most portion of Fort Bend County.

The actual city limits of Katy are north and south of Interstate 10, and roughly between Katy Fort Bend Road on the east and Pederson Road on the west. The historic downtown area is north of Highway 90, near the landmark grain elevators. This is the original Katy from before the 1970s when Houston’s Energy Corridor (and the development that came with it) made its way west on I-10. The city’s total area is 15.1 square miles.

17.2.2 Governing Body Format

The City of Katy is a home rule city with a mayor-councilmember-administrator type of government. City Council consists of five City Councilmembers. The city consists of 20 departments: Administration, Municipal Court, City Secretary, Finance, Social Services, Human Resources, Police, Fire, Animal Control, Library, Parks, Streets, Public Works, Sanitation, Permits-Inspections, Building Maintenance, Marketing & Tourism, Water, Sewer and Utility Billing. The city has 12 boards and commissions, which are appointed by City Council. The City Council assumes responsibility for the adoption of this plan; the Office of Emergency Management will oversee its implementation.

17.2.3 Population

According to the U.S. Census, the 2020 population for Katy was 21,894, a 55.2 percent increase from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 7.5 percent of the population is 5 years of age or younger, 12 percent is 65 years of age or older, 1.3 percent is non-English speaking, 5.4 percent is below the poverty threshold, and 9.2 percent is considered disabled.

17.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Katy performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Katy to identify opportunities for integrating mitigation concepts into ongoing City procedures.

17.3.1 Planning and Regulatory Capability and Integration

Table 17-2 summarizes the planning and regulatory tools that are available to Katy.

Table 17-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	Code of Ordinances Chapter 3 - Building Regulations 2021 IBC - 10/23/2023 2023 National Electrical Code 3.04 Flood Damage Prevention - 4/25/2022	Local	Community Development
Zoning/Land Use Code	Yes	Chapter 14 Code of Ordinances	Local	Community Development
Subdivision Code	Yes	Chapter 10 Code of Ordinances	Local	Community Development
Site Plan Code	No	N/A	N/A	N/A
Stormwater Management Code	No	N/A	Local, State	Public Works & Community Development
Post-Disaster Recovery/ Reconstruction Code	Yes	Addressed through Building Code, Zoning Ordinance, and Flood Damage Prevention Ordinance	Local	Community Development
Real Estate Disclosure Requirements	No	N/A	N/A	N/A
Growth Management	No	N/A	N/A	N/A
Environmental Protection Ordinance(s)	Yes	Chapter 3.11 – Stormwater Discharge from Construction Sites (Clean Water Act compliance)	Local, State	N/A
Flood Damage Prevention Ordinance	Yes	Chapter 3 Code Ordinances – Article 3.04	Local	Community Development
Wellhead Protection	N/A	N/A	N/A	N/A
Emergency Management Ordinance	Yes	Article 1.07 Code of Ordinances. Emergency Operations Plan – Ordinance 3134 4/8/24	Local	Office of Emergency Management
Climate Change Ordinance	No	N/A	N/A	N/A
Other				
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	March 2023	Local	City Administration and Community Development
Capital Improvement Plan	N/A	N/A	N/A	N/A
Disaster Debris Management Plan	Yes	ESF 3 Public Works Appendix 1 20240208	Local	Public Works

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Floodplain Management or Watershed Plan	N/A	N/A	N/A	N/A
Stormwater Management Plan	Yes	Code of Ordinances Chapter 3	Local	Public Works & Community Development
Open Space Plan	No	N/A	N/A	N/A
Urban Water Management Plan	No	N/A	N/A	N/A
Habitat Conservation Plan	No	N/A	N/A	N/A
Economic Development Plan	N/A	N/A	N/A	N/A
Community Wildfire Protection Plan	No	N/A	N/A	N/A
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	Yes	Part of Comprehensive Plan	Local	City Administration & Community Development
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/ Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	Yes	OKD – Old Katy District (Ord. 2916, 3037, 3117)	Local	City Administration & Community Development
Other	N/A	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Updated - April 8, 2024	Local	Office of Emergency Management
Continuity of Operations Plan	Yes	Business Continuity Plan 2023-2024	Local	Office of Emergency Management
Substantial Damage Response Plan	No	In Progress	Local	Community Development
Threat and Hazard Identification and Risk Assessment	N/A	N/A	N/A	N/A
Post-Disaster Recovery Plan	Yes	Support Annex -Recovery 2023/08/25	Local	N/A
Public Health Plan	N/A	N/A	N/A	N/A
Other:	N/A	N/A	N/A	N/A

17.3.2 Development and Permitting Capability

Table 17-3 summarizes the capabilities of Katy to oversee and track development.

Table 17-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? - If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?	Yes	The City of Katy issues development permits through Community Development functions. While there is no standalone "development permit," the process includes a combination of permits such as building permits, floodplain development permits, and notices to proceed for public infrastructure work. These documents collectively regulate and authorize development activity within the city.
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	N/A
Do you have a buildable land inventory? If you have a buildable land inventory, please describe	No	N/A
Describe the level of buildout in your jurisdiction.		The City of Katy is primarily built out, with most major developments already established. However, there are still buildable areas available, and the city continues to experience a moderate level of infill and redevelopment, particularly in older or underutilized parts of the community. Future growth is expected to focus on redevelopment, adaptive reuse, and strategic infill projects.

17.3.3 Administrative and Technical Capability

Table 17-4 summarizes potential staff and personnel resources available to Katy and their current responsibilities that contribute to hazard mitigation.

Table 17-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	7 Members, 2 Alternates (Appointed Volunteers) Guides land use and development decisions; reviews plats and subdivisions; recommends infrastructure improvements; assists in identifying safe locations for future development; supports floodplain and drainage considerations; contributes to long-term planning that reduces hazard exposure and supports sustainable, resilient growth.
Zoning Board of Adjustment	Yes	5 regular members, 4 alternates (appointed by Mayor, confirmed by Council) The Board of Adjustment contributes to hazard mitigation by serving as a safeguard in land use and development decisions. Their authority to grant or deny variances and special exceptions directly affects how structures are placed and maintained within city limits. By ensuring that exceptions to zoning ordinances do not compromise safety or increase exposure to known hazards, the board helps reduce long-term risk. They can also impose conditions on approvals that enhance resilience, such as setbacks, signage safety, or drainage accommodations. Their role complements the goals of the Hazard Mitigation Plan by upholding standards that support safe and sustainable growth.
Planning Department	Yes	The Planning Department plays a foundational role in hazard mitigation by integrating safety and risk reduction into land use decisions, zoning, and development processes. Through its oversight of subdivision and platting, zoning ordinances, and pre-development meetings, the department ensures that new development aligns with the city's hazard mitigation goals and avoids placing people or structures in vulnerable areas. Staff also support the Planning & Zoning Commission and Board of Adjustment, helping shape policies and decisions that promote long-term community resilience. Their role in guiding development and enforcing city standards is critical to reducing risk and supporting the implementation of the Hazard Mitigation Plan.
Mitigation Planning Committee	No	
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	Yes	The City of Katy has a Development Authority that supports hazard mitigation by funding various infrastructure and capital projects, many of which are designed to reduce risk. These projects adhere to adopted Harris County floodplain standards, further aligning economic development efforts with resilience and mitigation goals.
Public Works/Highway Department	Yes	The City of Katy has a Public Works Department responsible for maintaining critical infrastructure, managing drainage systems, and supporting storm response operations. The department plays a key role in implementing hazard mitigation projects, particularly those related to flood control, stormwater management, and roadway improvements that enhance community resilience.

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Construction/Building/Code Enforcement Department	Yes	The City of Katy has a department responsible for building permitting, inspections, and code enforcement. Staff ensure that construction complies with current building codes, including floodplain development standards and elevation requirements, which directly support hazard mitigation by reducing the risk of structural damage from future disasters.
Emergency Management/Public Safety Department	Yes	The Emergency Management/Public Safety Department is currently staffed by one full-time Emergency Management Coordinator. Despite limited personnel, the department plays a central role in supporting hazard mitigation by coordinating the development and implementation of the Hazard Mitigation Plan, integrating mitigation strategies into emergency operations and recovery planning, and leading public outreach and education efforts. The coordinator also works closely with other departments and regional partners to identify vulnerabilities, support mitigation grant applications, and promote community resilience through planning and preparedness initiatives.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	The City of Katy maintains active programs for stormwater system maintenance, tree trimming, debris removal, and general infrastructure upkeep. These efforts help reduce the risk of flooding, wind damage, and blocked evacuation routes, supporting the city's overall hazard mitigation strategy.
Mutual aid agreements	Yes	The City of Katy maintains mutual aid agreements through its Fire and Police Departments to enhance emergency response capacity. Additionally, a mutual aid agreement exists with Katy ISD, supporting coordination for incidents affecting schools and shared facilities. These agreements strengthen the city's ability to respond to and recover from hazards, contributing to overall community resilience.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Flood Plain Administrator
Other	N/A	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	The City of Katy has staff with planning and engineering expertise who oversee land development, zoning, subdivision regulations, and infrastructure projects. Their work supports hazard mitigation by guiding growth away from hazard-prone areas and ensuring developments comply with resilience-focused standards and floodplain regulations.
Engineers or professionals trained in building or infrastructure construction practices	Yes	The City of Katy employs engineers and professionals with expertise in construction and infrastructure development. These individuals ensure that public and private projects meet applicable codes and standards, including those related to structural integrity, drainage, and flood protection directly supporting hazard mitigation efforts.
Planners or engineers with an understanding of natural hazards	Yes	The City of Katy has planners and engineers who understand the risks posed by natural hazards such as flooding, severe storms, and extreme heat. Their expertise informs land use decisions, infrastructure design, and development review processes, helping to ensure that hazard risks are accounted for in both current and future projects.

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Staff with expertise or training in benefit/cost analysis	Yes	The City of Katy's City Engineer has expertise in benefit/cost analysis, supporting the evaluation of infrastructure projects and mitigation investments. This capability ensures that resources are directed toward projects with the highest impact on reducing risk and improving community resilience.
Professionals trained in conducting damage assessments	Yes	The City of Katy has personnel within the Community Development Department who are trained to conduct damage assessments following disaster events. Their assessments are essential for determining substantial damage, guiding safe rebuilding, and informing local, state, and federal recovery efforts—all of which contribute directly to hazard mitigation.
Personnel skilled or trained in GIS and/or Hazus applications	Yes	The City of Katy has personnel within the Community Development Department who are skilled in GIS. This expertise supports hazard mapping, risk analysis, land use planning, and mitigation project development. These capabilities enhance the city's ability to make data-driven decisions that reduce risk and improve disaster preparedness.
Staff that work with socially vulnerable populations or underserved communities	Yes	The City of Katy has staff in Community Development, Senior Services, and the Office of Emergency Management who engage with socially vulnerable and underserved populations. These departments help ensure that preparedness, response, and mitigation efforts are inclusive and accessible by addressing the specific needs of at-risk residents before, during, and after hazard events.
Environmental scientists familiar with natural hazards	No	
Surveyors	N/A	The City of Katy has access to licensed surveyors who support development review, elevation certificates, and floodplain compliance. Their work is essential for verifying building elevations, identifying flood risk areas, and supporting post-disaster damage assessments all of which contribute directly to hazard mitigation efforts.
Emergency manager	N/A	The Emergency Manager serves as the single point of contact for all emergency management activities, including hazard mitigation. With one dedicated staff member, the role carries significant responsibility for coordinating planning efforts, maintaining the Hazard Mitigation Plan, and promoting risk reduction strategies citywide. The Emergency Manager actively supports mitigation by facilitating collaboration, identifying vulnerabilities, and integrating mitigation objectives into local plans, policies, and operations.
Grant writers	N/A	The City of Katy utilizes contracted grant writers to pursue funding opportunities for infrastructure improvements, hazard mitigation projects, and community resilience initiatives. These professionals support the city's efforts to secure state and federal grants that reduce long-term risk and enhance local capabilities.
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	The City of Katy has a Compliance Specialist and a Stormwater Technician who support environmental regulations, stormwater management, and water quality compliance. Their roles are essential to enforcing standards that reduce flood risk, prevent pollution, and enhance the city's overall resilience to natural hazards.

17.3.4 Fiscal Capability

Table 17-5 summarizes financial resources available to Katy.

Table 17-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	N/A
Incur debt through private activity bonds	N/A
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

17.3.5 Education and Outreach Capability

Table 17-6 summarizes the education and outreach resources available to Katy.

Table 17-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	The Public Information Officer is a key asset in hazard communication. Through a variety of platforms including social media, KTALERT, the city website, and coordinated messaging via the Joint Information Center. The PIO ensures the public is informed about natural hazards, ongoing threats, and how to stay safe. This role is essential in building community awareness and promoting individual preparedness, directly supporting the outreach objectives of the Hazard Mitigation Plan.
Personnel skilled or trained in website development	Yes	The City has personnel capable of maintaining and updating the website, which is an important tool for public outreach and hazard mitigation education. The website serves as a central hub for preparedness materials, emergency alerts, and mitigation plan information, allowing the community to stay informed and take proactive steps to reduce risk. Regular coordination with Emergency Management ensures that content is accurate, timely, and accessible.
Hazard mitigation information available on your website	Yes	N/A

Outreach Resources	Available? (Yes/No)	Comment
Social media for hazard mitigation education and outreach	Yes	The City of Katy OEM uses its social media platforms effectively to educate the public on hazard risks and promote mitigation strategies. Posts include preparedness tips, updates during severe weather, and reminders about available resources and planning tools. Social media is a critical outreach tool that supports the Hazard Mitigation Plan by increasing public awareness and encouraging proactive risk reduction at the individual and community level.
Citizen boards or commissions that address issues related to hazard mitigation	Yes	The City of Katy's Planning and Zoning Commission and Board of Adjustment serve as citizen-led bodies that influence land use, zoning, and development decisions. Their review of plats, zoning changes, and special exceptions helps ensure that growth aligns with public safety and hazard mitigation goals, especially in flood-prone or vulnerable areas.
Warning systems for hazard events	Yes	Yes, the City of Katy has robust warning systems in place to alert the public during hazard events. KTALERT provides rapid, targeted communication to residents, and its integration with county-level IPAWS access enhances regional coordination. These systems support hazard mitigation by ensuring residents receive timely warnings, allowing them to take protective actions and reduce risk to life and property.
Natural disaster/safety programs in place for schools	Yes	Katy ISD has its own Emergency Management Department that oversees preparedness, response, and recovery planning for all district schools. This includes safety drills, emergency plans, and coordination with the City of Katy for large-scale incidents. Their efforts support hazard mitigation by increasing student and staff safety and enhancing the overall resilience of the community.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Yes, the City of Katy has several public outreach mechanisms in place to inform citizens about natural hazards, associated risks, and ways to protect themselves: The Office of Emergency Management (OEM) leads public education efforts through social media campaigns, the City website, and community events. OEM regularly posts preparedness tips, hazard-specific guidance, and mitigation information—especially during hurricane season and periods of elevated risk. The KTALERT emergency notification system provides residents with real-time alerts for severe weather, evacuations, and other emergencies. The Public Information Officer (PIO) also supports these efforts through coordinated messaging and outreach during emergency activations, using the Joint Information Center (JIC) structure when necessary. Additionally, the OEM participates in local fairs, workshops, and seasonal preparedness campaigns to directly engage with the public and distribute educational materials. These combined efforts ensure that residents are not only informed but also empowered to take proactive steps to reduce their personal risk and contribute to community resilience.

17.3.6 Community Classifications

Table 17-7 summarizes classifications for community programs available to Katy.

Table 17-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Class 1 rating	N/A
National Weather Service StormReady Certification	Yes	N/A	N/A
Firewise Communities classification	No	N/A	8/9/2023
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable; — = Unavailable

17.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 17-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 17-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Weak
Earthquake	Weak
Extreme Cold	Strong
Extreme Heat	Strong
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong
Tsunami	Weak
Wildfire	Moderate
Energy Pipeline Failure	Strong
Public Health Emergency	Moderate
Technology Failure	Weak
Toxic Release / Hazardous Materials	Weak
Utility Failure	Moderate

17.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 17-1 is responsible for maintaining this information.

17.4.1 NFIP Statistics

Table 17-9 summarizes the NFIP policy and claim statistics for Katy.

Table 17-9. Katy NFIP Summary of Policy and Claim Statistics

# Policies	9,597
# Claims (Losses)	2,417
Total Loss Payments	\$148,534,176.87
# Repetitive Loss Properties (NFIP definition)	113
# Repetitive Loss Properties (FMA definition)	35
# Severe Repetitive Loss Properties	11
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: Harris County Flood Control District 2025

17.4.2 Flood Vulnerability Summary

Table 17-10 provides a summary of the NFIP program in Katy.

Table 17-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Several areas within the City of Katy are prone to flooding, particularly along natural waterways and low-lying terrain. Notable flood-prone areas include: • Cane Island Branch – This tributary experiences frequent overbank flooding during heavy rainfall events, impacting surrounding neighborhoods, roadways, and open spaces. • Snake Creek – Known for localized flooding, especially where development has encroached near the creek banks. During significant rain events, water levels can rise rapidly, creating runoff and drainage issues. • Willow Fork Branch – This area is susceptible to slow-draining floodwaters, especially near residential developments and recreational areas. Prolonged rain events often lead to standing water and limited access along adjacent roadways. These waterways are part of the broader regional drainage system, and their flood risks are exacerbated by soil saturation, backflow from nearby bayous, and limited channel capacity in certain sections. Flooding in these areas can threaten public safety, damage infrastructure, and disrupt access to critical services. The City continues to monitor these areas and prioritize them for mitigation efforts and drainage improvements
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	N/A
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No

NFIP Topic	Comments
How do you make Substantial Damage determinations?	Substantial Damage determinations are made in compliance with the National Flood Insurance Program (NFIP) requirements and FEMA guidelines. After a disaster or flood event, determinations are typically made as part of the post-disaster damage assessment process. The process includes the following steps: • Initial Assessments by Building Inspectors: City Building Inspectors conduct on-site evaluations of structures within flood-impacted areas to assess visible damage and determine if a more detailed review is warranted. • Use of FEMA's Substantial Damage Estimator (SDE) Tool: The City utilizes FEMA's Substantial Damage Estimator (SDE) software to perform consistent and standardized evaluations. The tool calculates the cost of repairing a damaged building to its pre-disaster condition and compares it to the market value of the structure (excluding land value). • Compliance with NFIP Regulations: If the repair cost equals or exceeds 50% of the building's pre-damage market value, the structure is considered Substantially Damaged under NFIP guidelines. These properties must meet current floodplain management regulations, including elevation or other mitigation requirements before permits are issued for repair or reconstruction. This process ensures the City remains compliant with federal regulations and helps reduce future flood risk for affected properties.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	N/A
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	While we do not have an exact count readily available, there have been multiple properties across the City that have been mitigated through elevation over the years. These efforts were privately funded by the property owners rather than through federal, state, or local grant programs.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Community Development Department, Planning Division.
Are any certified floodplain managers on staff in your jurisdiction?	Yes, 2.
Do you have access to resources to determine possible future flooding conditions from climate change?	Unsure.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	At this time, no additional assistance or training is needed. Our floodplain management staff regularly participates in training opportunities offered by the Texas Floodplain Management Association (TFMA), the Association of State Floodplain Managers (ASFPM), and FEMA. These courses support ongoing education and help maintain Certified Floodplain Manager (CFM) credentials through continuing education.

NFIP Topic	Comments
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Site plan and floodplain permit review, GIS mapping of SD/SI properties and FEMA flood hazard layers, and inspections.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Compare current and previous permit documents to total cost of structure listed in CAD data to calculate percentage improvement.
What are the barriers to running an effective NFIP program in the community, if any?	One of the primary challenges is gaining consistent community buy-in , particularly when it comes to enforcing floodplain regulations and promoting mitigation actions. Additionally, political considerations can sometimes influence decision-making , especially when floodplain management measures are perceived as burdensome by property owners or developers. These factors can create obstacles to implementing long-term flood risk reduction strategies.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	Yes. List of violation sites noted in the FEMA CAV conditional approval.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Completed/Closed February 2025.
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 3.04 of Code of Ordinances
What is the date that your flood damage prevention ordinance was last amended?	N/A
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Exceeds by requiring elevation to the 500-year instead of 100-year. Amended to match Harris County floodplain requirements.
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes, flood risk is a factor in all reviews.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Yes, the City is planning to apply for participation in the Community Rating System (CRS). However, we are currently focused on addressing and making substantial improvements to the list of violation sites identified by FEMA during our most recent Community Assistance Visit (CAV). Once these issues are resolved, we will be in a stronger position to move forward with our CRS application.

17.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 17-11 through Table 17-13.

Table 17-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	576	23	-	599
Permits within SFHA	4	-	-	4
2021				
Total Permits	528	-	38*	566
Permits within SFHA	0	-	-	-
2022				
Total Permits	430	-	17*	447
Permits within SFHA	56	-	-	56
2023				
Total Permits	390	-	53*	443
Permits within SFHA	120	-	-	120
2024				
Total Permits	174	-	34*	208
Permits within SFHA	-	-	-	-

SFHA = Special Flood Hazard Area (1% flood event)

*Note: Multi-Family is not recognized by our system - all included in commercial

Table 17-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Katy Court	23.1 acres of restricted commercial tracts 62.16 acres of single family tracts – 194 lots	N/A	N/A	The project area is located completely outside the 1% exceedance floodplain (Zone AE) and the 0.2% exceedance floodplain	N/A

* Only location-specific hazard zones or vulnerabilities identified.

Table 17-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

17.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Katy's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

17.6.1 Hazard Event History

The history of natural and non-natural hazard events in Katy is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 17-14 provides details on loss and damage in Katy during hazard events since the last hazard mitigation plan update.

Table 17-14. Hazard Event History in Katy

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
1/10/2020	- Thunderstorm - Wind	No	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	N/A
1/20/2020 – 5/11/2023	Biological (DR-4485; EM-3458)	No	The City of Katy was impacted by the COVID-19 pandemic, a prolonged public health emergency that required sustained coordination and operational adjustments. While the City experienced the broad community effects of the pandemic, its response focused on maintaining continuity of essential services, ensuring public safety, and supporting county, state, and federal efforts. The City of Katy activated its Emergency Operations Center (EOC) in a hybrid posture to support situational awareness, coordinate with partner agencies, and disseminate public information. To ensure uninterrupted delivery of critical services, the City implemented Continuity of Operations Plans (COOP). Staff were reassigned to designated continuity locations across departments to maintain separation and reduce risk. Notably, no remote work or work-from-home operations were implemented during the pandemic. Public access to City Hall and other facilities was restricted during peak periods of viral spread, and modifications were made to some public meetings and events. City operations, including Police, Fire, EMS, and Public Works, continued without interruption. Enhanced sanitation measures and personal protective equipment (PPE) protocols were adopted, particularly for frontline personnel and those interacting with the public. Public messaging related to executive orders, CDC guidance, and local operational changes was pushed out via the city's website and social media platforms. While the City of Katy was not a lead public health agency during the pandemic, it played a vital support role in maintaining essential government functions and keeping residents informed.	N/A

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
3/11/2020	Biological	Yes	Public Health Emergency – local disaster declared as COVID-19 swept the region.	N/A
4/18/2020	Hail	No	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	N/A
5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	N/A
5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	N/A
5/6/2020 – 2/18/2020	Drought (USDAS4669)	Yes	N/A	N/A
7/25/2020 – 7/31/2020	Hurricane (EM-3530)	No	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	N/A

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
8/23/2020 – 8/27/2020	- Hurricane (EM-3540)	No	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There were no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	N/A
9/21/2020	- Storm Surge - Flash Flood - Flood	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	N/A
2021	Technology Failure	No	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	N/A

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
2/11/2021 – 2/21/2021	- Severe Ice Storm - Power Failure - Extreme Cold - Technology Failure - Utility Failure (DR-4586; EM-3554)	No	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	During the period of February 11–21, 2021, a prolonged and severe winter storm impacted the City of Katy, creating widespread threats to public health and safety. The storm resulted in extensive power outages, frozen infrastructure, and hazardous travel conditions, which required significant emergency response and protective measures throughout the city. Multiple city facilities were closed due to unsafe conditions and lack of electricity, while numerous roads were shut down due to ice accumulation and dangerous driving conditions. A citywide boil water notice was issued as water systems were strained, and residents were asked to conserve water. Trash and debris pickup services were disrupted and later adjusted to accommodate storm debris collection.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
				The City's Emergency Operations Center was activated from February 14 through February 20, serving as the central coordination hub for disseminating public information, responding to resident inquiries, monitoring road conditions, and supporting emergency operations. Public messaging covered road closures, power outages, boil water notices, warming shelter locations, how to report damages, garbage and debris updates, utility billing information, and water conservation guidance. Emergency transportation was provided to residents needing access to warming shelters, and city staff worked to secure hazardous roads with barricades. Water shut-offs and generator maintenance were performed to protect critical infrastructure, including lift stations, wells, and water plants, from system failure due to the extreme cold and power loss.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
				In total, 178 city workers contributed 3,969.53 hours of labor valued at \$213,139.94, and 57 pieces of equipment were used for 1,592.26 hours at a cost of \$49,813.59. To maintain essential services, six generators were deployed for 253 hours, including both city-owned and rented units, at a total cost of \$15,949.53. The storm's impact on the community was significant, with 219 homes reporting damage, primarily due to burst pipes and structural issues caused by the cold. Of those homes, only nine were reported as having no insurance, highlighting both the reach of the storm and the vulnerability of a small portion of the population.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
5/18/2021	Thunderstorm Wind, Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	On the evening of May 18, 2021, at approximately 9:30 PM CDT, the National Weather Service issued a warning for a severe thunderstorm capable of producing a tornado located over the City of Katy. The storm was radar-indicated with signs of rotation and was moving east at approximately 30 mph. While no confirmed tornado was reported, the warning reflected the elevated risk and prompted local monitoring and preparedness actions. This event followed a 48-hour period of persistent rainfall across the region, during which widespread totals of 3 to 5 inches were recorded. As a result, significant runoff contributed to rising water levels in local waterways. Creeks in the northwestern portion of Harris County, including those impacting the Katy area, remained elevated, with some reaching near-bankfull conditions. While there were no major damages reported within the City of Katy, the event required close coordination and continued observation of local drainage and flood-prone areas.
7/2021	Toxic Release/HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	N/A
12/2021	Toxic Release/HazMat	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
1/8/2022	- Tornado - Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	
3/15/2022 – N/A	Drought (USDA S5188)	Yes	N/A	N/A
4/5/2022 – N/A	Drought (USDA S5209)	Yes	N/A	N/A
4/12/2022 – N/A	Drought (USDA S5214)	Yes	N/A	N/A
5/1/2022 – 9/30/2022	Excessive Heat (USDA S5350)	Yes	N/A	N/A
5/10/2022 – N/A	Drought (USDA S5197)	Yes	N/A	N/A
6/14/2022 – N/A	Drought (USDA S5221)	Yes	N/A	N/A
7/19/2022 – N/A	Drought (USDA S5240)	Yes	N/A	N/A
8/2/2022 – N/A	Drought (USDA S5252)	Yes	N/A	N/A

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
8/10/2022	- Lightning - Thunderstorm - Wind	No	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	On the evening of August 10, 2022, the City of Katy was impacted by a rapidly intensifying severe weather event that escalated from a routine thunderstorm into a tornado warning in just 21 minutes. Over the course of the storm, the National Weather Service (NWS) issued four distinct warnings for the area, beginning with a Special Weather Statement at 6:57 PM, followed by a Severe Thunderstorm Warning at 7:12 PM, a Tornado Warning at 7:18 PM due to radar-indicated rotation, and concluding with an Areal Flood Advisory at 7:44 PM. While radar showed signs of rotation, it remains undetermined whether the damage was caused by a tornado or intense straight-line winds. Wind gusts varied across the area, with Fire Station 1 recording a 32 mph gust and the Houston Executive Airport recording a peak gust of 58 mph.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
				The storm also brought torrential rainfall, particularly over the northern portion of the city. Rainfall rates reached 1 inch per 15 minutes at monitoring points near Highway 90 and Buffalo Bayou, as well as the Cane Island Branch at Clay Road. Total rainfall accumulation ranged from 2 to 3 inches citywide, delivering much-needed moisture to the region. The event impacted several community lifelines. Under Safety & Security, Katy Police responded to 15 calls for service related to flooding and debris, while the Fire Department responded to 8 calls involving power lines down and structure fires. Public Works crews were deployed to clear roadways and assess utility systems. While flooding was reported in several areas—including Y Street, E. 5th Street at East Avenue, Fawnlake, and First Street at Avenue D—systems at the water and wastewater plants remained operational and stable throughout the event.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
				The Energy sector experienced peak outages affecting approximately 2,892 customers. By 11:30 PM, that number had been reduced to 304 as restoration efforts progressed. Communications were partially impacted when servers at City Hall went offline, delaying social media updates. However, emergency warnings through KTALERT were successfully disseminated without issue, and responder communications remained fully operational. Transportation infrastructure experienced temporary disruption due to fallen trees and debris. Major Public Works operations were required at locations such as 2103 Patna Drive, where a tree blocked the roadway and had to be removed using heavy equipment, and at Cane Island near Franz, where a downed tree blocked three lanes of traffic. By the end of the night, initial road assessments and response operations had been completed, and conditions across the city were stabilizing.
12/2022	Technology Failure	No	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
1/24/2023	Tornado	No	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended east northeast, then northeast from there, across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage, but there were some spots with more severe damage, rated EF2. These included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage.	On January 24, 2023, the City of Katy was impacted by a vigorous storm system that brought multiple rounds of severe weather and heavy rainfall throughout the morning and early afternoon. The first weather advisory was issued around 10:30 AM, and conditions rapidly intensified. By 11:02 AM, the first tornado warning was issued for a storm near Brookshire. According to the National Weather Service (NWS), the broad circulation associated with this storm passed through an area approximately one mile north of the three-county intersection point. No damage was reported from this initial cell.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
			From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	At 12:10 PM, a second tornado-warned storm moved directly over the City of Katy. This storm transitioned from severe to tornado-warned within three minutes. While radar showed a well-defined hook echo, suggesting possible tornadic activity, the velocity scans indicated the presence of strong straight-line winds rather than a definitive tornado. Once again, no structural damage was reported. Following the severe threat, the weather system transitioned into a high-intensity rain event. Rainfall rates peaked at over 3 inches per hour during the most intense downpours. By 2:00 PM, Fire Station 1 had recorded 3.28 inches of rain, with more than 4 inches reported on the north side of the city.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
				Within the city, high water was reported at several locations, including First Street and Avenue B, Avenue D and First Street, Shetland and Rice, Pin Oak and Lilac, and Katy City Park Road at Franz. Public Works crews responded to these locations to manage standing water and drainage. Wind gusts during the event peaked at 30 mph in downtown Katy and exceeded 40 mph in the Willow Creek Farms area. Power outages reached a peak of 865 customers at noon and were reduced to 68 by 2:00 PM. While the city avoided damage from the tornado warnings, the heavy rainfall caused several issues in known poor-drainage areas, requiring an active local response and flood monitoring throughout the day.
4/5/2023	Hail	No	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A
5/5/2023	Toxic Release / HazMat	No	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	N/A
5/8/2023	- Thunderstorm - Wind - Flash Flood - Hail	No	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail	No	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	N/A

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
8/15/2023 – N/A	- Drought (USDA S5499)	Yes	N/A	N/A
8/22/2023 – N/A	- Drought (USDA S5511)	Yes	N/A	N/A
11/1/2023 – N/A	- Drought (USDA S5683)	Yes	N/A	N/A
4/26/2024 – 6/5/2024	- Flood (DR-4781)	No	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	N/A
5/2/2024	Severe Weather & Flooding	Yes	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	N/A
5/16/2024	- Severe Weather - Tornadoes - Strong Wind - Hail - Flooding (DR-4781)	Yes	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	On May 16, 2024, the City of Katy was impacted by a rare and damaging derecho event, with wind gusts exceeding 70 mph detected on radar. The most significant damage occurred in areas north of I-10 and south of Franz Road. A 54 mph gust was recorded at Houston Executive Airport, and the city received just under 2 inches of rain. The NWS confirmed an EF-1 tornado in nearby Cypress but classified the Katy event itself as a derecho—the first of its kind in the region since 1986.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
				Katy Police responded to 18 calls related to traffic hazards and business checks, while Fire crews responded to 14 calls for downed power lines and one structure fire. Medical checks were conducted for 21 STEAR residents, with no unmet needs found. Public Works cleared downed limbs and debris citywide and reported one lift station down, which remained under monitoring. One traffic signal was flashing red, and several roads were temporarily blocked by debris.
				Widespread power outages peaked at an estimated 71% of the city, though local conditions suggested somewhat lower levels. Communications infrastructure experienced early disruptions, but internet service at City Hall was restored quickly. No shelters or cooling centers were activated, and no departments reported unmet needs. A limb pickup plan was initiated for the following week.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
7/5/2024 – 7/9/2024	Hurricane (DR-4798)	Yes	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	Between July 5 and July 9, 2024, the City of Katy was impacted by Hurricane Beryl, which brought high-velocity wind-driven rain, strong wind gusts, and hazardous conditions that required significant emergency protective measures citywide. The storm prompted the activation of the City's Emergency Operations Center (EOC), with emergency response activities spanning public safety, fire, EMS, and public works functions. Crews responded to storm-related medical calls, traffic control needs, structure fires, and swift-water rescues. Public messaging, coordination of outages, and debris management were conducted throughout the incident period.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
				In total, emergency operations involved approximately \$175,000 in labor and equipment costs, including over 1,100 labor hours and 400 equipment hours to support EOC activities, debris clearance, utility operations, and infrastructure safety inspections. The City deployed standby and portable generators to maintain operations at multiple water and wastewater facilities, contributing an additional \$60,000 in generator-related support costs. City infrastructure also sustained physical damage. Katy City Park incurred an estimated \$19,400 in damage, including destruction to fencing, signage, and shade structures. The Katy Animal Shelter sustained roughly \$2,500 in damage to fencing due to high winds and rain.

Dates of Event	Event Type (Declaration #)	County Designated?	Summary of Event	Summary of Damage and Losses in Katy
				Debris clearance operations included the removal of an estimated 6,400 cubic yards of combined vegetative and construction debris from roads and public property. These operations were performed under contract and monitored for compliance, totaling approximately \$164,000 in debris removal and monitoring costs. Despite widespread power outages, flooding, and infrastructure impacts, the City maintained core operations and reported no unmet needs. All work, including debris clearance and facility repairs, was completed by July 9, 2024, ensuring a swift transition from response to recovery

EM = Emergency Declaration (FEMA)
FEMA = Federal Emergency Management Agency
DR = Major Disaster Declaration (FEMA)
N/A = Not applicable
Sources: (USDA 2025); (FEMA 2025);

17.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner’s vulnerability to the identified hazards. The following presents key risk assessment results for Katy.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Katy reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 17-15 shows Katy's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 17-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release / Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 17-16 identifies critical facilities in the community located in the 1 percent floodplains.

Table 17-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	0	0%
Energy	1	.74%
Food, Hydration, Shelter	0	0%
Hazardous Materials	0	0%
Health and Medical	0	0%
Safety and Security	0	0%
Transportation	2	1.5%
Water Systems	2	1.5%
Other Critical Facilities	2	1.5%

Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

17.6.3 Identified Issues

After review of Katy’s hazard event history, hazard rankings, hazard location, and current capabilities, Katy identified the following vulnerabilities within the community:

- None Identified

17.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

17.7.1 Past Mitigation Action Status

Table 17-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

17.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 17-17, Katy identified the following mitigation efforts completed since the last HMP:

- KTY_18: Construct a berm around the Katy Wastewater Treatment Plant to prevent Flood
- KTY_19: Patna/Fortuna/Rexora public roadway projects- to address flood prone neighborhood- the roadway elevation and stormwater conveyance system will be redesigned to manage stormwater and property protection for the area

Since the adoption of the County's first HMP, Katy has made significant mitigation progress in the following areas:

- None Identified

Table 17-17. Status of Previous Mitigation Actions

KTY_1: Where appropriate, support retrofitting, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas	
Hazards Addressed	Earthquake, Flooding, Mass Movement, Wildfire
Responsible Party	Public Works, OEM
Summary of Original Problem and Solution (Project)	Structures located in hazard-prone areas, especially those with repetitive losses remain at risk from flooding, wildfire, mass movement, and earthquakes.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	This continues to be a supported capability through identification of at-risk properties and pursuit of funding opportunities as they become available.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
KTY_2: Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the City of Katy	
Hazards Addressed	Drought, Earthquake, Flooding, Mass Movement, Wildfire
Responsible Party	Community Development, OEM, Public Works
Summary of Original Problem and Solution (Project)	Land use decisions influence vulnerability to hazards like flooding, wildfire, drought, mass movement, and earthquakes in the City of Katy.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Integration is underway through coordination with planning and development processes. Continued efforts are focused on aligning mitigation strategies with updates to city plans, ordinances, and review procedures.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_3: Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan

Hazards Addressed	All Hazards
Responsible Party	OEM
Summary of Original Problem and Solution (Project)	Regular involvement is needed to ensure the hazard mitigation plan stays current and aligned with evolving risks and community priorities
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	The City continues to engage in plan maintenance activities such as reviews, coordination meetings, and progress tracking, supporting long-term mitigation goals.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_4: Continue to maintain a good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, enforce the flood damage prevention ordinance, participate in floodplain identification and mapping updates, and provide public assistance/ information on floodplain requirements and impacts

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Community Development
Summary of Original Problem and Solution (Project)	Flooding and severe weather pose recurring risks that require consistent floodplain management and public outreach.
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The City continues to maintain NFIP compliance through enforcement of the flood damage prevention ordinance, participation in mapping updates, and providing public information on flood risks and requirements.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_4: Implement a Public Education/Outreach Program on all-hazards to inform residents on actions to reduce Severe Weather damage to property and equipment

Hazards Addressed	All Hazards
Responsible Party	OEM, City Secretary
Summary of Original Problem and Solution (Project)	Residents need consistent information on how to reduce risks from severe weather and other hazards to protect life, property, and equipment.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	The City continues to provide all-hazards public education through social media, outreach events, and seasonal preparedness campaigns, with efforts focused on increasing community awareness and resilience.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_6: Incorporate Drought tolerant or xeriscape practices into landscape ordinances to reduce dependence on irrigation around city facilities

Hazards Addressed	Drought, Mass Movement
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Extended drought conditions and soil instability increase stress on landscaping and infrastructure, particularly around city facilities.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	The City is exploring updates to landscape ordinances and design standards to include drought-tolerant and xeriscape practices, with the goal of reducing irrigation needs and improving long-term sustainability.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_7: Implement and join FireWise Program to educate residents and businesses on actions to reduce property loss and damages from Wildfire

Hazards Addressed	Wildfire
Responsible Party	OEM, Fire
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	The FireWise Program has not been implemented, and wildfire outreach is being addressed through other general public education efforts.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	At this time, a dedicated FireWise initiative is not a priority

KTY_8: Install a new emergency generator and elevate it above flood 500 year flood level at Kingsland Water Plant. Kingsland Water Plant is a critical facility

Hazards Addressed	Flooding, Severe Weather, Hurricane
Responsible Party	City Administration, OEM
Summary of Original Problem and Solution (Project)	The Kingsland Water Plant is a critical facility at risk of power loss and potential flood impacts during severe weather and hurricanes.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	No progress was made due to lack of funding.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	No progress was made due to lack of funding. At this time, the project is not being pursued, but the need may be reassessed in future planning cycles as funding opportunities become available.

KTY_9: Install a new emergency generator and elevate it above flood 500 year flood level at Fire Station 1 Fire Station 1 is a critical facility

Hazards Addressed	Flooding, Severe Weather, Hurricane
Responsible Party	City Administration, OEM
Summary of Original Problem and Solution (Project)	Fire Station 1 is a critical facility vulnerable to power outages and located within an area that could be impacted by extreme flood events.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	No progress has been made due to funding limitations.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	No progress has been made due to funding limitations. While the need is recognized, the project is not moving forward at this time and may be reconsidered in future planning efforts.

KTY_10: Install a new emergency generator at Fire Station 3. Fire Station 3 is a critical facility

Hazards Addressed	Flooding, Severe Weather, Hurricane
Responsible Party	City Administration, OEM
Summary of Original Problem and Solution (Project)	Fire Station 3 is a critical facility that requires reliable backup power to maintain operations during severe weather and other emergencies.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	it is not a City-owned facility. The MUD district would be responsible for funding and implementing this improvement.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	No progress has been made on this project, and it is not a City-owned facility. The MUD district would be responsible for funding and implementing this improvement. Converting the generator to natural gas is a key consideration, as the current diesel generator only provides approximately four days of operation without refueling. While the need is acknowledged, the project is not being pursued by the City at this time.

KTY_11: Add quick emergency generator quick connect capabilities to all city owned critical facilities

Hazards Addressed	Flooding, Severe Weather, Hurricane
Responsible Party	City Administration, OEM
Summary of Original Problem and Solution (Project)	Critical facilities are vulnerable to power loss during flooding, hurricanes, and severe weather, impacting continuity of operations and emergency response.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	A proposal for generator quick connects has been obtained and is under review. The project remains a priority, and a refreshed approach will be developed to support implementation through updated cost estimates and funding strategies.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_12: Provide incentives to private industry and contractors, for using permeable driveways and surfaces to reduce runoff and promote groundwater recharge

Hazards Addressed	Drought, Mass Movement
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Impervious surfaces contribute to increased runoff and reduced groundwater recharge, which can exacerbate localized flooding.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	While the concept supports stormwater mitigation, no progress has been made toward developing an incentive program. At this time, the City is focusing on higher-priority public infrastructure projects, and this action is not being pursued. It may be reconsidered in future planning cycles if local policy direction changes.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	the City is focusing on higher-priority public infrastructure projects, and this action is not being pursued.

KTY_13: Implement a Fuels Management Program to reduce hazardous vegetative fuels on public lands, near critical infrastructure

Hazards Addressed	Wildfire
Responsible Party	OEM, Fire
Summary of Original Problem and Solution (Project)	Accumulation of hazardous vegetative fuels on public lands and near critical infrastructure can increase wildfire risk.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	No progress has been made on implementing a formal fuels management program, and it is not a current priority. General vegetation management continues through routine maintenance.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Not a Current Priority

KTY_14: Using GIS to map areas that are at risk to the wind hazard associated with different Hurricane and Severe Weather wind conditions and to identify concentrations of at-risk structures and populations

Hazards Addressed	Severe Weather, Hurricane
Responsible Party	OEM, Community Development
Summary of Original Problem and Solution (Project)	High winds from hurricanes and severe weather pose risks to structures and populations, especially in newly developing areas.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	GIS mapping of wind risk areas is in progress and will continue as the City grows. Ongoing updates are needed to capture new developments and better identify concentrations of at-risk structures and populations.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_15: Create defensible space around all City of Katy critical infrastructure	
Hazards Addressed	Wildfire
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Wildfire poses a low but credible threat, and overgrown vegetation near critical infrastructure increases vulnerability.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	No progress has been made to date, but the City recognizes the benefit of creating defensible space and will explore opportunities to assess and clear vegetation around critical facilities as part of routine maintenance or future mitigation projects.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
KTY_16: Implement a Tree Management Program/Ordinance	
Hazards Addressed	Severe Weather, Hurricane
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Fallen or poorly maintained trees can pose significant risks during hurricanes and severe weather, threatening infrastructure and public safety.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	A tree management program is still in development. Staff is evaluating draft language and considering whether to bring a formal ordinance forward for Council review and potential adoption.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_17: Install a new emergency generator and elevate it above flood 500 year flood level at the Katy Wastewater Plant. Katy Wastewater Plant is a critical facility

Hazards Addressed	Flooding, Severe Weather, Hurricane
Responsible Party	City Administration, OEM
Summary of Original Problem and Solution (Project)	The Katy Wastewater Plant is a critical facility that requires backup power and elevation protection to maintain operations during flooding and severe weather events.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	No progress has been made due to funding limitations. The project is not moving forward at this time but may be reconsidered in future planning efforts if resources become available.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Funding Limitations

KTY_18: Construct a berm around the Katy Wastewater Treatment Plant to prevent Flood

Hazards Addressed	Flooding, Severe Weather
Responsible Party	N/A
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_19: Patna/Fortuna/Rexora public roadway projects- to address flood prone neighborhood- the roadway elevation and stormwater conveyance system will be redesigned to manage stormwater and property protection for the area

Hazards Addressed	Flooding, Severe Weather
Responsible Party	City Administration, Community Development
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_20: Pitts Rd detention pond expansion- this is a significant detention pond improvement implement a 14 acres addition to stormwater detention and flood protection for the City

Hazards Addressed	Flooding, Severe Weather
Responsible Party	City Administration, Community Development
Summary of Original Problem and Solution (Project)	Flooding and severe weather events have highlighted the need for expanded stormwater detention to protect downstream areas and reduce flood risk.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Funding Source – City Drainage/GLO. The Pitts Rd detention pond expansion is underway, with excavation continuing at the future Leyendecker Landing park site. The project will add 14 acres of regional detention and remains a key component of the City’s flood mitigation strategy.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

KTY_21: Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan

Hazards Addressed	All Hazards
Responsible Party	All
Summary of Original Problem and Solution (Project)	Coordinated regional mitigation is essential to address shared risks across jurisdictions and improve overall resilience.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	The City continues to support and participate in the implementation of the six area-wide actions through regional coordination, plan integration, and ongoing communication with planning partners.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

17.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Katy participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Katy would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 17-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 17-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 17-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	X	-	-	-	X	-	-	-	-	-
Drought	-	X	X	-	-	-	-	X	-	X
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	X	-	-	-	X	-	-	-	X
Extreme Heat	-	X	-	X	-	-	X	-	-	X
Flooding	X	X	-	X	X	X	X	-	X	X
Hurricanes and Coastal Storms	-	X	-	-	X	-	X	-	-	X
Mass Movement	-	X	-	-	-	X	-	-	-	X
Severe Weather	-	X	-	X	X	X	X	-	-	X
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildlife	-	X	-	X	-	-	X	X	-	X
Energy Pipeline Failure	X	X	-	X	X	X	-	-	-	X
Technology Failure	X	X	-	X	X	X	-	-	-	X
Toxic Release / HazMat	X	X	-	X	X	X	-	-	-	X
Utility Failure	X	X	-	X	X	X	-	-	-	X
Public Health Emergency	-	X	-	X	-	X	-	-	-	X

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 17-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY1	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
KTY2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the City of Katy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
KTY3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan	1	0	1	1	1	1	1	1	1	1	0	1	1	1	12	High
KTY4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY5	Implement a Public Education/Outreach Program on all-hazards to inform residents on actions to reduce Severe Weather damage to property and equipment	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY6	Incorporate Drought tolerant or xeriscape practices into landscape ordinances to reduce dependence on irrigation around city facilities																
KTY11	Add quick emergency generator quick connect capabilities to all city owned critical facilities	1	1	1	1	1	0	0	1	1	1	0	1	1	1	11	High
KTY14	Using GIS to map areas that are at risk to the wind hazard associated with different Hurricane and Severe Weather wind conditions and to identify concentrations of at-risk structures and populations	-1	1	1	1	1	1	0	1	1	1	0	0	0	-1	6	Low
KTY15	Create defensible space around all City of Katy critical infrastructure	-1	1	0	0	1	0	1	1	0	0	1	-1	0	-1	2	Low
KTY16	Implement a Tree Management Program/Ordinance	-1	1	0	0	1	0	1	1	0	0	1	0	0	-1	3	Low
KTY20	Pitts Rd detention pond expansion- this is a significant detention pond improvement implement a 14 acres addition to stormwater detention and flood protection for the City	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY21	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY22	Complete and implement drainage improvements identified in the Village Green Drainage Study to reduce localized flooding impacts.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY23	Design and construct a storm sewer extension in the Village Green Subdivision to improve drainage capacity and reduce flood risk	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY24	Implement Phase 1 drainage improvements in the Hunters Terrace easement area by regrading, reshaping, and deepening ditches to enhance stormwater conveyance.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY25	Implement Phase 2 drainage improvements in the Hunters Terrace proposed easement area by regrading, reshaping, and deepening ditches to improve stormwater conveyance.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY26	Complete major drainage improvements in the Heights, Airline, and Drexel area to reduce flood risk and improve stormwater management in the subdivision.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY27	Improve drainage along 3rd Street by enclosing the existing ditch with box culverts from Airline Drive to Katyland Drive to reduce localized flooding and improve public safety.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY28	Design and construct a storm sewer extension to improve drainage and reduce flood risk in the West Katy area of the City.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY29	Install an Outdoor Warning Siren system at the Historic Town Square to alert citizens during dangerous weather conditions.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY30	Incorporate native, drought-tolerant landscaping at city facilities.	0	1	1	1	1	1	0	1	1	0	1	1	0	0	9	Medium
KTY31	Purchase and pre-stage additional emergency supplies such as cots, blankets, portable heaters, and medical/first aid kits. Install redundant backup generator auxiliary power connection coverage if needed.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY32	Install a permanent standby generator at the Katy Branch Library to ensure uninterrupted operation during power outages.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY33	Install real-time flood sensors with dashboard monitoring and warning integration into the city's emergency management platform (and possibly public alerts via KTALERT or a web portal).	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY34	Create a Firewise Demonstration Zone in a city park (like Katy City Park or Woodslan Park), showcasing fire-resistant plants, mulch options, setbacks, and native species. Include interpretive signage and host seasonal education days in collaboration with the Fire Department.	0	1	1	1	1	1	0	1	1	0	1	1	0	0	9	Medium
KTY35	Expand the city's cache of public health emergency supplies (PPE, masks, sanitizers), and enter MOUs with local businesses or faith groups for distribution hubs during future health crises.	0	1	1	1	1	1	0	1	1	0	1	1	0	0	9	Medium
KTY36	Develop a citywide continuity of technology services plan, addressing backup servers, remote access, redundant power supplies, and black-start capabilities for essential departments. Test annually through an internal tabletop.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY37	Purchase a fully integrated, rugged, all-in-one mobile internet unit that combines 5G and satellite connectivity with onboard power. The system can be quickly deployed using a single power/data cable. Units would be assigned to the EOC, City Hall, and field teams.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY38	Install small, remote ground movement monitoring sensors at 2–3 key sites (detention basins, roadbeds, or city-owned facilities) to track soil displacement over time. Tie into GIS for real-time monitoring and planning insight.	0	1	1	1	1	1	0	1	1	0	1	1	0	0	9	Medium
KTY39	Purchase and deploy portable cooling units such as misting fans and pop-up hydration stations for use during city events (e.g., festivals, sports tournaments) or on high-heat advisory days. Target high-use locations like Katy City Park, Woodland Park, and Historic Town Square.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY40	Develop a mobile-accessible Utility Impact Dashboard (using ArcGIS Online or existing City platforms)	1	1	1	1	1	1	0	1	1	0	1	1	1	1	12	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY41	Enhance police drone capabilities by developing HazMat-specific protocols to support perimeter sweeps, monitor plume movement, and assist with safe zone establishment. Live footage will be shared with OEM and Incident Command, and key flight paths near high-risk areas will be pre-programmed and integrated into EOC operations.	1	1	1	1	1	1	0	1	1	0	1	1	1	1	12	High
KTY42	Purchasing of Wildland PPE, fire shelters, portable radios, and essential tools like McLeods and drip torches. Also explore upgrading slip-on units for TIFMAS-capable brush trucks. These investments enhance local wildfire readiness, especially during extended droughts or mutual aid support west of Katy.	-1	1	1	1	1	1	0	1	1	0	1	1	0	-1	7	Low

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY43	The City will pursue participation in FEMA's Community Rating System (CRS) by completing the required application and self-assessment, implementing qualifying floodplain management activities, and coordinating with FEMA and ISO/CRS specialists. The goal is to achieve a Class 8 or better rating to provide residents in Special Flood Hazard Areas with at least a 10% discount on flood insurance. Ongoing participation will require annual reporting and continued program improvements.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
KTY44	Update the floodplain ordinance to align with FEMA guidance, Atlas 14 rainfall data, and anticipated floodplain map changes. This update will enhance resilience, incorporate higher regulatory standards for CRS credit, and ensure eligibility for mitigation funding. Key improvements include adjusting Base Flood Elevations, establishing freeboard requirements, and strengthening permitting and enforcement procedures.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
KTY45	Develop a contingency procedure for a potential failure at the Katy Mills Dam to address localized flooding risks. This plan will identify likely inundation areas, outline notification protocols for nearby facilities, and detail coordination steps with TCEQ and Fort Bend County OEM. The procedure will be incorporated into the City's Emergency Operations Plan and exercised at least once every five years.	-1	1	1	1	1	1	0	1	1	0	1	1	0	-1	7	Low
KTY46	Create Pre-Incident Action Plans (IAPs) for facilities reporting hazardous materials under Tier II requirements to enhance coordinated response to potential chemical releases. These plans will outline ICS roles, evacuation and shelter-in-place zones, communication protocols, and Unified Command structure. Each IAP will include key facility contacts, chemical hazard summaries, and map overlays to support rapid, multi-agency decision-making during incidents.	1	1	1	1	1	1	0	1	1	1	0	0	0	0	9	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action KTY29 Worksheet

Lead Agency:	OEM
Supporting Agencies:	City Administration, Parks Department
Hazards of Concern:	Hurricane/Coastal Storm, Severe Weather
Action Description:	Outdoor Warning Siren for City of Katy Historic Town Square
Description of the Problem:	The City of Katy Historic Town Square serves as a central gathering space but lacks an outdoor public warning system for sudden weather emergencies, which limits the city's ability to alert people in real time.
Description of the Solution:	Install an Outdoor Warning Siren system at the Historic Town Square to alert citizens during dangerous weather conditions.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Hazard Mitigation Grant Program (HMGP), local budget allocation
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	2, 3, 6
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Increased frequency of severe weather events
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Public Information (PI)
Priority	High

Action KTY30 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	Community Development
Hazards of Concern:	Drought; Extreme Heat
Action Description:	Drought-Resilient Landscaping at City Facilities
Description of the Problem:	Increased drought events threaten water supply and landscape sustainability around city infrastructure.
Description of the Solution:	Incorporate native, drought-tolerant landscaping at city facilities.
Estimated Cost:	Low (<\$10,000)
Potential Funding Sources:	Texas Water Development Board, TDEM, Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 7
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Increased frequency of severe weather events
Mitigation Category	Natural Systems Protection (NSP)
CRS Category	Emergency Services (ES); Natural Resource Protection (NR)
Priority	Medium

Action KTY31 Worksheet

Lead Agency:	OEM
Supporting Agencies:	Parks, Public Works, City Administration
Hazards of Concern:	Drought, Extreme Cold, Public Health Emergency, Utility Failure
Action Description:	Enhance Resilience of Senior Center Warming Center Operations
Description of the Problem:	The Senior Center is a designated warming center during extreme cold, but accessibility, supplies, and operational readiness during extended outages or surges in use may be limited.
Description of the Solution:	Purchase and pre-stage additional emergency supplies such as cots, blankets, portable heaters, and medical/first aid kits. Install redundant backup generator auxiliary power connection coverage if needed.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	HMGP, Local Budget, American Red Cross support, TDEM
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6, 8
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Anticipated increase in frequency of extreme cold due to climate variability
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Property Protection (PP)
Priority	High

Action KTY32 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	OEM, City Administration
Hazards of Concern:	Extreme Cold, Extreme Heat, Utility Failure
Action Description:	Equip Katy Branch Library with Backup Power to Support Continuity of Warming and Cooling Center Operations
Description of the Problem:	The Katy Branch Library, operated by the Harris County Public Library system, serves as a key warming and cooling center for local residents during extreme temperature events. However, the facility does not currently have a backup power system, making it vulnerable to utility disruptions during the same weather events when residents may need refuge the most.
Description of the Solution:	Install a permanent standby generator at the Katy Branch Library to ensure uninterrupted operation during power outages. The generator will support critical building functions such as: Climate control (HVAC) Lighting and basic operations Charging stations for public device use
Coordination with Harris County Library and Harris County Engineering will ensure proper sizing, permitting, and interagency support.	
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	HMGP, TDEM, CDBG-MIT, possible Harris County partnership
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6, 8
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Rising temperatures and more frequent cold snaps will increase demand for resilient public sheltering options
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Property Protection (PP)
Priority	High

Action KTY33 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	OEM, Community Development, City Administration
Hazards of Concern:	Flooding, Utility Failure
Action Description:	Install Smart Flood Sensors at Low-Lying Roadways and Major Drainage Crossings
Description of the Problem:	Katy experiences frequent street flooding in heavy rainfall events. Many roads remain unmonitored, delaying response and endangering drivers.
Description of the Solution:	Install real-time flood sensors with dashboard monitoring and warning integration into the city's emergency management platform (and possibly public alerts via KTALERT or a web portal).
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	CDBG-MIT, HMGP, Local Budget
Implementation Timeline:	Long-term (> 5 years)
Goals Met:	1, 3, 8
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Rising rainfall intensities and flash flood risks
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Public Information (PI)
Priority	High

Action KTY34 Worksheet

Lead Agency:	Fire
Supporting Agencies:	OEM, Public Works
Hazards of Concern:	Wildfire
Action Description:	Implement Firewise Landscaping Demonstration Project in a Public Park
Description of the Problem:	As wildfire seasons intensify and WUI areas in Katy grow, there's limited public awareness of what defensible space or fire-resistant landscaping looks like, especially in neighborhoods near green belts and parks.
Description of the Solution:	Create a Firewise Demonstration Zone in a city park (like Katy City Park or Woodsland Park), showcasing fire-resistant plants, mulch options, setbacks, and native species. Include interpretive signage and host seasonal education days in collaboration with the Fire Department.
Estimated Cost:	Low (<\$10,000)
Potential Funding Sources:	Texas A&M Forest Service, HMGP, private landscaping donations or sponsorships
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	2, 3, 7
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Drier seasons and warmer temps are expanding fire risk zones
Mitigation Category	Structure and Infrastructure Projects (SIP); Education and Awareness (EAP)
CRS Category	Public Information (PI); Natural Resource Protection (NR)
Priority	Medium

Action KTY35 Worksheet

Lead Agency:	Fire
Supporting Agencies:	OEM
Hazards of Concern:	Public Health Emergency
Action Description:	Expand Public Health Emergency Supplies Cache and Community Partner Distribution Agreements
Description of the Problem:	During COVID-19, PPE, sanitizer, and key health resources were in short supply. Katy has no formal agreements for restocking or distributing supplies to critical workers, vulnerable populations, or community partners.
Description of the Solution:	Expand the city's cache of public health emergency supplies (PPE, masks, sanitizers), and enter MOUs with local businesses or faith groups for distribution hubs during future health crises.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	CDC Public Health Emergency Preparedness (PHEP) funds, local public health grants, Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3,6,9
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	
Mitigation Category	Structure and Infrastructure Projects (SIP); Education and Awareness (EAP)
CRS Category	Emergency Services (ES); Property Protection (PP)
Priority	Medium

Action KTY36 Worksheet

Lead Agency:	IT
Supporting Agencies:	OEM, City Administration
Hazards of Concern:	Technology Failure, Utility Failure
Action Description:	Develop and Test a Citywide Continuity of Technology Services Plan
Description of the Problem:	A prolonged cyberattack, server outage, or regional grid failure could disrupt city services that rely on digital systems (water billing, emergency alerts, police/fire reporting). Katy currently lacks a formal continuity framework for such failures.
Description of the Solution:	Develop a citywide continuity of technology services plan, addressing backup servers, remote access, redundant power supplies, and black-start capabilities for essential departments. Test annually through an internal tabletop.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Cyber Resilience Grants, DHS Cyber Infrastructure Security Agency (CISA) funds Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	4, 6, 8
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	
Mitigation Category	Structure and Infrastructure Projects (SIP); Local Plans and Regulations (LPR)
CRS Category	Preventative Measures (PR)
Priority	High

Action KTY37 Worksheet

Lead Agency:	IT
Supporting Agencies:	OEM, City Administration
Hazards of Concern:	Hurricane/Coastal Storm, Severe Weather, Technology Failure, Utility Failure
Action Description:	Acquire Rugged All-in-One Emergency Internet Kit for EOC and Field Deployments
Description of the Problem:	During disasters, internet access often becomes unstable or completely unavailable, disrupting coordination between departments, delaying emergency alerts, and impacting incident command operations. Katy currently lacks a mobile internet failover system that can be rapidly deployed when normal systems go down.
Description of the Solution:	Purchase a fully integrated, rugged, all-in-one mobile internet unit that combines 5G and satellite connectivity with onboard power. The system can be quickly deployed using a single power/data cable. Units would be assigned to the EOC, City Hall, and field teams.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Homeland Security Grant Program (HSGP), Infrastructure grants Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6, 8
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Increased frequency of utility-disrupting weather events makes redundant, mobile connectivity essential
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Preventative Measures (PR)
Priority	High

Action KTY38 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	City Administration
Hazards of Concern:	Mass Movement
Action Description:	Install Ground Movement Monitoring Sensors in High-Risk Drainage or Construction Areas
Description of the Problem:	Certain areas in Katy including around drainage infrastructure, detention ponds, or major construction sites—may be vulnerable to ground shifting or subsidence, potentially threatening infrastructure stability and public safety.
Description of the Solution:	Install small, remote ground movement monitoring sensors at 2–3 key sites (detention basins, roadbeds, or city-owned facilities) to track soil displacement over time. Tie into GIS for real-time monitoring and planning insight.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	TWDB, regional geotechnical partnerships Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	1, 3, 8
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Inconsistent rainfall patterns and prolonged droughts can exacerbate soil shifting
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Property Protection (PP)
Priority	Medium

Action KTY39 Worksheet

Lead Agency:	OEM
Supporting Agencies:	City Administration, Parks
Hazards of Concern:	Mass Movement, Extreme Heat
Action Description:	Deploy Portable Misting Fans and Hydration Stations for City Events and Parks During Extreme Heat
Description of the Problem:	Extreme heat has become a recurring seasonal hazard in Katy, especially during outdoor events and at parks that lack cooling infrastructure. Vulnerable populations may face heat-related health risks in public spaces.
Description of the Solution:	Purchase and deploy portable cooling units such as misting fans and pop-up hydration stations for use during city events (e.g., festivals, sports tournaments) or on high-heat advisory days. Target high-use locations like Katy City Park, Woodland Park, and Historic Town Square.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Public Health Preparedness Grants, Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6, 8
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Increased frequency of high heat index days and more prolonged heat waves
Mitigation Category	Education and Awareness (EAP); Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Public Information (PI)
Priority	High

Action KTY40 Worksheet

Lead Agency:	OEM
Supporting Agencies:	Community Development
Hazards of Concern:	Energy Pipeline Failure, Utility Failure
Action Description:	Create a Mobile Utility Impact Dashboard for Pipeline and Energy Disruptions
Description of the Problem:	During a pipeline incident or utility disruption, real-time information about impacted infrastructure, traffic control, sheltering needs, and communication capabilities is often scattered across departments. OEM lacks a centralized, field-accessible dashboard to guide decisions.
Description of the Solution:	Develop a mobile-accessible Utility Impact Dashboard (using ArcGIS Online or existing City platforms) that consolidates: • Known pipeline locations and risk buffers • Impacted infrastructure (signals, lift stations, facilities) • Utility provider contact status • Field reports and asset status from Public Works and PD
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	1, 3, 8
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Greater interdependency among infrastructure during extreme weather makes this tool more critical
Mitigation Category	Local Plans and Regulations (LPR); Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Preventative Measures (PR)
Priority	High

Action KTY41 Worksheet

Lead Agency:	PD
Supporting Agencies:	Fire, OEM
Hazards of Concern:	Energy Pipeline Failure, Toxic Release/Hazardous Materials
Action Description:	Implement HazMat Drone Recon Protocols for Early Perimeter Assessment
Description of the Problem:	Katy PD currently has drone capabilities, but protocols and training are not specifically tailored for hazardous materials incidents, where establishing safe perimeters and assessing scene conditions from a distance is critical in the earliest minutes of response.
Description of the Solution:	Enhance existing PD drone operations by developing and implementing HazMat-specific flight protocols to: Impacted infrastructure (signals, lift stations, facilities) • Conduct early aerial perimeter sweeps around potential spill or release sites • Observe wind direction indicators and visible plumes • Assist in safe perimeter establishment before Fire HazMat entry • Provide live footage to OEM/Fire/Command during multi-agency incidents The program will also pre-program key flight paths for high-risk locations (e.g., near Hwy 90, railroad crossings, or chemical storage areas) and integrate video-sharing capabilities into EOC operations.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6, 8
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Greater interdependency among infrastructure during extreme weather makes this tool more critical
Mitigation Category	Education and Awareness (EAP); Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Property Protection (PP)
Priority	High

Action KTY42 Worksheet

Lead Agency:	Fire
Supporting Agencies:	OEM, City Administration
Hazards of Concern:	Wildfire
Action Description:	Expand Wildland Firefighting Equipment and PPE to Support TIFMAS Deployments and Local Brushfire Readiness
Description of the Problem:	Katy Fire regularly responds to brushfires and want to increasingly support TIFMAS (Texas Intrastate Fire Mutual Aid System) wildfire deployments across the state in the future. However, not all personnel are outfitted with wildland-specific PPE, and not all brush-capable apparatus are fully outfitted for sustained wildland operations.
Description of the Solution:	Purchase or upgrade: • Wildland PPE (Nomex gear, goggles, gloves, boots) • Fire shelters and portable radios • Tools like McLeods, pulaskis, and drip torches • Upgraded slip-on units or skids for TIFMAS-capable brush trucks This also improves your local readiness during extended drought or mutual aid needs west of Katy.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Texas A&M Forest Service Grants, TIFMAS Cost-Share Programs, Local Budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6, 9
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Longer wildfire seasons and more intense deployments across Texas
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES);
Priority	Low

Action KTY43 Worksheet

Lead Agency:	Community Development
Supporting Agencies:	OEM, City Administration
Hazards of Concern:	Flooding
Action Description:	Become a Participating Community in the National Flood Insurance Program (NFIP) Community Rating System (CRS)
Description of the Problem:	The City of Katy is currently a participant in the National Flood Insurance Program (NFIP) but does not yet participate in the Community Rating System (CRS). CRS participation rewards communities for implementing higher floodplain management standards and provides flood insurance premium discounts for property owners. Without CRS enrollment, Katy residents do not benefit from potential cost savings or the additional flood risk reduction activities CRS encourages.
Description of the Solution:	The City will initiate the process to become a CRS-participating community by: • Completing the CRS application and self-assessment • Identifying and implementing qualifying floodplain management activities (such as outreach programs, flood mapping improvements, flood protection regulations, and stormwater management practices) • Coordinating with FEMA and ISO/CRS Specialists for initial certification • Working to achieve a Class 8 or better rating in the initial cycle to provide at least a 10% discount on flood insurance premiums for residents in Special Flood Hazard Areas (SFHAs). Continued participation will involve annual reporting and maintaining or improving the city's CRS score.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	CRS startup costs are generally covered through local budget/staff time; potential supplemental support through TDEM or FEMA Technical Assistance.
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	2, 3, 4, 5
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A

Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness (EAP); Local Plans and Regulations (LPR)
CRS Category	Preventative Measures (PR); Property Protection (PP); Public Information (PI); Structural Flood Control Projects (SP)
Priority	High

Action KTY44 Worksheet

Lead Agency:	Community Development
Supporting Agencies:	OEM, City Administration, Public Works
Hazards of Concern:	Flooding
Action Description:	Update and Modernize the City of Katy Floodplain Ordinance
Description of the Problem:	The City of Katy's current floodplain ordinance requires updates to align with current best practices, FEMA guidance, and anticipated future changes such as updated floodplain maps, Atlas 14 rainfall data, and CRS program opportunities. An outdated ordinance could leave structures at greater risk during flood events and limit the City's eligibility for mitigation funding programs.
Description of the Solution:	Incorporate updated FEMA standards and guidance Address Atlas 14 rainfall data impacts on Base Flood Elevations (BFEs) Establish freeboard requirements (e.g., 1–2 feet above BFE) for new construction and substantial improvements Clarify and strengthen permitting, variance, and enforcement procedures Align with CRS higher regulatory standards to maximize potential CRS points and resident flood insurance discounts Ensure resilience to climate-driven changes in stormwater behavior and flood patterns
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Local budget, FEMA technical assistance grants, CRS support programs
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 4, 5
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
CRS Category	Preventative Measures (PR)
Priority	High

Action KTY45 Worksheet

Lead Agency:	OEM
Supporting Agencies:	City Administration, Public Works, Community Development
Hazards of Concern:	Dam/Levee Failure, Flooding
Action Description:	Develop a Dam Failure Contingency Procedure for the Katy Mills Dam
Description of the Problem:	The Katy Mills Dam is classified as a low-hazard, small storage dam regulated by the Texas Commission on Environmental Quality (TCEQ). While a formal Emergency Action Plan (EAP) is not required by state law, downstream flooding could still present localized hazards to nearby infrastructure or property in an extreme event. There is currently no documented contingency plan specific to a breach or structural issue at this site.
Description of the Solution:	The City of Katy will develop a Dam Failure Contingency Procedure focused specifically on: - Identifying likely inundation areas if a sudden release occurs - Pre-designating notification procedures to alert impacted facilities (Katy Mills Mall, surrounding businesses) - Coordination steps with TCEQ and Fort Bend County OEM in the event of visible damage, overflow, or uncontrolled discharge - Incorporating the procedure into the City's Emergency Operations Plan (EOP) as an annex or appendix - Exercising the procedure at least once every five years through a tabletop or communication drill
Estimated Cost:	Low (<\$10,000)
Potential Funding Sources:	Local budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 4, 8
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
CRS Category	Preventative Measures (PR)
Priority	Low

Action KTY46 Worksheet

Lead Agency:	OEM
Supporting Agencies:	Fire, PD, Public Works
Hazards of Concern:	Flooding, Toxic Release/Hazardous Materials
Action Description:	Develop Pre-Response Incident Action Plans (IAPs) for High-Risk Tier II Facilities
Description of the Problem:	Several facilities within Katy report hazardous materials under Tier II reporting requirements. While these facilities vary in size and type, even small releases can create public health risks requiring rapid, coordinated response.
The Fire Department maintains tactical pre-plans for entry and firefighting, but there is no operational-level, citywide Pre-Incident Action Plan (IAP) framework that addresses multi-agency coordination, evacuation decision points, and public communication strategies specific to these facilities.	
Description of the Solution:	Develop Pre-Response IAPs for identified Tier II facilities within the City. Each IAP would include: • Immediate ICS structure and initial assignments for OEM, Fire, PD, and Public Works • Pre-identified evacuation zones and shelter-in-place triggers • Communication flowcharts (internal + external) • Unified Command structure pre-designations (Fire Chief, PD Supervisor, OEM Director) • 24/7 facility contact information • Quick reference list of major chemicals and associated hazards • Map overlays showing proximity to neighborhoods, schools, and evacuation routes
Estimated Cost:	Low (<\$10,000)
Potential Funding Sources:	Local budget
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	1, 3, 6, 8
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness (EAP); Local Plans and Regulations (LPR)

CRS Category	Emergency Services (ES); Preventative Measures (PR)
Priority	Medium

18. CITY OF LA PORTE

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of La Porte with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of La Porte, describes who participated in the planning process, assesses La Porte's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

18.1 HAZARD MITIGATION PLANNING TEAM

The City of La Porte identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The La Porte Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 18-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Table 18-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Johnny Morales/EMC Address: 3001 N 23rd Street, La Porte, TX 77571 Phone Number: 281-470-0009 Email: moralesj@laportetx.gov	Name/Title: Amber Castro-Beltran/Deputy EMC Address: 3001 N 23rd Street, La Porte, TX 77571 Phone Number: 281-470-0011 Email: castrobeltrana@laportetx.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: Malik Michel/Engineering Manager Address: 604 W Fairmont Pkwy, La Porte, TX 77571 Phone Number: 281-470-5060 Email: michelm@laportetx.gov	
Additional Contributors	
Name/Title: Ray Mayo/Director of Public Works Method of Participation: Local Mitigation Planning Team	
Name/Title: Andrew Brady/Assistant Director of Public Works Method of Participation: Local Mitigation Planning Team	
Name/Title: Ryan Hvitlok/Director of Planning Method of Participation: Local Mitigation Planning Team	

Name/Title: Richard Glass/Chief Building Official
Method of Participation: Local Mitigation Planning Team

Name/Title: Johnna Matthews/Planning Manager
Method of Participation: Local Mitigation Planning Team

Name/Title: Clif Meekins/Fire Marshal
Method of Participation: Local Mitigation Planning Team

18.2 COMMUNITY PROFILE

The City of La Porte was incorporated in 1892. In the early 1900s, La Porte was a popular tourist destination due to its location on Galveston Bay. Originally named Sylvan Grove Park, Sylvan Beach became a nationally recognized tourist destination and remains one of La Porte's biggest attractions. Several hurricanes impacted La Porte in the early part of the 20th century, causing tourism in the area to diminish. Following World War II, shipyards and industrial plants began to develop in the region, resulting in the large petrochemical presence that still exists to this day.

18.2.1 Location

The City of La Porte is located in southeast Harris County, about 30 minutes southeast of Houston. It is accessible by State Highways 225 and 146. La Porte is located at the entrance to the Houston Ship Channel, and is home to two major Port Houston terminals: Barbours Cut and Bayport. La Porte's location along the Houston Ship Channel makes it home to numerous petrochemical facilities. The current boundaries generally extend from the city boundaries of Deer Park and Pasadena to the west, Galveston Bay to the east, State Highway 225 to the north, and the Port of Houston Bayport Terminal to the south. The city encompasses an area of approximately 18.6 square miles.

18.2.2 Governing Body Format

The City of La Porte is a Home Rule City, operating under the Council-Manager form of government, with a City Council composed of a Mayor and eight Council members. The Mayor and 2 councilpersons-at-large are elected by a majority vote of the qualified voters of the city at large. The city is divided into 6 districts, Districts 1, 2, 3, 4, 5, and 6; and 1 councilperson is elected from each district by majority vote of the resident voters of such district. The City Council appoints a City Manager to act as the chief administrative and executive officer of the City.

The La Porte City Council assumes responsibility for the adoption of this plan; the La Porte Office of Emergency Management will oversee its implementation.

18.2.3 Population

According to the U.S. Census, the 2020 population for La Porte was 35,124, a 4 percent increase from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial

ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 6.9 percent of the population is 5 years of age or younger, 13.3 percent is 65 years of age or older, 1.1 percent is non-English speaking, 12.4 percent is below the poverty threshold, and 12.2 percent is considered disabled.

18.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

La Porte performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for La Porte to identify opportunities for integrating mitigation concepts into ongoing City procedures.

18.3.1 Planning and Regulatory Capability and Integration

Table 18-2 summarizes the planning and regulatory tools that are available to La Porte.

Table 18-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	<i>Code of Ordinances, Subpart B, Chapter 82 – Buildings and Building Regulations; Adoption: 2024 International Residential Code and International Building Code</i>	<i>Local</i>	N/A
Zoning/Land Use Code	Yes	Code of Ordinances, Subpart B, Chapter 106 - Zoning	<i>Local</i>	N/A
Subdivision Code	Yes	<i>Code of Ordinances, Subpart B, Chapter 86 – General Plans, Sec. 86-15–General standards for subdivision & developments</i>	<i>Local</i>	N/A
Site Plan Code	Yes	<i>Code of Ordinances, Chapter 86, Sec. 86-7</i>	<i>Local</i>	N/A
Stormwater Management Code	Yes	<i>Code of Ordinances, Subpart A, Chapter 34 – Environment, Article VI – Stormwater Discharges</i>	N/A	N/A
Post-Disaster Recovery/ Reconstruction Code	Yes	<i>Annex J – Recovery and post-disaster permitting and code enforcement regulations.</i>	N/A	N/A
Real Estate Disclosure Requirements	No	N/A	State	N/A
Growth Management	No	N/A	N/A	N/A
Environmental Protection Ordinance(s)	Yes	<i>Code of Ordinances, Subpart A, Chapter 34 - Environment</i>	<i>Local, State</i>	N/A
Flood Damage Prevention Ordinance	Yes	<i>Code of Ordinances, Subpart B, Chapter 94 - Floods</i>	N/A	N/A
Wellhead Protection	No		N/A	N/A
Emergency Management Ordinance	Yes	<i>Code of Ordinances, Subpart A, Chapter 26 – Emergency Management; Local Ordinance No. 1498-A</i>	Local, State	N/A
Climate Change Ordinance	No	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	<i>Chapter 24, Article 1, section 24-104, 11/16/2019</i>	Local	N/A
Capital Improvement Plan	No	N/A	N/A	N/A
Disaster Debris Management Plan	Yes	Last Update 2024	Local	N/A
Floodplain Management or Watershed Plan	No	N/A	Local	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Stormwater Management Plan	Yes	Update in Progress – Est. Completion Mid-2025	Local, State	N/A
Open Space Plan	No	N/A	N/A	N/A
Urban Water Management Plan	No	N/A	N/A	N/A
Habitat Conservation Plan	No	N/A	N/A	N/A
Economic Development Plan	Yes	<i>Chapter 5 of the Comprehensive Plan</i>	N/A	N/A
Community Wildfire Protection Plan	No	<i>The City of La Porte does not have its own CWPP implemented. Harris County has completed a county-wide CWPP; which includes all incorporated jurisdictions within Harris County.</i>	County	N/A
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	No	N/A	N/A	N/A
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	No	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Emergency Operations Plan; all annexes last reviewed and approved by the State in May – October 2021	Local, State	N/A
Continuity of Operations Plan	Yes	Basic plan and all department plans updated in 2021	Local	N/A
Substantial Damage Response Plan	No	N/A	N/A	N/A
Threat and Hazard Identification and Risk Assessment	Yes	A regional THIRA is conducted on an annual basis for UASI and HGAC. The City participates in the development of the THIRA.	County	N/A
Post-Disaster Recovery Plan	Yes	<i>Annex J – Recovery to the City's Emergency Operations Plan; approved by the State on June 18, 2021</i>	Local, State	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Public Health Plan	Yes	<i>Annex H – Health and Medical is a component of the City’s Emergency Operations Plan and addresses public health, environmental health, and medical response capabilities; approved by the State on June 18, 2021. The City does not maintain a standalone Public Health Plan.</i>	Local, State	N/A
Other: Comprehensive Emergency Management Plan	Yes	N/A	Local	N/A

18.3.2 Development and Permitting Capability

Table 18-3 summarizes the capabilities of La Porte to oversee and track development.

Table 18-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	Yes	<i>Planning</i>
- If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?		
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	N/A
Do you have a buildable land inventory?	No	N/A
If you have a buildable land inventory, please describe		
Describe the level of buildout in your jurisdiction.	N/A	N/A

18.3.3 Administrative and Technical Capability

Table 18-4 summarizes potential staff and personnel resources available to La Porte and their current responsibilities that contribute to hazard mitigation.

Table 18-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Planning & Zoning Commission
Zoning Board of Adjustment	Yes	Zoning Board of Adjustment
Planning Department	Yes	Planning Department
Mitigation Planning Committee	Yes	Local Mitigation Planning Team

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	Yes	Economic Development
Public Works/Highway Department	Yes	Public Works Department
Construction/Building/Code Enforcement Department	Yes	Planning & Development
Emergency Management/Public Safety Department	Yes	Police, Fire, EMS & Emergency Management
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works Department
Mutual aid agreements	Yes	N/A
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	N/A
Other	N/A	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	<i>Planning</i>
Engineers or professionals trained in building or infrastructure construction practices	Yes	<i>Public Works</i>
Planners or engineers with an understanding of natural hazards	Yes	<i>Planning</i>
Staff with expertise or training in benefit/cost analysis	Yes	<i>City Manager's Office / Finance</i>
Professionals trained in conducting damage assessments	Yes	Fire Department, can request outside assistance
Personnel skilled or trained in GIS and/or Hazus applications	Yes	<i>GIS Division</i>
Staff that work with socially vulnerable populations or underserved communities	Yes	Senior Services, Emergency Management
Environmental scientists familiar with natural hazards	Yes	Can contract the service
Surveyors	Yes	Can contract the service
Emergency manager	Yes	<i>Emergency Management</i>
Grant writers	Yes	<i>Grant Administrator, can contract the service</i>
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	N/A

18.3.4 Fiscal Capability

Table 18-5 summarizes financial resources available to La Porte.

Table 18-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes – Water and Sewer
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

18.3.5 Education and Outreach Capability

Table 18-6 summarizes the education and outreach resources available to La Porte.

Table 18-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	CSO
Personnel skilled or trained in website development	Yes	Marketing & Communications
Hazard mitigation information available on your website	Yes	Floodplain information managed by Public Works; Mapping managed by GIS; Preparedness info managed by Emergency Management
Social media for hazard mitigation education and outreach	Yes	Emergency management social media used to promote preparedness information and events
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Planning & Zoning Commission, Drainage & Flooding Committee, Storm & Incident Readiness Ad Hoc Committee
Warning systems for hazard events	Yes	Emergency notification system, sirens, social media, community events
Natural disaster/safety programs in place for schools	Yes	Phone notification system, sirens, alerts
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Emergency Management & Senior Services
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Social media, community events – include wally wise, safety fair, etc.

18.3.6 Community Classifications

Table 18-7 summarizes classifications for community programs available to La Porte.

Table 18-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	5	04-01-2023
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Residential - 4 Commercial - 4	12/21/2023
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	2	2018
National Weather Service StormReady Certification	Yes	N/A	12/27/2017
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable

— = Unavailable

18.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 18-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 18-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Weak
Earthquake	Weak
Extreme Cold	Strong
Extreme Heat	Strong
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Tsunami	Weak
Wildfire	Moderate
Energy Pipeline Failure	Moderate
Public Health Emergency	Moderate
Technology Failure	Weak
Toxic Release/ HazMat	Weak
Utility Failure	Moderate

18.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 18-1 is responsible for maintaining this information.

18.4.1 NFIP Statistics

Table 18-9 summarizes the NFIP policy and claim statistics for La Porte.

Table 18-9. La Porte NFIP Summary of Policy and Claim Statistics

# Policies	4,329
# Claims (Losses)	6,980
Total Loss Payments	\$277,493,519.42
# Repetitive Loss Properties (NFIP definition)	177
# Repetitive Loss Properties (FMA definition)	73
# Severe Repetitive Loss Properties	37
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: Harris County Flood Control District 2025

18.4.2 Flood Vulnerability Summary

Table 18-10 provides a summary of the NFIP program in La Porte.

Table 18-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Brookglen Subdivision is susceptible to flooding. There is currently a joint project between the City and County to get this corrected.
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	We use the Substantial Damage Estimator Tool.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	None
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	<i>Planning & Development</i>
Are any certified floodplain managers on staff in your jurisdiction?	Yes, there are 4. Director, Engineering Manager, Chief Building Official and Third-Party Engineer.
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	How to review E.C. from beginning to end. What to look for and common mistakes made.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	We conduct outreach/presentations for the public, GIS, permit review and inspections.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	If the cost of the project exceeds 50% or more of the improvement value of the existing structure this would be determined as a Substantial Improvement. A good resource is NFIP Unit 8 Substantial Improvement and Substantial Damage.

NFIP Topic	Comments
What are the barriers to running an effective NFIP program in the community, if any?	Convincing the residents about why we have the requirements in place.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	November 2024
What is the local law number or municipal code of your flood damage prevention ordinance?	Section 94 of the City of La Porte Code of Ordinance
What is the date that your flood damage prevention ordinance was last amended?	
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Exceeds by some of the following below: Requiring 1' above the BFE or at/above the 500-year Riverine whichever is higher.
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	N/A
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	We currently participate in CRS. We have a Class 5 rating.

18.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 18-11 through Table 18-13.

Table 18-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	255	1	14	270
Permits within SFHA	9	1	1	11
2021				
Total Permits	320	0	5	325
Permits within SFHA	4	0	0	4
2022				
Total Permits	226	4	7	237
Permits within SFHA	11	0	0	11

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2023				
Total Permits	134	0	8	142
Permits within SFHA	6	0	0	6
2024				
Total Permits	117	0	6	123
Permits within SFHA	4	0	2	6

SFHA = Special Flood Hazard Area (1% flood event)

Table 18-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Artesia Village	Residential	82 units	East of SH 146 and Artesia Village Dr.	500 Yr. SFHA	82 single family residential lots, Complete
Morgan's Landing Sections 9-15	Residential	226 units	West of Bay Area Blvd. between Fairmont Pkwy. And Spencer Hwy.	South and west sides in 500 Yr. SFHA	317 single family residential lots, under construction
Sylvan Beach Enclave Section 2	Residential	28 units	East of S. Broadway, north of E. M St.	100 Yr. SFHA	14 duplexes, under construction
Hawthorne at Fairmont	Residential	292 units	NW Corner of Fairmont and Canada	N/A	292 apartment development, Complete

* Only location-specific hazard zones or vulnerabilities identified.

Table 18-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
La Porte City Hall	Institutional	1 Structure	604 W. Fairmont Pkwy	100 Yr. SFHA	New City Hall, Under construction
Canadian Plaza	Commercial	2 Structures	3535 Canada Rd	N/A	Approximately 27,000 SF Commercial Development, under construction
Commercial Development	Commercial	3-4 Structures	NE corner of SH 146 and Fairmont Pkwy.	500 Yr. SFHA	3 to 4 Restaurant and Commercial Sites, under construction
Avera	Commercial and Industrial	Unknown	East of Bay Area Blvd. between Fairmont and Spencer	South and east sides in 500 Yr. SFHA	Permitting in progress

18.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding vulnerability to the identified hazards, including summaries of La Porte’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

18.6.1 Hazard Event History

The history of natural and non-natural hazard events in La Porte is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 18-14 provides details on loss and damage in La Porte during hazard events since the last hazard mitigation plan update.

Table 18-14. Hazard Event History in La Porte

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in La Porte
1/10/2020	- Thunderstorm - Wind	No	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	N/A
1/20/2020 – 5/11/2023	- Biological (DR-4485; EM-3458)	No	COVID-19	N/A
3/11/2020	Biological	Yes	Public Health Emergency – local disaster declared as COVID-19 swept the region.	N/A
4/18/2020	Hail	No	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	None
5/6/2020 – 2/18/2020	- Drought (USDAS4669)	Yes	N/A	N/A
5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	N/A
5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in La Porte
7/25/2020 – 7/31/2020	Hurricane (EM-3530)	No	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	N/A
8/23/2020 – 8/27/2020	Hurricane (EM-3540)	No	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There we no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	N/A
9/21/2020	- Storm Surge - Flash Flood - Flood	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	N/A
2021	Technology Failure	No	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	N/A
12/5/2020	Fire	No	N/A	The La Porte Fire Department responded to reports of an odor near Ameritech Heat Treating Service Inc. Due to heavy smoke and uncertainty about the materials involved, a shelter-in-place was issued for areas east of Sens Rd./Bay Area Blvd. Once the fire was extinguished, an all-clear was given.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in La Porte
2/11/2021 – 2/21/2021	- Severe Ice Storm - Power Failure - Extreme Cold - Technology Failure - Utility Failure (DR-4586; EM-3554)	No	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	N/A
5/18/2021	Thunderstorm Wind, Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A
06/21/2021	Fire	No	N/A	A fire incident occurred at OxyChem. La Porte, causing heavy fire and smoke. The La Porte Fire Department responded, and road closures were implemented at Miller Cut Off Road at Independence and east of the railroad tracks as a precaution.
7/2021	Toxic Release/HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	N/A
7/21/2021	Toxic Release/Hazmat	No	N/A	Dow Chemical issued a plant (and surrounding plant) shelter-in-place as a result of Hydroxy Ethyl Acrylate (HEA) venting.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in La Porte
07/27/2021	Toxic Release/Hazmat	No	N/A	The LyondellBasell facility released 100,000 pounds of acetic acid during a maintenance event, resulting in fatal injuries to two contract employees and 30 other personnel who were transported to medical facilities for evaluation and/or treatment.
12/2021	Toxic Release/HazMat	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A
1/8/2022	- Tornado - Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
3/15/2022 – N/A	Drought (USDA S5188)	Yes	N/A	N/A
4/5/2022 – N/A	Drought (USDA S5209)	Yes	N/A	N/A
4/12/2022 – N/A	Drought (USDA S5214)	Yes	N/A	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in La Porte
5/1/2022 – 9/30/2022	Excessive Heat (USDA S5350)	Yes	N/A	N/A
5/10/2022 – N/A	Drought (USDA S5197)	Yes	N/A	N/A
6/14/2022 – N/A	Drought (USDA S5221)	Yes	N/A	N/A
7/19/2022 – N/A	Drought (USDA S5240)	Yes	N/A	N/A
8/2/2022 – N/A	Drought (USDA S5252)	Yes	N/A	N/A
8/10/2022	- Lightning - Thunderstorm - Wind	No	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	N/A
12/2022	Technology Failure	No	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in La Porte
1/24/2023	Tornado	No	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage. Spots with more severe damage, rated EF2 included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	N/A
4/5/2023	Hail	No	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A
4/6/2023	Fire / Structural Collapse	No	N/A	During demolition activities at the decommissioned NRG power plant located at 2012 Miller Cut Off Road, a structural collapse occurred. Two contractors sustained minor injuries and were transported to a local hospital. There was no risk to the surrounding community.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in La Porte
5/5/2023	Toxic Release / HazMat	No	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	N/A
5/8/2023	- Thunderstorm - Wind - Flash Flood - Hail	No	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail	No	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	N/A
8/15/2023 – N/A	- Drought (USDA S5499)	Yes	N/A	N/A
8/22/2023 – N/A	- Drought (USDA S5511)	Yes	N/A	N/A
11/1/2023 – N/A	- Drought (USDA S5683)	Yes	N/A	N/A
12/4/2023	Toxic Release/Hazmat	No	N/A	A phosgene gas leak occurred at the Altivia Chemicals Complex due to a ruptured pressure relief valve. 8 workers were hospitalized following exposure to toxic gas. A shelter-in-place order was issued and lifted after air quality monitoring detected no hazardous levels of phosgene.
4/26/2024 – 6/5/2024	Flood (DR-4781)	No	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	N/A
5/2/2024	Severe Weather & Flooding	Yes	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in La Porte
5/16/2024	- Severe Weather - Tornadoes - Strong Wind - Hail - Flooding (DR-4781)	Yes	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	N/A
7/5/2024 – 7/9/2024	Hurricane (DR-4798)	Yes	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	N/A
09/16/2024 – 09/20/2024	Fire	No	N/A	The La Porte Fire Department responded to a fire in a pipeline corridor in Deer Park, leading to an evacuation order for the Brookglen neighborhood. Energy Transfer confirmed the burning product was Y-grade liquid natural gas, which continued to burn for several days. Residents of Deer Park and La Porte were later allowed to return home once conditions were deemed safe.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025);

18.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding vulnerability to the identified hazards. The following presents key risk assessment results for La Porte.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. La Porte reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 18-15 shows La Porte’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 18-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release / Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 18-16 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 18-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	12	2.8%
Energy	0	0%
Food, Hydration, Shelter	3	.70%
Hazardous Materials	3	.70%
Health and Medical	0	0%
Safety and Security	2	.47%
Transportation	38	8.9%
Water Systems	11	2.6%
Other Critical Facilities	3	.70%

Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

18.6.3 Identified Issues

After review of La Porte’s hazard event history, hazard rankings, hazard location, and current capabilities, La Porte identified the following vulnerabilities within the community:

- None Identified

18.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

18.7.1 Past Mitigation Action Status

-

Table 18-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous

actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

18.7.2 Additional Mitigation Efforts

- In addition to the mitigation actions completed in

Table 18-17, La Porte identified the following mitigation efforts completed since the last HMP:

- LT-7: Brookglen Flooding Mitigation Analysis
- LT-12: 8th Street and D St Storm Water and Conveyance Improvements
- LT-14: Acquisition/Buyout Program

Since the adoption of the County’s first HMP, La Porte has made significant mitigation progress in the following areas:

- The City of La Porte has made substantial strides in hazard mitigation and continues to build a more resilient community. La Porte has invested in drainage improvements - such as redesigned streets, larger pipe systems, and upgraded underground infrastructure - to manage heavy rainfall, reduce street and structural flooding, and protect homes, businesses, and critical facilities. Through these strategic, ongoing investments and inter-agency partnerships, La Porte remains unwavering in its commitment to safeguarding residents and fortifying its emergency preparedness.

Table 18-17. Status of Previous Mitigation Actions

LT-1 —Where appropriate, support retrofitting, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas	
Hazards Addressed	Flood, Hurricane,
Responsible Party	City of La Porte
Summary of Original Problem and Solution (Project)	To prevent recurring losses to structures in hazard-prone areas.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-2—Intergrade Hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including comprehensive plan, and zoning ordinances

Hazards Addressed	All Hazards
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	To ensure an effective city response to hazards across all aspects of planning, with hazard mitigation fully integrated into the plans
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-3—Activity participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan

Hazards Addressed	All Hazards
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-4—Continue to maintain a good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, enforce the flood damage prevention ordinance, participate in floodplain identification and mapping updates, and provide public assistance/ information on floodplain requirements and impacts

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Planning
Summary of Original Problem and Solution (Project)	To maintain NFIP compliance to ensure our residents receive the necessary support and protection against flood risks.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-5— Construct Gladwyne Detention Ponds

Hazards Addressed	Flood
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate recurring flood-related losses.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-6 – Purchase generators for critical facilities and infrastructure that lack adequate back-up power

Hazards Addressed	Severe Weather, Hurricane
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to ensure backup power to critical facilities.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-7 – Brookglen Flooding Mitigation Analysis

Hazards Addressed	N/A
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-8— Bayside Terrace Drainage Improvements

Hazards Addressed	Flood, Hurricane
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate recurring flood-related losses.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-9— Lomax/F101-06-00 – Drainage Channel Improvements

Hazards Addressed	Flooding
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate recurring flood-related losses.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-10— Little Cedar Bayou/F216 Phase III Improvements

Hazards Addressed	Flood
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate recurring flood-related losses.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-11— 6th Street (Madison to Main) Paving and Drainage

Hazards Addressed	Flood
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate recurring flood-related losses.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-12— 8th St and D St Storm Water and Conveyance Improvements

Hazards Addressed	N/A
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-14—Acquisition/Buyout Program

Hazards Addressed	N/A
Responsible Party	Planning
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-15—Channel Improvement & Inline Detention Pond

Hazards Addressed	Flood
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate recurring flood-related losses.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-16—One Regional Detention Pond for Pinegrove Valley & residents along L St. and P St.

Hazards Addressed	Flood
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate recurring flood-related losses.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT18—Implement Debris Management Program

Hazards Addressed	Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	To implement a streamlined process for efficient and timely debris management to ensure public safety and rapid recovery.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT19—Construct safe rooms in vulnerable public areas (Ex: parks and various public buildings)

Hazards Addressed	Severe Weather
Responsible Party	Parks & Recreation
Summary of Original Problem and Solution (Project)	To designate areas in public spaces for addressing various hazards.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-20—Install a covered parking area (protective structure) at Public Works and/or the Police Department for City vehicles and equipment in order to decrease the potential for damage as a result of hail.

Hazards Addressed	Severe Weather, Hurricane
Responsible Party	Police Department
Summary of Original Problem and Solution (Project)	To designate an area for city vehicles/equipment to decrease the damage from severe weather.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-21—Bob's Gully Drainage Improvements

Hazards Addressed	Flood
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-22—Enhance and expand the City’s current outdoor warning sirens to provide coverage to areas not in audible range at this time.

Hazards Addressed	Severe Weather, Toxic Release/Hazardous Material
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	The sirens require replacement due to aging components.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-23—Battleground Estates Phase II Drainage Improvements

Hazards Addressed	Flood
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate recurring flood-related losses.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-24—Development/modification of ordinances for restricting or limiting water use during Drought conditions and water Shortages

Hazards Addressed	Drought
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate any drought-related hazards.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-25—Develop/implement water smart program to educate the public on how to conserve water, especially during drought conditions.

Hazards Addressed	Drought
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	This project was initiated to mitigate any drought-related hazards.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

LT-26—Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.

Hazards Addressed	Drought
Responsible Party	Harris County
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

18.7.3 Proposed Hazard Mitigation Actions for the HMP Update

La Porte participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that La Porte would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 18-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 18-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 18-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	X	-	-	X	X	-	-	-	-	X
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	X	-	-	X	-	-	-	-	-	X
Extreme Heat	X	-	-	X	-	-	-	-	-	X
Flooding	X	X	-	X	X	X	X	-	-	X
Hurricanes and Coastal Storms	X	X	-	X	X	X	X	-	-	X
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	X	X	-	X	X	X	X	-	-	X
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildlife	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	X	-	-	X	-	-	X	-	-	X
Utility Failure	X	X	-	X	-	-	X	-	-	X
Public Health Emergency	X	-	-	X	X	-	X	-	-	X

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 18-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
LT-1	Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.	1	1	0	0	1	0	1	1	1	1	1	0	1	1	10	Medium
LT-2	Integrate the hazard mitigation plan into other plans, ordinances, and programs that dictate land use decisions in the community, including the Comprehensive Plan, Building and Zoning Codes, Capital Improvement Plan, Citywide Drainage Plan, etc.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
LT-3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	1	0	1	1	1	1	0	1	1	0	1	1	1	1	11	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
LT-4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: - Enforce the flood damage prevention ordinance. - Participate in floodplain identification and mapping updates. - Provide public assistance/information on floodplain requirements and impacts.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
LT-5	Construct Gladwyne Detention Ponds	1	1	0	1	1	0	1	0	1	1	1	1	1	1	11	High
LT-6	Purchase generators for critical facilities and infrastructure that lack adequate back-up power	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
LT-8	Bayside Terrace Drainage Improvements	1	1	0	1	1	0	1	0	1	1	1	1	1	1	11	High
LT-9	Lomax/F101-06-00 – Drainage Channel Improvements	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
LT-10	Little Cedar Bayou/F216 Phase III Improvements	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
LT-11	6th Street (Madison to Main) Paving and Drainage	1	1	0	1	1	0	0	0	1	1	1	1	1	1	10	Medium
LT-15	Channel Improvement & Inline Detention Pond	1	1	1	1	1	0	1	0	1	1	1	1	1	1	12	High
LT-16	One Regional Detention Pond for Pinegrove Valley & residents along L St. and P St.	1	1	1	1	1	0	1	0	1	1	1	1	1	1	12	High
LT-18	Implement Debris Management Program	1	0	1	1	1	1	0	0	1	1	1	1	1	1	11	High
LT-19	Construct safe rooms in vulnerable public areas (Ex: parks and various public buildings)	1	1	0	1	1	0	1	1	0	1	1	1	1	1	11	High
LT-20	Install a covered parking area (protective structure) at Public Works and/or the Police Department for City vehicles and equipment in order to decrease the potential for damage as a result of hail.	0	1	1	1	1	1	0	0	1	1	0	1	0	1	9	Medium
LT-21	Bob's Gully Drainage Improvements	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
LT-22	Enhance and expand the City's current outdoor warning sirens to provide coverage to areas not in audible range at this time.	1	0	1	1	1	1	0	1	1	1	0	1	1	1	11	High
LT-23	Battleground Estates Phase II Drainage Improvements	1	1	1	1	1	0	1	0	1	1	1	1	1	1	12	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
LT-24	Development/modification of ordinances for restricting or limiting water use during Drought conditions and water Shortages	0	1	1	1	1	1	1	1	0	1	1	1	1	1	12	High
LT-25	Develop/implement water smart program to educate the public on how to conserve water, especially during drought conditions.	0	0	1	1	1	1	1	1	1	1	1	1	1	1	12	High
LT-26	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
LT-27	100 Acre-foot detention pond constructed south of Fairmont Parkway along HCFCF Channel B112-00 Adjacent to the Pasadena Convention Center. Project Constructed through an interlocal agreement between La Porte and Pasadena.	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
LT-28	Brookglen Paving and Drainage Improvements Phase 1- Enlarging under-sized drainage pipes and re-grading streets to improve drainage conditions.	1	1	1	1	1	0	1	0	1	1	1	1	1	1	12	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
LT-29	Brookglen Paving and Drainage Improvements Phase 2- Enlarging under-sized drainage pipes and re-grading streets to improve drainage conditions.	1	1	1	1	1	0	1	0	1	1	1	1	1	1	12	High
LT-30	Coupland Drive Drainage Improvements – Replace undersized storm pipe, repave streets with enlarged curb inlets and provide 36- inch outfall pipe to HCFC Channel B106-00 at L Street.	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
LT-31	Improvements to open channel section of F212 east of North Broadway to East Main. Undersized drainage pipe to be replaced under South Utah to outfall at East B and rejoining open channel section of F212 (Deer Creek)	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
LT-32	Battleground Vista Drainage Improvements – Drainage plan for future development or land use – large lot residential	1	0	0	0	0	1	1	0	1	1	1	0	0	0	6	Low

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
LT-33	H Street at Sens Road Drainage Improvements- Install underground stormwater conduit under Sens Road and terminating 600 feet to the east and construction of a regional detention area 275 acre-feet (Basin A) with surrounding walking trail	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action LT-27 Worksheet

Lead Agency:	City of La Porte
Supporting Agencies:	City of Pasadena
Hazards of Concern:	Flooding
Action Description:	100 Acre-foot detention pond constructed south of Fairmont Parkway along HCFCF Channel B112-00 Adjacent to the Pasadena Convention Center. Project Constructed through an interlocal agreement between La Porte and Pasadena.
Description of the Problem:	Repetitive damages from flooding within the Brookglen Subdivision
Description of the Solution:	Regional detention
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	Funded by City of Pasadena
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	High

Action LT-28 Worksheet

Lead Agency:	City of La Porte
Supporting Agencies:	Harris County Flood Control
Hazards of Concern:	Flooding
Action Description:	Brookglen Paving and Drainage Improvements Phase 1- Enlarging under-sized drainage pipes and re-grading streets to improve drainage conditions.
Description of the Problem:	Repetitive damages from flooding within the Brookglen Subdivision
Description of the Solution:	Enlarge undersized infrastructure- re-grade streets to eliminate "bowl effect"
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	City of La Porte, Harris County, ARPA
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	High

Action LT-29 Worksheet

Lead Agency:	City of La Porte
Supporting Agencies:	Undetermined
Hazards of Concern:	Flooding
Action Description:	Brookglen Paving and Drainage Improvements Phase 2- Enlarging under-sized drainage pipes and re-grading streets to improve drainage conditions.
Description of the Problem:	Repetitive damages from flooding within the Brookglen Subdivision
Description of the Solution:	Enlarge undersized infrastructure- re-grade streets to eliminate "bowl effect"
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	City of La Porte
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	High

Action LT-30 Worksheet

Lead Agency:	City of La Porte
Supporting Agencies:	N/A
Hazards of Concern:	Flooding
Action Description:	Coupland Drive Drainage Improvements – Replace undersized storm pipe, repave streets with enlarged curb inlets and provide 36- inch outfall pipe to HCFCD Channel B106-00 at L Street.
Description of the Problem:	Coupland Drive and adjacent residential structures were built below the elevation of North L Street. This situation causes a ponding condition.
Description of the Solution:	Enlarge drainage conduits and re-grade streets to improve drainage conditions
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	City of La Porte
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	High

Action LT-31 Worksheet

Lead Agency:	Harris County Flood Control
Supporting Agencies:	City of La Porte
Hazards of Concern:	Flooding
Action Description:	Improvements to open channel section of F212 east of North Broadway to East Main. Undersized drainage pipe to be replaced under South Utah to outfall at East B and rejoining open channel section of F212 (Deer Creek)
Description of the Problem:	Drainage area of F212 is overloaded.
Description of the Solution:	Channel improvements and enlargement of existing drainage conduit.
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	Harris County Flood Control
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	High

Action LT-32 Worksheet

Lead Agency:	City of La Porte
Supporting Agencies:	Harris County Flood Control
Hazards of Concern:	Flooding
Action Description:	Battleground Vista Drainage Improvements – Drainage plan for future development or land use – large lot residential
Description of the Problem:	Undeveloped area has no drainage infrastructure.
Description of the Solution:	Install underground storm pipe and create detention along F216 Channel east of Sens Road.
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	Undetermined
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3, 6
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	Low

Action LT-33 Worksheet

Lead Agency:	Harris County Flood Control
Supporting Agencies:	City of La Porte undetermined
Hazards of Concern:	Flooding
Action Description:	H Street at Sens Road Drainage Improvements- Install underground stormwater conduit under Sens Road and terminating 600 feet to the east and construction of a regional detention area 275 acre-feet (Basin A) with surrounding walking trail
Description of the Problem:	Repetitive damages from flooding within the Brookglen Subdivision
Description of the Solution:	Regional detention
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	Harris County Flood Control, City of La Porte, GLO – Texas Parks and Wildlife
Implementation Timeline:	Long-term (> 5 years)
Goals Met:	3, 6, 7, 9
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Structural Flood Control Projects (SP)
Priority	High

19. CITY OF MISSOURI CITY

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Missouri City with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Missouri City, describes who participated in the planning process, assesses Missouri City’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

19.1 HAZARD MITIGATION PLANNING TEAM

The City of Missouri City identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Missouri City Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 19-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 19-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: <i>Tameka Jewett / Emergency Management Coordinator</i> Address: <i>18411 Parks Edge Blvd.</i> Phone Number: <i>281-403-4370</i> Email: Tameka.Jewett@missouricitytx.gov	Name/Title: Edward L. Nagorski, P.E. – Interim City Engineer Address: 1522 Parks Edge Phone Number: 281-403-8546 Email: Edward.Nagorski@Missouricitytx.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: <i>Brian Jackson-Taylor</i> Address: <i>1522 Texas Parkway, Missouri City, TX 77489</i> Phone Number: <i>281-403-8574</i> Email: Brian.Jackson@Missouricitytx.gov	
Additional Contributors	
Name/Title: Marcus Snell, PE, CFM, Engineer Method of Participation: Plan Development, Planning Team Member	
Name/Title: Jennifer Thomas Gomez Method of Participation: Plan Development	
Name/Title: Casey Jimenez Method of Participation: Plan Development	

Primary Point of Contact	Alternate Point of Contact
Name/Title: Shashi Kumar Method of Participation: Plan Development	

19.2 COMMUNITY PROFILE

The City of Missouri City was incorporated in February of 1956 and had an approximate city population of 75,000 as of 2017. In October of 1894, Missouri City was officially registered in the records of Harris County clerk and September of 1895 in Fort Bend County, thus marking the first beginnings of Missouri City. Since this time, Missouri City has grown, not only in its small 600 citizen population at the time of registration but also in its land use. Long gone are the days of farmers and ranchers that settled the land in the early 1800s, the city now boasts 488 miles of streets and roads, 35 parks and undeveloped areas that cover almost 920 acres, as well as an above the state average for median household income.

19.2.1 Location

The City of Missouri City is located on the east side of Fort Bend County, and a small portion of the city is located within the southern portion of Harris County. The total square miles located within the city limits is 30.3. The City of Missouri City’s Fire and Rescue Services also responds to a portion of our Extra-Territorial Jurisdiction, located within Fort Bend County, which is the city’s unincorporated limits.

The current boundaries generally extend west of the eastern City of Sugar Land’s city limits along Hwy 6 to the western city limit of Arcola. The City of Missouri City’s northern borders abut the southern edges of the City of Stafford and portions of Harris County. The southern portion of our city limits currently abuts the Fort Bend County limits encompassing an area of approximately 30 square miles.

19.2.2 Governing Body Format

The City of Missouri City is governed as a general law city with a Mayor, Mayor Pro-Tem, and five City Council Members. These elected officials are supported by a City Manager, Assistant City Managers, City Secretary, Fire and Police Chiefs, Human Resources Director, Municipal Court Director, and Public Works Director. The City Council assumes responsibility for the adoption of this plan; City Manager will oversee its implementation.

19.2.3 Population

According to the U.S. Census, the 2020 population for Missouri City was 74,259, a 10.2 percent increase from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of

their housing. Data from the 2020 U.S. Census indicates that 6 percent of the population is 5 years of age or younger, 16.3 percent is 65 years of age or older, 1.5 percent is non-English speaking, 6.1 percent is below the poverty threshold, and 10.8 percent is considered disabled.

19.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Missouri City performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Missouri City to identify opportunities for integrating mitigation concepts into ongoing City procedures.

19.3.1 Planning and Regulatory Capability and Integration

Table 19-2 summarizes the planning and regulatory tools that are available to Missouri City.

Table 19-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	<i>International Building Code</i>	<i>Local</i>	<i>Building Official / Development Services Department</i>
How has or will this be integrated with the HMP, and how does this reduce risk? <i>The City of Missouri City adopted the 2015 International Building and Fire Codes.</i>				
Zoning/Land Use Code	Yes	<i>The City of Missouri City Zoning Ordinance</i>	<i>Local</i>	<i>Development Services Department Director</i>
How has or will this be integrated with the HMP, and how does this reduce risk? <i>The Zoning Ordinance was established in accordance with the City Comprehensive Plan for the purpose of promoting the health, safety, and general welfare of the public. The Ordinance identifies measures to reduce congestion on the streets, to secure safety from fire, panic, and other dangers; to facilitate adequate provisions for transportation; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate adequate provisions of water, sewage, schools, parks, and other public requirements.</i>				
Subdivision Code	Yes	<i>Chapter 82 – Subdivisions</i>	<i>Local</i>	<i>Development Services Department</i>
How has or will this be integrated with the HMP, and how does this reduce risk? <i>The Ordinance outlines the standards and procedures applicable to the subdivision (platting) of land in Missouri City. It establishes requirements for site design, streets, utilities, and drainage and procedures for dedicating land for streets, parkland, or other public purposes.</i>				
Site Plan Code	Yes	<i>Sec. 46-35 – Plan Review</i>	<i>Local</i>	<i>Public Works Department</i>
How has or will this be integrated with the HMP, and how does this reduce risk? <i>The Ordinance requires that all construction plans submitted, including public infrastructure plans, grading plans, commercial development plans, and major landscaping plans, be reviewed, and a submission fee must be paid to the City before review and approval.</i>				
Stormwater Management Code	No	N/A	N/A	N/A
Post-Disaster Recovery/ Reconstruction Code	No	N/A	N/A	N/A
Real Estate Disclosure Requirements	No	N/A	N/A	N/A
Growth Management	No	N/A	N/A	N/A
Environmental Protection Ordinance(s)	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Flood Damage Prevention Ordinance	Yes	<i>Chapter 42 – Floodplain Management</i>	<i>Local</i>	<i>City Engineer</i>
How has or will this be integrated with the HMP and how does this reduce risk? <i>Duties and responsibilities of the floodplain administrator under this article shall include the following:</i> <i>Maintain and hold open for public inspection.</i> <i>Review permit applications to determine whether a proposed building site, a proposed subdivision, or any other proposed development, including a manufactured home park or a manufactured home subdivision, will be reasonably safe from flooding.</i> <i>Review and approve or deny all applications for development permits.</i> <i>Review permits for proposed development to ensure that all necessary permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required (including permits required by Section 404 of the Federal</i> <i>Water Pollution Control Act amendments of 1972, 33 USC 1334).</i> <i>Interpret the exact location of the boundaries of the areas of special flood hazard; for example, where there appears to be a conflict between a mapped boundary and actual field conditions.</i> <i>Notify, in riverine situations, adjacent communities and the state coordinating agency, which is the Texas Water Development Board (TWDB), and the Texas Commission on Environmental Quality (TCEQ), or successors of such entities, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.</i> <i>Ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.</i> <i>Obtain, review, and reasonably utilize any base flood elevation data and floodway data available from federal, state, and other sources.</i> <i>When a regulatory floodway has not been designated, the building official must require that no new construction, substantial improvements or other development (including fill), shall be permitted within zones A1-30 and AE on the community's FIRM.</i> <i>Under the provisions of 44 CFR § 65.12 (2003) of the National Flood Insurance Program regulations, a community may permit certain development in Zones A1-30, AE, and AH on the community's FIRM, which would result in an increase in the base flood elevation by more than one (1) foot, provided that the community first completes all of the provisions required by 44 CFR § 65.12 (2003).</i>				
Wellhead Protection	No	N/A	N/A	N/A
Emergency Management Ordinance	Yes	<i>Ordinance 0-50-40</i>	<i>Local</i>	<i>Emergency Management</i>
Comment: The Emergency Management Plan supports hazard mitigation by identifying risks, implementing preparedness measures, and coordinating response efforts to minimize disaster impacts on Missouri City. The NIMS Plan enhances hazard mitigation by ensuring a unified command structure and resource coordination, allowing for a more effective and proactive approach to reducing risks before, during, and after emergencies.				
Climate Change Ordinance	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
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PLANNING DOCUMENTS

General/Comprehensive Plan	Yes	<i>Missouri City Comprehensive Plan</i>	<i>Local</i>	<i>Development Services Department</i>
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How has or will this be integrated with the HMP and how does this reduce risk?

The Missouri City Comprehensive Plan is designed as a framework for guiding future development, redevelopment, and community enhancement in the City and its associated planning area over the next 20 years and beyond. The plan is aimed at ensuring the ongoing development and redevelopment of land use, growth capacity, parks and recreation, and mobility.

Capital Improvement Plan	Yes	<i>Capital Improvement Program</i>	<i>Local</i>	<i>City Council</i>
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How has or will this be integrated with the HMP and how does this reduce risk?

The City of Missouri City Capital Improvements Program (CIP) is a process by which the City develops a multi-year plan for major capital expenditures that matches available resources and satisfies the City tax rate stabilization objective.

Disaster Debris Management Plan	No	N/A	N/A	N/A
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Floodplain Management or Watershed Plan	Yes	<i>Watershed Master Plan</i>	<i>Local</i>	<i>Public Works – Drainage Division</i>
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How has or will this be integrated with the HMP and how does this reduce risk?

The purpose of this watershed master plan update is to review specific flood-related information that can be used by the City staff in activities related to flood risk preparedness, planning, and flood response during emergencies. The scope of this update will also include opportunities for stakeholder input. This includes entities that have drainage roles and responsibilities (such as the Levee Improvement Districts and Municipal Utility Districts) and the citizens of Missouri City.

Stormwater Management Plan	Yes	<i>Stormwater Management Program</i>	<i>Local</i>	<i>Public Works</i>
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How has or will this be integrated with the HMP and how does this reduce risk?

The City of Missouri City's Municipal Separate Storm Sewer System (MS4) is a program that addresses the conveyance or system of conveyances that is owned and operated by a governmental entity and used for collecting or conveying storm water. The City of Missouri City created a Storm Water Management Program (SWMP) to manage the quality of discharges from the MS4. The SWMP includes best management practices and schedules for implementation to address five Minimal Control Measures (MCMs).

- 1. Public Education and Outreach on Storm Water Quality Issues*
- 2. Illicit Discharge Detection and Elimination*
- 3. Construction Site Storm Water Runoff Control*
- 4. Post-Construction Storm Water Management in Areas of New Development and Redevelopment*
- 5. Pollution Prevention/Good Housekeeping Measures for Municipal Operations*

Open Space Plan	No	N/A	N/A	N/A
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Urban Water Management Plan	No	N/A	N/A	N/A
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Habitat Conservation Plan	Yes	<i>Economic Development Plan</i>	<i>Local</i>	<i>Economic Development Department</i>
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Economic Development Plan	No	N/A	N/A	N/A
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Community Wildfire Protection Plan	No	N/A	N/A	N/A
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Comment: An economic development plan reduces risk and supports mitigation by promoting resilient infrastructure, sustainable growth, and investments that strengthen the community's ability to withstand and recover from disasters.

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	Yes	<i>Traffic Management Plan</i>	<i>Local</i>	<i>Public Works – Traffic Operations Division</i>
How has or will this be integrated with the HMP and how does this reduce risk? <i>The goal of the TMP is to provide a road map for the development of a comprehensive transportation network that the City can use to better manage the existing, interim, and projected transportation-related issues as it continues to grow through the year 2025. The TMP is a useful tool that allows Missouri City to plan for the projects that are necessary to enable the transportation network to function properly and at a desired and measurable level of performance.</i>				
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/ Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	No	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Comprehensive Emergency Management Plan	Yes	<i>Comprehensive Emergency Management Plan</i>	<i>County/Local</i>	<i>Emergency Management Coordinator</i>
How has or will this be integrated with the HMP and how does this reduce risk? <i>The plan sets forth the form of the organization; establishes and designates divisions and functions; assigns responsibilities, tasks, duties, and powers; and designates officers and employees to carry out the provisions of this article. The plan complies with the standards and criteria established by the Texas Division of Emergency Management. The form of organization, titles, and terminology conform to the recommendations of the Texas Division of Emergency Management. It is the duty of all departments and agencies to perform the functions assigned by the plan and to always maintain their portion of the plan in a current state of readiness. The emergency management plan is to be considered supplementary to this article and has the effect of law during the time of a disaster.</i>				
Continuity of Operations Plan	Yes	<i>Missouri City Continuity of Operations Plan,</i>	<i>Local</i>	<i>Emergency Management</i>
How has or will this be integrated with the HMP and how does this reduce risk? <i>The plan ensures the City maintains continuity of operations when activated, by detailing the City essential functions, technology requirements, and orders of succession.</i>				
Substantial Damage Response Plan	No	N/A	N/A	N/A
Threat and Hazard Identification and Risk Assessment	Yes	UASI THIRA PlanN/A	Regional	N/A
Post-Disaster Recovery Plan	No	N/A	N/A	N/A
Public Health Plan	No	N/A	N/A	N/A

19.3.2 Development and Permitting Capability

Table 19-3 summarizes the capabilities of Missouri City to oversee and track development.

Table 19-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? - If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?	Yes	<i>Development Services – Permits & Inspections Division</i>
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	N/A
Do you have a buildable land inventory? If you have a buildable land inventory, please describe	Yes	<i>City's Comprehensive Plan – Existing land use inventory; developed vs. undeveloped land</i>
Describe the level of buildout in your jurisdiction.	N/A	<i>About 32% inside City limits; 43.1% City limits and ETJ, extraterritorial jurisdiction combined (2017 Comprehensive Plan)</i>

19.3.3 Administrative and Technical Capability

Table 19-4 summarizes potential staff and personnel resources available to Missouri City and their current responsibilities that contribute to hazard mitigation.

Table 19-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	The Planning and Zoning Commission consists of nine members that reside in the City and are appointed by City Council for staggered two-year terms. The Planning and Zoning Commission is the final authority on applications concerning the subdivision of land and makes recommendations to City Council regarding applications for amendments to the Missouri City Zoning Map and Zoning Ordinance.
Zoning Board of Adjustment	Yes	The Zoning Board of Adjustment and Appeals consists of five regular members and four alternate members appointed by the City Council who serve staggered two-year terms. The Zoning Board of Adjustment and Appeals hears appeals in the enforcement of the Zoning Ordinance.
Planning Department	Yes	The Development Services Department, Planning & Development Division is responsible for a variety of activities and initiatives related to the protection of property values and the responsible growth of the community. Among other duties, this division is the contact point for the following services: - Architectural Design Reviews - Planned Developments and Specific Use Permits - Platting and Subdivisions - Signage Reviews - Zoning

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Mitigation Planning Committee	Yes	Lead Emergency Management
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	Yes	Economic Development Department
Public Works/Highway Department	Yes	The Department of Public Works consists of five divisions: • Administration: Provides oversight over all divisions for the effective delivery of services and infrastructure projects. • Engineering and CIP: CIP is an ongoing 5-year plan for major, non-routine expenditures for new construction and improvements to existing buildings and facilities Engineering is responsible for reviewing plats, construction plans, drainage impact analysis (DIA), and traffic impact analysis (TIA) along with providing construction inspection services, updating City design guidelines, standard details, specifications, and floodplain administration. • Streets and Drainage: Responsible for preventative and regular maintenance of City-owned streets, sidewalk, drainage channels, roadside ditches, bridges, pavement markings, and signs in a programmed environment. • Traffic Operations: Responsible for the implementation of recommendations from the Traffic Management and the ITS (Intelligent Transportation System) master plans, and the day-to-day operations and maintenance of traffic control devices. • Utilities: Responsible for the planning and development of utilities to support growth in coordination with various other entities. Provides operational oversight over the regional water and wastewater treatment plants and the administration of the Groundwater Reduction Plan (GRP) program
Construction/Building/Code Enforcement Department	Yes	The Development Services Department, Code Enforcement & Health Division provides proactive and reactive services to ensure compliance with property maintenance standards and improve the quality of neighborhoods.
Emergency Management/Public Safety Department	Yes	The Division of Emergency Preparedness is responsible for the planning, preparation, and reduction of the impact of any type of disaster that could strike the City
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	N/A
Mutual aid agreements	Yes	City has Mutual Aid agreements to assist during emergencies and disasters

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Human Resource Director
Other	No	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	Development Services Department- Planning and Development Division; Public Works Department – Engineering Division
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works Department – Engineering Division - City Engineer
Planners or engineers with an understanding of natural hazards	Yes	Public Works Department – Engineering Division - City Engineer
Staff with expertise or training in benefit/cost analysis	Yes	City Financial Services Department/ Public Works Staff
Professionals trained in conducting damage assessments	Yes	Damage Assessment Team utilized TDEMs portal to identify and report damage assessments.
Personnel skilled or trained in GIS and/or Hazus applications	Yes	GIS division under IT department has several highly trained staff
Staff that work with socially vulnerable populations or underserved communities	Yes	PD, Emergency Management, Development Services, Fire
Environmental scientists familiar with natural hazards	Yes	N/A
Surveyors	No	N/A
Emergency manager	Yes	Fire Department – Division of Emergency Management
Grant writers	Yes	Public Works Department – Engineering Division City Secretary's Office – Grant Manager
Resilience Officer	Yes	City has a three-year contract for Recovery services and mitigation grant development
Other (this could include stormwater engineer, environmental specialist, etc.)	No	N/A

19.3.4 Fiscal Capability

Table 19-5 summarizes financial resources available to Missouri City.

Table 19-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

19.3.5 Education and Outreach Capability

Table 19-6 summarizes the education and outreach resources available to Missouri City.

Table 19-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	City has both a PIO and a Communications Office
Personnel skilled or trained in website development	Yes	City has several staff trained and have access to City social media and City employees serve as social media manager
Hazard mitigation information available on your website	Yes	NFIP, Fire safety, etc.
Social media for hazard mitigation education and outreach	Yes	Facebook, Twitter, YouTube, Instagram, Snapchat, and NextDoor
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Parks Board
Warning systems for hazard events	Yes	Warning systems are in place for floods, freezing conditions and thunderstorms
Natural disaster/safety programs in place for schools	N/A	N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	N/A	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Public education campaigns on natural hazards and emergency preparedness; mass notification, emergency management website; targeted website, social media, and text messages; AM radio station.

19.3.6 Community Classifications

Table 19-7 summarizes classifications for community programs available to Missouri City.

Table 19-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	7	May 1, 2010
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Class 01/1Y	July, 23, 2024
National Weather Service StormReady Certification	Yes	N/A	October 21, 2024
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	No	N/A	N/A

N/A = *Not applicable*

— = *Unavailable*

19.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 19-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 19-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flooding	Moderate
Hurricanes, Coastal Storms	Moderate
Mass Movement	Moderate
Severe Weather	Moderate
Tsunami	Weak

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Wildfire	Moderate
Energy Pipeline Failure	Moderate
Public Health Emergency	Moderate
Technology Failure	Moderate
Toxic Release / Hazardous Materials	Moderate
Utility Failure	Moderate

19.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 19-1 is responsible for maintaining this information.

19.4.1 NFIP Statistics

Table 19-9 summarizes the NFIP policy and claim statistics for Missouri City.

Table 19-9. Missouri City NFIP Summary of Policy and Claim Statistics

# Policies	56
# Claims (Losses)	13
Total Loss Payments	\$5,036.59
# Repetitive Loss Properties (NFIP definition)	0
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: Harris County Flood Control District 2025

19.4.2 Flood Vulnerability Summary

Table 19-10 provides a summary of the NFIP program in Missouri City.

Table 19-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	<i>Flood-prone areas within the City are generally within three areas: the communities North of the US 90A and S Sam Houston Parkway intersection, the central communities between and along Oyster and Long Point Creeks, and the communities on the Southwest edge between Peninsulas Dr and Sienna Springs Blvd.</i>
Do you maintain a list of properties that have been damaged by flooding?	<i>Yes, since Hurricane Harvey for major disasters</i>
Do you maintain a list of property owners interested in flood mitigation?	<i>Yes, the city maintains a list.</i>
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	<i>The city has not received interest requests.</i>
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	<i>None</i>
How do you make Substantial Damage determinations?	<i>Substantial Damage Estimator Spreadsheet from FEMA</i>
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	<i>None</i>
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	<i>None</i>
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	<i>To most extent. However, Brazos backwater impacts are not adequately mapped.</i>
NFIP Compliance	
What local department is responsible for floodplain management?	<i>Public Works - Engineering</i>
Are any certified floodplain managers on staff in your jurisdiction?	<i>Yes (3)</i>
Do you have access to resources to determine possible future flooding conditions from climate change?	<i>No</i>
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	<i>Not at this time. Training needs are met by TFMA.</i>
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	<i>Plan & Permit review, Inspections, Community Outreach, GIS Mapping on publicly available site</i>
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	<i>Not applicable as development/redevelopment is prohibited within the floodplain</i>

NFIP Topic	Comments
What are the barriers to running an effective NFIP program in the community, if any?	<i>Resource constraints – funding/staffing</i>
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	<i>None</i>
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	<i>CAV in August 2019</i>
What is the local law number or municipal code of your flood damage prevention ordinance?	<i>Chapter 42 of Missouri City Ordinance, 2020</i>
What is the date that your flood damage prevention ordinance was last amended?	<i>2020</i>
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	<i>Yes. The City is a CRS Class 7 community.</i>
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	<i>Missouri City's adopted public infrastructure design manual (Chapter 8): Detention\Flood Mitigation Requirements; Example: Minimum Building Slab Elevations</i>
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	<i>Missouri City joined the CRS on May 1, 2010. The City is a Class 7 community.</i>

19.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 19-11 through Table 19-13.

Table 19-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	1,373	N/A	615	1,988
Permits within SFHA	N/A	N/A	N/A	N/A
2021				
Total Permits	1,267	N/A	596	1,863
Permits within SFHA	N/A	N/A	N/A	N/A
2022				
Total Permits	1,510	N/A	339	1,859
Permits within SFHA	N/A	N/A	N/A	N/A
2023				
Total Permits	423	N/A	22	445

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
Permits within SFHA	0	N/A	0	0
2024				
Total Permits	118	N/A	34	152
Permits within SFHA	0	N/A	1	1
2025				
Total Permits	4	N/A	40	44
Permits within SFHA	0	N/A	13	13

SFHA = Special Flood Hazard Area (1% flood event)

Table 19-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Citypark Logistics Center	Industrial	N/A	Citypark Drive and Cravens Road	Low Wildfire	In Progress
Parks Edge	Residential	1,029	Parks Edge Blvd and Lake Olympia Pkwy	Inland Erosion; Low Wildfire; 1 and 0.2 Percent Floodplain	In Progress
Shipmans Cove	Residential	274	Watts Plantation and State Hwy 6	Mass Movement;; Low Wildfire	In Progress
Sienna South	Residential	5,000	Sienna Parkway	Mass Movement; Low Wildfire	In Progress

* Only location-specific hazard zones or vulnerabilities identified.

Table 19-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Fort Bend Town Center II	Commercial	N/A	Fort Bend Parkway Tollroad and State Hwy 6 (NWC)	Mass Movement;	Anticipated
Fort Bend Town Center III	Mixed Use	750	Fort Bend Parkway Tollroad and State Hwy 6 (SEC)	Mass Movement; Low Wildfire	Anticipated
Lexington Village	Residential	341	Independence Blvd and FM1092	Mass Movement;	Anticipated

19.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding vulnerability to the identified hazards, including summaries of Missouri City's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

19.6.1 Hazard Event History

The history of natural and non-natural hazard events in Missouri City is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 19-14 provides details on loss and damage in Missouri City during hazard events since the last hazard mitigation plan update.

Table 19-14. Hazard Event History in Missouri City

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Missouri City
1/20/2020 – 5/11/2023	EM-3458-TX – COVID 19; DR-4485—COVID-19 Pandemic	Yes	COVID-19 pandemic	The City was subject to closures and masking/social distancing requirements.
5/6/2020 – 2/18/2020	USDA S4669 – Drought	Yes		
7/25/2020 – 7/31/2020	EM-3530-TX – Hurricane Hanna	Yes	Hurricane-force winds resulted in a significant number of downed trees and utility lines.	Minor damage, tree limbs
8/23/2020 – 8/27/2020	EM-3540 – Tropical Storms Marco and Laura	Yes	Harris County activated its emergency operations center as fringe impacts of Tropical Storms Marco and Laura impacted the County.	Minor damage; tree limbs, damage to fences at citizens homes.
2/11/2021 – 2/21/2021	DR-4586; EM 3554 – Severe Winter Storms	Yes	Winter Storm Uri distributed a record amount of snow throughout Texas. Snow, ice, and ultra-low temperatures caused widespread road closures.	Moderate infrastructure damage, moderate damage to citizen's homes. Main damage was damage to pipes. Estimated damage over \$500k.
9/12/2021 – 9/18/2021	EM-3572 – Hurricane Nicholas	Yes	Hurricane Nicholas produced several hours of tropical storm-force sustained winds and gusts. There were numerous power outages and minor to moderate damage to some structures and roofs. Trees down in areas.	Minor wind damage, down fences and trees and limbs and minor power outages
3/15/2022 – N/A	USDA S5188	Yes	Drought	N/A
5/10/2022 – N/A	USDA S5197	Yes	Drought	N/A
4/5/2022 – N/A	USDA S5209	Yes	Drought	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Missouri City
4/12/2022 – N/A	USDA S5214	Yes	Drought	N/A
6/14/2022 – N/A	USDA S5221	Yes	Drought	N/A
7/19/2022 – N/A	USDA S5240	Yes	Drought	N/A
8/2/2022 – N/A	USDA S5252	Yes	Drought	N/A
5/1/2022 – 9/30/2022	USDA S5350	Yes	Excessive Heat	N/A
8/15/2023 – N/A	USDA S5499	Yes	Drought	N/A
8/22/2023 – N/A	USDA S5511	Yes	Drought	N/A
11/1/2023 – N/A	USDA S5683	Yes	Drought	N/A
4/26/2024 – 6/5/2024	DR-4781-TX	Yes	Severe Storms, Straight-Line Winds, Tornadoes, and Flooding	N/A
7/5/2024 – 7/9/2024	DR-4798-TX	Yes	Hurricane Beryl	N/A

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025);

19.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Missouri City.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Missouri City reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 19-15 shows Missouri City's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 19-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Low
Dam/Levee Failure	Medium
Drought	Medium
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	Medium
Hurricanes, Coastal Storms	Medium
Mass Movement	High
Severe Weather	High
Tsunami	Low
Wildfire	Low
Energy Pipeline Failure	Medium
Public Health Emergency	Low
Technology Failure	Medium
Toxic Release / Hazardous Materials	Medium
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 19-16 identifies critical facilities in the community located in the 1 percent.

Table 19-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	1	2.1%
Energy	0	0%
Food, Hydration, Shelter	0	0%
Hazardous Materials	0	0%
Health and Medical	0	0%
Safety and Security	0	0%
Transportation	3	6.3%
Water Systems	0	0%
Other Critical Facilities	1	2.1%

Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in Missouri City:

- None Identified

19.6.3 Identified Issues

After review of Missouri City's hazard event history, hazard rankings, hazard location, and current capabilities, Missouri City identified the following vulnerabilities within the community:

- The public is aware of hazards, and the City needs to continue to educate them as well as new citizens on new and existing hazards.
- The City has a drought/contingency plan that needs to be enhanced and socialized with the public so that the public can become more knowledgeable on drought issues.*
- Extended precipitation events contribute to flooding roads, which leads to road closures that may prevent emergency responders from accessing an area. The following areas consistently flood:*
- Pine Meadow / S Cravens Road
- Bolton Estates
- Lexington Village
- Peninsula / Lake Olympia
- Oakwick Forest
- The Watts culvert is undersized and contributes to drainage and mobility issues.
- City infrastructure is not fully backed up by generators, and the City wishes to enhance the generator capabilities on buildings that are used during emergencies. Some of these buildings include:
 - City Hall Complex
 - Rec and Tennis Center
 - Parks and Maintenance Building
- The City experiences flooding and drainage issues stemming from creeks and canals and drainage ditches overflowing and degrading. These streams and canals include:
 - Mustang Bayou Channel
 - GCWA Canal
 - Briscoe Canal Flume
 - Lower Oyster Creek
 - North East Oyster Creek Drainage
 - Gregory & McLain
- The City needs to enhance the Evacuation Plan with the LIDs to ensure that all entities are aware and prepared to evacuate.

- The City has 37 repetitive loss and severe repetitive loss properties that were built before the current flood standards. These properties require mitigation to prevent future losses and prevent loss of life and property damage.
- The following critical facilities are located in the special flood hazard area and were built before the current flood standards were adopted by the City:
- Next Level Urgent Care Sienna
 - Elkins
 - River Pointe Church Missouri City Campus
 - Palmer Plantation WWTF
 - Drainage Ditch
- The City is aware of the structural/engineering soundness of the Missouri City public facilities and would like to create a list potential funding streams to address the repairs or modifications that are needed to protect the infrastructure from the hazards of concern.

19.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

19.7.1 Past Mitigation Action Status

Table 19-17 indicates progress on the City's mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

19.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 19-17, Missouri City identified the following mitigation efforts completed since the last HMP:

- MSS17: Channel Improvements. Along Mustang Bayou Diversion Channel from the confluence with the old channel to Kitty Hollow Lake Detention area
- MSS20: Channel improvements. Along Mustang Bayou from the Thunderbird North Subdivision to the confluence with old channel, including pipeline relocations and a sheet pile structure

Since the adoption of the County's first HMP, Missouri City has made significant mitigation progress in the following areas:

- The City has maintained a Class 7 in the CRS program since 2010.

Table 19-17. Status of Previous Mitigation Actions

MSS_1: Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions within the community of Missouri City.	
Hazards Addressed	Drought, Flooding, Dam/Levee Failure, Wildfire
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
MSS_2: Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan	
Hazards Addressed	Dam/Levee Failure, Drought, Earthquake, Flooding, Hurricanes/Coastal Storms, Severe Weather, Mass Movement, Wildfire
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	N/A
Status	
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_3: Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Dam/Levee Failure, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_4: Detention Area Outfall and Levee Improvements (At Kitty Hollow Lake, Vicksburg Diversion Channel, Weir Enlargement, and channel improvements for the Vicksburg Diversion Channel)

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_5: Channel Improvements along Mustang Bayou Diversion Channel from the confluence with the old channel to Kitty Hollow Lake Detention area

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_6: Replacement of the Watts-Plantation Road Culvert with appropriately sized box culverts

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_7: Channel improvements aLong Mustang Bayou Channel from the GCWA Canal through Thunderbird North Subdivision including the reconstruction of the bridge at Turtle Creek Dr

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_8: Channel improvements aLong Mustang Bayou from the Thunderbird North Subdivision to the confluence with old channel, including pipeline relocations and a sheet pile structure

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_9: Extend Briscoe Canal Flume over Lower Oyster Creek

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_10: Channel improvements along Long Point Creek Overflow Channel upstream of the Briscoe Canal Flume

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_11: Promote Flood Insurance

Hazards Addressed	Flooding
Responsible Party	Public Works/OEM
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_12: Improve NFIP CRS Rating

Hazards Addressed	Flooding
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_13: Engage with County and State Floodplain Managers, Engineers and Emergency Managers to ensure that local officials have a detailed understanding of potential risks to the community from dam and/or Levee Failures

Hazards Addressed	Dam/Levee Failure
Responsible Party	Public Works/OEM
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_14: Develop evacuation plans in the event of dam and/or Levee Failures

Hazards Addressed	Dam/Levee Failure
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Working with ETJ to develop plan
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_15: Initiate upgrades to at-risk public facilities that includes structurally fortifying facilities, impact resistant film or glass, surge protection systems, mandate freeboard for new development, etc. Mitigates specific risks to structures, people, and operations

Hazards Addressed	Earthquake, Flooding, Hurricanes/Coastal Storms, Severe Weather, Wildfire
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Currently renovating existing City structures and generators in order to upgrade at-risk public facilities.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_16: Detention Area Outfall and Levee Improvements. At Kitty Hollow Lake, Vicksburg Diversion Channel, Weir Enlargement, and channel improvements for the Mustang Bayou Diversion Channel

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Currently in the process of designing the improvements for Kitty Hollow Lake Dam.
Action Review	
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_17: Channel Improvements. Along Mustang Bayou Diversion Channel from the confluence with the old channel to Kitty Hollow Lake Detention area

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_18: Culvert Replacement. Replacement of the Watts-Plantation Road Culvert with appropriately sized box culverts

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Funds identified to complete project with bond funding
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Select One
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_19: Channel Improvements. Mustang Bayou Channel from the GCWA Canal thru Thunderbird North Subdivision including the reconstruction of the bridge at Turtle Creek Dr.

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	
Next Steps	
Include in the 2025 HMP or Discontinue?	Select One
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_20: Channel improvements. Along Mustang Bayou from the Thunderbird North Subdivision to the confluence with old channel, including pipeline relocations and a sheet pile structure

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_21: Extend Briscoe Canal Flume over Lower Oyster Creek

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_22: Channel Improvements along Long Point Creek Overflow Channel upstream of the Brisco Canal Flume

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	N/A
Status	
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_23: Promote Flood Insurance. Providing information about the National Flood Insurance Program

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	N/A
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_24: Improve CRS rating. Evaluate ways to improve the City's Community Rating System (CRS) to reduce the Flood Insurance Premium

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	N/A
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_25: Generator Installation/Warming and Cooling Stations

Hazards Addressed	All hazards
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Mitigation funding for project 2 generators
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_26: Engage with County and State Floodplain Managers, Engineers and Emergency Managers to ensure that local officials have a detailed understanding of potential risks to the community from dam and/or Levee Failures. This will allow for a more comprehensive evacuation plan, routes, and at-risk areas that will need to be focused on in the event of an evacuation notice

Hazards Addressed	Dam/Levee Failure, Flooding, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_27: Initiate upgrades to at-risk public facilities that includes structurally fortifying facilities, impact resistant film or glass, surge protection systems, mandate freeboard for new development, etc. Mitigates specific risks to structures, people, and operations

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MSS_28: Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan

Hazards Addressed	Dam/Levee Failure, Drought, Earthquake, Flooding, Hurricanes/Coastal Storms, Wildfire, Severe Weather, Mass Movement
Responsible Party	City Administration, HCOHSEM
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

19.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Missouri City participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Missouri City would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 19-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 19-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 19-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	X	X	-	X	X	-	X	X	X	X
Dam/Levee Failure	X	X	-	X	X	-	X	-	X	X
Drought	X	X	-	X	X	-	X	-	X	X
Earthquake	X	X	-	X	X	-	X	-	X	X
Extreme Cold	X	X	X	X	X	-	X	X	X	X
Extreme Heat	X	X	-	X	X	-	X	-	X	X
Flooding	X	X	X	X	X	X	X	X	X	X
Hurricanes, Coastal Storms	X	X	X	X	X	-	X	X	X	X
Mass Movement	X	X	-	X	X	-	X	-	X	X
Severe Weather	X	X	X	X	X	-	X	X	X	X
Tsunami	X	X	-	X	X	-	X	-	X	X
Wildfire	X	X	-	X	X	-	X	-	X	X
Energy Pipeline Failure	-	-	-	X	X	-	X	-	X	X
Public Health Emergency	-	-	-	X	X	-	X	-	-	X
Technology Failure	-	-	-	X	X	-	X	-	-	X
Toxic Release / HazMat	-	-	-	X	X	-	X	-	-	X
Utility Failure	-	X	-	X	X	-	X	-	-	X

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—c.

Emergency Services (ES)—*Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*

Table 19-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
MSS_1	Mitigation Plan outreach	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_2	Mitigation Plan Update	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_10	Long Point Channel Improvement	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_11	Promote Flood Insurance	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_12	Improve NFIP CRS Rating	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_13	MSS13 — Engage with County and State Floodplain Managers, Engineers and Emergency Managers to ensure that local officials have a detailed understanding of potential risks to the community from dam and/or Levee Failures	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_14	Levee Evacuation Plan	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_15	Upgrade at-risk city infrastructure	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_16	Detention Outfall and Levee improvement- Kitty Hollow	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_18	Culvert Replacement0Watts Plantation	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_19	Mustang Bayou Channel Improvement	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MSS_21	Extend Briscoe Canal Flume over Lower Oyster Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
MSS_22	Channel Improvements along Long Point Creek Overflow Channel upstream of the Brisco Canal Flume	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
MSS_25	Generator Installation/Warming and Cooling Stations	1	0	1	0	0	1	1	1	1	1	1	1	1	0	10	Medium
MSS_29	Reduce soil erosion and protect natural resources and park infrastructure from degradation caused by stormwater runoff, heavy use, and natural processes and install erosion control solutions.		1	1	1	1	1	1	1	1	1	1	1	1	1	1	14

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action MSS_29 Worksheet

Lead Agency:	<i>Parks Department</i>
Supporting Agencies:	N/A
Hazards of Concern:	Mass Movement
Action Description	Reduce soil erosion and protect natural resources and park infrastructure from degradation caused by stormwater runoff, heavy use, and natural processes and install erosion control solutions.
Description of the Problem:	Several city parks located along creeks and bodies of water are experiencing high levels of erosion, which is creating hazardous conditions. This ongoing erosion poses a significant risk to the natural environment, including the loss of trees, native vegetation, and habitat, and presents safety hazards to park visitors due to unstable ground and collapsing banks. In addition, the erosion is beginning to undermine walking trails, threatening access, usability, and long-term integrity of these public amenities.
Description of the Solution:	To address this issue, the City will implement erosion control and stabilization measures in affected park areas. These measures may include reinforcing creek banks, installing natural barriers or retaining systems, improving drainage infrastructure, and restoring native vegetation to prevent further degradation. Early action will reduce long-term environmental damage, preserve walking trail infrastructure, and ensure public safety, protecting park assets from future major impacts.
Estimated Cost:	Medium (\$10,000 to \$100,000)
Potential Funding Sources:	Grants, bonds, general fund
Implementation Timeline:	Short-term (< 5 years)
Goals Met:	3,7
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection (NSP)
CRS Category	Preventative Measures (PR); Property Protection (PP); Natural Resource Protection (NR)
Priority	High

20. CITY OF MORGAN’S POINT

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Morgan’s Point with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Morgan’s Point, describes who participated in the planning process, assesses Morgan’s Point’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

20.1 HAZARD MITIGATION PLANNING TEAM

The City of Morgan’s Point identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Morgan’s Point Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 20-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 20-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Kevin Lagana/ Interim Police Chief Address: N/A Phone Number: 281-471-2171 Email: klagana@morganspoint-tx.com	Name/Title: Brian Schneider/City Administrator Address: N/A Phone Number: 281-471-2171 Email: bschneider@morganspoint-tx.com
National Flood Insurance Program Floodplain Administrator	
Name/Title: Brian Schneider Address: 1415 E Main St, La Porte, TX 77571 Phone Number: 281-471-2171 Email: bschneider@morganspoint-tx.com	
Additional Contributors	
Name/Title: Casey Coupland/Public Works Superintendent Method of Participation:	
Name/Title: Kevin Lagana / Interim Police Chief Method of Participation: Submitted worksheets A-E, attended meetings & workshops	

20.2 COMMUNITY PROFILE

20.2.1 Location and History

City of Morgan's Point is located 30 miles east of Houston in Harris County adjacent to Galveston Bay at the inlet to the Houston Ship Channel. Located at the junction of Buffalo Bayou and San Jacinto Bay, the townsite of New Washington was settled by Col. James Morgan (1786-1866), who bought 1600 acres of land in the area in 1835. A native of Philadelphia, Morgan had come to Texas in 1830 and served at various times and places as merchant, civic leader, and land agent. While away from his home, serving as a colonel during the Texas Revolution, Mexican troops burned the town of New Washington. After the war, Morgan and others rebuilt New Washington, and the townsite began to flourish. Morgan realized, however, that it could never compete with the growth of nearby Houston, and during the 1850s he began to promote plans for a channel along Buffalo Bayou that would increase the region's trade potential. That dream was completed in 1876 with the dredging of the Houston Ship Channel by steamship tycoon Charles Morgan. As Houston continued to grow, New Washington was recognized only as a major bend for the ship traffic along the bayou. Now known as Morgan's Point, the townsite was incorporated in 1949 and stands as a reminder of the early commercial history of Harris County.

The peninsula on Galveston Bay known as Morgan's Point was named for early landowner Colonel James Morgan. Later the area became a favorite summer retreat for wealthy Houston residents who sought refuge from the oppressive heat and humidity of the city. The bluff attracted Gulf breezes and boasted spectacular views and recreational potential. In 1893, twelve prominent Houston families formed the Bay Ridge Park Association and acquired 40 acres of land on which they constructed a resort community for summer residency. To allow each family beachfront property the land was platted into long narrow lots chosen by ballots. The first houses built were modest one-and two-story frame dwellings with verandas; most featured Eastlake and Queen Anne style detailing. Homes built in the early 20th century were designed by renowned architects and reflected various styles including Mediterranean revival, colonial revival, and prairie school. Among the many grand houses is one patterned after the White House built for Texas Governor Ross Sterling and his wife Maude. Listed on the National register of Historic Places, the area is one of Texas' most significant seaside residential developments.

20.2.2 Climate

Morgan's Point climate is humid subtropical, with long, hot summers and mild winters. The area is highly susceptible to extreme weather events, including hurricanes, tropical storms, flooding, droughts, severe thunderstorms, and extreme heat. The proximity to the Gulf of Mexico increases the City's exposure to coastal storm surge and inland flooding.

20.2.3 Population and Demographics

According to the U.S. Census, the 2020 population for Morgan's Point was 273. Research has shown that some populations are at greater risk from hazard events because of decreased

resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the U.S. Census Bureau 2023 American Community Survey indicates that 4.3 percent of the population is 5 years of age or younger, 21.2 percent is 65 years of age or older, 0.0 percent is non-English speaking, 12.5 percent is below the poverty threshold, and 14.1 percent is considered disabled.

20.2.4 Governing Body

City of Morgan's Point is a Type-B General Law, Council form of government. The City assumes responsibility for the adoption of this plan; Harris County will oversee its implementation.

20.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Morgan's Point performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Morgan's Point to identify opportunities for integrating mitigation concepts into ongoing City procedures.

20.3.1 Planning and Regulatory Capability and Integration

Table 20-2 summarizes the planning and regulatory tools that are available to Morgan's Point.

Table 20-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	Adopted the 218 IBC in 02/2012, ORD# 19-762	—	—
Zoning/Land Use Code	Yes	Adopted 08/2000, ORD#00-432	—	—
Subdivision Code	Yes	Adopted 08/2000, ORD#00-432	Municipal	City Admin
Site Plan Code	Yes	Adopted 08/2000, ORD#00-432	Municipal	City Admin
Stormwater Management Code	Yes	Adopted 08/2000, ORD#00-432	Municipal	City Admin
Post-Disaster Recovery/ Reconstruction Code	Yes	ORD# 13-641, Harris County Annex J	Municipal / County	—
Real Estate Disclosure Requirements	No	—	—	—
Growth Management	Yes	ORD# 18-749 05/2018	Municipal	City Admin
Environmental Protection Ordinance(s)	Yes	ORD# 00-432 08/2000	Municipal	City Admin
Flood Damage Prevention Ordinance	Yes	ORD# 16-722 09/2016	Municipal	City Admin
Wellhead Protection	No	—	—	—
Emergency Management Ordinance	Yes	Updated 07/2015, Rod# 15-681, Harris County Annex N	Municipal / County	—
Climate Change Ordinance	No	N/A	N/A	N/A
Other	No	—	—	—
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	Last Update Approved March 14, 2023	Municipal	City Admin
Capital Improvement Plan	Yes	As Needed	Municipal	City Admin
Disaster Debris Management Plan	Yes	12/2017 Reviewed Yearly	Municipal	City Admin
Floodplain Management or Watershed Plan	No	—	—	—
Stormwater Management Plan	Yes	ORD# 00-432 08/2000	Municipal	City Admin
Open Space Plan	Yes	May 10, 2016	Municipal	City Admin
Urban Water Management Plan	No	—	—	—
Habitat Conservation Plan	No	—	—	—
Economic Development Plan	Yes	Resolution 1059 03/2010	Municipal	City Admin
Community Wildfire Protection Plan	No	—	—	—
Community Forest Management Plan	No	—	—	—

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Transportation Plan	No	—	—	—
Agriculture Plan	No	—	—	—
Climate Action/Resilience/Sustainability Plan	No	—	—	—
Tourism Plan	No	—	—	—
Business/ Downtown Development Plan	No	—	—	—
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Harris County Annex P	—	—
Continuity of Operations Plan	No	—	—	—
Substantial Damage Response Plan	No	—	—	—
Threat and Hazard Identification and Risk Assessment	No	—	—	—
Post-Disaster Recovery Plan	Yes	ORD# 13-641/HC Annex J	Municipal / County	—
Public Health Plan	Yes	Harris County Annex H	HC County	—

20.3.2 Development and Permitting Capability

Table 20-3 summarizes the capabilities of Morgan's Point to oversee and track development.

Table 20-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	Yes	—
- If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?	—	Administrative
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	—
Do you have a buildable land inventory?	No	—
If you have a buildable land inventory, please describe	—	—
Describe the level of buildout in your jurisdiction.	—	—

20.3.3 Administrative and Technical Capability

Table 20-4 summarizes potential staff and personnel resources available to Morgan's Point and their current responsibilities that contribute to hazard mitigation.

Table 20-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	—
Zoning Board of Adjustment	Yes	—
Planning Department	No	—
Mitigation Planning Committee	No	—
Environmental Board/Commission	No	—
Open Space Board/Committee	No	—
Economic Development Commission/Committee	Yes	—
Public Works/Highway Department	—	—
Construction/Building/Code Enforcement Department	—	—
Emergency Management/Public Safety Department	—	—
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	—
Mutual aid agreements	No	—
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	—
Other	—	—
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	—
Engineers or professionals trained in building or infrastructure construction practices	Yes	—
Planners or engineers with an understanding of natural hazards	Yes	—
Staff with expertise or training in benefit/cost analysis	Yes	—
Professionals trained in conducting damage assessments	Yes	—
Personnel skilled or trained in GIS and/or Hazus applications	Yes	—
Staff that work with socially vulnerable populations or underserved communities	No	—
Environmental scientists familiar with natural hazards	Yes	—
Surveyors	Yes	—
Emergency manager	Yes	Chief of Police
Grant writers	Yes	—
Resilience Officer	No	—
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	—

20.3.4 Fiscal Capability

Table 20-5 summarizes financial resources available to Morgan's Point.

Table 20-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	—

20.3.5 Education and Outreach Capability

Table 20-6 summarizes the education and outreach resources available to Morgan's Point.

Table 20-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	No	—
Personnel skilled or trained in website development	No	—
Hazard mitigation information available on your website	Yes	—
Social media for hazard mitigation education and outreach	Yes	—
Citizen boards or commissions that address issues related to hazard mitigation	No	—
Warning systems for hazard events	Yes	—
Natural disaster/safety programs in place for schools	No	—
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	—
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	City has reverse phone system, e-mail and social media.

20.3.6 Community Classifications

Table 20-7 summarizes classifications for community programs available to Morgan's Point.

Table 20-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	—	—
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4	July 5, 2023
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	2	Rate associated with the City of La Porte which provides fire suppression
National Weather Service StormReady Certification	No	—	—
Firewise Communities classification	No	—	—
Other: Organizations with mitigation focus (advocacy group, non-government)	No	—	—

N/A = *Not applicable*— = *Unavailable*

20.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 20-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 20-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Moderate
Dam/Levee Failure	Weak
Drought	Moderate
Earthquake	Weak
Extreme Cold	Moderate
Extreme Heat	Moderate
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong
Tsunami	Weak

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Wildfire	Moderate
Energy Pipeline Failure	Weak
Public Health Emergency	Moderate
Technology Failure	Moderate
Toxic Release/Hazardous Materials	Weak
Utility Failure	Moderate

20.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 20-1 is responsible for maintaining this information.

20.4.1 NFIP Statistics

Table 20-9 summarizes the NFIP policy and claim statistics for Morgan's Point.

Table 20-9. Morgan's Point NFIP Summary of Policy and Claim Statistics

# Policies	0
# Claims (Losses)	7
Total Loss Payments	\$191,218.98
# Repetitive Loss Properties (NFIP definition)	0
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and:
(a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: HCFCD and HCOHSEM

20.4.2 Flood Vulnerability Summary

Table 20-10 provides a summary of the NFIP program in Morgan's Point.

Table 20-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	There are no developed areas prone to flooding.
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation?	No. There is no interest in flood mitigation because flooding has not been an issue.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	—
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	There hasn't been a need to make substantial damage determinations.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	—
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	N/A
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Administration
Are any certified floodplain managers on staff in your jurisdiction?	Not on staff. The City's engineering firm handles this function.
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Areas of the City that are in the plain flood are largely built out. When new construction permits are required, the City will ensure buildings are built in compliance with its flood plain ordinance.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	City studies the extent of improvements in relation to the structure.
What are the barriers to running an effective NFIP program in the community, if any?	There are none.

NFIP Topic	Comments
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2027
What is the local law number or municipal code of your flood damage prevention ordinance?	16-722
What is the date that your flood damage prevention ordinance was last amended?	9/13/2016
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets minimum standards.
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	No
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	CRS is something the City may think of in the future.

20.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 20-11 through Table 20-13.

Table 20-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	3	0	0	3
Permits within SFHA	0	0	0	0
2021				
Total Permits	0	0	0	0
Permits within SFHA	0	0	0	0
2022				
Total Permits	2	0	0	2
Permits within SFHA	0	0	0	0
2023				
Total Permits	2	0	0	2
Permits within SFHA	0	0	0	0
2024				

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
Total Permits	0	0	0	0
Permits within SFHA	0	0	0	0

SFHA = Special Flood Hazard Area (1% flood event)

Table 20-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

* Only location-specific hazard zones or vulnerabilities identified.

Table 20-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

20.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Morgan’s Point’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

20.6.1 Hazard Event History

The history of natural and non-natural hazard events in Morgan’s Point is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 20-14 provides details on loss and damage in Morgan’s Point during hazard events since the last hazard mitigation plan update.

Table 20-14. Hazard Event History in Morgan's Point

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
1/10/2020 – 1/10/2020	Thunderstorm Wind	No	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	—
1/20/2020 – 5/11/2023	<u>DR-4485-TX</u> <u>EM-3458-TX</u> - COVID-19 Pandemic - COVID-19	Yes	COVID-19; Public Health Emergency – local disaster declared as COVID-19 swept the region.	—
4/18/2020 – 4/18/2020	Hail	No	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	—
5/6/2020 – 2/18/2020	<u>USDA S4669</u> Drought	Yes		—
5/15/2020 – 5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
5/27/2020 – 5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	—
7/25/2020 – 7/31/2020	EM-3530-TX Hurricane Hanna	Yes	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	—
8/23/2020 – 8/27/2020	EM-3540-TX Tropical Storms Marco and Laura	Yes	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There were no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	—
9/21/2020	- Flooding - Flash Flooding	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. 20 to 25 homes were damaged from high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
2021	Technology Failure	No	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	—
2/11/2021 – 2/21/2021	<u>DR-4586-TX</u> <u>EM-3554-TX</u> - Severe Ice Storm - Power Failure - Extreme Cold	Yes	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. The extreme cold and increased demand led to widespread power outages, loss of heat for many and led to the bursting of pipes with some losing water for many days. Numerous fatalities resulted both from hypothermia, carbon monoxide poisoning and other effects. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much the period from Sunday night to Tuesday morning. Increased power demand, wind and ice led to widespread power outages. Bursting pipes caused many to be without water as well. 33 people died, and property damage estimates reached \$33,700,000.
5/18/2020 – 5/18/2020	- Thunderstorm - Wind - Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	—
7/25/2020 – 7/31/2020	<u>EM-3530-TX</u> Hurricane Hanna	Yes	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	Hurricane Hanna: Precautionary closures of low-lying coastal roadways. Minor coastal erosion at county drainage outfalls required remediation.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
8/23/2020 – 8/27/2020	EM-3540-TX - Tropical Storm Marco - Tropical Storm Laura	Yes	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There we no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	Hurricane Laura: Precautionary evacuations and facility closures in eastern Harris County. Minor flooding in low-lying coastal areas required post-event infrastructure assessments. Tide gauge monitoring indicated 3-4 feet above MHHW in Seabrook, Nassau Bay areas.
July 2021	Toxic Release/ HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	—
December 2021	Toxic Release/ HazMat	No	—	—
2/11/2021 – 2/21/2021	DR-4586-TX EM-3554-TX - Severe Ice Storm - Power Failure - Extreme Cold - Technology Failure - Utility Failure	Yes	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
July 2021	Toxic Release/Hazardous Materials	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	Industrial facility fire required temporary evacuation of nearby county maintenance facility. Air quality monitoring equipment deployed to assess impacts to infrastructure.
December 2021	Toxic Release/Hazardous Materials	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	ExxonMobil refinery explosion prompted engineering assessment of nearby infrastructure for potential damage from blast effects.
1/8/2022 – 1/8/2022	- Tornado - Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	—
3/15/2022 – N/A	<u>USDA S5188</u> Drought	Yes	N/A	—
5/10/2022 – N/A	<u>USDA S5197</u> Drought	Yes	N/A	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
4/5/2022 – N/A	<u>USDA S5209</u> • Drought	Yes	N/A	—
4/12/2022 – N/A	<u>USDA S5214</u> • Drought	Yes	N/A	—
6/14/2022 – N/A	<u>USDA S5221</u> • Drought	Yes	N/A	—
7/19/2022 – N/A	<u>USDA S5240</u> • Drought	Yes	N/A	—
8/2/2022 – N/A	<u>USDA S5252</u> • Drought	Yes	N/A	—
5/1/2022 – 9/30/2022	<u>USDA S5350</u> • Excessive Heat	Yes	N/A	—
8/10/2022 – 8/10/2022	• Thunderstorm Wind • Lightning	No	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	—
December 2022	• Technology Failure	No	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
1/24/2023 – 1/24/2023	Tornado	No	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended east northeast, then northeast from there, across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage, but there were some spots with more severe damage, rated EF2. These included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	—
4/5/2023 – 4/3/2023	Hail	No	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	—
5/5/2023 – 5/5/2023	Toxic Release/ HazMat	No	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
5/8/2023 – 5/8/2023	- Thunderstorm - Wind - Flash Flood - Hail	No	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	—
6/23/2023 – 6/23/2023	Hail	No	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	—
8/15/2023 – N/A	<u>USDA S5499</u> Drought	Yes	—	—
8/22/2023 – N/A	<u>USDA S5511</u> Drought	Yes	—	—
11/1/2023 – N/A	<u>USDA S5683</u> Drought	Yes	USDA S5683	—
4/26/2024 – 6/5/2024	<u>DR-4781-TX</u> - Severe Storms - Straight-Line Winds - Tornadoes - Flooding	Yes DR-4781-TX	—	—
4/26/2024 – 6/5/2024	Flood	No	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	—
5/2/2024 – 5/2/2024	- Severe Weather - Flooding	No	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	—
5/16/2024	<u>DR-4781-TX</u> - Severe Weather - Tornadoes - Strong Wind - Hail - Flooding	Yes	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan’s Point
7/5/2024 – 7/9/2024	DR-4798-TX Hurricane Beryl	Yes	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	—

EM = Emergency Declaration (FEMA)
FEMA = Federal Emergency Management Agency
DR = Major Disaster Declaration (FEMA)
N/A = Not applicable
— = No information provided
Sources: (USDA 2025); (FEMA 2025); (NOAA/NCEI 2025); (NWS Houston/Galveston 2021)

20.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding vulnerability to the identified hazards. The following presents key risk assessment results for Morgan’s Point.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems identified by the risk assessment in Volume I. The ranking involves an assessment of the likelihood of occurrence for each hazard; potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and future climate conditions. Morgan’s Point reviewed the County hazard ranking results to assess the relative risk of hazards to the community.

Table 20-15 shows Morgan’s Point’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 20-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Low
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	High
Extreme Heat	High
Flooding	Medium
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Low
Energy Pipeline Failure	Low
Public Health Emergency	Medium
Technology Failure	Medium
Toxic Release/Hazardous Materials	Medium
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Of the 29 critical facilities in Morgan’s Point, Table 20-16 identifies how many are located within the flooding and wildfire hazard threat areas.

Table 20-16. Critical Facilities Flood Vulnerability

Hazard Area	Number of Critical Facilities
1% Annual Chance Riverine Flood	1
1% Annual Chance Coastal Flood	2
Hurricane Harvey Flood Extent	27
Addicks Dam Inundation Area	0
Barker Dam Inundation Area	0
Lake Houston Dam Inundation Area	0
Low Wildfire Threat	8
Moderate Wildfire Threat	0
High Wildfire Threat	0
Very High Wildfire Threat	0

Source: Harris County

20.6.3 Identified Issues

After review of Morgan’s Point’s hazard event history, hazard rankings, hazard location, and current capabilities, Morgan’s Point identified the following vulnerabilities within the community:

- Given the elevation of the City, flooding is not a significant issue and we really don’t have any items to report.

20.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

20.7.1 Past Mitigation Action Status

Table 20-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

20.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 20-17, Morgan’s Point identified the following mitigation efforts completed since the last HMP:

- MRG_8: A drainage plan was completed last summer. The plan identified two areas that need improvements.
- MRG_11: Implement a tree management program to limit debris damage to critical infrastructure and public facilities from falling tree canopy due to Hail, high-winds, freezing/icing, and crown fires.

Since the adoption of the County’s first HMP, Morgan’s Point has made significant mitigation progress in the following areas:

- None Identified

Table 20-17. Status of Previous Mitigation Actions

MRG_1: Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas	
Hazards Addressed	Flooding
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	Construction of new wastewater treatment plant lab building is construction. Former building was repeatedly flooded.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_2: Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including City of Morgan's Point.

Hazards Addressed	Coastal Erosion, Drought, Earthquake, Flooding, Hurricanes/ Coastal Storms, Tsunami
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including City of Morgan's Point.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	City has not begun implementation.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_3: Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan

Hazards Addressed	Coastal Erosion, Flooding, Hurricanes and Coastal Storms, Sea level rise, Tsunami, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Continuing the discussions for compliance.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_4: Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.

Hazards Addressed	Coastal Erosion, Flooding, Hurricanes and Coastal Storms, Tsunami, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Ongoing to ensure City is following flood plain ordinance and City is working with external agencies to maintain compliance.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_5: Expand outdoor siren warning system to increase coverage within the community's population where the existing sirens are currently difficult to hear

Hazards Addressed	Mass Movement Coastal Erosion, Tsunami, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Expand outdoor siren warning system to increase coverage within the community's population where the existing sirens are currently difficult to hear
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	A Whelan tower was erected and completed 09/30/20.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	We have necessary coverage to address notifications.

MRG_6: Map Community Risk by developing a GIS program.

Hazards Addressed	Coastal Erosion, Flooding, Hurricanes and Coastal Storms, Tsunami, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Map Community Risk by developing a GIS program.
Action Review	
Status	Not Started
Narrative describing progress or obstacles that have prevented implementation	Project has not started.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	There are very limited area that need to be mapped.

MRG_7: Conduct regular maintenance of City drainage system. Notify Harris County Precinct 2 when there are drainage issues that need to be addressed within their right of way.

Hazards Addressed	Coastal Erosion, Flooding, Hurricane and Coastal Storms, Tsunami, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Conduct regular maintenance of City drainage system. Notify Harris County Precinct 2 when there are drainage issues that need to be addressed within their right of way.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	City maintains ditches within its right of ways. For maintenance issues related to Harris County Precinct 2 or Flood Control district, staff has developed a system for notifying other agencies to make them aware of potential maintenance issues.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_8: A drainage plan was completed last summer. The plan identified two areas that need improvements.

Hazards Addressed	Flooding, Hurricanes and Coastal Storms, Tsunami, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	A drainage plan was completed last summer. The plan identified two areas that need improvements.
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	Project was completed last summer.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Lack of community support to move forward with projects.

MRG_9: Install a New Generator for Cooling, Heating Center, temporary emergency center after natural disaster at Community Center

Hazards Addressed	Coastal Erosion, Flooding, Hurricanes and Coastal Storms, Tsunami, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Install a New Generator for Cooling, Heating Center, temporary emergency center after natural disaster at Community Center.
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	Project completed 05/01/20.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Project is complete

MRG_10: Construct protective covers for three generators.

Hazards Addressed	Hurricanes and Coastal Storms, Severe Weather
Responsible Party	Morgan's Point Police Department
Summary of Original Problem and Solution (Project)	Construct protective covers for three generators.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Seeking grant funds to build structures.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_11: Implement a tree management program to limit debris damage to critical infrastructure and public facilities from falling tree canopy due to Hail, high-winds, freezing/icing, and crown fires.

Hazards Addressed	Extreme Cold, Hurricanes/Coastal Storms, Wildfires, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Implement a tree management program to limit debris damage to critical infrastructure and public facilities from falling tree canopy due to Hail, high-winds, freezing/icing, and crown fires.
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	Project/program completed 10/20
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_12: Implement wastewater reuse system for non-potable water at City Park.

Hazards Addressed	Drought
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Implement a wastewater reuse system for non-potable water at City Park.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	This is a low-level priority project. Funding has not been identified.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_13: Establish rainwater collection/capture systems for city infrastructure to provide alternative water supplies limiting effects of water Shortages caused by Drought or other hazards.

Hazards Addressed	Drought, Wildfire
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Establish rainwater collection/capture systems for city infrastructure to provide alternative water supplies limiting effects of water Shortages caused by Drought or other hazards
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Low priority project. Funding source has not been identified.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_14: Mapping of all hazardous material facilities that may be at increased risk of a flood event.

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Toxic Release/HazMat
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Mapping of all hazardous material facilities that may be an increased risk for flood event.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Mapping of all hazardous material facilities that may be an increased risk for flood event
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

MRG_15: City recently installed fire hydrants to ensure all areas of the City were within 500 feet of a fire hydrant.

Hazards Addressed	Wildfire
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	City recently installed fire hydrants to ensure all areas of the City were within 500 feet of a fire hydrant.
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	Extension of fire protection infrastructure.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Project is complete

MRG_16: Install wind load proof window coverings on City buildings.

Hazards Addressed	Hurricanes and Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Install wind load proof window coverings on City buildings.
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	We completed both the City Hall/Police Dept and our Community Center in 2020 with the protective coverings.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Complete

MRG_17: Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan. This item needs to be deleted because it does not make sense.	
Hazards Addressed	Dam/Levee failure, Drought, Earthquakes, Flooding, Hurricanes and Coastal Storms, Wildfire, Severe Weather, Mass Movement
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan. This item needs to be deleted because it does not make sense.
Action Review	
Status	Discontinue
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

20.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Morgan’s Point participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Morgan’s Point would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 20-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 20-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 20-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	-	-	-	-	-	-	-	-	-
Hurricanes and Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 20-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
MRG_2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including City of Morgan's Point.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MRG_3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
MRG_4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
MRG_7	Conduct regular maintenance of City drainage system. Notify Harris County Precinct 2 when there are drainage issues that need to be addressed within their right of way.	1	0	0	0	0	1	1	0	1	1	1	0	0	0	6	Low
MRG_10	Construct protective covers for three generators.	1	1	1	0	0	1	1	1	0	1	1	1	1	0	10	Medium
MRG_12	Implement wastewater reuse system for non-potable water at City Park.	1	0	0	0	0	1	1	0	1	1	1	0	0	0	6	Low
MRG_13	Establish rainwater collection/capture systems for city infrastructure to provide alternative water supplies limiting effects of water Shortages caused by Drought or other hazards	1	0	0	0	0	1	1	0	1	1	1	0	0	0	6	Low
MRG_14	Mapping of all hazardous material facilities that may be at increased risk of a flood event.	1	0	0	0	0	1	1	0	1	1	1	0	0	0	6	Low

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

21. CITY OF NASSAU BAY

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Nassau Bay with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Nassau Bay, describes who participated in the planning process, assesses Nassau Bay’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

21.1 HAZARD MITIGATION PLANNING TEAM

The City of Nassau Bay identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Nassau Bay Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 21-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 21-1.Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Tom George/ Fire Chief, EMC Address: N/A Phone Number: 713-662-8201 Email: Tom.george@nassaubay.com	Name/Title: Sherri Ditrich/Contract Specialist EMC Address: N/A Phone Number: 832-282-7047 Email: sherri.ditrich@nassaubay.com
National Flood Insurance Program Floodplain Administrator	
Name/Title: Mark Stelly Address: 1800 Space Park Dr,, Suite 200 Nassau Bay, TX 77058 Phone Number: 281-333-4211 Email: mark.stelly@nassaubay.com	

21.2 COMMUNITY PROFILE

The City of Nassau Bay was incorporated in 1978. The Nassau Bay community was originally developed to provide housing opportunities for NASA employees. Being across the street from NASA Lyndon B. Johnson Space Center, it continues to maintain a strong relationship with the space industry. Additionally, the City’s economy is directly impacted by Houston Methodist St. John Hospital, which is located inside the City, as well as tourism and recreation activities along the Texas coast. Nassau Bay is a triangular peninsula that juts into Clear Lake and is surrounded by

water on its west, south and east boundaries. It is a charming and intimate community with a population of approximately 4,099 residents who enjoy the waterfront possibilities and lush green spaces the City offers.

21.2.1 Location

The City of Nassau Bay is in the Clear Lake region of southeast Harris County, along Clear Creek and the western portion of Clear Lake. It is located across the street from Johnson Space Center; a peninsula encompassing 1.7 square miles. The current boundaries generally extend from NASA Johnson Space Center to the north, Clear Lake to the east, the injunction of Clear Creek and Clear Lake to the south, and Cow Bayou to the west. The City of Webster is to the west, League City to the south, Houston to the north, and Clear Lake to the east.

21.2.2 Governing Body Format

The City of Nassau Bay is a Texas Home Rule City which operates in a Council-Manager form of government. The board is led by the mayor and six council members. There are eight departments in the City: Community Development & Planning, Police, Fire, Emergency Management, Public Works, Finance, Tourism, Human Resources and the City Manager's Office.

The City Council assumes responsibility for the adoption of this plan; the City Manager will oversee its implementation.

21.2.3 Population

According to the U.S. Census, the 2020 population for Nassau Bay was 5,347, a 33.6 percent increase from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 2.4 percent of the population is 5 years of age or younger, 21.4 percent is 65 years of age or older, 4.3 percent is non-English speaking, 13.3 percent is below the poverty threshold, and 13.6 percent is considered disabled.

21.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Nassau Bay performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities

- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Nassau Bay to identify opportunities for integrating mitigation concepts into ongoing City procedures.

21.3.1 Planning and Regulatory Capability and Integration

Table 21-2 summarizes the planning and regulatory tools that are available to Nassau Bay.

Table 21-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	<i>Ord. No. 02013-708, §§ 1, 2 2012 International Building Codes adopted 06/10/13</i>	N/A	N/A
Zoning/Land Use Code	Yes	<i>Ord. No. 94-435, adopted 09-12-94 Amended 8-12-13</i>	N/A	N/A
Subdivision Code	Yes	<i>Ord. No. 83-298, Art. I, § 1, adopted 04-11-83 The Land Subdivision Regulations of the City of Nassau Bay, State of Texas</i>	N/A	N/A
Site Plan Code	No	N/A	N/A	N/A
Stormwater Management Code	No	N/A	N/A	N/A
Post-Disaster Recovery/ Reconstruction Code	No	N/A	N/A	N/A
Real Estate Disclosure Requirements	No	N/A	N/A	N/A
Growth Management	No	N/A	N/A	N/A
Environmental Protection Ordinance(s)	No	N/A	N/A	N/A
Flood Damage Prevention Ordinance	Yes	<i>Ord. No. 2000-511, Art. I, § A, adopted 05-08-2000; State of Texas Water Code section 16.318</i>	N/A	N/A
Wellhead Protection	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Emergency Management Ordinance	Yes	<i>Ord. No. 2010-660, § 1, 1-11-10 Civil Defense and Emergency Management; Texas Gov. Code Title 4 Chapter 418</i>	N/A	N/A
Climate Change Ordinance	No	N/A	N/A	N/A
Other Energy Conservation	Yes	<i>International Energy Conservation Code 2015</i>	N/A	N/A
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	<i>Current plan is dated 10/12/2020</i>	N/A	N/A
Capital Improvement Plan	Yes	<i>Current plan date: October 01/2024-September 30, 2025</i>	N/A	N/A
Disaster Debris Management Plan	Yes	<i>Debris Management Plan, June 14, 2018</i>	N/A	N/A
Floodplain Management or Watershed Plan	No	N/A	N/A	N/A
Stormwater Management Plan	Yes	<i>Storm Water Management Plan date – October 2014</i>	N/A	N/A
Open Space Plan	No	N/A	N/A	N/A
Urban Water Management Plan	No	N/A	N/A	N/A
Habitat Conservation Plan	No	N/A	N/A	N/A
Economic Development Plan	No	N/A	N/A	N/A
Community Wildfire Protection Plan	No	N/A	N/A	N/A
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	No	N/A	N/A	N/A
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	No	N/A	N/A	N/A
Other: Comprehensive Emergency Management Plan	Yes	<i>Emergency Operations Plan, December 12, 2023</i>	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	<i>Emergency Operations Plan, 12/12/2023</i>	N/A	N/A
Continuity of Operations Plan	No	N/A	N/A	N/A
Substantial Damage Response Plan	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Threat and Hazard Identification and Risk Assessment	No	<i>A regional THIRA is conducted on an annual basis for UASI and HGAC. The City participates in the development of the THIRA</i>	County	N/A
Post-Disaster Recovery Plan	Yes	<i>Annex J – Recovery to the City’s Emergency Operations Plan</i>	N/A	N/A
Public Health Plan	No	N/A	N/A	N/A

21.3.2 Development and Permitting Capability

Table 21-3 summarizes the capabilities of Nassau Bay to oversee and track development.

Table 21-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	Yes	<i>Building Department</i>
- If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?		
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	N/A
Do you have a buildable land inventory?	No	N/A
If you have a buildable land inventory, please describe		
Describe the level of buildout in your jurisdiction.	N/A	N/A

21.3.3 Administrative and Technical Capability

Table 21-4 summarizes potential staff and personnel resources available to Nassau Bay and their current responsibilities that contribute to hazard mitigation.

Table 21-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	No	N/A
Zoning Board of Adjustment	No	N/A
Planning Department	No	N/A
Mitigation Planning Committee	No	N/A
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	No	N/A
Public Works/Highway Department	No	N/A
Construction/Building/Code Enforcement Department	No	N/A
Emergency Management/Public Safety Department	Yes	OEM EMC/Deputy EMC
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	N/A
Mutual aid agreements	No	N/A
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	N/A
Other	N/A	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development & Planning
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building Official & City Engineer
Planners or engineers with an understanding of natural hazards	Yes	Community Development & Planning
Staff with expertise or training in benefit/cost analysis	Yes	OEM
Professionals trained in conducting damage assessments	No	N/A
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Water, Building Official
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	Yes	Fire Chief & FPA/Building Official
Surveyors	Yes	Can contract for this service
Emergency manager	Yes	OEM EMC/Deputy EMC
Grant writers	Yes	EMC and can contract for this service
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	N/A

21.3.4 Fiscal Capability

Table 21-5 summarizes financial resources available to Nassau Bay.

Table 21-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	N/A
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	N/A
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

21.3.5 Education and Outreach Capability

Table 21-6 summarizes the education and outreach resources available to Nassau Bay.

Table 21-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	N/A
Personnel skilled or trained in website development	Yes	N/A
Hazard mitigation information available on your website	Yes	<i>Emergency Preparedness</i>
Social media for hazard mitigation education and outreach	Yes	<i>The City's Facebook page is used to promote preparedness information and events</i>
Citizen boards or commissions that address issues related to hazard mitigation	Yes	<i>Nassau Bay Planning Commission</i>
Warning systems for hazard events	Yes	<i>Rave</i>
Natural disaster/safety programs in place for schools		N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	<i>Social media, website, and Community outreach annual programs.</i>

21.3.6 Community Classifications

Table 21-7 summarizes classifications for community programs available to Nassau Bay.

Table 21-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	6	10/01/2024
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4	Unknown
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	2	Unknown
National Weather Service StormReady Certification	Yes	N/A	01/2020
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable

— = Unavailable

21.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 21-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 21-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Weak
Earthquake	Weak
Extreme Cold	Strong
Extreme Heat	Strong
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Tsunami	Weak
Wildfire	Moderate
Energy Pipeline Failure	Moderate
Public Health Emergency	Moderate
Technology Failure	Moderate
Toxic Release/ HazMat	Weak
Utility Failure	Moderate

21.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 21-1 is responsible for maintaining this information.

21.4.1 NFIP Statistics

Table 21-9 summarizes the NFIP policy and claim statistics for Nassau Bay.

Table 21-9. Nassau Bay NFIP Summary of Policy and Claim Statistics

# Policies	2
# Claims (Losses)	119
Total Loss Payments	\$4,910,382.29
# Repetitive Loss Properties (NFIP definition)	1
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and:

- (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or*
- (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.*

Source: Harris County Flood Control District 2025

21.4.2 Flood Vulnerability Summary

Table 21-10 provides a summary of the NFIP program in Nassau Bay.

Table 21-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	N/A
Do you maintain a list of properties that have been damaged by flooding?	Not currently, but there is a plan to begin maintaining a list of the properties damaged by flooding.
Do you maintain a list of property owners interested in flood mitigation?	Yes
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	50% of the community is interested in mitigation.
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	Inspect homes that have been damaged by a declared disaster, including comparing the repair costs to the market value of the structure. A structure is considered substantially damaged if the cost of repairs equals or exceeds 50% of its pre-damage market value.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	N/A
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	N/A
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes.
NFIP Compliance	
What local department is responsible for floodplain management?	<i>Building Department</i>
Are any certified floodplain managers on staff in your jurisdiction?	N/A
Do you have access to resources to determine possible future flooding conditions from climate change?	N/A
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	<i>Yes. Floodplain Management training and path to Floodplain Manager Certification.</i>
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	<i>Accept permit applications for the plan review.</i>
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	<i>Request an Elevation Certificate, if it has not already been provided, and compare the cost of the proposed work to the structure's market value before any work begins.</i>

NFIP Topic	Comments
What are the barriers to running an effective NFIP program in the community, if any?	<i>The difficulty in inspecting buildings after a storm, staff turnover, and record-keeping.</i>
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	<i>No.</i>
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	<i>N/A</i>
What is the local law number or municipal code of your flood damage prevention ordinance?	<i>Ord. No. 2000-511, adopted May 8, 2000, enacted new flood damage prevention provisions. ORDINANCE NO. 2023-834;</i>
What is the date that your flood damage prevention ordinance was last amended?	<i>updated March 13, 2023</i>
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	<i>Meets requirements.</i>
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	<i>Yes. Ord. No. 02013-712, Exhibit B, adopted 8-12-13 Article 5 Administrative Procedures</i>
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	<i>Yes. Yes.</i>

21.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 21-11 through Table 21-13.

Table 21-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	3	0	0	3
Permits within SFHA	0	0	0	0
2021				
Total Permits	2	0	4	6
Permits within SFHA	0	0	0	0
2022				
Total Permits	1	0	0	1
Permits within SFHA	0	0	0	0
2023				

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
Total Permits	2	0	0	2
Permits within SFHA	1	0	0	1
2024				
Total Permits	3	1	0	4
Permits within SFHA	1	1	0	2

SFHA = Special Flood Hazard Area (1% flood event)

Table 21-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

* Only location-specific hazard zones or vulnerabilities identified.

Table 21-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

21.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Nassau Bay’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

21.6.1 Hazard Event History

The history of natural and non-natural hazard events in Nassau Bay is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 21-14 provides details on loss and damage in Nassau Bay during hazard events since the last hazard mitigation plan update.

Table 21-14. Hazard Event History in Nassau Bay

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nassau Bay
1/10/2020	- Thunderstorm - Wind	No	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	N/A
1/20/2020 – 5/11/2023	- Biological (DR-4485; EM-3458)	No	COVID-19	State assistance with COVID funding
3/11/2020	Biological	Yes	Public Health Emergency – local disaster declared as COVID-19 swept the region.	Local
4/18/2020	Hail	No	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	N/A
5/6/2020 – 2/18/2020	Drought (USDA S4669)	Yes	N/A	
5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	N/A
5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	N/A
7/25/2020 – 7/31/2020	Hurricane (EM-3530)	No	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nassau Bay
8/23/2020 – 8/27/2020	Hurricane (EM-3540)	No	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There were no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	N/A
9/21/2020	- Storm Surge - Flash Flood - Flood	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	N/A
2021	Technology Failure	No	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	N/A
2/11/2021 – 2/21/2021	- Severe Ice Storm - Power Failure - Extreme Cold - Technology Failure - Utility Failure (DR-4586; EM-3554)	No	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	Local electricity and water issues

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nassau Bay
5/18/2021	Thunderstorm Wind, Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A
7/2021	Toxic Release/HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	N/A
12/2021	Toxic Release/HazMat	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A
1/8/2022	- Tornado - Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
3/15/2022 – N/A	Drought (USDA S5188)	Yes	N/A	N/A
4/5/2022 – N/A	Drought (USDA S5209)	Yes	N/A	N/A
4/12/2022 – N/A	Drought (USDA S5214)	Yes	N/A	N/A
5/1/2022 – 9/30/2022	Excessive Heat (USDA S5350)	Yes	N/A	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nassau Bay
5/10/2022 – N/A	Drought (USDA S5197)	Yes	N/A	N/A
6/14/2022 – N/A	Drought (USDA S5221)	Yes	N/A	N/A
7/19/2022 – N/A	Drought (USDA S5240)	Yes	N/A	N/A
8/2/2022 – N/A	Drought (USDA S5252)	Yes	N/A	N/A
8/10/2022	- Lightning - Thunderstorm - Wind	No	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	N/A
12/2022	Technology Failure	No	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nassau Bay
1/24/2023	Tornado	No	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended to the east northeast, then northeast from there, across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage, but there were some spots with more severe damage, rated EF2. These included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	N/A
4/5/2023	Hail	No	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A
5/5/2023	Toxic Release / HazMat	No	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefin's unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	N/A
5/8/2023	- Thunderstorm - Wind - Flash Flood - Hail	No	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail	No	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nassau Bay
8/15/2023 – N/A	Drought (USDA S5499)	Yes	N/A	N/A
8/22/2023 – N/A	Drought (USDA S5511)	Yes	N/A	N/A
11/1/2023 – N/A	Drought (USDA S5683)	Yes	N/A	N/A
4/26/2024 – 6/5/2024	Flood (DR-4781)	No	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	N/A
5/2/2024	Severe Weather & Flooding	Yes	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	N/A
5/16/2024	- Severe Weather - Tornadoes - Strong Wind - Hail - Flooding (DR-4781)	Yes	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	N/A
7/5/2024 – 7/9/2024	Hurricane (DR-4798)	Yes	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	Damage throughout City/FEMA PA assistance

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025);

21.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding vulnerability to the identified hazards. The following presents key risk assessment results for Nassau Bay.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Katy reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 21-15 shows Nassau Bay’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 21-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Release	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release/Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 21-16 identifies critical facilities in the community located in the 1 percent floodplains.

Table 21-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	6	16.2%
Energy	1	2.7%
Food, Hydration, Shelter	1	2.7%
Hazardous Materials	2	5.4%
Health and Medical	1	2.7%
Safety and Security	2	5.4%
Transportation	1	2.7%
Water Systems	2	5.4%
Other Critical Facilities	6	16.2%

Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in Nassau Bay:

- None Identified

21.6.3 Identified Issues

After reviewing Nassau Bay’s hazard event history, hazard rankings, hazard location, and current capabilities, Nassau Bay identified the following vulnerabilities within the community:

- None Identified

21.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

21.7.1 Past Mitigation Action Status

Table 21-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward

and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

21.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 21-17, Nassau Bay identified the following mitigation efforts completed since the last HMP:

- None Identified

Since the adoption of the County’s first HMP, Nassau Bay has made significant mitigation progress in the following areas:

- None Identified

Table 21-17. Status of Previous Mitigation Actions

Action NAS1 — Where appropriate, support elevation, retrofitting, purchase, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.	
Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Where appropriate, support elevation, retrofitting, purchase, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_2: Integrate the hazard mitigation plan into other plans, ordinances, and programs that dictate land use decisions in the community.

Hazards Addressed	Drought, Earthquake, Flood, Landslide, Tsunami, Wildfire, Dam Failure
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	The hazard mitigation plan was used in the development of the 2020 Comprehensive Plan. It will be integrated into future plans, as well.
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_3: Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan

Hazards Addressed	All Hazards
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	The City of Nassau Bay actively participates in all aspects of plan maintenance.
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_4: Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:

- Enforce the flood damage prevention ordinance.
- Participate in floodplain identification and mapping updates.
- Provide public assistance/information on floodplain requirements and impacts

Hazards Addressed	Flood, Tsunami, Dam Failure, Severe Weather
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	The City's floodplain management program and ordinances exceed minimums set by the NFIP
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_5: Develop a post-disaster recovery plan that includes methods of integrating mitigation measures into recovery

Hazards Addressed	All Hazards
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_6: Adopt latest and higher standard Floodplain regulations to minimize damage to residential/critical infrastructure properties located within storm surge areas and LIMWA areas

Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	New NFIP maps have been adopted and maintain a CRS rating of 7. Secured services from a vendor to improve our CRS rating.
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_7: Improve existing city-owned structures and enhance requirements for new critical facilities, assets, and equipment to withstand severe thunderstorms, Hurricane winds, and Hail

Hazards Addressed	Hurricane, Severe Weather
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Much of the infrastructure has been hardened or is new construction. The control room for the WWTP is the only facility left to reinforce.
Action Review	
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_8: Adopt new and updated flood maps as they become available

Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	The City of Nassau Bay adopts all new flood maps as they become available.
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_9: Identify and map exposed/above ground pipeline infrastructure within the city limits

Hazards Addressed	Hurricane, Severe Weather
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_10: Raise concrete walls around the sand filter at the wastewater treatment plant

Hazards Addressed	Flood, Hurricane, Severe Weather
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_11: Elevate water and wastewater pumps, motors, and electrical controls

Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Elevate water and wastewater pumps, motors, and electrical controls
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_12: Install new chemical feed disinfection and de-chlorination system at the wastewater treatment plant

Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_13: Install structured covers for existing generators to protect them from Severe Weather hazards

Hazards Addressed	Hurricane, Severe Weather
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Install structured covers for existing generators to protect them from Severe Weather hazards
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_14: Harden nonflexible water supply piping during line replacement projects with Drought resistant piping materials

Hazards Addressed	Drought
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_15: Establish a cooling center at identified site to limit the effects of extreme heat upon vulnerable populations	
Hazards Addressed	Drought, Extreme temperature
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
NAS_16: Reduce street and residential flooding by installing new storm sewers. [Saxony Ln and Nassau Bay Drive San Sebastian, Hereford, Cape Bahamas, Antiqua, Point Lookout]	
Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Reduce street and residential Flood by installing new storm sewers. [Saxony Ln and Nassau Bay Drive, San Sebastian, Hereford, Cape Bahamas, Antiqua, Point Lookout]
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
NAS_17: Conduct geological mapping of the area to determine risk areas for Landslide or sinkholes	
Hazards Addressed	mass Movement
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	We continue to work with the Galveston/Harris County Subsidence District.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

Action NAS18 – Develop a new stormwater management plan (to include a hydrological study of the Nassau Bay area).	
Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	The City Engineer has kept records of the improvements made over the last 15 years and is developing a plan to address the specific drainage improvements needed. A full stormwater management plan has not yet been funded.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
NAS_19: Develop a Continuity of Operations/Government Plan for the City of Nassau Bay	
Hazards Addressed	All Hazards
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Develop a Continuity of Operations/Government Plan for the City of Nassau Bay. Some aspects of the COG plan have been written, but the full plan is not yet complete.
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
NAS_20: Elevate and/or replace the chlorine and sulfur dioxide storage and supply system at the wastewater treatment plant, and bring it up to current code	
Hazards Addressed	Flood, Hurricane, Tsunami, Severe Weather
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_21: Install backup power systems for public buildings, utilities, and critical infrastructure currently without generators or with undersized generators

Hazards Addressed	Flood, Hurricane, Severe Weather
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Generators have been installed in City Buildings, but most lift stations still do not have generators. Generator was installed at fire station /EOC and have completed the engineering to install generators at Surf Ct and Sandy Cove lift stations.
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_22: Install additional Flood Alert Gauges and a velocity meter in sections of Clear Creek near/within Nassau Bay

Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Harris County Flood Control District may be adding additional gauges to our area. Nassau Bay is considering cameras and city-owned gauges and alerts. No funds have been allocated yet.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_23: Bring water and wastewater treatment plant facility up to homeland security standards for drinking water

Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Plans to enclose pipes and tanks are being developed, but construction has not yet begun, and the project is not funded. Additional physical security measures (cameras, enclosures, air monitoring, etc.). are being considered.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_24: Install wind load proof window coverings on city buildings

Hazards Addressed	Hurricane, Severe Weather
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_25: Develop/implement water smart program to educate the public on how to conserve water, especially during Drought conditions.

Hazards Addressed	Drought
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Programs and information are sent annually to residents (through the water bill and newsletter).
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_26: Develop and implement a program to capture perishable data after significant events/incidents (e.g. high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.

Hazards Addressed	Coastal Erosion, Drought, Earthquake, Flood, Hurricane, Wildfire, Severe Weather, Mass Movement
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	Future plans and training are being developed for the inclusion of this information
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_27: Install a Weather/Lightning alert system to minimize damage and risk to local athletic facilities and other public events and purchase a loudspeaker to warn public of Severe Weather

Hazards Addressed	Coastal Erosion, Drought, Earthquake, Flood, Hurricane, Wildfire, Severe Weather, Mass Movement
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_28: Develop a Shoreline Management Plan

Hazards Addressed	Coastal Erosion, Flood, Tsunami, Mass Movement
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Project has not been funded.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

NAS_29: Elevate Upper Bay Road to alleviate significant street Flood and high-velocity flows	
Hazards Addressed	Flood
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Project has not been funded.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
NAS_30: Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan	
Hazards Addressed	Coastal Erosion, Drought, Earthquake, Flood, Hurricane, Wildfire, Severe Weather, Mass Movement
Responsible Party	City of Nassau Bay
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The City of Nassau Bay actively participates in the implementation of this plan.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

21.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Nassau Bay participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

Table 21-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 21-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 21-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	x	-	-	-	-	-	-	-	-
Hurricanes, Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Release	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release/Hazardous Materials	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 21-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
NAS_1	Where appropriate, support elevation, retrofitting, purchase, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas	1	1	1	0	0	1	1	1	0	1	1	1	1	0	10	Medium
NAS_2	Integrate the hazard mitigation plan into other plans, ordinances, and programs that dictate land use decisions in the community.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
NAS_3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
NAS_4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
NAS_6	Adopt the latest and higher standard Floodplain regulations to minimize damage to residential/critical infrastructure properties located within storm surge areas and LIMWA areas	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
NAS_7	Improve existing city-owned structures and enhance requirements for new critical facilities, assets, and equipment to withstand severe thunderstorms, Hurricane winds, and Hail.	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
NAS_8	Adopt new and updated flood maps as they become available	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
NAS_11	Elevate water and wastewater pumps, motors, and electrical controls	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
NAS_13	Install structured covers for existing generators to protect them from Severe Weather hazards	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
NAS_16	Reduce street and residential Flood by installing new storm sewers. [Saxony Ln and Nassau Bay Drive, San Sebastian, Hereford, Cape Bahamas, Antiqua, Point Lookout)	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
NAS_17	Conduct geological mapping of the area to determine risk areas for Landslide or sinkholes.	1	1	1	0	0	1	1	-1	1	1	1	-1	0	0	6	Low
NAS_18	Develop a new stormwater management plan (to include a hydrological study of the Nassau Bay area)	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium
NAS_19	Develop a Continuity of Operations/Government Plan for the City of Nassau Bay	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
NAS_21	Install backup power systems for public buildings, utilities, and critical infrastructure currently without generators or with undersized generators	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
NAS_22	Install additional Flood Alert Gauges and a velocity meter in sections of Clear Creek near/within Nassau Bay	1	0	1	0	0	1	1	1	1	1	1	1	1	0	10	Medium
NAS_23	Bring water and wastewater treatment plant facility up to homeland security standards for drinking water	1	0	1	0	0	1	1	1	1	1	1	1	1	0	10	Medium
NAS_25	Develop/implement water smart program to educate the public on how to conserve water, especially during Drought conditions.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
NAS_26	Develop and implement a program to capture perishable data after significant events/incidents (e.g., high-water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
NAS_28	Develop a Shoreline Management Plan	1	0	1	0	0	1	1	1	1	1	1	1	1	0	10	Medium
NAS_29	Elevate Upper Bay Road to alleviate significant street Flood and high-velocity flows	1	0	1	0	0	1	1	1	1	1	1	1	1	0	10	Medium

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
NAS_30	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

22. CITY OF PASADENA

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Pasadena with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Pasadena, describes who participated in the planning process, assesses Pasadena’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

22.1 HAZARD MITIGATION PLANNING TEAM

The City of Pasadena identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Pasadena Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 22-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 22-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Azell Carter, EMC Address: 1201 Davis St. Pasadena, TX 77506 Phone Number: 713-475-4977 Email: acarter@pasadenatx.gov	Name/Title: Andrew Aleman, Deputy EMC Address: 1201 Davis St. Pasadena, TX 77506 Phone Number: 713-475-7234 Email: aaleman@pasadenatx.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: Robin Green/ Public Works Director Address: 1149 Ellsworth Dr, Pasadena, TX 77506 Phone Number: 713 475-7835 Email: RGREEN@pasadenatx.gov	
Additional Contributors	
Name/Title: Rick Masters, Stormwater Consultant/CRS Coordinator Method of Participation: Contributed in completing Worksheet D-NFIP	
Name/Title: Andrew Aleman, Deputy EMC Method of Participation: Local Mitigation Planning Team	
Name/Title: Robin Green/ Public Works Director Method of Participation: Local Mitigation Planning Team	
Name/Title: Mark Gardemal, Asst. City Engineer Method of Participation: Local Mitigation Planning Team	

Primary Point of Contact	Alternate Point of Contact
Name/Title: Sarah Benevides, Asst City Engineer Method of Participation: local mitigation Planning Team	
Name/Title: Michele Jannise, Building Official Method of Participation: Local Mitigation Planning Team	

22.2 COMMUNITY PROFILE

Pasadena was founded in 1893 by John H. Burnett of Galveston, who named the area after Pasadena, California, because of the perceived lush vegetation. The La Porte, Houston and Northern Railroad was built through the town site in 1894 and opened the area for development as a farming community. Transition from a farming economy to an industrial one did not occur until the late 1930s, when the war in Europe spurred a major increase in the ship-channel industries. The climate of the City of Pasadena is characterized by hot, humid summers and mild to cool winters.

22.2.1 Location

The City of Pasadena is located in southeast Harris County and has a population of 153,520, making it the second-largest city in the region. The City encompasses an area of 55 square miles.

22.2.2 Governing Body Format

The City of Pasadena operates under a Strong Mayor-Council form of government with a mayor and eight council members. The City of Pasadena assumes responsibility for the adoption of this plan; the Office of Emergency Management will oversee its implementation.

22.2.3 Population

According to the U.S. Census, the 2020 population for Katy was 151,950, a 2 percent increase from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 7.5 percent of the population is 5 years of age or younger, 11.4 percent is 65 years of age or older, 4.3 percent is non-English speaking, 18.2 percent is below the poverty threshold, and 12 percent is considered disabled.

22.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Pasadena performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the

components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Pasadena to identify opportunities for integrating mitigation concepts into ongoing City procedures.

22.3.1 Planning and Regulatory Capability and Integration

Table 22-2 summarizes the planning and regulatory tools that are available to Pasadena.

Table 22-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	Pasadena Code of Ordinances – Chapter 9	<i>Local</i>	Engineering Dept. and Permit Dept.
Zoning/Land Use Code	No	N/A	N/A	N/A
Subdivision Code	Yes	Pasadena Code of ordinances – Annex A	<i>Local and State</i>	Engineering Dept. and Permit Dept.
Site Plan Code	Yes	The review is limited to being a part of the building permit process	<i>Local</i>	Engineering Dept., Planning Dept. and Permit Dept.
Stormwater Management Code	Yes	Pasadena Code of ordinances -Chapter 9, 17, 28, 32, and 37	Municipal/State/Federal	Engineering Dept.
Post-Disaster Recovery/ Reconstruction Code	No	N/A	N/A	N/A
Real Estate Disclosure Requirements	No	N/A	N/A	N/A
Growth Management	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Environmental Protection Ordinance(s)	Yes	Pasadena Code of ordinances -Chapter 9, 14, 15, 28, 32, and 37	Local/State/Federal	Engineering
Flood Damage Prevention Ordinance	Yes	Pasadena Code of ordinances	Local/State/Federal	Engineering
Wellhead Protection	N/A	N/A	N/A	N/A
Emergency Management Ordinance	Yes	Texas Local Government Code 418	Municipal/State	Office of Emergency Management
Climate Change Ordinance	No	N/A	N/A	N/A
PLANNING DOCUMENTS				
General/Comprehensive Plan	No	N/A	N/A	N/A
Capital Improvement Plan	Yes	Updated annually	Municipal	Budget/Finance
Disaster Debris Management Plan	Yes	Ord.18-059 (Ordinance will be updated this year)	Municipal	Office of Emergency Management
Floodplain Management or Watershed Plan	Yes	Pasadena Code of ordinances -Chapter 9, 17	Municipal	Engineering
How has or will this be integrated with the HMP and how does this reduce risk? <i>The Flood Hazard Mitigation Plan was finalized and then approved by Council on March 19, 2018</i>				
Stormwater Management Plan	Yes	Pasadena Code of ordinances -Chapter 37	Local	Engineering
Stormwater Pollution Prevention Plan	No	N/A	N/A	N/A
Open Space Plan	No	N/A	N/A	N/A
Urban Water Management Plan	No	N/A	N/A	N/A
Habitat Conservation Plan	No	N/A	N/A	N/A
Economic Development Plan/CEDS	No	N/A	Local	Pasadena Economic Development Committee
Shoreline Management Plan	No	N/A	N/A	N/A
Community Wildfire Protection Plan	No	N/A	N/A	N/A
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	No	N/A	N/A	N/A
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	NO	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Business/ Downtown Development Plan	NO	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Basic Plan (9/15/2022)	Municipal	Office of Emergency Management
Continuity of Operations Plan	Yes	COOP (9/2017)	Municipal	Office of Emergency Management
Substantial Damage Response Plan	Yes	Pasadena Code of Ordinances – Ch. 9	Municipal/Federal	Engineering
Threat and Hazard Identification and Risk Assessment	Yes	The City adopts the THIRA produced by the Houston UASI	Municipal	Office of Emergency Management
Post-Disaster Recovery Plan	No	N/A	N/A	N/A
Public Health Plan	Yes	The City adopts the plan produced by HCPH.	County	Harris County Public Health
Other: Comprehensive Emergency Management Plan	No	N/A	N/A	N/A

22.3.2 Development and Permitting Capability

Table 22-3 summarizes the capabilities of Pasadena to oversee and track development.

Table 22-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	<i>Yes/Permits department</i>	
If you issue development permits, what department is responsible?		N/A
If you do not issue development permits, what is your process for tracking new development?	N/A	N/A
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	N/A
Do you have a buildable land inventory?	N/A	N/A
If you have a buildable land inventory, please describe		
Describe the level of buildout in your jurisdiction.	N/A	N/A

22.3.3 Administrative and Technical Capability

Table 22-4 summarizes potential staff and personnel resources available to Pasadena and their current responsibilities that contribute to hazard mitigation.

Table 22-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Planning Committee
Zoning Board of Adjustment	No	N/A
Planning Department	Yes	N/A
Mitigation Planning Committee	No	N/A
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	Yes	N/A
Public Works/Highway Department	Yes	Supports Hazard Mitigation
Construction/Building/Code Enforcement Department	Yes	Supports Hazard Mitigation
Emergency Management/Public Safety Department	Yes	Supports Hazard Mitigation
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Supports Hazard Mitigation
Mutual aid agreements	Yes	Supports Hazard Mitigation
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	N/A
Other	N/A	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering
Engineers or professionals trained in building or infrastructure construction practices	No	Engineering
Planners or engineers with an understanding of natural hazards	Yes	Engineering
Staff with expertise or training in benefit/cost analysis	Yes	Engineering
Professionals trained in conducting damage assessments	Yes	Engineering
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Contract Support
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	Yes	N/A
Grant writers	Yes	Departmental
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	N/A

22.3.4 Fiscal Capability

Table 22-5 summarizes financial resources available to Pasadena.

Table 22-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

22.3.5 Education and Outreach Capability

Table 22-6 summarizes the education and outreach resources available to Pasadena.

Table 22-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	N/A
Personnel skilled or trained in website development	Yes	N/A
Hazard mitigation information available on your website	Yes	N/A
Social media for hazard mitigation education and outreach	Yes	N/A
Citizen boards or commissions that address issues related to hazard mitigation	No	N/A
Warning systems for hazard events	Yes	N/A
Natural disaster/safety programs in place for schools	No	N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	The SERLEPC Safety Fair and Hurricane Workshop (annually)

22.3.6 Community Classifications

Table 22-7 summarizes classifications for community programs available to Pasadena.

Table 22-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	7	3/31/2025
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	9(Commercial and residential)	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	1	Annually
National Weather Service StormReady Certification	Yes	Storm Ready	10/2024
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable

— = Unavailable

22.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 22-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 22-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Weak
Earthquake	Weak
Extreme Cold	Strong
Extreme Heat	Strong
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Tsunami	Weak
Wildfire	Moderate
Energy Pipeline Failure	Moderate
Public Health Emergency	Moderate
Technology Failure	Weak
Toxic Release/ HazMat	Weak
Utility Failure	Moderate

22.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 22-1 is responsible for maintaining this information.

22.4.1 NFIP Statistics

Table 22-9 summarizes the NFIP policy and claim statistics for Pasadena.

Table 22-9. Pasadena NFIP Summary of Policy and Claim Statistics

# Policies	6,399
# Claims (Losses)	9,790
Total Loss Payments	\$331,547,112.15
# Repetitive Loss Properties (NFIP definition)	96
# Repetitive Loss Properties (FMA definition)	110
# Severe Repetitive Loss Properties	19
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: Harris County Flood Control District 2025

22.4.2 Flood Vulnerability Summary

Table 22-10 provides a summary of the NFIP program in Pasadena.

Table 22-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	The City of Pasadena has designated all areas within the City as requiring floodplain regulation. The City of Pasadena being a flat coastal community served by several coastal bayous is vulnerable to flooding. The south portion of the City east and south of the beltway is well covered by the 100 year(1% SHFA) and 500 year(0.2% SHFA) including some areas in the AE and V zones according to FEMA SFHA mapping.
Do you maintain a list of properties that have been damaged by flooding?	Yes. The City has a map of repetitive loss areas and continuously coordinates with FEMA for flood claim data and updates to the list. This is a requirement for CRS communities. The City of Pasadena is currently in the CRS program and is designated at a rating of 7 by FEMA. The City has recently completed a comprehensive drainage model for the North portion of the City generally described as between Southmore Ave and State HWY 225.
Do you maintain a list of property owners interested in flood mitigation? How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Property owners are encouraged to contact the county about home elevation and/or buyout programs. Since the larger drainage channels in the City of Pasadena are primarily operated by Harris County Flood Control District and Harris County has a detailed program, this is the City's current approach to helping property owners
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No. However the City has completed several large scale drainage mitigation projects, and some areas of the City are not included in a detailed study of the floodplain so a new study and updated maps could be important to reflect changes

NFIP Topic	Comments
How do you make Substantial Damage determinations? How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	The most recent event, Hurricane Beryl, caused a city-wide damage assessment and the City was studied extensively. The determination for Substantial Damaged Structures in this event was conducted in several phases as follows. Preliminary driving of every street in the City (broken down into 16 sections) to identify any structure that visibly shown signs of damage. These structures were classified as minor, moderate and significant damages (> 20% of the structure) as an initial screening method. Secondly, each of the significantly damaged structures were studied to see if the home or business foundation elevation was above our regulatory standards. Further reducing the list of properties to those within the SFHA or the 500 year floodplain. At this point a stop work order was issued on each property remaining on the list until the FEMA Substantial Damage Tool and inspection could be conducted. Of the properties, some were also considered a total loss, mostly due to large trees that fell during the hurricane and destroyed 20+ homes. These homes were considered to be significantly damaged and must be rebuilt using the current City regulations. After the final and ongoing efforts about 6 homes remained on the list, with stop work orders, 1 of which was inspected and was not substantially damaged the damages were less than 40% and the home is being reconstructed. The other properties have not reached out for inspection therefore it is probably that these homes will possibly be demolished. These remaining properties cannot get a permit for reconstruction without an in person full inspection and damage assessment.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	Several properties were apart of Harris County buyout programs.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Public Works \ Engineering
Are any certified floodplain managers on staff in your jurisdiction?	Yes
Do you have access to resources to determine possible future flooding conditions from climate change?	No

NFIP Topic	Comments
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes, Substantial Damage Assessment training and general FEMA floodplain compliance refreshers would be welcomed.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Initial property owner coordination through our utility availability letter, which describes the property and its position within a designated flood plain. The City also has an extensive permitting program and floodplain regulations. The City requires three elevation certificates for new construction within the City and regulates all construction within the City regardless of the properties floodplain designation. The City requires that properties are built at or above the 500 year elevation and above the crown of the street as determined with the City ArcGIS application. Elevation certificates are reviewed and rejected or approved for each of the three phases of construction. Field inspections are conducted throughout each construction project, including a final inspection to ensure that site drainage is properly graded to the street or drainage ditch depending on the type of lot.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	The procedures are included within the City of Pasadena Substantial Damage guidance document and each permit application requires an estimated value for improvements and the current fair market value of the structure.
What are the barriers to running an effective NFIP program in the community, if any?	The barriers exist mostly for the insured and home owners and/or business owners who cannot afford flood insurance.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No, the City was recently visited by FEMA where FEMA conducted a CAV in 2024 and the City passed. Also the City recently 3/31/2025 was notified that our CRS recertification elevation certificates review contained no errors. The City maintains its CRS and FEMA NFIP compliance.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2024
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Chapter 9 of the City Ordinance
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Exceeds, Freeboard and many other ways.
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	N/A
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Yes The City is in the CRS Program (rating 7)

22.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 22-11 through Table 22-13.

Table 22-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	146	59	46	251
Permits within SFHA	32	0	4	36
2021				
Total Permits	121	88	31	240
Permits within SFHA	10	0	2	12
2022				
Total Permits	149	45	29	223
Permits within SFHA	9	0	7	16
2023				
Total Permits	112	13	23	148
Permits within SFHA	5	0	14	19
2024				
Total Permits	45	22	77	144
Permits within SFHA	10	0	0	10
2025				
Total Permits	37	5	9	51
Permits within SFHA	2	0	2	4

SFHA = Special Flood Hazard Area (1% flood event)

Table 22-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Terreno Vista Townhome Subdivision / Colina Homes	Res	70	Multiple Addresses & Parcel IDs	NA	Residential Townhome Subdivision/ Complete
Parkway Trails Sec. 1-5 / K. Hovnanian of Houston II, LLC	Res	334	Multiple Addresses & Parcel IDs	NA (LOMR)	Residential Subdivision / Complete
Orchard Place Townhome Subdivision/ Harris County	Res	54	Multiple Addresses & Parcel IDs	NA	Residential Townhome Subdivision / Planned

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Bella Heights Townhome Subdivision / Lafferty Villa LLC	Res	42	Parcel ID: 061-086-000-0079	NA	Residential Townhome Subdivision / Planned
Frame on Burke Apartments Monroe REH LLC	Res	200	5045 Burke Rd	NA	Multi-Family Development / Under Construction
H & M Mechanical	Comm	1	5840 Center St	NA	Office Building
Restaurant Depot	Comm	1	2545 Genoa Red Bluff Rd	NA	Restaurant Supply Warehouse
4 Horn Management	Comm	2	8003 & 8007 Red Bluff Rd	SFHA	Commercial Building
San Jacinto College	Comm	1	8060 Spencer Hwy	NA	Education Building
Houston Industrial Development One LLC	Comm	1	2911 Pasadena Blvd	NA	Commercial/Warehouse
Petroleum Services Corporation	Comm	1	5025 Preston Rd	SFHA	Commercial Building
I3 Interests	Comm	1	1015 Red Bluff Rd	NA	Commercial Shell
The Bridge Over Troubled Waters	Comm	1	685 Fairmont Pkwy	NA	Child/Youth Center
Vigavi 225 LC, LLC	Comm	1	2818 Pasadena Fwy	NA	Commercial Shell
Johnson Development Assoc Inc.	Comm	1	10549 Red Bluff Rd	SFHA	Commercial Shell
Pasadena ISD	Comm	1	3920 Mickey Gilley Blvd	NA	Admin. Building
Pasadena Beltway Green Alliance	Comm	1	299 Beltway Green Blvd	SFHA	Commercial Shell
Sealy IDV Park 225 LLC	Comm	1	4129 Greenshadow Dr	SFHA	Commercial Shell
Life Storage	Comm	1	7205 Fairmont Pkwy	NA	Self Storage
Pasadena ISD	Comm	1	3212 Lafferty	SFHA	Transportation Admin Building
Wyndham-Echo Suites	Comm	1	3815 Fairway Plaza Dr	SFHA	Hotel
Alliance Industrial Company	Comm	1	310 Beltway Green Blvd	NA	Commercial Shell
Emerson Beltway Green LLC	Comm	1	107 Beltway Green Blvd	NA	Commercial Shell
Emerson Beltway Green LLC	Comm	1	315 Beltway Green Blvd	NA	Commercial Shell
Harris County Toll Road Authority	Comm	1	3343 East Sam Houston Parkway South	NA	HCTRA Tag Store
Junction Commercial Real Estate	Comm	1	5176 Red Bluff Rd	NA	Commercial Shell
Pasadena ISD	Comm	1	3302 San Augustine	NA	School

* Only location-specific hazard zones or vulnerabilities identified.

Table 22-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Pasadena Fire Station 6	Municipal	1		SFHA	Fire Station
Pasadena Fire station 7	Municipal	1		NA	Fire Station
Pasadena PD Annex	Municipal	1	1211 Southmoore	NA	Office Building
Public Safety Vehicle Storage	Municipal	1	4801 Spencer	NA	Vehicle Storage Facility
Police Storage and Tactical Training	Municipal	1	6060 Genoa Red Bluff	NA	Tac House
Pasadena Golf Course Pavilion and Kitchen	Municipal	1	1000 Duffer Line (Houston, Texas)	NA	NA
Pasadena Fire Services Administration Building	Municipal	1	6068 Genoa Red Bluff	NA	NA

22.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Pasadena's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

22.6.1 Hazard Event History

The history of natural and non-natural hazard events in Pasadena is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 22-14 provides details on loss and damage in Pasadena during hazard events since the last hazard mitigation plan update.

Table 22-14. Hazard Event History in Pasadena

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
1/20/2020 – 5/11/2023	COVID-19 Pandemic COVID-19	Yes Yes	DR-4485-TX EM-3458-TX	N/A	N/A
5/6/2020 – 2/18/2020	Drought	Yes	USDA S4669	N/A	N/A
7/25/2020 – 7/31/2020	Hurricane Hanna	Yes	EM-3530-TX	N/A	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
8/23/2020 – 8/27/2020	Tropical Storms Marco and Laura	Yes	EM-3540-TX	N/A	N/A
9/21/2020	- Flooding - Flash Flooding	No	N/A	N/A	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. 20 to 25 homes were damaged from high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
2/11/2021 – 2/21/2021	- Severe Ice Storm - Power Failure - Extreme Cold	Yes	DR-4586-TX EM-3554-TX	N/A	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. The extreme cold and increased demand led to widespread power outages, loss of heat for many and led to the bursting of pipes with some losing water for many days. Numerous fatalities resulted both from hypothermia, carbon monoxide poisoning and other effects. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much the period from Sunday night to Tuesday morning. Increased power demand, wind and ice led to widespread power outages. Bursting pipes caused many to be without water as well. 33 people died, and property damage estimates reached \$33,700,000.
3/15/2022 – N/A	Drought	Yes	USDA S5188	N/A	N/A
5/10/2022 – N/A	Drought	Yes	USDA S5197	N/A	N/A
4/5/2022 – N/A	Drought	Yes	USDA S5209	N/A	N/A
4/12/2022 – N/A	Drought	Yes	USDA S5214	N/A	N/A
6/14/2022 – N/A	Drought	Yes	USDA S5221	N/A	N/A
7/19/2022 – N/A	Drought	Yes	USDA S5240	N/A	N/A
8/2/2022 – N/A	Drought	Yes	USDA S5252	N/A	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
5/1/2022 – 9/30/2022	Excessive Heat	Yes	USDA S5350	N/A	N/A
8/15/2023 – N/A	Drought	Yes	USDA S5499	N/A	N/A
8/22/2023 – N/A	Drought	Yes	USDA S5511	N/A	N/A
11/1/2023 – N/A	Drought	Yes	USDA S5683	N/A	N/A
4/26/2024 – 6/5/2024	Severe Storms, Straight-Line Winds, Tornadoes, and Flooding	Yes	DR-4781-TX	N/A	N/A
7/5/2024 – 7/9/2024	Hurricane Beryl	Yes	DR-4798-TX	N/A	N/A
1/10/2020	Thunderstorm Wind	N/A	N/A	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	N/A
1/20/2020 – 5/11/2023	Biological	State/Federal	DR-4485 EM-3458	COVID-19	Due to the pandemic, the City had two (2) 6-week municipal closures (3/20/20 – 5/10/20 and 7/6/20 – 8/14/20).
3/11/2020		County	N/A	Public Health Emergency – local disaster declared as COVID-19 swept the region.	N/A
4/18/2020	Hail		N/A	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
5/15/2020	Flash Flood	N/A	N/A	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	No municipal closures or reported property damage.
5/27/2020	Tornado	N/A	N/A	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	No municipal closures or reported property damage.
7/25/2020 – 7/31/2020	Hurricane	State	EM-3530	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
8/23/2020 – 8/27/2020	Hurricane	State	EM-3540	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There we no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	N/A
9/21/2020	Storm Surge, Flash Flood, Flood		N/A	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	N/A
2021	Technology Failure		N/A	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
2/11/2021 – 2/21/2021	Severe Ice Storm, Power Failure, Extreme Cold, Technology Failure, Utility Failure	State/Federal	DR-4586 EM-3554	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	The Winter storm caused municipal closures from 2/14/25 - 2/21/23 and a disruption of municipal services. There were widespread reports of property and municipal infrastructure damage due to broken pipes and sewage drainage. In addition, this led to a widespread prolonged power outage.
5/18/2021	Thunderstorm Wind, Lightning	N/A	N/A	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A
July 2021	Toxic Release/HazMat	N/A	N/A	A fire at an industrial facility led to air quality warnings and temporary evacuations	N/A
December 2021	Toxic Release/HazMat	N/A	N/A	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
1/8/2022	Tornado, Flash Flood		N/A	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
8/10/2022	Lightning, Thunderstorm Wind		N/A	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
December 2022	Technology Failure		N/A	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
1/24/2023	Tornado		N/A	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage. Spots with more severe damage, rated EF2, included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	The tornado caused widespread property damage (approx. 695 structures) to south and southwest portion of Pasadena. Specifically, the City's Animal Shelter and the USPS Post Office were destroyed. The was municipal closure from 1/24/23 – 1/26/23.
4/5/2023	Hail		N/A	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
May 5, 2023	Toxic Release/ HazMat		N/A	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	No municipal closures or reported property damage.
5/8/2023	Thunderstorm Wind, Flash Flood, Hail		N/A	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail		N/A	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	N/A
4/26/2024 – 6/5/2024	Flood	Federal	DR-4781	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	N/A
5/2/2024	Severe Weather & Flooding	County	N/A	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	N/A
5/16/2024	Severe Weather, Tornadoes, Strong Wind, Hail, & Flooding	County/ Federal	DR-4781	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	N/A
7/5/2024 – 7/9/2024	Hurricane	County/ Federal	DR-4798	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	The storm produced a significant amount (approx. 150k cu. yds.) of vegetative debris and caused a 5-day power outage. There was no municipal infrastructure damage.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Pasadena
9/16/24 – 9/19/24	Energy Pipeline Failure			Energy Transfer Pipeline Rupture – a pipeline rupture at the jurisdictional boundaries of La Porte and Deer Creek occurred because it was struck by a vehicle. It resulted in a large release of LNG and produced a 300-foot flame that lasted for four days.	No municipal closures or reported property damage. San Jacinto College in Pasadena was forced to cancel class on 9/16/24 and 9/17/24.
1/20/25– 1/22/25	Severe Snow Storm		N/A	Winter Storm Enzo produced record levels of snow fall throughout Harris County.	A winter storm caused municipal closures from 1/21/25 -1/23/25 and a disruption of municipal services. There were several reports of property damage due to broken pipes.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025);

22.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Pasadena.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Pasadena reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 22-15 shows Pasadena's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 22-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release / Hazardous Materials	High
Utility Failure	Medium

Note: Based on hazard rankings established in Volume I, modified based on review by the jurisdiction

Critical Facilities

Table 22-16 identifies critical facilities in the community located in the 1 percent.

Table 22-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	47	3.7%
Energy	33	2.6%
Food, Hydration, Shelter	18	1.4%
Hazardous Materials	30	2.4%
Health and Medical	7	.56%
Safety and Security	8	.64%
Transportation	104	8.3%
Water Systems	11	.88%
Other Critical Facilities	15	1.2%

Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in Pasadena:

- None Identified

22.6.3 Identified Issues

After review of Pasadena's hazard event history, hazard rankings, hazard location, and current capabilities, Pasadena identified the following vulnerabilities within the community:

- None Identified

22.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

22.7.1 Past Mitigation Action Status

Table 22-17 indicates progress on the City's mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

22.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 22-17, Pasadena identified the following mitigation efforts completed since the last HMP:

- PAS3: Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan
- PAS6: Expand All Hazards warning and alerting systems. Expand warning system (sirens, mass notification and reverse 911) to provide hazard awareness and alerts to mitigate All Hazards and increase coverage of the community's population. Expand community warning system to include direct notification to local business community during hazardous materials incidents
- PAS9: Wildfire Prevention & Mitigation Projects by developing buffer zones/defensible space to reduce impact of Wildfires
- PAS12: Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan (2020)

Since the adoption of the County's first HMP, Pasadena has made significant mitigation progress in the following areas:

- None Identified

Table 22-17. Status of Previous Mitigation Actions

PAS1—Where appropriate, support retrofitting, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas

Hazards Addressed	Flood, Hurricane, Natural & Man-made Hazards, Severe Weather
Responsible Party	Pasadena Public Works/Engineering, Emergency Management
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS2—Intergrade Hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including City of Pasadena

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Mass Movement, Tsunami, wildfire, dam failure.
Responsible Party	Public Works/Engineering, Planning
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS3—Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan

Hazards Addressed	N/A
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS4—Continue to maintain a good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, enforce the flood damage prevention ordinance, participate in floodplain identification and mapping updates, and provide public assistance/ information on floodplain requirements and impacts

Hazards Addressed	Flood, Sea level rise, Tsunami, Dam Failure, Severe Weather
Responsible Party	Public Works/Engineering
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS5— The hardening of critical infrastructure, public and private buildings and shelters in order to lessen the impacts of natural and human-caused hazards: Improve critical infrastructure, public and private buildings and shelters to harden against the effects of natural and human-caused hazards including wind, flood lightning, Earthquakes, fire, hazardous materials and environmental hazards. Install backup power system generators at critical infrastructure sites including traffic intersections, water and wastewater facilities. Improve manufactured homes standards/codes to include tie-downs or anchorage. Critical response vehicle storage & fuel facility hardening – Build, harden and or protect the City’s vehicle storage and fueling centers against Severe Weather events and power outages. Improve safe room shelters to meet wind specifications. Retrofit critical infrastructure facilities with positive pressure ventilation systems and HVAC emergency shutdown mechanism for shelter-in-place capability. Adopt and enhance higher-standard windstorm building requirements to minimize property damage from high-winds.

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Tsunami, Wildfire, Severe Weather, Mass Movement
Responsible Party	Public Works/Engineering, Permit, Maintenance Services/building Management
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS6— Expand All Hazards warning and alerting systems. Expand warning system (sirens, mass notification and reverse 911) to provide hazard awareness and alerts to mitigate All Hazards and increase coverage of the community’s population. Expand community warning system to include direct notification to local business community during hazardous materials incidents

Hazards Addressed	N/A
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS7 – Heating and cooling centers to reduce exposure and the effects of extreme heat and winter storms. Improve public facility emergency power to provide adequate cooling for use as cooling centers. Establish grant program to provide cooling and heating equipment to low- to moderate-income (LMI) population. Upgrade heating systems and emergency power capacity at public facilities for use as warming centers. Establish facilities to serve as winter heating centers for animal/livestock.

Hazards Addressed	Extreme Cold, Severe Weather
Responsible Party	Public Works/Engineering, Emergency Management
Summary of Original Problem and Solution (Project)	The City does not have enough generator capability to provide emergency power to critical facilities.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS8— Flood control and drainage improvements. Improve drainage easements by expanding the slopes, banks and drainage structures. Expand and protect current bayou environment associated with riverine flood to mitigate city's threat from Flood. Construction of floodwalls, detention and retention basins, spillways and other related structures. Hydrological routing.

Hazards Addressed	Drought, Flood, Hurricane, Severe Weather
Responsible Party	Public Works/Engineering
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS9— Wildfire Prevention & Mitigation Projects by developing buffer zones/defensible space to reduce impact of Wildfires

Hazards Addressed	Wildfire
Responsible Party	Fire Department
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Based on our internal Threat and Hazard Identification and Risk Assessment, wildfire prevention and mitigation is not identified as a significant hazard or risk in our area.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS10— Made and Technological Disasters Prevention and Mitigation. Security provisions and plans for man-made threats to facilities. Develop and practice an emergency plan for handling transportation accidents involving radiological materials. Procure and utilize responder personal protective equipment and detection instruments. Improve ordinances requiring fortified spill containment and engineered anchoring systems on aboveground storage tanks (AST). Install retention ponds at selected facilities and geographic locations to collect non-potable water for irrigation and sprinkler system usage.

Hazards Addressed	Drought, Hazardous Materials
Responsible Party	SERLEPC Public Works/ Engineering Emergency ManagementPasadena
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS11—Public Education and Outreach for natural and human-caused hazards. Improve and expand the community’s Hurricane public education/outreach program, the annual Hurricane workshop, to educate residents on appropriate actions to minimize damage from Hurricane. Develop a Wildfire Public Education/Outreach Program to educate residents on Wildfire hazards and actions to minimize fire/smoke damage to property.

Hazards Addressed	Flood, Hurricane, Wildfire, Severe Weather, Mass movement
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

PAS12—Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan (2020)

Hazards Addressed	Severe Weather
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

22.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Pasadena participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Pasadena would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 22-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 22-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 22-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	x	-	-	-	-	x	-	-	-	-
Drought	x	x	-	x	x	x	x	-	-	x
Earthquakes	-	x	-	x	-	x	x	-	-	x
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	x	x	-	x	x	x	x	-	x	x
Hurricanes and Coastal Storms	x	x	-	x	x	-	x	-	x	x
Mass Movement	-	x	-	x	-	x	x	-	-	x
Severe Weather	x	x	-	x	x	x	x	-	x	x
Tsunami	x	-	-	x	-	x	x	-	-	x
Wildlife	x	x	-	x	-	x	x	-	-	x
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	-	-	-	-	x	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 22-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
PAS1	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas	1	1	1	0	0	1	1	1	0	1	1	1	1	0	10	Medium
PAS2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the City of Pasadena	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
PAS4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
PAS5	The hardening of critical infrastructure, public and private buildings and shelters in order to lessen the impacts of natural and human-caused hazards: Improve critical infrastructure, public and private buildings and shelters to harden against the effects of natural and human-caused hazards including wind, flood lightning, Earthquakes, fire, hazardous materials and environmental hazards. Install backup power system generators at critical infrastructure sites including traffic intersections, water and wastewater facilities. Improve manufactured homes standards/codes to include tie-downs or anchorage. Critical response vehicle storage & fuel facility hardening – Build, harden and or protect the City’s vehicle storage and fueling centers against Severe Weather events and power outages. Improve safe room shelters to meet wind specifications. Retrofit critical infrastructure facilities with positive pressure ventilation systems and HVAC emergency shutdown mechanism for shelter-in-place capability. Adopt and enhance higher-standard windstorm building requirements to minimize property damage from high-winds.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
PAS7	Establish heating and cooling centers to reduce exposure and the effects of extreme heat and winter storms. Improve public facility emergency power to provide adequate cooling for use as cooling centers. Establish grant program to provide cooling and heating equipment to low- to moderate-income (LMI) population. Upgrade heating systems and emergency power capacity at public facilities for use as warming centers. Establish facilities to serve as winter heating centers for animal/livestock.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
PAS8	Flood control and drainage improvements. Improve drainage easements by expanding the slopes, banks and drainage structures. Expand and protect current bayou environment associated with riverine flood to mitigate city's threat from Flood. Construction of floodwalls, detention and retention basins, spillways and other related structures. Hydrological routing.	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
PAS10	Man-Made and Technological Disasters Prevention and Mitigation. Security provisions and plans for man-made threats to facilities. Develop and practice an emergency plan for handling transportation accidents involving radiological materials. Procure and utilize responder personal protective equipment and detection instruments. Improve ordinances requiring fortified spill containment and engineered anchoring systems on aboveground storage tanks (AST). Install retention ponds at selected facilities and geographic locations to collect non-potable water for irrigation and sprinkler system usage.	1	1	1	0	0	1	1	1	0	1	1	1	1	0	10	Medium
PAS11	Public Education and Outreach for natural and human-caused hazards. Improve and expand the community's Hurricane public education/outreach program, the annual Hurricane workshop, to educate residents on appropriate actions to minimize damage from Hurricane. Develop a Wildfire Public Education/Outreach Program to educate residents on Wildfire hazards and actions to minimize fire/smoke damage to property.	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
PAS13	Procure and install backup generator power at all municipal buildings that are deemed critical.	1	1	1	0	0	1	0	1	1	1	1	0	1	0	9	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action PAS13 Worksheet

Lead Agency:	Engineering
Supporting Agencies:	OEM
Hazards of Concern:	Extreme Cold, Extreme Heat, Severe Weather
Action Description:	Procure and install backup generator power at all municipal buildings that are deemed critical.
Description of the Problem:	The City is need of permanent emergency backup power at multiple critical facilities which will enable to be utilized in the event of an emergency.
Description of the Solution:	Procure and install new commercial generators.
Estimated Cost:	High (> \$100,000)
Potential Funding Sources:	City funds
Implementation Timeline:	Long-term (> 5 years)
Goals Met:	6
Benefits:	High (> \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Emergency Services (ES); Property Protection (PP)
Priority	Medium

23. CITY OF PINEY POINT VILLAGE

This jurisdictional annex to the Harris County Multi-Jurisdictional Hazard Mitigation Plan (MJ-HMP) provides information to assist public and private sectors in the City of Piney Point Village with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Piney Point, describes who participated in the planning process, assesses Piney Point Village’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

23.1 HAZARD MITIGATION PLANNING TEAM

The City of Piney Point Village identified primary and alternate MJ-HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Piney Point Local Mitigation Planning Team represented the community within the Harris County MJ-HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 23-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 23-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Howard Miller/Fire Chief/EMC Address: N/A Phone Number: 713-468-3590 Email: miller@villagefire.org	Name/Title: James Lutz/Assistant EMC Address: N/A Phone Number: 713-468-7941 Email: lutz@villagefire.org
National Flood Insurance Program Floodplain Administrator	
Name/Title: Annette Arriaga Address: 7676 Woodway Dr., Suite 300, Houston, TX 77063 Phone Number: 713-782-1757 Email: bldgofficial@pineypt.org	
Additional Contributors	
Name/Title: Gerardo Barrera/City Administrator, Bunker Hill Village Method of Participation: Local Mitigation Planning Team	
Name/Title: Paul Warner/Captain, Hedwig Village Method of Participation: Local Mitigation Planning Team	
Name/Title: Tom Fullen/City Administrator, Hunters Creek Village Method of Participation: Local Mitigation Planning Team	

Name/Title: Bobby Pennington, City Administrator, Piney Point Village**Method of Participation:** submitted Worksheet C: Previous Mitigation Actions

Name/Title: John McDonald, City Administrator, Spring Valley**Method of Participation:** Local Mitigation Planning Team

Name/Title: Annette Arriaga, Development Services Director**Method of Participation:** Submitted Worksheet D: NFIP Compliance

23.2 COMMUNITY PROFILE

The City of Piney Point Village is a municipality in southwestern Harris County. Piney Point's boundary on the north is generally Beinhorn Taylorcrest. To the west, Blalock and Memorial Point. To the south Arrowwood Circle, Windemere Lane and Buffalo Bayou. The eastern boundary is Buffalo Bayou, Memorial Drive and Hedwig Road. The City encompasses an area of 2.1 square miles.

22.2.1 History

Piney Point Village was incorporated in 1954. There are 1,064 houses in Piney Point and 3,128 residents. There are three churches and four schools (one public elementary school, two church schools and one private school).

23.2.1 Population and Demographics

According to the U.S. Census, the 2020 population for Piney Point was 3,128, a 0.8 percent increase from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 0.9 percent of the population is 5 years of age or younger, 21.8 percent is 65 years of age or older, 0.2 percent is non-English speaking, 0.8 percent is below the poverty threshold, and 5.1 percent is considered disabled.

22.2.2 Governing Body Format

The City of Piney Point Village is a Type-A General Law City and is governed by a Mayor and five Aldermen. All Council positions are elected at large for two year terms. The Piney Point Village City Council assumes responsibility for the adoption of this plan; Roger Nelson, City Administrator will oversee its implementation.

23.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Piney Point performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the

components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Piney Point to identify opportunities for integrating mitigation concepts into ongoing City procedures.

23.3.1 Planning and Regulatory Capability and Integration

Table 23-2 summarizes the planning and regulatory tools that are available to Piney Point.

Table 23-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	Sec. 22-37	Municipal	Building Development
Zoning/Land Use Code	Yes	Chapter 34, 50 and 74	Municipal	Building Development
Subdivision Code	Yes	Chapter 50	Municipal	HOAs
Site Plan Code	Yes	Sec. 22 & Chapter 50 and 74	Municipal	Building Development
Stormwater Management Code	Yes	Sec. 10-301	Municipal	City Engineer and Staff
How has or will this be integrated with the MJ-HMP, and how does this reduce risk? The City's formal storm drainage criteria are continually under review, and the drainage requirements for residential construction were last updated in February 2025, following the most recent full technical standards date June 24, 2020.				
Post-Disaster Recovery/ Reconstruction Code	—	N/A	N/A	N/A
Real Estate Disclosure Requirements	—	N/A	N/A	N/A
Growth Management	—	N/A	N/A	N/A
Environmental Protection Ordinance(s)	Yes	Chapter 10 & Chapter 66	Municipal	Municipal
Flood Damage Prevention Ordinance	Yes	Chapter 34	Municipal	Municipal

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Wellhead Protection	No	N/A	N/A	N/A
Emergency Management Ordinance	Yes	Sec. 18	Municipal	Municipal
Climate Change Ordinance	No	N/A	N/A	N/A
Other				
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	Sec. 50-92	Municipal	Municipal
Capital Improvement Plan	Yes	Sec.10-304	Municipal	Municipal
Disaster Debris Management Plan	—	N/A	N/A	N/A
Floodplain Management or Watershed Plan	Yes	Sec. 34	Municipal	Municipal
How has or will this be integrated with the MJ-HMP and how does this reduce risk? The Flood Hazard Mitigation Plan was finalized and then approved by Council on March 19, 2018				
Stormwater Management Plan	Yes	Sec. 34	Municipal	Municipal
How has or will this be integrated with the MJ-HMP and how does this reduce risk? The City's formal storm drainage criteria are continually under review, and the drainage requirements for residential construction were last updated in February 2025, following the most recent full technical standards date June 24, 2020.				
Stormwater Pollution Prevention Plan	No	N/A	N/A	N/A
Open Space Plan	No	N/A	N/A	N/A
Urban Water Management Plan	No	N/A	N/A	N/A
Habitat Conservation Plan	No	N/A	N/A	N/A
Economic Development Plan	No	N/A	N/A	N/A
Shoreline Management Plan	No	N/A	N/A	N/A
Community Wildfire Protection Plan	No	N/A	N/A	N/A
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	No	N/A	N/A	N/A
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	N/A	N/A	N/A	N/A
Other	—	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	—	N/A	N/A	N/A
Continuity of Operations Plan	No	N/A	N/A	N/A
Substantial Damage Response Plan	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Threat and Hazard Identification and Risk Assessment	No	N/A	N/A	N/A
Post-Disaster Recovery Plan	No	N/A	N/A	N/A
Public Health Plan	No	N/A	N/A	N/A
Other:	—	N/A	N/A	N/A

23.3.2 Development and Permitting Capability

Table 23-3 summarizes the capabilities of Piney Point to oversee and track development.

Table 23-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? - If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?	Yes	—
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	N/A
Do you have a buildable land inventory? If you have a buildable land inventory, please describe	No	N/A
Describe the level of buildout in your jurisdiction.	N/A	N/A

23.3.3 Administrative and Technical Capability

Table 23-4 summarizes potential staff and personnel resources available to Piney Point and their current responsibilities that contribute to hazard mitigation.

Table 23-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	—
Zoning Board of Adjustment	Yes	—
Planning Department	Yes	—
Mitigation Planning Committee	No	N/A
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	No	N/A
Public Works/Highway Department	Yes	—
Construction/Building/Code Enforcement Department	Yes	—
Emergency Management/Public Safety Department	Yes	—
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	—
Mutual aid agreements	Yes	—
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	N/A
Other	—	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	—
Engineers or professionals trained in building or infrastructure construction practices	Yes	—
Planners or engineers with an understanding of natural hazards	Yes	—
Staff with expertise or training in benefit/cost analysis	Yes	—
Professionals trained in conducting damage assessments	Yes	—
Personnel skilled or trained in GIS and/or Hazus applications	Yes	—
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	Yes	—
Grant writers	No	N/A
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	—	N/A

23.3.4 Fiscal Capability

Table 23-5 summarizes financial resources available to Piney Point.

Table 23-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	—
Impact fees for homebuyers or developers of new development/homes	—
Stormwater utility fee	—
Incur debt through general obligation bonds	—
Incur debt through special tax bonds	—
Incur debt through private activity bonds	—
Withhold public expenditures in hazard-prone areas	—
Other federal or state funding programs	—
Open Space Acquisition funding programs	—
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	—

23.3.5 Education and Outreach Capability

Table 23-6 summarizes the education and outreach resources available to Piney Point.

Table 23-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	—	—
Personnel skilled or trained in website development	—	—
Hazard mitigation information available on your website	—	—
Social media for hazard mitigation education and outreach	—	—
Citizen boards or commissions that address issues related to hazard mitigation	—	—
Warning systems for hazard events	—	—
Natural disaster/safety programs in place for schools	—	—
Organizations that conduct outreach to socially vulnerable populations and underserved populations	—	—
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	—	—

23.3.6 Community Classifications

Table 23-7 summarizes classifications for community programs available to Piney Point.

Table 23-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	—	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	—	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	—	N/A	N/A
National Weather Service StormReady Certification	—	N/A	N/A
Firewise Communities classification	—	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	—	N/A	N/A

N/A = Not applicable; — = Unavailable

23.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 23-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 23-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Weak
Drought	Weak
Earthquake	Weak
Extreme Cold	Weak
Extreme Heat	Weak
Flooding	Strong
Hurricane, Coastal Storm	Moderate
Mass Movement	Weak
Severe Weather	Moderate
Tsunami	Weak
Wildfire	Weak
Energy Pipeline Failure	Weak
Public Health Emergency	Moderate
Technology Failure	Weak
Toxic Release/Hazardous Materials	Weak
Utility Failure	Moderate

23.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 23-1 is responsible for maintaining this information.

23.4.1 NFIP Statistics

Table 23-9 summarizes the NFIP policy and claim statistics for Piney Point Village.

Table 23-9. Piney Point Village NFIP Summary of Policy and Claim Statistics

# Policies	3
# Claims (Losses)	19
Total Loss Payments	\$1,025,410.57
# Repetitive Loss Properties (NFIP definition)	1
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: HCFCD and HCOHSEM

23.4.2 Flood Vulnerability Summary

Table 23-10 provides a summary of the NFIP program in Piney Point.

Table 23-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Areas in Farnham Park and Farnham Park Drive, Arrowwood Circle, Arrowwood, Stillforest Street, Oak Lane. All areas that back up to Buffalo Bayou.

NFIP Topic	Comments
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	Only the new development projects that back up to the Buffalo Bayou areas.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	^ same question in worksheet
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	Nothing recent, Harvey was the only flood damage in our area.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	^ same question in worksheet
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	No properties
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Our flood maps show the Buffalo Bayou and Soldiers Creek, and it shows the 100- and 500-year flood plains. It does not show or specify if the area had flooded. It just shows properties within the flood plain. Not sure why a map would show that. But internally that would be useful.
NFIP Compliance	
What local department is responsible for floodplain management?	The city building department engineering team.
Are any certified floodplain managers on staff in your jurisdiction?	Yes
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes, what online, a lot of information on the web, community outreach, TV, podcasts, data, reports and articles. We hear about climate change on the news.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Data and materials and training is always welcomed.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	We require permit review, plan submission meetings, free community outreach to builders and residents in regard to plan assistance and installation and design questions. Online assistance. Inspection help sheets. Meet with residents and contractors daily. Excellent custom service online and in person. Our systems are also GIS based. We have a community portal.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Depending on the cost of the improvement and the work affected.
What are the barriers to running an effective NFIP program in the community, if any?	Just a lot a paperwork
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Last year

NFIP Topic	Comments
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 50 of our Ordinances
What is the date that your flood damage prevention ordinance was last amended?	Information not provided.
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets the requirements
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	We always want to improve our CRS classification

23.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 23-11 through Table 23-13.

Table 23-11. Building Permits for New Construction Issued Since the Previous MJ-HMP

Type of Development	2020		2021		2022		2023		2024		2025	
	Number of Building Permits for New Construction Issued Since the previous MJ-HMP											
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single-Family	12	0	10	0	23	0	10	5	6	0	5	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	2	0	2	0	0	0
Total Permits Issued	12	0	10	0	23	0	12	5	8	0	5	0

SFHA = Special Flood Hazard Area (1% flood event)

Table 23-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
No major development	—	—	—	—	—

* Only location-specific hazard zones or vulnerabilities identified.

Table 23-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
No major development	—	—	—	—	—

23.5.1 Additional Comments Related to Development and Issuing Permits

City of Piney Point Village is Zoned for Single-Family Use, only. The city is already built out. No new major developments. We have a few Schools and Churches that are already built out. New builds are designed in conjunction to the flood plain standards and must be designed by a Professional Engineer. Plans are reviewed by the city’s engineers in accordance with the city’s design criteria. Inspections of drainage is inspected by the cities engineers only and a final as build topo is required to completed and approved after to ensure that the drainage design system still complies with all rules and regulations.

23.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Piney Point’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

23.6.1 Hazard Event History

The history of natural and non-natural hazard events in Piney Point Village is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 23-14 provides details on loss and damage in Piney Point Village during hazard events since the last hazard mitigation plan update.

Table 23-14. Hazard Event History in Piney Point Village

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Piney Point Village
1/10/2020	Thunderstorm Wind	N/A	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	N/A
1/20/2020 - 5/11/2023	DR-4485, EM-3458 – Biological	State, Federal	COVID-19	N/A
3/11/2023	Information not provided.	Yes	Public Health Emergency – local disaster declared as COVID-19 swept the region.	N/A
4/18/2020	Hail	N/A	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	N/A
5/15/2020	Flash Flood	N/A	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	N/A
5/27/2020	Tornado	N/A	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	N/A
7/25/2020 -- 7/31/2020	EM-3530 - Hurricane	State	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Piney Point Village
8/23/2020 – 8/27/2020	EM – 3540 – Hurricane	State	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There we no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	N/A
9/21/2020	Storm Surge, Flash Flood, Flood	N/A	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	N/A
2021	Technology Failure	N/A	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	N/A
2/11/2021 – 2/21/2021	DR-4586, EM-3554 - Severe Ice Storm, Power Failure, Extreme Cold, Technology Failure, Utility Failure	State, Federal	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	Residents experienced busted pipelines and power outages during the event.
5/18/2021	Thunderstorm, Wind, Lightning	N/A	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Piney Point Village
July 2021	Toxic Release/HazMat	N/A	A fire at an industrial facility led to air quality warnings and temporary evacuations	N/A
December 2021	Toxic Release/HazMat	N/A	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A
1/8/2022	Tornado, Flash Flood	N/A	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
8/10/2022	Lightning, Thunderstorm Winds	N/A	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	N/A
December 2022	Technology Failure	N/A	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Piney Point Village
1/24/2023	Tornado	N/A	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage. Spots with more severe damage, rated EF2, included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	N/A
4/5/2023	Hail	N/A	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A
5/5/2023	Toxic Release/HazMat	N/A	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	N/A
5/8/2023	Thunderstorm Wind, Flash Flood, Hail	N/A	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail	N/A	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	N/A
4/26/2024 - 6/5/2024	DR-4781 - Flood	Federal	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Piney Point Village
5/2/2024	Severe Weather & Flooding	County	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	N/A
5/16/2024	DR-4781 - Severe Weather, Tornadoes, Strong Wind, Hail, & Flooding	County, Federal	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	Residents experienced power outages and downed trees.
7/5/2024 - 7/9/2024	DR-4798 – Hurricane	County, Federal	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	Residents experienced power outages and downed trees.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025); (NOAA/NCEI 2025)

23.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding vulnerability to the identified hazards. The following presents key risk assessment results for Piney Point.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Piney Point reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- Despite its proximity to Buffalo Bayou and the restrictions on the volume of runoff that can outflow into the bayou, Piney Point is at a low risk of localized flooding. This is due to significant improvements made to the storm drainage system compared to its neighboring areas.
- The City emphasized concerns about extreme weather trends, including both high heat and severe colds, key risks requiring sustained emergency planning, community outreach, and infrastructure resilience improvements.

Table 23-15 shows Piney Point’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 23-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Low
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	High
Flooding	Medium
Hurricane, Coastal Storm	Medium
Mass Movement	Low
Severe Weather	Medium
Tsunami	Low
Wildfire	Low
Energy Pipeline Failure	Low
Public Health Emergency	Medium

Hazard	Rank
Technology Failure	Medium
Toxic Release/Hazardous Materials	Medium
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Of the 23 critical facilities located in the City of Piney Point Village, Table 23-16 summarizes how many are located in some of known hazard areas in the City.

Table 23-16. Critical Facilities Flood Vulnerability

Hazard Area	Number of Critical Facilities
1% Annual Chance Riverine Flood	2
1% Annual Chance Coastal Flood	0
Hurricane Harvey Flood Extent	13
Addicks Dam Inundation Area	20
Barker Dam Inundation Area	18
Lake Houston Dam Inundation Area	0
Low Wildfire Threat	0
Moderate Wildfire Threat	0
High Wildfire Threat	0
Very High Wildfire Threat	0

Source: Harris County

23.6.3 Identified Issues

After review of Piney Point Village’s hazard event history, hazard rankings, hazard location, and current capabilities, Piney Point identified the following vulnerabilities within the community:

- While significant drainage improvements have been implemented since Hurricane Harvey, isolated areas remain susceptible to localized street and yard flooding during heavy rainfall. Continued monitoring and phased upgrades are needed to improve system-wide capacity and redundancy.
- While Piney Point Village has made strides in improving readiness, including CenterPoint’s installation of fiberglass flex utility poles and infrastructure hardening following Hurricane Beryl, the City remains vulnerable to extreme wind events. These weather extremes can still lead to extended utility outages, particularly due to falling trees and high winds that impact power lines. Although reliability has improved, outages during severe conditions continue to pose risks for residents, without backup power options.

23.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous MJ-HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

23.7.1 Past Mitigation Action Status

Table 23-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ-HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 23-17. Status of Previous Mitigation Actions

PPV_1—Where appropriate, support retrofitting, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas	
Hazards Addressed	Dam/Levee Failure, Earthquake, Flooding, Hurricanes/ Coastal Storms, Severe Weather, Wildfire
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	—
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	—
Next Steps	
Include in the 2025 MJ-HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—
PPV_2—Integrate Hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including comprehensive plan, and zoning ordinances	
Hazards Addressed	Dam/Levee Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storm, Mass Movement, Severe Weather, Wildfire
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	—
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	—
Next Steps	
Include in the 2025 MJ-HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

PPV_3—Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan

Hazards Addressed	Dam/Levee Failure, Drought, Earthquakes, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Mass Movement, Severe Weather, Wildfire, Energy Pipeline Failure, Public Health Emergency, Technology Failure, Toxic Release/HazMat, Utility Failure
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	—
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	—
Next Steps	
Include in the 2025 MJ-HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

PPV_4—Continue to maintain a good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, enforce the flood damage prevention ordinance, participate in floodplain identification and mapping updates, and provide public assistance/ information on floodplain requirements and impacts

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	—
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	—
Next Steps	
Include in the 2025 MJ-HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

PPV_5: Expand Early Warning/Alert System – Collaborative Community Alert & Notification (Code Red Mass Notification) for information sharing to increase mobile coverage of residential and non-residential areas

Hazards Addressed	Dam/Levee Failure, Drought, Earthquakes, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Mass Movement, Severe Weather, Wildfire, Energy Pipeline Failure, Public Health Emergency, Technology Failure, Toxic Release/HazMat, Utility Failure
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	—
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	—
Next Steps	
Include in the 2025 MJ-HMP or Discontinue?	Include
If include, revise/reword as appropriate	Train staff on the timely and effective use of the Early Warning/Alert System during multi-hazard emergencies.
If discontinue, explain why	-

PPV_6—Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan

Hazards Addressed	Drought, Earthquake, Extreme Cold, Extreme Heat, Flooding, Hurricanes/ Coastal Storms, Mass Movement, Severe Weather, Wildfire
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	—
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	—
Next Steps	
Include in the 2025 MJ-HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

23.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 23-17, Piney Point identified the following mitigation efforts completed since the last MJ-HMP:

Tree-trimming and vegetation management initiatives to minimize storm-related power disruptions caused by falling limbs. Since the adoption of the County's first MJ-HMP, Piney Point has made significant mitigation progress in the following areas:

- Actively requesting utility infrastructure in coordination with CenterPoint to reduce outages during severe weather events
- Evaluating and maintaining critical drainage systems to improve stormwater management

- Strengthening coordination with regional emergency response partners, including MVPD and the Village Fire Department
- Enhancing public communication tools, such as VLINC alerts and emergency response guides, to keep residents informed

23.7.3 Proposed Hazard Mitigation Actions for the MJ-HMP Update

Piney Point participated in the mitigation strategy workshop for this MJ-HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Piney Point would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 23-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 23-19 provides a summary of the prioritization of all proposed mitigation actions for the MJ-HMP update.

Table 23-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	-	-	-	-	-	-	-	-	-
Hurricanes and Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildlife	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 23-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
PPV_1	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.	1	1	1	0	0	1	1	1	1	1	0	0	0	0	8	Medium
PPV_2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
PPV_3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	0	1	1	1	1	1	0	0	1	1	1	1	1	1	11	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
PPV_4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	14	High
PPV_5	Train staff on the timely and effective use of the Early Warning/Alert System during multi-hazard emergencies.	1	0	1	1	0	0	0	1	1	1	0	1	1	0	8	High
PPV_6	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

24. CITY OF SEABROOK

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Seabrook with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Seabrook, describes who participated in the planning process, assesses Seabrook’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

24.1 HAZARD MITIGATION PLANNING TEAM

The City of Seabrook identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Seabrook Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 24-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 24-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Kevin Rodgers / OEM Director Address: 1850 E Meyer Seabrook, TX 77586 Phone Number: 281-291-5787 Email: krodgers@seabrooktx.gov	Name/Title: Brian Craig, Director of Public Works Address: 1100 Red Bluff Rd. Seabrook, TX 77586 Phone Number: 281-291-5638 Email: nickk@seabrooktx.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: Nick Kondejewski / Building Official, Floodplain Administrator Address: 1100 Red Bluff Rd. Seabrook, TX 77586 Phone Number: 281-291-5638 Email: nickk@seabrooktx.gov	
Additional Contributors	
Name/Title: Sean Landis / Deputy City Manager Method of Participation: Local Mitigation Planning Team	
Name/Title: Amanda Alvarado / Communications Method of Participation: Local Mitigation Planning Team	

24.2 COMMUNITY PROFILE

24.2.1 Location

Located just 30 minutes south of downtown Houston, the City of Seabrook is the southernmost city in Harris County along State Highway 146. Seabrook sits at the intersection of Galveston Bay, Clear Lake, and Taylor Lake, with bodies of water on its eastern, southwestern, and northwestern sides.

State Highway 146 divides the City into two halves. To the south of Seabrook is Kemah, Texas, which is connected by the Seabrook/Kemah Bridge, which crosses the Clear Creek Channel. To the north of Seabrook is Pasadena and the Port of Houston Bayport Terminal. To the west of Seabrook is El Lago. Seabrook, along with El Lago and a portion of Pasadena, is actually an island in the southernmost portion of Harris County.

Seabrook currently encompasses an area of approximately 5 square miles of land, not including several square miles of Galveston Bay.

24.2.2 History

Historic records date back to 1832 when Ritson Morris, a native Virginian, obtained a league of land from the Mexican government. A portion of the land was purchased by Seabrook W. Sydnor in 1895, and a plat was filed with the Harris County Courthouse the following year.

In March 1903, the Seabrook Company of Houston filed a revised layout of the proposed Seabrook townsite, which appealed to local farmers, fishermen, and merchants. Some years later, in 1961, local leaders had the city incorporated.

In 1964, not long after the city became incorporated, a bridge was built between Kemah and Seabrook plus State Highway 146 was established as a four-lane highway. The bridge and highway allowed easy access to Seabrook along Galveston Bay and the small town began to grow considerably (City of Seabrook 2025).

Quality of life in Seabrook is enriched by its coastal location. Galveston Bay has a mixture of recreational and commercial resources that brings visitors from across the nation.

24.2.3 Climate

Seabrook, TX has an oceanic humid subtropical climate, with consistent rainfall throughout the year, especially during the hot and humid summer months. Winters are mild, and summers are typically hot with long stretches of clear skies. While the rainy season is mainly in spring and early fall, the coastal area experiences heavier rainfall and a higher risk of tropical cyclones, including hurricanes and coastal storms (SeaTemperature.net 2025).

24.2.4 Population and Demographics

Seabrook is primarily residential but has a mix of commercial areas and waterfront attractions. According to the U.S. Census, the 2020 population for Seabrook was 13,618, a 14.8 percent increase from the 2010 Census (Census 2025).

24.2.5 Governing Body

The City of Seabrook is a Home Rule City operating under the Council-Manager form of government, with a City Council composed of a Mayor (elected at large) and six at-large Council members. The City Council appoints a City Manager to act as the chief administrative and executive officer of the City.

The City of Seabrook City Council assumes responsibility for the adoption of this plan; The Office of Emergency Management will oversee its implementation.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the U.S. Census Bureau 2023 American Community Survey (ACS) indicates that 5.0 percent of the population is 5 years of age or younger, 14.4 percent is 65 years of age or older, 0.8 percent is non-English speaking, 6.6 percent is below the poverty threshold, and 10.2 percent is considered disabled (U.S. Census Bureau 2023 American Community Survey; STATS America)

24.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Seabrook performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better

understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Seabrook to identify opportunities for integrating mitigation concepts into ongoing City procedures.

24.3.1 Planning and Regulatory Capability and Integration

Table 24-2 summarizes the planning and regulatory tools that are available to Seabrook.

Table 24-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	Ordinance Ch. 18 – Building and Building Regulations; 2023-20	Municipal	Building Dept
Comment: Reduces risk by enforcing regulations to reduce damages and losses from wind and flood events.				
Zoning/Land Use Code	Yes	Seabrook Texas Code of Ordinance Chapter 80	Municipal	Building Dept
Comment: Reduces risk by enforcing regulations to reduce damages and losses from wind and flood events.				
Subdivision Code	Yes	Seabrook Texas Code of Ordinance Chapter 80	Municipal	Planning and Public Work Depts.
Comment: Reduces risk by enforcing regulations to prohibit development in wetland, floodway and other environmental areas.				
Site Plan Code	Yes	Appendix A – Comprehensive Zoning; Chapter 80 - Subdivisions	Municipal	Planning, Building, and Public Works
Comment: Reduces risk by enforcing regulations to City codes and standards.				
Stormwater Management Code	Yes	Chapter 30 – Environment; Seabrook Texas Charter Article II – Flood Damage Prevention;	Municipal	Public Works and Building
Comment: Reduces risk by enforcing regulations to City codes and standards.				
Post-Disaster Recovery/ Reconstruction Code	No	—	—	—
Real Estate Disclosure Requirements	No	—	—	—
Growth Management	No	—	—	—
Environmental Protection Ordinance(s)	Yes	Seabrook Texas Code of Ordinance Chapter 30	Municipal	Public Works and Building
Comment: Reduces risk by protecting the natural environment and provides rules for stormwater pollution prevention				
Flood Damage Prevention Ordinance	Yes	Seabrook Texas Code of Ordinances Chapter 38 – Floods; 2023-21	Municipal	Building and Public Works
Comment: Reduces risk by minimizing flood losses and promote the public health, safety and general welfare of its citizenry.				

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Wellhead Protection	No	—	—	—
Emergency Management Ordinance	Yes	Seabrook Texas Code of Ordinances Ch 26 – Civil Emergencies	Municipal	Emergency Management
Comment: <i>Provides a comprehensive approach encompassing mitigation, preparedness, response, and recovery</i>				
Climate Change Ordinance	No	—	—	—
Other	Yes	Seabrook Texas Code of Ordinances Ch 34 – Fire Prevention and Protection; Ch 95 – Utilities (water conservation and drought contingency plan)	Municipal	Emergency Management; Public Works
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	Comprehensive Master Plan Ordinance 2022-15	Municipal	Planning
Comment: <i>Guides new development to recognize, plan for and reduce losses due to flood risk.</i>				
Capital Improvement Plan	Yes	City Charter Section 5.02 (11)	Municipal	Public Works
Comment: <i>The Capital Improvement Program (CIP) is a recommended schedule of improvements or additions to city capital assets, including the planning and design. The CIP is a 5-year plan, of which the first year represents the proposed capital budget for the current fiscal year.</i>				
Disaster Debris Management Plan	Yes	Seabrook Emergency Operations Plan	Municipal	Emergency Management
Comment: <i>Reduces risk by efficient and orderly removal of hazardous materials and debris from the community.</i>				
Floodplain Management or Watershed Plan	Yes	Seabrook Texas Code of Ordinance Chapter 38	Municipal	Building and Public Works
Comment: <i>Limits or prohibits development in the floodway and floodway fringe.</i>				
Stormwater Management Plan	Yes	Seabrook Texas Code of Ordinance Chapter 80	Municipal	Public Works and Building
Open Space Plan	Yes	Open Space and Parks Master Plan 2020; Comprehensive Zoning Ordinance	Municipal	Public Works and Building
Urban Water Management Plan	No	—	—	—
Habitat Conservation Plan	No	—	—	—
Economic Development Plan	No	—	—	—
Community Wildfire Protection Plan	No	—	—	—
Community Forest Management Plan	No	—	—	—
Transportation Plan	Yes	Major Thoroughfare Plan 2016	—	—
Agriculture Plan	No	—	—	—
Climate Action/Resilience/Sustainability Plan	No	—	—	—

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Tourism Plan	No	—	—	—
Business/ Downtown Development Plan	Yes	Old Seabrook Livable Center Study 2021	Municipal	—
Comment: Consider flood hazards and to design in response to those hazards.				
Other: Stormwater Pollution Prevention Plan	Yes	Seabrook Texas Code of Ordinance Chapter 30	Municipal	Public Works and Building
Comment: Reduces risk by enforcing regulations to prevent pollution/debris/sediment from entering the stormwater system and reducing capacity.				
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	2022 Emergency Operations Plan with Basic Plan with 22 Annexes	Municipal	Emergency Management
Comment: Plans for safe and efficient coordination of the City's emergency preparedness, response and recovery efforts.				
Continuity of Operations Plan	Yes	2022 Emergency Operations Plan with Basic Plan with 22 Annexes	Municipal	Emergency Management
Comment: A plan that establishes a chain of command, line of succession and provides for backup or alternate emergency facilities in case of an extreme emergency.				
Substantial Damage Response Plan	In development	Seabrook Texas Code of Ordinances Ch 36 - Floods	Municipal	Building
Comment: To provide guidelines for the collection, determination, notification, and documentation of substantial damage information.				
Threat and Hazard Identification and Risk Assessment	Yes	2022 Emergency Management Basic Plan and 2022 Annex P Hazard Mitigation	Municipal	Emergency Management
Comment: It identifies the local hazards that have caused or possess the potential to adversely affect public health and safety, public or private property, or the environment.				
Post-Disaster Recovery Plan	Yes	2022 Emergency Management Basic Plan and 2022 Annex J Recovery	Municipal	Emergency Management
Comment: It defines the operational concepts, organizational arrangements, responsibilities, and procedures to accomplish the tasks required for the local government and its citizens and businesses to recover from a major emergency or disaster.				
Public Health Plan	Yes	2022 Emergency Management Basic Plan and 2022 Annex H Health and Medical	Municipal	Emergency Management/EMS
Comment: It outlines the local organization, operational concepts, responsibilities, and procedures to accomplish coordinated public health and medical services to reduce death and injury during emergency situations.				

24.3.2 Development and Permitting Capability

Table 24-3 summarizes the capabilities of Seabrook to oversee and track development.

Table 24-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	Yes	—
- If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?	—	Building
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Flood zone
Do you have a buildable land inventory?	Yes	—
If you have a buildable land inventory, please describe	—	Per City GIS layer
Describe the level of buildout in your jurisdiction.		85% built out

24.3.3 Administrative and Technical Capability

Table 24-4 summarizes potential staff and personnel resources available to Seabrook and their current responsibilities that contribute to hazard mitigation.

Table 24-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	7 board members and 2 staff
Zoning Board of Adjustment	Yes	7 board members and 2 staff
Planning Department	Yes	1.5 staff
Mitigation Planning Committee	No	—
Environmental Board/Commission	No	—
Open Space Board/Committee	Yes	7 board and 3 staff
Economic Development Commission/Committee	Yes	5 board, 2 city council and 3 staff
Public Works/Highway Department	Yes	12 staff
Construction/Building/Code Enforcement Department	Yes	5 staff
Emergency Management/Public Safety Department	Yes	4 Staff, Updating plans and annexes
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works MS4 and CRS requirements
Mutual aid agreements	Yes	With local jurisdictions to Seabrook
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Emergency Management, Police, Fire
Other	—	—
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	4 staff
Engineers or professionals trained in building or infrastructure construction practices	Yes	4 staff

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Planners or engineers with an understanding of natural hazards	Yes	4 staff including 2 CFMs
Staff with expertise or training in benefit/cost analysis	Yes	2 staff
Professionals trained in conducting damage assessments	Yes	5 staff
Personnel skilled or trained in GIS and/or Hazus applications	Yes	3 staff
Staff that work with socially vulnerable populations or underserved communities	No	—
Environmental scientists familiar with natural hazards	No	—
Surveyors	No	—
Emergency manager	Yes	1 staff
Grant writers	Yes	3 consulting firms
Resilience Officer	No	—
Other (this could include stormwater engineer, environmental specialist, etc.)	No	—

24.3.4 Fiscal Capability

Table 24-5 summarizes financial resources available to Seabrook.

Table 24-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	—

24.3.5 Education and Outreach Capability

Table 24-6 summarizes the education and outreach resources available to Seabrook.

Table 24-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	—
Personnel skilled or trained in website development	Yes	—
Hazard mitigation information available on your website	Yes	—
Social media for hazard mitigation education and outreach	Yes	—
Citizen boards or commissions that address issues related to hazard mitigation	No	—
Warning systems for hazard events	Yes	—
Natural disaster/safety programs in place for schools	No	—
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	—
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Flood hazard outreach including flyers, newsletters, social media, website

24.3.6 Community Classifications

Table 24-7 summarizes classifications for community programs available to Seabrook.

Table 24-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	7	2022
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4/4	2022
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	3	2023
National Weather Service StormReady Certification	Yes	—	2024
Firewise Communities classification	No	—	—
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	—	—

N/A = *Not applicable*

— = *Unavailable*

24.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 24-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.

- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 24-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Weak
Drought	Weak
Earthquake	Weak
Extreme Cold	Moderate
Extreme Heat	Moderate
Flooding	Moderate
Hurricane, Coastal Storm	Moderate
Mass Movement	Weak
Severe Weather	Moderate
Tsunami	Weak
Wildfire	Weak
Energy Pipeline Failure	
Public Health Emergency	
Technology Failure	
Toxic Release/Hazardous Materials	
Utility Failure	

24.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 24-1 is responsible for maintaining this information.

24.4.1 NFIP Statistics

Table 24-9 summarizes the NFIP policy and claim statistics for Seabrook.

Table 24-9. Seabrook NFIP Summary of Policy and Claim Statistics

# Policies	4607
# Claims (Losses)	5834
Total Loss Payments	\$250,504,380.04
# Repetitive Loss Properties (NFIP definition)	145
# Repetitive Loss Properties (FMA definition)	18
# Severe Repetitive Loss Properties	22
# Policies Within the 1% Annual Chance Flood Boundary	NA

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: HCFCF and HCOHSEM

24.4.2 Flood Vulnerability Summary

Table 24-10 provides a summary of the NFIP program in Seabrook.

Table 24-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Seabrook's vulnerability to flooding is influenced by its low-lying coastal geography, proximity to major bodies of water, and susceptibility to storm surges, making it crucial for residents and businesses to prepare for flood risks, especially during hurricane season.
Do you maintain a list of properties that have been damaged by flooding?	Yes, through Rep Loss and Flood Insurance claim data
Do you maintain a list of property owners interested in flood mitigation?	No, but we do annual outreach to local homeowners to participate in our Hazard Mitigation Grant Program (HMGP) for elevation of flood-prone structures.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	—
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	—

NFIP Topic	Comments
How do you make Substantial Damage determinations?	After a disaster, local government officials, typically from Seabrook's Building Department or Emergency Management teams, conduct property assessments. These officials evaluate the extent of the damage to both residential and commercial properties to determine whether the damage qualifies as substantial or not.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	—
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	—
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Building Department
Are any certified floodplain managers on staff in your jurisdiction?	2
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review for new and substantially improved projects. GIS mapping of floodplain and structure information. Flood Hazard and Flood Insurance outreach and education. Inspection of construction and development in the floodplain. HMGP Home elevation grant program.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Review of Improvement values in comparison with detailed renovation cost estimates.
What are the barriers to running an effective NFIP program in the community, if any?	Personnel and funding.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2023
What is the local law number or municipal code of your flood damage prevention ordinance?	City Ordinance No 2023-21 Chapter 38 – Floods
What is the date that your flood damage prevention ordinance was last amended?	9/5/2023
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Exceeds: applies an 18" freeboard to new and substantially improved structures, equipment, and utilities. Our flood ordinance extends enforcement of all floodplain regulations to the entire city (outside the SFHA).

NFIP Topic	Comments
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	—
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Seabrook is a Class 7 CRS Community; we are working to improve our class rating to a 6.

24.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 24-11 through Table 24-13.

Table 24-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	30	5	2	37
Permits within SFHA	15	5	2	22
2021				
Total Permits	35	0	6	41
Permits within SFHA	17	0	5	22
2022				
Total Permits	43	16	3	62
Permits within SFHA	35	16	3	54
2023				
Total Permits	-	0	-	-
Permits within SFHA	-	0	-	-
2024				
Total Permits	-	-	-	-
Permits within SFHA	-	-	-	-

SFHA = Special Flood Hazard Area (1% flood event)

Table 24-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

* Only location-specific hazard zones or vulnerabilities identified.

Table 24-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Seabrook Town Center	Multi Family	300	-	AE-13	-
Seabrook Town Center	Commercial / Retail	8 Retail shells	-	AE-13	-
Freezer Warehousing	-	-	-	AE-12	-
Mid Rise Multifamily	-	-	-	AE-15	-
Warehouse Development	-	-	-	AE-12 / X-S	Future Development

24.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Seabrook's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

24.6.1 Hazard Event History

The history of natural and non-natural hazard events in Seabrook is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 24-14 provides details on loss and damage in Seabrook during hazard events since the last hazard mitigation plan update.

Table 24-14. Hazard Event History in Seabrook

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
1/10/2020 – 1/10/2020	Thunderstorm Wind	No	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	-
1/20/2020 – 5/11/2023	<u>DR-4485-TX</u> <u>EM-3458-TX</u> - COVID-19 Pandemic - COVID-19	Yes Yes	COVID-19; Public Health Emergency – local disaster declared as COVID-19 swept the region.	As a coastal community with a mix of residential and tourism-driven economies, the closure of local attractions, restaurants, and retail stores had a noticeable impact on its economy.
4/18/2020 – 4/18/2020	Hail	No	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	-
5/6/2020 – 2/18/2020	<u>USDA S4669</u> Drought	Yes	USDA S4669	-
5/15/2020 – 5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	-

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
5/27/2020 – 5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	-
7/25/2020 – 7/31/2020	EM-3530-TX Hurricane Hanna	Yes	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	No impacts.
8/23/2020 – 8/27/2020	EM-3540-TX Tropical Storms Marco and Laura	Yes	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There were no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	No significant impacts. Minor flooding due to storm surge in our normal low-lying areas. No closures, damages or losses.
9/21/2020	- Flooding - Flash Flooding	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	The city closed for normal business and non-essential personnel for (1) day September 21, 2020. No reported losses or damages.
2021	Technology Failure	No	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	-

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
2/11/2021 – 2/21/2021	<u>DR-4586-TX</u> <u>EM-3554-TX</u> - Severe Ice Storm - Power Failure - Extreme Cold	Yes	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	Total \$229,276.72 in damages reported to FEMA via Grants Portal. - Barricades placed at SH 146 blocking north and south bound traffic for bridge closure. - Barricades placed at SH 146 and Red Bluff blocking access to SH 146 north and south bound for overpass closure. - Portable stop signs placed at traffic signals that lost power (146 @ Nasa/Main, 146 @ Repsdorph/E Meyer, Nasa @ Lakeside, Nasa @ Repsdorph, and Red Bluff @ Lakeside). Signs remained due to continuous power on/off fluxes city wide. - Water supply/pressure from Pasadena was lost early on during the event and City Wells utilized to maintain the system. Water conservation messages also deployed to residents to reduce the strain on the system. - City had to issue a boil water notice as City of Houston Water Purification Plant which supplies City of Pasadena who then supply City of Seabrook issued boil water notices. City system pressure never fell below 36 PSI; boil water notice required by TCEQ if pressure drops to 20 PSI. - City Hall lost power; backup generator also went down due to hole in radiator but a third portable generator was connected to return power. - Multiple sewer lift stations had power fluctuations throughout the event which required portable generators to be continuously rotated to pump down each site (Bayview, Pine Gully, Seascape, Repsdorph, Lakeside, Lakeside 8, Sargent). - Main Street Wastewater Treatment Plant lost power and required generator connection. - Staff was able to rent two 85 Kw generators (one from La Port and one from Beaumont) to support wastewater lift station operations. - Gas/Diesel was not able to deliver order due to weather conditions. Staff used Fuelman card where they could to get gas (as far as Webster for fuel). Staff also went to CCISD bus barn (League City area) for available fuel from their stock.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
5/18/2020 – 5/18/2020	- Thunderstorm Wind - Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	—
July 2021	Toxic Release/ HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	—
9/12/2021 – 9/12/2021	Tropical Storm Nicholas	-	-	On 9/13 Nicholas made landfall bringing high winds and heavy rain and caused widespread structure damage to fishing piers and trees with tidal flooding along the bay. Post landfall damage assessment teams identified numerous flooded roadways which prohibited access. Substantial fishing pier damage was observed along with downed trees. Several structures were identified to have anywhere from 6" to 3 feet of flood damage.
December 2021	Toxic Release/ HazMat	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
1/8/2022 – 1/8/2022	- Tornado - Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	—
3/15/2022 – N/A	Drought	Yes	USDA S5188	—
5/10/2022 – N/A	Drought	Yes	USDA S5197	—
4/5/2022 – N/A	Drought	Yes	USDA S5209	—
4/12/2022 – N/A	Drought	Yes	USDA S5214	—
6/14/2022 – N/A	Drought	Yes	USDA S5221	—
7/19/2022 – N/A	Drought	Yes	USDA S5240	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
8/2/2022 – N/A	Drought	Yes	USDA S5252	—
5/1/2022 – 9/30/2022	Excessive Heat	Yes	USDA S5350	—
8/10/2022 – 8/10/2022	- Thunderstorm Wind - Lightning	No	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	—
December 2022	Technology Failure	No	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	—

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
1/24/2023 – 1/24/2023	Tornado	No	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage. Spots with more severe damage, rated EF2, included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. Three high-tension electrical towers were flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes.	—
4/5/2023 – 4/3/2023	Hail	No	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	-
5/5/2023 – 5/5/2023	Toxic Release/HazMat	No	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	-

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
5/8/2023 – 5/8/2023	- Thunderstorm, Wind - Flash Flood - Hail	No	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	-
6/23/2023 – 6/23/2023	Hail	No	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	-
8/15/2023 – N/A	Drought	Yes	USDA S5499	-
8/22/2023 – N/A	Drought	Yes	USDA S5511	-
11/1/2023 – N/A	Drought	Yes	USDA S5683	-
4/26/2024 – 6/5/2024	DR-4781-TX - Severe Storms - Straight-Line Winds - Tornadoes - Flooding	Yes		No Impacts.
4/26/2024 – 6/5/2024	Flood	No	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	-
5/2/2024 – 5/2/2024	- Severe Weather - Flooding	No	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	No Impacts.
5/16/2024	DR-4781-TX - Severe Weather - Tornadoes - Strong Wind - Hail - Flooding	Yes	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	5/16/2024

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Morgan's Point
7/5/2024 – 7/9/2024	DR-4798-TX Hurricane Beryl	Yes DR-4798-TX	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	Vegetation and construction debris amounted to 29,448.05 CY. Total of \$758,971.78 in damages reported to FEMA Grants Portal.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025); (NOAA/NCEI 2025)

24.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding vulnerability to the identified hazards. The following presents key risk assessment results for Seabrook.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Seabrook reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 24-15 shows Seabrook’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 24-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricane, Coastal Storm	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Low
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	Medium
Toxic Release/Hazardous Materials	Medium
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Of the 86 critical facilities in the City of Seabrook, some are located in certain hazard risk areas. Table 24-16 summarizes how many facilities there are in each of the flood and wildfire risk areas.

Table 24-16. Critical Facilities Flood Vulnerability

Hazard Area	Number of Critical Facilities
1% Annual Chance Riverine Flood	30
1% Annual Chance Coastal Flood	44
Hurricane Harvey Flood Extent	71
Addicks Dam Inundation Area	0
Barker Dam Inundation Area	0
Lake Houston Dam Inundation Area	0
Low Wildfire Threat	14
Moderate Wildfire Threat	0
High Wildfire Threat	0
Very High Wildfire Threat	0

Source Harris County

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in Seabrook:

- None Identified

24.6.3 Identified Issues

After review of Seabrook’s hazard event history, hazard rankings, hazard location, and current capabilities, Seabrook identified the following vulnerabilities within the community:

- None Identified

24.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

24.7.1 Past Mitigation Action Status

Table 24-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 24-17. Status of Previous Mitigation Actions

SBK1 —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.	
Hazards Addressed	Flooding, Hurricanes and Coastal Storms, Severe Weather
Responsible Party	Building
Summary of Original Problem and Solution (Project)	Community risk for flooding from tidal surge events. Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Working on a plan to retrofit water treatment facility from repetitive loss area. Also, working to flood proof City Hall, EOC, Courts and PD from high storm surge.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—
SBK2 —Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Capital Improvement Programs, Master Plans, and Strategic Plans.	
Hazards Addressed	All
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Capital Improvement Programs, Master Plans, and Strategic Plans.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	CIPs are created addressing hazard issues (streets, utilities, facilities)
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

SBK3—Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.

Hazards Addressed	All hazards
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Attend Stakeholder meetings for all hazard mitigation planning.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

SBK4—Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.

Hazards Addressed	
Responsible Party	Building
Summary of Original Problem and Solution (Project)	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance. Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	—
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

SBK5—Relocate the current Waste Water Treatment facility from the location on Galveston Bay to a high location in the City.

Hazards Addressed	
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Relocate the current Waste Water Treatment facility from the location on Galveston Bay to a high location in the City.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Construction is in progress with completion expected April 2024.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK6—Develop reliable fiber-optic communications network to maintain communications during disasters, and facilitate disaster preparedness and recovery for data network.

Hazards Addressed	Extreme Cold, Hurricanes and Coastal Storms, Severe Weather, Technology Failure, Utility Failure
Responsible Party	Public Works / IT
Summary of Original Problem and Solution (Project)	Hazards (wind/lightning/ice accumulation) take out above-ground communication network(s). Develop reliable fiber-optic communications network to maintain communications during disasters, and facilitate disaster preparedness and recovery for data network.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	IT currently working on network and approximately 85% complete. 2022 had an additional 10% completion bringing project to 95% complete
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK7—Relocate the current Emergency operations Center (EOC) and Police Department to a higher elevation site within the City of Seabrook.

Hazards Addressed	Hurricanes and Coastal Storms, Severe Weather
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	The current location is prone to flooding from tidal/storm surge. Relocate the current Emergency operations Center (EOC) and Police Department to a higher elevation site within the City of Seabrook.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Currently working to identify locations and funding sources. Contracts have been awarded to conduct needs assessment. Bond election being held to fund the project.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK8—Establish emergency water supply lines and infrastructure to provide alternate emergency pathways during water breaks/Shortages by installing more connections and valves to shut-off or re-route water.

Hazards Addressed	Drought, Extreme Cold, Extreme Heat, Flooding, Hurricanes and Coastal Storms, Mass Movement, Severe Weather, Utility Failure
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Establish emergency water supply lines and infrastructure to provide alternate emergency pathways during water breaks/Shortages by installing more connections and valves to shut-off or re-route water.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	GEON WL project 90% complete; still need to tie interconnect to City of Pasadena system.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK9—Improve code/ordinance to require removal of dead vegetation/dry fuel sources in risk areas.	
Hazards Addressed	Wildfire
Responsible Party	Building
Summary of Original Problem and Solution (Project)	Improve code/ordinance to require removal of dead vegetation/dry fuel sources in risk areas.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Building code enforcement staff reviewing current ordinances.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-
SBK10— Install early warning systems for public buildings.	
Hazards Addressed	All
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Providing audible notification for public hazards. Install early warning systems for public buildings.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Reviewing appropriate early warning systems.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-
SBK11—Install flood barrier systems, i.e. modular flood panels designed to withstand high velocity water loads and high impact forces to enhance flood protection at critical care and/or public infrastructure.	
Hazards Addressed	Flooding, Hurricanes and Coastal Storms, Severe Weather
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Install flood barrier systems, i.e. modular flood panels designed to withstand high velocity water loads and high impact forces to enhance flood protection at critical care and/or public infrastructure.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Continuing to conduct feasibility study of viable options and funding sources. Have completed preliminary planning/cost for City Hall; seeking funding source
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK12—Harden water piping lines and systems with non-corrosive linings/coatings (Drought resistant materials) to prevent loss of water due to breaks caused by dry ground conditions from Drought.

Hazards Addressed	Drought
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	AC pipes are susceptible to breakage during drought and after drought conditions. Harden water piping lines and systems with non-corrosive linings/coatings (Drought resistant materials) to prevent loss of water due to breaks caused by dry ground conditions from Drought.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Have completed preliminary planning/cost for City Hall; seeking funding sources.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK13—Implement a tree management program to limit debris damage to critical infrastructure, and public facilities from falling tree canopy.

Hazards Addressed	Hurricanes and Coastal Storm, Extreme Cold, Severe Weather, Utility Failure
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Implement a tree management program to limit debris damage to critical infrastructure, and public facilities from falling tree canopy.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	All Critical Infrastructure has been protected from falling tree canopy.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK14—Increase Haz-Mat training/equipment for local responders.

Hazards Addressed	Energy Pipeline Failures, Public Health Emergency, Toxic Release/Hazardous Materials
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Increase Haz-Mat training/equipment for local responders.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	First responders receive annual hazmat training on an annual basis at a minimum.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK15—Continue on building the relationships with local essential personnel throughout the neighboring communities and communications to the Public. Strengthen relationships with TDEM personnel.

Hazards Addressed	Extreme Cold, Extreme Heat, Flood, Hurricanes, Severe Weather, Energy Pipeline Failure, Public Health Emergency, Toxic Release/Hazardous Materials, Utility Failure
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Continue on building the relationships with local essential personnel throughout the neighboring communities and communications to the Public. Strengthen relationships with TDEM personnel.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	City leaders and emergency management team remains engaged at regional LEPC meetings and leadership groups. Continue to interact with local emergency planners, LEPC's, and citizen advisory groups.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK16—Harden wastewater piping lines and systems with non-corrosive linings/coatings (Drought resistant materials) to prevent loss of water due to breaks caused by dry ground conditions from Drought.

Hazards Addressed	Drought
Responsible Party	Public Works/Building
Summary of Original Problem and Solution (Project)	AC pipes are susceptible to breakage during drought and after drought conditions. Harden wastewater piping lines and systems with non-corrosive linings/coatings (Drought resistant materials) to prevent loss of water due to breaks caused by dry ground conditions from Drought.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Wastewater lines are replaced as funding becomes available. 2023: Old AC wastewater mains being replaced with PVC via pipe bursting; Hardesty St and Hall St.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK17—Conform to NOAA ATLAS 14 standards in all Repetitive Loss areas impacted by 100-year storm event.

Hazards Addressed	Flooding, Hurricanes and Coastal Storms, Severe Weather
Responsible Party	Public Works/Building
Summary of Original Problem and Solution (Project)	Conform to NOAA ATLAS 14 standards in all Repetitive Loss areas impacted by 100-year storm event.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Engineering worked with Harris County to becoming compliant where pertinent. This has been approved by the county. 2023: Have incorporated the new Harris County Standards (Atlas 14).
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK18—Eliminate low lying areas that prohibit emergency access during Flood events. Remove to NOAA ATLAS 14 Guidelines.

Hazards Addressed	Flooding, Hurricanes and Coastal Storms, Severe Weather
Responsible Party	Building/Public Works
Summary of Original Problem and Solution (Project)	Eliminate low lying areas that prohibit emergency access during Flood events. Remove to NOAA ATLAS 14 Guidelines.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	The city is working to identify areas and notify impacted parties. Solutions are being evaluated.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK19—Improve or install lighter color roofing materials or cooler paving materials.

Hazards Addressed	Extreme Heat
Responsible Party	Building
Summary of Original Problem and Solution (Project)	Improve or install lighter color roofing materials or cooler paving materials.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Roof color changed at City Hall.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK20—Identify exposed/above ground pipelines in flood hazard area.

Hazards Addressed	Drought, Extreme Cold, Extreme Heat, Flooding, Hurricanes and Coastal Storms, Mass Movement, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Above ground pipes susceptible and exposed to weather conditions, wind and water driven debris. Identify exposed/above ground pipelines in flood hazard area.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Water and wastewater infrastructure hanging on bridges added to CIP
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK21—Replace the three existing water flow culverts with bridges, Second Street, Elmar and Meyer and Pine Gully.

Hazards Addressed	Flooding, Hurricanes and Coastal Storms, Severe Weather
Responsible Party	Public Works
Summary of Original Problem and Solution (Project)	Storm water flow/volume restrictions and street elevation during surge events creates inaccessible locations/property/streets. Replace the three existing water flow culverts with bridges, Second Street, Elmar and Meyer and Pine Gully.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Funding and coordination with other jurisdictions
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Replace existing water crossing with boxes/bridges at Main Street, El Mar at N Meyer, Pine Gully at Todville and Baywood Drive.
If discontinue, explain why	—

SBK22—Identify vulnerable populations to extreme heat hazards.

Hazards Addressed	Extreme Heat
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Identify vulnerable populations to extreme heat hazards.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Worked with STEAR to register vulnerable populations
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK23—Develop/implement a Winter Storm Public Education Program for home heating, to educate the public on winter hazards and personal actions to mitigate winter damages to property and to safely heat homes.

Hazards Addressed	Severe Weather
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Develop/implement a Winter Storm Public Education Program for home heating, to educate the public on winter hazards and personal actions to mitigate winter damages to property and to safely heat homes.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	EM and Communications department worked together and delivered PSA for winter storms.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	-
If discontinue, explain why	-

SBK24—Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Tsunami, Wildfire, Hazardous Materials, Severe Weather, Mass Movement
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Actively participate in and support the implementation of the area-wide actions identified in Volume 1 of this plan.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	—
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

SBK_25—Updated of electrical service and provide backup power to the Community House for emergencies to use as a temporary operations center or employee staging area.

Hazards Addressed	Drought, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City of Seabrook
Summary of Original Problem and Solution (Project)	Electrical service is susceptible to damage from natural hazards.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Placed on CIP in 2022 and currently in pre-planning and funding through available grants. Project application under review for HMGP Grant.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Update electrical service and provide backup power to the Community House for emergencies to use as a temporary operations center or employee staging area.
If discontinue, explain why	—

SBK_26—Replace City Hall generator as design life is expiring.

Hazards Addressed	Coastal Erosion, Dam/Levee Failure, Drought, Earthquakes, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Mass Movement, Severe Weather, Tsunami, Wildfire
Responsible Party	City of Seabrook
Summary of Original Problem and Solution (Project)	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Placed on CIP in 2022 and currently in pre-planning and funding through available grants. Project application under review for HMGP Grant.—
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

SBK27—Replace the generator at the Fire Station as it is reaching end of life operation.	
Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Tsunami, Wildfire, Hazardous Materials, Severe Weather, Mass Movement
Responsible Party	City of Seabrook
Summary of Original Problem and Solution (Project)	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Placed on CIP in 2022 and currently in pre-planning and funding through available grants. Project application under review for HMGP Grant.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—
SBK28—Provide portable generator power at one of 20 lift stations located within the City.	
Hazards Addressed	All Natural Hazards, Blackouts and Power Outages, Utility Failure
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Placed on CIP in 2022 (WW16) and currently in pre-planning and funding through available grants. Project application under review for HMGP Grant.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	—
If discontinue, explain why	—

24.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 24-17, Seabrook identified the following mitigation efforts completed since the last HMP:

- None Identified

Since the adoption of the County's first HMP, Seabrook has made significant mitigation progress in the following areas:

- None Identified

24.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Seabrook participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Seabrook would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 24-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 24-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 24-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	-	-	-	-	-	-	-	-	-
Hurricanes and Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 24-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SBK_1	Implement a tree management program to limit debris damage to critical infrastructure, public facilities from falling tree canopy.																High
SBK_2	Identify exposed/above ground pipelines in flood hazard area.																High
SBK_3	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Capital Improvement Programs, Master Plans, and Strategic Plans.																High
SBK_4	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.																High
SBK_5	Develop reliable fiber-optic communications network to maintain communications during disasters, and facilitate disaster preparedness and recovery for data network.																High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SBK_6	Harden water piping lines and systems with non-corrosive linings/coatings (Drought resistant materials) to prevent loss of water due to breaks caused by dry ground conditions from Drought.																High
SBK_7	Harden waste water piping lines and systems with non-corrosive linings/coatings (Drought resistant materials) to prevent loss of water due to breaks caused by dry ground conditions from Drought.																High
SBK_8	Conform to NOAA ATLAS 14 standards in all Repetitive Loss areas impacted by 100-year storm event.	1	1	1	1	0	0	1	1								Low
SBK_9	Eliminate low lying areas that prohibit emergency access during Flood events. Remove to NOAA ATLAS 14 Guidelines.																High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SBK_10	Establish emergency water supply lines and infrastructure to provide alternate emergency pathways during water breaks/Shortages by installing more connections and valves to shut-off or re-route water.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SBK_11	Improve code/ordinance to require removal of dead vegetation/dry fuel sources in risk areas.	1	0	0	0	0	1	1	1	0	1	1	1	0	1	8	Medium
SBK_12	Increase Haz-Mat training/equipment for local responders.	1	0	1	0	1	1	1	1	1	1	1	1	1	1	12	High
SBK_13	Identify vulnerable populations to extreme heat hazards.	1	0	1	1	1	0	0	1	1	1	1	1	1	1	12	High
SBK_14	Develop/implement a Winter Storm Public Education Program for home heating, to educate the public on winter hazards and personal actions to mitigate winter damages to property and to safely heat homes.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SBK_15	Actively participate in and support the implementation of the area-wide actions identified in Volume 1 of this plan.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SBK_16	Relocate the current Waste Water Treatment facility from the location on Galveston Bay to a high location in the City.	1	1	1	1	1	1	1	0	1	1	0	1	1	1	12	High
SBK_17	Replace existing water crossing with boxes/bridges at Main Street, El Mar at N Meyer, Pine Gully at Todville and Baywood Drive.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SBK_18	"Continue on building the relationships with local essential personnel throughout the neighboring communities and communications to the Public.	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
SBK_19	Strengthen relationships with TDEM personnel."	0	0	0	0	0	1	1	1	0	1	1	1	0	1	7	Medium
SBK_20	Relocate the current Emergency Operations Center (EOC) and Police Department to a higher elevation site within the City of Seabrook	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Project Number	Project Name	Scores for Evaluation Criteria														Total	High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
SBK_21	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	0	0	1	1	1	1	0	1	1	1	0	1	10	Medium
SBK_22	Install early warning systems for public buildings.	1	0	0	0	0	1	0	1	0	1	1	1	0	1	7	Medium
SBK_23	Improve or install lighter color roofing materials or cooler paving materials.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SBK_24	Install dry floodproofing measures including: flood barrier systems, opening barrier designed to withstand water loads and high impact forces, protection of utilities, sealing of building penetrations, modular flood panels to enhance flood protection at critical care and/or public infrastructure.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SBK_25	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SBK_26	Update electrical service and provide backup power to the Community House for emergencies to use as a temporary operations center or employee staging area.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SBK_27	Replace City Hall generator as design life is expiring.	0	1	1	1	1	1	1	1	1	1	1	1	1	1	13	High
SBK_28	Replace the generator at the Fire Station as it is reaching end of life operation.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action SBK_25 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	
Hazards of Concern:	Extreme Cold, Flooding, Hurricanes and Coastal Storms, Severe Weather
Description of the Problem:	Flood protection of public facilities to include protective measures for water, sanitary sewer, electrical and communications systems.
Description of the Solution:	
Estimated Cost:	
Potential Funding Sources:	
Implementation Timeline:	
Goals Met:	
Benefits:	
Impact on Socially Vulnerable Populations:	
Impact on Future Development:	
Impact on Critical Facilities/Lifelines:	
Impact on Capabilities:	
Climate Change Considerations:	
Mitigation Category	
CRS Category	
Priority	

Action SBK_26 Worksheet

Lead Agency:	Public Works
Supporting Agencies:	
Hazards of Concern:	Coastal Erosion, flooding, drought, hurricanes and coastal storms, severe weather
Description of the Problem:	The City does not have a master drainage / management plan.
Description of the Solution:	Develop a community wide storm water drainage/management plan incorporating elements to encourage low impact development and natural functions.
Estimated Cost:	
Potential Funding Sources:	
Implementation Timeline:	
Goals Met:	
Benefits:	
Impact on Socially Vulnerable Populations:	
Impact on Future Development:	
Impact on Critical Facilities/Lifelines:	
Impact on Capabilities:	
Climate Change Considerations:	
Mitigation Category	
CRS Category	
Priority	

25. CITY OF SHOREACRES

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Shoreacres with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Shoreacres, describes who participated in the planning process, assesses Shoreacres’ risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

25.1 HAZARD MITIGATION PLANNING TEAM

The City of Shoreacres identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Shoreacres Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 25-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 25-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: <i>Troy Harrison / City Manager</i> Address: <i>N/A</i> Phone Number: <i>281-307-1959</i> Email: THarrison@shoreacrestx.us	Name/Title: <i>N/A</i> Address: <i>N/A</i> Phone Number: <i>N/A</i> Email: <i>N/A</i>
National Flood Insurance Program Floodplain Administrator	
Name/Title: <i>Troy Harrison</i> Address: <i>601 Shoreacres Blvd, La Porte, TX 77571</i> Phone Number: <i>281-471-2244</i> Email: tharrison@cityofshoreacres.us	

25.2 COMMUNITY PROFILE

25.2.1 Location

The City of Shoreacres is located in the southeast portion of Harris County, bordered by the Cities of La Porte, Pasadena, and Houston. The city covers approximately 1 square mile in total, mostly all land with 0.06 square miles of water. The city’s borders consist of Spencer Highway to the

north, the Houston Ship Channel to the south, and residential areas to the east and west. Shoreacres is primarily residential, with a small number of commercial establishments.

25.2.2 Governing Body

Shoreacres is governed by a five-member City Council under the city manager form of government as adopted under Ordinance No. 2017-266 that was approved by city council June 12, 2017. The current City Manager is Troy D. Harrison, Sr. The current Mayor is David Jennings. The council consists of five at-large Alderpersons, including Mayor Pro-Tempore Jerome McKown, Felicia Ramos, Raul Greeson, Ron Hoskins, and Wes Bell. Council members serve staggered two-year terms.

The city provides police, recycling, parks, planning, zoning, floodplain management, and building code inspections among its services. The city provides fire, sanitation, and emergency medical services by contract.

The City of Shoreacres assumes responsibility for the adoption of this plan; the City of Shoreacres will oversee its implementation.

25.2.3 Population and Demographics

According to the U.S. Census, the 2020 population for Shoreacres was 1,566, a 4.4 percent increase from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 4.2 percent of the population is 5 years of age or younger, 17.8 percent is 65 years of age or older, 0.0 percent is non-English speaking, 3.2 percent is below the poverty threshold, and 21.5 percent is considered disabled.

25.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Shoreacres performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs

- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Shoreacres to identify opportunities for integrating mitigation concepts into ongoing City procedures.

25.3.1 Planning and Regulatory Capability and Integration

Table 25-2 summarizes the planning and regulatory tools that are available to Shoreacres.

Table 25-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	Chapter 10, Buildings and Building Code, 11/2023	Municipal	Building Dept
Zoning/Land Use Code	Yes	Chapter 50, Planning, 11/2023	Municipal	Building Dept
Subdivision Code	No	N/A	N/A	N/A
Site Plan Code	Yes	Chapter 10, Building and Building Code, 11/2023	Municipal	Building Dept.
Stormwater Management Code	Yes	Chapter 30, Floods, 12, 2023	Municipal	Building Dept.
Post-Disaster Recovery/ Reconstruction Code	Yes	Chapter 10, Buildings and Buildings Code, 12/2023	Municipal	Building Dept
Real Estate Disclosure Requirements	No	N/A	N/A	N/A
Growth Management	No	N/A	N/A	N/A
Environmental Protection Ordinance(s)	No	N/A	N/A	N/A
Flood Damage Prevention Ordinance	Yes	Section 30-Article II, Flood Damage Prevention, 12/2023	Municipal	Flood Plain Administrator
Wellhead Protection	No	N/A	N/A	N/A
Emergency Management Ordinance	Yes	Chapter 14, Civil Emergencies, Article I, 11/2009	Municipal	EMD
<i>Provides directions in case of an emergency to ensure steps are taken to accurately respond to any emergency.</i>				
Climate Change Ordinance	No	N/A	N/A	N/A
Other	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
PLANNING DOCUMENTS				
Comprehensive Plan	No	N/A	N/A	N/A
Capital Improvement Plan	No	N/A	N/A	N/A
Disaster Debris Management Plan	Yes	MOU W/ Harris County Pct 2	N/A	N/A
Floodplain Management or Watershed Plan	Yes	Chapter 30 Flooding, 12/2023	Municipal	Floodplain Admin
Stormwater Management Plan	Yes	Chapter 30 Flooding 12/2023	Municipal	Floodplain Admin
Open Space Plan	No	N/A	N/A	N/A
Urban Water Management Plan	No	N/A	N/A	N/A
Habitat Conservation Plan	No	N/A	N/A	N/A
Economic Development Plan	None	N/A	N/A	N/A
Community Wildfire Protection Plan	No	N/A	N/A	N/A
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	No	N/A	N/A	N/A
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/ Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	No	N/A	N/A	N/A
Shoreline Management Plan	No	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Chapter 14, Article 14 – Civil Emergencies, 11/2009	Municipal	EMD
Continuity of Operations Plan	No	N/A	N/A	N/A
Substantial Damage Response Plan	Yes	Section 30, Article II Flood Damage, 12/2023	Municipal	Building Dept
<i>This assures that houses are not rebuilt after continuous damage.</i>				
Threat and Hazard Identification and Risk Assessment	No	N/A	N/A	N/A
Post-Disaster Recovery Plan	No	N/A	N/A	N/A
Public Health Plan	No	N/A	N/A	N/A

25.3.2 Development and Permitting Capability

Table 25-3 summarizes the capabilities of Shoreacres to oversee and track development.

Table 25-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	No	N/A
- If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?		Small city, logs are kept in spreadsheets
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	—
Do you have a buildable land inventory?	No	N/A
If you have a buildable land inventory, please describe	N/A	N/A
Describe the level of buildout in your jurisdiction.		Getting close to 100%

25.3.3 Administrative and Technical Capability

Table 25-4 summarizes potential staff and personnel resources available to Shoreacres and their current responsibilities that contribute to hazard mitigation.

Table 25-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Appointed by Council
Zoning Board of Adjustment	Yes	Appointed by Council
Planning Department	No	N/A
Mitigation Planning Committee	No	N/A
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	No	N/A
Public Works/Highway Department	No	Contracted out, one part-time Parks employee
Construction/Building/Code Enforcement Department	Yes	Building inspector, PD serves as Code Enforcement
Emergency Management/Public Safety Department	Yes	City Manager serves as EMC
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Monies budgeted for ditch cleaning, culvert clearing
Mutual aid agreements	Yes	La Porte FD, La Porte EMS
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	N/A
Other	No	N/A

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	No	N/A
Engineers or professionals trained in building or infrastructure construction practices	Yes	Not on staff, but contracted out
Planners or engineers with an understanding of natural hazards	Yes	Contracted
Staff with expertise or training in benefit/cost analysis	No	N/A
Professionals trained in conducting damage assessments	No	N/A
Personnel skilled or trained in GIS and/or Hazus applications	No	N/A
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	Yes	—
Grant writers	No	N/A
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	No	N/A

25.3.4 Fiscal Capability

Table 25-5 summarizes financial resources available to Shoreacres.

Table 25-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	—
Incur debt through private activity bonds	—
Withhold public expenditures in hazard-prone areas	—
Other federal or state funding programs	—
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	—

25.3.5 Education and Outreach Capability

Table 25-6 summarizes the education and outreach resources available to Shoreacres.

Table 25-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	City Manager
Personnel skilled or trained in website development	Yes	Mayor
Hazard mitigation information available on your website	Yes	Updated
Social media for hazard mitigation education and outreach	Yes	Website, social media, mailing
Citizen boards or commissions that address issues related to hazard mitigation	No	No schools
Warning systems for hazard events	Yes	Through La Porte EMC, local social media, Blackboards
Natural disaster/safety programs in place for schools	No	No schools
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	—
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Social Media, mailings

25.3.6 Community Classifications

Table 25-7 summarizes classifications for community programs available to Shoreacres.

Table 25-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	7	12/2024
Building Code Effectiveness Grading Schedule (BCEGS)	No	—	—
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	—	—
National Weather Service StormReady Certification	Yes	—	—
Firewise Communities classification	N/A	—	—
Other: Organizations with mitigation focus (advocacy group, non-government)	—	—	—

N/A = Not applicable

— = Unavailable

25.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and

withstand a future hazard event, future conditions, and changing risk. Table 25-8 summarizes the adaptive capacity for each identified hazard of concern and the City's capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 25-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Weak
Drought	Weak
Earthquake	Moderate
Extreme Cold	Weak
Extreme Heat	Moderate
Flooding	Moderate
Hurricane, Coastal Storm	Moderate
Mass Movement	Weak
Severe Weather	Moderate
Tsunami	Weak
Wildfire	Weak
Energy Pipeline Failure	Weak
Public Health Emergency	Moderate
Technology Failure	Moderate
Toxic Release/Hazardous Materials	Weak
Utility Failure	Moderate

25.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 25-1 is responsible for maintaining this information.

25.4.1 NFIP Statistics

Table 25-9 summarizes the NFIP policy and claim statistics for Shoreacres.

Table 25-9. Shoreacres NFIP Summary of Policy and Claim Statistics

# Policies	203
# Claims (Losses)	490
Total Loss Payments	\$39,642,159.74
# Repetitive Loss Properties (NFIP definition)	25
# Repetitive Loss Properties (FMA definition)	8
# Severe Repetitive Loss Properties	6
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: HCFCF and HCOHSEM

25.4.2 Flood Vulnerability Summary

Table 25-10 provides a summary of the NFIP program in Shoreacres.

Table 25-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	The entire City of Shoreacres is prone to flooding, some areas as often as high tides.
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	Yes
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	3
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	No recent
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes

NFIP Topic	Comments
NFIP Compliance	
What local department is responsible for floodplain management?	Contracted
Are any certified floodplain managers on staff in your jurisdiction?	No, contracted
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review, education, inspections, engineering capabilities
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	More than 50% value of the home, not including the lot
What are the barriers to running an effective NFIP program in the community, if any?	None
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2024
What is the local law number or municipal code of your flood damage prevention ordinance?	2016
What is the date that your flood damage prevention ordinance was last amended?	—
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	We utilize the Board of Adjustments for any variance requests
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	N/A

25.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 25-11 through Table 25-13.

Table 25-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	1	0	0	1
Permits within SFHA	1	0	0	1
2021				
Total Permits	5	0	0	5
Permits within SFHA	5	0	0	5
2022				
Total Permits	9	0	0	9
Permits within SFHA	5	0	0	5
2023				
Total Permits	7	0	0	7
Permits within SFHA	5	0	0	5
2024				
Total Permits	4	0	0	4
Permits within SFHA	4	0	0	4

SFHA = Special Flood Hazard Area (1% flood event)

Note: This city is 100% residential except for the Houston Yacht Club. Only single-family residences are allowed.

Table 25-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

* Only location-specific hazard zones or vulnerabilities identified.

Table 25-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

25.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding vulnerability to the identified hazards, including summaries of Shoreacres's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

25.6.1 Hazard Event History

The history of natural and non-natural hazard events in Shoreacres is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 25-14 provides details on loss and damage in Shoreacres during hazard events since the last hazard mitigation plan update.

Table 25-14. Hazard Event History in Shoreacres

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
1/10/2020 – 1/10/2020	Thunderstorm Wind	No	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	N/A
1/20/2020 – 5/11/2023	<u>DR-4485-TX</u> <u>EM-3458-TX</u> COVID-19 Pandemic COVID-19	Yes Yes	COVID-19; Public Health Emergency – local disaster declared as COVID-19 swept the region.	City services suspended for several days
4/18/2020 – 4/18/2020	Hail	No	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	N/A
5/6/2020 – 2/18/2020	Drought	Yes	USDA S4669	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
5/15/2020 – 5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	N/A
5/27/2020 – 5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage	N/A
7/25/2020 – 7/31/2020	EM-3530-TX Hurricane Hanna	Yes	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
8/23/2020 – 8/27/2020	EM-3540-TX Tropical Storms Marco and Laura	Yes	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There were no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	None
9/21/2020	- Storm Surge - Flooding - Flash Flooding	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	None
2021	Technology Failure	No	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
2/11/2021 – 2/21/2021	<u>DR-4586-TX</u> <u>EM-3554-TX</u> - Severe Ice Storm - Power Failure Extreme Cold	Yes	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	City services suspended/no losses
5/18/2020 – 5/18/2020	- Thunderstorm Wind - Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A
July 2021	Toxic Release/ HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
9/12/2021 – 9/12/2021	Tropical Storm Nicholas	No	On Sunday, September 12, Tropical Storm Nicholas formed in the southwestern Gulf of America, about 130 miles northeast of Veracruz, Mexico. It strengthened gradually as it moved northward along the western edge of the Gulf of America, bringing rains to the Texas Gulf Coast as it slid along its track not far off the coastline through Sunday and Monday. On Monday night, shortly before it made landfall, Nicholas was upgraded to a hurricane as it produced wind gusts as high as 94 mph at a WeatherFlow sensor on Matagorda Bay. The storm made landfall shortly after midnight on Tuesday about 10 miles west-southwest of Sargent Beach, in rural Matagorda County. Through Monday night and into Tuesday morning, the storm brought gusty winds to much of coastal Southeast Texas, resulting in power outages to nearly half a million people. It also dumped several inches of rain on the Southeast Texas Gulf Coast and barrier islands, resulting in flash flooding.	N/A
December 2021	Toxic Release/ HazMat	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
1/8/2022 – 1/8/2022	- Tornado - Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
3/15/2022 – N/A	<u>USDA S5188</u> Drought	Yes		
5/10/2022 – N/A	<u>USDA S5197</u> Drought	Yes		
4/5/2022 – N/A	<u>USDA S5209</u> Drought	Yes		
4/12/2022 – N/A	<u>USDA S5214</u> Drought	Yes		
6/14/2022 – N/A	<u>USDA S5221</u> Drought	Yes		
7/19/2022 – N/A	<u>USDA S5240</u> Drought	Yes		

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
8/2/2022 – N/A	<u>USDA S5252</u> Drought	Yes		
5/1/2022 – 9/30/2022	<u>USDA S5350</u> Excessive Heat	Yes		
8/10/2022 – 8/10/2022	Thunderstorm, Wind Lightning	No	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	N/A
December 2022	Technology Failure	No	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
1/24/2023 – 1/24/2023	Tornado	No	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage. Spots with more severe damage, rated EF2, included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	N/A
4/5/2023 – 4/3/2023	Hail	No	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
5/5/2023 – 5/5/2023	Toxic Release/ HazMat	No	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	None
5/8/2023 – 5/8/2023	- Thunderstorm, Wind - Flash Flood - Hail	No	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023 – 6/23/2023	Hail	No	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail	N/A
8/15/2023 – N/A	<u>USDA S5499</u> Drought	Yes		
8/22/2023 – N/A	<u>USDA S5511</u> Drought	Yes		
11/1/2023 – N/A	<u>USDA S5683</u> Drought	Yes		
4/26/2024 – 6/5/2024	<u>DR-4781-TX</u> - Severe Storms - Straight-Line Winds - Tornadoes - Flooding	Yes		None
4/26/2024 – 6/5/2024	Flood	No	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5	None
5/2/2024 – 5/2/2024	- Severe Weather - Flooding	No	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain	None
5/16/2024 – 5/16/2024	<u>DR-4781-TX</u> - Severe Weather - Tornadoes - Strong Wind - Hail - Flooding	Yes	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	None

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Shoreacres
7/5/2024 – 7/9/2024	DR-4798-TX Hurricane Beryl	Yes	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	City services suspended for days, many trees uprooted, loss of electricity

EM = Emergency Declaration (FEMA)
FEMA = Federal Emergency Management Agency
DR = Major Disaster Declaration (FEMA)
N/A = Not applicable
Sources: (USDA 2025); (FEMA 2025); (NWS Houston/Galveston 2021); (NOAA/NCEI 2025)

25.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner’s vulnerability to the identified hazards. The following presents key risk assessment results for Shoreacres.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Shoreacres reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

None Identified Table 25-15 shows Shoreacres’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 25-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricane, Coastal Storm	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release/Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Of the 32 critical facilities in the City of Shoreacres, a number of them are located in various hazard threat areas. Table 25-16 summarizes how many critical facilities are found in which hazard zone.

Table 25-16. Critical Facilities Flood Vulnerability

Hazard Area	Number of Critical Facilities at Risk
1% Annual Chance Riverine Flood	24
1% Annual Chance Coastal Flood	8
Hurricane Harvey Flood Extent	29
Addicks Dam Inundation Area	0
Barker Dam Inundation Area	0
Lake Houston Dam Inundation Area	0
Low Wildfire Threat	14
Moderate Wildfire Threat	0
High Wildfire Threat	0
Very High Wildfire Threat	0

Source: Harris County

25.6.3 Identified Issues

After review of Shoreacres's hazard event history, hazard rankings, hazard location, and current capabilities, Shoreacres identified the following vulnerabilities within the community:

- None Identified

25.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

25.7.1 Past Mitigation Action Status

Table 25-17 indicates progress on the City's mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

25.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 25-17, Shoreacres identified the following mitigation efforts completed since the last HMP:

- None Identified

Since the adoption of the County's first HMP, Shoreacres has made significant mitigation progress in the following areas:

- None Identified

Table 25-17. Status of Previous Mitigation Actions

SA_1—Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.

Hazards Addressed	Earthquake, Flooding, Hurricanes/Coastal Storms, Severe Weather, Wildfire
Responsible Party	City Administration/Manager
Summary of Original Problem and Solution (Project)	Entire city in an area prone to flooding, many buildings need options. Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	I have continued to look at structures that have a flooding history for possible purchase of rebuild at above BFE utilizing current building codes.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_2— Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the City of Shoreacres.

Hazards Addressed	Dam/Levee Failure, Drought, Earthquake, Flooding, Mass Movement, Tsunami, Wildfire
Responsible Party	City Administration/Manager
Summary of Original Problem and Solution (Project)	Continuing to strengthen building codes. Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the City of Shoreacres.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	We have strict building codes in our ordinance that we adhere to too, and only allow residential lots to be built upon. Updated building codes in Dec 2023 to more strict standards.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_3— Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.

Hazards Addressed	Coastal Erosion, Dam/Levee Failure, Drought, Earthquakes, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Mass Movement, Severe Weather, Tsunami, Wildfire, Energy Pipeline Failure, Public Health Emergency, Technology Failure, Toxic Release/HazMat, Utility Failure
Responsible Party	City Administration, City Manager
Summary of Original Problem and Solution (Project)	Continue to mitigate. Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Continue to mitigate
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_4— Continue to maintain good standing and compliance under the NFIP through the implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, and Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.

Hazards Addressed	Dam/Levee Failure, Flooding, Severe Weather, Tsunami
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Flooding, repetitive loss. Continue to maintain good standing and compliance under the NFIP through the implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, and participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	We have updated ordinances to meet or exceed NFIP standards in many areas.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_5— Expand current flood warning system(s) by including an additional outdoor siren, digital signage, automated calling system, flood gauges, and loudspeaker warning announcement system to increase coverage within the community's population and improve automation. Purchased new marquis for public information.

Hazards Addressed	Flooding
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Expand current flood warning system(s) by including an additional outdoor siren, digital signage, automated calling system, flood gauges, and loudspeaker warning announcement system to increase coverage within the community's population and improve automation. Purchased new marquis for public information.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	

SA_6—Conduct study for updating local inundation risk areas and mapping.

Hazards Addressed	Flooding
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Conduct study for updating local inundation risk areas and mapping.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_7— Elevate utility equipment storage building.

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Elevate utility equipment storage building.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Continuing to address this in budget meetings to date, monies have not been available thus far but other actions have been taken to mitigate the risks.
Next Steps	N/A
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_8— Development Adoption of latest edition/higher standard of building codes / ordinances for mitigation of Hurricane wind hazards.

Hazards Addressed	Hurricanes/Coastal Storms, Flooding, Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Locations flood easily. Development Adoption of latest edition/higher standard of building codes / ordinances for mitigation of Hurricane wind hazards.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	New houses are constructed under updated ordinances.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_9—Harden and retrofit records storage to withstand high-wind damage.

Hazards Addressed	Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Harden and retrofit records storage to withstand high-wind damage.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Began to store records digitally and off site as backups.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	

SA_10— Install lightning and surge protection systems to harden facility and equipment of public service buildings.

Hazards Addressed	Hurricanes/Coastal Storms, Severe Weather, Utility Failure, Technology Failure
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Need surge protection for water and sewer systems. Install lightning and surge protection systems to harden facility and equipment of public service buildings.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	We have met and considered budget actions to address a portion of this action, but monies have not become available.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_11—Develop/implement water smart public education program to inform the public on actions that can be taken to conserve water and reduce the impact of Drought.

Hazards Addressed	Drought
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Develop/implement water smart public education program to inform the public on actions that can be taken to conserve water and reduce the impact of Drought.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Working under our current water conservation plan, we are preparing mailers and public service announcements to make community members aware.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_12— Develop/implement Hail safety public education program to educate the public on Hail hazards and actions to minimize Hail damage to property and equipment.

Hazards Addressed	Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Damage to roofs and vehicles during storms. Develop/implement Hail safety public education program to educate the public on Hail hazards and actions to minimize Hail damage to property and equipment.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	We have held meetings to consider mitigation of several factors to minimize different types of damages during storms, to include hail.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_13— Clean-up of heavy Wildfire fuel areas (abandoned buildings, abandoned lands, etc.).

Hazards Addressed	Wildfire
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Many dead trees due to past saltwater flooding. Dead trees are being removed from private lands and city owned properties.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	We have assigned a code enforcement officer to monitor the city for dead trees and dead brush and limbs that could cause a fire hazard. Residents are sent a letter and directed to clean the area before enforcement action is recommended.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_14—Develop/implement home heating public education program to address winter storm hazards and provide personal actions to minimize winter damages to property and equipment.

Hazards Addressed	Extreme Cold
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Freezing hazard due to elevated housing. Develop/implement home heating public education program to address winter storm hazards and provide personal actions to minimize winter damages to property and equipment.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	We continue to produce information for the residents concerning possible damages from storms, including winter type storms. Recommendations on structure weatherization for all types of weather hazards are available.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_15—Develop/implement tree management planning and mitigation measures.

Hazards Addressed	Hurricanes/Coastal Storms, Severe Weather, Wildfire
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Develop/implement tree management planning and mitigation measures. Continuing to address dead tree issues.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	We continue to look at possible grants and other sources of money to implement this program. We are trying to identify and rectify dead trees before they become an issue.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Complete

SA_16—Develop/implement Haz-Mat Safety Program.

Hazards Addressed	Toxic Release/Hazardous Materials
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Needs to replace all equipment in city buildings due to age and location. Develop/implement HazMat Safety Program.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Our residents are encouraged to participate in local activities to mitigate HazMat type situations in the area. We use social media to announce opportunities to participate in programs.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Complete

SA_17—Conduct HVAC assessment/study/mitigations to ventilation systems for Critical Infrastructure/Have been replacing older units with newer, more efficient units.

Hazards Addressed	Toxic Release/Hazardous Materials, Wildfires
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Needs to replace all equipment in city buildings due to age and location. Conduct HVAC assessment/study/mitigations to ventilation systems for Critical Infrastructure/Have been replacing older units with newer, more efficient units.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	We have had HVAC inspections and necessary work done at city hall and the police department, still looking at solutions for our public works building.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If included, revise/reword as appropriate	
If discontinue, explain why	

SA_18—Develop/update Risk Management Plan/mitigation measures for HazMat transportation (road/water) within the Special Flood Hazard Area.

Hazards Addressed	Public Health Emergency, Toxic Release/Hazardous Materials
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Develop/update Risk Management Plan/mitigation measures for HazMat transportation (road/water) within the Special Flood Hazard Area.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_19—Expand current flood warning system(s) by including an additional outdoor siren, digital signage, automated calling system, flood gauges, and loudspeaker warning announcement system to increase coverage within the community's population and improve automation.

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Expand current flood warning system(s) by including an additional outdoor siren, digital signage, automated calling system, flood gauges, and loudspeaker warning announcement system to increase coverage within the community's population and improve automation.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	We are part of the La Porte Emergency Notification area and utilize sirens and messaging through social media to notify residents. We have repaired our digital sign numerous times but are looking to replace it if monies become available. Recently I purchased digital marquis.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_20—Conduct study for updating local inundation risk areas and mapping.

Hazards Addressed	Dam/Levee Failure, Hurricanes/Coastal Storms. Flooding, Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Conduct a study for updating local inundation risk areas and mapping.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Still awaiting monies promised in the Harris County bond issue from several years ago to complete studies on this.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_21—Elevate utility equipment storage building.

Hazards Addressed	Dam/Levee Failure, Hurricanes/Coastal Storms, Flooding, Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Elevate utility equipment storage building.
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Still awaiting funds on this project; we talked about this during the budget process for many years.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SA_22—Develop/Adopt the latest edition/higher standard of building codes/ordinances for mitigation of Hurricane wind hazards.

Hazards Addressed	Hurricanes/Coastal Storms, Severe Weather
Responsible Party	Flooding
Summary of Original Problem and Solution (Project)	Many residences are in flood prone areas. Development Adoption of latest edition/higher standard of building codes / ordinances for mitigation of Hurricane wind hazards.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	We continue to utilize building codes that surpass minimum standards.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA_8

SA_23—Harden and retrofit records storage to withstand high-wind damage.

Hazards Addressed	Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Harden and retrofit records storage to withstand high-wind damage
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Have begun to store records digitally and offsite.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	
If discontinue, explain why	

SA_24—Install lightning and surge protection systems to harden facility and equipment of public service buildings.

Hazards Addressed	Hurricanes/Coastal Storms, Severe Weather, Technology Failure, Utility Failure
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Need electrical surge protection for water and sewer plants. Install lightning and surge protection systems to harden facility and equipment of public service buildings
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Continue to discuss these measures during the budget process.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA_10

SA_25—Develop/implement water smart public education program to inform the public on actions that can be taken to conserve water and reduce the impact of Drought.

Hazards Addressed	Drought
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Develop/implement water smart public education program to inform the public on actions that can be taken to conserve water and reduce the impact of Drought.
Action Review	In Progress
Narrative describing progress or obstacles that have prevented implementation	Written water conservation plan that is followed when needed, city has taken on 4.5m loan from TWDB to rehab sewer and water infrastructure, to include water loss.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA_11

SA_26—Develop/implement Hail safety public education program to educate the public on Hail hazards and actions to minimize Hail damage to property and equipment.

Hazards Addressed	Severe Weather
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Damage to roofs and vehicles during storms.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	We utilize social media and paper handouts to make our residents aware of the possible hazards of hail damage, and give recommendations to mitigate such.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA-12

SA_27—Clean-up of heavy Wildfire fuel areas (abandoned buildings, abandoned lands, etc.).

Hazards Addressed	Wildfire
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Clean-up of heavy Wildfire fuel areas (abandoned buildings, abandoned lands, etc.).
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	We have assigned an officer to code enforcement to enforce our ordinances on dead trees and unwholesome debris that can lead to fires, and offer the resident to clean the area before enforcement action is taken\n.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA_13

SA_28— Develop/implement home heating public education program to address winter storm hazards and provide personal actions to minimize winter damages to property and equipment.

Hazards Addressed	Extreme Cold
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Loss of heating for elderly in older homes. Develop/implement home heating public education programs to address winter storm hazards and provide personal actions to minimize winter damages to property and equipment
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Using lessons learned from 2021 winter storm, we have provided residents with warnings about future winter storms and mitigation possibilities of their homes.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA_14

SA_29—Develop/implement tree management planning and mitigation measures.

Hazards Addressed	Hurricanes/Coastal Storms, Severe Weather, Wildfire
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Develop/implement tree management planning and mitigation measures.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Continue to try and assess mitigation possibilities for tree management and looking at a partnership with others to help with this.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA_15

SA_30—Develop/implement Haz-Mat Safety Program.

Hazards Addressed	Toxic Release/Hazardous Materials, Public Health Emergency
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Develop/implement Haz-Mat Safety Program.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	We remain committed to this project when monies are available. No commercial businesses in our city except the Houston Yacht Club, but we do have plants surrounding us.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA_16

SA_31—Conduct HVAC assessment/study/mitigations to ventilation systems for Critical Infrastructure.

Hazards Addressed	All Hazards
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Need updated systems due to age and location of critical equipment. Conduct HVAC assessment/study/mitigations to ventilation systems for Critical Infrastructure.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Very similar to SA_17

SA_32— Develop/update Risk Management Plan/mitigation measures for Haz-Mat transportation (road/water) within the Special Flood Hazard Area.

Hazards Addressed	Flooding, Toxic Release/Hazardous Materials
Responsible Party	City Manager
Summary of Original Problem and Solution (Project)	Develop/update Risk Management Plan/mitigation measures for Haz-Mat transportation (road/water) within the Special Flood Hazard Area.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	N/A
If discontinue, explain why	Identical to SA_18

SA_33 —Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.	
Hazards Addressed	Coastal Erosion, Dam/Levee Failure, Drought, Earthquakes, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Mass Movement, Severe Weather, Tsunami, Wildfire, Energy Pipeline Failure, Public Health Emergency, Technology Failure, Toxic Release/HazMat, Utility Failure
Responsible Party	City Administration, HCOHSEM
Summary of Original Problem and Solution (Project)	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If included, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

25.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Shoreacres participated in the mitigation strategy workshop for this MJ-HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Shoreacres would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 25-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 25-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 25-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	-	-	-	-	-	-	-	-	-
Hurricanes and Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 25-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria														Total	High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
SA_1	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.	1	1	1	0	0	1	1	1	1	1	1	1	0	0	10	Medium
SA_2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the City of Shoreacres.	0	0	0	1	1	1	1	1	1	1	0	1	0	1	9	Medium
SA_3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	0	0	0	0	0	0	0	0	1	1	0	1	0	1	4	Low
SA_4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	0	1	0	1	1	1	1	1	1	1	0	1	0	1	10	Medium

Project Number	Project Name	Scores for Evaluation Criteria														Total	High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
SA_8	Development Adoption of latest edition/higher standard of building codes / ordinances for mitigation of Hurricane wind hazards.	0	1	0	1	1	1	0	1	1	1	0	1	0	1	9	Medium
SA_10	Install lightning and surge protection systems to harden facility and equipment of public service buildings.	1	1	1	0	1	1	0	1	1	1	0	1	1	1	11	High
SA_12	Develop/implement Hail safety public education program to educate the public on Hail hazards and actions to minimize Hail damage to property and equipment.	0	0	0	1	1	1	1	1	1	1	0	1	0	1	9	Medium
SA_13	Clean-up of heavy Wildfire fuel areas (abandoned buildings, abandoned lands, etc.).	1	1	1	0	0	0	1	1	1	1	0	1	0	1	9	Medium
SA_14	Develop/implement home heating public education program to address winter storm hazards and provide personal actions to minimize winter damages to property and equipment.	1	0	0	0	0	0	0	1	1	1	1	1	0	1	7	Medium
SA_17	Conduct HVAC assessment/study/mitigations to ventilation systems for Critical Infrastructure/Have been replacing older units with newer, more efficient units.	1	0	0	0	0	0	1	1	1	1	1	1	1	1	9	Medium

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SA_33	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.	0	0	0	1	1	1	1	1	1	1	0	1	1	1	10	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

26. CITY OF SOUTHSIDE PLACE

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Southside Place with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Southside Place, describes who participated in the planning process, assesses Southside Place’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

26.1 HAZARD MITIGATION PLANNING TEAM

The City of Southside Place identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Southside Place Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 26-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 26-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: <i>Andrew Deavers, Assistant City Manager</i> Address: N/A Phone Number: 713-668-2341 Email: Adeavers@southsideplacetx.gov	Name/Title: <i>Mike Ellison, Captain of Police</i> Address: N/A Phone Number: 713-668-2341 Email: mellison@southsideplacetx.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: <i>David Moss</i> Address: 6309 Edloe St, Houston, TX 77005 Phone Number: 713-668-2341 Email: citymgr@southside-place.org	

26.2 COMMUNITY PROFILE

Southside Place was officially incorporated in June 1931, starting with a population of 600. The city council held its first meeting on June 15 of that year. On August 3, 1934, the council passed a resolution formally recognizing Southside Place as an incorporated city. This incorporation prevented Houston from annexing the area, even as it absorbed nearby unincorporated regions. A local post office was established in 1940. Location

26.2.1 Location

Southside Place sits as one of three southwest “enclave” cities bordered by Houston. Its full area lies within Harris County and the Houston Independent School District. The geographic footprint is approximately one square mile and includes residential streets, public parks, and a local business district. Despite its small size, the city draws on regional amenities such as the Texas Medical Center and is proximate to major thoroughfares including Bellaire/Holcombe Boulevard. Southside Place’s unique location fosters both a tightly knit neighborhood character and convenient access to Houston’s services.

26.2.2 Governing Body Format

Southside Place operates under a “General Law Type A municipality” using a council–manager system. The Council sets policy and appoints a City Manager, to oversee day-to-day operations. The City Secretary maintains records, ordinances, elections, and public transparency, while a volunteer-led department structure delivers Police, Fire, Building, Public Works, Parks & Recreation, and Municipal Court services. Council meetings are held monthly on the second Tuesday at 7 p.m., and several advisory boards guide land use, parks, and civic affairs.

26.2.3 Population

According to the U.S. Census, the 2023 ACS population for Southside Place was 1,631, a 11.1 percent decrease from the 2020 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 4.5 percent of the population is 5 years of age or younger, 18.6 percent is 65 years of age or older, 0.2 percent is non-English speaking, 3.1 percent is below the poverty threshold, and 6.6 percent is considered disabled.

26.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Southside Place performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities

- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Southside Place to identify opportunities for integrating mitigation concepts into ongoing City procedures.

26.3.1 Planning and Regulatory Capability and Integration

Table 26-2 summarizes the planning and regulatory tools that are available to Southside Place.

Table 26-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	International Building Code (IBC), 2021 Ed., International Code Council, Inc. International Energy Conservation Code (IECC), 2018 ED., International Code Council, Inc. International Fire Code (IFC), 2018 Ed., International Code Council, Inc. International Fuel Gas Code (IFGC), 2021 Ed., International Code Council, Inc. International Mechanical Code (IMC), 2021 Ed., International Code Council, Inc. International Plumbing Code (IPC), 2021 Ed., International Code Council, Inc. International Property Maintenance Code (IPMC), 2018 Ed., International Code Council, Inc. International Residential Code (IRC), 2021 Ed., International Code Council, Inc. International Swimming Pool and Spa Code (ISPSC), 2021 Ed., International Code Council, Inc. National Electrical Code (NEC), 2020 Ed., National Fire Protection Association, ("NEC")	Municipal	Building Clerk

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Zoning/Land Use Code	Yes	An Ordinance has been established in accordance with the City of Southside Place's Comprehensive Plan for the purpose of promoting and protecting the public health, safety, and general welfare of the citizens of Southside Place and the community as a whole.	Municipal	Planning & Zoning Commission
Subdivision Code	No	NA	NA	NA
Site Plan Code	No	NA	NA	NA
Stormwater Management Code	Yes	Stormwater Management Plan - 2019 Chapter 62, Article IV	Municipal	Planning & Zoning Commission
Post-Disaster Recovery/ Reconstruction Code	No	NA	NA	NA
Real Estate Disclosure Requirements	Yes	Texas Property Code §5.008 Texas Property Code §5.012 Texas Property Code §5.014 Texas Water Code §49.452 Texas Utilities Code §141.010 Texas Natural Resources Code §33.135 Texas Natural Resources Code §6.025 Texas Water Code §13.257 Texas Property Code §5.011 Texas Property Code §5.019 Texas Property Code §5.205 42 U.S.C. 4852d	State, Federal	NA
Growth Management	No	NA	NA	NA
Environmental Protection Ordinance(s)	No	NA	NA	NA
Flood Damage Prevention Ordinance	Yes	60.3(d)	Municipal	Building Clerk Floodplain Administrator
Wellhead Protection	No	NA	NA	NA
Emergency Management Ordinance	Yes	Texas Government Code, Chapter 418	State	Mayor
Climate Change Ordinance	No	NA	NA	NA
Other	No	NA	NA	NA

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	City of Southside Place Comprehensive Plan - 2002	Municipal	City Manager
Capital Improvement Plan	No	NA	NA	NA
Disaster Debris Management Plan	No	NA	NA	NA
Floodplain Management or Watershed Plan	Yes	Drainage & Flooding Mitigation Strategy - 2020	Municipal	City Manager
Stormwater Management Plan	Yes	Stormwater Management Plan - 2019	Municipal	City Engineer
Stormwater Pollution Prevention Plan	Yes	Stormwater Management Plan - 2019	Municipal	City Engineer
Open Space Plan	No	NA	NA	NA
Urban Water Management Plan	No	NA	NA	NA
Habitat Conservation Plan	No	NA	NA	NA
Economic Development Plan	No	NA	NA	NA
Shoreline Management Plan	No	NA	NA	NA
Community Wildfire Protection Plan	No	N/A	N/A	N/A
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	No	N/A	N/A	N/A
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	No	N/A	N/A	N/A
Other	No	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	No	N/A	N/A	N/A
Continuity of Operations Plan	No	N/A	N/A	N/A
Substantial Damage Response Plan	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Threat and Hazard Identification and Risk Assessment	No	N/A	N/A	N/A
Post-Disaster Recovery Plan	No	N/A	N/A	N/A
Public Health Plan	No	N/A	N/A	N/A
Other:	No	N/A	N/A	N/A

26.3.2 Development and Permitting Capability

Table 26-3 summarizes the capabilities of Southside Place to oversee and track development.

Table 26-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	N/A	N/A
- If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?		
Are permits tracked by hazard area? (For example, floodplain development permits.)	N/A	N/A
Do you have a buildable land inventory?	N/A	N/A
If you have a buildable land inventory, please describe		
Describe the level of buildout in your jurisdiction.	N/A	N/A

26.3.3 Administrative and Technical Capability

Table 26-4 summarizes potential staff and personnel resources available to Southside Place and their current responsibilities that contribute to hazard mitigation.

Table 26-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	N/A	N/A
Zoning Board of Adjustment	N/A	N/A
Planning Department	N/A	N/A
Mitigation Planning Committee	N/A	N/A
Environmental Board/Commission	N/A	N/A
Open Space Board/Committee	N/A	N/A
Economic Development Commission/Committee	N/A	N/A
Public Works/Highway Department	N/A	N/A
Construction/Building/Code Enforcement Department	N/A	N/A
Emergency Management/Public Safety Department	N/A	N/A
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	N/A	N/A
Mutual aid agreements	N/A	N/A
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	N/A	N/A
Other	N/A	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	N/A	N/A
Engineers or professionals trained in building or infrastructure construction practices	N/A	N/A
Planners or engineers with an understanding of natural hazards	N/A	N/A
Staff with expertise or training in benefit/cost analysis	N/A	N/A
Professionals trained in conducting damage assessments	N/A	N/A
Personnel skilled or trained in GIS and/or Hazus applications	N/A	N/A
Staff that work with socially vulnerable populations or underserved communities	N/A	N/A
Environmental scientists familiar with natural hazards	N/A	N/A
Surveyors	N/A	N/A
Emergency manager	N/A	N/A
Grant writers	N/A	N/A
Resilience Officer	N/A	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	N/A

26.3.4 Fiscal Capability

Table 26-5 summarizes financial resources available to Southside Place.

Table 26-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	N/A
Capital improvement project funding	N/A
Authority to levy taxes for specific purposes	N/A
User fees for water, sewer, gas, or electric service	N/A
Impact fees for homebuyers or developers of new development/homes	N/A
Stormwater utility fee	N/A
Incur debt through general obligation bonds	N/A
Incur debt through special tax bonds	N/A
Incur debt through private activity bonds	N/A
Withhold public expenditures in hazard-prone areas	N/A
Other federal or state funding programs	N/A
Open Space Acquisition funding programs	N/A
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

26.3.5 Education and Outreach Capability

Table 26-6 summarizes the education and outreach resources available to Southside Place.

Table 26-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	N/A	N/A
Personnel skilled or trained in website development	N/A	N/A
Hazard mitigation information available on your website	N/A	N/A
Social media for hazard mitigation education and outreach	N/A	N/A
Citizen boards or commissions that address issues related to hazard mitigation	N/A	N/A
Warning systems for hazard events	N/A	N/A
Natural disaster/safety programs in place for schools	N/A	N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	N/A	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	N/A	N/A

26.3.6 Community Classifications

Table 26-7 summarizes classifications for community programs available to Southside Place.

Table 26-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	N/A	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	N/A	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	N/A	N/A	N/A
National Weather Service StormReady Certification	N/A	N/A	N/A
Firewise Communities classification	N/A	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable; — = Unavailable

26.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 26-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 26-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Weak
Earthquake	Weak
Extreme Cold	Strong
Extreme Heat	Strong
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong
Tsunami	Weak
Wildfire	Moderate
Energy Pipeline Failure	Strong
Public Health Emergency	Moderate
Technology Failure	Weak
Toxic Release / Hazardous Materials	Weak
Utility Failure	Moderate

26.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 26-1 is responsible for maintaining this information.

26.4.1 NFIP Statistics

Table 26-9 summarizes the NFIP policy and claim statistics for Southside Place.

Table 26-9. Southside Place NFIP Summary of Policy and Claim Statistics

# Policies	0
# Claims (Losses)	0
Total Loss Payments	\$0
# Repetitive Loss Properties (NFIP definition)	0
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: HCFCF and HCOHSEM

26.4.2 Flood Vulnerability Summary

Table 26-10 provides a summary of the NFIP program in Southside Place.

Table 26-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Auden/Edloe/Harper streets
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	NO
How do you make Substantial Damage determinations?	Pending development of SD SOP
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Building, City Manager
Are any certified floodplain managers on staff in your jurisdiction?	No - Contracted
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review, education/outreach
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Permitting process
What are the barriers to running an effective NFIP program in the community, if any?	None
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance?	60.3(d)
What is the date that your flood damage prevention ordinance was last amended?	
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meet

NFIP Topic	Comments
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Drainage & Flooding Mitigation Strategy - 2020
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	No

26.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 26-11 through Table 26-13.

Table 26-11. Building Permits for New Construction Issued Since the Previous HMP

Type of Development	2020		2021		2022		2023		2024		2025	
	Number of Building Permits for New Construction Issued Since the previous HMP											
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single-Family	0	0	4	4	5	4	4	3	3	3	0	0
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0	0	0	0	0	0	0	0
Total Permits Issued	0	0	4	4	5	4	4	3	3	3	0	0

SFHA = Special Flood Hazard Area (1% flood event)

Table 26-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

* Only location-specific hazard zones or vulnerabilities identified.

Table 26-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

26.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Southside Place’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

26.6.1 Hazard Event History

The history of natural and non-natural hazard events in Southside Place is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 26-14 provides details on loss and damage in Southside Place during hazard events since the last hazard mitigation plan update.

Table 26-14. Hazard Event History in Southside Place

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
1/20/2020 – 5/11/2023	COVID-19 Pandemic COVID-19	Yes Yes	DR-4485-TX EM-3458-TX	N/A
5/6/2020 – 2/18/2020	Drought	Yes	USDA S4669	N/A
7/25/2020 – 7/31/2020	Hurricane Hanna	Yes	EM-3530-TX	N/A
8/23/2020 – 8/27/2020	Tropical Storms Marco and Laura	Yes	EM-3540-TX	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
9/21/2020	Flooding Flash Flooding	No	N/A	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. 20 to 25 homes were damaged from high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
2/11/2021 – 2/21/2021	- Severe Ice Storm - Power Failure - Extreme Cold	Yes	DR-4586-TX EM-3554-TX	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. The extreme cold and increased demand led to widespread power outages, loss of heat for many and led to the bursting of pipes with some losing water for many days. Numerous fatalities resulted both from hypothermia, carbon monoxide poisoning and other effects. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much the period from Sunday night to Tuesday morning. Increased power demand, wind and ice led to widespread power outages. Bursting pipes caused many to be without water as well. 33 people died, and property damage estimates reached \$33,700,000.
3/15/2022 – N/A	Drought	Yes	USDA S5188	N/A
5/10/2022 – N/A	Drought	Yes	USDA S5197	N/A
4/5/2022 – N/A	Drought	Yes	USDA S5209	N/A
4/12/2022 – N/A	Drought	Yes	USDA S5214	N/A
6/14/2022 – N/A	Drought	Yes	USDA S5221	N/A
7/19/2022 – N/A	Drought	Yes	USDA S5240	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
8/2/2022 – N/A	Drought	Yes	USDA S5252	N/A
5/1/2022 – 9/30/2022	Excessive Heat	Yes	USDA S5350	N/A
8/15/2023 – N/A	Drought	Yes	USDA S5499	N/A
8/22/2023 – N/A	Drought	Yes	USDA S5511	N/A
11/1/2023 – N/A	Drought	Yes	USDA S5683	N/A
4/26/2024 – 6/5/2024	Severe Storms, Straight-Line Winds, Tornadoes, and Flooding	Yes	DR-4781-TX	N/A
7/5/2024 – 7/9/2024	Hurricane Beryl	Yes	DR-4798-TX	N/A
December 2016	Energy Pipeline Failure		Pasadena Pipeline Rupture – a pipeline rupture in an industrial area resulted in hazardous material exposure and emergency response efforts.	N/A
August 2017	Energy Pipeline Failure, Technology Failure, Toxic Release/ HazMat, Utility Failure		DR-4332-TX Hurricane Harvey produced severe flooding which disrupted pipeline infrastructure, leading to temporary shutdowns and fuel supply concerns. Toxic chemicals like Benzene and other Volatile Organic Compounds were released after flooding from Harvey damaged chemical plants in the County. Flooding also led to server and data center failures, disrupting emergency response coordination.	N/A
March 2019	Toxic Release/HazMat, Utility Failure		ITC Chemical Fire – a fire at the Intercontinental Terminals Company facility in Deer Park disrupted local utilities and air quality monitoring systems.	N/A
May 2019	Energy Pipeline Failure		Baytown Refinery Pipeline Leak – a pipeline leak at the ExxonMobil Baytown Refinery resulted in an oil spill, prompting environmental concerns.	N/A
November 2019	Energy Pipeline Failure		Pipeline Explosion near Houston – a natural gas pipeline explosion in Mont Belvieu, just outside of Harris County, caused a fire and temporary evacuations.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
1/10/2020	Thunderstorm Wind		A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	N/A
1/20/2020 – 5/11/2023	Biological		DR-4485 EM-3458 COVID-19	N/A
3/11/2020		Yes	Public Health Emergency – local disaster declared as COVID-19 swept the region.	N/A
4/18/2020	Hail		Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	N/A
5/15/2020	Flash Flood		An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	N/A
5/27/2020	Tornado		Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage.	N/A
7/25/2020 – 7/31/2020	Hurricane		EM-3530 Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
8/23/2020 – 8/27/2020	Hurricane		EM-3540 Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There we no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	N/A
9/21/2020	Storm Surge, Flash Flood, Flood		Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	N/A
2021	Technology Failure		Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
2/11/2021 – 2/21/2021	- Severe Ice Storm - Power Failure - Extreme Cold - Technology Failure Utility Failure		DR-4586 EM-3554 Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	N/A
5/18/2021	Thunderstorm Wind Lightning		Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A
July 2021	Toxic Release/ HazMat		A fire at an industrial facility led to air quality warnings and temporary evacuations.	N/A
December 2021	Toxic Release/ HazMat		An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
1/8/2022	Tornado Flash Flood		Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
8/10/2022	Lightning Thunderstorm Wind		Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	N/A
December 2022	Technology Failure		In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
1/24/2023	Tornado		This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage. Spots with more severe damage, rated EF2, included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	N/A
4/5/2023	Hail		Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A
May 5, 2023	Toxic Release/ HazMat		On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	N/A

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Southside Place
5/8/2023	- Thunderstorm Wind - Flash Flood Hail		A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail		Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail.	N/A
4/26/2024 – 6/5/2024	Flood		Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5.	N/A
5/2/2024	Severe Weather Flooding	Yes	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain.	N/A
5/16/2024	- Severe Weather - Tornadoes - Strong Wind - Hail Flooding	Yes	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	N/A
7/5/2024 – 7/9/2024	Hurricane	Yes	DR-4798 County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	N/A

EM = Emergency Declaration (FEMA); FEMA = Federal Emergency Management Agency; DR = Major Disaster Declaration (FEMA); N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025);

26.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Southside Place.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard

ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Southside Place reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 26-15 shows Southside Place’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 26-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release / Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 26-16 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 26-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	2	5.5%
Energy	0	0%
Food, Hydration, Shelter	0	0%
Hazardous Materials	0	0%
Health and Medical	0	0%
Safety and Security	2	11%
Transportation	1	5.5%
Water Systems	4	22%
Other Critical Facilities	2	11%

Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

26.6.3 Identified Issues

After review of Southside Place’s hazard event history, hazard rankings, hazard location, and current capabilities, Southside Place identified the following vulnerabilities within the community:

- None Identified

26.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

26.7.1 Past Mitigation Action Status

The City of Southside Place did not participate in the 2020 MJ HMAP and do not have any past mitigation actions for this section. However, a previous action originally being pursued by West University Place has been moved to Southside Place for the 2025 HC MJ-HMP. Table 26-17 is current action status information provided by West University Place.

Table 26-17. Status of Previous Mitigation Action from West University Place

WUP11 —Improvements to storm water drainage system in the 3800 block from University Blvd. South to Bellaire Blvd. The Auden Street Drainage Improvement limits are on Auden Street from University Blvd. To Bellaire Blvd. The improvements consist of storm sewer improvements ranging from 42" RCP to 74" RCP and the replacement of ½ curb and gutter concrete street.	
Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City of Southside Place
Summary of Original Problem and Solution (Project)	Move to South Side Place
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	This action item is being removed due to the City of Southside Place being the lead jurisdiction in pursuing this mitigation.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	This action item is being removed due to the City of Southside Place being the lead jurisdiction in pursuing this mitigation.

26.7.2 Additional Mitigation Efforts

Southside Place identified the following mitigation efforts completed since the last HMP:

- None Identified

Since the adoption of the County’s first HMP, Southside Place has made significant mitigation progress in the following areas:

- None Identified

26.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Southside Place participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Southside Place would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 26-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 26-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 26-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	-	-	-	-	-	-	-	-	-
Hurricanes and Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildlife	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 26-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SSP_1	Design and elevation, floodproofing, and/or other protection of structures at risk from flooding.	1	1	1	0	0	0	1	1	1	1	0	0	1	0	8	Medium
SSP_2	Design and harden facilities at risk from wind and other storm damage, including possible safe rooms.	1	1	1	0	0	0	1	1	1	1	0	0	1	0	8	Medium
SSP_3	Identify assets that require emergency utility support, including power and cooling, purchase and install emergency utility support equipment and related housing, noise attenuation, and connection equipment.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SSP_4	Perform hardening/protection retrofits of critical utilities. Work with service providers to identify responsibility and authority for work.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SSP_5	Investigate and implement hardening or other protection of IT and phone (communication) infrastructure, to include critical functions at all assets.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High
SSP_6	Harden retrofit assets and utilities to protect from lightning and other electrical surge/failures.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SSP_7	Investigate possible collaborations and partnerships with local and regional entities to share hazard, risk, and mitigation knowledge and strategies, to develop community-wide knowledge-base and increase awareness of other entity's activities.	1	1	1	1	1	1	0	1	1	1	1	1	1	0	12	High
SSP_8	Develop detailed inventory of structural assets, to include first floor and utility elevations, construction materials, and other risk-associated data points.	0	1	1	1	1	1	1	0	1	1	0	1	1	1	11	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action SSP_1 Worksheet

Lead Agency:	City of Southside Place
Supporting Agencies:	N/A
Action Description:	Design and elevation, floodproofing, and/or other protection of structures at risk from flooding.
Hazards of Concern:	Dam/levee, Flooding
Description of the Problem:	Urban flooding
Description of the Solution:	Structural risk reduction
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA, HMGP, State of Texas Property Owner, Local Funds
Implementation Timeline:	Long term (>5years)
Goals Met:	3, 5, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Property Protection (PP)
Priority	Medium

Action SSP_2 Worksheet

Lead Agency:	City of Southside Place
Supporting Agencies:	N/A
Action Description:	Design and harden facilities at risk from wind and other storm damage, including possible safe rooms.
Hazards of Concern:	Hurricane, Severe Weather
Description of the Problem:	Extreme wind and debris
Description of the Solution:	Structural risk reduction
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA, HMGP, State of Texas Property Owner, Local Funds
Implementation Timeline:	Long term (>5years)
Goals Met:	3, 5, 6
Benefits:	Medium (\$10,000>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Property Protection (PP)
Priority	Medium

Action SSP_3 Worksheet

Lead Agency:	City of Southside Place
Supporting Agencies:	N/A
Action Description:	Identify assets that require emergency utility support, including power and cooling, purchase and install emergency utility support equipment and related housing, noise attenuation, and connection equipment.
Hazards of Concern:	Extreme Cold, Extreme Heat, Hurricane, Severe Weather, Energy Pipeline Failure, Technology Failure, Utility Failure
Description of the Problem:	Utility Failure/disruption
Description of the Solution:	Structural risk reduction
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA, HMGP, State of Texas Property Owner, Local Funds
Implementation Timeline:	Long term (>5years)
Goals Met:	3, 5, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Preventative Measures (PR)
Priority	High

Action SSP_4 Worksheet

Lead Agency:	City of Southside Place
Supporting Agencies:	Utility provider/owner
Action Description:	Perform hardening/protection retrofits of critical utilities. Work with service providers to identify responsibility and authority for work.
Hazards of Concern:	Earthquake, Extreme Cold, Extreme Heat, Flooding, Hurricane, Severe Weather, Wildfire, Energy Pipeline Failure, Technology Failure, Utility Failure
Description of the Problem:	Utility Failure/disruption
Description of the Solution:	Emergency utility support
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA, HMGP, State of Texas Property Owner, Local Funds
Implementation Timeline:	Long term (>5years)
Goals Met:	3, 5, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Preventative Measures (PR)
Priority	High

Action SSP_5 Worksheet

Lead Agency:	City of Southside Place
Supporting Agencies:	Utility provider/owner
Action Description:	Investigate and implement hardening or other protection of IT and phone (communication) infrastructure, to include critical functions at all assets.
Hazards of Concern:	Earthquake, Extreme Cold, Extreme Heat, Flooding, Hurricane, Severe Weather, Wildfire, Energy Pipeline Failure, Technology Failure, Utility Failure
Description of the Problem:	Utility Failure/disruption
Description of the Solution:	Emergency utility support
Estimated Cost:	High (>\$100,000)
Potential Funding Sources:	FEMA, HMGP, State of Texas Property Owner, Local Funds
Implementation Timeline:	Long term (>5years)
Goals Met:	3, 5, 6
Benefits:	High (>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Preventative Measures (PR)
Priority	High

Action SSP_6 Worksheet

Lead Agency:	City of Southside Place
Supporting Agencies:	Utility provider/owner
Action Description:	Harden retrofit assets and utilities to protect from lightning and other electrical surge/failures.
Hazards of Concern:	Severe Weather, Technology Failure, Utility Failure
Description of the Problem:	Critical utility failure/disruption
Description of the Solution:	Utility protection
Estimated Cost:	Medium (\$10,000>\$100,000)
Potential Funding Sources:	FEMA, HMGP, State of Texas Property Owner, Local Funds
Implementation Timeline:	Long term (>5years)
Goals Met:	3, 5, 6
Benefits:	Medium (\$10,000>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects (SIP)
CRS Category	Preventative Measures (PR)
Priority	High

Action SSP_7 Worksheet

Lead Agency:	City of Southside Place
Supporting Agencies:	Utility provider/owner
Action Description:	Investigate possible collaborations and partnerships with local and regional entities to share hazard, risk, and mitigation knowledge and strategies, to develop community-wide knowledge-base and increase awareness of other entity's activities.
Hazards of Concern:	Dam/Levee, Drought, Earthquake, Extreme Cold, Extreme Heat, Flooding, Hurricane, Mass movement, Severe Weather, Wildfire, Energy Pipeline Failure, Public Health Emergency, Technology Failure, Toxic Release/Hazard Materials, Utility Failure
Description of the Problem:	Critical utility failure/disruption
Description of the Solution:	Utility protection
Estimated Cost:	Medium (\$10,000>\$100,000)
Potential Funding Sources:	Local Funds
Implementation Timeline:	Long term (>5years)
Goals Met:	1,2,3,4,6,8,9
Benefits:	Medium (\$10,000>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness (EAP)
CRS Category	Preventative Measures (PR)
Priority	High

Action SSP_8 Worksheet

Lead Agency:	City of Southside Place
Supporting Agencies:	Utility provider/owner
Action Description:	Develop detailed inventory of structural assets, to include first floor and utility elevations, construction materials, and other risk-associated data points.
Hazards of Concern:	Dam/Levee, Drought, Earthquake, Extreme Cold, Extreme Heat, Flooding, Hurricane, Mass movement, Severe Weather, Wildfire, Energy Pipeline Failure, Public Health Emergency, Technology Failure, Toxic Release/Hazard Materials, Utility Failure
Description of the Problem:	N/A
Description of the Solution:	N/A
Estimated Cost:	Medium (\$10,000>\$100,000)
Potential Funding Sources:	Local Funds
Implementation Timeline:	Long term (>5years)
Goals Met:	1,2,3,4,6,8,9
Benefits:	Medium (\$10,000>\$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness (EAP)
CRS Category	Preventative Measures (PR)
Priority	High

27. CITY OF SPRING VALLEY VILLAGE

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Spring Valley Village with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Spring Valley Village, describes who participated in the planning process, assesses Spring Valley Village's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

27.1 HAZARD MITIGATION PLANNING TEAM

The City of Spring Valley Village identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Spring Valley Village Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 27-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Table 27-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: John McDonald/ <i>Fire Chief, EMC</i> Address: N/A Phone Number: 713-468-3590 Email: jmcDonald@springvalleytx.com	Name/Title: Howard Miller/ <i>Assistant EMC</i> Address: N/A Phone Number: 713-468-7941 Email: miller@villagefire.org
National Flood Insurance Program Floodplain Administrator	
Name/Title: Zachary Meadows Address: 1025 Campbell Rd, Houston, TX 77055 Phone Number: 832-910-8577 Email: zmeadows@springvalleytx.com	
Additional Contributors	
Name/Title: Jose J Gomez/ <i>Development Service Manager</i> Method of Participation: NFIP Compliance Worksheet D,E,B	
Name/Title: Kristina Watson/ <i>Director of Public Works</i> Method of Participation: Identifies projects for Worksheet C	
Name/Title: Brent Walker/ <i>City Treasurer</i> Method of Participation: Contributed towards completing Worksheet B	
Name/Title: Steve Rasette/ <i>Public Works Superintendent</i> and Miguel Ramirez/ <i>Public Works Superintendent</i> Method of Participation: Contributed towards completing Worksheet A	

27.2 COMMUNITY PROFILE

In 1936 state highway maps indicated a cemetery and a church. Initially the settlement consisted of one and one-half square miles. In the mid-1950s, effort to form a Spring Branch municipality (proposed to be called the city of Spring Branch in roughly the area known today as the Memorial Villages) failed. The city incorporated in 1955 as Spring Valley. There had been two elections for incorporation. The first result was against incorporation, and state law mandated that the next election for incorporation of the same boundary would have to be held at least one year later. Some advocates of incorporation convinced Robert R. Casey, then Harris County judge, to modify the boundary of the proposed area by removing the Campbell Place area and therefore many voters who opposed incorporating. The following election, held on April 9, 1955, was in favor of incorporation. Because of the 1955 incorporation, Houston did not incorporate Spring Valley's territory into its city limits, while Houston annexed surrounding areas that were unincorporated. In 2007, the name of the city was officially changed from Spring Valley to Spring Valley Village.

27.2.1 Governing Body Format

The City of Spring Valley Village is a Type-A General Law City governed by a Mayor and five Council Members all of whom are elected at large. The City consists of 7 departments: Police, Public Works/Utilities, Building and Development, Municipal Court, Finance, the City Secretary's Office, and the City Administrator's Office. Fire and EMS Services are provided by the Village Fire Department, a separate entity created and funded by the six Memorial Villages.

The City Council assumes responsibility for the adoption of this plan, and the City Administrator will oversee its implementation.

27.2.2 Population

According to the U.S. Census, the 2020 population for Spring Valley Village was 4,229, a 13.8 percent increase from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 4.9 percent of the population is 5 years of age or younger, 16.7 percent is 65 years of age or older, 0.5 percent is non-English speaking, 1.3 percent is below the poverty threshold, and 6 percent is considered disabled.

27.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Spring Valley Village performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /or policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Spring Valley Village to identify opportunities for integrating mitigation concepts into ongoing City procedures.

27.3.1 Planning and Regulatory Capability and Integration

Table 27-2 summarizes the planning and regulatory tools that are available to Spring Valley Village.

Table 27-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	IBC/IRC/FLOOD DAMAGE PREVENTION	LOCAL	DEPT
Zoning/Land Use Code	Yes	3.1608	MUNICIPAL	DEPT
Subdivision Code	Yes	<i>Ordinance No. 2008-23</i>	MUNICIPAL	DEPT
Site Plan Code	Yes	<i>SVV Code of Ordinances Chapter 3</i>	MUNICIPAL	DEPT
Stormwater Management Code	N/A	N/A	N/A	N/A
Post-Disaster Recovery/ Reconstruction Code	N/A	N/A	N/A	N/A
Real Estate Disclosure Requirements	N/A	N/A	N/A	N/A
Growth Management	Yes	<i>Harris County Flood Control District</i>	COUNTY	DEPT
Environmental Protection Ordinance(s)	Yes	N/A	COUNTY	DEPT
Flood Damage Prevention Ordinance	Yes	<i>Article 3.1600 of Chapter 3</i>	MUNICIPAL	DEPT
Wellhead Protection	N/A	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Emergency Management Ordinance	Yes	INNER LOCAL AGREEMENT	COUNTY	DEPT
Climate Change Ordinance	N/A	N/A	N/A	N/A
Other Code, Ordinance, or Regulation	N/A	N/A	N/A	N/A
PLANNING DOCUMENTS				
General/Comprehensive Plan	YES	N/A	N/A	N/A
Capital Improvement Plan	YES	N/A	MUNICIPAL	DEPT
Disaster Debris Management Plan	YES	COUNTY	COUNTY	DEPT
Floodplain Management or Watershed Plan	YES	N/A	MUNICIPAL	CONTRACTED
Stormwater Management Plan	N/A	N/A	N/A	N/A
Stormwater Pollution Prevention Plan	N/A	N/A	N/A	N/A
Urban Water Management Plan	N/A	N/A	N/A	N/A
Habitat Conservation Plan	N/A	N/A	N/A	N/A
Economic Development Plan	YES	N/A	N/A	DEPT
Shoreline Management Plan	N/A	N/A	N/A	N/A
Community Wildfire Protection Plan	N/A	N/A	N/A	N/A
Community Forest Management Plan	N/A	N/A	N/A	N/A
Transportation Plan	N/A	N/A	N/A	N/A
Agriculture Plan	N/A	N/A	N/A	N/A
Climate Action/Resilience/Sustainability Plan	N/A	N/A	N/A	N/A
Tourism Plan	N/A	N/A	N/A	N/A
Business/ Downtown Development Plan	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	YES	COUNTY	COUNTY	DEPT
Continuity of Operations Plan	N/A	N/A	N/A	N/A
Substantial Damage Response Plan	N/A	N/A	N/A	N/A
Threat and Hazard Identification and Risk Assessment	YES	COUNTY	COUNTY	DEPT
Post-Disaster Recovery Plan	N/A	N/A	N/A	N/A
Public Health Plan	N/A	COUNTY	COUNTY	DEPT
Other:	N/A	N/A	N/A	N/A

27.3.2 Development and Permitting Capability

Table 27-3 summarizes the capabilities of Spring Valley Village to oversee and track development.

Table 27-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?		
If you issue development permits, what department is responsible?	Yes	N/A
If you do not issue development permits, what is your process for tracking new development?	N/A	N/A
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	N/A
Do you have a buildable land inventory?		
If you have a buildable land inventory, please describe	No	N/A
Describe the level of buildout in your jurisdiction.	N/A	Commercial and Residential

27.3.3 Administrative and Technical Capability

Table 27-4 summarizes potential staff and personnel resources available to Spring Valley Village and their current responsibilities that contribute to hazard mitigation.

Table 27-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	N/A
Zoning Board of Adjustment	Yes	N/A
Planning Department	No	N/A
Mitigation Planning Committee	No	N/A
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	No	N/A
Public Works/Highway Department	Yes	N/A
Construction/Building/Code Enforcement Department	Yes	N/A
Emergency Management/Public Safety Department	Yes	N/A
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	N/A
Mutual aid agreements	Yes	N/A
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	N/A
Other	N/A	N/A

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	Available staff
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contracted
Planners or engineers with an understanding of natural hazards	Yes	Available staff
Staff with expertise or training in benefit/cost analysis	No	N/A
Professionals trained in conducting damage assessments	No	N/A
Personnel skilled or trained in GIS and/or Hazus applications	Yes	N/A
Staff that work with socially vulnerable populations or underserved communities	Yes	N/A
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	Yes	City Administrator Building Official Director of Public Works Contract Engineering Firm
Grant writers	Yes	Contracted
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	N/A

27.3.4 Fiscal Capability

Table 27-5 summarizes financial resources available to Spring Valley Village.

Table 27-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

27.3.5 Education and Outreach Capability

Table 27-6 summarizes the education and outreach resources available to Spring Valley Village.

Table 27-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	No	N/A
Personnel skilled or trained in website development	No	N/A
Hazard mitigation information available on your website	No	N/A
Social media for hazard mitigation education and outreach	No	N/A
Citizen boards or commissions that address issues related to hazard mitigation	No	N/A
Warning systems for hazard events	No	N/A
Natural disaster/safety programs in place for schools	No	N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	No	N/A

27.3.6 Community Classifications

Table 27-7 summarizes classifications for community programs available to Spring Valley Village.

Table 27-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4: 1 and 2-family dwellings 3: All other construction	01/27/2010
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	ISO 1	2015
National Weather Service StormReady Certification	-	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable

— = Unavailable

27.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 27-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 27-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Weak
Earthquake	Weak
Extreme Cold	Strong
Extreme Heat	Strong
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong
Tsunami	Weak
Wildfire	Moderate
Energy Pipeline Failure	Strong
Public Health Emergency	Moderate
Technology Failure	Weak
Toxic Release/Hazardous Materials	Weak
Utility Failure	Moderate

27.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 27-1 is responsible for maintaining this information.

27.4.1 NFIP Statistics

Table 27-9 summarizes the NFIP policy and claim statistics for Spring Valley Village.

Table 27-9. Spring Valley Village NFIP Summary of Policy and Claim Statistics

# Policies	0
# Claims (Losses)	0
Total Loss Payments	\$0
# Repetitive Loss Properties (NFIP definition)	0
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: Harris County Flood Control District 2025

27.4.2 Flood Vulnerability Summary

Table 27-10 provides a summary of the NFIP program in Spring Valley Village.

Table 27-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Historically, the following locations have been prone to flooding: Martin Ct., Tamy Ln., and Winningham Ln. at Pech Rd.
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation? How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations? How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	SQFT

NFIP Topic	Comments
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	N/A
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	No
NFIP Compliance	
What local department is responsible for floodplain management?	Engineer-contracted
Are any certified floodplain managers on staff in your jurisdiction?	Contracted
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	N/A
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	SQFT
What are the barriers to running an effective NFIP program in the community, if any?	N/A
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	N/A
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	N/A
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	3.1608
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets expectation
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	N/A

27.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 27-11 through Table 27-13.

Table 27-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	28	N/A	0	28
Permits within SFHA	0	N/A	0	N/A
2021				
Total Permits	N/A	N/A	N/A	N/A
Permits within SFHA	N/A	N/A	N/A	N/A
2022				
Total Permits	20	N/A	0	20
Permits within SFHA	N/A	N/A	N/A	N/A
2023				
Total Permits	19	N/A	N/A	19
Permits within SFHA	N/A	N/A	N/A	N/A
2024				
Total Permits	20	N/A	N/A	20
Permits within SFHA	N/A	N/A	N/A	N/A
2025				
Total Permits	6	N/A	N/A	6
Permits within SFHA	N/A	N/A	N/A	N/A

SFHA = Special Flood Hazard Area (1% flood event)

Table 27-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
KELSEY-SEYBOLD CLINIC	Commercial	1	9100 Katy Freeway	N/A	Completed

* Only location-specific hazard zones or vulnerabilities identified.

Table 27-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
N/A	N/A	N/A	N/A	N/A	N/A

27.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Spring Valley Village's risk

assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

27.6.1 Hazard Event History

The history of natural and non-natural hazard events in Spring Valley Village is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 27-14 provides details on loss and damage in Spring Valley Village during hazard events since the last hazard mitigation plan update.

Table 27-14. Hazard Event History in Spring Valley Village

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
1/10/2020	Thunderstorm Wind	No	N/A	N/A	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.
1/20/2020 – 5/11/2023	COVID-19 Pandemic	Yes Yes	DR-4485-TX EM-3458-TX	N/A	N/A
3/11/2020	Public Health Emergency	Yes	N/A	N/A	Public Health Emergency – local disaster declared as COVID-19 swept the region
4/18/2020	Hail	No	N/A	N/A	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.
5/6/2020 – 2/18/2020	Drought	Yes	USDA S4669	N/A	N/A
7/25/2020 – 7/31/2020	Hurricane Hanna	Yes	EM-3530-TX	N/A	N/A
8/23/2020 – 8/27/2020	Tropical Storms Marco and Laura	Yes	EM-3540-TX	N/A	N/A

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
9/21/2020	Flooding Flash Flooding	No	N/A	N/A	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. 20 to 25 homes were damaged from high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.
2021	Technology Failure	N/A	N/A	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts	None

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
2/11/2021 – 2/21/2021	Severe Ice Storm Power Failure Extreme Cold Technology Failure Utility Failure	Yes	DR-4586-TX EM-3554-TX	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. The extreme cold and increased demand led to widespread power outages, loss of heat for many and led to the bursting of pipes with some losing water for many days. Numerous fatalities resulted both from hypothermia, carbon monoxide poisoning and other effects. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much the period from Sunday night to Tuesday morning. Increased power demand, wind and ice led to widespread power outages. Bursting pipes caused many to be without water as well. 33 people died, and property damage estimates reached \$33,700,000. Water system pressure loss, water boil notice. Water plant lost power, ran on emergency generator. Lost power at sanitary sewer lift stations.

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
5/18/2021	Thunderstorm Wind, Lightning		N/A	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A
July 2021	Toxic Release/HazMat	N/A	N/A	A fire at an industrial facility led to air quality warnings and temporary evacuations.	N/A
December 2021	Toxic Release/HazMat	N/A	N/A	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
1/8/2022	Tornado, Flash Flood		N/A	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
8/10/2022	Lightning, Thunderstorm Wind		N/A	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	None
3/15/2022 – N/A	Drought	Yes	USDA S5188	N/A	N/A
5/10/2022 – N/A	Drought	Yes	USDA S5197	N/A	N/A
4/5/2022 – N/A	Drought	Yes	USDA S5209	N/A	N/A

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
4/12/2022 – N/A	Drought	Yes	USDA S5214	N/A	N/A
6/14/2022 – N/A	Drought	Yes	USDA S5221	N/A	N/A
7/19/2022 – N/A	Drought	Yes	USDA S5240	N/A	N/A
8/2/2022 – N/A	Drought	Yes	USDA S5252	N/A	N/A
5/1/2022 – 9/30/2022	Excessive Heat	Yes	USDA S5350	N/A	N/A
December 2022	Technology Failure	N/A	N/A	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	Non-applicable

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
1/24/2023	Tornado		N/A	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage. Spots with more severe damage, rated EF2, included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	N/A
4/5/2023	Hail	N/A	N/A	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
May 5, 2023	Toxic Release/ HazMat	N/A	N/A	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	N/A
5/8/2023	Thunderstorm Wind, Flash Flood, Hail	N/A	N/A	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail	N/A	N/A	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail.	N/A
8/15/2023 – N/A	Drought	Yes	USDA S5499	N/A	N/A
8/22/2023 – N/A	Drought	Yes	USDA S5511	N/A	N/A
11/1/2023 – N/A	• Drought	Yes	USDA S5683	N/A	N/A
4/26/2024 – 6/5/2024	Severe Storms, Straight-Line Winds, Tornadoes, and Flooding	Yes	DR-4781-TX	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5.	N/A
5/2/2024	Severe Weather & Flooding	Yes	N/A	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain.	N/A
5/16/2024	Severe Weather, Tornadoes, Strong Wind, Hail, & Flooding	Yes	DR-4781	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	Water plant lost power, ran on emergency generator. Lost power at sanitary sewer lift stations, ran on emergency generator.

Dates of Event	Event Type(s)	County Designated?	Declaration Number	Event Summary	Summary of Damage and Losses in Spring Valley Village
7/5/2024 – 7/9/2024	Hurricane Beryl	Yes	DR-4798-TX	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	N/A

EM = Emergency Declaration (FEMA)
FEMA = Federal Emergency Management Agency
DR = Major Disaster Declaration (FEMA)
N/A = Not applicable
Sources: (USDA 2025); (FEMA 2025);

27.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner’s vulnerability to the identified hazards. The following presents key risk assessment results for Spring Valley Village.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Spring Valley Village reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 27-15 shows Spring Valley Village’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 27-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium

Hazard	Rank
Flooding	High
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release / Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 27-16 identifies critical facilities in the community located in the 1 percent.

Table 27-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	0	0%
Energy	0	0%
Food, Hydration, Shelter	0	0%
Hazardous Materials	0	0%
Health and Medical	0	0%
Safety and Security	0	0%
Transportation	7	14.8%
Water Systems	0	0%
Other Critical Facilities	1	2.1%

Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in Spring Valley Village:

- None Identified

27.6.3 Identified Issues

After review of Spring Valley Village’s hazard event history, hazard rankings, hazard location, and current capabilities, Spring Valley Village identified the following vulnerabilities within the community:

- None Identified

27.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

27.7.1 Past Mitigation Action Status

Table 27-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

27.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 27-17, Spring Valley Village identified the following mitigation efforts completed since the last HMP:

- None Identified

Since the adoption of the County’s first HMP, Spring Valley Village has made significant mitigation progress in the following areas:

- None Identified

Table 27-17. Status of Previous Mitigation Actions

SVV_1: Where appropriate, support retrofitting of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.

Hazards Addressed	Earthquake, Flood, Landslide, Wildfire
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_2: Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Spring Valley Village.

Hazards Addressed	Drought, Earthquake, Flood, Landslide, Tsunami, Wildfire, Dam Failure, Hurricane
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	The City incorporated its hazard mitigation plan action items into the content of the Sustainability & Resiliency Chapter of its new Comprehensive Plan. The City will continue to identify other areas in which to incorporate the hazard mitigation action items.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_3: Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Wildfire, Severe Weather, Mass Movement, Dam Failure, Tsunami,
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_4: Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.

Hazards Addressed	Flood, Sea level rise, Tsunami, Dam Failure, Severe Weather
Responsible Party	Spring Valley Village – Public Works and Building Official
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_5: Conduct HVAC Assessment/Mitigation to Ventilation Systems for Critical Infrastructure.

Hazards Addressed	Energy Pipeline Failure
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	No Progress
Status	
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Not a priority at this time.

SVV_6: Develop and implement public outreach program to educate the public on Drought hazards and water conservation measures that may be implemented by individuals to reduce water usage and minimize damages to property and equipment.

Hazards Addressed	Drought
Responsible Party	Spring Valley Village – Public Works
Summary of Original Problem and Solution (Project)	N/A
Action Review	Ongoing
Status	
Narrative describing progress or obstacles that have prevented implementation	The City has conducted social media campaigns throughout the year encouraging water conservation by providing tips on how to reduce water usage and providing educational information related to sustainability. Additionally, during weather events, the City conducts social media campaigns to inform the public of measures they can take to minimize damage to property and equipment.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_7: Develop and implement a public outreach program designed to educate the public about debris removal and other ways to minimize damage to residential properties.

Hazards Addressed	Flooding
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	In preparation for weather events, the City conducts social media and public outreach campaigns to educate the public about preparing for storms, ways to minimize property damage, debris removal and how to report damages if necessary.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_8: Conduct a fire safety and prevention program in conjunction with the Village Fire Department.

Hazards Addressed	Wildfire
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Village Fire Department conducted fire prevention training in October of 2019. The prevention program was put on hold for October 2020 due to COVID-19.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_9: Continuously monitor and mitigate heavy Wildfire fuel areas such as abandoned buildings, abandoned lands, etc.

Hazards Addressed	Wildfire
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	Ongoing Capability
Status	
Narrative describing progress or obstacles that have prevented implementation	The City continually maintains public green space areas by cleaning out dead debris and brush and utilizes code compliance activities to continuously monitor and mitigate potential wildfire fuel areas.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_10: Improve storm drainage on street projects in accordance with 5 year CIP.

Hazards Addressed	Flooding
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	Ongoing Capability
Status	
Narrative describing progress or obstacles that have prevented implementation	The City continues to address storm drainage improvements outlined in our Capital Improvement Program. The City is nearing completion of the five-year plan and has planned the next five-year improvements with two in design this year.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_11: Provide Public Education and outreach program to businesses, citizens, employees and the general public about hazards associated with illegal discharge and improper disposal of waste and the impacts storm water can have on the quality of water as described in the City's Storm Water Management Plan.

Hazards Addressed	Flooding
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_12: Briar Branch Bypass project and construct a detention pond to mitigate flood-related impacts.

Hazards Addressed	Flood
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Harris County Flood Control District finished a detention pond west of the City outside City limits in 2020. The Briar Branch Bypass project has not yet been undertaken and will require multiple jurisdictions to accomplish it.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_13: Bank re-stabilization with slope stabilization along portions of Briar Branch and Spring Branch to improve/increase flow and minimize flood damage.

Hazards Addressed	Flood
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_14: Replace bridges in Spring Valley Village with improved hardened bridges to withstand Flood and debris.

Hazards Addressed	Flood, Hurricane
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Harris County Flood Control District has completed the Briar Branch Creek maintenance project within the City of Spring Valley Village, which was designed to improve water flow and minimize erosion and flood risk. Spring Branch Creek maintenance project is still planned or in progress which will also help improve water flow and minimize erosion and flood risk along its banks.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_15: Develop and implement master drainage plan and drainage model, including analysis of existing drainage system.

Hazards Addressed	Flooding
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	N/A
Narrative describing progress or obstacles that have prevented implementation	No Progress
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_16: Develop Critical Infrastructure and Key Resources database.	
Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Landslide, Tsunami, Wildfire, Severe Weather, Tornado
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Spring Valley Village has identified all critical infrastructure and notified appropriate agencies. This information will also be incorporated into the City's GIS system and updated on a consistent basis. Development of a Key Resources database is in progress.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
SVV_17: Implement updates for Drought contingency plan.	
Hazards Addressed	Drought
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	An updated Drought Contingency Plan was adopted by Ordinance Number 2020-15 duly passed and approved by the City Council on April 28, 2020.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A
SVV_18: Develop Partnership Projects with Harris County Flood Control District for the purpose of optimizing drainage systems in Spring Valley Village.	
Hazards Addressed	Flood, Dam/Levee Failure
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Spring Valley Village regularly works with Harris County Flood Control District on development, public infrastructure and maintenance projects to ensure that the drainage systems within the City are optimized.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

SVV_19: Generators for water and wastewater infrastructure.

Hazards Addressed	Earthquake, Flood, Hurricane, Landslide, Wildfire, Severe Weather, Power loss
Responsible Party	Spring Valley Village
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	The City added an additional Portable Generator in February 2025.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Completed

SVV_20: Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Landslide, Wildfire, Severe Weather, Dam Failure, Tsunami
Responsible Party	City Administration
Summary of Original Problem and Solution (Project)	N/A
Action Review	Ongoing
Status	
Narrative describing progress or obstacles that have prevented implementation	The City purchased and received a portable trailer-mounted generator for its lift stations in May of 2021. The City already has a permanent generator for its water plant, and, in June of 2021, it installed a 500-gallon diesel tank to supplement the existing 900-gallon fuel tank connected to the permanent generator. The 500 KW generator can use on average 18 to 20 gallons of diesel per hour. The additional 500 gallon tank will increase the run time of the generator from 45 hours to about 65 hours before more fuel will be needed.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

27.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Spring Valley Village participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Spring Valley Village would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 27-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 27-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 27-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquakes	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	-	-	-	-	-	-	-	-	-
Hurricanes, Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release/HazMat	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 27-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SVV_1	Where appropriate, support retrofitting of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.	1	1	0	0	0	0	0	0	0	1	0	0	1	0	4	Low
SVV_2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Spring Valley Village.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SVV_3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SVV_4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SVV_6	Develop and implement public outreach program to educate the public on Drought hazards and water conservation measures that may be implemented by individuals to reduce water usage and minimize damages to property and equipment.	1	1	1	0	0	0	1	1	1	1	1	1	1	1	11	High
SVV_7	Develop and implement a public outreach program designed to educate the public about debris removal and other ways to minimize damage to residential properties.	0	1	1	0	0	0	1	1	1	1	1	1	1	1	10	Medium

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SVV_8	Conduct a fire safety and prevention program in conjunction with the Village Fire Department.	1	1	1	0	0	0	0	1	1	1	1	1	0	1	9	Medium
SVV_9	Continuously monitor and mitigate heavy Wildfire fuel areas such as abandoned buildings, abandoned lands, etc.	1	1	1	0	0	0	1	1	1	1	1	1	0	1	10	Medium
SVV_10	Improve storm drainage on street projects in accordance with 5-year CIP.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SVV_11	Provide Public Education and outreach programs to businesses, citizens, employees, and the general public about hazards associated with illegal discharge and improper disposal of waste and the impacts stormwater can have on the quality of water as described in the City's Storm Water Management Plan.	0	1	1	0	0	0	1	1	1	1	1	1	1	1	10	Medium
SVV_12	Briar Branch Bypass project and construct a detention pond to mitigate flood-related impacts.	0	1	1	0	0	0	1	1	1	1	1	1	1	1	10	Medium

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SVV_13	Bank re-stabilization with slope stabilization along portions of Briar Branch and Spring Branch to improve/increase flow and minimize flood damage.	0	1	1	0	0	0	1	1	1	1	1	1	1	1	10	Medium
SVV_14	Replace bridges in Spring Valley Village with improved hardened bridges to withstand Flood and debris.	0	0	1	0	0	0	1	0	1	1	1	1	1	1	8	Medium
SVV_15	Develop and implement master drainage plan and drainage model, including analysis of existing drainage system.	0	1	1	0	0	0	1	1	1	1	1	1	1	1	10	Medium
SVV_16	Develop Critical Infrastructure and Key Resources database.	1	1	1	0	0	0	0	1	1	1	1	1	1	1	10	Medium
SVV_18	Develop Partnership Projects with Harris County Flood Control District for the purpose of optimizing drainage systems in Spring Valley Village.	0	1	1	0	1	0	1	0	1	1	0	1	1	1	9	Medium

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
SVV_20	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
SVV_21	Enhance public outreach and education regarding severe cold weather hazards, including risks to property, health and safety.	1	1	1	0	0	0	1	1	1	1	1	1	1	1	11	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Action SVV_21 Worksheet

Lead Agency:	Spring Valley Village
Supporting Agencies:	Spring Valley Village
Hazards of Concern:	Extreme Cold
Action Description:	Enhance public outreach and education regarding severe cold weather hazards, including risks to property, health and safety.
Description of the Problem:	Increase in extreme cold weather events
Description of the Solution:	Improve public outreach to provide educational information to help the community prepare for and prevent damage to health, safety and property during extreme cold weather events.
Estimated Cost:	Low (<\$10,000)
Potential Funding Sources:	N/A
Implementation Timeline:	Ongoing
Goals Met:	2
Benefits:	Medium (\$10,000 to \$100,000)
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness (EAP)
CRS Category	Preventative Measures (PR); Property Protection (PP); Public Information (PI)
Priority	High

28. CITY OF STAFFORD

This jurisdictional annex to the Harris County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Stafford with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Stafford, describes who participated in the planning process, assesses Stafford’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

28.1 HAZARD MITIGATION PLANNING TEAM

The City of Stafford identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Stafford Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 28-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 28-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Larry Di Camillo/ <i>Fire Chief, EMC</i> Address: N/A Phone Number: 281-208-6884 Email: Stafforddicamillo@staffordtx.gov	Name/Title: Ashley Merchant/ <i>Grants Manager</i> Address: N/A Phone Number: 281-961-0013 Email: amerchant@staffordtx.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: Mr. Iby Rico Address: 2610 S Main St, Stafford, TX 77477 Phone Number: 281-261-3900 Email: irico@staffordtx.gov	
Additional Contributors	
Name/Title: Lawrence Di Camillo/Fire Chief, EMC Method of Participation: Contributed towards completing Worksheet A- Hazard Event History	

28.2 COMMUNITY PROFILE

The City of Stafford was incorporated in 1956. In 1824, William J. Stafford was granted a league-and-a-half of land, which became known as Stafford’s Point, and aided by a horse-powered cotton

gin, began farming on his plantation and operating the gin to bale his and other farmers' crops in the area. It marked the business friendly climate that remains a trademark of Stafford today. In 1836, during the Texas Revolution, General Santa Ana and his troops stopped in Stafford's Point for the night on their way to San Jacinto. Before departing, they pillaged and burned the community. By 1840, settlers had returned to begin rebuilding, and their preferred economic product shifted from cotton to sugar cane as the primary source of income for revitalizing the community's economy. Attracted by this expanding community, Stafford's Point became the terminal point of the first railroad tracks built in Texas which became a robust system over the next century. Since Stafford's incorporation, it has stood out by promoting commerce instead of concentrating solely on residential development.

28.2.1 Location

The City of Stafford is in the southwest portion of Harris County and the northeast portion of Fort Bend County. The City of Houston is to the north, the city of Meadows place to the northwest, the City of Sugar Land to the west, and Missouri City to the south and east. Stafford is located approximately 50 miles from the Gulf of Mexico in southeast Texas. The current boundaries generally extend from West Airport Blvd. to Highway 90 north-south and Texas Parkway to Dairy Ashford Rd. east-west, encompassing an area of approximately 7 square miles. Stafford is home to Houston Community College-Stafford Campus, a UPS distribution center and the state's only municipal school district.

28.2.2 Governing Body Format

As a home rule city, Stafford established a "mayor-council" form of municipal government. The city is governed by the mayor and six council members. The city consists of 10 departments: Fire, Police, Finance, Human Resources, Public Works, Municipal Court, Information Technology, Municipal Educational Television, Recreation and City Administration. The Stafford Economic Development Corporation is a nonprofit which pursues the economic development expansion of the city and reports to City Council. The City Council assumes responsibility for the adoption of this plan; the Mayor will oversee its implementation.

28.2.3 Population

According to the U.S. Census, the 2020 population for Stafford was 17,666, a 0.15 percent decrease from the 2010 Census. Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 7.1 percent of the population is 5 years of age or younger, 11.2 percent is 65 years of age or older, 3.8 percent is non-English speaking, 9.4 percent is below the poverty threshold, and 9.3 percent is considered disabled.

28.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Stafford performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Stafford to identify opportunities for integrating mitigation concepts into ongoing City procedures.

28.3.1 Planning and Regulatory Capability and Integration

Table 28-2 summarizes the planning and regulatory tools that are available to Stafford.

Table 28-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	<i>IBC 2015</i>	<i>Local</i>	PW Director
Zoning/Land Use Code	Yes	<i>Comprehensive Zoning Ordinance #102</i>	<i>Local</i>	PW Director
Subdivision Code	Yes	<i>Subdivision Ord #82</i>	<i>Local</i>	PW Director
Site Plan Code	Yes	<i>Comprehensive Zoning Ordinance #102</i>	<i>Local</i>	PW Director
Stormwater Management Code	No	<i>N/A</i>	State	TCEQ
Post-Disaster Recovery/ Reconstruction Code	Yes	<i>N/A</i>	County	OEM
Real Estate Disclosure Requirements	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Growth Management	Yes	Code of Ord Article III Section 62	Local	Econ Dev Director
Environmental Protection Ordinance(s)	Yes	<i>N/A</i>	State/Federal	TCEQ/EPA
Flood Damage Prevention Ordinance	Yes	Code of Ord Article IV Sec 26	State	<i>N/A</i>
Wellhead Protection	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Emergency Management Ordinance	Yes	Code of Ord Article II Sec 22	Municipal	COS OEM
Climate Change Ordinance	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Other	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	<i>N/A</i>	Local	City Council
Capital Improvement Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Disaster Debris Management Plan	Yes	<i>N/A</i>	Local	OEM
Floodplain Management or Watershed Plan	Yes	<i>N/A</i>	Local	<i>N/A</i>
How has or will this be integrated with the HMP and how does this reduce risk? <i>The Flood Hazard Mitigation Plan was finalized and then approved by Council on March 19, 2018.</i>				
Stormwater Management Plan	Yes	<i>N/A</i>	Local	WC&ID #2
Open Space Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Urban Water Management Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Habitat Conservation Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Economic Development Plan/CEDS	Yes	<i>N/A</i>	Local	Economic Development Director
Shoreline Management Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Community Wildfire Protection Plan	No	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	N/A	N/A	N/A	N/A
Agriculture Plan	N/A	N/A	N/A	N/A
Climate Action/ Resilience/Sustainability Plan	N/A	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	Yes	N/A	Local	City Council
Other	No	N/A	N/A	N/A
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	N/A	Local	OEM
Continuity of Operations Plan	Yes	N/A	Local	OEM
Substantial Damage Response Plan	No	N/A	N/A	N/A
Threat and Hazard Identification and Risk Assessment	Yes	2017 Houston Reg Threat & Hazard Identification & Risk Assessment	Local	N/A
Post-Disaster Recovery Plan	Yes	N/A	Local	OEM
Public Health Plan	Yes	N/A	Local	LHA
Other: Comprehensive Emergency Management Plan	No	N/A	Local	N/A

28.3.2 Development and Permitting Capability

Table 28-3 summarizes the capabilities of Stafford to oversee and track development.

Table 28-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	Yes	
If you issue development permits, what department is responsible?		<i>Municipal</i>
If you do not issue development permits, what is your process for tracking new development?	Yes	Software System
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	N/A
Do you have a buildable land inventory?	No	N/A
If you have a buildable land inventory, please describe		
Describe the level of buildout in your jurisdiction.	Yes	99 percent

28.3.3 Administrative and Technical Capability

Table 28-4 summarizes potential staff and personnel resources available to Stafford and their current responsibilities that contribute to hazard mitigation.

Table 28-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	N/A
Zoning Board of Adjustment	No	N/A
Planning Department	No	N/A
Mitigation Planning Committee	No	N/A
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	Yes	N/A
Public Works/Highway Department	Yes	N/A
Construction/Building/Code Enforcement Department	Yes	N/A
Emergency Management/Public Safety Department	Yes	N/A
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	N/A
Mutual aid agreements	Yes	N/A
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	No	N/A
Engineers or professionals trained in building or infrastructure construction practices	Yes	N/A
Planners or engineers with an understanding of natural hazards	Yes	N/A
Staff with expertise or training in benefit/cost analysis	Yes	N/A
Professionals trained in conducting damage assessments	Yes	N/A
Personnel skilled or trained in GIS and/or Hazus applications	Yes	N/A
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	Yes	N/A
Grant writers	No	N/A
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)		N/A

28.3.4 Fiscal Capability

Table 28-5 summarizes financial resources available to Stafford.

Table 28-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Under evaluation
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

28.3.5 Education and Outreach Capability

Table 28-6 summarizes the education and outreach resources available to Stafford.

Table 28-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	N/A
Personnel skilled or trained in website development	Yes	N/A
Hazard mitigation information available on your website	Yes	N/A
Social media for hazard mitigation education and outreach	Yes	N/A
Citizen boards or commissions that address issues related to hazard mitigation	No	N/A
Warning systems for hazard events	Yes	N/A
Natural disaster/safety programs in place for schools	Yes	N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	N/A

28.3.6 Community Classifications

Table 28-7 summarizes classifications for community programs available to Stafford.

Table 28-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	1	N/A
National Weather Service StormReady Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable; — = Unavailable

28.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 28-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 28-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Moderate
Drought	Weak
Earthquake	Weak
Extreme Cold	Strong
Extreme Heat	Strong
Flooding	Moderate
Hurricanes, Coastal Storms	Strong
Mass Movement	Weak
Severe Weather	Strong
Tsunami	Weak
Wildfire	Moderate
Energy Pipeline Failure	Strong

28.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 28-1 is responsible for maintaining this information.

28.4.1 NFIP Statistics

Table 28-9 summarizes the NFIP policy and claim statistics for Stafford.

Table 28-9. Stafford NFIP Summary of Policy and Claim Statistics

# Policies	84
# Claims (Losses)	130
Total Loss Payments	\$2,680,767.72
# Repetitive Loss Properties (NFIP definition)	4
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	0
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: Harris County Flood Control District

28.4.2 Flood Vulnerability Summary

Table 28-10 provides a summary of the NFIP program in Stafford.

Table 28-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Partial block of one street in residential neighborhood (3-4 houses total)

NFIP Topic	Comments
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation? How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations? How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	Federal guidance
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	0
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	No
NFIP Compliance	
What local department is responsible for floodplain management?	County
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	N/A
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit process, building code administration, GIS, inspections
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	N/A
What are the barriers to running an effective NFIP program in the community, if any?	N/A
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	N/A
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	N/A

NFIP Topic	Comments
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	N/A
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Engineering staff review all plans for compliance
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	No

28.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 28-11 through Table 28-13.

Table 28-11. Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single-Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020				
Total Permits	2	-	12	14
Permits within SFHA	-	-	-	-
2021				
Total Permits	49	-	22	71
Permits within SFHA	-	-	-	-
2022				
Total Permits	14	10	6	30
Permits within SFHA	-	-	-	-
2023				
Total Permits	15	3	6	24
Permits within SFHA	-	-	-	-
2024				
Total Permits	39	1	12	52
Permits within SFHA	-	-	-	-
2025				
Total Permits	56	-	2	58
Permits within SFHA	-	-	-	-

SFHA = Special Flood Hazard Area (1% flood event)

Table 28-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
The Grid	Multi-use 192 acre development	Estimated 25-30 all types	NW corner of US59 and W. Airport	Multi-family residences	90% of current completed

* Only location-specific hazard zones or vulnerabilities identified.

Table 28-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
The Grid	Multi-use 192 acre development	Estimated additional 25-30 all types	NW corner of US59 and W. Airport	Multi-family residences and hotel occupants	Planning and initial design phase

28.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Stafford’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

28.6.1 Hazard Event History

The history of natural and non-natural hazard events in Stafford is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 28-14 provides details on loss and damage in Stafford during hazard events since the last hazard mitigation plan update.

Table 28-14. Hazard Event History in Stafford

Dates of Event	Event Type	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Stafford
1/20/2020 – 5/11/2023	COVID-19 Pandemic COVID-19	Yes Yes	DR-4485-TX EM-3458-TX	COVID-19	N/A
2/11/2021 – 2/21/2021	Severe Ice Storm Power Failure Extreme Cold Technology Failure Utility Failure	Yes	DR-4586-TX EM-3554-TX	More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. The extreme cold and increased demand led to widespread power outages, loss of heat for many and led to the bursting of pipes with some losing water for many days. Numerous fatalities resulted both from hypothermia, carbon monoxide poisoning and other effects. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much the period from Sunday night to Tuesday morning. Increased power demand, wind and ice led to widespread power outages. Bursting pipes caused many to be without water as well. 33 people died, and property damage estimates reached \$33,700,000.
2021	Technology Failure	N/A	N/A	Harris County ransomware attack – a cyberattack targeted county systems, affecting operations and requiring extensive recovery efforts.	N/A

Dates of Event	Event Type	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Stafford
5/18/2021	Thunderstorm Wind, Lightning		N/A	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	N/A
July 2021	Toxic Release/ HazMat	N/A	N/A	A fire at an industrial facility led to air quality warnings and temporary evacuations.	N/A
December 2021	Toxic Release/ HazMat	N/A	N/A	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	N/A

Dates of Event	Event Type	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Stafford
1/8/2022	Tornado, Flash Flood	N/A	N/A	Thunderstorms produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	N/A
3/15/2022 – N/A	Drought	Yes	USDA S5188	N/A	N/A
5/10/2022 – N/A	Drought	Yes	USDA S5197	N/A	N/A
4/5/2022 – N/A	Drought	Yes	USDA S5209	N/A	N/A
4/12/2022 – N/A	Drought	Yes	USDA S5214	N/A	N/A

Dates of Event	Event Type	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Stafford
6/14/2022 – N/A	Drought	Yes	USDA S5221	N/A	N/A
7/19/2022 – N/A	Drought	Yes	USDA S5240	N/A	N/A
8/2/2022 – N/A	Drought	Yes	USDA S5252	N/A	N/A
8/10/2022	Lightning, Thunderstorm Wind	N/A	N/A	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	N/A
5/1/2022 – 9/30/2022	Excessive Heat	Yes	USDA S5350	N/A	N/A
December 2022	Technology Failure	N/A		In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	N/A

Dates of Event	Event Type	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Stafford
1/24/2023	Tornado		N/A	EF3 tornado touched down near El Franco Lee Park. Damage extended across portions of SE Houston, Pasadena, Deer Park and Baytown. Most damage was rated EF0 and EF1, affecting trees, fences and roofs. More severe damage, rated EF2, included the Beamer apartments in SE Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. Three high-tension electrical towers were flattened northeast of Deer Park near the Houston Ship Channel. In Baytown, a mobile home and a single-family home were destroyed along Weaver Street near Bayway. Damage was less intense northeast from and as far north as TX 330 Spur. Minor roof damage occurred to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked 23 miles across Pearland and SE Houston, producing \$6.6 million in damage. 1.75" diameter hail stones were reported.	N/A
4/5/2023	Hail		N/A	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	N/A

Dates of Event	Event Type	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Stafford
May 5, 2023	Toxic Release/ HazMat		N/A	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit. It reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	N/A
5/8/2023	Thunderstorm Wind, Flash Flood, Hail		N/A	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	N/A
6/23/2023	Hail		N/A	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail.	N/A
8/15/2023 – N/A	Drought	Yes	USDA S5499		N/A
8/22/2023 – N/A	Drought	Yes	USDA S5511		N/A
11/1/2023 – N/A	Drought	Yes	USDA S5683		N/A
4/26/2024 – 6/5/2024	Severe Storms, Straight-Line Winds, Tornadoes, Flooding	Yes	DR-4781-TX	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5.	N/A
5/2/2024	Severe Weather & Flooding	Yes	N/A	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain.	N/A

Dates of Event	Event Type	County Designated?	Declaration Number	Summary of Event	Summary of Damage and Losses in Stafford
5/16/2024	Severe Weather, Tornadoes, Strong Wind, Hail, Flooding	Yes	DR-4781	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	N/A
7/5/2024 – 7/9/2024	Hurricane Beryl	Yes	DR-4798-TX	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	N/A

EM = Emergency Declaration (FEMA)
FEMA = Federal Emergency Management Agency
DR = Major Disaster Declaration (FEMA)
N/A = Not applicable
Sources: (USDA 2025); (FEMA 2025);

28.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner’s vulnerability to the identified hazards. The following presents key risk assessment results for Stafford.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Stafford reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 28-15 shows Stafford’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 28-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Flooding	High
Hurricanes, Coastal Storms	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Medium
Energy Pipeline Failure	Medium
Public Health Emergency	Medium
Technology Failure	High
Toxic Release / Hazardous Materials	High
Utility Failure	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Table 28-16 identifies critical facilities in the community located in the 1 percent.

Table 28-16. Critical Facilities Flood Vulnerability

Name	Count	Vulnerability
		1% Annual Chance Event
Communications	0	0%
Energy	0	0%
Food, Hydration, Shelter	0	0%
Hazardous Materials	0	0%
Health and Medical	0	0%
Safety and Security	0	0%
Transportation	0	0%
Water Systems	0	0%
Other Critical Facilities	0	0%

Source: ATLAS 2022; BTS/USDOT 2023; CIMA 2024; City of La Porte 2025; City of Seabrook 2025; FleetCor 2024; Harris County 2020, 2024; Harris County Office of Emergency Management 2022-2025; Harris County Public Library, HCUS 2020, HCPCS 2024, HIFLD 2021-2024; METRO 2024; NPMS 2024; SETRAC 2024; TCEQ 2023-2024; Regional Catastrophic Preparedness Grant Program 2023; DSHS 2024; TEA 2023; THC 2023; USACE 2024; FEMA 2016, 2018, 2019

Note: The Critical Facilities analyzed are only within the boundaries of Harris County.

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in Stafford:

- None Identified

28.6.3 Identified Issues

After review of Stafford's hazard event history, hazard rankings, hazard location, and current capabilities, Stafford identified the following vulnerabilities within the community:

- None Identified

28.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

28.7.1 Past Mitigation Action Status

Table 28-17 indicates progress on the City's mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

28.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 28-17, Stafford identified the following mitigation efforts completed since the last HMP:

- None Identified

Since the adoption of the County's first HMP, Stafford has made significant mitigation progress in the following areas:

- None Identified

Table 28-17. Status of Previous Mitigation Actions

STF1—Where appropriate, support retrofitting, or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.

Hazards Addressed	Flood, Hurricane, Dam Failure, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF2—Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including comprehensive plan, and zoning ordinances.

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF3—Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Landslide, Wildfire, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF4—Continue to maintain a good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, enforce the flood damage prevention ordinance, participate in floodplain identification and mapping updates, and provide public assistance/ information on floodplain requirements and impacts.

Hazards Addressed	Flood, Dam Failure, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF5— Install generators/emergency power at the Stafford Centre for use as an emergency shelter.

Hazards Addressed	Drought, Flood, Hurricane, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	In need of funding for this project.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF6— Expand city's emergency warning system to increase coverage within the community's population.

Hazards Addressed	Flood, Hurricane, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF7— Improve drainage channels to increase flow rate and increased retention areas.

Hazards Addressed	Drought, Flood, Hurricane, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF8—Implement drainage improvements in Missouri City Estates- replace open ditches by installing storm sewers and level ground to reduce overland and sheet flow Flood within neighborhoods.

Hazards Addressed	Flood, Hurricane, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF9— Harden air infiltration system and critical infrastructure/public buildings to support high efficiency particulate air resistance filters in order to minimize health risks and property damage due to air particulate hazards and minimize equipment damage due to smoke.

Hazards Addressed	High winds, Hurricane, Natural & Man-made Hazards, Wildfire, Severe Weather, Tornado
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	No longer a priority

STF10— Hardening of critical infrastructure facilities for Hurricane wind hazards.

Hazards Addressed	Earthquake, Hurricane, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Harden critical infrastructure facilities for Hurricane wind hazards.
If discontinue, explain why	N/A

STF11—Purchase generator for Fire/EMS Station 1.

Hazards Addressed	Flood, Hurricane, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Completed

STF12— Purchase/install generators at critical facilities and infrastructure that lack adequate back-up power or are in need of replacement.

Hazards Addressed	Flood, Hurricane, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

STF13— Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.

Hazards Addressed	Drought, Earthquake, Flood, Hurricane, Wildfire, Severe Weather
Responsible Party	City of Stafford
Summary of Original Problem and Solution (Project)	N/A
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	N/A
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

28.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Stafford participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

Table 28-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 28-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 28-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	-	-	-	-	-	-	-	-	-
Hurricanes and Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildlife	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 28-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria														Total	High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
STF 1	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.	1	1	0	0	1	1	1	0	1	1	0	1	1	1	10	Medium
STF 2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Zoning Ordinance, Capital Improvement projects and Economic Development Corporation planning.	1	1	0	1	1	1	1	1	1	1	0	1	1	1	12	High
STF 3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	1	1	0	1	1	1	1	1	1	1	0	1	1	1	12	High
STF 5	Install generators/emergency power at the Stafford Centre for use as an emergency shelter.	1	1	0	0	0	0	0	1	0	1	0	0	1	0	5	Low
STF 6	Expand city's emergency warning system to increase coverage within the community's population.	1	1	0	0	0	0	0	1	0	1	0	0	1	0	5	Low
STF 7	Improve drainage channels to increase flow rate and increased retention areas.	1	1	0	0	1	1	1	0	1	1	0	1	1	1	10	Medium

Project Number	Project Name	Scores for Evaluation Criteria														Total	High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
STF 8	Implement drainage improvements in Missouri City Estates- replace open ditches by installing storm sewers and level ground to reduce overland and sheet flow Flood within neighborhoods.	1	1	0	1	1	1	1	1	1	1	0	1	1	1	12	High
STF 10	Harden critical infrastructure facilities for Hurricane wind hazards.	1	1	0	0	0	0	0	1	0	1	0	0	1	0	5	Low
STF 12	Purchase/install generators at critical facilities and infrastructure that lack adequate back-up power or are in need of replacement.	1	1	1	0	0	0	0	0	1	1	0	1	1	0	7	Medium
STF 13	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan	1	1	0	1	1	1	1	1	1	1	0	1	1	1	12	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

29. CITY OF TAYLOR LAKE VILLAGE

This jurisdictional annex to the Harris County Multi-Jurisdictional Hazard Mitigation Plan (MJ-HMP) provides information to assist public and private sectors in the City of Taylor Lake Village with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Taylor Lake Village, describes who participated in the planning process, assesses Taylor Lake Village’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

29.1 HAZARD MITIGATION PLANNING TEAM

The City of Taylor Lake Village identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Taylor Lake Village Local Mitigation Planning Team represented the community within the Harris County HMP Planning Partnership and Steering Committee, and they also supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development by reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 29-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City’s planning activities through Planning Partnership meetings is included in Volume I.

Table 29-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Carl Nunn/ EMC, Chief of Police Address: 98 Lakeshore Drive, El Lago, TX 77586 Phone Number: 281-326-1098 Email: cnunn@lakeviewpdtx.gov	Name/Title: Bob Kosar/Floodplain Consultant Address: 500 Kirby Blvd. Seabrook, TX 77586 Phone Number: 281-326-2843 Email: bkosar@tlv-tx.us
National Flood Insurance Program Floodplain Administrator	
Name/Title: Bob Kosar/ Floodplain Consultant Address: 500 Kirby Blvd. Seabrook, TX 77586 Phone Number: 281-326-2843 Email: bkosar@tlv-tx.us	
Additional Contributors	
Name/Title: Jon Keeney/Mayor, Taylor Lake Village Method of Participation: Contributed towards completing Worksheets	
Name/Title: Armand Barbe/Building Official -Taylor Lake Village Method of Participation: Contributed towards completing Worksheet	
Name/Title: Michelle Cooley/ Park Director -Taylor Lake Vil Method of Participation: Contributed towards completing Worksheet	
Name/Title: Michelle Cooley/ Park Director -Taylor Lake Village Method of Participation: Contributed towards completing Worksheet	

29.2 COMMUNITY PROFILE

29.2.1 Location

City of Taylor Lake Village is in southeast Harris County just north of Clear Lake and between Lake Pasadena and Taylor Lake. The current boundaries generally extend from Pasadena to El Lago, encompassing an area of 1.3 square miles, of which 1.1 square miles is land and 0.19 square miles is water.

29.2.2 History

The City of Taylor Lake Village was incorporated in 1962. The City was home to four of the original seven NASA Mercury program astronauts. Many residents work for NASA, and a number of current and former astronauts still live here.

29.2.3 Climate

Taylor Lake Village's climate is humid subtropical, with long, hot summers and mild winters. The area is highly susceptible to extreme weather events, including hurricanes, tropical storms, flooding, droughts, severe thunderstorms, and extreme heat. The proximity to the Gulf of Mexico increases the County's exposure to coastal storm surge and inland flooding.

29.2.4 Population and Demographics

According to the U.S. Census, the 2020 population for Taylor Lake Village was 3,704, a 4.5 percent increase from the 2010 Census. Research has shown that some populations are at greater risk of hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors, including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Data from the U.S. Census Bureau 2023 American Community Survey (ACS) indicates that 2.7 percent of the population is 5 years of age or younger, 30.6 percent is 65 years of age or older, 0.8 percent is non-English speaking, 6.7 percent is below the poverty threshold, and 10.2 percent is considered disabled.

28.2.2 Governing Body Format

Taylor Lake Village is a General Law Type-A city. It has a mayor and city council, with each of the council members being elected at-large. The Taylor Lake Village City Council assumes responsibility for the adoption of this plan; the City Council will oversee its implementation.

29.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Taylor Lake Village performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Taylor Lake Village to identify opportunities for integrating mitigation concepts into ongoing City procedures.

29.3.1 Planning and Regulatory Capability and Integration

Table 29-2 summarizes the planning and regulatory tools that are available to Taylor Lake Village.

Table 29-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	Municipal Codes	City	City/PD
Zoning/Land Use Code	Yes	Municipal Codes	City	City
Subdivision Code	No	N/A	N/A	N/A
Site Plan Code	No	N/A	N/A	N/A
Stormwater Management Code	No	N/A	N/A	N/A
Post-Disaster Recovery/ Reconstruction Code	No	N/A	N/A	N/A
Real Estate Disclosure Requirements	No	N/A	N/A	N/A
Growth Management	No	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Environmental Protection Ordinance(s)	Yes	Municipal Code	Municipal	City of TLV
Flood Damage Prevention Ordinance	Yes	Municipal Code	Municipal	TLV/FPM
Wellhead Protection <i>Reduces risk of polluting well.</i>	Yes	—	—	—
Emergency Management Ordinance <i>Designates EMC</i>	Yes	—	Municipal	City of TLV
Climate Change Ordinance	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
PLANNING DOCUMENTS				
General/Comprehensive Plan	No	N/A	N/A	N/A
Capital Improvement Plan	No	N/A	N/A	N/A
Disaster Debris Management Plan	Yes	Contract Service	Municipal	City/EMC
Floodplain Management or Watershed Plan <i>The Flood Hazard Mitigation Plan was finalized and then approved by Council on March 19, 2018.</i>	Yes	—	N/A	N/A
Stormwater Management Plan	No	N/A	N/A	N/A
Stormwater Pollution Prevention Plan	No	N/A	N/A	N/A
Open Space Plan	No	N/A	N/A	N/A
Urban Water Management Plan	No	N/A	N/A	N/A
Habitat Conservation Plan	No	N/A	N/A	N/A
Economic Development Plan	N/A	N/A	N/A	N/A
Community Wildfire Protection Plan	No	N/A	N/A	N/A
Community Forest Management Plan	No	N/A	N/A	N/A
Transportation Plan	Yes	STEAR – Individual registration	State	CERT Team
Agriculture Plan	No	N/A	N/A	N/A
Climate Action/ Resilience/Sustainability Plan	No	N/A	N/A	N/A
Tourism Plan	No	N/A	N/A	N/A
Business/ Downtown Development Plan	N/A	N/A	N/A	N/A
Other	—	N/A	N/A	N/A

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	—	Municipal/ County/ State	City
Continuity of Operations Plan	Yes	—	N/A	N/A
Substantial Damage Response Plan	—	N/A	N/A	N/A
Threat and Hazard Identification and Risk Assessment	No	N/A	N/A	N/A
Post-Disaster Recovery Plan	Yes	—	N/A	N/A
Public Health Plan	No	—	N/A	N/A
Other:	—	N/A	N/A	N/A

29.3.2 Development and Permitting Capability

Table 29-3 summarizes the capabilities of Taylor Lake Village to oversee and track development.

Table 29-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? - If you issue development permits, what department is responsible? - If you do not issue development permits, what is your process for tracking new development?	Yes	City/Municipal Clerks
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	—
Do you have a buildable land inventory? If you have a buildable land inventory, please describe	No	—
Describe the level of buildout in your jurisdiction.	None	—

29.3.3 Administrative and Technical Capability

Table 29-4 summarizes potential staff and personnel resources available to Taylor Lake Village and their current responsibilities that contribute to hazard mitigation.

Table 29-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Council
Zoning Board of Adjustment	No	N/A.
Planning Department	Yes	City Council
Mitigation Planning Committee	Yes	Partnering with HCOEM
Environmental Board/Commission	No	N/A
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	No	N/A
Public Works/Highway Department	Yes	Public Works
Construction/Building/Code Enforcement Department	Yes	City Clerks
Emergency Management/Public Safety Department	Yes	Police Department
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Available Staff
Mutual aid agreements	Yes	HC, Seabrook, Pasadena Fire
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	—	N/A
Other	—	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	No	N/A
Engineers or professionals trained in building or infrastructure construction practices	No	N/A
Planners or engineers with an understanding of natural hazards	No	N/A
Staff with expertise or training in benefit/cost analysis	No	N/A
Professionals trained in conducting damage assessments	No	N/A
Personnel skilled or trained in GIS and/or Hazus applications	No	N/A
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	Yes	—
Grant writers	No	N/A
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	No	N/A

29.3.4 Fiscal Capability

Table 29-5 summarizes the financial resources available to Taylor Lake Village.

Table 29-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	—
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	—
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

29.3.5 Education and Outreach Capability

Table 29-6 summarizes the education and outreach resources available to Taylor Lake Village.

Table 29-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	—	N/A
Personnel skilled or trained in website development	—	N/A
Hazard mitigation information available on your website	—	N/A
Social media for hazard mitigation education and outreach	—	N/A
Citizen boards or commissions that address issues related to hazard mitigation	—	N/A
Warning systems for hazard events	—	N/A
Natural disaster/safety programs in place for schools	—	N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	—	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	—	N/A

29.3.6 Community Classifications

Table 29-7 summarizes classifications for community programs available to Taylor Lake Village.

Table 29-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	Exceeds 7	—
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	No	N/A	N/A
National Weather Service StormReady Certification	Yes	In progress	
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	—	N/A	N/A

N/A = Not applicable; — = Unavailable

29.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 29-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 29-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Coastal Erosion	Weak
Dam/Levee Failure	Weak
Drought	Weak
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flooding	Moderate
Hurricane, Coastal Storm	Moderate
Mass Movement	Weak
Severe Weather	Moderate
Tsunami	Weak
Wildfire	Weak
Energy Pipeline Failure	Weak
Public Health Emergency	Moderate
Technology Failure	Weak
Toxic Release/Hazardous Materials	Weak
Utility Failure	Moderate

29.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 29-1 is responsible for maintaining this information.

29.4.1 NFIP Statistics

Table 29-9 summarizes the NFIP policy and claim statistics for Taylor Lake Village.

Table 29-9. Taylor Lake Village NFIP Summary of Policy and Claim Statistics

# Policies	90
# Claims (Losses)	180
Total Loss Payments	\$7,101,052.75
# Repetitive Loss Properties (NFIP definition)	6
# Repetitive Loss Properties (FMA definition)	0
# Severe Repetitive Loss Properties	3
# Policies Within the 1% Annual Chance Flood Boundary	N/A

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: HCFCF and HCOHSEM

29.4.2 Flood Vulnerability Summary

Table 29-10 provides a summary of the NFIP program in Taylor Lake Village.

Table 29-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	AE and VE Flood Zones
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	^ same question in worksheet
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	Harris County/Maapnext Project
How do you make Substantial Damage determinations?	SDE Toolkit
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	0
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	9 elevated
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Part time floodplain administrator
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review, education, inspections
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Project cost/head value
What are the barriers to running an effective NFIP program in the community, if any?	Limited budget
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2025
What is the local law number or municipal code of your flood damage prevention ordinance?	Ordinance
What is the date that your flood damage prevention ordinance was last amended?	Information not provided.
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Exceed, CRS class 7
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Zoning ordinance Subdivision ordinance
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Yes

29.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction’s overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 29-11 through Table 29-13.

Table 29-11. Building Permits for New Construction Issued Since the Previous HMP

Type of Development	2020		2021		2022		2023		2024		2025	
	Number of Building Permits for New Construction Issued Since the previous HMP											
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single-Family	0	0	0	0	0	4	0	1	0	0	0	1
Multi-Family	0	0	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	3	0	0	0	1	0	0	0
Total Permits Issued	0	0	0	0	3	4	0	1	1	0	1	1

SFHA = Special Flood Hazard Area (1% flood event)

Table 29-12. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
None	N/A	N/A	N/A	N/A	N/A

** Only location-specific hazard zones or vulnerabilities identified.*

Table 29-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
None	N/A	N/A	N/A	N/A	N/A

29.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Taylor Lake Village’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

29.6.1 Hazard Event History

The history of natural and non-natural hazard events in Taylor Lake Village is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 29-14 provides details on loss and damage in Taylor Lake Village during hazard events since the last hazard mitigation plan update.

Table 29-14. Hazard Event History in Taylor Lake Village

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Taylor Lake Village
1/10/2020	Thunderstorm Wind	N/A	A strong storm system produced a squall line that moved eastward across the area and produced a lot of wind damage and one tornado.	None
1/20/2020 - 5/11/2023	DR-4485 EM-3458 Biological	State, Federal	COVID-19	Loss of business opportunity
3/11/2020	Public Health Emergency	Yes	ocal disaster declared as COVID-19 swept the region.	None
4/18/2020	Hail	No	Large discrete severe thunderstorms formed in the vicinity of an inland advancing warm frontal boundary. Golf ball to baseball size hailstones were reported around Houston and over north Lake Livingston and points southwestward.	None
5/15/2020	Flash Flood	No	An upper low helped trigger scattered, slow-moving thunderstorms within an unstable, warm, and very moist air mass. Flooding was reported in southeastern Harris County from the Pasadena and Deer Park areas down into El Lago and Seabrook. 60 to 80 apartments near the Shaver Street and East Edgebrook Drive intersection were flooded with about one to two inches of water. There was high water and stranded vehicles at Spencer Highway and Beltway 8. Web cameras showed floodwater inundation on State Highway 225 near Richey Street. Local media were showing pictures of flooded roads in the El Lago and Seabrook areas. Property damages are estimated to be \$100,000.	Information not provided.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Taylor Lake Village
5/27/2020	Tornado	No	Severe thunderstorms developed and produced wind damage, hail, and a few tornadoes. Damage along a short NW-to-SE track parallel to Red Bluff Road. An eyewitness saw a tornado. Numerous trees were down, plus damage to fences & carports. The tornado received an EF-0 rating and produced an estimated \$30,000 in property damage.	None.
7/25/2020 - 7/31/2020	EM-3530 Hurricane	State	Hurricane Hanna made landfall in southern TX as a Category 1 hurricane. Moderate to minor coastal flooding of 1 to 3 feet above ground level occurred along the Texas coastal bend.	None.
8/23/2020 - 8/27/2020	EM-3540-TX Tropical Storm Marco Tropical Storm Laura	State	Hurricane Laura made landfall along the southwest Louisiana coast. The hurricane brought high surf, elevated tides, and some winds and wind gusts to tropical storm force along the SE Texas coast. There we no measured sustained winds to tropical storm force at land observation sites and very little rainfall. The period of storm surge flooding and high surf from 8/26 to 8/27 led to flooding of low-lying areas and roads. Beach erosion. Tide gauges measured tides 3 to 4 feet above MHHW. Minor flooding around Seabrook, Nassau Bay, and other coastal communities around Galveston Bay.	None.
9/21/2020	Storm Surge, Flash Flood Flood	No	Tropical Storm Beta made landfall near Matagorda Bay on September 21. As the system pushed slowly inland, portions of SE Texas experienced flash flooding from heavy rain bands, storm surge, and some strong wind gusts. Storm surge was enhanced by the long fetch of northeast winds over the Gulf behind a cold front. 20 to 25 homes were damaged by high water along portions of Clear Creek and Lower Brays Bayous. Total property damage estimates reached \$900,000 across Harris County.	None.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Taylor Lake Village
2/11/2021 - 2/21/2021	<u>DR-4586, EM-3554</u> Severe Ice Storm Power Failure Extreme Cold Technology Failure, Utility Failure	State, Federal	Record cold and windy conditions gripped Southeast Texas behind the passage of an Arctic front. Very cold air and gusty winds overspread SE Texas behind an Arctic front with wind chill indices from near zero to single digits for much of the period from Sunday night to Tuesday morning. The extreme cold and increased demand led to widespread power outages for many and loss of heat for many, which led to the bursting of pipes. At its peak, 4.5 million homes and businesses were without power (and internet) for several days. Numerous fatalities resulted from hypothermia, carbon monoxide poisoning, and other effects. More than 200 lives were lost in TX, 66 in Harris County alone. Property damage estimates reached \$33,700,000, while the economic impacts were estimated to be as high as \$295 billion.	Some trees and power loss.
5/18/2021	Thunderstorm Wind, Lightning	No	Showers and thunderstorms moved across the area in the evening through late night hours and produced wind damage, lightning damage, flooding, as well as widespread reports of downed trees. Lightning struck and set fire to an empty apartment unit near the intersection of Westview Drive and Caywood Lane in the Spring Branch East area.	None.
July 2021	Toxic Release/HazMat	No	A fire at an industrial facility led to air quality warnings and temporary evacuations.	Information not provided.
December 2021	Toxic Release/HazMat	No	An explosion at the ExxonMobil refinery in Baytown injured multiple people and caused temporary air pollution concerns.	Information not provided.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Taylor Lake Village
1/8/2022	Tornado, Flash Flood	No	Scattered thunderstorms associated with the approach of an offshore low-pressure system produced several tornadoes on the evening of January 8 and the early morning of January 9. These tornadoes resulted in several instances of property and tree damage across the Greater Houston Area. Some non-tornadic storms also produced strong, damaging wind gusts. Later, heavy rainfall associated with continuing thunderstorm activity resulted in flash flooding across the Houston Metro. This brief EF0 tornado occurred near IAH. It tracked across JFK Blvd and did some minor damage to a few structures, including a hotel and knocked over a few trees. Video showed the tornado crossing San Houston Parkway. A second EF0 tornado near Spring Branch caused mostly intermittent EF0 damage along a one-mile path. There was a small area of EF1-rated damage at the start of the path, with a brick facade on a multi-story office building failing and nearby tree trunks snapped. Two other tornadoes, both EF1, produced \$500,000 in damages across the Humble and Moonshine Hill areas.	None.
8/10/2022	Lightning, Thunderstorm Wind	No	Showers and thunderstorms moved southward across the area, producing wind damage and lightning strikes. One man injured after being struck by lightning in an office parking lot. Elsewhere, wind damage totaled \$50,000, mainly across the Katy, TX area.	None.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Taylor Lake Village
December 2022	Technology Failure	No	In December 2022, Southwest Airlines experienced a major technology failure, resulting in over 16,000 flight cancellations and stranding millions of passengers due to issues with their outdated crew scheduling and flight operations systems. This technology failure impacted flights at Houston airports, demonstrating the vulnerability in transportation systems.	Information not provided.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Taylor Lake Village
1/24/2023	Tornado	No	This EF3 tornado touched down near El Franco Lee Park east of Brookside Village. The path of damage extended across portions of Southeast Houston, Pasadena, Deer Park and Baytown. Most of the damage was rated EF0 and EF1 with damage to trees, fences and minor roof damage. Spots with more severe damage, rated EF2, included the Beamer apartments in Southeast Houston, a few homes in Pasadena, a church in Deer Park near Center Street and East P Street, and a single-family home with roof and some walls removed near the intersection of East X Street and Luella. From an aerial survey, there were three high-tension electrical towers flattened northeast of Deer Park near the Houston Ship Channel with EF3 damage. From there, the damage path entered Baytown, north of the Ship Channel. In Baytown, there was a mobile home and a single-family home destroyed along Weaver Street near Bayway. Damage became more spotty and less intense northeast from there with spotty damage as far north as TX 330 Spur. Aerial surveys indicated some minor roof damage to the Exxon building south of West Baker Street. Damage continued up to Interstate 10 where down power lines were observed. No damage was indicated north of Interstate 10. The tornado tracked more than 23 miles across Pearland and SE Houston, producing \$6.6 million in property damages. 1.75" diameter hail stones accompanied the tornadoes and severe storms.	None.
4/5/2023	Hail	No	Early evening severe thunderstorms produced numerous reports of large hail, including 2.00" hailstones at I-10 and Fry Road.	None.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Taylor Lake Village
5/5/2023	Toxic Release/HazMat	No	On Friday, May 5, 2023, a fire erupted at Shell's Deer Park Chemicals facility, specifically in the olefins unit, and reignited after being initially extinguished, burning for nearly 72 hours and causing a large plume of smoke. This was the sixth chemical fire of 2023.	Information not provided.
5/8/2023	Thunderstorm Wind, Flash Flood Hail	No	A cluster of severe thunderstorms moved across the area and produced hail, damaging winds and flash flooding. Law enforcement reported that a tree fell on a vehicle near the intersection of East Cypresswood Dr and Whitewood Dr. One fatality was reported.	None.
6/23/2023	Hail	No	Early to mid-evening thunderstorms produced numerous reports of large hail, including egg-sized hail.	None.
4/26/2024 - 6/5/2024	<u>DR-4781-TX</u> Flood	Federal	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26-June 5.	None.
5/2/2024	Severe Weather Flooding	Yes	Beginning April 30, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather and flooding due to heavy rain.	None.
5/16/2024	<u>DR-4781-TX</u> Severe Weather Tornadoes Strong Wind Hail Flooding	Yes & Federal	Beginning May 16, 2024, Harris County suffered widespread or severe damage, injury, or loss of life or property resulting from severe weather, including tornadoes, strong wind, hail, and flooding due to heavy rain.	None.
7/5/2024 - 7/9/2024	<u>DR-4798-TX</u> Hurricane Beryl	Yes & Federal	County disaster declaration issues due to widespread or severe damage from Hurricane Beryl, which brought severe weather (including heavy rain, flooding, tornadoes, high winds, and hail) to Harris County.	Loss of trees and minor damage to several houses.

EM = Emergency Declaration (FEMA); FEMA = Federal Emergency Management Agency; DR = Major Disaster Declaration (FEMA); N/A = Not applicable

Sources: (USDA 2025); (FEMA 2025); (NWS Houston/Galveston 2021); (NOAA/NCEI 2025)

29.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner’s vulnerability to the identified hazards. The following presents key risk assessment results for Taylor Lake Village.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Taylor Lake Village reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the City indicated the following:

- None Identified

Table 29-15 shows Taylor Lake Village’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 29-15. Hazard Ranking

Hazard	Rank
Coastal Erosion	Medium
Dam/Levee Failure	Low
Drought	Low
Earthquake	Low
Extreme Cold	High
Extreme Heat	High
Flooding	High
Hurricane, Coastal Storm	High
Mass Movement	Low
Severe Weather	High
Tsunami	Low
Wildfire	Low
Energy Pipeline Failure	Medium
Public Health Emergency	High
Technology Failure	High
Toxic Release/Hazardous Materials	High
Utility Failure	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Critical Facilities

Of the 14 critical facilities located within the City of Taylor Lake Village, some are found within known hazard risk areas. Table 29-16 summarizes where these overlaps occur.

Table 29-16. Critical Facilities Flood Vulnerability

Hazard Area	Number of Critical Facilities
1% Annual Chance Riverine Flood	3
1% Annual Chance Coastal Flood	0
Hurricane Harvey Flood Extent	4
Addicks Dam Inundation Area	0
Barker Dam Inundation Area	0
Lake Houston Dam Inundation Area	0
Low Wildfire Threat	0
Moderate Wildfire Threat	0
High Wildfire Threat	0
Very High Wildfire Threat	0

Source: Harris County

In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in Taylor Lake Village:

- None Identified

29.6.3 Identified Issues

After review of Taylor Lake Village’s hazard event history, hazard rankings, hazard location, and current capabilities, Taylor Lake Village identified the following vulnerabilities within the community:

- None Identified

29.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

29.7.1 Past Mitigation Action Status

Table 29-17 indicates progress on the City’s mitigation strategy identified in the 2020 MJ HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous

actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

29.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 29-17, Taylor Lake Village identified the following mitigation efforts completed since the last HMP:

- None Identified

Since the adoption of the County’s first HMP, Taylor Lake Village has made significant mitigation progress in the following areas:

- None Identified

Table 29-17. Status of Previous Mitigation Actions

TLV_1—Vendor contract has been approved and construction is complete.	
Hazards Addressed	Hurricanes/Coastal Storms, Flooding, Severe Weather.
Responsible Party	City of Taylor Lake Village, Harris County
Summary of Original Problem and Solution (Project)	Information not provided
Action Review	
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	TLV obtained a Grant through the US Treasury and is using a portion of the funds to replace the 50 year old restroom facilities with hurricane proof buildings. Two bathrooms are now complete.
Next Steps	
Include in the 2025 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	Completed

TVL_2—Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including any opportunity to include in city ordinances as authorize/applicable. TLV has received a FEMA Grant to elevate 9 homes and the work will proceed under all the modified ordinances. Elevation of homes now in progress.

Hazards Addressed	Coastal Erosion, Dam/Levee Failure, Drought, Earthquakes, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Mass Movement, Severe Weather, Tsunami, Wildfire, Energy Pipeline Failure, Public Health Emergency, Technology Failure, Toxic Release/HazMat, Utility Failure
Responsible Party	City of Taylor Lake Village, Harris County
Summary of Original Problem and Solution (Project)	Information not provided.
Action Review	
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	TLV has reviewed all new FEMA rules/actions created since the last update. Our Flood Plain Manager is coordinating a complete review of our ordinances and also integrating Harris County requirements. TLV is working hard to increase its CRS rating from class 8 to class 7 and possibly class 6. This also requires a comprehensive review of TLV processes and procedures. Review complete, and ordinances passed. All homes are elevated to BFE plus 3 feet per ordinance. next group of 4 homes is proceeding
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including any opportunity to include in city ordinances as authorize/applicable.
If discontinue, explain why	N/A

TVL_3—Actively participate in and support the implementation of the six-area-wide actions identified in Volume 1 of this hazard mitigation plan.

Hazards Addressed	Information not provided.
Responsible Party	Harris County
Summary of Original Problem and Solution (Project)	Street flooding, drainage problems, warming centers, cooling centers, rescue vehicles
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Taylor Lake Village has always followed the protocols created by Harris County. TLV has maintained an active partnership to ensure we comply with all requirements associated with risk mitigation that TLV actions can actually impact. This approach is to our and the larger Harris County benefit.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
pIf include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

TVL_4—Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.

Hazards Addressed	Flooding, Hurricanes/Coastal Storms, Severe Weather
Responsible Party	City of TLV, Harris County
Summary of Original Problem and Solution (Project)	Information not provided.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Proper documentation for elevation certificates, substantial damage calculations, accurate record keeping, upgraded process for capturing damages post hurricanes. Many of our records have been updated, plus the flood plain manager has identified flood prone areas and drainage is being addresses by both TLV and CLCWA.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

TVL_5—Continue to advocate and coordinate for local outreach programs to include town hall meetings and other social gatherings with the city and local and surrounding city's residents. The objective of this outreach program will be to: Bring together subject matter experts in weather, law enforcement, emergency management, and city leadership to speak on their respective subjects to local residents. Provide an interactive environment where local residents can initiate dialogue and ask questions to the subject matter experts. Ensure these events address concerns whether on a seasonal basis (i.e. Hurricane season), or based on a need that is understood by the city. Posting visual aids and sending mass notifications for information on events, resources, and immediate inputs.

Hazards Addressed	Coastal Erosion, Dam/Levee Failure, Drought, Earthquakes, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Mass Movement, Severe Weather, Tsunami, Wildfire, Energy Pipeline Failure, Public Health Emergency, Technology Failure, Toxic Release/HazMat, Utility Failure.
Responsible Party	City of Taylor Lake Village, Harris County
Summary of Original Problem and Solution (Project)	Awareness communications, safety, rescue, security
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	Every City Council meeting is an open forum for all the identified groups to participate in an active discussion of these issues. As previously identified our Flood Plain Manager has made multiple presentations to Council and many clarifying conversations have occurred. We have also just completed a STEAR outreach program to ensure that our vulnerable population is adequately identified, so that in emergency situations we can do what is necessary to ensure their safety. All information is shared with the Lakeview Police Department and our fire department personnel. All Council members are required to hold one-on-one conversations with citizens to perpetually update people as needed. Our Flood Plain Manager and Building Inspector are always available to answer inquiries. TLV shared the STEAR materials used to identify people with our sister City El Lago.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

TVL_6—The Flood and storm hazard mitigation program was submitted by our floodplain manager, and TLV is awaiting approval of this highly justified project.

Hazards Addressed	Flooding, Severe Weather
Responsible Party	Engineering
Summary of Original Problem and Solution (Project)	Flooding homes, substantially damaged homes, safety
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	TLV has submitted a request to Federal Agencies to elevate 10 repetitive flooding homes of the 19 possible sites. Once these homes are elevated to present BFE, plus 3 feet, they will be safely out of the flood waters possible level. TLV has obtained approval for 9 elevations and the funds will be administered by TLV as contracts are approved. In addition TLV is submitting an additional grant request for an additional 10 homes to be elevated.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

TVL_7—Develop awareness and communication with the industry for emergency preparation. Participate in community advisory panels and report to residents. TLV has access to all hazardous materials produced/transported in this area by purchasing access to the chemical database. During the past year, TLV has used the LEPC system information to notify citizens of existing hazards. Have attended both LEPC and CenterPoint meetings dealing with hurricane preparedness and mitigation programs. Also increased a working relationship with Pasadena Fire and ER personnel.

Hazards Addressed	Public Health Emergency (Air Pollution), Energy Pipeline Failure, Technology Failure, Toxic Release/Hazardous Materials, Utility Failure (Catastrophic Infrastructure Failure)
Responsible Party	City of Taylor Lake Village, Harris County
Summary of Original Problem and Solution (Project)	Hazardous materials emergencies
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	TLV participates in LEPC to ensure our contact with the industry. TLV also participates in the east-end mayors' meetings, which include Deer Park, Pasadena, Morgan's Point, Seabrook, and La Porte personnel, where we develop common approaches to emergencies and facilitate communications among this group. We also have access to "Data Sheets" to ensure the identification of chemical hazards.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Develop awareness and communication with the industry for emergency preparation. Participate in community advisory panels and report to residents.
If discontinue, explain why	N/A

TLV_8—Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan.

Hazards Addressed	Drought, Earthquake, Flooding, Hurricanes/Coastal Storms, Wildfire, Severe Weather
Responsible Party	City of Taylor Lake Village, HCOHSEM
Summary of Original Problem and Solution (Project)	Information not provided.
Action Review	
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	TLV continues to work in parallel with Harris County. We are a coastal community and also changed our ordinances to comply with their directives.
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	N/A
If discontinue, explain why	N/A

TLV_9—Purchase and install of generators in two facilities for cooling, heating, and protection after weather and power outage events.

Hazards Addressed	Utility Failure, which may arise from any of the following: Dam/Levee Failure, Earthquakes, Extreme Cold, Extreme Heat, Flooding, Hurricanes/Coastal Storms, Mass Movement, Severe Weather, Tsunami, Wildfire
Responsible Party	Emergency Management
Summary of Original Problem and Solution (Project)	Displacement of people and personnel to prevent heat or cold-related illness or injuries after severe weather events and power outages.
Action Review	
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Initiated a FEMA grant to add a generator to the park manager's home owned by the city to ensure personnel living in the house can work effectively after hurricanes or power outage events. TLV also initiated a grant to add a 2nd cooling center located at the Living Word Church, which is a much larger facility to house those in need
Next Steps	
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Install generators in two facilities for cooling, heating, and protection after weather and power outage events.
If discontinue, explain why	N/A

29.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Taylor Lake Village participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Taylor Lake Village would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 29-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 29-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 29-18. Analysis of Mitigation Actions by Hazard and Category

2025 Hazards	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	-	-	-	-	-	-	-	-	-	-
Dam/Levee Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-	-	-
Extreme Cold	-	-	-	-	-	-	-	-	-	-
Extreme Heat	-	-	-	-	-	-	-	-	-	-
Flooding	-	-	-	-	-	-	-	-	-	-
Hurricanes and Coastal Storms	-	-	-	-	-	-	-	-	-	-
Mass Movement	-	-	-	-	-	-	-	-	-	-
Severe Weather	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildlife	-	-	-	-	-	-	-	-	-	-
Energy Pipeline Failure	-	-	-	-	-	-	-	-	-	-
Technology Failure	-	-	-	-	-	-	-	-	-	-
Toxic Release / HazMat	-	-	-	-	-	-	-	-	-	-
Utility Failure	-	-	-	-	-	-	-	-	-	-
Public Health Emergency	-	-	-	-	-	-	-	-	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Table 29-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
TLV_2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including any opportunity to include in city ordinances as authorize/applicable.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
TLV_3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan. This is an ongoing action as parameters change over time.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
TLV_4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, Enforce the flood damage prevention ordinance, Participate in floodplain identification and mapping updates, Provide public assistance/information on floodplain requirements and impacts.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
TLV_5	Continue to advocate and coordinate for local outreach programs to include town hall meetings and other social gatherings with the city and local and surrounding city’s residents. The objective of this outreach program will be to: Bring together subject matter experts in weather, law enforcement, emergency management, and city leadership to speak on their respective subjects to local residents. Provide an interactive environment where local residents can initiate dialogue and ask questions to the subject matter experts. Ensure these events address concerns whether on a seasonal basis (i.e. Hurricane season), or based on a need that is understood by the city. Posting visual aids and sending mass notifications for information on events, resources, and immediate inputs.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
TLV_6	Flood and storm hazard mitigation program was submitted by our flood plain manager and TLV is awaiting approval of this highly justified project.																High

Project Number	Project Name	Scores for Evaluation Criteria															High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
TLV_7	Develop awareness and communication with the industry for emergency preparation. Participate in community advisory panels and report to residents. <i>TLV has access to all hazardous</i>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
TLV_8	Actively participate in and support the implementation of the six area-wide actions identified in Volume 1 of this plan. On board with Harris County Mitigation partnership.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
TLV_9	Install generators in two facilities for cooling, heating, and protection after weather and power outage events.	1	1	1	0	0	0	1	1	0	1	0	0	0	1	7	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



Agenda Briefing

Date of Meeting: October 21, 2025

Responsible Department: City Secretary's Office

Presenter: Angela Cervantes, At-Large Position 4, Tyler Kubena, At-Large Position 1

Briefing Prepared By: Mick Barnabo, Amanda Alvarado

Strategic Focus Area: Engagement & Branding

General Information:

Consider and take all appropriate action on the approval of the video recording of all City board, commission, and corporation meetings.

Executive Summary / Background:

Funding / Fiscal Information:

Supporting Materials Attached:

1. Presentation on Boards and Commissions Recording
2. Video Recording Boards & Commissions - Equipment

Prior Action / Review by Council, Boards, Commissions:

August 2, 2022 - ITEM 5.9: Consider and take all appropriate action on a presentation by staff on recommendations for video streaming options for City Council and associated City board meetings, including any authorization or direction on the expenditure and utilization of funds from the Public, Education, and Governmental (PEG) Special Fund for such purposes.

MOTION MADE TO TABLE. MOTION FAILED BY A 5-2 VOTE. MOTION MADE TO DIRECT CITY STAFF TO PUBLISH NOTICE OF BID FOR THE COST OF UPGRADING THE CITY COUNCIL CHAMBER WITH THE NECESSARY EQUIPMENT TO RECORD, BROADCAST, AND STREAM PUBLIC MEETINGS; THIS INCLUDES BUT IS NOT LIMITED TO THE CAMERA(S), LIGHTING, SOUND EQUIPMENT, MICROPHONES, MONITORS, SCREENS, AND FOR PERSONNEL COST TO OPERATE THE EQUIPMENT DURING PUBLIC MEETINGS AND POSTING THE VIDEO ON AN ONLINE PLATFORM LIVE

AND/OR AFTER PUBLIC MEETINGS. **SECOND MOTION CARRIED.**

The Invitation for Proposals (IFP) was issued to the Texas BuyBoard the week of December 19, 2022. Bids were due from vendors by February 17, 2023. All bids were reviewed and graded by the AV Advisory Committee on February 23, 2023. The results of this committee were presented to City Council during the March 7, 2023, meeting.

March 7, 2023 – ITEM 6.1: Discuss, consider, and if necessary take all appropriate action on recording and broadcasting of City Council Meetings. MOTION TO PLACE ITEM ON NEXT AGENDA TO DISCUSS A COMPARISON BETWEEN THE STAFF RECOMMENDED FORD AV AND SWAGIT, WITH ALL OF THE PERTINENT INFORMATION INCLUDED. **MOTION CARRIED BY UNANIMOUS CONSENT.**

March 21, 2023 – ITEM 5.3: Discuss, consider, and take all appropriate action on Council Chamber Audio/Visual Project and any applicable phases and authorize City Manager to prepare any required agreements for approval, if needed. MOTION MADE TO APPROVE THE INSTALLATION OF INFRASTRUCTURE IN COUNCIL CHAMBER BY FORD AV TO UPDATE THE AUDIO/VISUAL EQUIPMENT, IN AN AMOUNT NOT TO EXCEED \$142,000.00. **MOTION CARRIED UNANIMOUSLY.**

March 23, 2023 – ITEM 5.1: Consider and take all appropriate action on a contract between the City of Seabrook and Ford AV for Installation of new Audio/Visual Equipment in Council Chamber, in an amount not to exceed \$141,392.00 from the Public, Education, and Government (PEG) Funds. MOTION MADE TO APPROVE. **MOTION CARRIED BY A 5-1 VOTE**, WITH MAYOR KOLUPSKI VOTING IN OPPOSITION AND COUNCILMEMBER TOLLETT ABSTAINING.

September 5, 2023 – Item 4.4: Receive an update of the A/V Council Chambers Upgrade progress and consider and take all appropriate action on an internal policy for the AV Project Pilot Program. MOTION MADE TO APPROVE THE POLICY. **MOTION CARRIED UNANIMOUSLY.**

August 6, 2024 – ITEM 4.1: Presentation of the City Council Audio Visual Pilot Program analytics for the recording of City Council meetings, and consider and take all appropriate action on the continuation and any changes to the program. MOTION MADE TO APPROVE LIVE STREAMING THE MEETINGS WITH COMMENTS AND NO CHAT. **MOTION CARRIED UNANIMOUSLY.**

August 20, 2024 – ITEM 5.2: Hear a presentation, consider, and take all appropriate

All requests must be submitted to the City Secretary's Office no later than 12:00 p.m. on the Monday, one week prior to the regular Tuesday Council Meeting. All required attachments are to be submitted with the request. Incomplete items cannot be placed on the agenda.

action on extending video recording and live streaming to all boards & commissions. MOTION MADE TO APPROVE OUTSOURCING OF ALL PUBLIC MEETINGS - OPTION C. NO VOTE WAS HELD DUE TO A MOTION MADE TO TABLE UNTIL THE NEXT MEETING. **SECOND MOTION CARRIED UNANIMOUSLY.**

September 3, 2024 – ITEM 4.1: Consider and take all appropriate action on extending video recording and live streaming to all boards & commissions. MOTION MADE TO APPROVE OPTION D: STAFF COUNCIL + BASIC CASTUS. **MOTION CARRIED BY A 5-2 VOTE**, WITH MAYOR KOLUPSKI, COUNCILMEMBERS HAMMANN, HEFNER, TOLLETT, AND GIANGROSSO VOTING IN FAVOR AND COUNCILMEMBERS RASCO AND MACHOL VOTING OPPOSED.

Staff Recommendation:



BOARDS, COMMISSIONS, & CORPORATIONS

VIDEO RECORDING

OCTOBER 21, 2025



CITY PUBLIC MEETINGS & TOMA



Separate Legal Entities

- Seabrook Economic Development Corporation (meets monthly)

Quasi-Judicial Boards

DECISION MAKING

- Board of Adjustment/Building Standards Commission (meets as needed)
- Ethics Review Commission (meets monthly)



Advisory Boards

RECOMMENDING BODIES

- Planning & Zoning Commission
- Civil Service Commission
- Charter Review Commission
- Master Plan Review Commission

City Committees

- Parks & Trails Committee (meets monthly)
- Stakeholder and Ad Hoc Committees as assigned

OPTIONS



1. Smallest Recurring Financial Impact

Nobody in the control room.

There WILL BE technical difficulties.

- Loss of sound
- Equipment malfunction
- Recording stops from full storage

No one will know until after the meeting is over.

Additional cost to bring extra functions to the dais for this.

- Cost Estimate: \$27,400



3. Recurring Financial Impact in Outsource

3rd party monitors stream off-site and will attempt to troubleshoot everything from their location.

If there are network problems on our side, they will not be able to do anything.

SUPPLEMENT TO THE CITY COUNCIL AGENDA ITEM 10-21-2025

Consider and take all appropriate action on the approval of the video recording of all City board, commission, and corporation meetings.

\$27,400

Task (as written)	Estimated Low-End	Estimated High-End
Replace the Denon Audio Recorder	\$3,800	\$4,500
Add add'l Video Recorder backup	\$3,800	\$4,500
Rework Q-SYS DSP for Streaming Audio	\$200	\$400
Foldback speakers on dais for council members. An entry level hardwired system of voice and talkback only	\$14,500	\$15,300
Podium (Lectern) Location — add mic line	\$200	\$400
HUB 20x20 Documentation for As-Builts	\$300	\$400
CAM 1 ISO record for Board Mtgs on a wide shot programming.	\$200	\$300
Lobby Display Routing Programming	\$300	\$400
OFE Castus.TV — Add control to Crestron — both TPs	\$500	\$700
Turn on/off displays separate from the "room"	\$400	\$500



Agenda Briefing

Date of Meeting: October 21, 2025

Responsible Department: City Manager's Office

Presenter:

Briefing Prepared By: Gayle Cook

Strategic Focus Area: QUALITY OF LIFE

General Information:

Hear a presentation and take all appropriate action on the overview of a financing plan and a schedule of events for the General Obligation Bonds, Series 2025, regarding the construction of the City Pool. *City Financial Advisor John Robuck*

Executive Summary / Background:

In May 2025, Seabrook voters approved the issuance of General Obligation Bonds for the design and construction of a new municipal pool facility. To proceed with the financing, the City's Financial Advisor, BOK Financial Securities, Inc., has prepared a Financing Plan and Schedule of Events outlining the necessary steps to bring the bond issue to market for sale.

The total proposed issuance is \$4,000,000 in General Obligation Bonds, Series 2025, which will provide project proceeds for the pool construction while maintaining manageable debt service levels consistent with prior City obligations.

This briefing requests City Council authorization for the Financial Advisor to:

1. Prepare and circulate the Preliminary Official Statement (POS) in coordination with City staff and Bond Counsel.
2. Coordinate rating and due diligence calls with the selected rating agency.
3. Market and price the bonds through a competitive sale.
4. Present final sale results for Council approval at the November 18, 2025, Council meeting.

Funding / Fiscal Information:

Supporting Materials Attached:

1. Financing Plan and Schedule of Events Presentation - City of Seabrook (2025 GO Sale) 9-30-25

Prior Action / Review by Council, Boards, Commissions:

Staff Recommendation:

All requests must be submitted to the City Secretary's Office no later than 12:00 p.m. on the Monday, one week prior to the regular Tuesday Council Meeting. All required attachments are to be submitted with the request. Incomplete items cannot be placed on the agenda.



City of Seabrook, Texas

Overview of Financing Plan and Schedule of Events:

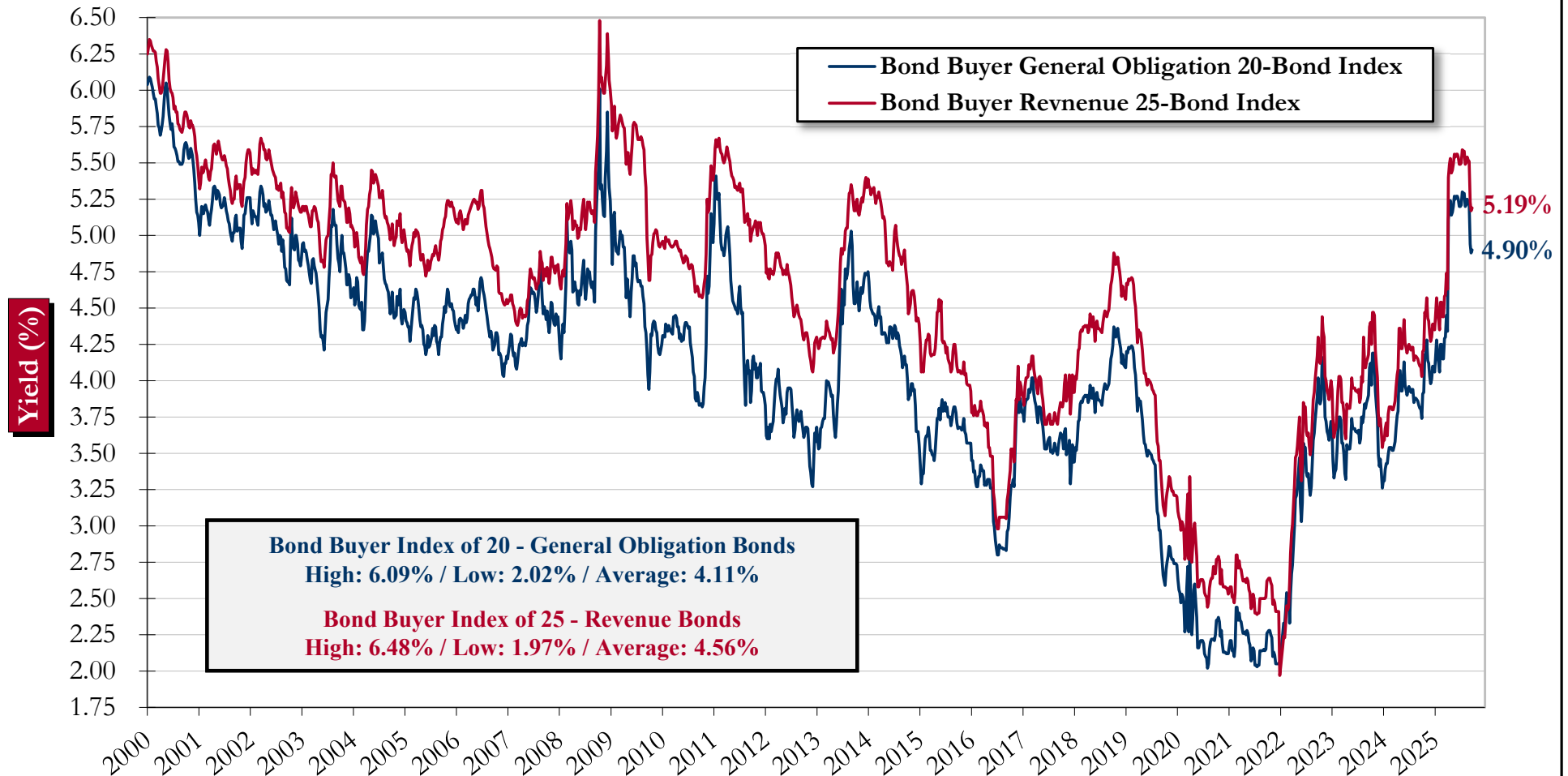
\$4,000,000* General Obligation Bonds, Series 2025

October 21, 2025

* Preliminary, subject to change.



The Bond Buyer Index January 1, 2000 To The Present



The BBI 20 is published every Thursday. The rate consists of general obligation bonds maturing in 20 years with an average rating equivalent to Moody's "Aa2" and S&P's "AA." The BBI 25 is also published every Thursday. The rate consists of revenue bonds maturing in 30 years with an average rating equivalent to Moody's "A1" and S&P's "A+".

Estimated Debt Service Requirements

FY Ending (9/30)	Current Total Debt Service	Less: Self-Supported Debt Service (a)	Plus: The Series 2025 General Obligation Bonds		Total Debt Service Requirements
			Principal (b)	Interest (c)	
2026	\$4,032,731	\$1,136,807		\$134,583	\$3,030,508
2027	4,032,259	1,134,152	\$65,000	190,000	3,153,107
2028	3,514,980	1,517,487	95,000	186,913	2,279,406
2029	3,515,349	1,515,686	95,000	182,400	2,277,063
2030	3,511,296	1,514,338	105,000	177,888	2,279,846
2031	3,509,621	1,513,977	110,000	172,900	2,278,543
2032	3,314,942	1,318,835	115,000	167,675	2,278,782
2033	3,313,283	1,316,630	120,000	162,213	2,278,865
2034	3,313,719	1,316,847	125,000	156,513	2,278,385
2035	2,500,227	1,228,996	140,000	150,575	1,561,806
2036	2,496,707	1,230,183	150,000	143,925	1,560,449
2037	2,500,583	1,231,588	155,000	136,800	1,560,795
2038	2,491,354	1,223,150	165,000	129,438	1,562,641
2039	2,208,700	940,959	175,000	121,600	1,564,341
2040	2,169,150	920,209	200,000	113,288	1,562,229
2041	1,423,000	384,800	175,000	103,788	1,316,988
2042	1,038,200		185,000	95,475	1,318,675
2043	1,036,450		195,000	86,688	1,318,138
2044	1,037,950		200,000	77,425	1,315,375
2045	1,037,450		210,000	67,925	1,315,375
2046	1,037,850		220,000	57,950	1,315,800
2047	1,036,825		230,000	47,500	1,314,325
2048	1,034,375		245,000	36,575	1,315,950
2049	1,035,500		255,000	24,938	1,315,438
2050			270,000	12,825	282,825
Totals	\$56,142,502	\$19,444,644	\$4,000,000	\$2,937,796	\$43,635,654

(a) Includes a portion of the City' Series 2016 Certificates of Obligation, the Series 2016A Certificates of Obligation and Series 2020 Certificates of Obligation, which are paid from revenue of the Waterworks and Sewer System (the "System") and Seabrook Economic Development Corporation ("EDC") pursuant to a policy determination by City Council, which is subject to change.

(b) Preliminary, subject to change. Generates \$4,000,000 in proceed for the City.

(c) Interest estimated at 4.75%, for illustrative purposes only.

Tentative Schedule of Events

\$4,000,000*

General Obligation Bonds, Series 2025

October - 2025						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November - 2025						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

December - 2025						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Date	Action	Role
Wednesday, October 1, 2025	First Draft of Preliminary Official Statement ("POS")	FA
Monday, October 13, 2025	Second Draft POS	City, FA, BC
Week of October 20, 2025	Rating and Diligence Calls	City, FA, UW
Tuesday, October 21, 2025	City Council Meeting Review Financing Plan and Schedule of Events for General Obligation Bonds (the "Bonds")	City, FA, BC
Monday, October 27, 2025	Third Draft POS	City, FA, BC, UW
Friday, November 7, 2025	Final Draft POS	City, FA, BC, UW
Monday, November 10, 2025	Post/Distribute Final POS	BOKFS
Tuesday, November 18, 2025	Sale of General Obligation Bonds City Council Meeting City Council to Approve Sale of the Bonds	City, FA, BC, UW
Tuesday, December 16, 2025	Closing/Delivery of the Bonds	City, FA, BC, UW

Participants

City - City of Seabrook, Texas
 FA - BOK Financial Securities, Inc. (Financial Advisor)
 BC - Orrick, Herrington & Sutcliffe LLP (Bond Counsel)
 UW - Underwriters (To Be Determined)



Agenda Briefing

Date of Meeting: October 21, 2025

Responsible Department: Public Works

Presenter: Brian Craig, Director of Public Works | City Engineer

Briefing Prepared By: Brian Craig

Strategic Focus Area: CITY SERVICES

General Information:

Consider and take all appropriate action on an updated Water and Sewer Impact Fee Study Proposal from Cobb Fendley.

Executive Summary / Background:

Section 395.052 of the Texas Local Government Code requires a political subdivision imposing impact fees shall update the land use assumptions and capital improvement plan at least every five years. The City of Seabrook's last update was in 2021 with an update required in 2026/27.

In accordance with the City of Seabrook Code of Ordinances, impact fees are limited to the City's water and wastewater systems. These fees ensure that new development pays its proportional share for expanding water and wastewater infrastructure necessary to serve future growth.

To comply with the State requirement and to align with the upcoming Water and Wastewater Rate Study, staff recommends proceeding with an update of the 2027–2037 Water and Wastewater Impact Fee Study, as proposed by Cobb, Fendley & Associates, Inc. (CobbFendley).

Under the proposal dated October 1, 2025, CobbFendley will perform engineering and modeling services to prepare the City's 2027–2037 Impact Fee Update.

- Four meetings with City staff to discuss future development and capital projects.
- Preparation of updated land use maps and growth projections for the City and its ETJ.
- WaterCad model update reflecting system improvements since 2021.
- Development of a new SewerCad model for the sanitary sewer system.
- Preparation of a Capital Improvements Plan (CIP) identifying water and wastewater projects through 2037.
- Impact Fee calculations consistent with Chapter 395, Texas Local Government Code.
- Coordination of Advisory Committee and City Council hearings.
- Submission of a final signed and sealed Impact Fee Study following City adoption

WHAT IS AN IMPACT FEE?

An impact fee has the meaning ascribed to it in V.T.C.A., Local Government Code §395.001, which defines it as:

“A charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development.”

- **In Seabrook, impact fees apply only to water and wastewater systems and are used exclusively for:**
 - Water line extensions and upsizing
 - Water supply, treatment, and storage facilities
 - Sanitary sewer line and lift station improvements

All requests must be submitted to the City Secretary's Office no later than 12:00 p.m. on the Monday, one week prior to the regular Tuesday Council Meeting. All required attachments are to be submitted with the request. Incomplete items cannot be placed on the agenda.

- Wastewater treatment plant capacity expansions
- Impact fees cannot fund maintenance or operations, only growth-related capital projects.

Funding / Fiscal Information:

Funds were allocated for the study this year in account 902-5227 Prof Fees - Consulting in the amount of \$100,000. Cobb Fendley's proposal is \$98,500.

Supporting Materials Attached:

1. Proposal - 2027-2037 Impact Fee Update 10-1-25

Prior Action / Review by Council, Boards, Commissions:

Staff Recommendation:

Staff recommends acceptance of Cobb Fendley's 2027-2037 Water and Wastewater Impact Fee Update proposal.

October 1, 2025

Mr. Brian Craig
Public Works Director / City Engineer
City of Seabrook
1100 Red Bluff
Seabrook, Texas 77586

Re: Proposal for Engineering and Surveying Services
Seabrook – 2027-2037 Water and Wastewater Impact Fee Update
CobbFendley Project No. _____

Dear Mr. Craig:

Cobb, Fendley & Associates, Inc. (CobbFendley) is pleased to submit this proposal to provide Engineering Services for 2027-2037 Water and Wastewater Impact Fee Project in Seabrook, Texas. CobbFendley proposes to provide the Scope of Services for the Compensation as outlined in Attachments A and B, respectively.

Thank you for the opportunity to submit this proposal. Please advise if you have any questions or require additional information.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC.

A handwritten signature in blue ink, appearing to read "Amber Hurd".

Amber Hurd, P.E.
Vice President, Department Manager

Attachments

This proposal accepted by:

CITY OF SEABROOK, TEXAS

Signature

Print Name

Title

Date of Authorization

ATTACHMENT A
SCOPE OF SERVICES

Cobb, Fendley & Associates, Inc.
Proposal for Professional Engineering & Surveying Services
2027-2037 Water and Wastewater Impact Fee Update

Project Description

CobbFendley will provide the City of Seabrook (hereinafter called "City") professional engineering services for the Water and Wastewater Impact Fee Update including:

- Four meetings with the City staff to discuss future development and capital projects.
- Prepare land use maps and exhibits.
- Prepare growth projections for the City and ETJ.
- Update WaterCad model for the water distribution system. Flow testing and Fire Hydrant Flow testing are not included in this scope of services.
- Develop SewerCad model for the sanitary sewer system. Elevations, pipe size, and slopes will be based on available information. Surveying of sewer lines is not included in this scope of services.
- Develop Capital Improvement Plan (CIP) Water and Sewer project scopes and opinion of probable construction costs for the years 2027 through 2037.
- Perform Impact Fee calculations to meet Chapter 395 of Local Government Code Title 12 Subtitle C.
- Prepare Impact Fee report.
- Coordinate Hearing dates and Notice language with City Secretary.
- Attend or conduct up to four meetings and/or public hearings with Advisory Committee and City Council.
- Upon City adoption, submit final signed and sealed Impact Fee Study.

I. Basic Services.

A. Update of land use and / or zoning maps.

B. Water Model Update

1. Conduct a project kick-off meeting with the City staff. (Meeting 1)
2. Update the water model to include improvements made since the last Impact Fee update in 2021. The City will provide plans and all data for the system updates.
3. Update the model to reflect the current land use and zoning maps adopted by the City. The City will provide maps and all data for the system updates.
4. Run the water model to determine the current system condition and requirements to meet minimum TCEQ system requirements including pressure and fire flow.
5. Update the model to account for anticipated future development. The City will provide information related to anticipated developments to input into the model.
6. Run the water model with the anticipated future demands to determine the future upgrades to the system to meet minimum TCEQ system requirements and any required fire flows.
7. Based off the water model data, develop a list of recommended projects.
8. Progress meeting to discuss list of projects with City. (Meeting 2)
9. Progress meeting to discuss list of projects with City. (Meeting 3)
10. Prepare a report summarizing the water model results with maps and exhibits.
11. Progress meeting to discuss report comments and Advisory Committee selection. (Meeting 4)

C. Wastewater Model Update

1. Conduct a project kick-off meeting with the City staff. (Meeting 1)
2. Create a wastewater model of existing collection and treatment system based on proposed land use map.
3. Populate the model to reflect the current land use and zoning maps adopted by the City. The City will provide maps and all data for the system updates.

4. Calibrate the model based on flow meter information, provided by the City.
5. Calibrate the model for Inflow / Infiltration based on local rainfall data.
6. Run the wastewater model to determine the current system condition and requirements to meet minimum TCEQ system requirements.
7. Update the wastewater model to account for anticipated future development. The City will provide information related to anticipated developments to input into the model.
8. Run the wastewater model with the anticipated future demands to determine the future upgrades to the system to meet minimum TCEQ system requirements.
9. Based off the wastewater model data, develop a list of recommended projects.
10. Progress meeting to discuss list of projects with City. (Meeting 2)
11. Progress meeting to discuss list of projects with City. (Meeting 3)
12. Prepare a report summarizing the wastewater model results with maps and exhibits.
13. Progress meeting to discuss report comments and advisory committee selection. (Meeting 4)

D. Capital Improvement Plan

1. Based on the recommendations obtained from the water and wastewater models, develop a list of Capital Improvement Projects along with exhibits.
2. Develop a prioritization list of water and wastewater projects based on the proposed development schedule provided by the City.
3. Develop order of magnitude estimated cost of construction for the proposed capital improvement projects.

E. Water / Wastewater Impact Fee

1. Prepare population projections.
2. Perform Impact Fee calculations based on the Capital Improvement Plan Projects.
3. Prepare Impact Fee Study document.
4. Attend or conduct meetings and hearings with Advisory Committee and City Council (4 Meetings).

5. Upon City Council adoption, submit final signed and sealed Impact Fee Study.

II. CITY RESPONSIBILITIES

- A. The City will provide the following information in a timely manner so as not to delay the services of CobbFendley:
- B. The City will provide any available design plans, land use maps, zoning maps, population projections, development projections, studies, surveys, utility locations, CADD files, GIS files or any other pertinent information.
- C. The City shall provide the appropriate / relevant staff and attend project meetings to discuss the City's land use maps, zoning maps, population projections, development projections, utility construction in the last 10 years, GIS data, etc. to provide information relevant to this project.
- D. The City shall provide Advisory Committee participants and communication.

III. ADDITIONAL SERVICES

The following services are not included in this proposal. They can be added as additional services or provided by the City as necessary:

- A. Any other service not specifically included within the description of Basic Services, Special Services, or Other Services as described above.
- B. Any permitting, testing, studies, design, or redesign effort required to bring the plans and specifications and the project into compliance with any local, state, or federal regulations, processes, or procedures that are put into effect after the execution date of this contract.
- C. Consulting services by others not included in proposal.
- D. Study of improvements outside the City Limits.
- E. Alternate additions not included in the original scope.
- F. Evaluation of design / alignment alternatives beyond what is defined in the scope.
- G. Preparing exhibits and / or intermediate submittals beyond what is defined in the scope.
- H. Population growth modeling.
- I. Field surveying of any utilities.
- J. Taking field reading for water pressure and/or fire hydrant flow testing.
- K. Flow monitoring (water and / or wastewater).

- L. Field inspection related to wastewater system condition.
- M. Coordination with franchise utilities.
- N. Corrosivity / corrosion calculations / study.
- O. Cathodic protection study / design.
- P. SCADA study / design / programming.
- Q. Design and preparation of plans for any improvements.

ATTACHMENT B
BASIS OF COMPENSATION

Cobb, Fendley & Associates, Inc.
Proposal for Professional Engineering Services
2027-2037 Water and Wastewater Impact Fee Update

A. BASIC SERVICES

The Compensation to be paid to CobbFendley for providing the BASIC SERVICES rendered under this agreement shall be based on Lump sum fees for overall phases of the work as shown below. Reimbursable items and subconsultants will be subject to a 10% administration charge.

1. Water and Wastewater Modeling (<i>Lump Sum</i>)	\$63,000
2. Impact Fee Update (<i>Lump Sum</i>)	\$34,000
Subtotal (<i>Lump Sum</i>)	\$97,000

Reimbursable Expenses

1. Reproduction, mileage, delivery charges, etc. (<i>Not to Exceed</i>)	\$1,500
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B. ADDITIONAL SERVICES

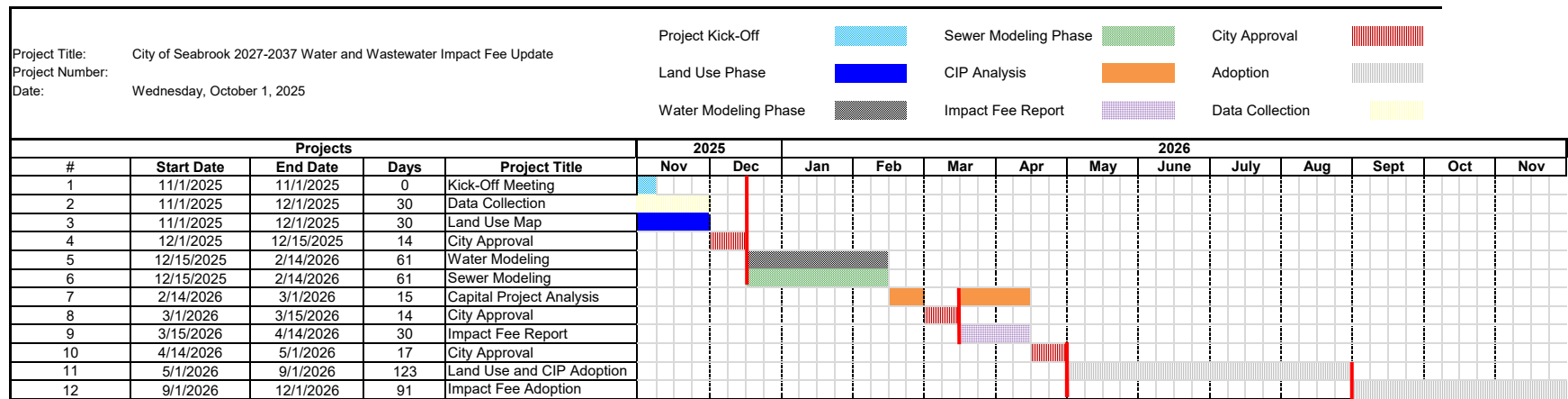
1. None.....	\$0
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Subtotal, Additional Services **\$0**

TOTAL, Basic & Additional Services, Including Reimbursables **\$98,500**

The Compensation for any other Supplemental Services which the City desires to be added to the Scope of Services of the project shall be negotiated. Reimbursable items are included. Subconsultant invoices will be subject to a 10% administration charge. Services will be charged according to those personnel directly involved in providing the service and will be rounded to the nearest half hour.

This proposal/supplement is in accordance with the Terms and Conditions outlined in the Professional Services Agreement executed on October 11, 2004 between the City of Seabrook and CobbFendley.





Agenda Briefing

Date of Meeting: October 21, 2025

Responsible Department: City Manager's Office

Presenter: Gayle Cook, City Manager

Briefing Prepared By: Gayle Cook

Strategic Focus Area: ECONOMIC DEVELOPMENT

General Information:

Consider and take all appropriate action to approve the allocation not to exceed \$15,000 from the Hotel Occupancy Tax Fund (HOT) to sponsor a Seabrook-themed fiberglass soccer ball in the Houston 'Art of Soccer' public art program as a participant in the display in Houston's display for the FIFA World Cup 2026.

Executive Summary / Background:

The Sports Authority Foundation is launching *The Art of Soccer*, a regional public art initiative celebrating the FIFA World Cup coming to Houston in 2026. The program invites cities, artists, and community organizations to participate in the creation and display of soccer-themed art pieces that promote unity, cultural pride, and excitement surrounding the event.

The *Art of Soccer* program will include gallery exhibitions, community art installations, and public engagement opportunities throughout the greater Houston area. The City of Seabrook has been invited to consider participation in this initiative, which would allow Seabrook to showcase its local artists and community spirit to a broader regional and international audience.

Additional program information and examples of installations can be found at the official website:

<https://www.sportsauthorityfoundation.org/art-of-soccer/aos-gallery>

Funding / Fiscal Information:

Hotel Occupancy Tax

Supporting Materials Attached:

1. Art of Soccer
2. Art Program Costs
3. Travel Tour Soccer Art

Prior Action / Review by Council, Boards, Commissions:

Staff Recommendation:

All requests must be submitted to the City Secretary's Office no later than 12:00 p.m. on the Monday, one week prior to the regular Tuesday Council Meeting. All required attachments are to be submitted with the request. Incomplete items cannot be placed on the agenda.

PARTNERSHIPS

BAY AREA
HOUSTON
Economic Partnership



OBJECTIVES



Awareness

- Position BAHEP cities as destinations to the thousands of fans traveling into the Houston Metro for the World Cup



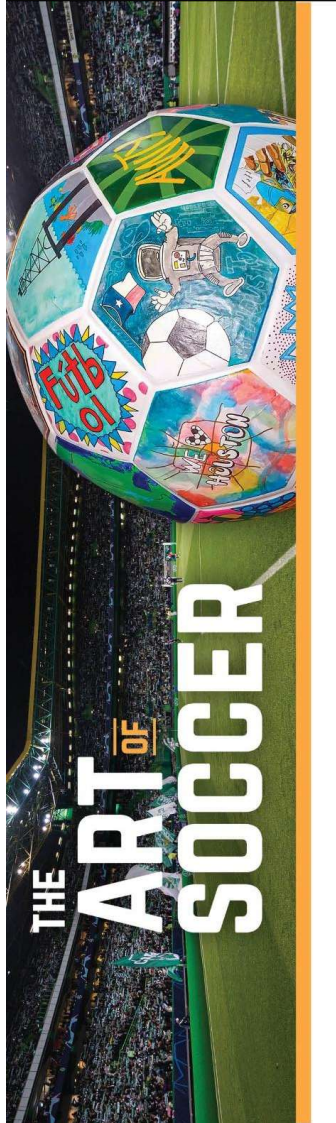
Organic Content

- Create traffic drivers through storytelling that highlights the region



Lead Generation

- As it makes sense to, create opportunities to capture consumer data for future BAHEP initiatives and outreach



CREATIVE TRANSFORMATION

Utilize owned assets to promote your involvement with the world's game. Transform actual buildings, infrastructure, IP, and more through subtle or overt updates and creativity to drive awareness and engagement.



ART OF SOCCER



DIGITAL AMPLIFICATION



GRASSROOTS MARKETING



65+ PARTNERS MOBILE TOURS CURRENTLY DISPLAYED AT POST HOUSTON MORE DISPLAYS TO COME



This supplement provides background and financial considerations for City Council's decision on whether to approve the purchase of a custom Seabrook art piece as part of the FIFA World Soccer Cup 2026 initiative. The proposed public art installation aligns with Seabrook's tourism promotion goals and the city's broader participation in global events that enhance community pride and visibility.

Proposed Budget

The recommended budget for this project is not to exceed \$15,000. The cost breakdown is as follows:

- \$10,000 donation to the Sports Authority Foundation (501c3) – to cover the manufacture and inclusion of the art ball.
- \$2,000–\$4,000 estimated commission to an artist for the custom Seabrook-themed artwork design.
- Optional \$1,500 fee for delivery and placement services if required.

Process and Timeline

Outlined below are the immediate next steps and overall timeline for project completion:

1. The Sports Authority Foundation will generate a \$10,000 invoice to the City of Seabrook. Upon City Council approval, the City will remit payment as a donation.
2. Once payment is received, the Foundation will notify the manufacturer to begin production of the art ball.
3. The City will identify the artist or select from the Foundation's list of approved artists for professional artwork completion.
4. The ball will be delivered to the selected artist for painting and finishing touches.
5. After completion, the City will determine whether to include the art piece in the rotating public display at POST Houston or place it at a Seabrook location of choice.
6. Optional delivery and installation services may be coordinated if needed.

This process is expected to take approximately 4–8 weeks from payment to final delivery.

Artwork Mockups

Below are visual mockups of a 'Visit Seabrook' art ball concepts



AI Generated Examples

POST



The Art of Soccer

Exhibition

Public Art



The FIFA World Cup 2026™ is coming to Houston, and POST will stand at the center of the city's preparations for this historic moment. We're proud to welcome *The Art of Soccer* exhibition to POST, a campaign that brings together Houston artists and businesses to celebrate the world's game through creativity and community spirit.

Each participating organization sponsors a 36-inch fiberglass soccer ball, uniquely designed by a local artist, with proceeds benefiting the FIFA World Cup 26 Houston™ Host Committee's legacy programs. From expanding access for underserved youth to

TIME
September 2025 -
Summer 2026

LOCATION
X Atrium

Public art exhibit open to
all

[Plan your visit](#) →

sustainability and human rights initiatives, the project ensures a lasting impact long after the tournament ends.



POST & World Cup

As the city’s cultural hub for creativity and community, POST will play a key role in the World Cup’s journey in Houston 2026. Earlier this year, POST proudly hosted the official one-year countdown celebration, and now continues to showcase the spirit of the tournament through programs like *The Art of Soccer*. With Houston on the global stage, POST is honored to be part of the energy that connects art, culture, and the world’s most celebrated sport.



World Cup Houston host committee president Cris Canetti speaks during a one year from today celebration at POST's X Atrium, Wednesday, June 11, 2025. Photo by Kirk Sides/Houston Chronicle

About the Exhibitor ×

Originally launched in 2019 as part of Houston’s bid to become a host city, *The Art of Soccer* has become a signature program of the FIFA World Cup 26 Houston™ Host Committee. Returning in 2025, the campaign engages local businesses across the region to showcase their support for the tournament and Houston’s creative talent. Professional Sports Partners, a Houston-based sports marketing firm, is leading the sales effort, inviting companies to participate by sponsoring a fiberglass soccer ball. Each ball is decorated in collaboration with a Houston-area artist

and then displayed publicly, symbolizing the city's pride and passion for the world's game.



Funds raised through the program are directed to the Sports Authority Foundation and support the Host Committee's long-term legacy initiatives. These include "Grow the Game" programs that provide opportunities for underserved youth, sustainability projects that minimize environmental impact, and efforts to protect human rights. By blending art, sport, and community, *The Art of Soccer* captures Houston's excitement for FIFA World Cup 2026™ while ensuring its benefits are felt for years to come.

Learn more about the program and how to get involved at sportsauthorityfoundation.org

[← All Cultural Programs](#)



SITE MAP

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Eat
Culture
Work
Music
Skylawn

Plan Your Visit
Directory
Events
News

Leasing
Venue Rental

CONTACT

401 Franklin St
Houston,
TX 77201
hello@posthtx.com

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Instagram
Twitter
TikTok
Vimeo

Tenant
Portal

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Sign up for our newsletter. We
promise not to spam.

Sign up

→



Agenda Briefing

Date of Meeting: October 21, 2025

Responsible Department: City Manager's Office

Presenter: Robert Turner, Emergency Medical Services Chief

Briefing Prepared By: Gayle Cook

Strategic Focus Area: CITY SERVICES

General Information:

Consider and take all appropriate action on approval of a Medical Director Agreement with Dr. Madain and authorize the City Manager to execute.

Executive Summary / Background:

Emergency Medical Services (EMS) division, operates under the direction and supervision of a licensed physician as required by the Texas Department of State Health Services (DSHS) and Texas Administrative Code, Title 25, Chapter 157. The Medical Director provides essential oversight of clinical operations to ensure compliance with state and local regulations, as well as adherence to the highest standards of patient care.

Dr. Madain, M.D., has served as the City's Medical Director since 2020, offering extensive expertise in emergency medicine, clinical guidance, and EMS protocol development. Under his leadership, the Seabrook EMS program has maintained compliance with state certification requirements, provided high-quality pre-hospital care, and implemented evidence-based medical practices.

Funding / Fiscal Information:

EMS Department

Supporting Materials Attached:

1. Madain Seabrook contract signed 10-13-25

Prior Action / Review by Council, Boards, Commissions:

Staff Recommendation:

All requests must be submitted to the City Secretary's Office no later than 12:00 p.m. on the Monday, one week prior to the regular Tuesday Council Meeting. All required attachments are to be submitted with the request. Incomplete items cannot be placed on the agenda.

MEDICAL DIRECTOR AGREEMENT

THIS AGREEMENT ("Agreement") is entered into and made effective as of 10/1/25 (the "Effective Date"), by and between the CITY OF SEABROOK, TEXAS, a municipal corporation organized under the laws of the State of Texas (hereinafter the "City"), and Safi Madain, DO, a licensed physician in the State of Texas (hereinafter the "Contractor").

RECITALS

WHEREAS, the City operates an Emergency Medical Services ("EMS") Department providing emergency medical care to the public; and

WHEREAS, Texas law requires that EMS operations be conducted under the medical oversight of a qualified physician serving as Medical Director; and

WHEREAS, the City desires to contract with the Contractor to provide such medical oversight, and the Contractor desires to accept such appointment under the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein, the Parties agree as follows:

1. TERM

This Agreement shall commence on 10/1/25, and shall continue in full force and effect as an evergreen contract until terminated in accordance with Section 6 herein.

2. DUTIES OF MEDICAL DIRECTOR

The Contractor shall:

- a. Provide medical oversight, direction, and supervision of Seabrook EMS personnel;
- b. Develop, approve, and maintain EMS medical protocols consistent with State law;
- c. Conduct quality assurance reviews and training;
- d. Provide consultation on patient care issues as required; and
- e. Perform such other duties as are customary for an EMS Contractor or as required by applicable law.

3. COMPENSATION

The City shall compensate the Contractor at the rate of One Thousand Two Hundred Dollars (\$1,200.00) per month, payable in monthly installments, totaling Fourteen Thousand Four Hundred Dollars (\$14,400.00) per year, until mutually amended by both parties in writing

4. LIABILITY AND INDEMNIFICATION

4.1 Professional Liability Insurance

The Contractor shall, at all times during the term of this Agreement, maintain professional liability (malpractice) insurance with minimum coverage limits of not less than \$1,000,000

per occurrence / \$3,000,000 aggregate, or as otherwise agreed to in writing. Proof of coverage shall be provided to the City upon execution and annually thereafter.

4.2 Indemnification by the City

To the fullest extent permitted by Texas law, the City shall indemnify, defend, and hold harmless the Contractor from any and all claims, damages, liabilities, and expenses arising from acts or omissions performed in good faith within the scope of this Agreement, except for claims resulting from the Medical Director's gross negligence, willful misconduct, or criminal acts.

4.3 Indemnification by the Contractor

As a condition of the granting of this Agreement, the Contractor will INDEMNIFY, DEFEND AND HOLD the City, its officers, agents and employees, HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS, CAUSES OF ACTION, LIABILITY, DAMAGES OR EXPENSE, (INCLUDING BUT NOT LIMITED TO ATTORNEYFEES AND COSTS) FOR ANY DAMAGE TO OR LOSS OF ANY PROPERTY, OR ANY ILLNESS, INJURY, PHYSICAL OR MENTAL IMPAIRMENT, LOSS OF SERVICES, OR DEATH TO ANY PERSON ARISING OUT OF OR RELATED TO THIS AGREEMENT AND/OR CONTRACTOR'S SERVICES AS CONTRACTOR ONLY TO THE EXTENT COVERED BY CONTRACTOR'S PROFESSIONAL LIABILITY INSURANCE POLICY. Without modifying the Contractor's obligation to preserve and assert any defense available to the City, the City will promptly forward to the Contractor every demand, notice, summons or other process received by the City in any claim or legal proceeding contemplated herein. The Contractor will 1) investigate or cause the investigation of accidents or occurrences involving such injuries or damages; 2) negotiate or cause to be negotiated the claim as the Contractor may deem expedient; and 3) defend or cause to be defended on behalf of the City all suits for damages even if groundless, false or fraudulent, brought because of such injuries or damages. The City, at its election will have the right to participate in any such negotiations or legal proceedings to the extent of its interest. The City will not be responsible for any loss of or damage to the Contractor's property from any cause.4.4

Additional Insured Status

The City shall include the Contractor as an "additional insured" under its general liability and public officials' errors & omissions policies, to the extent such coverage is available.

4.5 Survival

The provisions of this Section shall survive the expiration or termination of this Agreement.

5. INDEPENDENT CONTRACTOR STATUS

The Contractor is engaged as an independent contractor. Nothing in this Agreement shall be construed to create an employment relationship, joint venture, or partnership. The Contractors shall not be entitled to employee benefits of the City.

It is expressly understood and agreed that Contractors shall operate as an independent contractor as to all rights and privileges granted herein, and not as agent, representative or employee of the City. Subject to and in accordance with the conditions and provisions of this Agreement, Contractor shall have the exclusive right to control the details of his operations and activities and be solely responsible for the acts and omissions. Contractor acknowledges that the doctrine of *respondeat superior* shall not apply as between the City, its officers, agents, servants and employees, and Medical Director. Contractor further agrees that nothing herein shall be construed as the creation of a partnership or joint enterprise between City and Medical Director.

6. OWNERSHIP OF DOCUMENTS:

All documents developed by Contractor under this Agreement shall be delivered to the City by said Contractor upon completion of the services required and shall become the property of the City, without restriction or limitation on its use. Contractor agrees that all documents maintained and generated pursuant to this contractual relationship between the City and Contractor shall be subject to all provisions of the Texas Public Records Act. It is further understood by and between the parties that any information, writings, maps, contract documents, reports or any other matter whatsoever which is given by the City to Contractor pursuant to this Agreement shall at all times remain the property of the City and shall not be used by Contractor for any other purposes whatsoever without the written consent of the City.

7. TERMINATION

This Agreement may be terminated:

- a. Without cause, by either party, upon sixty (30) days' prior written notice; or
- b. For cause, immediately, upon written notice of a material breach by the other party.

8. ENTIRE AGREEMENT

This Agreement constitutes the entire understanding of the Parties with respect to its subject matter and supersedes all prior agreements, negotiations, or representations. This Agreement may not be amended except in writing signed by both Parties.

9. GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the State of Texas. Venue shall lie in Harris County, Texas.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the Effective Date first written above.

CITY OF SEABROOK, TEXAS

By: _____

Name: Gayle Cook

Title: City Manager

Date: _____

MEDICAL DIRECTOR

By: Safi Madain

Name: Safi Madain, DO

Date: 10/13/25

October 2025

October 2025							November 2025						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
5	6	7	1	2	3	4	2	3	4	5	6	7	1
12	13	14	8	9	10	11	9	10	11	12	13	14	8
19	20	21	15	16	17	18	16	17	18	19	20	21	22
26	27	28	22	23	24	25	23	24	25	26	27	28	29
			29	30	31		30						

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Sep 28	29	30	Oct 1 10:00am Coffee with a Cop 3:00pm Ribbon Cutting (Barge 295)	2 6:00pm Open Space and Trails Committee Meeting (Public Works Facility)	3	4
5	6	7 5:30pm National Night Out 6:00pm Regular City Council Meeting (City Hall)	8	9 6:00pm Seabrook Economic Development Board of Directors Meeting (Council Chamber)	10	11 8:00am Celebration Seabrook
12	13	14	15	16 6:00pm Seabrook Planning & Zoning Commission Meeting 6:30pm HCMCA Meeting (Lone Star Flight Museum 11551)	17	18
19	20	21 6:00pm Regular City Council Meeting (City Council Chamber)	22	23	24	25 8:00am DEA Drug Take Back 10:00am Paw Parade (Meador Park)
26	27	28	29	30	31	Nov 1

November 2025

November 2025							December 2025						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
						1		1	2	3	4	5	6
2	3	4	5	6	7	8	7	8	9	10	11	12	13
9	10	11	12	13	14	15	14	15	16	17	18	19	20
16	17	18	19	20	21	22	21	22	23	24	25	26	27
23	24	25	26	27	28	29	28	29	30	31			
30													

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Oct 26	27	28	29	30	31	Nov 1 8:00am Fall Sweep
2	3	4 6:00pm Regular City Council Meeting (City Hall)	5	6 6:00pm Open Space and Trails Committee Meeting (Public Works Facility)	7	8
9	10	11 10:00am Honoring Our Veterans	12 3:00pm Groundbreaking - Seabrook Town Center (Seabrook Town Center)	13 6:00pm Seabrook Economic Development Board of Directors Meeting	14	15
16	17	18 6:00pm Regular City Council Meeting (City Council Chamber)	19	20 6:00pm Seabrook Planning & Zoning Commission Meeting (Council Chamber)	21	22
23	24	25	26	27	28	29
30	Dec 1	2	3	4	5	6