



SECTION 9. JURISDICTIONAL ANNEXES

9.18 City of Weston Lakes

This section presents the jurisdictional annex for the City of Weston Lakes that provides resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions to reduce or eliminate damage to property and people that can be implemented prior to a disaster. Information presented includes a general overview of the municipality, the City of Weston Lakes participants who participated in the planning process, an assessment of the City of Weston Lakes risk and vulnerability, the different capabilities used in the City of Weston Lakes, and an action plan that will be implemented to achieve a more resilient community.

9.18.1 Hazard Mitigation Planning Team

The City of Weston Lakes identified primary and alternate points of contact and developed this plan over the course of several months with input from many City of Weston Lakes departments, including City Emergency Management Coordinator. The City Emergency Management represented the community on the Fort Bend County Hazard Mitigation Plan (HMP) Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Volume 1, Section 2 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.18-1. Hazard Mitigation Planning Team

Primary Point of Contact		Alternate Point of Contact	
Name/Title:	Jeremy Barcomb – City Secretary/Emergency Management Assistant	Name/Title:	David Heslep – Emergency Management Coordinator
Address:	8045 FM 359, Suite 200, Fulshear, Texas 77441	Address:	8045 FM 359, Suite 200, Fulshear, Texas 77441
Phone Number:	281-533-0907	Phone Number:	281-505-8436
Email:	citysec@cityofwestonlakes-tx.gov	Email:	emcoordinator@cityofwestonlakes-tx.gov
NFIP Floodplain Administrator			
Name/Title:	City Council		
Address:	8045 FM 359, Suite 200, Fulshear, Texas 77441		
Phone Number:	-		
Email:	-		
Additional Contributors:			
Name/Title:	Jeremy Barcomb – City Secretary		
Method of Participation:	Provided key input in the planning process		
Name/Title:	David Heslep – Emergency Management Coordinator		
Method of Participation:	Provided key input in the planning process		



9.18.2 Municipal Profile

The City of Weston Lakes is located West of Fulshear, and East of Simonton, Texas in Fort Bend County. The City of Weston Lakes is a small city and was established on the premise of small government providing minimal services as most of the standard municipal services are already provided. Future growth is limited by the boundaries and the fact that the population of Weston Lakes is not expected to grow beyond 4,000–5,000 people.

According to the American Community Survey the 2021 population for the City of Weston Lakes was 3,763. Data from the 2021 American Community Survey indicate that 4.6 percent of the population is 5 years of age or younger, and 24.6 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.18.3 Jurisdictional Capability Assessment and Integration

The City of Weston Lakes performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1, Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment includes the following analyses:

- An assessment of legal and regulatory capabilities
- Development and permitting capabilities
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities
- An assessment of education and outreach capabilities
- Classification under various community mitigation programs
- The community’s adaptive capacity to withstand hazard events

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

Planning, Legal, and Regulatory Capability and Integration

The table below summarizes the regulatory tools that are available to the City of Weston Lakes. The comment field provides information as to how the capability integrates hazard mitigation and risk reduction.

Table 9.18-2. Planning, Legal, and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Codes, Ordinances, & Regulations				
Building Code	Yes	International Building Code	Local	City Council
<i>How does this reduce risk?</i> The City of Weston Lakes Adopted the International Building Code.				
Zoning/Land Use Code	No	-	-	-
<i>How does this reduce risk?</i>				



	Jurisdiction has this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Subdivision Ordinance	No	-	-	-
<i>How does this reduce risk?</i>				
Site Plan Ordinance	Yes	Ord 02-22	Local	City Council
<i>How does this reduce risk?</i>				
Stormwater Management Ordinance	No	-	-	-
<i>How does this reduce risk?</i>				
Post-Disaster Recovery/ Reconstruction Ordinance	No	-	-	-
<i>How does this reduce risk?</i>				
Real Estate Disclosure	-	The Private Real Property Rights Preservation Act - Subchapter B: Chapter 2007 of the General Government Code	-	-
<i>How does this reduce risk?</i>				
Growth Management	No	-	-	-
<i>How does this reduce risk?</i>				
Environmental Protection Ordinance	No	-	-	-
<i>How does this reduce risk?</i>				
Flood Damage Prevention Ordinance	Yes	Ordinance 02-22– Flood Damage Prevention	Local	City Council
<i>How does this reduce risk?</i> City of Weston Lakes floodplain management program and regulations to minimize flood losses, to promote the public health and safety' of the citizens of the City, to establish procedures for the permitting of construction within the flood plain, and to make eligible the citizens residing within the floodplain for the FEMA managed National Flood Insurance Program.				
Wellhead Protection	No	-	-	-
<i>How does this reduce risk?</i>				
Emergency Management Ordinance	Yes		Local	City Council
<i>How does this reduce risk?</i> Provides guidance to the emergency manager on protocol during declared emergencies				
Climate Change Ordinance	No	-	-	-
<i>How does this reduce risk?</i>				
Other	-	-	-	-
Planning Documents				
Comprehensive/Master Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Capital Improvement Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Disaster Debris Management Plan	No	-	-	-
<i>How does this reduce risk?</i>				



	Jurisdiction has this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Floodplain Management or Watershed Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Stormwater Management Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Open Space Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Urban Water Management Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Habitat Conservation Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Economic Development Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Shoreline Management Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Community Wildfire Protection Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Community Forest Management Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Transportation Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Agriculture Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Climate Action/ Resiliency/Sustainability Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Tourism Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Business/ Downtown Development Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Other				
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes	City of Weston Lakes Emergency Preparedness Implementation Plan -2009	Local	Emergency Management, City Council
<i>How does this reduce risk?</i>				
City of Weston Lakes Emergency Management Plan describes the responsibilities and actions of the City in response to all hazards threats to the City's citizens and property as a result of natural and manmade occurrences. The plan establishes the structure for of the emergency management process and addresses the phases involved in warning, mitigation, planning, response and recovery in emergency management. The plan serves to provide implementing guidance to the basic Fort Bend County Emergency Operations				



	Jurisdiction has this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Plan and defines the responsible agencies, individuals and citizens of Weston Lakes who have emergency management responsibilities within the City of Weston Lakes. While the City is subject to many hazard events, this plan provides planning for the following most likely scenarios: Anticipated Weather event; unanticipated Weather event; a catastrophic medical event, (food poisoning, pandemic influenza); a chlorine gas leak, road blockage; and an area grass fire.				
Continuity of Operations Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Strategic Recovery Planning Report	No	-	-	-
<i>How does this reduce risk?</i>				
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-
<i>How does this reduce risk?</i>				
Post-Disaster Recovery Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Public Health Plan	No	-	-	-
<i>How does this reduce risk?</i>				
Other	-	-	-	-
<i>How does this reduce risk?</i>				

Development and Permitting Capability

The table below summarizes the capabilities of the City of Weston Lakes to oversee and track development.

Table 9.18-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment:
Do you issue development permits? • If yes, what department is responsible?	Yes	City Secretary’s Office
If you do not issue development permits, what is your process for tracking new development?	N/A	-
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Flood Hazard
Do you have a buildable land inventory? • If yes, please describe	No	-
Describe the level of build-out in your jurisdiction.	N/A	-

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the City of Weston Lakes and their current responsibilities that contribute to hazard mitigation.





Table 9.18-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	No	-
Zoning Board of Adjustment	No	-
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	No	-
Construction/Building/Code Enforcement Department	No	-
Emergency Management/Public Safety Department	Yes	Emergency Management Coordinator is responsible for the management of City-level HMP updates and oversight of HMP projects. Participate in MPC.
Warning Systems / Services (mass notification system, outdoor warning signals, etc.)	Yes	Mass Notification System
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	-
Mutual aid agreements	Yes	Mutual Aid with the County Emergency Services
Human Resources Manual	Yes	Consider the following: Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?
Other	Yes	Public Information Office
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	Yes	City Engineer
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 Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Environmental scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	Yes	Volunteer/Staff
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-

Fiscal Capability

The table below summarizes financial resources available to the City of Weston Lakes.



Table 9.18-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	No
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	No
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])	TWDB Clean Water State Revolving Fund (CWSRF), Texas Water Development Fund (DFund), TWDB Flood Protection Planning (FPP) Grant

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the City of Weston Lakes.

Table 9.18-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment:
Public information officer or communications office	Yes	Public Information Officer (PIO)
Personnel skilled or trained in website development	Yes	
Hazard mitigation information available on your website	Yes	-
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	Yes	Fort Bend County
Natural disaster/safety programs in place for schools	No	-
Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? • If yes, please describe.	No	-

Community Classifications

The table below summarizes classifications for community programs available to the City of Weston Lakes.

Table 9.18-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-





Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
Storm Ready Certification	No	-	-
Firewise Communities classification	No	-	-
Other	-	-	-

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 2014). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each identified hazard of concern and the jurisdiction’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 9.18-8. Adaptive Capacity

Hazard	Adaptive Capacity – Strong/Moderate/Weak
Dam/Levee Failure	Moderate
Disease Outbreak	Moderate
Drought	Moderate
Extreme Temperature	Moderate
Flood	Moderate
Geologic Hazards	Moderate
Hurricane/Tropical Storm	Moderate
Severe Weather	Moderate
Tornado	Moderate
Wildfire	Moderate
Winter Weather	Moderate

9.18.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP. The Floodplain Administrator is responsible for maintaining this information and is listed in the Hazard Mitigation Planning Team table at the beginning of this annex.

NFIP Summary

The following table summarizes the NFIP statistics for the City of Weston Lakes.

Table 9.18-9. NFIP Summary

Municipality	Policies in Force ^a	Number of Paid Claims ^a	Amount of Paid Claims ^a	Number of NFIP RL Properties ^b	Number of NFIP SRL Properties ^b
Weston Lakes (C)	684	52	\$7,426,026.12	0	0

Sources: a BureauNet 2022 (<https://nfipservices.floodsmart.gov/reports-flood-insurance-data>)
 b 2018 Fort Bend County HMP





Notes: Due to a contractual agreement with FEMA, detailed information at the municipal level was not available to incorporate into the 2023 HMP Update. The information presented here was collected from data provided by the State of Texas and from FEMA's HUDEX Report.

*Number of RL and SRL properties provided by the State of Texas

**Total policies in force and paid claims collected from FEMA's OpenFEMA Dataset: FIMA NFIP Redacted Claims

RL Repetitive Loss

SRL Severe Repetitive Loss

Flood Vulnerability Summary

The following table provides a summary of the NFIP program in the City of Weston Lakes.

Table 9.18-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction. <ul style="list-style-type: none"> Do you maintain a list of properties that have been damaged by flooding? 	No
<ul style="list-style-type: none"> 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/Unknown
Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> If so, state what projects are underway. 	No
<ul style="list-style-type: none"> How do you make Substantial Damage determinations? How many were declared for recent flood events in your jurisdiction? 	Ordinance 02-22 Defines Substantial Damage as damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? <ul style="list-style-type: none"> If there are mitigated properties, how were the projects funded? 	N/A
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If not, state why. 	-
NFIP Compliance	
What local department is responsible for floodplain management?	City Secretary's Office/City Engineer
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
Does your floodplain management staff need any assistance or training to support its floodplain management program? <ul style="list-style-type: none"> If so, what type of assistance/training is needed? 	The City would like to additional certified personnel as floodplain managers.
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Permit Review
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	In ordinance 02-22 significant improvement is defined as: any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:



NFIP Topic	Comments
	(1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or (2) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure."
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)?	The City had contact with the TWDB in early November to discuss current program status and additional training desired.
• 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?	Ordinance 02-22- Passed & Effective June 28, 2022
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Exceed. The current ordinance requires all slabs to be constructed at minimum of 24-inches above the SFHA (1% BFE) or natural ground, whichever is higher. This is above the minimum 12-inches recommended by FEMA.
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, as part of the Ordinance 02-22 Floodplain Development Permits must be submitted and approved before work may begin. Part of the permit approval process includes site plan review.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	The City is interested in joining and is determining feasibility of joining.

9.18.5 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. The table below summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development.

Table 9.18-11. Number of Building Permits for New Construction

Type of Development	2018		2019		2020		2021		2022	
Number of Building Permits for New Construction Issued Since the previous HMP* (total/within regulatory floodplain)										
	Total	Within SFHA								
Single-Family	11		26		33		32		39	5
Multi-Family	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
Total Permits Issued	11	0	26	0	33	0	32	0	39	5

SFHA Special Flood Hazard Area (1% annual chance flood event)





* Only location-specific hazard zones or vulnerabilities identified.

Table 9.18-12. Recent and Expected Future Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address and Parcel ID	Known Hazard Zone(s)	Description/Status of Development
Recent Major Development from 2018 to Present					
Not Applicable					
Known or Anticipated Major Development in the Next Five (5) Years					
No known or anticipated major development in the next five years					

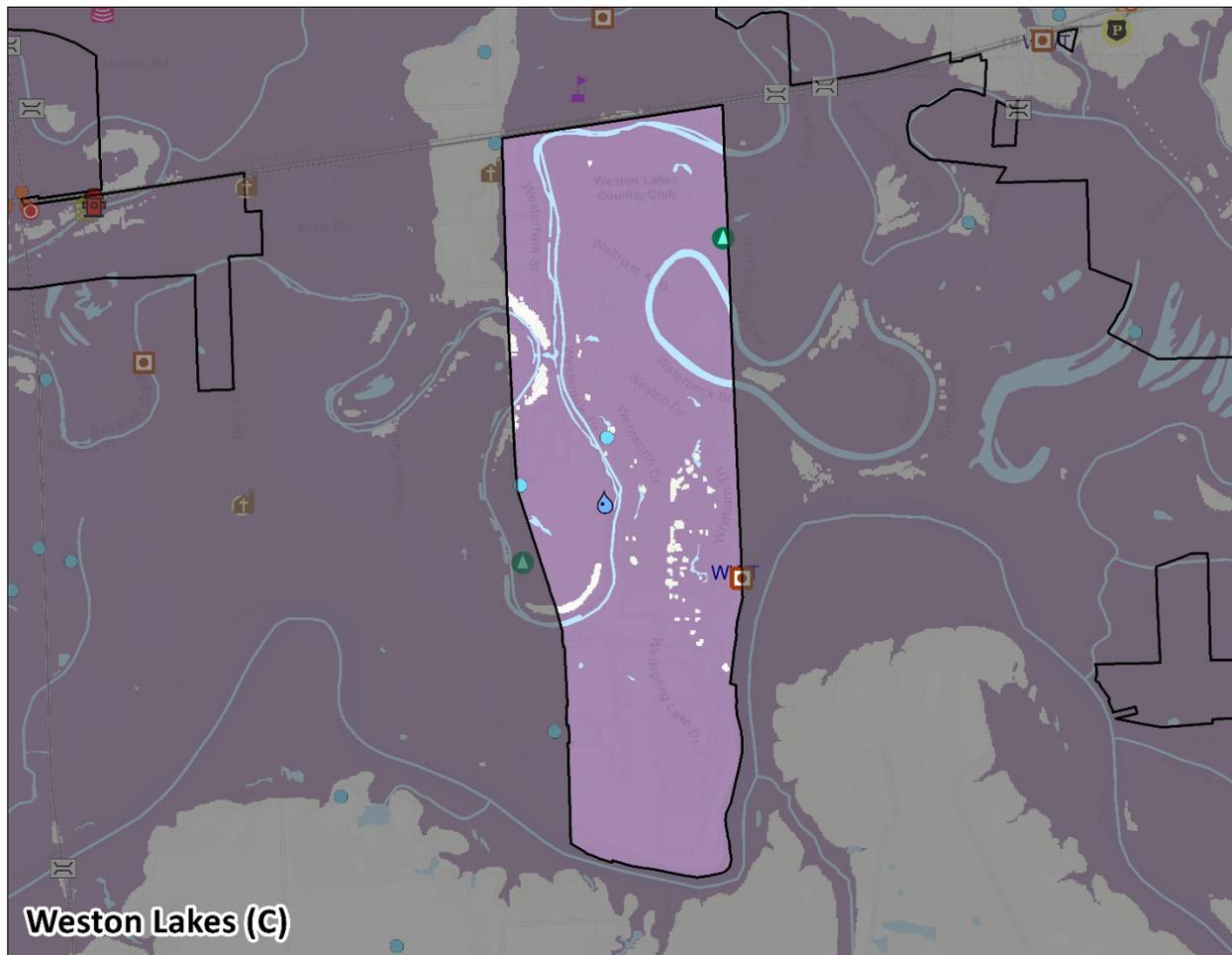
9.18.6 Jurisdictional Risk Assessment

The hazard profiles in Volume 1, Section 4 (Risk Assessment) provide detailed information regarding each plan participant’s vulnerability to the identified hazards. Section 4.1 (Methodology and Tools) and Section 4.4 (Hazard Ranking) provide detailed summaries for the City of Weston Lakes’ risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps provided below illustrate the probable areas impacted within the jurisdiction based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps were generated only for those hazards that can be identified clearly using mapping techniques and technologies and for which the City of Weston Lakes has significant exposure. The maps also show the location of potential new development, where available.



Figure 9.18-1. City of Weston Lakes Hazard Area Extent and Location Map-Dam Inundation



Weston Lakes (C)

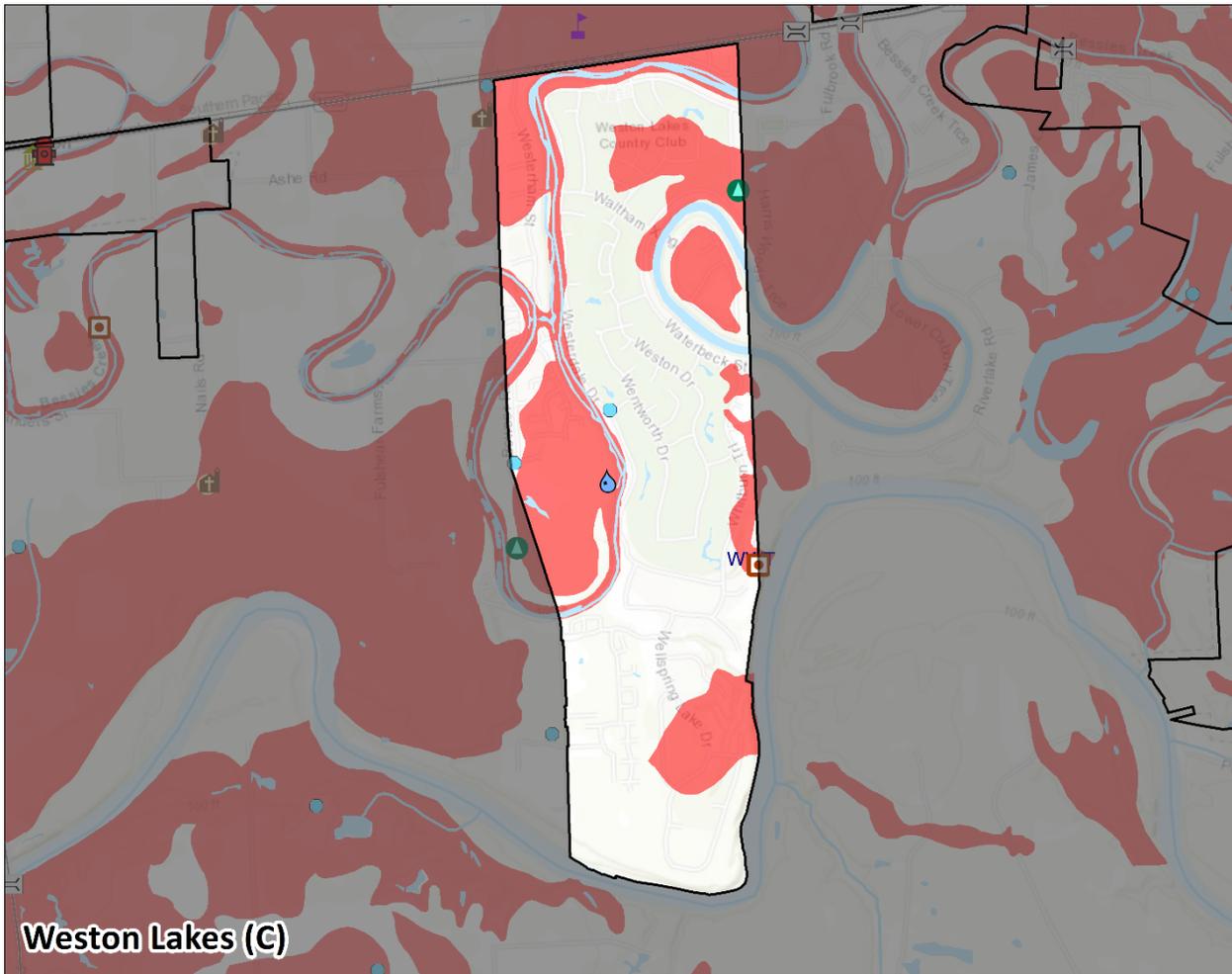
- | | | | |
|-----------------------------------|----------------------------|-------------------------------|--------------------|
| Airport | Hazardous Materials | Potable Water Tower | County Boundary |
| Alternative/Specialized Education | Hospital | Potable Water Well | Interstate |
| Bridge | Library | Primary Education | U.S. Highway |
| Bus Station | Major Employer | Private Water Well | State Highway |
| Cellular Transmission | Medical Clinic | Public Water Well | Toll Road |
| Church | Municipal Hall | Public Works | County Road |
| Community Center | Museum | Radio Broadcast | Railroad |
| Correctional Facility | Outfall | Secondary Education | Waterbody |
| Dam | Petroleum Storage Tank | Senior Care | Barker Reservoir |
| EMS Station | Pharmacy | Stormwater Pump Station | Kitty Hollow Dam |
| EOC | Police Station | TV Broadcast | Lake Sommerville |
| Electric Power | Post-Secondary Education | Urgent Care | North Arrow |
| Fire Station | Potable Water Facility | Wastewater Lift Station | 0 0.325 0.65 Miles |
| Gas Station | Potable Water Pump Station | Water Treatment Facility | Tc |
| Government Office | Potable Water Tank | WWTWastewater Treatment Plant | Seal |

Data Sources: U.S. Geological Survey, National Geospatial Program 2022; Texas Department of Transportation 2022; U.S. Army Corp of Engineers 2023
Notes: City (C), Township (T), Village (V)





Figure 9.18-2. City of Weston Lakes Hazard Area Extent and Location Map-Expansive Soils



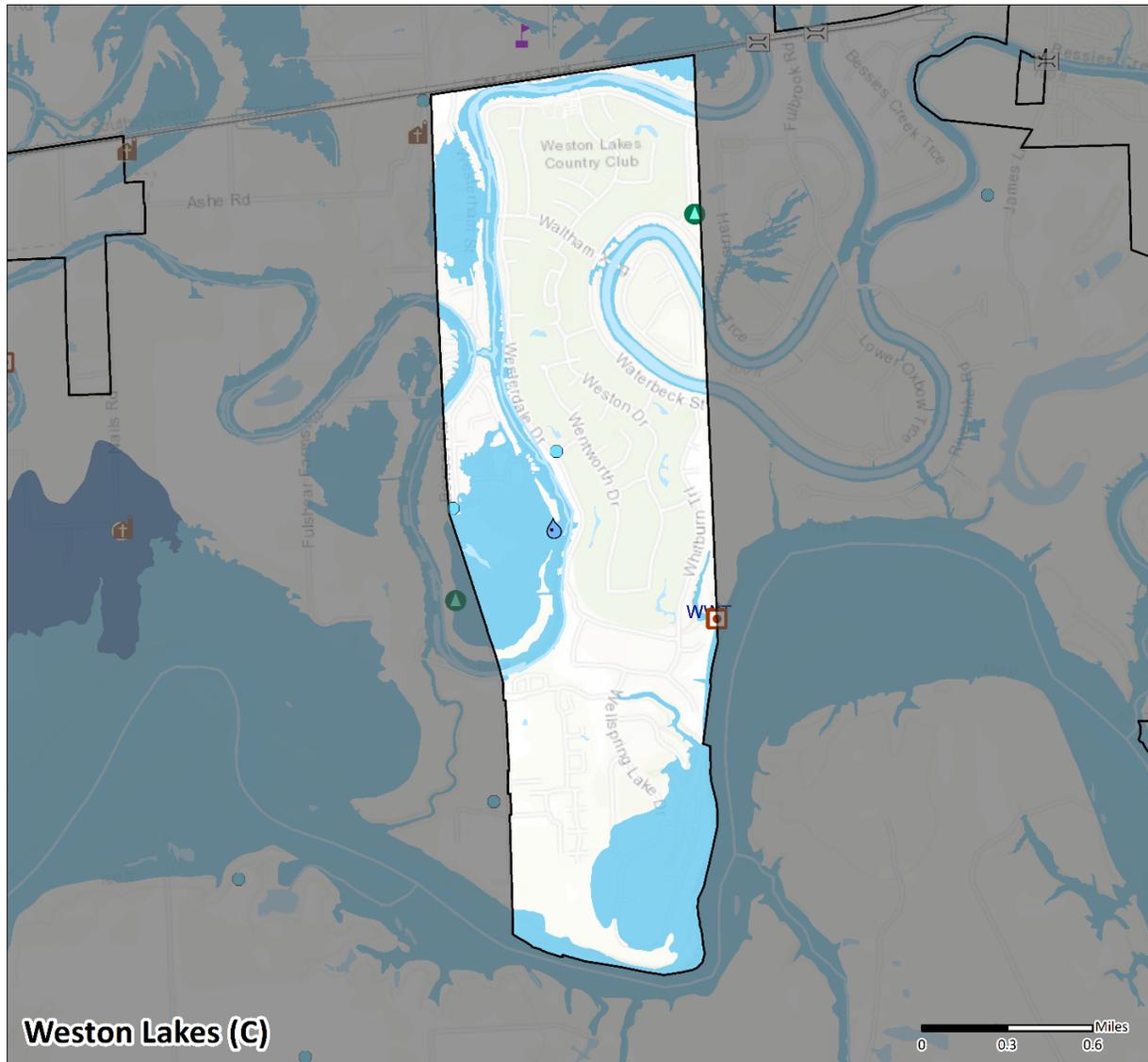
Weston Lakes (C)

Airport	Hazardous Materials	Potable Water Tank	County Boundary
Alternative/Specialized Education	Hospital	Potable Water Tower	Interstate
Bridge	Library	Potable Water Well	U.S. Highway
Bus Station	Major Employer	Primary Education	State Highway
Cellular Transmission	Medical Clinic	Private Water Well	Toll Road
Church	Municipal Hall	Public Water Well	County Road
Community Center	Museum	Public Works	Railroad
Correctional Facility	Outfall	Radio Broadcast	Waterbody
Dam	Petroleum Storage Tank	Secondary Education	Expansive Soils Hazard Area
EMS Station	Pharmacy	Senior Care	Linear Extensibility >6%
EOC	Police Station	Stormwater Pump Station	North Arrow
Electric Power	Post-Secondary Education	TV Broadcast	Fort Bend County Logo
Fire Station	Potable Water Facility	Urgent Care	0 0.35 0.7 Miles
Gas Station	Potable Water Pump Station	Wastewater Lift Station	Data Sources: U.S. Geological Survey, National Geospatial Program 2022;
Government Office	WWTWastewater Treatment Plant	Water Treatment Facility	Texas Department of Transportation 2022;
			U.S. Department of Agriculture, Natural Resources Conservation Service 2022
			Notes: City (C), Township (T), Village (V)





Figure 9.18-3. City of Weston Lakes Hazard Area Extent and Location Map-Flood



- | | | | |
|-----------------------------------|----------------------------|--------------------------------|---|
| Airport | Hazardous Materials | Potable Water Tank | County Boundary |
| Alternative/Specialized Education | Hospital | Potable Water Tower | Interstate |
| Bridge | Library | Potable Water Well | U.S. Highway |
| Bus Station | Major Employer | Private Water Well | State Highway |
| Cellular Transmission | Medical Clinic | Public Water Well | Toll Road |
| Church | Municipal Hall | Public Works | County Road |
| Community Center | Museum | Radio Broadcast | Railroad |
| Correctional Facility | Outfall | Secondary Education | Waterbody |
| Dam | Petroleum Storage Tank | Senior Care | FEMA Flood Hazard Area |
| EMS Station | Pharmacy | Stormwater Pump Station | 1% Annual Chance |
| EOC | Police Station | TV Broadcast | 0.2% Annual Chance |
| Electric Power | Post-Secondary Education | Wastewater Lift Station | <small>The flood hazard area depicted is the January 29, 2021 FEMA effective DFIRM with the latest LOMR date of August 10, 2022</small> |
| Fire Station | Potable Water Facility | WWT Wastewater Treatment Plant | |
| Gas Station | Potable Water Pump Station | Water Treatment Facility | <small>Data Sources: U.S. Geological Survey, National Geospatial Program 2022; Texas Department of Transportation 2022</small> |
| Government Office | | | <small>Notes: City (C), Township (T), Village (V)</small> |



Figure 9.18-4. City of Weston Lakes Hazard Area Extent and Location Map-Inland Erosion

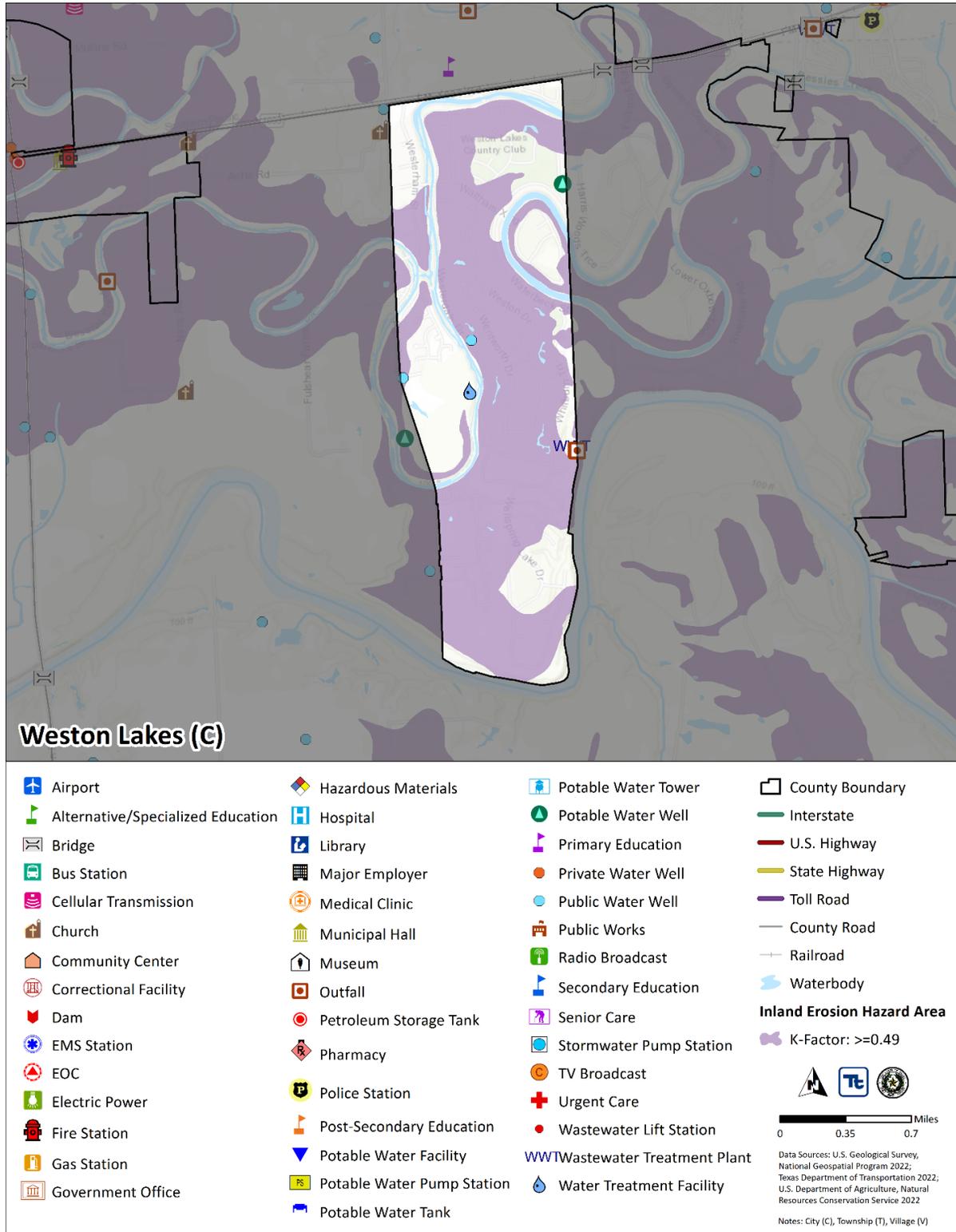
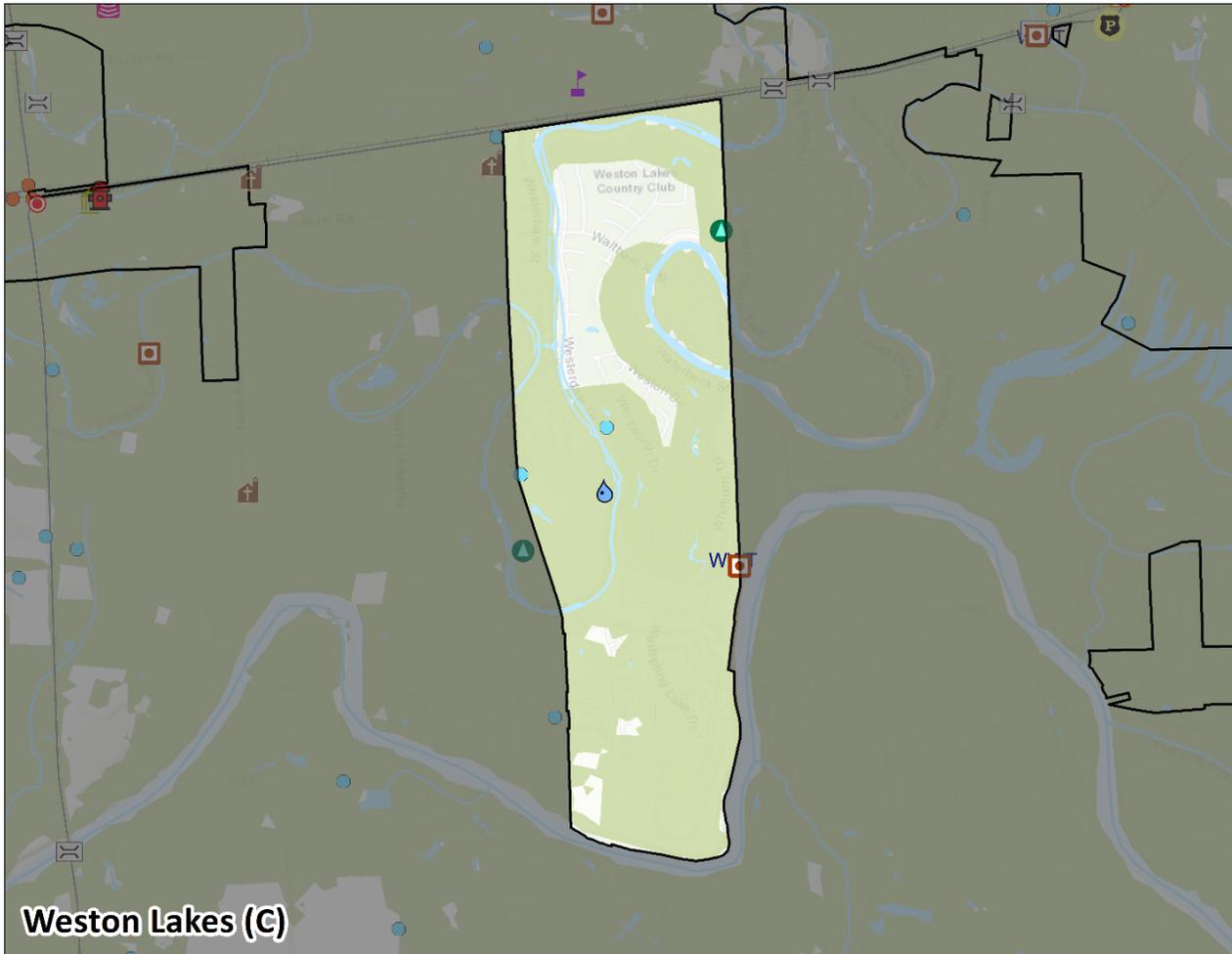




Figure 9.18-5. City of Weston Lakes Hazard Area Extent and Location Map-Wildfire



Weston Lakes (C)

- | | | | |
|-----------------------------------|----------------------------|---------------------------------------|-----------------------------|
| Airport | Hazardous Materials | Potable Water Tower | County Boundary |
| Alternative/Specialized Education | Hospital | Potable Water Well | Interstate |
| Bridge | Library | Primary Education | U.S. Highway |
| Bus Station | Major Employer | Private Water Well | State Highway |
| Cellular Transmission | Medical Clinic | Public Water Well | Toll Road |
| Church | Municipal Hall | Public Works | County Road |
| Community Center | Museum | Radio Broadcast | Railroad |
| Correctional Facility | Outfall | Secondary Education | Waterbody |
| Dam | Petroleum Storage Tank | Senior Care | Wildfire Hazard Area |
| EMS Station | Pharmacy | Stormwater Pump Station | Low Threat |
| EOC | Police Station | TV Broadcast | Moderate Threat |
| Electric Power | Post-Secondary Education | Urgent Care | North Arrow |
| Fire Station | Potable Water Facility | Wastewater Lift Station | Tt |
| Gas Station | Potable Water Pump Station | Water Treatment Facility | Seal |
| Government Office | Potable Water Tank | WWT Wastewater Treatment Plant | 0 0.3 0.6 Miles |

Data Sources: U.S. Geological Survey, National Geospatial Program 2022; Texas Department of Transportation 2022; Texas A&M Forest Service 2022
Notes: City (C), Township (T), Village (V)





Hazard Event History

Fort Bend County has a history of natural and non-natural hazard events, as detailed in Volume I, Section 4 (Risk Assessment). A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities.

The City of Weston Lakes’ history of federally declared (as presented by FEMA) and significant hazard events [as presented in NOAA-National Centers for Environmental Information (NCEI)] is consistent with that of the County. The table below provides details regarding municipal-specific loss and damages the City of Weston Lakes experienced during hazard events since the last HMP update. Information provided in the table below is based on reference material or local sources.

Table 9.18-13. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
January 20, 2020 – continuing	EM-3458 – Covid-19; DR-4485 – Covid-19 Pandemic	Yes	Covid-19 pandemic.	The City was subject to closures and masking/social distancing requirements.
July 25-31, 2020	EM-3530 – Hurricane Hanna	Yes	Hurricane force winds resulted in significant number of downed trees and utility lines.	Minor damage, tree limbs.
August 23-27, 2020	EM-3540 – Tropical Storms Marco and Laura	Yes	Fort Bend County activated their emergency operations center as fringe impacts of Tropical Storms Marco and Laura impacted the County	
September 12-18, 2021	EM-3572 Hurricane Nicholas	No	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.
February 11-21, 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.

Source: FEMA 2023; NOAA 2023

Hazard Ranking and Vulnerabilities

The hazard profiles in Volume 1, Section 4 (Risk Assessment) have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the City of Weston Lakes’s risk assessment results and data used to determine the hazard ranking.



Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Volume 1, Section 4 (Risk Assessment). 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; and community capabilities to address the hazard and changing future climate conditions. Mitigation action development uses the inputs from the evaluation to target those hazards with highest level of concern.

As discussed in Volume 1, Section 4.4 (Hazard Ranking), each participating jurisdiction has differing degrees of risk exposure and vulnerability compared with the County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the City of Weston Lakes. The City of Weston Lakes reviewed the County hazard risk/vulnerability risk ranking table and individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the City of Weston Lakes indicated the following:

- The City lowered wildfire from high to medium due to fewer wildfire incidents.
- The City changed flood from low to medium due to increased flooding concerns from residents.

Table 9.18-14. Hazard Ranking Input

Hazard	Rankings
Dam/Levee Failure	Low
Disease Outbreak	Low
Drought	Medium
Extreme Temperature	Medium
Flood	Low
Geologic Hazards	High
Hurricane/Tropical Storm	Medium
Severe Weather	High
Tornado	Medium
Wildfire	Medium
Winter Weather	Medium

Critical Facilities

The table below identifies the number of critical facilities and community lifelines in the community located in hazard areas. The community reviewed the list of facilities and lifelines to determine appropriate mitigation measures for the facilities, where appropriate. Refer to Section 4.3 (Hazard Profiles) for details on the risk assessment and the facilities and lifelines exposed to each hazard of concern.



Table 9.18-15. Potential Flood Losses to Critical Facilities

Jurisdiction	1-Percent Annual Chance Flood Event Hazard Area		Wildfire Hazard Area – Moderate Risk		Inland Erosion (K-Factor: >= 0.49) Hazard Area		Expansive Soils (Linear Extensibility >6%) Hazard Area		Dam Inundation Hazard Area - Barker Reservoir Dam Inundation Area		Dam Inundation Hazard Area - Lake Sommerville Dam Inundation Area		Dam Inundation Hazard Area - Kitty Hollow Dam Inundation Area	
	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines
Weston Lakes (C)	2	2	0	0	2	2	5	5	0	0	7	7	0	0

Source: Fort Bend County; Hazus v5.1; FEMA 2022; Fort Bend Drainage District 2023



In addition to critical facilities that are exposed to flooding, the following high hazard dams are located in or could impact the City of Weston Lakes:

- Lake Sommersville Dam Inundation Area

Identified Issues

After review of the City of Weston Lakes' hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the City of Weston Lakes identified the following vulnerabilities within their community:

- The Fort Bend County MUD #81 Station 2 is located within the 1% and 2% flood hazard area.
- City residents are unaware of certain hazard related issues that may affect them, their properties, or a neighboring property.
- The City evacuation plan is out of date.
- The City does not incorporate wildfire mitigation in the comprehensive plan.
- The City is not equipped to properly handle winter weather.

**This issue was identified as a specific area of concern based on resident response to the Fort Bend County Hazard Mitigation public survey.*

9.18.7 Mitigation Strategy and Prioritization

This section discusses past mitigation actions and status, describes proposed hazard mitigation initiatives, and prioritizes actions to address over the next five years.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2018 HMP. Actions that are in progress are carried forward and combined with new actions as part of this plan update and are included in the tables with prioritization. Previous actions that are now ongoing programs and capabilities are indicated as such and previously presented in the Capability Assessment earlier in this annex.



Table 9.18-16. Status of Previous Mitigation Actions

Project	Responsible Party	What is the status? (e.g., In Progress, No Progress, Ongoing Capability, or Completed) If in progress or completed, please describe the funding source, cost and who is implementing.	If you did not complete the action, should the action be included in the 2023 HMP (i.e., there is still a need, this is still a priority)?		
			Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
Building Standards – Hurricane Tie Downs and Soil Compaction	City of Weston Lakes Emergency Management Coordinator (EMC)	No Progress	No		
Citizens Warning Plan	City of Weston Lake EMC	In Progress	Yes		City Council, City Secretary, EMC
Drainage Channel Assessment	City of Weston Lakes EMC, Property Owners Association and City Engineer	Completed	No		
Educate Public About Emergency Preparedness	Public Information Office, EMC	Ongoing	Yes		
Improvements to Floodplain Permit Process	Weston Lakes EMC, City Engineer	In Progress	Yes		
Conduct flood study along Bessie’s Creek from the Waller County line to the full course of the Creek in and through Fort Bend County. The purpose of the study would be to establish the runoff flows, channel depths, and water surface elevations to establish base flood elevations (BFEs) for this area. Once studied flooding mitigation options could be developed to lower the BFE elevations.	Weston Lakes EMC, City Engineer, County Engineer	In Progress (Ties into project 3, might be completed)			
Warning Notification System	City of Weston Lakes EMC	In Progress (Ties into Project 2)			
Promote Flood Insurance	City of Weston Lakes EMC	In Progress			
Increase Public Awareness of Hazard Mitigation	Public Information Office, EMC	Ongoing			
Evacuation Plans	City of Weston Lakes EMC	Ongoing			
Wildfire Hazard Area Study	City of Weston Lakes EMC	No Progress			
Develop and Adopt Drought Contingency Program	City of Weston Lakes	Refer to MUD 81 & Aqua Texas			
Public Information Campaigns	City of Weston Lakes Public Information Office (PIO)	In Progress			



Project	Responsible Party	What is the status? (e.g., In Progress, No Progress, Ongoing Capability, or Completed) If in progress or completed, please describe the funding source, cost and who is implementing.	If you did not complete the action, should the action be included in the 2023 HMP (i.e., there is still a need, this is still a priority)?		
			Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
Evaluate Excess Heat Risks	City of Weston Lakes EMC	In Progress			
Address High Risk Populations (Excessive Heat)	City of Weston Lakes EMC	In Progress			
Review Plans and Resources to Address Risk Posed by Snow and Ice Hazards During Winter Storms	City of Weston Lakes EMC	In Progress			
Various Mitigation Actions to Reduce Wildfire Risks	Fire Dept/EMC/ESD	In Progress			
Structural/Engineering Study of Weston Lakes Country Club	City of Weston Lakes EMC	No Progress			



Additional Mitigation Efforts

In addition to the mitigation initiatives completed in the table above, the City of Weston Lakes identified the following mitigation efforts completed since the last HMP:

- Drainage Channel Assessments

Since the adoption of the County’s first HMP, the City of Weston Lakes has made significant mitigation progress in the following areas:

- Evaluating excess heat risks.
- Addressing high risk populations.
- Updating evacuation plans.
- Increasing public awareness of hazard mitigation.
- Promoting flood insurance policy to residents and business owners.
- Updating the City warning systems for advanced warning of hazard events.
- Conducting a flood study along Bessie’s Creek from the Waller County line to the full course of the Creek in and through Fort Bend County. The study establishes the runoff flows, channel depths, and water surface elevations in order to establish the BFEs for the surrounding areas.
- Increased public education about emergency preparedness.
- Completed drainage channel assessments.

Proposed Hazard Mitigation Initiatives for the HMP Update

Fort Bend County participated in a mitigation action workshop in March 2023 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards (January 2013) and FEMA Mitigation Assistance Resource Guide for Texas (2020).

The table below indicates the range of proposed mitigation action categories. Both 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 9.18-17. Analysis of Mitigation Actions by Hazard and Category

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam/Levee Failure	X	-	-	X	X	X	X	-	-	X
Disease Outbreak	X	-	-	X	X	X	X	-	-	X
Drought	X	-	-	X	X	X	X	-	-	X
Extreme Temperature	X	-	-	X	X	X	X	-	-	X
Flood	X	X	-	X	X	X	X	-	-	X
Geologic	X	-	-	X	X	X	X	-	-	X
Hurricane/Tropical Storm	X	-	-	X	X	X	X	-	-	X
Severe Weather	X	-	-	X	X	X	X	-	-	X
Tornado	X	-	-	X	X	X	X	-	-	X
Wildfire	X	-	-	X	X	X	X	-	-	X
Winter Weather	X	-	-	X	X	X	X	-	-	X

Note: Mitigation categories are described below the Mitigation Initiatives.



The table below summarizes the specific mitigation initiatives the City of Weston Lakes would like to pursue in the future to reduce the effects of hazards. The initiatives 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 municipal priorities.

Table 9.18-18. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2023-City of Weston Lakes-001	Water Treatment Facility	Problem: The Fort Bend County MUD #81 Station 2 is located within the 1% and .2% Flood hazard area Solution: The City Office of Emergency Management will work with Fort Bend County to improve waste water capacity.	Flood	2,3,4	Within 5 years	City of Weston Lakes OEM, Fort Bend County	HMGP, FMA	Reduce risk to loss of property and continuity of operations	High	High	SIP	PP
2023-City of Weston Lakes-002	Mitigation Education	Problem: City residents are unaware of certain hazard related issues that may affect them, their properties, or a neighboring property. Solution: The City will provide classes for home/business owners that provides them with Do-It-Yourself options for performing mitigation measures for the hazards of concern in their own homes and properties. The City will schedule these classes on their website and will record and post the classes online.	Dam/Levee Failure, Disease Outbreak, Drought, Extreme Temperature, Flood, Geologic Hazards, Hurricane/Tropical Storm, Severe Weather, Tornado, Wildfire, Winter Weather	1	1 year	City of Weston Lakes Emergency Management Coordinator	City Budget	City residents will be more knowledgeable about hazards that affect their properties	Low	High	EAP	PI, PP, PR, ES
2023-City of Weston Lakes-003	Update Evacuation Plans	Problem: The City evacuation plan is out of date. Solution: The City Emergency Management Coordinator will work with Fort Bend County to update the City Evacuation Plan.	Dam/Levee Failure, Disease Outbreak, Drought, Extreme Temperature, Flood, Geologic Hazards, Hurricane/Tropical Storm, Severe Weather, Tornado, Wildfire, Winter Weather	2	1 year	City of Weston Lakes Emergency Management Coordinator, Fort Bend County	City Budget	Reduce the potential loss of life and property	Low	High	LPR	PR



Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2023-City of Weston Lakes-004	Reduce Wildfire Risk	Problem: The City does not incorporate wildfire mitigation in the comprehensive plan. Solution: The City Fire Department and Emergency Management Coordinator will work with the City to update guidance regarding wildfire risks in the City Comprehensive Plan.	Wildfire, Drought	2,3,5	1 to 2 years	City of Weston Lakes Emergency Management Coordinator, City of Weston Lakes Fire Department	City Budget	Reduce the potential loss of life and property	Low	High	LPR	PR
2023-City of Weston Lakes-005	Reduce Winter Weather Risk	Problem: The City is not equipped to properly handle winter weather. Solution: The City Emergency Management Coordinator will work with Fort Bend County to review plans and resources that address winter weather events. The City will implement recommendations for snow removal.	Winter Weather	2	1 to 2 years	City of Weston Lakes Emergency Management Coordinator, Fort Bend County	City Budget	Reduce loss of life and property, increase preparedness for winter weather events	Low	High	LPR	PR, PP

*Mitigation initiative is related to a critical facility and/or community lifeline

Notes: Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CRS Community Rating System
 FEMA Federal Emergency Management Agency
 HMA Hazard Mitigation Assistance
 N/A Not applicable
 NFIP National Flood Insurance Program

Potential FEMA HMA Funding Sources:

FMA Flood Mitigation Assistance Grant Program
 HMGP Hazard Mitigation Grant Program
 BRIC Building Resilient Infrastructure and Communities Program

Timeline:

The time required for completion of the project upon implementation.

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Mitigation Category:

- 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 manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP)—These are actions that minimize damage and losses, and also 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.

CRS Category:

- 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 also 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.

The prioritization criteria provided in Volume 1, Section 6 (Mitigation Strategy) identify 14 evaluation/prioritization criteria to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing actions as High, Medium, or Low. The table below provides a summary of the prioritization of all proposed mitigation initiatives for the HMP update.

Table 9.18-19. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2023-City of Weston Lakes-001	Water Treatment Facility	1	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2023-City of Weston Lakes-002	Mitigation Education	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2023-City of Weston Lakes-003	Update Evacuation Plans	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2023-City of Weston Lakes-004	Reduce Wildfire Risk	1	1	1	1	1	1	1	1	1	1	1	1	1	0	13	High
2023-City of Weston Lakes-005	Reduce Winter Weather Risk	1	1	1	1	1	1	1	1	1	1	0	1	1	0	12	High

Note: Volume 1, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).