Hidalgo County Drainage District #1

Hazard Mitigation Action Plan Update

August 20, 2024

Hazard Mitigation Action Plan Update 2024

for

Hidalgo County Drainage District #1

This Hazard Mitigation Action Plan (HMAP) Update has been developed in accordance with the requirements of the Federal Emergency Management Agency (FEMA) and the Disaster Mitigation Act of 2000.

Prepared by:

halff

2024

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1. Hazard Mitigation Action Plan Introduction

1.1 INTRODUCTION

The Hidalgo County Drainage District No.1 (HCDD#1) Hazard Mitigation Action Plan Update (HMAP Update) will assist in achieving the goals and objectives set forth by both the Texas State Hazard Mitigation Plan (2023) and the Hidalgo County Hazard Mitigation Action Plan (2021). The purpose of this HMAP Update is to review progress made towards addressing hazard risk and review the goals and mitigation strategies identified in the previous HMAP to provide an updated mitigation plan for HCDD#1 that can reduce the impacts of these risks on the County's residents, businesses, infrastructure, and environment.

1.2 AUTHORITY

Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act Title 44 CFR as amended by Section 102 of the Disaster Mitigation Act of 2000 gives state and local governments the framework to evaluate and mitigate all hazards as a condition of receiving federal disaster funds. The HCDD#1 HMAP Update is a requirement of the law. In Texas, federal regulatory authority for hazard mitigation action planning resides with FEMA Region 6.

1.3 PLANNING AREA

The planning area analyzed by this HMAP Update encompasses the portion of Hidalgo County served by HCDD#1 and its network of drainage infrastructure, which is essential for diverting floodwaters from critical areas. This area includes parts of all four precincts within Hidalgo County, covering approximately 795 square miles out of the county's total 1,585 square miles. The HCDD#1 service area comprises cities, unincorporated areas, and school districts. The cities included in the study area and considered during the planning process are Alamo, Donna, Edinburg, Hidalgo, McAllen, Mercedes, Mission, Pharr, Progresso, San Juan, and Weslaco.

1.4 POPULATION AND GROWTH

As of the 2020 U.S. Census, the population of Hidalgo County, Texas, is 870,781. This is a 12.4% increase from 2010 with a population of 774,769. The 2022 American Community Survey (ACS) recorded the data illustrated in Figure 1.2 below. The shape of the pyramid indicates a strong population of youth, with the largest age group of the population at 10 to 14 years old.

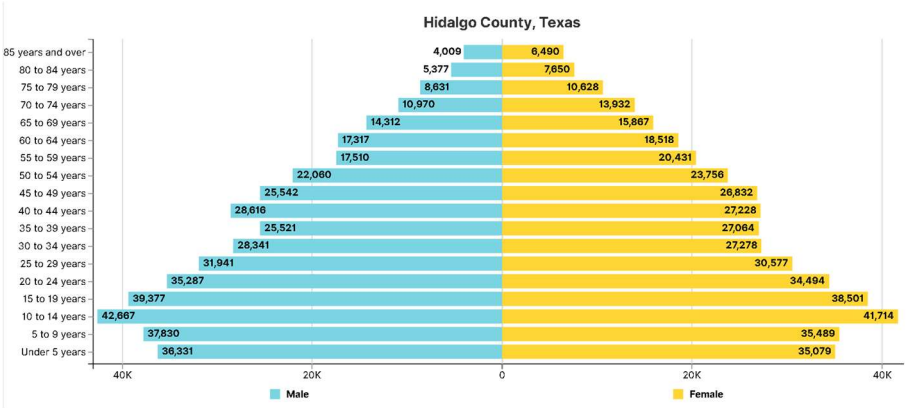


Figure 1.2: Hidalgo County Population by Age and Sex (2022 ACS)

1.5 GEOGRAPHY AND CLIMATE

HCDD#1's service area encompasses approximately 795 square miles within Hidalgo County, with 601 total ditches maintained by the district serving the four precincts within Hidalgo County. Hidalgo County is located in the Rio Grande delta region of south Texas, bordering Mexico to the south and the Gulf of Mexico to the east. The county has a population of about 860,000 and covers an area of 1,583 square miles, of which 12 square miles are water. The county is composed of 22 cities and towns, with the largest being McAllen, Edinburg, Mission, and Pharr.

The land is predominantly flat, featuring a variety of soil conditions. In the southern parts of the service area, there are deep loamy surfaces over clayey subsoils, while the northern parts have sandy and loamy soils over iron-rich or mottled clayey subsoils. These soil characteristics generally lead to overland water flow in sheet form rather than absorption into the ground. The climate of Hidalgo County is classified as subtropical and sub-humid. The region experiences an average annual temperature of approximately 73°F. January typically sees average low temperatures around 47°F, while July's average high temperatures reach about 96°F. Annually, the area receives around 23 inches of rainfall, contributing to its humid conditions. These climate factors play a significant role in shaping the local environment and living conditions. The service area covers all of Hidalgo County Precinct 2, a substantial portion of Precinct 1, and significant parts of Precincts 3 and 4.

2. Mitigation Planning Process

2.1 PLAN DEVELOPMENT

Mitigation planning necessitates a collaborative effort between HCDD#1 and the communities it serves to create a thorough understanding of the study area, identifying key hazards that pose threats to the region and devising appropriate strategies to mitigate these risks. This section outlines the planning process, including the selection of the planning team and the integration of public and stakeholder opinion in developing mitigation goals, identifying hazards, and formulating strategies.

2.1.1 Planning Team

On June 18, 2024, HCDD#1 hosted the HMAP Update kickoff with the selected Local Planning Team (LPT). Planning team members reviewed the planning process and a general strategy for the incorporation of stakeholder and public input on the planning process. LPT members were responsible for determining planning goals, analyzing the community and critical facilities, performing the hazard assessment, reviewing feedback and preparing mitigation strategies.

Local Planning Team/Hazard Mitigation Committee

Raul E. Sesin, PE, CFM	General Manager	HCDD#1
Yvette Barrera, PE, CFM	Assistant District General Manager	HCDD#1
Omar Anzaldua Jr., PE, CFM, PMP, CCM	Assistant District General Manager	HCDD#1
Jaime Salazar	Chief of Staff	HCDD#1
Melissa Beaudry, CFM	Senior Resilience Planner	Halff Associates
Kristina Leal, PE, CFM	Water/Wastewater Lead	Halff Associates
Joe Flores	Civil Engineer	Halff Associates

2.1.2 Public Comment and Involvement

The HCDD#1 has taken an active role in engaging the community with respect to mitigation planning associated with its mission through various planning efforts that informed this HMAP Update. The development of the previous Hazard Mitigation Plan included several community meetings where members of the community had the opportunity to comment on the hazards and strategies focused on by the District. HCDD#1 also partnered with Hidalgo County Precinct #1 and the Lower Rio Grande Valley TPDES Stormwater Management Task Force to highlight various regional stormwater management projects.

The additional projects included in this update came from the County's approved Hazard Mitigation Action Plan and the General Land Office funded Lower Rio Grande Valley River basin Flood Study, which included extensive public and stakeholder engagement. Several new projects have been presented in this plan and were developed collaboratively with the stakeholders that attended the Mitigation Strategies Workshop held on July 10, 2024.

Community members are also given the opportunity to speak directly to the Drainage District Board of Directors at their public meetings held every two weeks. This has proven to be one of the most effective tools the Drainage District has in addressing the needs of the community. This HMAP Update was presented at the public meeting on August 20, 2024, to receive public comment prior to submission.

2.2 STATE, FEDERAL, AND LOCAL PLANNING GOALS

The HCDD#1 contracted with Halff Associates to assist in the development and preparation of the HMAP Update. The plan was developed in accordance with the Federal Mitigation Planning Requirements as established by FEMA, and with the goals and objectives of the State of Texas Hazard Mitigation Plan and Hidalgo County Hazard Mitigation Action Plan.

2.2.1 Federal Mitigation Planning Requirements

The HCDD#1's HMAP Update was developed with the intent of eligibility for various FEMA administered programs. An adopted mitigation plan that has been approved by FEMA is required to be eligible for these funds. Project type and disaster declaration occurrence will determine which program the County may seek funding from.

Table 2.1: Federal Mitigation Grant Programs

Program	Eligible Activity	Requirement
Flood Mitigation Assistance Program (FMA)	For projects involving acquisition, flood-proofing, or elevation of flood-prone homes	Must include specific elements and be prepared in accordance with the process outlined in the NFIP's CRS. Must have an adopted mitigation plan approved by FEMA.
Hazard Mitigation Grant Program (HMGP)	Projects that reduce or eliminate long-term risk to people and property from future disasters.	Post-event funding related to a disaster declaration. Must have an adopted mitigation plan approved by FEMA.
Pre-Disaster Mitigation Grant Program (PDM)	To plan for and implement sustainable cost-effective measures designed to reduce the risk from future hazards.	Federal program available to state, local, tribal and territorial governments. Must have an adopted mitigation plan approved by FEMA.
Building Resilient Infrastructure and Communities (BRIC)	For projects to support communities in their effort to reduce their hazard risk.	program aims to categorically shift the federal focus away from reactive disaster spending and toward proactive investment in community resilience. Must have an adopted mitigation plan approved by FEMA.

2.3 REVIEW AND INCORPORATION OF EXISTING PLANS AND STUDIES

The majority of information contained in the plan is sourced from the following agencies, plans, technical documents, and data sources. Upon review and analysis of these data sources, relevant information was extracted and incorporated into hazard profiles and the risk/ vulnerability assessment. The information also served to guide development of the updated mitigation strategy by informing the action item identification and prioritization process.

Agency Sources

- Federal Emergency Management Agency (FEMA)
- National Flood Insurance Program (NFIP)
- National Weather Service-Lake Charles (NWS)
- National Oceanic and Atmospheric Administration (NOAA)
- National Climatic Data Center (NCDC)
- National Severe Storms Laboratory (NSSL)
- National Inventory of Dams (NID)
- U.S. Geological Survey (USGS)
- National Hurricane Center
- Texas Division of Emergency Management (TDEM)
- Local and regional media (current and historical)
- Local jurisdictions

Technical Documents & Plans

- FEMA Flood Insurance Studies
- State of Texas Hazard Mitigation Plan (2023)
- Hidalgo County Hazard Mitigation Action Plan (2021)
- Region 15 State Flood Plan (2023)
- City of Mission Comprehensive Storm Drainage Assessment (2020)

Software & Analysis Tools

- OpenFEMA data
- FEMA ‘D-FIRM’ Flood Insurance Rate Map Shapefile
- TWDB Flood Quilt Data
- ArcPro Geographic Information System (GIS) Software, Spatial Analyst

2.4 HMAP ADOPTION

Once HCDD#1 has received the “approval pending adoption” status from FEMA, the HMAP Update will be presented to the Board of Directors for adoption. Once the plan is adopted, FEMA will provide a resolution stating its adoption will be submitted to FEMA and TDEM.

3. Mitigation Goals

The HCDD#1 began the planning process for the HMAP Update by analyzing the Goals of related Mitigation Action plans and related mitigation goals of FEMA, the State of Texas, and Hidalgo County. Reviewing these goals helped identify opportunities to enhance the goals to meet the needs of the district and improve overall alignment with the State and Hidalgo County's goal structure.

3.1 FEMA'S MITIGATION GOALS

The National Mitigation Investment Strategy is a single national strategy for advancing mitigation investment to reduce risks posed by natural hazards and increasing the nation's resilience to natural hazards. The National Mitigation Investment Strategy's objective is to identify and measure the effectiveness of mitigation investments, and to inform decisions on when and where to make investments. The Investment Strategy encourages the whole community, including individuals, to invest in pre- and post-disaster mitigation by adopting three shared goals:

FEMA Mitigation Goals

- GOAL ONE - Show How Mitigation Investments Reduce Risk

  The whole community will build a shared understanding of mitigation investment and its value. Specifically, the whole community will understand how effective mitigation investments can protect people, homes, neighborhoods, cultural and historic resources, ecosystems and lifelines (for example, communications, energy, transportation and water). The federal government and its non-federal partners will create a shared vocabulary and common measures to communicate information about risk and find opportunities to educate, hire, train and develop a base of qualified mitigation professionals.

- GOAL TWO - Coordinate Mitigation Investments to Reduce Risk

  The whole community will coordinate mitigation investments through shared risk information, reinforced strategies for risk reduction, and easier access to existing funding. Such coordination will help the whole community justify mitigation investments and choose the most cost-effective and reasonable actions.

- GOAL THREE - Make Mitigation Investment Standard Practice

  The whole community will factor mitigation into investment decisions, especially for buildings and infrastructure. The federal government and its non-federal partners will use and expand financial products and approaches for mitigation investment—including funding, incentives and financial risk transfer opportunities. The federal government and its non-federal partners also will make mitigation standard professional practice critical to safeguarding lifelines, services, and national safety and security.

3.2 STATE OF TEXAS'S MITIGATION GOALS

The State of Texas Hazard Mitigation Plan (2023 Update) identifies four mitigation goals and associated objectives which the plan aims to accommodate. The four goals include:

State of Texas Mitigation Goals

- GOAL ONE - Minimize the suffering, including loss of life and injuries, and damages to property, environment, economy, and infrastructure which result from natural hazard events.
    - OBJECTIVE 1.1: Reduce adverse environmental, natural resource, and economic impacts from hazard events.
    - OBJECTIVE 1.2: Promote and support rehabilitation of at-risk dams.
    - OBJECTIVE 1.3: Reduce interruption of critical services and activities during and immediately following a hazard event.
- GOAL TWO - Create a stable environment for business and investment in Texas through proactive and integrated hazard mitigation.
    - OBJECTIVE 2.1: Support mitigation activities that promote economic growth.
    - OBJECTIVE 2.2: Promote state agency partnerships to effectively implement mitigation actions.
    - OBJECTIVE 2.3: Enhance coordination between local, state, tribal, and federal agencies.
- GOAL THREE – Support Texas communities in making themselves safer from hazards.
    - OBJECTIVE 3.1: Provide robust technical assistance, including data and analysis so that local stakeholders can focus on community engagement.
    - OBJECTIVE 3.2: Promote local resiliency through grant training, technical assistance, and enhanced regional support.
    - OBJECTIVE 3.3: Enrich mitigation efforts by building collaborative partnerships between citizens, non-governmental organizations, local, state, tribal and federal agencies.
    - OBJECTIVE 3.4: Support and assist local jurisdictions in the development of comprehensive mitigation action plans.
    - OBJECTIVE 3.5: In all aspects of mitigation planning, give heightened attention, awareness, and proactive measures to include underserved and disadvantaged communities in mitigation planning processes.
- GOAL FOUR – Maximize grant and technical assistance by ensuring aid is provided to communities who need it most.
    - OBJECTIVE 4.1: Ensure mitigation support is accessible to all at-risk populations.
    - OBJECTIVE 4.2: Support Texas Division of Emergency Management staff with outreach to underserved, disadvantaged and socially vulnerable groups.

3.3 HIDALGO COUNTY'S MITIGATION GOALS

Hidalgo County has put forth the following goals and objectives for the implementation of their Hazard Mitigation Action Plan Update, 2021.

County Mitigation Goals

- GOAL ONE - Protect public health and safety.
  - OBJECTIVE 1.1 Advise the public about health and safety precautions to guard against injury and loss of life from hazards.
  - OBJECTIVE 1.2 Maximize utilization of the latest technology to provide adequate warning, communication, and mitigation of hazard events.
  - OBJECTIVE 1.3 Reduce the danger to, and enhance protection of, high risk areas during hazard events.
  - OBJECTIVE 1.4 Protect critical facilities and services.
- GOAL TWO - Build and support local capacity and commitment to continuously become less vulnerable to hazards.
  - OBJECTIVE 2.1 Build and support local partnerships to continuously become less vulnerable to hazards.
  - OBJECTIVE 2.2 Build a cadre of committed volunteers to safeguard the community before, during, and after a disaster.
  - OBJECTIVE 2.3 Build hazard mitigation concerns into county and city planning and budgeting processes.
- GOAL THREE – Increase public understanding, support, and demand for hazard mitigation.
  - OBJECTIVE 3.1 Heighten public awareness regarding the full range of natural and man-made hazards the public may face.
  - OBJECTIVE 3.2 Educate the public on actions they can take to prevent or reduce the loss of life or property from all hazards and increase individual efforts to respond to potential hazards.
  - OBJECTIVE 3.3 Publicize and encourage the adoption of appropriate hazard mitigation measures.
- GOAL FOUR – Protect new and existing properties.
  - OBJECTIVE 4.1 Reduce repetitive losses to the National Flood Insurance Program (NFIP).
  - OBJECTIVE 4.2 Use the most cost-effective approach to protect existing buildings and public infrastructure from hazards.
  - OBJECTIVE 4.3 Enact and enforce regulatory measures to ensure that future development will not put people in harm's way or increase threats to existing properties.
- GOAL FIVE – Maximize the resources for investment in hazard mitigation.
  - OBJECTIVE 5.1 Maximize the use of outside sources of funding.
  - OBJECTIVE 5.2 Maximize participation of property owners in protecting their properties.
  - OBJECTIVE 5.3 Maximize insurance coverage to provide financial protection against hazard events.
  - OBJECTIVE 5.4 Prioritize mitigation projects, based on cost-effectiveness and sites facing the greatest threat to life, health, and property.

3.4 HIDALGO COUNTY DRAINAGE DISTRICT NO. 1'S MITIGATION GOALS

The mission of the HCDD#1 is to proactively manage the Hidalgo County Master Drainage System and allow for the efficient exportation of drainage water, to protect life and property for Hidalgo County residents, businesses and surrounding jurisdictions. The vision of the district is to improve Hidalgo County's Drainage System in order to enhance long-term economic development opportunities throughout the District by the implementation of innovative technology in an environmentally conscious manner.

The Mitigation goals of the district were revised to reflect the same format as the State and County goals with a goal and associated objectives for each. To that end, the mitigation goals of this HMAP Update is as follows.

HCDD#1 Mitigation Goals

- GOAL ONE - To reduce risk and become less vulnerable to hazards.
  - OBJECTIVE 1.1 Reduce, and where possible, eliminate risk of injury, loss of life and loss of property.
  - OBJECTIVE 1.2 Build and support local partnerships to continuously become less vulnerable to hazards.
- GOAL TWO - To improve the economic resiliency and recovery of the communities.
  - OBJECTIVE 2.1 Mitigate risk to existing public infrastructure to reduce costs of recovery.
  - OBJECTIVE 2.2 Enforce regulatory measures to protect development and the community from potential damage.
- GOAL THREE – To increase public awareness and engagement for hazard mitigation.
  - OBJECTIVE 3.1 Expand public awareness regarding the full range of natural and man-made hazards the public may face.
  - OBJECTIVE 3.2 Provide opportunities to educate the public on ways to reduce vulnerability and mitigate risk.

4. Hazard Identification

Hidalgo County faces multiple natural hazards, such as floods, hurricanes, droughts, wildfires, and extreme heat. Among these, floods are the most frequent and devastating, causing damages to property, infrastructure, agriculture, and human lives. The county's flat topography, clay soils, high rainfall intensity, and proximity to the Rio Grande River contribute to the flood risk. The county also has a complex drainage system that includes canals, ditches, culverts, detention ponds, and pump stations, which are managed by various entities including the Hidalgo County Drainage District No. 1 (HCDD#1).

It is critical to examine all possible hazards which face a community in order to determine levels of risk and vulnerability to then formulate mitigation strategies to address. This hazard risk assessment measures the potential loss of life, personal injury, economic injury, and property damage resulting from natural and technological hazards by evaluating the vulnerability of people, buildings, and infrastructure have to natural and man-made disasters. Several methods were used to identify risks to the community, including the evaluation of historical data, soliciting opinions and experiences, and surveying risks identified in the State of Texas Hazard Mitigation Plan and the Hidalgo County Hazard Mitigation Action Plan.

4.1 HAZARD IDENTIFICATION

The following table lists hazards and defines which are considered to put the residents of the district at risk from a high-level overview.

Table 4.1: Hazards Considered for Risk Assessment

Hazard	Status	Status Justification
Dam & Levee Failure	Included	Present, Limited authority
Drought	Included	Previous incidents
Extreme Heat	Included	Previous incidents; Limited authority
Flooding	Included	Previous incidents
Hailstorms	Included	Previous incidents, Limited authority
Hazardous Material Spills	Included	Present; Limited authority
Hurricanes & Tropical Storms	Included	Previous incidents
Lightning	Included	Present; Limited authority
Severe Thunderstorms & High Winds	Included	Previous incidents
Severe Winter Weather	Included	Previous incidents
Tornados	Included	Low occurrence, Limited authority
Wildfires	Included	Present, Limited authority
Avalanche	Excluded	Geographic proximity
Earthquake	Excluded	Low occurrence
Expansive Soils	Excluded	Low vulnerability
Karst Topography	Excluded	Low occurrence
Sinkholes	Excluded	Low vulnerability

The HCDD#1 examined each of the hazards identified by FEMA and identified in the previous HMAP. They were then included or excluded from further assessment based off of their proximity to the study area as well as the relativity to the mission and goals of the Drainage District.

4.1.1 Excluded Hazards

Excluded hazards were identified as such because they are either not likely to require immediate response, not likely to happen based on location and geography or frequency, or while present within the community, not within the scope of HCDD#1's legal authority.

4.1.2 Included Hazards

Of the included hazards, five hazards were identified as Present in the Community and within the legal authority of the HCDD#1 to plan for on a community level. Seven additional hazards were identified as "Present, Limited Authority" to have a significant importance to the projects and facilities that are operated by HCDD#1 but are outside of their legal authority to provide to the community.

4.2 HAZARD ASSESSMENT

A hazard profile was prepared for each included hazard that was identified as included. The Hazard profile included the Hazard Identification, a Summary of Assets Exposed to the Hazard, the Vulnerability of the community to the hazard, and the impact of the Hazard to Land Use and Development Trends.

4.2.1 Hazard Score Ranking

During the development of the HCCD#1 Hazard Mitigation Action Plan in 2019, a Hazard Score methodology was developed with stakeholder input to assess and compare the different included hazards that could affect the Drainage District's service area.

The Hazard Score of each included hazard was based on five parameters:

- Severity of Impact
- Frequency of Impact
- Warning Time
- Damage Vulnerability
- Affected Area Potential

Each parameter was assigned a scale from 0 to 5 and a weight based on stakeholder input. The sum of the weighted scores of each parameter was used to rank the hazards, with the highest score indicating the greatest threat. The ranking methodology used and approved for use in this HMAP Update is as follows:

Severity of Impact

- **Parameter Weight**: 30.0%
- **Basis**: The extent, by quantity and magnitude, of which the hazard poses
- **Score:**
    - 0 – The population is not impacted by an event. (0%)
    - 1 – A small portion of the population is impacted. (Between 0% and 10%)
    - 2 – A portion of the population is impacted. (Between 10% and 25%)
    - 3 – A moderate portion of the population is impacted. (Between 25% and 50%)
    - 4 – A majority of the population is impacted. (Between 50% and 67%)
    - 5 – A great majority of the population is impacted. (Greater than 67%)

Frequency of Impact

- **Parameter Weight:** 17.5%
- **Basis:** Historical events and the how often the hazard is present
- **Score:**
    - 0 – Almost Certainly Not to Impossible, no recorded events in the past 100 years

- 1 – Probably Not to Almost Certainly Not in the next 10 years
- 2 – About Even to Probably Not within the next 5 years
- 3 – Probable within the next 3 years
- 4 – Probable to Almost Certainly within the next year
- 5 – Almost Certain for one event, about even for multiple

Warning Time

- **Parameter Weight**: 17.5%
- **Basis**: The approximate amount of time between the district being notified of the hazard and the arrival of the hazard.
- **Score:**
  - 0 – A month in advance
  - 1 – Two or more weeks in advance
  - 2 – Seven or more days in advance
  - 3 – One or more days in advance
  - 4 – One or more hours in advance
  - 5 – Minutes in advance

Damage Vulnerability

- **Parameter Weight:** 20.0%
- **Basis**: Expected "worst case scenario" damage caused by the hazard.
- **Score:**
  - 0 – minimal to no damage expected to people and/or property
  - 1 – minor damage to property expected, likely minor injuries sustained by people
  - 2 – minor damage to property expected, moderate damage possible, minor injuries sustained by individuals, moderate injuries possible
  - 3 – moderate damage to property expected, moderate injuries sustained by individuals
  - 4 – moderate damage to property expected, major damage possible, moderate to severe injuries sustained by individuals, loss of life possible
  - 5 – major damage expected to people and/or property, likely loss of life.

Affected Area Potential

- **Parameter Weight:** 15.0%
- **Basis:** Approximate portion of the service area affected by the hazard.
- **Score** (Scales Linearly with percentage of area):
  - 0 – 0% or less
  - 1 – Greater than 0%, less than 20%
  - 2 – Greater than 20%, less than 40%
  - 3 – Greater than 40%, less than 60%
  - 4 – Greater than 60%, less than 80%
  - 5 – Greater than 80%

The results of that scoring show the following included hazards with the score for each parameter:

Table 4.2: Community Hazard Score Calculations for Included Hazards

Hazard	Weighing Factor	Drought	Flooding	Hurricanes & Tropical Storms	Severe Thunderstorms & High Winds	Severe Winter Weather
Severity of Impact	0.300	3	4	5	4	4
Frequency of Impact	0.175	4	5	2	5	3
Warning Time	0.175	1	4	3	3	2
Damage Vulnerability	0.200	2	4	5	4	3
Potential Affected Area	0.150	5	5	5	5	5
Hazard Score		2.9	4.3	4.1	4.2	3.4

Table 4.3: Community Hazard Score Calculations for Included Hazards with Limited Authority

Hazard	Weighing Factor	Hazardous Material Spills	Wildfires	Lightning	Dam and Levee Failure	Extreme Heat	Hailstorms	tornados
Severity of Impact	0.300	1	3	1	3	5	2	1
Frequency of Impact	0.175	1	1	2	1	4	1	1
Warning Time	0.175	4	4	4	2	2	4	4
Damage Vulnerability	0.200	2	3	2	4	2	3	4
Potential Affected Area	0.150	1	2	4	2	5	1	1
Hazard Score		1.7	2.7	2.4	2.5	3.7	2.2	2.1

5. Hazard Profiles and Vulnerability Assessments

5.1 INTRODUCTION

A majority of the hazards included in this HMAP Update can be classified as “Natural Hazards”. These are natural events that threaten lives, property and other assets and tend to occur repeatedly in the same geographical location because of their relation to weather patterns or physical characteristics of an area. The hazards identified within Chapter 4 are analyzed in this chapter. The results of that ranking show the following included hazards listed from most risk to least:

Hazard Rankings

- **Rank 1.** Flooding
- **Rank 2.** Severe Thunderstorms & High Winds
- **Rank 3.** Hurricanes & Tropical Storms
- **Rank 4.** Extreme Heat
- **Rank 5.** Severe Winter Weather
- **Rank 6.** Drought
- **Rank 7.** Wildfires
- **Rank 8.** Dam & Levee Failure
- **Rank 9.** Lightning
- **Rank 10.** Hailstorms
- **Rank 11.** Tornados
- **Rank 12.** Hazardous Material Spills

5.2 FLOODING

A flood is a general and temporary condition of partial or complete inundation of two or more acres of normally dry land or of two or more properties from overflow of inland or tidal waters, unusual and rapid accumulation or runoff of surface waters from any source, or mudflow. In the Hidalgo County Drainage District No. 1 service area, flooding generally occurs as a result of overflow of rivers, streams and manmade drainage systems due to severe storms or torrential rains.

There are many factors that can affect flooding, including topography, ground saturation, previous rainfall, soil types, and surface cover. Flooding can occur slowly, such as a result of rainfall over an extended period of time, or may be classified as a flash flood, such as in the case of a dam or levee failure.

5.2.1 Hazard Profile

The HCDD1 service area has experienced many flood events in its history. The largest of these flood events have been primarily caused by heavy rains resulting from hurricanes and tropical storms. Additionally, flash flooding and overland flooding from heavy rains, unattributed to tropical storms also occurs in the area and has potential to flood the Rio Grande River.

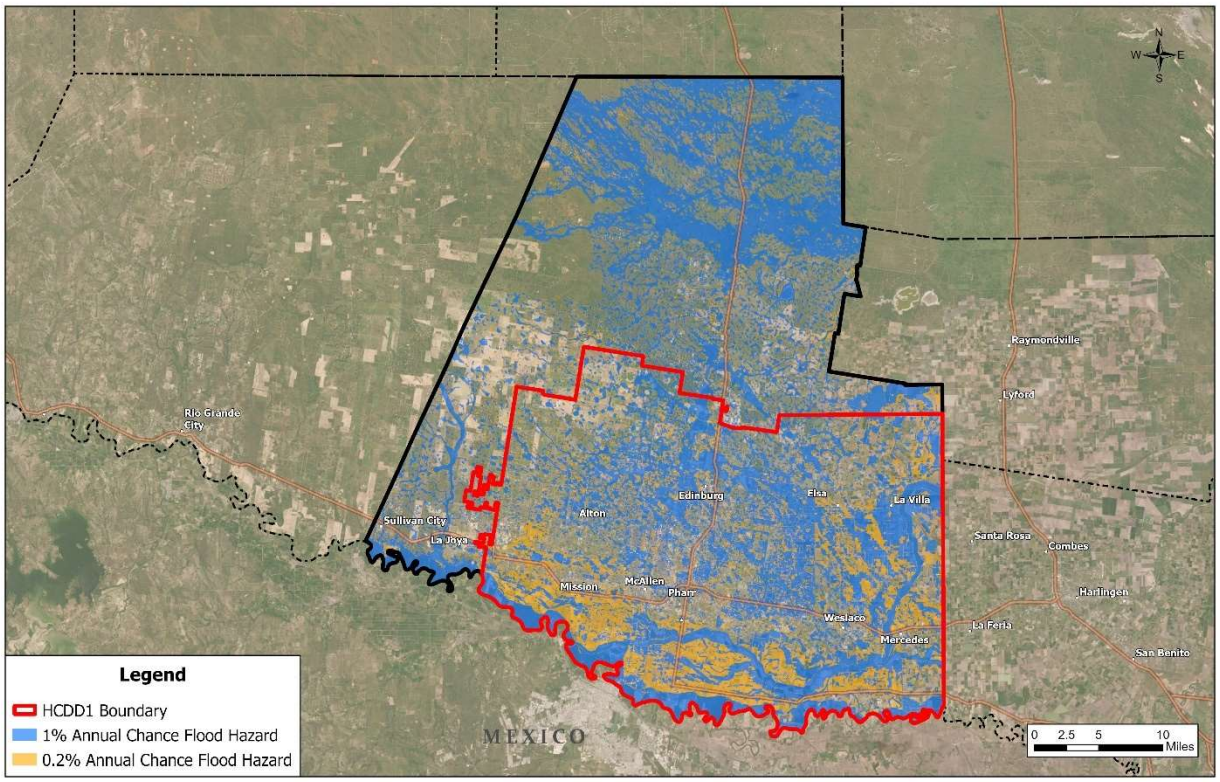
Location

Listed in Table 5.1 below, the existing 100-year floodplain accounts for 46.5% of the service area. The 500-year floodplain accounts for 22.9% of the service area. The blue color in Figure 5.1 is defined by those areas that will be inundated by the 1% flood event (100-year flood) or base flood, and the orange represents those areas that would be inundated by a 0.2% flood event (500-year flood). While the floodplain is generally spread throughout the service area, there is a significant concentration in the south along the Rio Grande river.

Table 5.1: HCCD1 Floodplain Coverage

Time Frame	Flood Event	Area (Sq. Mi.)	Area (%)
Existing	100-Year	374	46.5%
Existing	500-Year	184	22.9%
Future	100-Year	558	69.3%
Future	500-Year	149	18.5%

Figure 5.1: Existing Flood Quilt (100-year and 500-year) from the Region 15 Flood Plan



Historical Occurrences

The most recent major flood event occurred in the service area in 2019, coined locally as “The Great June Flood”. The County received up to 15 inches of rainfall which caused widespread flooding, severely impacting roadway infrastructure and destroying over 1,000 homes.

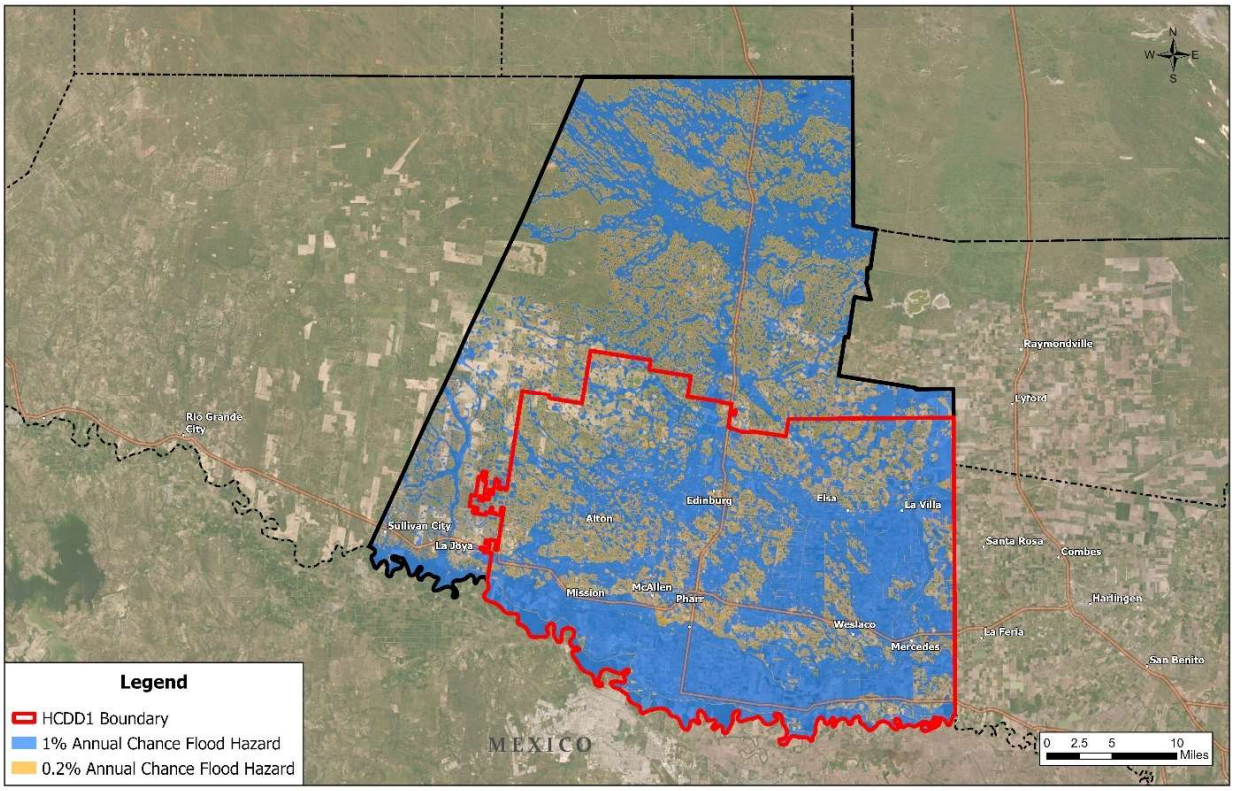
The year prior, the City of Donna also experienced a great flood in June. The City received up to 18 inches of rain in 5 hours, flooding nearby communities including over 3,000 homes in Weslaco and Mercedes. In addition to large flood events resulting from major storms and weather events, the County regularly experiences issues with flooding after minor weather events due to increased development and insufficient infrastructure capacity.

Future Probability

There are over 30 recorded significant such flood events, similar to the ones listed above, that have affected the Hidalgo County Drainage District Service Area since 1980. At this rate, there is a sixty-six percent (66%) chance that a significant flooding event will occur within the Service Area each year, which is approximately two events every three years.

Table 5.1 and Figure 5.2 below predict that the future 100-year floodplain will cover 69.3% of the service area and the 500-year floodplain will cover 18.5% of the service area.

Figure 5.2: Future Flood Quilt (100-year and 500-year)



Hazard Extent

With so much of the HCDD#1 service area in the 100-year and 500-year existing floodplain, there is a high likelihood that flooding will continue to be a pressing issue for the region and the operations of the drainage districts priority. Magnitude of a Flood Event is measured by depth of flood waters in feet or inches. In the most severe events throughout the service area, flood depths in the planning area can be expected to reach depths up to 6' at various locations.

5.2.2 Hazard Vulnerability

National Flood Insurance Program (NFIP)

Hidalgo County implements regulations based on the floodplain and participation in the NFIP. This includes requiring building permits for structures within the floodplain. NFIP requirements play a major role in whether a jurisdiction denies or issues requested building permits. The following table includes a list of those communities within the service area that participate in the NFIP. There have been a significant number of claims within both the service area and Hidalgo County.

Figure 5.3: HCDD1 FEMA Claims Payouts ($)

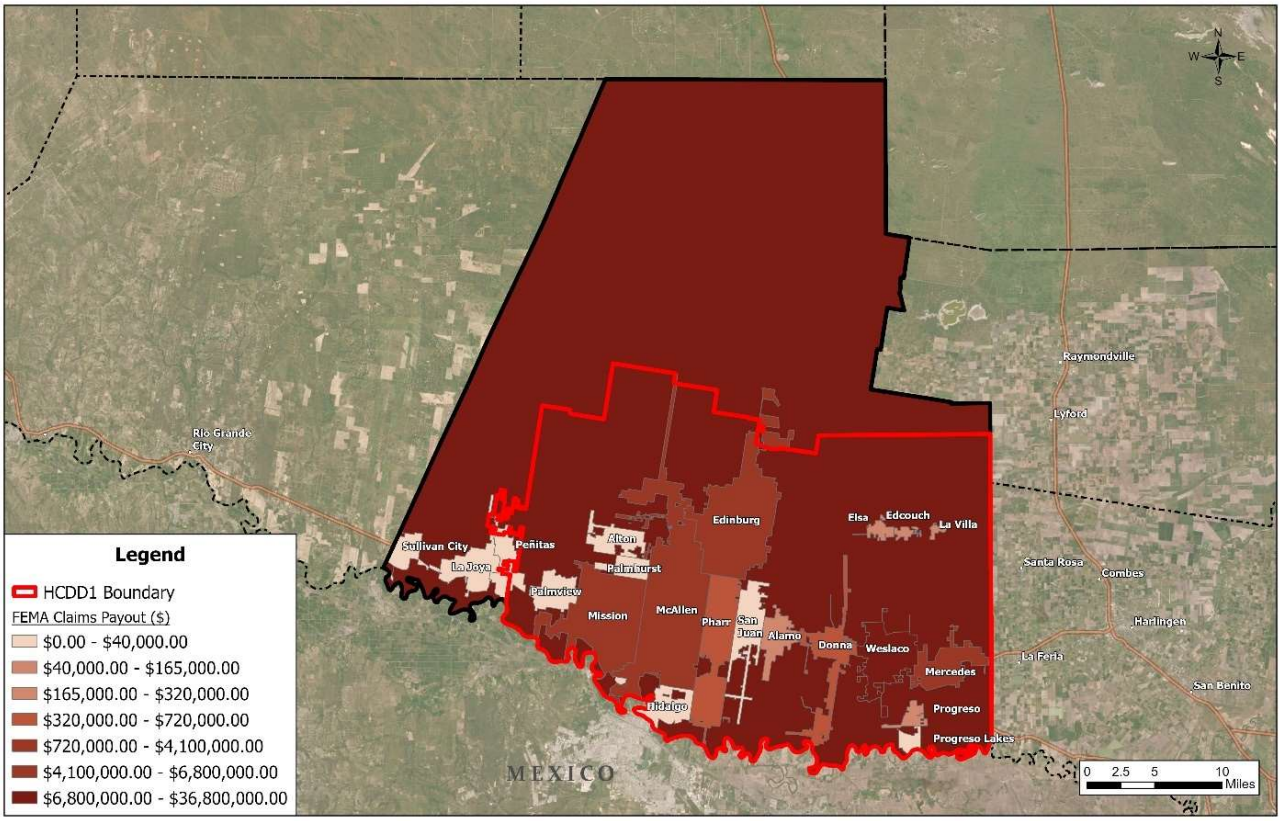


Table 5.2: HCDD#1 NFIP Participants

Community	Initial Flood Hazard Boundary Map Identified	Initial Flood Insurance Map Identified	Current Effective Map Date
Alamo	1/23/1974	1/30/1979	9/25/1979
Alton	7/1/1981	7/1/1981	6/8/1982
Donna	2/1/1974	6/19/1985	6/19/1985
Edcouch	3/19/1978	-	(NSFHA)
Edinburg	6/28/1974	3/2/1982	6/6/2000
Elsa	4/23/1976	-	(NSFHA)
Hidalgo	2/1/1974	1/1/1992	1/1/1992
La Villa	1/23/1974	6/15/1978	6/15/1978
McAllen	12/3/1976	6/15/1981	11/2/1982
Mercedes	2/1/1974	7/16/1979	7/16/1979
Mission	2/15/1974	8/15/1979	11/20/1991
Palmhurst	9/12/1975	-	-
Palmview	-	-	-
Pharr	5/31/1974	7/16/1979	10/19/1982
Progreso	-	11/16/1982	-
San Juan	3/22/1974	-	-
Weslaco	3/29/1974	3/4/1980	3/4/1980

Repetitive Loss Property

A Repetitive Loss Property is designated by FEMA as a property that has had at least two paid flood losses of more than $1,000 each in any 10-year period. Properties with four or more separate NFIP claims, with each claim exceeding $5,000 are designated as Severe Repetitive Loss Properties. Repetitive Loss and Severe Repetitive Loss Properties indicate a significant need for flood mitigation measures. The Severe Repetitive Loss (SRL) Grant Program under FEMA provides federal funding to assist states and communities in implementing mitigation measures to reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP.

There are 441 repetitive loss properties in the HCDD#1 service area, depicted in Figure 5.4. However, there are only 22 properties that meet the threshold of severe repetitive loss, as illustrated by Figure 5.5. Both the repetitive and severe repetitive loss properties in the service area have received claims payouts that total to over $78 million. A breakdown of communities in the service area, as well as associated claims payouts can be found in Table 5.3.

Figure 5.4: HCDD1 FEMA Repetitive Loss Properties

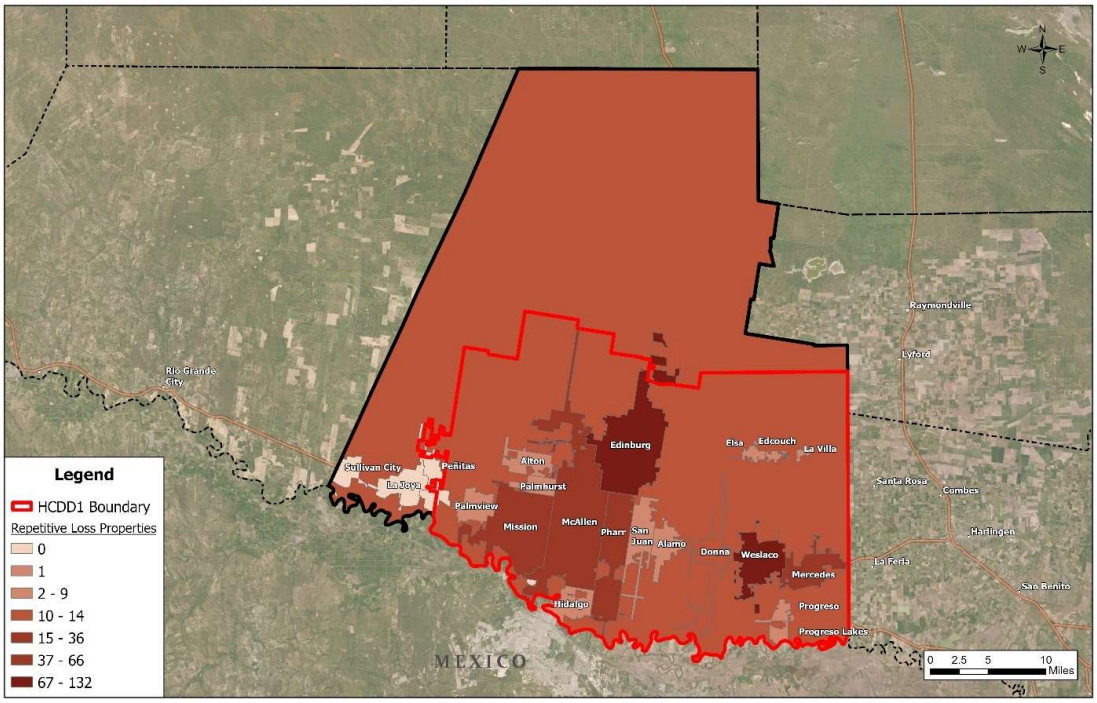


Figure 5.5: HCDD1 FEMA Severe Repetitive Loss Properties

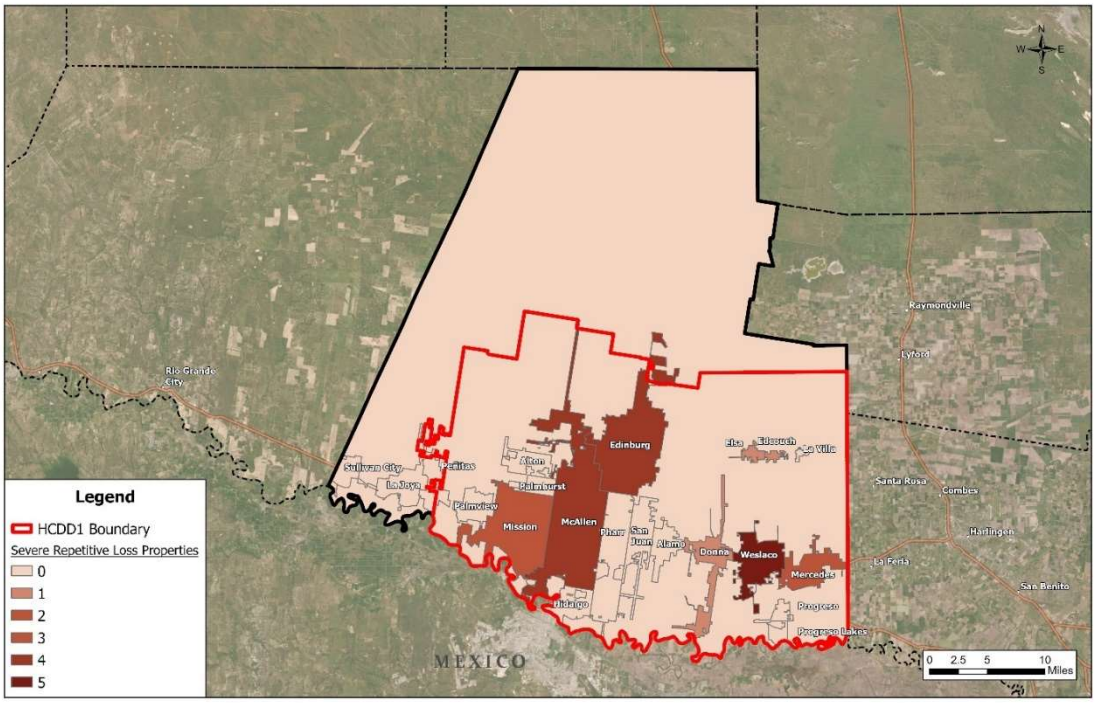


Table 5.3: HCCD1 Repetitive Loss Properties and NFIP Payouts

Community	Repetitive Loss Properties	Severe Repetitive Loss Properties	NFIP Claim Payouts ($)
Alamo	9	0	$195,769.00
Alton	1	0	$37,618.00
Donna	14	1	$719,391.00
Edcouch	9	1	$126,998.00
Edinburg	67	4	$3,702,047.00
Elsa	1	1	$320,854.00
Hidalgo	1	0	-
Hidalgo County	10	0	$36,811,554.00
La Villa	1	0	$165,666.00
McAllen	36	4	$4,066,457.00
Mercedes	66	3	$6,383,401.00
Mission	59	2	$6,846,875.00
Palmhurst	1	0	-
Palmview	1	0	-
Pharr	24	0	$657,308.00
Progresso	5	0	$65,440.00
San Juan	4	0	$12,572.00
Weslaco	132	5	$18,209,998.00
Total	**441**	**21**	**$78,321,948.00**

5.2.3 Floodplain Management

Each Jurisdiction has a local floodplain administrator for the municipality's participation in the National Flood Insurance Program (NFIP). Each city has its own criteria for design of its drainage systems - primarily the design of storm sewers and street drainage, as well as storm water detention.

Within the unincorporated areas of Hidalgo County, the Hidalgo County Drainage District No. 1, General Manager, Raul E. Sesin, P.E., C.F.M., is the Floodplain Administrator.

5.2.4 Flood Hazard Mitigation Actions

The district is limited in the actions it can do to assist in mitigating Flood Hazards within the service area, therefore the overall strategy for mitigating hazards includes educating the community on best practices, improving existing infrastructure and constructing new storm water management infrastructure to potentially reduce individual damage to homeowners.

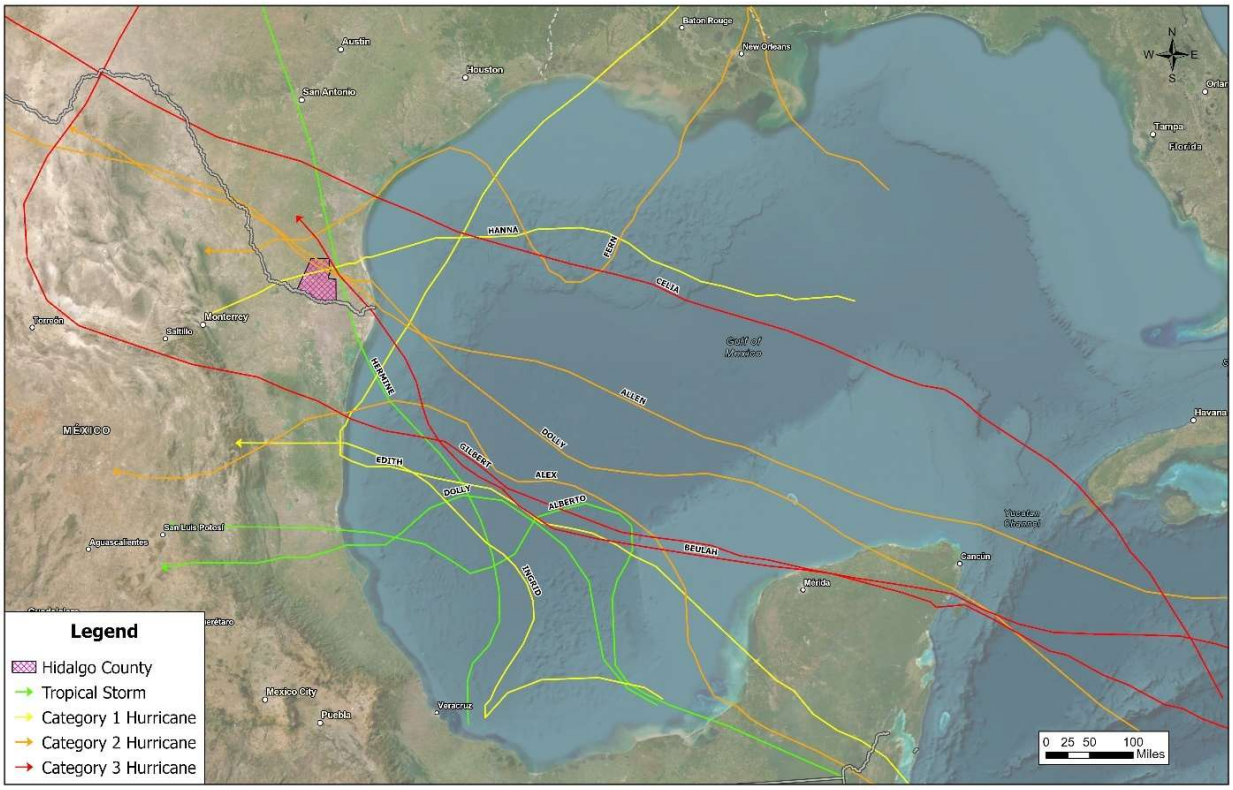
5.3 HURRICANES & TROPICAL STORMS

Hurricanes and Tropical Storms are categorized by the threat associated with them, taking into consideration the wind speeds and associated flooding which result from the storm. These storms are a product of warm tropical ocean waters and atmospheric pressure, where air is heated due to ocean temperatures and moves upwards creating a low-pressure system that draws in more air and creates a cycle generating cloud systems. As the system grows, the cycle speeds up and begins rotating in a cyclic pattern, creating an eye and the typical cyclone shape. These systems are moved by various winds and pick up additional energy until they become a tropical storm and gradually increase in power and potential danger to the communities along their path. A tropical cyclone is a general term for a circulating weather system rotating over tropical waters. These storms are categorized as either a Tropical Depression, Tropical Storm, or Hurricane with increasing magnitude. Hurricanes are further classified into categories based on their attributes as follows:

Tropical Storm & Hurricane Categorization

- Tropical Depression – An organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph (33 knots) or less.
- Tropical Storm – An organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 to 73 mph (34-63 knots).
- Hurricane – An intense tropical weather system with a well-defined circulation and maximum sustained winds of 74 mph (64 knots) or higher.
    - Category 1: 74-95 mph (64-82 knots)
    - Category 2: 96-110 mph (83-95 knots)
    - Category 3: 111-130 mph (96-112 knots)
    - Category 4: 131-155 mph (113-134 knots)
    - Category 5: 155+ mph (134+ knots)

Figure 5.6: Historic Hurricane and Tropical Storm Patterns in the Gulf of Mexico



5.3.1 Hazard Profile

Location

According to the US Geologic Survey Geographic Distribution and illustrated by the historic storm patterns depicted in Figure 5.6, Hidalgo County, including the service area, is considered to be in a region of Moderate Hurricane Activity. Due to the Districts proximity to the Gulf of Mexico, there is a high risk of hazards posed by Hurricanes and Tropical Storms in the entire service area.

Historical Occurrences

The following list is a record of several Hurricanes and Tropical Storms which have affected the District in the past, each resulting in a unique storm condition and effect.

Table 5.4: Historic Hurricanes and Tropical Storms in Hidalgo County (1980-2024)

Event Name	Date	Magnitude
Hurricane Allen	8/9/1980	Category 2
Hurricane Gilbert	9/16/1988	Category 3
Hurricane Dolly	7/22/2008	Category 2
Hurricane Alex	6/30/2010	Category 2
Tropical Storm Hermine	9/5/2010	Tropical Storm
Hurricane Ingrid	9/17/2013	Category 1
Tropical Storm Dolly	9/3/2014	Tropical Storm
Hurricane Hanna	7/25/2020	Category 1
Tropical Storm Alberto	6/20/2024	Tropical Storm

The most recent hurricane that affected the District was Hurricane Hanna in 2020. This Category 1 storm cause severed wind damage to homes, downed trees and caused power outages that affected approximately 150 thousand people.

In 2024, 51 counties including Hidalgo declared a state of emergency in preparation for Tropical Storm Alberto. Many counties in the north were hit hard, however in Hidalgo County, reports indicated minor issue as a result of the storm due to recent investments in drainage infrastructure. It will be important to continue these efforts in order to prepare for stronger storms in the future.

Future Probability

Due to the location near the Gulf Coast, and the previous history of 11 events over a 60-year reporting period, the likelihood or future probability of a tropical storm or is approximately thirty-three percent (33%). Due to the potential damage and the unpredictability, the Drainage District has opted to be prepared for the worst with the expectation that a storm will affect the service area as opposed to wondering if the storm will ever arrive.

Hazard Extent

Storms ranging from tropical storms to Category 3 hurricanes have made landfall and continued inland to reach the District. In those cases, winds in excess of 105 mph have been observed and can be expected.

5.3.2 Hazard Vulnerability

Exposed Assets

High winds can cause damage to exposed windows, power lines, trees and traffic signals, as well as potential structural damage to buildings and infrastructure. During hurricane and tropical storm events, transportation facilities can become hazardous to operate due to potential damage to nearby structures and increased exposure to debris. Flooding caused by tropical storms and accompanied rainfall poses a significant threat as well. As a result, the property risk attributed by this hazard is considered high. Various areas within the service area are particularly vulnerable, such as Colonias, due to their lack of drainage infrastructure.

Hurricane and Tropical Storms are likely to pose a significant threat to communication and transportation infrastructure, medical care facilities such as hospitals, schools, and utility services such as water wastewater and electricity. The immediate threats caused by the hazard are loss of service, as a result of damage caused by the hazard, and unsafe conditions making traveling ill advised. Additionally, the advent of a hurricane or tropical storm is likely to cascade into additional hazards such as flooding or tornados.

The potential disruption to economic activity as a result of damage to utility services, and direct damages to commercial, retail and residential structures, as well as transportation infrastructure including potential road closures and heavy traffic, all impacts the region’s ability to operate as a freight corridor.

Hazard Summary

Overall, tropical storms and hurricanes pose one of the greatest threats to the service area in terms of property damage, as well as injuries and potential loss of life. Based on the frequency of this hazard, as well as its ability to negatively impact Hidalgo County and participating jurisdictions, the pre-disaster mitigation measures identified in this plan should be aggressively pursued. A primary priority and contribution for the District should be helping mitigate the ancillary effects of the tropical storm such as flooding.

5.4 DAM & LEVEE FAILURE

While the Drainage District does not operate any Dams, Dam and Levee Failure causes the uncontrolled release of impounded water resulting in downstream flooding which can affect life and property. Factors that contribute to a possible failure include flooding, earthquakes, blockages, landslides, improper operation and maintenance, faulty construction, and acts of vandalism or terrorism.

On its own, a Dam or Levee Failure has the potential to cause fatalities, structural damage or cascade into a larger disaster due to failure near a highly populated area. FEMA classifies dams based on the potential hazard a failure poses to the surrounding community. Dam classifications and their risk conditions are designated as either Low, Significant, or High.

A levee is a natural or artificial slope or wall, either earthen or concrete and often parallels the course of a river. The main purpose of a man-made levee is to prevent flooding to adjacent development or farmland. Engineered levees are typically reinforced with concrete and rip-rap to prevent erosion or failure. Rip-rap is a concrete or stone material that is placed on the banks of water courses (typically streams and rivers, but also including lakes and ponds) to prevent or reduce erosion.

Levee failure can occur in numerous ways, but the most common is a breach, which occurs when part of the levee breaks away, leaving a large opening for water to flood the land once protected by the structure. A breach can be a sudden or gradual failure that is caused by surface erosion or by a subsurface failure of the levee. Failure can also occur when water overtops the crest of a levee. This is known as overtopping, where floodwater exceeds the lowest crest of a levee, flooding the surrounding area.

Dam Risk Classification

- LOW
  - Loss of Human Life – None Expected
  - Economic/Environmental Losses – Low and generally limited to owner
- SIGNIFICANT
  - Loss of Human Life – None Expected
  - Economic/Environmental Losses – Yes
- HIGH
  - Loss of Human Life – Probable. One or more expected
  - Economic/Environmental Losses – Yes, but not required to reach this classification

5.4.1 Hazard Profile

Location

Table 5.5 provides an overview of the dams present in the District, which are mapped in Figure 5.7. There are 143 miles of levees in HCDD1, which includes 281 square miles of leveed land (35% of the land in the District), as shown in Figure 5.8 and outlined in Table 5.5.

The hazard posed by a potential failure of a dam or levee creates two threat zones. The first being an immediate threat zone, classified by proximity to the failure, and the second being an ancillary threat zone. The ancillary threat zone exists because of the drainage conditions within the HCDD1 service area. In many cases, the drainage system within the service area flows into a levee. If a levee fails, the surrounding drainage network becomes overburdened because it has no outlet, and as a result the flooding conditions present would likely worsen.

The location, hazard classification, and general information of the Dams and Levees within the service area is summarized in the table below.

Figure 5.8: Levees in HCDD1

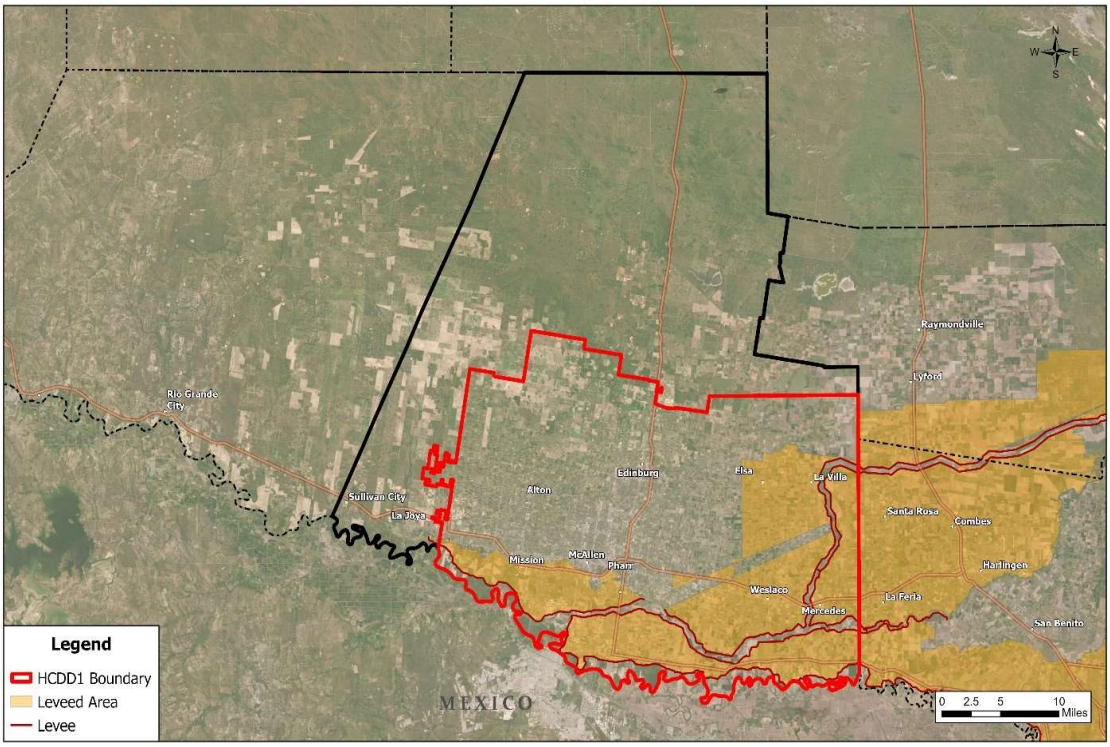


Table 5.5: Dams and Levees in Hidalgo County

Facility	City	Year Completed	Hazard Potential	Length (Ft)	Max Storage (Acre-Ft)
Anzalduas Diversion Dam	Hidalgo	1960	High	524	16400
Boeye Reservoir Levee	McAllen	1959	High	6139	770
Carlson Lake Levee	Hidalgo	1961	Low	16840	920
Donna Reservoir No 1 Levee	Donna	1962	Low	7549	2102
Donna Reservoir No 2 Levee	El Gato	1956	Low	7694	795
Engelman Gardens Reservoir Levee	Hidalgo	1975	Low	5174	800
Engelman Irrigation Dam	Citrus City	1996	Low	6882	751
Hidalgo County WID No 3 Reservoir Dam	Hidalgo	2010	High	3800	123.8
Hidalgo Id No 1 Reservoir Levee	Edinburg	1982	High	8307	1500
McAllen North Reservoir	McAllen	2004	High	4510	900

Mercedes District Settling Basin Dam	Mercedes	1907	High	24603	8610
New Boeye Reservoir Levee	McAllen	2011	High	7225	974
Penitas Lake Dam	Perezville	1960	Low	8910	576
Retama Reservoir Levee	Faysville	1935	High	12000	13500
Retamal Diversion Dam	Linda	1975	Low	172	6000
United Off-Channel Reservoir Dam	Mission	Not Available	High	5940	768
Valley Acres Reservoir	Mercedes	1951	Low	29188	6422
New Boeye Reservoir Levee	McAllen	1960	High	524	16400

Historical Occurrences

The largest potential cause of dam or levee failure is overtopping from excessive, widespread flooding, likely caused by rains from Tropical Storms and Hurricanes. Although there have not been any notable failures within the service area and the likelihood of a failure is low in any given year, the presence of these facilities and the potential damage a failure would pose to the community makes them a hazard that cannot be ignored.

The two largest dams within the service area, the Anzaldúas Diversion Dam and the Retamal Dam, as well as the Presa Marte R. Gomez Dam located across the border in Tamaulipas Mexico create a series of floodways on both sides of the border to manage the floodwaters of the Rio Grande as part of the Lower Rio Grande Valley Flood Control Project.

Future Probability

While it is hard to project future failure in relation to the operations of HCDD#1, Failure of any of dams and levee facilities would have major flooding consequences throughout the service area if it occurred.

Hazard Extent

In the event of a breach, it is estimated that the average breach with a height of 3 feet and a width would be 5 to 10 with a maximum breach flow of 87 to 175 cubic feet per second. The maximum breach flow would vary significantly with the geometry of the breach. A levee breach during a flood event could significantly hinder the community's ability to alleviate flooding resulting in longer periods of inundation.

5.4.2 Hazard Vulnerability

Exposed Assets

In the event of a Dam or Levee Failure, public, private and commercial properties as well as critical communal facilities are vulnerable to damage, as they are located in what would be expected to be the area inundated by associated floodwaters. Residents whose homes are closest to the location of the facility would be the ones primarily at risk of the hazard, however the threat ranges from loss of power/utilities to loss of life depending on the severity of the failure. Access to shelters or evacuation/transportation routes may also be limited in such an event.

Hazard Summary

Based on available records, the service area has not experienced any instances of dam or levee failure. However, the area is still susceptible and potential failure locations will continue to be monitored for the establishment of additional mitigation actions.

5.5 DROUGHT

A drought is an extended period of abnormally low precipitation relative to what is considered normal for a particular region. Drought conditions affect the cultivation of crops as well as a water availability and water quality. Drought is also a key factor in wildfire development. Drought conditions make natural fuels (grass, brush, trees, dead vegetation) spread wildfire at a faster pace.

Drought Severity Classifications were used to project as seen in Table 5.6. According to the National Drought Mitigation Center (NDMC), various models can be used to determine drought severity. The Palmer Drought Severity Index was developed for use in gauging long term drought, using zero (0) as a baseline and going negative to show severity. The Climate Prediction Center (CPC) Soil Moisture Model shows soil moisture using a percentage based off a one-layer hydrological model which takes into consideration the observed precipitation and temperature and calculates soil moisture, evaporation and runoff. The Standardized Precipitation Index (SPI) is the number to characterize meteorological draught over a range of time scales. For short periods of time, the SPI characterizes soil moisture, while over long periods of time it can be used to measure groundwater or reservoir storage. The SPI can be used to compare multiple regions with different climates. The Objective Drought Indicator blends utilize various parameters to determine a Short-Term Blend and a Long-Term Blend to determine drought levels, the Short-Term Blend is generally used for time scales from a few days to a few months and the Long-Term Blend for beyond that, each being used to determine different factors related to drought.

Table 5.6: Drought Severity Classifications

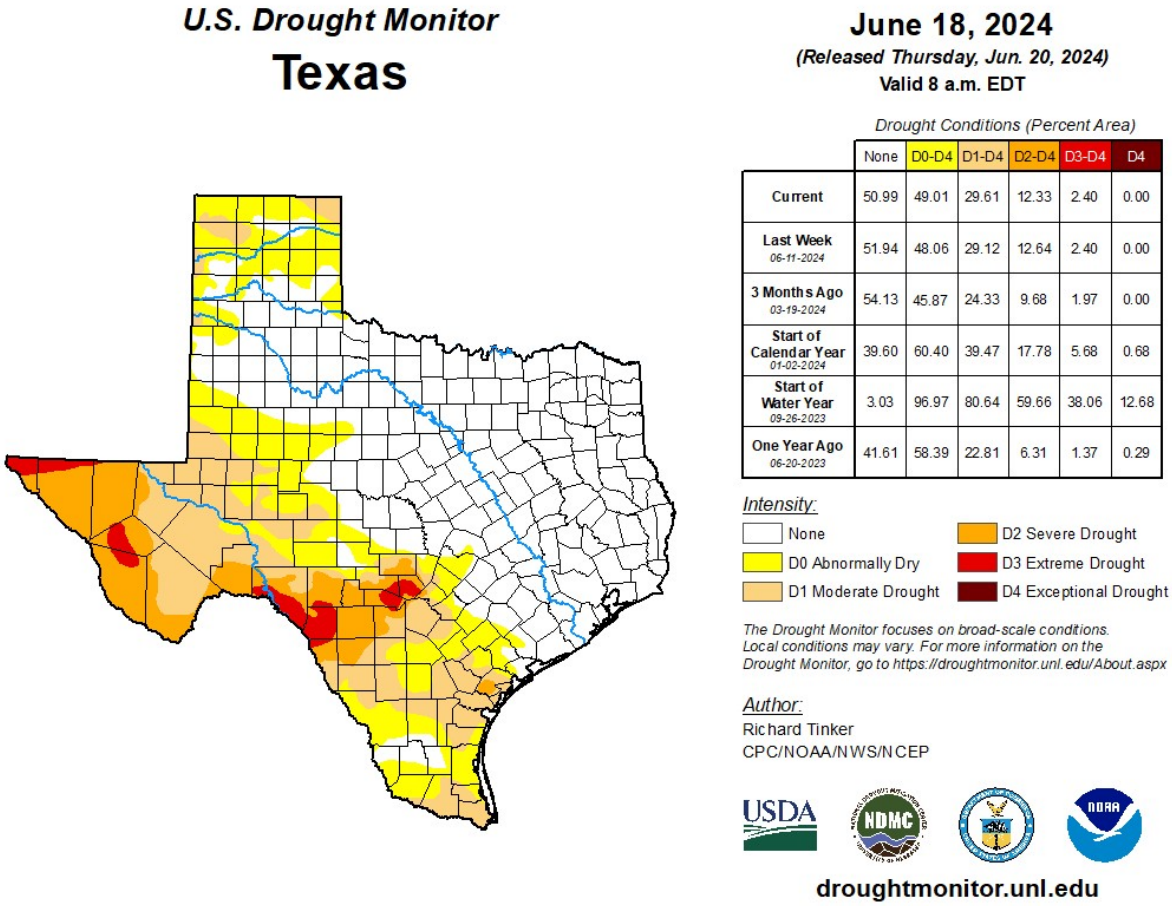
Description	Possible Impacts	Ranges			
		Palmer Drought Severity Index (PDSI)	CPC Soil Moisture Model (%)	Standardized Precipitation Index (SPI)	Objective Drought Indicator Blends (%)
Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits pastures or crops not fully recovered	-1.0 to -1.9	21 to 30	-0.5 to -0.7	21 to 30
Moderate Drought	Some damage to crops, pastures Streams, reservoirs, or wells low, some water shortages developing or imminent. Voluntary water-use restrictions requested	-2.0 to -2.9	11 to 20	-0.8 to -1.2	11 to 20
Severe Drought	Crop or pasture losses likely. Water shortages common. Water restrictions imposed	-3.0 to -3.9	6 to 10	-1.3 to -1.5	6 to 10
Extreme Drought	Major crop/pasture losses. Widespread water shortages or restrictions	-4.0 to -4.9	3 to 5	-1.6 to -1.9	3 to 5
Exceptional Drought	Exceptional and widespread crop/pasture losses. Shortages of water in reservoirs, streams, and wells creating water emergencies	-5.0 or less	0 to 2	-2.0 or less	0 to 2

5.5.1 Hazard Profile

Location

The hazard posed by drought is one that may affect the entirety of the service area. As a result, the entire community must be prepared to combat drought conditions. Figure 5.9 illustrates the drought conditions for the entire state, with a majority of the southwest experiencing abnormally dry and severe conditions.

Figure 5.9: Texas Drought Conditions (June 2024)



Historical Occurrences

Although a Federal Disaster declaration has never been issued in the service area as a result of drought, the region has experienced constant drought conditions for several years. As a result, several municipalities at various times have instituted Stage 1 water restrictions signifying voluntary conservation. In 2020, a Severe (D2) drought was experienced from February until May. Above normal temperatures, mixed with little to no rainfall, worsened existing drought conditions thought the region. By May rainfall improved dropping the severity of the drought conditions back down throughout the region.

Future Probability

Due to the physical location, geography, and historic factors, it is highly likely that the service area will suffer from mild to moderate drought conditions in the future. there have been 16 extended time periods of drought (ranging in length from approximately 30 days to over 540 days) within a 24-year reporting period, which provides a probability of one event every one to two years. Because drought is more of a

long-term condition rather than an immediate event, the community has more time to prepare for its effects.

Hazard Extent

The overall extent of damages caused by periods of drought is dependent on its extent and duration. Based on the historical occurrences of drought and the location of the planning area, a range of drought can be expected from abnormally dry to moderate conditions and a level of pre-event planning and preparedness is necessary throughout the region.

5.5.2 Hazard Vulnerability

Exposed Assets

Drought conditions generally pose no threat to structures; however, concerns regarding damage to pipe networks and other infrastructure as a result of low-lying water and drought conditions is valid. Additionally, communities are vulnerable to drought conditions as a threat to the available water supply, though it is unlikely that drought conditions will become so severe within the study area that drinking water becomes unavailable. The largest concern with drought is the impact on the agriculture industry within the service area. Lack of water directly effects crop growth and harvest, as well as livestock health. Loss of natural vegetation and habitat is also a concern due to low water conditions and increased risk of wildfires associated with dry conditions.

Hazard Summary

Droughts do not have the immediate effects of other natural hazards, but sustained drought can cause severe economic stress to the agricultural interests in the service area. The potential negative effects of sustained drought are numerous. In addition to an increased threat of grassfires, drought can affect municipal and industrial water supplies, stream-water quality, water recreation facilities, hydropower generation, and agricultural resources.

5.6 WILDFIRES

A Wildfire is an uncontrolled and rapidly spreading fire that occurs in a natural area, such as a forest, grassland, or prairie. They are often caused by human negligence or by lightning. Wildfires can cause direct damage to property, impact transportation, utility or communication lines, and lead to other hazards such as flooding. Furthermore, they can happen anywhere, anytime, with the risk of spreading increasing due to additional factors such as a lack of rain or the presence of high winds.

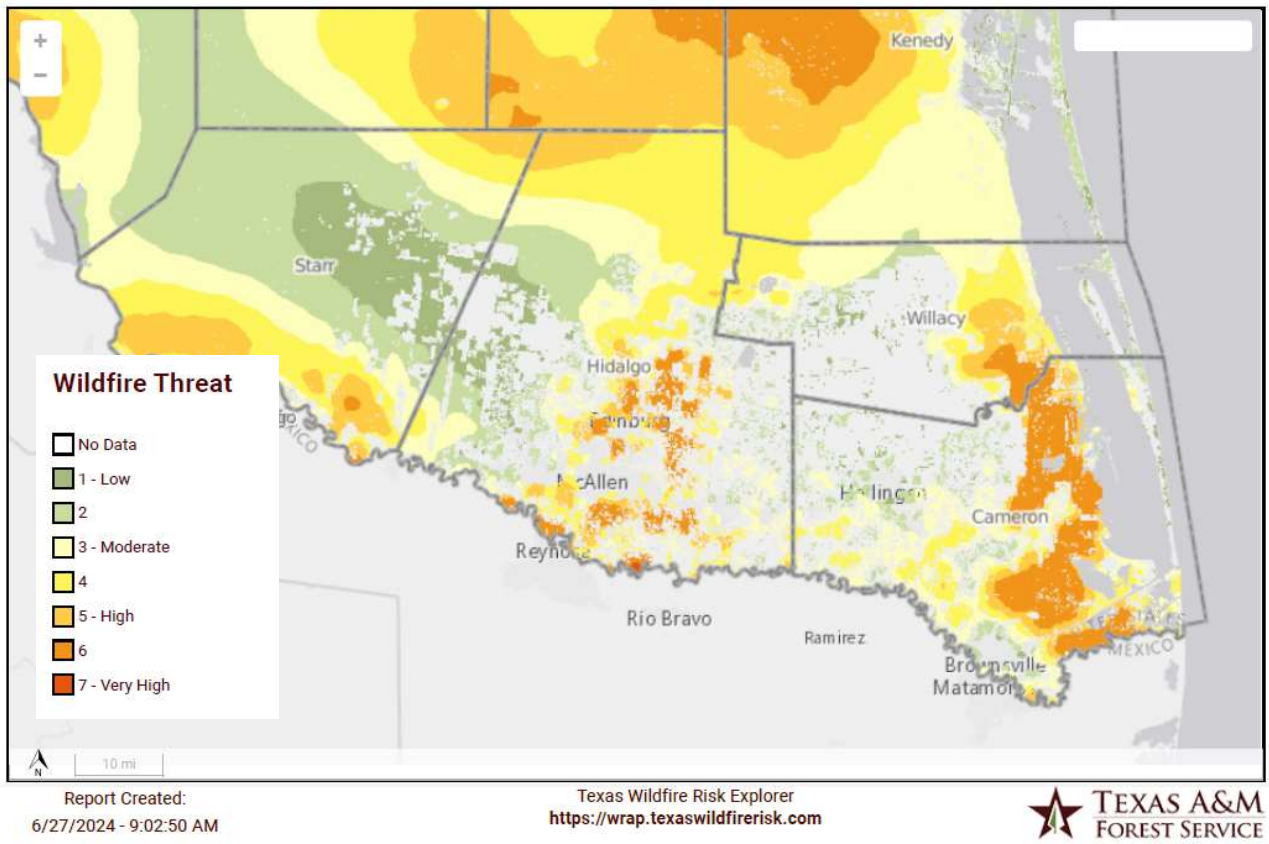
The Wildland Urban Interface (WUI) Response Index is commonly used as a means to categorize wildfires, which uses a rating of the potential impact of a wildfire on people and their homes. The WUI reflects housing density data combined with flame length data and response functions, calculated to determine where the greatest potential impact to homes and people is likely to occur.

The minimum wildfire class, Class 1, represents minimum wildfire intensities and the maximum class, Class 5, represents very high wildfire intensities. The following descriptions identify class intensity.

Wildfire Classes

- Class 1, Very Low
  - Very small, discontinuous flames, usually less than 1 foot in length; very low rate of spread; no spotting. Fires are typically easy to suppress by firefighters with basic training and non-specialized equipment.
- Class 2, Low
  - Small flames, usually less than two feet long; small amount of very short-range spotting possible. Fires are easy to suppress by trained firefighters with protective equipment and specialized tools.
- Class 3, Moderate
  - Flames up to 8 feet in length; short-range spotting is possible. Trained firefighters will find these fires difficult to suppress without support from aircraft or engines, but dozer and plows are generally effective. Increasing potential for harm or damage to life and property.
- Class 4, High
  - Large flames, up to 30 feet in length; short-range spotting common; medium range spotting possible. Direct attack by trained firefighters, engines, and dozers is generally ineffective, indirect attack may be effective. Significant potential for harm or damage to life and property.
- Class 5, Very High
  - Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire-induced winds. Indirect attack marginally effective at the head of the fire. Great potential for harm or damage to life and property.

Figure 5.10: LRGV Wildfire Threat



5.6.1 Hazard Profile

Location

The hazard posed by wildfire is one that may affect the entirety of the service area. Due authoritative limitations, the only locations included in the hazard profile are those that the district owns or operates. The remaining portion of the service area is served by Hidalgo County and other local jurisdictions.

Historical Occurrences

While no recorded wildfire is documented in District owned or operated property, it is noted that several wildfires have occurred within the overall planning area due to the rural environment and drought conditions. These events range in severity and damage and are displayed in the Table 5.7 below.

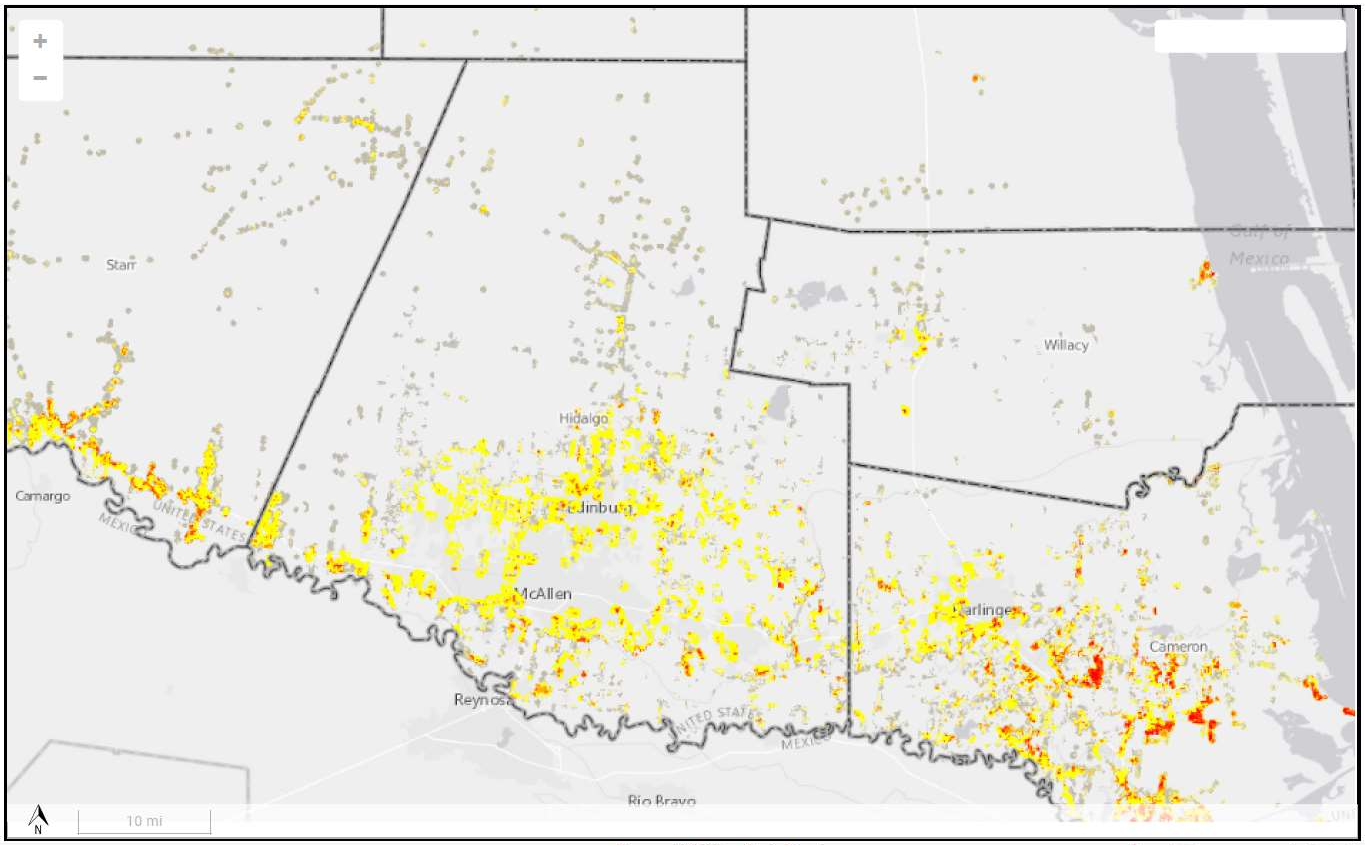
Table 5.7: Historic Wildfires in Hidalgo County (2004-2024) NOAA

Location	Date	Property Damage ($)	Injuries	Deaths
Countywide	2/1/2008	$0	0	0
Countywide	2/14/2008	$0	0	0
Countywide	3/18/2008	$100,000	0	0
Countywide	4/15/2008	$0	1	0
Edinburg	1/19/2009	$10,000,000	0	0
Countywide	2/8/2009	$0	0	0
Edinburg	3/5/2009	$25,000	0	0
Hidalgo	3/17/2011	$5,000	0	0
Hidalgo	4/7/2011	$0	1	0
Countywide	4/11/2011	$50,000	2	0
Hidalgo	8/3/2011	$15,000	0	0
Countywide	11/10/2011	$0	0	0
Countywide	2/24/2016	$0	0	0
Countywide	3/7/2018	$25,000	0	0
Northern Hidalgo County	4/1/2021	$0	0	0
Northern Hidalgo County	3/30/2022	$0	0	0
Northern Hidalgo County	7/21/2022	$0	0	0
Southern Hidalgo County	8/10/2023	$0	0	0

Future Probability

As a result of the physical location, geography and climate conditions of the service area, it is not unlikely that a wildfire will affect property or equipment owned or operated by HCDD#1. Due to the unpredictable nature of a wildfire, the HCDD#1 has included actions to manage an outbreak in its operating procedures.

Figure 5.11: WUI Response Index for Hidalgo County



Hazard Extent

Based on the historical occurrences of wildfires and the location of the various properties owned or operated in the HCDD#1 area, a range of wildfire from Class 1 to Class 3 on the WUI Response Index can be expected.

5.6.2 Hazard Vulnerability

Exposed Assets

Wildfires generally pose a threat to people, property and equipment within the vicinity of the hazard. Damage to the environment, facilities and equipment are the most likely threat posed by the breakout of a wildfire. Wildfires pose a very real threat to residents as well as community structures. It is possible that a wildfire could cause damage to a drainage structure or levee and create conditions for a structural failure during the next flood event.

Hazard Summary

Wildfires, while not a probable threat to the employees, property or equipment of the District, do pose potential significant damage to the service area. These potential negative effects are numerous and can spread beyond the limits of the jurisdiction into local communities and throughout the region.

5.7 LIGHTNING

Lightning is a flash of light caused by the discharge of electricity in the atmosphere. A lightning strike occurs when the discharge of electricity passes between clouds during a thunderstorm and from the clouds to the ground. While lightning is a common occurrence in the United States, it is most common during the summer months from May to August. Lightning activity is measured by the Lightning Activity Level (LAL) as noted below.

5.7.1 Hazard Profile

Location

There is potential for a lightning strike anywhere in the service area. Due to the limited authority of the District, the only locations included in the hazard profile are those that the HCDD#1 owns or operates. The remaining portions of the service area are served by Hidalgo County and other local jurisdictions.

Lightning Activity Level (LAL)

- LAL 1 - No thunderstorms.
- LAL 2 - Isolated thunderstorms.
  - Light rain will occasionally reach the ground. Lightning is very infrequent. 1 to 5 cloud to ground strike in five minutes.
- LAL 3 - Widely scattered thunderstorms.
  - Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a 5 minute period.
- LAL 4 - Scattered thunderstorms.
  - Moderate rain is commonly produced Lightning is frequent, 11 to 15 cloud to ground strikes in a 5 minute period.
- LAL 5 - Numerous thunderstorms.
  - Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a 5-minute period.
- LAL 6 - Dry lightning (same as LAL 3 but without rain).
  - This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.

Historical Occurrences

No recorded Lightning Strike has occurred or affected HCDD#1 owned and operated property, however it is noted that several lightning strikes have occurred and caused damage within the overall planning area. These events range in severity and damage and are displayed in the table below.

Table 5.8: Historic Lightning Strikes in Hidalgo County (1970-2024)

Location	Date	Property Damage ($)	Injuries	Deaths
Hidalgo	12/3/1973	$156	0	0

Hidalgo	5/19/1980	$5,000	0	0
Hidalgo	4/27/1989	$50,000	0	0
Mission	6/25/1996	$0	2	1
Pharr	10/2/1996	$0	1	0
Mission	8/14/1998	$10,000	0	0
Edinburg	5/24/2009	$100,000	0	0
Weslaco	5/28/2009	$1,000,000	0	0
Weslaco	6/3/2010	$20,000	0	0
McCook	6/7/2010	$30,000	0	0
McAllen	5/11/2012	$15,000	0	0
McAllen	8/20/2015	$75,000	0	0
Brownsville	10/30/2015	$10,000	0	0
Edinburg	6/10/2020	$1,000	0	0

Future Probability

Based on the history of thunderstorms in the service area, a range of lightning events from Lightning Activity Level 1 to Level 3, an LAL of 4 is possible depending on storm conditions.

Hazard Extent

Lightening events can create dangerous conditions and risk to public health and safety officials. The economic and financial impacts of lightning depend on the scale, what is damaged, how exposed people are and how quickly repairs to critical components of the economy can be implemented.

5.7.2 Hazard Vulnerability

Exposed Assets

Lightning strikes can cause damage to facilities, equipment and cause harm to individuals. Additionally, lightning strikes could impact people indirectly by impairing utility and electric services or by causing roadway congestion due to downed trees or non-responsive lights. Furthermore, lightning strikes can cascade into other hazards such as a igniting a forest fire in dry conditions.

Hazard Summary

Lightning strikes, although rare in occurrence, have a high danger potential associated with them. Lightning, as with some of the other natural hazards typical to the HCDD1 Service Area, can occur anywhere and anytime. The unpredictability of lightning, along with its potential to be deadly and destructive, is a significant factor in the prioritization of mitigation actions.

5.8 HAZARDOUS MATERIAL SPILLS

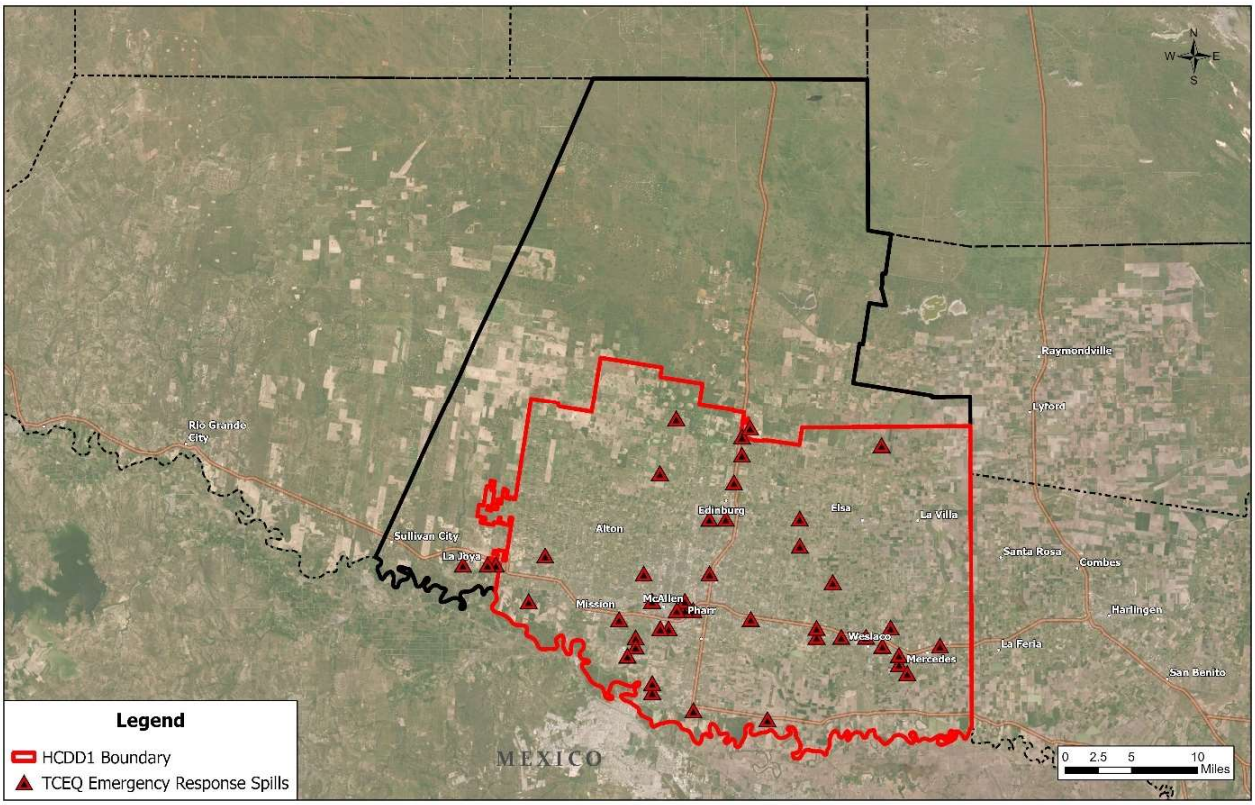
Hazardous Materials are substances that are harmful to the health and safety of people and property. All facilities that produce, process, store and/or treat hazardous materials are at risk, though the most notable source of hazardous material spills are along highways, roadways and railways.

5.8.1 Hazard Profile

Location

The hazards posed by hazardous material spills is one has the potential to affect the entirety of the service area and beyond. The locations included in the hazard profile are only those that the HCDD#1

Figure 5.12: Hazardous Material Spills in HCCD1



owns or operates. The remaining portions of the service area are served by Hidalgo County and other local jurisdictions. Due to Districts use of heavy machinery in their everyday operations, most sites where work is performed is at significant risk of a spill.

Historical Occurrences

Though the planning team is not aware of any significant hazardous material spills on property owned or operated by HCDD#1, such events have happened in the service area. TCEQ has received 263 hazardous material spill reports for Hidalgo County since 2002. Since 2019, the County has experienced 12 hazardous material spills, as listed in Table 5.9.

Table 5.9: Hidalgo County TCEQ Emergency Response Spills (2019-2024)

Location	Date	Hazardous Material
McAllen	4/30/2019	Benzene
Edinburg	6/15/2019	Fire / Decomposition
McAllen	2/21/2021	Fire / Decomposition
Donna	8/1/2021	Mineral Oil
McAllen	3/30/2022	Hydraulic Oil
Progreso	10/9/2022	Burnt Scrap Tires
Donna	1/28/2023	Diesel Fuel
McAllen	3/1/2023	Hydraulic Oil
Hidalgo	3/12/2023	Ethyl Alcohol
McAllen	5/14/2023	Diesel Fuel
Penitas	4/2/2024	Diesel Fuel
Edinburg	6/6/2024	Ethyl Mercaptan

Future Probability

Due to the inherent risk of working with hazardous materials, it is impossible to entirely eliminate the risk of a hazardous material spill.

Hazard Extent

Hazardous material spills range in severity based on the material, location and nature of the incident. In the field, such hazards are expected to be minor, as most equipment has limited fuel storage. At a fuel depot or storage facility, the extent of this hazard has the potential to be significantly larger. It is unlikely that a Hazardous Material Spill within the HCDD#1 jurisdiction will result in evacuations, road closures, or major injuries.

5.8.2 Hazard Vulnerability

Exposed Assets

Hazardous material spills pose a varied threat to the employees, facilities, equipment and environment. This threat is through exposure to the hazardous materials either through skin contact or via fumes, or indirectly such as a secondary hazard, such as wildfire, being caused by a hazardous material, such as fuel, spill.

Hazard Summary

Hazardous Material Spills are a technological hazard introduced by human factors as opposed to natural factors. The types of hazardous materials at both fixed and temporary facilities are abundant and varied. Due to this, the risk a Hazardous Material Spills and the challenges in mitigating potentials spills requires constant attention and policies that focus on preventative action, with contingencies in place to act on mitigation.

5.9 EXTREME HEAT

Extreme heat refers to prolonged periods of excessively high temperatures that are significantly above the average for a given region or time of year. This can include:

1. **Heatwaves**: Extended periods of abnormally high temperatures, often combined with high humidity, which can have serious health, environmental, and infrastructural impacts.
2. **Heat Index**: A measure that combines air temperature and humidity to reflect what the temperature feels like to the human body. Extreme heat can be more dangerous when the heat index is high.
3. **Temperature Thresholds**: Specific temperature benchmarks that are considered dangerous based on historical weather patterns and local climate norms.

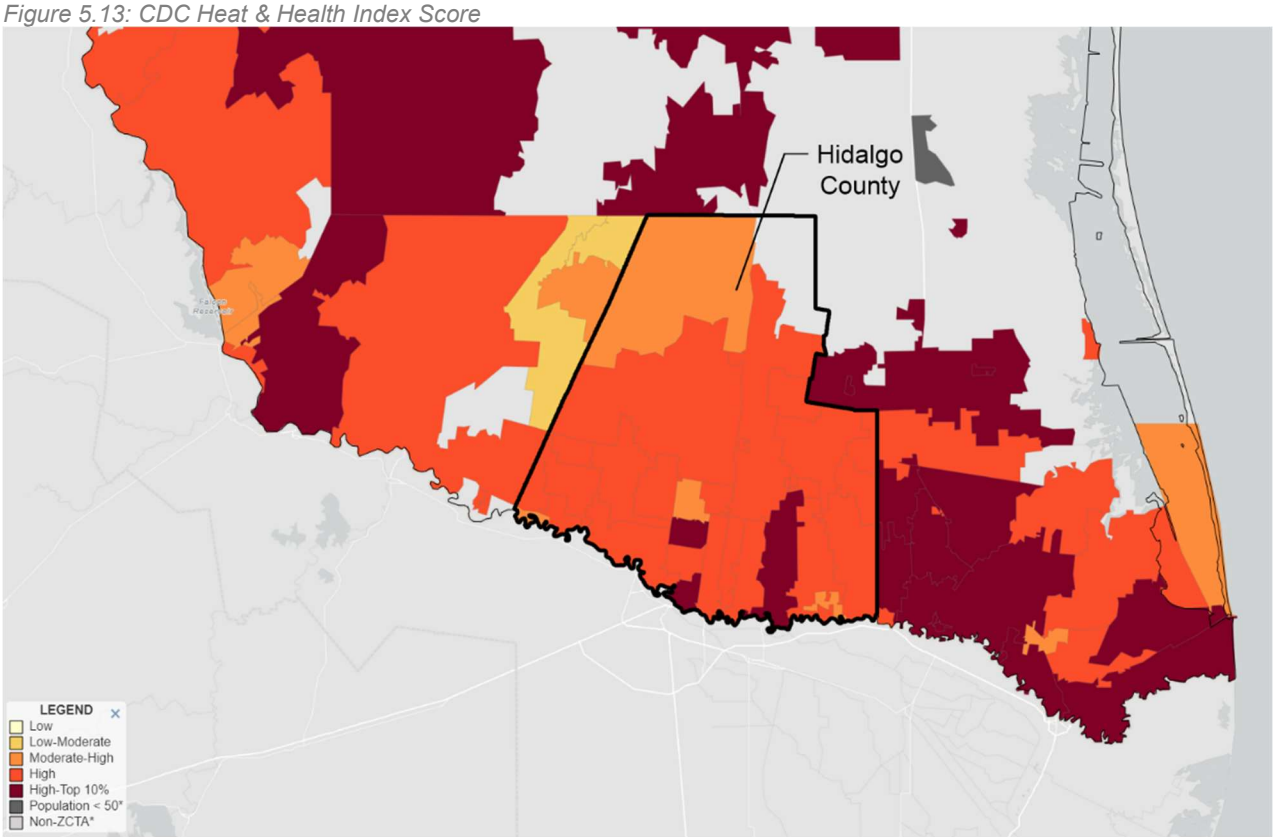
Extreme heat can lead to health issues such as heat exhaustion and heat stroke, strain on power grids, and adverse effects on agriculture and ecosystems. It's often exacerbated by factors like urban heat islands, where cities become hotter than their rural surroundings.

5.9.1 Hazard Profile

Location

The entire region is susceptible to extreme heat, especially in summer months. Within the County and the service area, the effects of high temperatures are felt more in urban areas where concrete and other impervious surfaces retain heat for longer periods of time.

Figure 5.13: CDC Heat & Health Index Score



Historical Occurrences

The Center for Disease Control (CDC) created the Heat Index and Health Index Score to help understand and communicate the risks associated with extreme heat conditions. The Health Index Score is a broader tool that incorporates the Heat Index but also considers other factors like age, health conditions, and access to cooling resources. This score is used to evaluate overall health risks and guide public health recommendations. Health Index scores for the region are illustrated in Figure 5.13 above. A majority of the County scored High in the Heat and Health Index, and some zip codes even scored in the top ten percent most vulnerable communities in the country. The highest recorded temperatures in the County for the past five years have ranged from 116 degrees to 123 degrees. The County saw consistently high temperatures in June and July of 2023, as noted in Table 5.10.

Table 5.10: Excessive Heat Events in Hidalgo County (2019-2024)

Date	Highest Recorded Heat Index (°F)	Deaths
6/23/2019	118	4
6/13/2023	121	0
6/14/2023	118	0
6/15/2023	120	0
6/16/2023	120	0
6/17/2023	119	0
6/18/2023	123	0
6/19/2023	121	0
6/20/2023	119	0
6/21/2023	117	0
6/22/2023	119	0
7/1/2023	116	0

Future Probability

Average high temperatures for the planning area through the summer months indicate a probability of one event or more every year. This frequency supports a highly likely probability of future events.

Hazard Extent

Extreme temperatures pose a significant threat to the health and safety of the residents within the service area and the workers at HCDD#1

5.9.2 Hazard Vulnerability

Extreme heat can be especially dangerous for children and the elderly as well as individuals who jobs consist of strenuous labor outdoors. Hidalgo County's population is highly susceptible to being exposed to extreme heat. Additionally, livestock and crops can become stressed, decreasing in quality or in production, during times of extreme heat.

5.10 HAILSTORMS

Hailstorms are weather events characterized by the formation and falling of hailstones—solid balls or chunks of ice. These storms occur when strong updrafts in severe thunderstorms lift water droplets high into the atmosphere where they freeze into ice. As these hailstones accumulate layers of ice, they can grow significantly in size before falling to the ground.

5.10.1 Hazard Profile

Location

Generally, hailstorms can be expected to occur in areas that experience thunderstorms. As a result, hailstorms have the potential to affect any part of the District.

Historical Occurrences

Hailstorms have caused moderately significant property damage in the last 10 years. A hailstorm in 2012 caused over $200 million in property damages, however since then, less than half a million dollars in property damage has been recorded in the service area resulting from hail.

Table 5.11: Hailstorm Events that Caused Property Damage in Hidalgo County (2004-2024) NOAA

Location	Date	Property Damage ($)	Injuries	Deaths
Donna	11/13/2008	$1,000	0	0
Edinburg	3/29/2012	$200,000,000	0	0
Lindsay Gardens	4/20/2012	$10,000,000	0	0
Lindsay Gardens	3/26/2015	$1,000	0	0
Palmhurst	3/26/2015	$1,500	0	0
McCook	4/21/2023	$20,000	0	0
McCook	4/21/2023	$50,000	0	0
Penitas	4/21/2023	$250,000	0	0
Hidalgo	5/29/2023	$15,000	0	0

Future Probability

Based on available records of historic events, 114 events in a 64-year reporting period for Hidalgo County provides a probability of one event per year. This frequency supports a highly likely probability of future events.

Hazard Extent

Hail has been known to cause injury to humans and occasionally has been fatal. While not a common occurrence, hail storm are a risk for all citizens to be cautious of.

5.10.2 Hazard Vulnerability

Damages from hail can be very costly and reach 1 billion dollars annually in the U.S. Much of the damage occurs to crops due to increased exposure and vulnerability. With a large amount of agriculture in the service area this would be a concern but not something the district has authority to support.

5.11 SEVERE THUNDERSTORMS & HIGH WINDS

Thunderstorms are weather phenomena characterized by the presence of thunder and lightning, and often include heavy rain, strong winds, and sometimes hail. They form in unstable atmospheric conditions where warm, moist air rises and cools, leading to the development of cumulonimbus clouds. High winds often accompany thunderstorms, or occur on their own, and refer to wind speeds that are significantly above normal for a particular area or time of year.

5.11.1 Hazard Profile

Location

Severe thunderstorms and high winds are a common occurrence in the region. It is not unlikely that the entire service area will experience the effects of severe thunderstorms and high winds in the future.

Historical Occurrences

There are many instances of severe thunderstorms and high winds in County in the past, though no major outlying events have occurred in the service area. A significant amount of property damage has been attributed to high winds alone since 2020, outlined in Table 5.12 below.

Table 5.12: Historic Property Damage in Hidalgo County from Thunderstorm Winds (2019-2024)

Location	Date	Property Damage ($)
McAllen	4/7/2019	$5,000
Alamo	5/14/2016	$21,000
McCook, Lindsay Gardens	6/7/2019	$13,000
Edinburg, Monte Alto	6/24/2019	$104,000
Edinburg	8/25/2019	$5,000
Penitas	5/8/2020	$15,000
Sullivan City	6/18/2020	$50,000
San Manuel, Linn	5/11/2021	$17,500
Donna, Mercedes	5/12/2021	$28,000
Lindsay Gardens, Faysville	5/23/2022	$130,000
Weslaco	8/12/2022	$10,000
McAllen, Shayland	4/21/2023	$20,000
Countywide	4/28/2023	$1,675,000
San Carlos	9/10/2023	$55,000

Future Probability

Most thunderstorm winds occur during the months of March- May, and September. There have been 154 events in a 60-year reporting period, which provides a probability of two to three events every year.

Hazard Extent

Thunderstorms and high winds can occur in various weather contexts, including thunderstorms, hurricanes, or as a result of atmospheric pressure gradients.

5.11.2 Hazard Vulnerability

Vulnerability is difficult to evaluate since thunderstorm wind events can occur at different strength levels, in random locations, and can create relatively narrow paths of destruction. Due to the randomness of these events, all existing and future structures and facilities are susceptible.

5.12 SEVERE WINTER WEATHER

Severe winter weather encompasses a range of harsh conditions that occur during the winter months and can have significant impacts on safety, infrastructure, and daily life. These conditions include snow and ice storms, extreme cold, sleet, and extreme wind chill. Severe winter weather conditions have the potential to affect the service area's utility infrastructure and electricity supply, as well as pedestrian and vehicular safety.

5.12.1 Hazard Profile

Location

Much like the rest of the hazards experienced by the District, severe winter weather has the potential to affect the entire service area, with no particular location more susceptible to potential winter weather than the next.

Historical Occurrences

The region has experienced a number of sever winter weather events in the past that have caused a wide range of damage. Significant property damage was seen in 2008 and 2009 during extreme winter weather events, as noted in Table 5.13.

Table 5.13: Winter Weather Events

Location	Date	Property Damage ($)	Injuries	Deaths
Countywide	3/18/2008	$333,333	0	0
Countywide	4/15/2008	$0	1	0
Edinburg	1/19/2009	$10,000,000	0	0
Edinburg	3/5/2009	$25,000	0	0
Countywide	7/20/2009	$2,500	0	0
Hidalgo	3/17/2011	$5,000	0	0
Countywide	4/7/2011	$0	1	0
Hidalgo	8/3/2011	$15,000	0	0

Most recently, Winter Storm Uri, which struck in February 2021, was a significant and severe winter storm that impacted much of the United States, including the service area. As seen in the figure below, the entire state of Texas received a winter storm warning at the start of the event. This storm brought long periods of extreme weather, including freezing temperatures, ice, and snow, to the region. Many communities were without power or water for extended periods of time.

Figure 5.14: Winter Weather Warnings for Winter Strom Uri (NOAA)

Future Probability

According to historical records, the planning area experiences approximately one winter storm event each year. Hence, the probability of a future winter storm event

Hazard Extent

All populations, buildings, critical facilities, and infrastructure in the HCDD#1 service area are susceptible to severe winter weather conditions. As a result of Winter Storm Uri, Hidalgo County experienced two Disaster Declarations in February 2021.

5.12.2 Hazard Vulnerability

Extreme cold and freezing temperatures can freeze water pipes and other critical infrastructure. It can also cause tree limbs to fall on power lines and create other debris related risk. These events can create damages that take extensive time to recover from.

5.13 TORNADOS

A tornado is a rapidly rotating column of air that extends from a thunderstorm to the ground. Tornadoes are among the most violent and destructive weather phenomena. They typically form within severe thunderstorms, especially supercell thunderstorms with strong wind shear (change in wind speed and direction with height). Tornadoes can vary in size from a few dozen yards to over a mile in width. They are rated on the Enhanced Fujita (EF) Scale, ranging from EF0 (weakest) to EF5 (strongest), based on the damage they cause and can have wind speeds ranging from less than 110 mph (177 km/h) to over 300 mph (483 km/h) in the most extreme cases. The path of a tornado is typically narrow but can be several miles long, with a swath of damage that varies in width. Tornadoes can cause severe damage to buildings, vehicles, and infrastructure. They can uproot trees, hurl debris, and level structures. Tornadoes are highly unpredictable and can be extremely dangerous, making timely warnings and preparedness essential for minimizing their impact.

5.13.1 Hazard Profile

Location

Due to the widespread nature of thunderstorms and the unpredictable nature of tornados, the entire service area is at risk of tornado damage.

Historical Occurrences

The service area has not reported any significant damage as a result of tornados since 2011. The most recent tornado that affect the area occurred in Hidalgo in 2023 but caused no monetary or property damage. It is important to note the likelihood that a high number of tornados have gone unreported in the past and emphasize the importance of documenting natural hazards for future planning.

Future Probability

Given the historical events and documented tornados, there is not a high likelihood of a tornado hitting the service area in the next year but due to the sporadic nature of events the district will work to be prepared to an event should it happen.

Hazard Extent

More destructive tornado conditions can be frequently associated with a variety of impacts including damage to structures and infrastructure, significant debris and downed trees creating blockages in canals and roadways, extended power outages and telecommunications network disruptions.

5.13.2 Hazard Vulnerability

Table 5.14: Historic Tornados in Hidalgo County (2004-2024) NOAA

Location	Date	Magnitude	Property Damage ($)	Injuries	Deaths
Mercedes	6/1/2005	F0	$10,000	0	0
Weslaco	6/1/2005	F0	$25,000	0	0
McAllen	7/20/2005	F0	$0	0	0
Mission	7/20/2005	F0	$0	0	0
McAllen	7/16/2007	EF1	$0	0	0
Mercedes	9/2/2007	EF0	$0	0	0
Miller International Airport	6/30/2011	EF1	$500,000	1	0
Hidalgo	9/16/2023	EFU	$0	0	0

6. Mitigation Strategies and Considerations

6.1 MITIGATION PLANNNING RESOURCES

Drawing upon the results of the Risk Assessment, the Hidalgo County Drainage District prepared an overall mitigation strategy which aims to reduce or eliminate long-term vulnerabilities to the hazards identified during the risk assessment. These strategies include a detailed overview of the mitigation goals and incorporate upcoming projects, and current district activities which will create the basis for how the Hidalgo County Drainage District No. 1 will seek to reduce potential losses.

Each individual mitigation action will provide an objective describing how the action plans to contribute to the overall mitigation goal, a specific action number corresponding to the overall mitigation goal, an estimated cost and estimated benefit, a summary of which types of hazards the action aims to mitigate, and a detailed summary of the mitigation action. Estimated cost and benefit is dependent on the information available at the time of the development of the plan and is subject to change with time as well as variations in scope.

Ranking Methodology

Mitigation Strategies were ranked in priority by the Local Planning Team by multiple factors including cost and benefit both by magnitude of the potential benefit and by how widespread the benefit will be, and by the ease and reliability of implementation. Strategies that favor benefitting a larger group of people may sometimes be chosen over those who benefit a small group. Similarly, strategies that allow for greater ease of implementation or require less outside participation will be favored over those difficult strategies that require widespread adoption by individuals within the community.

Strategy, location, funding and community input shall be used to determine the order and timing of strategy implementation. Appropriate judgement shall be used to determine that the benefit and timing of the implementation of these strategies is fair and encompassing of all communities within the Drainage District’s service area.

Multijurisdictional Considerations

The implementation of these strategies often times includes coordination with various jurisdictions within the Hidalgo County Drainage District No. 1 Service Area. During these times, the Drainage District will coordinate with the third party(ies) to develop the action plan in a way that is consistent with all parties mitigation priorities and strategies.

Mitigation Planning Process

Prior to the development of the Hazard Mitigation Strategies, the Planning Team examined the Hidalgo County Drainage District No.1’s current existing regulatory tools. The purpose of this examination was to determine the capacity in which they can contribute to the development of mitigation strategies as well as how they may be improved to benefit the communities alongside proposed mitigation strategies.

Planning resources and mechanisms include programs and individuals that guide and assist the operation of the Hidalgo County Drainage District No. 1 and are included below with comments associated with how the resources may be improved through the Hazard Mitigation Planning and associated strategies. HCDD1 shall focus to further the integration of this plan into their planning mechanisms. The goals and mitigation strategies of this HMAP will be incorporated into future iterations of planning documents.

Hidalgo County Drainage District #1 – Action #1	
Hidalgo County – Previous Action #3	
Proposed Action	Purchase NOAA All-Hazard Radios
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce risk to citizens through improved communications and early warning.
Type of Action:	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Dam and Levee Failure, Drought, Expansive Soils, Extreme Heat, Flood, Hail, Hurricane Wind, Lightning, Thunderstorm Wind, Tornado, Wildfire, Winter Storm, Hazardous Material, Mass Migration
Community Lifeline:	Communications, Health and Medical, Safety and Security
Effect on new/existing buildings:	N/A
Priority:	Low
Estimated Cost:	$50,000
Potential Funding Sources:	County Budget
Lead Agency:	Community Service Agency
Implementation Schedule:	Within 24 months of plan adoption
Incorporation into Existing Plans:	Emergency Management Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #2	
Hidalgo County Previous Action #16	
Proposed Action	Delta Storm La Villa & Edcouch Improvements: Provide upgrades to current drainage infrastructure. Construction including several bank and berm improvements, culvert improvements and a lateral diversion weird and pond improvements.
BACKGROUND INFORMATION	
Site and Location:	La Villa, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$63,587,280
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of La Villa
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #3	
Hidalgo County – Previous Action #23	
Proposed Action	FM 491 & Mile 3, Drainage Area Project: Local drainage improvements for neighborhoods northwest of Mole 3 North and FM 491 consisting of inlets, pipes, and culverts to provide local drainage to outfall to drainage Ditch 49.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce risk to citizens through improved communications and early warning.
Type of Action:	Education and Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$525,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #4	
Hidalgo County – Previous Action #25	
Proposed Action	International & E Mile 5 N Improvements: Channel improvements of Ditch H21 & 34 roadway culvert improvements near 22nd street and Cameron Drive, lateral detention pond along Ditch 34, bypass channel and a stormwater pump station consist of 2 axial flow pumps capable of handling 130,000 GPM total. It will include pump controls, intake structure with screen, discharge pipes through levee with flap gates to prevent backwater flow and backup generator.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$12,258,626
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #5	
Hidalgo County – Previous Action #39	
Proposed Action	Alamo Expressway Drain, Drainage Area Project: Channel and culvert improvements to the existing Alamo Expressway Drain system from US Interstate 2 to US Highway 83.
BACKGROUND INFORMATION	
Site and Location:	Alamo, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,005,855
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #6	
Hidalgo County – Previous Action #40	
Proposed Action	Weslaco Drain, Drainage Area Project: Channel, culvert and IBWC structure improvements to the existing Weslaco Drain system.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure.
Priority:	High
Estimated Cost:	$4,437,855
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #7	
Hidalgo County – Previous Action #41	
Proposed Action	North Weslaco Drain, Drainage Area Project: Channel and culvert improvements from the Midway pond to connect to the Weslaco North Lateral.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,976,660
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #8	
Hidalgo County – Previous Action #44	
Proposed Action	Mile 11 North & FM 1015, Drainage Area Project: Channel and culvert improvements to the drainage ditch network for the existing Mercedes Lateral. Four new regional detention ponds to relieve area from flooding.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$14,722,192
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #9	
Hidalgo County – Previous Action #46	
Proposed Action	Ditch 3 South of La Villa/Edcouch, Drainage Area Project: A proposed IBWC structure and detention consisting of 9 acres. The ditch will be regarded and widened. Project is from Mile 4 East to IBWC structure.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$7,882,786
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #10	
Hidalgo County – Previous Action #51	
Proposed Action	Adopt and implement a program for clearing debris from bridges, drains, and culverts.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$50,000 (annually)
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Local Building Codes / Ordinances

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #11	
Hidalgo County – Previous Action #52	
Proposed Action	Undertake a Hydrologic and Hydraulic study, comprehensive study of flood risk and reduction alternatives. Implement feasible alternatives for flood reduction.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Hurricane Force Winds
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$500,000
Potential Funding Sources:	General Funds, State and Federal Grants
Lead Agency:	Hidalgo County Precinct #2, Hidalgo County Drainage District #1
Implementation Schedule:	Within 24 months of plan adoption
Incorporation into Existing Plans:	Master Rural Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #12	
Hidalgo County – Previous Action #53	
Proposed Action	Undertake a comprehensive study of flood risk and reduction alternatives, with the assistance of the Hidalgo Country Drainage District #1. Implement feasible alternatives for flood reduction.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$2,000,000 per site location
Potential Funding Sources:	Local Funds, State and Federal Grants
Lead Agency:	Hidalgo County Precinct #3, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-24 months of plan adoption or upon available funding
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #13	
Hidalgo County – Previous Action #59	
Proposed Action	Expand the Hidalgo County Drainage System to include various drainage ditches to support Hidalgo County's Master Drainage System. The construction of the project will provide immediate and cost-effective floodwater mitigation to the western part of the county and unincorporated areas of Pct.4. This project will expand the drains within the Master Drainage System, which serves as the primary outfall to local drainage systems in western Hidalgo County.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response services during and after flooding events
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$15,000,000
Potential Funding Sources:	Grants, county operations / budget, bond and CO monies, other.
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #14	
Hidalgo County – Previous Action #60	
Proposed Action	Develop, Increase and expand drainage capacity to low-lying areas and frequent flood-prone areas; add stormwater detention and / or retention basins as deemed necessary to reduce flood risk. This may include the acquisition of new properties / land and / or current county owned property.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response services during and after flooding events
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$10,000,000
Potential Funding Sources:	Grants, county operations / budget, bond and CO monies, other.
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #15	
Hidalgo County – Previous Action #69	
Proposed Action	Enlarge undersized drainage channels, culverts, ditches, storm sewers and other conduits, which cause localized flood hazards and damage. Additional storm sewer line from 5th Street to Flora. Widening drainage ditch from Military to Floodway. Raise floodway levels along the Rio Grande.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response services during and after flooding events
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$10,000,000
Potential Funding Sources:	Local funds, State and Federal Grants
Lead Agency:	Hidalgo County, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-36 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #16	
Hidalgo County – Previous Action #76	
Proposed Action	Incorporate higher standards for hazard resistance in local application of the building code and educate contractors, homeowners, and business owners about mitigation techniques.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce risk of damages to structures through improved construction techniques; Reduce recovery efforts for the community after an event.
Type of Action:	Local Plans and Regulations

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Dam and Levee Failure, Drought, Expansive Soils, Extreme Heat, Flood, Hail, Hurricane Wind, Lightning, Thunderstorm Wind, Tornado, Wildfire, Winter Storm
Community Lifeline:	Communications, Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$15,000
Potential Funding Sources:	Local, State and Federal Grants
Lead Agency:	Hidalgo County Planning Department, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-24 months of plan adoption
Incorporation into Existing Plans:	Local Building Codes/Ordinances

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #17	
Hidalgo County – Previous Action #78	
Proposed Action	Develop an acquisitions/buy-out program for those properties in flood hazard areas. Acquire and demolish repetitive loss properties. Acquire high risk vacant land and maintain as open space.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Eliminates risk of flood damage to high-risk structures and prevent future losses in high-risk flood hazard area. Reduce risk of injuries to citizens.
Type of Action:	Natural Systems Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Dam and Levee Failure, Flood, Hurricane Winds
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,000,000
Potential Funding Sources:	Local, State and Federal Grants
Lead Agency:	Hidalgo County and Precincts, Hidalgo County Drainage District #1
Implementation Schedule:	Within 48 months of plan adoption
Incorporation into Existing Plans:	Floodplain Management Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #18	
Hidalgo County – Previous Action #79	
Proposed Action	Identify flood-prone and repetitive loss properties through the Texas Water Development Board. Identify and implement actions to reduce or eliminate flooding at identified properties.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Eliminates risk of flood damage to high-risk structures and prevent future losses in high-risk flood hazard area. Reduce risk of injuries to citizens
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Dam and Levee Failure, Flood, Hurricane Winds
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,000,000
Potential Funding Sources:	Local, State and Federal Grants
Lead Agency:	Hidalgo County Office of Emergency Management, Hidalgo County Drainage District #1
Implementation Schedule:	Within 48 months of plan adoption
Incorporation into Existing Plans:	Floodplain Management Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #19	
Hidalgo County Previous Action #87	
Proposed Action	Las Milpas & South Lateral: Project consists of a drainage system and culvert improvements that will include the widening of drain ditches leading up to the outfall pints at the South Lateral Drain, which will relieve the area of flooding. South Lateral will be widened to add capacity and expedite drain flow. The roadway crossing will be upgraded and new addition of detention facilities at the upstream end connecting to the Main Floodway will be added.
BACKGROUND INFORMATION	
Site and Location:	Pharr, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$25,800,000
Potential Funding Sources:	Local, State and Federal Funds, Hazard Mitigation Grant Program
Lead Agency:	Hidalgo County Precinct #2, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #20	
Hidalgo County – Previous Action #92	
Proposed Action	J-02 Monte Cristo: The project consists of improving the existing drain ditch along Monte Cristo Road from Kenyon Road to the South Main Drain. The improvements will consist of widening the existing ditch to add capacity and alleviate flooding in the area. All the roadway culvert crossing will be improved, and new field and roadway inlets will be installed.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$11,731,920
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #21	
Hidalgo County – Previous Action #93	
Proposed Action	J-08 Drain: The project consists of improving the existing J-08 Drain ditch. The improvements will include the extension of the ditch to Conway Avenue, constructing a new ditch and roadway crossings. The existing ditch will be widened, and the roadway crossing will be improved to alleviate flooding issues in the area. The J-08 Drain outfalls at North Main Drain east of McColl Road.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$23,951,998
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #4, Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #22	
Hidalgo County – Previous Action #95	
Proposed Action	PD Lateral Phase II & III: Project consist of an extension of PD Lateral. Construction of the new ditch and roadway culvert crossings will allow communities within the area to have proper drainage outfall to alleviate flooding issues. Phase III will consist of new ditch lateral and roadway crossing connecting to the existing PD Lateral.
BACKGROUND INFORMATION	
Site and Location:	Peñitas, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure, Natural Systems Protection

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	Phase II $17,452,223 Phase III $3,906,148
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #3, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #23	
Hidalgo County – Previous Action #97	
Proposed Action	J-14 Drain: Project consists of the construction of a drain ditch from Brushline to Holmes Road to outfall to J-01 ditch.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$4,665,749
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #24	
Hidalgo County – Previous Action #98	
Proposed Action	South Alamo and Rancho Blanco Road: Channel, storm drain and detention improvements to subdivision near intersection Alamo Road and Rancho Blanco to outfall into proposed detention facilities.
BACKGROUND INFORMATION	
Site and Location:	Alamo, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$4,860,999
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Alamo
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #25	
Hidalgo County Previous Action #99	
Proposed Action	FM 1423 and Nolana: Drainage improvements and upgrades south of Earling Road and west of Val Verde Street to provide local drainage that can be discharged into proposed detention facilities.
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$816,624
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #26	
Hidalgo County – Previous Action #103	
Proposed Action	Jackson Road Drain: Project consists of channel and culvert improvements to the existing Rancho Santa Cruz/Jackson Drain system.
BACKGROUND INFORMATION	
Site and Location:	Rancho Santa Cruz/Jackson Drain system.
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,618,750
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #2, Hidalgo County Drainage District #1, TxDOT
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2018 Bond Projects.

Hidalgo County Drainage District #1 – Action #27	
Hidalgo County – Previous Action #104	
Proposed Action	J-01 Lateral: Project consists of channel and culvert improvements to the existing J-01 Lateral drainage system from Ramseyer Dr. to the South Main Drain II outfall.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$2,994,601.44
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #4, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #28	
Hidalgo County – Previous Action #107	
Proposed Action	Raymondville Drain Project: Currently exists as an authorized project with the US Army Corp of Engineers-Galveston District. Seeks to improve the Rio Grande Valley's Drainage situation by construction of a Diversion Channel and improving the existing Hargill and Raymondville Drains. The creation of a new Diversion Channel begins at the Edinburg North Main Drain East of Edinburg Lake and would connect to Hargill Drain Lateral 5 West of Hargill. Project can be broken into 6 phases and includes 76.5 miles of new or improved drainage channels.
BACKGROUND INFORMATION	
Site and Location:	Edinburg North Main Drain East of Edinburg Lake and would connect to Hargill Drain Lateral 5 West of Hargill
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$417,617,336
Potential Funding Sources:	Local, State and Federal Funds, USACE
Lead Agency:	Hidalgo County Precinct #4, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #29	
Hidalgo County – Previous Action #113	
Proposed Action	Mission Lateral: The project consists of proposed widening, culvert crossings, and detention facilities to increase linear detention and functionality to existing Mission Lateral Drainage ditch. Project is divided into five phases.
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$12,779,500
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #3, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #30	
Hidalgo County – Previous Action #114	
Proposed Action	Peñitas Drain: Extension of Peñitas drain consisting of a construction of a drainage ditch with roadway crossings.
BACKGROUND INFORMATION	
Site and Location:	Peñitas, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$5,393,595
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #3, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2018 Bond Projects.

Hidalgo County Drainage District #1 – Action #31	
Hidalgo County – Previous Action #119	
Proposed Action	J-02-01: Project consists of new channel and road culvert crossings to extend the existing J-02-01 drain from Taylor Road to Bryan Road.
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$5,721,885
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #32	
Hidalgo County – Previous Action #121	
Proposed Action	West Main Drain IV: Project consists of new channel and road culvert crossings to extend the existing West Main Drain IV from Abram Road to Western Road.
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$5,210,490
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #33	
Hidalgo County – Previous Action #122	
Proposed Action	Mile 6 & North Ware Road: The project consists of proposed channel improvements, two regional detention facilities, culvert improvements, and localized underground drainage improvements connection multiple local drainage systems to the ditch network.
BACKGROUND INFORMATION	
Site and Location:	McAllen, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$24,705,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #34	
Hidalgo County – Previous Action #123	
Proposed Action	FM 2812 & FM 493: The project consists of proposed channel widening, and improvements long the existing ditch to allow for more capacity, underground drainage improvements, as well as culvert improvements and detention ponds for storage.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$6,350,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #35	
Hidalgo County – Previous Action #124	
Proposed Action	Highway 107 & Val Verde Road: The project consists of proposed channel improvements to area drainage channels, a proposed detention pond, as well as proposed storm drainage systems that will connect adjacent neighborhoods to the drainage network.
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$4,170,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #36	
Hidalgo County – Previous Action #125	
Proposed Action	Texas Road & Cesar Chavez Road: The project consists of a new location open channel ditch that will connect the adjacent area to the ditch network, culvert improvements as well as drainage improvements that are projected to alleviate flood risk.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$7,200,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #37	
Hidalgo County – Previous Action #126	
Proposed Action	Hoehn Road & Mile 11 Road: The project will improve drainage for the surrounding areas by implementation of channel improvements, new detention ponds for storage, as well as proposed storm drain systems and culvert improvements.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$4,215,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #38	
Hidalgo County – Previous Action #127	
Proposed Action	Alamo Road & Rogers Road: The project consists of proposed detention ponds, culvert and storm drain system improvements to provide storage and positive flow for the surrounding areas.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$7,240,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #39	
Hidalgo County – Previous Action #128	
Proposed Action	Mile 8 ½ Road & Ware Road: Project will consist of two proposed new location channels, channel improvements to existing ditches, culvert improvements, along with new storm drain system connecting to the ditch network. Additionally, two proposed detention ponds are planned for this project that will provide storage toa id in mitigation for future flooding.
BACKGROUND INFORMATION	
Site and Location:	McAllen, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$18,090,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #40	
Hidalgo County – Previous Action #129	
Proposed Action	South McColl & Canton Road: the project consists of channel and culvert improvements with associated new storm drainage systems and improvements to existing storm drainage systems.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$5,780,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Precinct #1, Hidalgo County Drainage District #1
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #41	
Hidalgo County Drainage District #1 – Previous Action #20	
Proposed Action	Install lightning protection systems at existing and future HCDD #1 facilities.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce risk of facility damage. Protection will allow for continued operations through events where lightning may disable operations.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Lightning Strikes
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$200,000
Potential Funding Sources:	Local, State and Federal Funds
Lead Agency:	Hidalgo County Drainage District #1,TDEM, FEMA
Implementation Schedule:	Within 12-48 months of plan adoption
Incorporation into Existing Plans:	Hazard Mitigation

COMMENTS:
Deferred action from 2019 Hidalgo County Drainage District #1 HMAP.

Hidalgo County Drainage District #1 – Action #42	
Hidalgo County Drainage District #1 – Previous Action #21	
Proposed Action	Develop Hazardous Material Spills Prevention and Contingency Plan
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce impact should an event occur. Possibility of preventing an event from happening.
Type of Action:	Planning

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	HazMat spills
Community Lifeline:	Safety
Effect on new/existing buildings:	N/A
Priority:	Moderate
Estimated Cost:	$30,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, TxDOT, EPA, TCEP, TRC, TCEQ
Implementation Schedule:	Within 12-24 months of plan adoption
Incorporation into Existing Plans:	Hazard Mitigation

COMMENTS:
Deferred action from 2019 Hidalgo County Drainage District #1 HMAP.

Hidalgo County Drainage District #1 – Action #43	
Proposed Action	Pump Station & Gate Rehabilitation: Rehab county operated drainage pump stations and perform any needed maintenance. Remove and replace failing pumps and equipment.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage dewatering efficiency. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,170,550
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 24-48 months of plan adoption
Incorporation into Existing Plans:	Hazard Mitigation

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #44	
Proposed Action	Lott Road & Soderquist: Drainage improvements including channeling to increase conveyance north of Lott Road and east of Soderquist Road.
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure and Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$465,658
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #45	
Proposed Action	Mile 2 E & Expy 83: Drainage Improvements to increase conveyance of storm water north of Interstate 2 and west of Mile 2 ½.
BACKGROUND INFORMATION	
Site and Location:	Mercedes, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety & Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$546,960
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mercedes
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #46	
Proposed Action	TX-88 & W Sugarcane Dr Improvements: Channel Improvements to the west side of existing ditch north of W Sugar Cane Road.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$956,544
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #47	
Proposed Action	Mile 11 N & Mile 6 W Improvements: Channel improvements to east side of existing ditch north of W Sugar Cane Road.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,450,080
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #48	
Proposed Action	Clark Road & Mile 1 E Improvements: Channel improvements to local ditches and construct a sump area for a pump station.
BACKGROUND INFORMATION	
Site and Location:	San Juan, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,884,688
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of San Juan
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #49	
Proposed Action	FM 1423 and Main Grove: local drainage improvements on Main Street.
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$272,208
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #50	
Proposed Action	North Tower Road: Drainage improvements and upgrades north of Minnesota Road.
BACKGROUND INFORMATION	
Site and Location:	Alamo, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$511,344
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Alamo
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #51	
Proposed Action	Dillon and Roosevelt Road: Drainage improvements just north of Roosevelt Road.
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$552,048
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #52	
Proposed Action	Dillon and Canton Road: Drainage improvements and upgrades along Canton Road and adjacent neighborhoods
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,154,976
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #53	
Proposed Action	FM1925 and Mile 4: Drainage improvements and upgrades along Bernal Ct.
BACKGROUND INFORMATION	
Site and Location:	Alamo, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$366,336
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Alamo
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #54	
Proposed Action	Peñitas Berm: Drainage improvements and upgrades along the Peñitas Berm, includes berm or intake structure between irrigation canals to protect neighborhoods.
BACKGROUND INFORMATION	
Site and Location:	Peñitas, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$499,321
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Peñitas
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #55	
Proposed Action	Peñitas Drainage Infrastructure: Drainage improvements and upgrades to all City of Peñitas drainage infrastructure and construction of a ditch to drain the city.
BACKGROUND INFORMATION	
Site and Location:	Peñitas, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$2,560,547
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Peñitas
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #56	
Proposed Action	NM-102: Drainage improvements and upgrades to NM-102, expansion of existing Lull Drain and other laterals.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$12,099,646
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #57	
Proposed Action	North Main Drain III and I: Approximately 9 miles of channel improvements are implemented including widening the North Main Drain within the existing right of way, from Monte Cristo Road to J-09 Drain.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$33,040,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #58	
Proposed Action	North Main Drain I: 5.7 miles of channel improvements includes widening the North Main Drain within existing right of way
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$40,322,400
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #59	
Proposed Action	Drain J-08: Remove existing 24” RCP within J-08 Drain and replace it with 48” RCP.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,535,719
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #60	
Proposed Action	F-13 F02: Channel improvements from Hwy 281 to Floodway Levee including channel widening to increase capacity.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,714,240
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #61	
Proposed Action	South Lateral Regional Detention Facilities: Construction of three (3) detention ponds on both sides of E. Las Milpas Road, including channel widening.
BACKGROUND INFORMATION	
Site and Location:	Pharr, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$11,546,839
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Pharr
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #62	
Proposed Action	Mercedes Project Area 111: Provide channel and culvert improvements on local drainage infrastructure within the City of Mercedes.
BACKGROUND INFORMATION	
Site and Location:	Mercedes, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$2,928,144
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mercedes
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #63	
Proposed Action	Delta Region Water Management-Santa Cruz RDF: Construct a regional detention facility at the Santa Cruz Reservoir, expanding the footprint to approximately 418 acres for flood mitigation and the storage of water.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$8,309,416
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg, Hidalgo County Precinct #4
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #64	
Proposed Action	Delta Region Water Management Project - Engleman Detention Pond/Reservoir: A regional detention facility at the Engleman Irrigation Reservoir expanding the current footprint to approximately 77 acres for flood mitigation and water storage.
BACKGROUND INFORMATION	
Site and Location:	Edcouch, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,052,800
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edcouch, Hidalgo County Precinct #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #65	
Proposed Action	South Main Drain: Various channel improvements and ditch widening within existing right of way. From FM 493 to FM 907
BACKGROUND INFORMATION	
Site and Location:	Alamo, Texas & Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$11,510,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Alamo, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #66	
Proposed Action	Ditch 1.9, 2, and 4a- La Villa/ Edcouch/ Elsa: Approximately 5 miles of channel improvements, excavation and channel widening in new and existing right of way. The addition of new culvert crossing and the construction of a new pump station.
BACKGROUND INFORMATION	
Site and Location:	La Villa, Texas Edcouch, Texas Elsa, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$23,010,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of La Villa, City of Edcouch, City of Elsa
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #67	
Proposed Action	PD Lateral Drain - Extensions 2, 3 and 5: 2 miles of channel improvements and widening of laterals within the United Irrigation District right of way.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,140,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #68	
Proposed Action	Bates Lateral Ditch Extension: Bates Lateral channel improvements towards S. Abram Road and new storm drainage system in neighborhoods to outfall at the extension of the Bates Lateral.
BACKGROUND INFORMATION	
Site and Location:	Palmview, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,860,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Palmview
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #69	
Proposed Action	Iowa Road Drainage Improvements: Channel improvements including widening of the PD Lateral from SH107 to Vaquero Avenue and installing culverts in nearby locations. Construction of new storm drainage system for neighborhood and along Iowa Road
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,940,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #70	
Proposed Action	South Abram Lateral Drain: Channel improvements include widening of south Abram Lateral and storm drainage system along West Loop 374 between Chihuahua Dr. and Los Charcos Dr. to south Abram Lateral Drain.
BACKGROUND INFORMATION	
Site and Location:	Palmview, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,900,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Palmview
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #71	
Proposed Action	Seminary regional detention facility: Acquisition of 67.8 acres for excavation of regional detention facility located at Seminary Road and Ingle Road.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$5,610,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #72	
Proposed Action	Structure 606AL and Ditch Improvements: 0.4 miles of channel improvements include ditch widening and new gate well structure with pump at IBWC Levee Structure 606 AL, north of SH 107
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$2,052,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #73	
Proposed Action	Donna North Lateral Extension: Construction of stormwater pump station and force main across I2, west of FM 493
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$810,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #74	
Proposed Action	Ditch F-13-00 and F-02-00 Improvements: 4.7 miles of channel improvements include widening Ditches F-13-00 and F-02-00 within existing right of way, from Hwy 281 to Floodway Levee.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,460,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #75	
Proposed Action	San Juan Lateral Extension: Channel improvements include widening the San Juan Lateral within existing right of way, from Ridge Road to Sam Houston Blvd. New storm drainage culvert from Sam Houston Blvd. to Carroll Road.
BACKGROUND INFORMATION	
Site and Location:	San Juan, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,460,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of San Juan
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #76	
Proposed Action	JF Drain Nolana Extension: Channel and culvert improvements include excavation of new drainage ditch and drainage culverts from Earling Road to LF Drain.
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$2,100,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #77	
Proposed Action	Project F-14-01: Create new F-14-01 drain ditch to provide drainage relief for the Northern Alamo area, north of US-83 and west of FM1423
BACKGROUND INFORMATION	
Site and Location:	Alamo, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$890,449
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Alamo
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #78	
Proposed Action	Project J-06-00: Create new J-06-00 drain ditch to provide drainage relief for the Northwest Edinburg area, west of Edinburg Lake.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,869,769
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #79	
Proposed Action	FM 676 at Stewart Road: Drainage Improvements on FM 676 at Stewart Road
BACKGROUND INFORMATION	
Site and Location:	Alton, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$143,842
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #80	
Proposed Action	South Stewart Boulevard Alternative 2A: Drainage upgrades and channel maintenance along South Stewart Boulevard Alternative 2A
BACKGROUND INFORMATION	
Site and Location:	Alton, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,550,568
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Alton
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #81	
Proposed Action	Southwest Weslaco No.77: project includes drainage upgrades and installation of new culverts within the city.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$10,600,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #82	
Proposed Action	Drain J-01 Improvements: Extension of Ditch J-01 to increase capacity to North Main Drain and conveyance of storm water events.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$2,518,942
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #83	
Proposed Action	Mercedes Lateral Improvements: Channel and culvert improvements to the urbanized area with a new storm drainage system with associated detention ponds for two residential areas along Mile 11 North. It will include four new regional detention ponds to relieve area from flooding.
BACKGROUND INFORMATION	
Site and Location:	Mercedes, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$46,966,243
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2021 Hidalgo County HMAP.

Hidalgo County Drainage District #1 – Action #84	
Proposed Action	Panchitas outfall structure: Rehab of the outfall structure, including concrete embankment replacement
BACKGROUND INFORMATION	
Site and Location:	La Villa, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$3,000,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of La Villa
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #85	
Proposed Action	Palmview Lateral: This project is approximately 1.3 miles of channel improvements implemented by widening the Palmview Lateral within the existing ROW, from Minnesota Road to Abram Road. One regional detention facility on Minnesota Road is proposed to relieve the area from flooding.
BACKGROUND INFORMATION	
Site and Location:	Palmview, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$13,311,480
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Palmview
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #86	
Proposed Action	Weslaco North Lateral: 6 miles of channel improvements widening of Weslaco North Lateral within existing right of way.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$11,117,280
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #87	
Proposed Action	Alternate Rado Drain: Approximately 2.1 miles of channel improvements includes the widening of the Alternate Rado Drain within the existing right of way, from Colbath Road to FM 495.
BACKGROUND INFORMATION	
Site and Location:	McAllen, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$11,575,534
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of McAllen
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #88	
Proposed Action	Mission-McAllen Drain: Approximately 5.3 miles of channel improvements includes widening the Mission McAllen Drain within existing ROW, from SH 107 to 3 Mile North.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$21,110,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission, City of McAllen
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #89	
Proposed Action	Mission Inlet: The project improvements include widening the pilot channel of the Mission Inlet and updating the outfall structure to IBWC Floodway.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$18,236,240
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of McAllen
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #90	
Proposed Action	West Main Drain III Extension: Approximately 14 miles of channel improvements include the construction and widening of the West main Drain at Abram Road to Mile 6 Road, new R.O.W acquisition and pipe.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$17,480,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission, City of McAllen
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #91	
Proposed Action	PSJA Drain: 2 miles of channel improvements includes widening the PSJA Drain within existing Right of Way, from Nolana to I2
BACKGROUND INFORMATION	
Site and Location:	San Juan, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$2,657,420
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of San Juan
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #92	
Proposed Action	Floodway Pumps: Repair and replacement of pumps along the floodway at Mile 12 1/2, Mile 14 1/2 and Mile 17 1/2
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$110,311
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #1, City of Weslaco
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #93	
Proposed Action	Monte Alto Project: Alleviate subdivision flooding by creating a ditch to allow the conveyance of water.
BACKGROUND INFORMATION	
Site and Location:	Monte Alto, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$747,330
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:

Hidalgo County Drainage District #1 – Action #94	
Proposed Action	Floodway Pump Station Upgrade: Increase pump size for draining into Floodway
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$43,911
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #2
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #95	
Proposed Action	Risk Area J at SH107 & FM 907: Channel Improvements (Widening & Regrading) to Existing HCDD1 "Y" drain with approximately 0.75 miles of proposed channel improvements beginning at Fresno Dr. and ending at E Curry Road. Proposed Drainage Grate Inlets approximately 3,800' of storm drain to provide local drainage improvements north and west of existing HCDD1 "Y" Drain in two separate systems. Proposed culverts improvements. Proposed detention pond with a 2.7 acre footprint.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$8,796,304
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #96	
Proposed Action	Illegal dumping outreach project: Community communication on the consequences of illegal dumping and effects it has on infrastructure.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands. Communication throughout the community
Type of Action:	Planning, Education, Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure.
Priority:	High
Estimated Cost:	$500,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 12-24 months of plan adoption
Incorporation into Existing Plans:	Hazard Mitigation Plan

COMMENTS:
Formulated during the HCDD#1 HMAP Update Stakeholder Workshop.

Hidalgo County Drainage District #1 – Action #97	
Proposed Action	Cyber security Projects: Implement new methods of cyber security to prevent cyber-attacks on county infrastructure
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved cyber security methods. Reduce risk of damages. Reduce emergency response demands. Allows for information to be conveyed efficiently.
Type of Action:	Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$250,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 12-24 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Formulated during the HCDD#1 HMAP Update Stakeholder Workshop.

Hidalgo County Drainage District #1 – Action #98	
Proposed Action	Bentsen Palm Drive Stormwater Management Project: Project consists of installation of storm drain along N Bentsen Palm Drive from Mile 3 to the West Main Drain. Project also includes storm drain along Minnesota Road to provide relief to Quale Dr. and W Mile 4 Rd. Project incorporates an existing detention pond and proposes a new pond to address flood concerns in the area.
BACKGROUND INFORMATION	
Site and Location:	Palmview, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$1,711,912
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Palmview
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #99	
Proposed Action	Mercedes Gate: Channel and culvert improvements to the Anaquita Drain ditch from Business 83 south to the Arroyo. Channel and culvert improvements are also recommended upstream of this drain, starting at Baseline Road and South James Drive in Mercedes.
BACKGROUND INFORMATION	
Site and Location:	Mercedes, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$8,250,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mercedes
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #100	
Proposed Action	East Mercedes: Channel And Culvert Improvements To The Drainage Ditches Located In The Vicinity Of Fm 2556, Extending From North Of Expressway 83 South To The Arroyo.
BACKGROUND INFORMATION	
Site and Location:	Mercedes, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$7,500,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mercedes
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #101	
Proposed Action	Mid Valley Project: Channel and culvert improvements to the drainage ditch network for the area. New storm drainage system and detention ponds for Joe Stephens Avenue and the neighborhood east of the airport to relieve area flooding.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$8,500,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #102	
Proposed Action	Monte Cristo Project: Addition of detention facilities, culvert crossings and cleaning improvements of existing drainage ditch.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$8,785,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #103	
Proposed Action	Southwest Weslaco: Channel and culvert improvements to the drainage ditch network for the area. New regional storm drainage detention ponds and sump detention ponds with pumping stations at the Floodway.
BACKGROUND INFORMATION	
Site and Location:	Weslaco, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$11,500,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Weslaco
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #104	
Proposed Action	Main Floodwater Channel Project: Expansion of the existing main floodwater channel to convey more water and alleviate flooding issues.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$20,000,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #105	
Proposed Action	J-09 Projects: Project includes improvements of channels and ditch excavation, to alleviate conveyance of water and allow for greater flood relief.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$5,000,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #106	
Proposed Action	Delta Regional Water Management Project: Water Treatment Facility construction in Willacy County, the diversion of storm water from the Main Floodway into a water treatment facility and using the treated water as an alternative water source.
BACKGROUND INFORMATION	
Site and Location:	Willacy County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$35,000,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #107	
Proposed Action	Delta Regional Water Management Project: Construction of three water treatment facilities within Hidalgo County to alleviate drought conditions and mitigate flooding.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	High
Estimated Cost:	$105,000,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #108	
Proposed Action	Rain and stream gauges purchases: Purchasing to accurately analyze water levels.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved equipment able to view water levels in real time and have time to assess and plan the course of actions.
Type of Action:	Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security, Communication
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$35,000 / gauge
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 12-24 months of plan adoption
Incorporation into Existing Plans:	Hazard Mitigation Plan

COMMENTS:
Formulated during the HCDD#1 HMAP Update Stakeholder Workshop.

Hidalgo County Drainage District #1 – Action #109	
Proposed Action	Coordinated Debris Removal Program: Coordination with surrounding entities on collaborate efforts in removing storm debris after the storm.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through debris removal. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$750,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 12-24 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Formulated during the HCDD#1 HMAP Update Stakeholder Workshop.

Hidalgo County Drainage District #1 – Action #110	
Proposed Action	Develop a program to provide hyperlinks to weather alerts and department phone listings with contact personnel for residents.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Communication and real time updates to residents
Type of Action:	Planning

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Severe Weather, Lightning, Flood, Drought
Community Lifeline:	Safety
Effect on new/existing buildings:	N/A
Priority:	Moderate
Estimated Cost:	$247,250
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 24-48 months of plan adoption
Incorporation into Existing Plans:	Hazard Mitigation

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #111	
Proposed Action	Develop procedures for mass notifications to citizens and merchants during natural hazard incidents.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Communication throughout a specific platform to convey messages and updates.
Type of Action:	Planning

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Dam and Levee Failure, Drought, Expansive Soils, Extreme Heat, Flood, Hail, Hurricane Wind, Lightning, Thunderstorm Wind, Tornado, Wildfire, Winter Storm
Community Lifeline:	Safety
Effect on new/existing buildings:	N/A
Priority:	Moderate
Estimated Cost:	$243,800
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 24-48 months of plan adoption
Incorporation into Existing Plans:	Hazard Mitigation

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #112	
Proposed Action	4 Mile Line: Improve drainage system out falling into West Main Drain and the Raymondville Drain, along several vulnerable points within the county.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$1,214,210
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #3
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #113	
Proposed Action	Risk Area A at Mile 8.5 Road. & Ware Road: Approximately 1 mile of proposed channel improvements. Proposed culverts. Proposed Detention Ponds with pond north of Mile 8.5 Road. to collect runoff from the west and has an approximate footprint of 12 acres and storage capacity of 60 acre-ft and will outfall south towards the pond south of Mile 8.5 Road.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$48,513,762
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #4, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #114	
Proposed Action	Risk Area B at Mile 6 & North Ware Road: Regional Detention Facilities with a pond footprint of 25 acres along the Existing HCDD1 West Main Drain. Storm Drain and Local Drainage Improvements. Channel maintenance.
BACKGROUND INFORMATION	
Site and Location:	McAllen, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$66,253,869
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #4, City of McAllen
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #115	
Proposed Action	Risk Area C at FM 2812 & FM 493: Channel Improvements (Widening & Regrading) to Existing J-01 Drain with approximately 1.5 miles of proposed improvements. Channel Improvements (Channel Maintenance & Flowline Regrading) to Existing DA-1 Ext. Drain with approximately 0.4 miles of proposed improvements. Proposed detention pond will have an approximate footprint of 9 acres and storage capacity of 90 acre-ft. Grate inlets & proposed storm drain channel maintenance & debris removal.
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$19,228,506
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #4, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #116	
Proposed Action	Risk Area D at S. McColl & Canton Road: Channel Improvements (Widening & Regrading) to Existing McAllen Lateral & North Main Drain with approximately 2.25 miles of proposed improvements from S McColl St. to State Highway 107.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood, Drought
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$15,500,804
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #4, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #117	
Proposed Action	Risk Area E Hwy 107 & Val Verde Rd: Channel Improvements with approximately 0.3 miles of proposed improvements. Proposed detention pond north of Tex-Mex Road. and east of S 87th St. has an approximate footprint of 4.25 acres and capacity of 20 acre-ft. Grate Inlets and Proposed Storm Drain 5'x5' grate inlets spaced along every 500' of storm drain with a 4'x2' RCB along S 85th St.
BACKGROUND INFORMATION	
Site and Location:	Donna, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$12,148,554
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #4, City of Donna
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #118	
Proposed Action	Risk Area F at Texas Road. & Cesar Chavez Road: Channel Improvements with approximately 0.6 miles of proposed improvements. Grate Inlets and Proposed Storm Drain with grate inlets in sag spaced along every 500' tying into a 42'' RCP along Cesar Chavez Road starting at just south of Texas Avenue to the Curry Drain. Culvert Improvements with connections between the proposed open channels and existing HCDD1 Edinburg Stub will require the installation of 4'x3' RCBs.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$19,308,960
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #4, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #119	
Proposed Action	Risk Area G at Hoehn Road. & Mile 11 Road: Channel Improvements with approximately 0.75 miles of proposed improvements. Proposed Pond north of County Road 3424 and west of County Road 3421 has an approximate footprint of 5 acres and capacity of 35 acre-ft. Grate Inlets and Proposed Storm Drain 5'x5' grate inlets will be located at the southwest corner of Eubanks and County Road 3424 with a connection to a 42" DIA RCP storm drain. Proposed culverts.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$14,776,718
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #4, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #120	
Proposed Action	Risk Area I at Sharp Road. & E Monte Cristo Road: Inlets and proposed storm drain with Approximately 1,100' of 4'x4' RCB storm drain with curb inlets to be installed along Hendrix Dr. and Gaston Cr. with approximately 1,200' of 6'x4' RCB storm with grate and sag inlets along Uresti Road. with connection to the HCDD1 J-02 Drain. Proposed installation of grate and sag inlets along Mile 19 Road. (Phase Two) and proposed installation of grate and sag inlets along Sharp Road. (Phase Two). Proposed Culverts Improvements (Phase One). Proposed detention pond with 9 acre footprint. Channel maintenance.
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$14,615,810
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County Precinct #4, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #121	
Proposed Action	Alberta Drain Phase I : Create drainage for existing subdivisions to Alamo Lateral (Between Owassa and Alberta, bounds ~1 mile East of Tower
BACKGROUND INFORMATION	
Site and Location:	Edinburg, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$628,286
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Edinburg
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Included from 2023 Amended Regional State Flood Plan.

Hidalgo County Drainage District #1 – Action #122	
Proposed Action	Communication with local municipalities for project completion: Coordinating with entities to complete projects together and allow for collaboration all together.
BACKGROUND INFORMATION	
Site and Location:	Hidalgo County, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage communication. Reduce risk of damages and injuries. Reduce emergency response demands. Allow for other cities to respond to calls.
Type of Action:	Education & Awareness

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$200,000
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, Hidalgo County
Implementation Schedule:	Within 12-24 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
Formulated during the HCDD#1 HMAP Update Stakeholder Workshop.

Hidalgo County Drainage District #1 – Action #123	
Proposed Action	MI11 Lower Melba Carter (5-F): 902 feet of channel improvements and one crossing improvement location
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$42,611
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
City of Mission 2020 Comprehensive Storm Drainage Assessment.

Hidalgo County Drainage District #1 – Action #124	
Proposed Action	MI13a1 & MI13a2 Spikes & Jupiter: 7042 feet of storm sewer upgrade and an extension of storm sewer of 2354 feet. New construction of two new detention basins one 10-acre foot and the other 40 acre foot.
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$1,471,986
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
City of Mission 2020 Comprehensive Storm Drainage Assessment.

Hidalgo County Drainage District #1 – Action #125	
Proposed Action	MI14a & MI14b Mission Medical Center / Travis: 1263 feet of storm sewer upgrade
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$108,699
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
City of Mission 2020 Comprehensive Storm Drainage Assessment.

Hidalgo County Drainage District #1 – Action #126	
Proposed Action	MI19a Sabine: 4417 feet of storm sewer upgrade
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$388,246
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
City of Mission 2020 Comprehensive Storm Drainage Assessment.

Hidalgo County Drainage District #1 – Action #127	
Proposed Action	MI18a Frio: 6259 feet of storm sewer upgrade
BACKGROUND INFORMATION	
Site and Location:	Mission, Texas
Risk Reduction Benefit (Current Cost/ Losses Avoided):	Reduce flood risk through improved drainage capacity. Reduce risk of damages and injuries. Reduce emergency response demands.
Type of Action:	Structure & Infrastructure

MITIGATION ACTION DETAILS	
Hazard(s) Addressed:	Flood
Community Lifeline:	Safety and Security
Effect on new/existing buildings:	Reduce risk to new and existing structures and infrastructure
Priority:	Moderate
Estimated Cost:	$474,419
Potential Funding Sources:	Local, State and Federal Funds, Grants
Lead Agency:	Hidalgo County Drainage District #1, City of Mission
Implementation Schedule:	Within 36-60 months of plan adoption
Incorporation into Existing Plans:	Drainage Plan

COMMENTS:
City of Mission 2020 Comprehensive Storm Drainage Assessment.

7. Strategy Implementation, Administration and Summary

7.1 PLAN IMPLEMENTATION

The HMAP updated process was overseen by the Hidalgo County Drainage District No. 1 (HCDD#1). After review and public comments incorporated, the plan is to be submitted to the Texas Division of Emergency Maintenance (TDEM) and the Federal Emergency Management Agency (FEMA) for approval. Once approved by TDEM and FEMA, the HCDD#1 will then formally adopt the plan by resolution by the Board of Directors in accordance with the Disaster Mitigation Act of 2000.

7.2 MITIGATION PLANNING MONITORING

Creating a monitoring plan for a hazard mitigation plan involves several key steps to ensure that the plan remains effective, up-to-date, and capable of reducing risks. The General Manager of the Drainage District will be responsible for monitoring the various mitigation strategies, either by delegation or by individual action. At the beginning of each fiscal year, the General Manager will prepare report including the upcoming years Mitigation Goals as well as a summary of the previous year's mitigation strategy actions and any noteworthy hazards that have affected the service area. A comprehensive monitoring plan includes the following steps:

7.2.1 Define Monitoring Objectives and Indicators

To ensure that mitigation actions are being implemented as planned, monitoring objectives should be determined to track progress and evaluate effectiveness. Implementation indicators can be developed to trac whether mitigation actions are being carried out and the overall effectiveness. It will also be important to monitor external factors that may be impacting the change in levels of risk and vulnerability in implementation.

7.2.2 Data Collection Methods

The Drainage District will conduct regular inspections to gather data on the implementation and effectiveness of mitigation actions. Utilizing monitoring equipment like sensors to collect real time data and review reports and permits for new developments. Then indicators can also be used to assess any new risks or vulnerabilities to the system or updated data sets that can inform the plan update.

7.2.3 Data Management

Collected data will be stored on the HCDD#1 database with procedures to ensure accuracy and established protocol to share with stakeholders.

7.2.4 Reporting and Communication

The HCDD#1 holds bi-weekly board meetings in which the public is afforded to opportunity to address the District and Board of Directors with regards to their concerns with the problems. These concerns are recorded and addressed regularly, which serve as a means in which the community can voice their opinions which are further used to guide the development of the Mitigation Action Plan and revisions.

7.2.5 Evaluation and Adaptation

Periodic reviews of the hazard mitigation plan will be conducted based on the monitoring objectives and indicators and adjustments to the plan/strategies made as needed based on findings. Following evaluation, unimplemented or additional strategies may be modified or created to fill any shortcomings that may be found in existing and proposed mitigation strategies.

7.2.6 Budget and Resources

Monitoring activities will require training and resources (financial, human, technical) that will need to be accounted for to ensure they are equipped with necessary skills and knowledge to effectively manage this monitoring plan.

7.2.7 Legal and Regulatory Compliance

The monitoring plan complies with local, state, and federal regulations and detailed records of monitoring activities should be documented for compliance.

7.3 HAZARD MITIGATION PLAN RENEWAL

The HCDD#1 HMAP Update will be valid through 2029 at which time the Drainage District will determine next steps of either producing another update or coordinating with the County's HMAP process. is required to be updated at least once every five (5) years. Upon reaching the fourth year of this renewal cycle, the HCDD#1 will begin the renewal process. The Drainage District will continue to monitor existing planning documents, processes and mechanisms to ensure consistency with the current land, political and community development trends and priorities. Any changes in these trends will be incorporated into future revisions of the HMAP.

The development for the renewed HMAP will use then review and update, if necessary, based on community feedback and any development trends since the previous HMAP, the existing Mitigation Goals, Hazard Assessment, Profiles and Vulnerability Assessments. While incorporating any new or changes to the mitigation strategies as mentioned in the strategy monitoring section of this document. The HCDD#1 will utilize their website, local news sources and newspaper to notify the public of a yearly meeting to allow for public participation.

7.4 SUMMARY

As a result of developing this HMAP Update, the Drainage District has prepared an effective overview and history of hazards within their jurisdiction and service area. This data in combination with the implementation of strategies put forth within the document will provide an increased level of protection to the service area as well as an increased level of cohesion between projects implemented by various members within the jurisdiction. The monitoring framework will effectively support the ongoing implementation and improvement of the hazard mitigation plan to serve as a living document to protect the people and property within Hidalgo County Drainage District No. 1's service area.

- END -

8. Resources and Definitions

8.1 RESOURCES

Publications

- FEMA Pre-Disaster Mitigation How-to-Guides #1, 2, 3, 7
- Texas Emergency Management Supplements to FEMA Pre-Disaster How-to-Guides

Websites

- FEMA (www.fema.gov)
- Texas Division of Emergency Management (http://www.txdps.state.tx.us/dem/)
- Hidalgo County (www.co.hidalgo.tx.us)
- National Climatic Data Center (www.ncdc.noaa.gov)
- National Weather Service (NWS) (www.srh.noaa.gov/ffc/default.html)
- United States Drought Monitor (http://droughtmonitor.unl.edu/)

Other Sources

- Hidalgo County Division of Emergency Services
- American Red Cross
- Hidalgo County
- Texas Forestry Commission
- Texas Department of Natural Resources
- NWS
- U.S. Geological Survey

APPENDIX

HCDD1 Hazard Mitigation Plan

2024