FLOOD MANAGEMENT STRATEGIES (FMSs) FACT SHEETS



✓ Flood Preparedness Programs

FMS ID: 152000001

□ Other:

Bayview Action #19

FMS Description

Upgrade the Town's website to include local information on hazards, risks, mitigation, protective actions, and applicable ordinances

Strategy Type

- □ Education and Outreach Activities
- □ Protected Areas

Strategy Area

City/ Cities Bayview County/ Counties Cameron HUC 8 12110208 **HUC 12**

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

- □ Regulatory and Guidance
- □ Development Standards

| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|--------------------------------------|-------|------|
| | <pre># of structures inundated</pre> | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

Strategy Costs

| Total Cost: | \$10,000 | Study Sponsor: | Bayview |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2018 | Entity with Oversight | Bayview |
| Time to complete? | 2020 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | HMGP: Local Funding |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS Vanagement Strategies

Flood Management Strategies Fact Sheet

□ Flood Preparedness Programs

Bayview Action #7

FMS ID: 15200002

□ Other:

FMS Description

Approve and Adopt FEMA Flood Insurance Rate Maps

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Bayview County/ Counties Cameron HUC 8 12110208 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

✓ Regulatory and Guidance

□ Development Standards

Strategy Costs

| Total Cost: | \$1,000 | Study Sponsor: | Bayview |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2019 | Entity with Oversight | Bayview |
| Time to complete? | 2021 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Funding |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

FMS ID: 15200003

Bayview Action #8

FMS Description

Develop cooperative agreement with state and county to address flood risk to roadways leading in and out of town – outside of jurisdictional boundaries

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- Regulatory and GuidanceDevelopment Standards
 - ndards ✓ Oth
- □ Flood Preparedness Programs





HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes |
|------------------------------|-----|
| Population at Risk | |
| Roadways flooded | Yes |
| Critical Facilities Impacted | Yes |
| Notes: | |



| | Yes 🖌 No 🗆 | Frequency of flooding: | | |
|----|------------|----------------------------|-------|------|
| | | # of structures inundated | | |
| | Yes 🗆 No 🗆 | Miles inundated? | | |
| ed | Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |
| | | | | |

Strategy Costs

| Total Cost: | \$1,000 | Study Sponsor: | Bayview |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2018 | Entity with Oversight | Bayview |
| Time to complete? | 2020 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Funding |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Bayview Action #9

FMS ID: 15200004

FMS Description

Participate in the National Flood Insurance Program

Strategy Type

- □ Education and Outreach Activities
- Protected Areas
- Strategy Area
 - City/ Cities Bayview
 - County/ Counties Cameron
 - HUC 8 12110208
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



- □ Flood Preparedness Programs
- □ Other:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|-------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

Strategy Costs

| Total Cost: | \$1,000 | Study Sponsor: | Bayview |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2018 | Entity with Oversight | Bayview |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2020 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Funding |

Have the flood risk and flood reduction impacts been evaluated?



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
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- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



□ Flood Preparedness Programs

Indian Lake Action #2

FMS ID: 15200005

□ Other:

FMS Description

Educate property owners about residential mitigation measures for all natural hazards such as the need to elevate structures, implementing residential mitigation measures, install retaining walls, and avoid building in high hazard areas

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- ✓ Education and Outreach Activities
- □ Protected Areas

Strategy Area

City/ Cities Indian Lake County/ Counties Cameron HUC 8 12110208 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🗸 I | No 🗆 | Frequency of flooding: # of structures inundated | | |
|---------|------|---|-------|------|
| Yes 🗆 I | No 🗆 | Miles inundated? | | |
| Yes 🗆 I | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

Strategy Costs

| Total Cost: | \$500 | Study Sponsor: | Indian Lake | |
|--------------------------------|------------|---|--------------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2020 | Entity with Oversight | Indian Lake | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | 2022 | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | General Fund; HMGP | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
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- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
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□ Flood Preparedness Programs

Brownsville Public Utilities Board Action #8

FMS ID: 152000006

□ Other:

FMS Description

Develop program to annually remove buildup of silt in area Resacas that become cutoff from the river and contribute to flooding during severe flood or hurricane event

✓ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Brownsville County/ Counties Cameron HUC 8 12110208 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|--------------------------------------|-------|--------------|
| | <pre># of structures inundated</pre> | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

Strategy Costs

| Total Cost: | \$20,000 | Study Sponsor: | Brownsville | |
|--------------------------------|------------|---|-------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2016 | Entity with Oversight | Brownsville | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | 2018 | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Grants | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
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- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
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City Of Brownsville Action #2

FMS ID: 15200007

FMS Description

Join the Community Rating System program to reduce risk and flood insurance premiums to residents

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- Development Standards
- □ Flood Preparedness Programs
- Other:

Strategy Area

- City/ Cities Brownsville
- County/ Counties Cameron

HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes D No D

Strategy Costs

| Total Cost: | \$100,000 | Study Sponsor: | Brownsville |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2015 | Entity with Oversight | Brownsville |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2017 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Revenue, Storm Water Fee |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
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- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
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- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- ✓ Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Indian Lake Action #11

FMS ID: 15200008

FMS Description

Adopt revised floodplain ordinance to include model ordinance language and higher NFIP standards such as freeboard

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- Development Standards
- □ Flood Preparedness Programs
- Other:

Strategy Area

- City/ Cities Indian Lake
- County/ Counties Cameron
 - HUC 8 12110208
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 N | lo 🗆 | Frequency of flooding: | | |
|------------------------------|---------|------|----------------------------|-------|------|
| Population at Risk | | | # of structures inundated | | |
| Roadways flooded | Yes 🗆 N | 1o 🗆 | Miles inundated? | | |
| Critical Facilities Impacted | Yes 🗆 N | 1o 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |
| Notes: | | | | | |

Strategy Costs

| Total Cost: | \$500 | Study Sponsor: | Indian Lake | |
|--------------------------------|------------|---|--------------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2018 | Entity with Oversight | Indian Lake | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | 2020 | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | General Fund; HMGP | |

Have the flood risk and flood reduction impacts been evaluated?





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
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RFPG Recommended

- ✓ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
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- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Indian Lake Action #9

FMS ID: 152000009

FMS Description

Prepare and advertise local evacuation plan and procedures

Strategy Type

- ✓ Education and Outreach Activities
- Protected Areas

- □ Regulatory and Guidance
- Development Standards
- ✓ Flood Preparedness Programs
- □ Other:

- Strategy Area
 - City/ Cities Indian Lake
 - County/ Counties Cameron
 - HUC 8 12110208
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | |
|------------------------------|------------|----------------------------|------------|
| Population at Risk | | # of structures inundated | |
| Roadways flooded | Yes 🗆 No 🗆 | Miles inundated? | |
| Critical Facilities Impacted | Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$500 | Study Sponsor: | Indian Lake |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2019 | Entity with Oversight | Indian Lake |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2021 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | General Fund; HMGP; FEMA AFG |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

Port Isabel Action #10

FMS ID: 152000010

□ Other:

FMS Description

Prepare and advertise local evacuation plan

Strategy Type

- ✓ Education and Outreach Activities
- Protected Areas
- Strategy Area
 - City/ Cities Port Isabel
 - County/ Counties Cameron
 - HUC 8 12110208
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|----|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No |

□ Regulatory and Guidance

□ Development Standards

Strategy Costs

| Total Cost: | \$500 | Study Sponsor: | Port Isabel |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2019 | Entity with Oversight | Port Isabel |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2021 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | HMGP; General Funds; AFG |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- ✓ Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Port Isabel Action #11

FMS ID: 152000011

□ Other:

□ Flood Preparedness Programs

FMS Description

Update floodplain management ordinances to include higher standards required to join the CRS program; Join the CRS program upon adoption of ordinance

✓ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Port Isabel County/ Counties Cameron HUC 8 12110208 **HUC 12** Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

| Yes 🗸 | No 🗆 | l |
|-------|------|-------|
| | | # O |
| Yes 🗆 | No 🗆 | |
| Yes 🗆 | No 🗆 | Agric |

Frequency of flooding: of structures inundated Miles inundated? cultural Land impacted 🛛 Yes 🗆 No 🗆

Strategy Costs

| Total Cost: | \$500 | Study Sponsor: | Port Isabel |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2018 | Entity with Oversight | Port Isabel |
| Time to complete? | 2020 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | HMGP; General Funds |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- ✓ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- ✓ Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Port Isabel Action #12

FMS ID: 152000012

FMS Description

Adopt NFIP model ordinance with higher floodplain standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- $\hfill\square$ Development Standards
- Flood Preparedness Programs
- □ Other:

- Strategy Area
 - City/ Cities Port Isabel
 - County/ Counties Cameron
 - HUC 8 12110208
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🗸 | No 🗆 | Frequency of flooding: # of structures inundated | | |
|-------|------|---|-------|--------------|
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |
| | | | | |

Strategy Costs

| Total Cost: | \$500 | Study Sponsor: | Port Isabel |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2018 | Entity with Oversight | Port Isabel |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2020 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | HMGP; General Funds |

Have the flood risk and flood reduction impacts been evaluated?



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Port Isabel Action #21

FMS ID: 152000013

□ Other:

✓ Flood Preparedness Programs

FMS Description

Use the internet and social media to warn citizens of disasters and extreme weather on a regular basis as well as how to prepare for such events and mitigate damages

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas
- Strategy Area
 - City/ Cities Port Isabel County/ Counties Cameron HUC 8 12110208 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

Strategy Costs

| Total Cost: | \$500 | Study Sponsor: | Port Isabel | |
|--------------------------------|------------|---|---------------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2018 | Entity with Oversight | Port Isabel | |
| Time to complete? | 2020 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | HMGP; General Funds | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

Port Isabel Action #25

FMS ID: 152000014

□ Other:

FMS Description

Implement early warning system for residents to notify of natural disasters; three warning sirens would be installed

Strategy Type

- Education and Outreach Activities
- Protected Areas

- □ Regulatory and Guidance
- □ Development Standards

- **Strategy Area**
 - City/ Cities Port Isabel
 - County/ Counties Cameron
 - HUC 8 12110208
 - **HUC 12**

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| AL. F |
|-------|

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------------------------|------------|----------------------------|-------|------|
| Population at Risk | | # of structures inundated | | |
| Roadways flooded | Yes 🗆 No 🗆 | Miles inundated? | | |
| Critical Facilities Impacted | Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |
| | | | | |

Strategy Costs

Notes:

| Total Cost: | \$100,000 | Study Sponsor: | Port Isabel |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2019 | Entity with Oversight | Port Isabel |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2021 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | HMGP; General Funds |

Have the flood risk and flood reduction impacts been evaluated?



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

FMS ID: 152000015

Primera Action #1

FMS Description

Amend subdivision ordinances to require retention or detention ponds in any new subdivision

Strategy Type

- □ Education and Outreach Activities
- □ Protected Areas

- ✓ Regulatory and Guidance
- Development Standards
- □ Flood Preparedness Programs
- □ Other:

Strategy Area

City/ Cities Primera County/ Counties Cameron HUC 8 12110208 HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| | Frequency of flooding: | No 🗆 | Yes 🗸 |
|------------|----------------------------|------|-------|
| | # of structures inundated | | |
| | Miles inundated? | No 🗆 | Yes 🗆 |
| Yes 🗆 No 🗆 | Agricultural Land impacted | No 🗆 | Yes 🗆 |
| | | | |

Strategy Costs

| Total Cost: | \$5,000 | Study Sponsor: | Primera |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2018 | Entity with Oversight | Primera |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🖌 No 🗆 |
| | 2020 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Funds |

Have the flood risk and flood reduction impacts been evaluated?



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- ✓ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

Primera Action #10

FMS ID: 152000016

FMS Description

Adopt higher floodplain standards such as freeboard and cumulative substantial damage

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- Development Standards
- □ Flood Preparedness Programs
- Other:

Strategy Area

City/ Cities Primera County/ Counties Cameron HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



Strategy Costs

| Total Cost: | \$5,000 | Study Sponsor: | Primera |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2019 | Entity with Oversight | Primera |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2021 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Funds; HMGP |

Have the flood risk and flood reduction impacts been evaluated?



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- ✓ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

FMS ID: 152000017

Primera Action #8

FMS Description

Implement early warning system to new areas of the jurisdiction to alert residents of impending severe weather

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- □ Regulatory and Guidance
- Development Standards
- ✓ Flood Preparedness Programs
- Other:

- Strategy Area
 - City/ Cities Primera
 - County/ Counties Cameron
 - HUC 8 12110208
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No |
|------------------------------|-------|----|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No |
| Critical Facilities Impacted | Yes 🗆 | No |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes D No D

Strategy Costs

| Total Cost: | \$75,000 | Study Sponsor: | Primera |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2018 | Entity with Oversight | Primera |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2020 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Funds; HMGP |

Have the flood risk and flood reduction impacts been evaluated?





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes ✓ No □ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Rancho Viejo Action #3

FMS ID: 152000018

FMS Description

Adopt the International Building Code (IBC) and International Residential Code (IRC); revise and update regulatory floodplain maps; adopt higher standards in floodplain ordinances including freeboard, no-rise in the floodplain, cumulative substantial damage, etc.

Strategy Type

Education and Outreach Activities

City/Cities

HUC 8

HUC 12

County/ Counties

Study Area (sq. mi.)

Rancho Viejo

Cameron

12110208

Protected Areas

Strategy Area

- ✓ Regulatory and Guidance□ Development Standards
- Flood Preparedness ProgramsOther:



| Yes 🗸 | No 🗆 | |
|-------|------|--|
| | | |

Emergency Need

Known Flood Risk

| History of Flooding? | Yes |
|------------------------------|-----|
| Population at Risk | |
| Roadways flooded | Yes |
| Critical Facilities Impacted | Yes |
| Notes: | |

| ✓ | No 🗆 | No Frequency of flooding: | | | |
|---|------|----------------------------|-------|------|--|
| | | # of structures inundated | | | |
| | No 🗆 | Miles inundated? | | | |
| | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 | |

Strategy Costs

| Total Cost: | \$5,000 | Study Sponsor: | Rancho Viejo | |
|---|------------|--|-------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2018 | Entity with Oversight | Rancho Viejo | |
| Time to complete? | 2020 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Funds; HMGP | |

ood Preparedness Programs
FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- ✓ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



□ Flood Preparedness Programs

Rancho Viejo Action #11

FMS ID: 152000019

□ Other:

FMS Description

Update website with maps and information including StormReady data and links; Mail educational brochures to residents in hazard-prone areas on mitigation measures to reduce damages

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- ✓ Education and Outreach Activities
- □ Protected Areas

Strategy Area

City/ Cities Rancho Viejo County/ Counties Cameron HUC 8 12110208 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

| Total Cost: | \$5,000 | Study Sponsor: | Rancho Viejo |
|--------------------------------|------------|---|-------------------|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2018 | Entity with Oversight | Rancho Viejo |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2020 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Local Funds; HMGP |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Rio Hondo Action #4

FMS ID: 152000020

FMS Description

Adopt ASCE24-05 Flood Resistant Design and Construction to reduce flooding caused by Storm Surge

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- □ Development Standards
- □ Flood Preparedness Programs
- □ Other:

- **Strategy Area**
 - City/ Cities **Rio Hondo**
 - County/ Counties Cameron
 - HUC 8 12110208
 - **HUC 12**

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes □ No □

Strategy Costs

| Total Cost: | \$2,000,000 | Study Sponsor: | Rio Hondo |
|--|-------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| above): Estimated year to start: | 2021 | Entity with Oversight | Rio Hondo |
| Time to complete? | 2023 | Included in a Hazard Mitigation | |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | USDA; City Funds; HMGP |

Have the flood risk and flood reduction impacts been evaluated?





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- ✓ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



□ Flood Preparedness Programs

San Benito Action #13

FMS ID: 152000021

□ Other:

FMS Description

Adopt higher standards into the flood damage prevention ordinance to limit floodplain development and provide higher protection to structures in the floodplain

□ Regulatory and Guidance

✓ Development Standards

Strategy Type

- □ Education and Outreach Activities
- □ Protected Areas

Strategy Area

City/ Cities San Benito County/ Counties Cameron HUC 8 12110208 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🗸 🛚 | No 🗆 | Frequency of flooding: | | |
|---------|------|----------------------------|-------|--------------|
| | | # of structures inundated | | |
| Yes 🗆 🛚 | No 🗆 | Miles inundated? | | |
| Yes 🗆 🛛 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$10,000 | Study Sponsor: | San Benito | |
|--------------------------------|------------|---|--|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2020 | Entity with Oversight | San Benito | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | 2022 | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | CDBG; EDC; Pre-Disaster Mitigation Grant | |
| - | | | Program | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

South Padre Island Action #13

FMS ID: 152000022

FMS Description

Adopt higher floodplain standards in local floodplain ordinance

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- Development Standards
- □ Flood Preparedness Programs
- □ Other:

- Strategy Area
 - City/ Cities South Padre Island
 - County/ Counties Cameron

HUC 8 12110208

HUC 12

Study Area (sq. mi.)

South Padre Island

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No |
|------------------------------|-------|----|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No |
| Critical Facilities Impacted | Yes 🗆 | No |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes D No D

Strategy Costs

| Total Cost: | \$5,000 | Study Sponsor: | South Padre Island |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2021 | Entity with Oversight | South Padre Island |
| Time to complete? | 2023 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | HMGP; Local Funds |

Have the flood risk and flood reduction impacts been evaluated?



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- ✓ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



□ Flood Preparedness Programs

South Padre Island Action #3

FMS ID: 152000023

□ Other:

FMS Description

Adoption erosion control ordinance and prohibit development in high-hazard areas

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- □ Development Standards

- **Strategy Area**
 - City/ Cities South Padre Island

County/ Counties Cameron

> HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes □ No □

Strategy Costs

| Total Cost: | \$5,000 | Study Sponsor: | South Padre Island |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2018 | Entity with Oversight | South Padre Island |
| Time to complete? | 2020 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | HMGP; Local Funds |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000024

Alamo #4-1.1

FMS Description

Alamo Pd Will Create A Working Evacuation List For Emergency Situations. Prioritize Flood Prone Areas

No 🗆

No 🗆

No 🗆

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- Development Standards
- □ Flood Preparedness Programs
- □ Other:

- Strategy Area
 - City/ Cities Alamo
 - County/ Counties Hidalgo

HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes 🗆 |
| Critical Facilities Impacted | Yes 🗆 |
| Notes: | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes D No D

| Total Cost: | \$1,000 | Study Sponsor: | Alamo | |
|--------------------------------|------------|---|------------------------------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Alamo | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department | |
| - | | | Budget | |



FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

✓ Flood Preparedness Programs

FMS ID: 152000025

Alamo #5-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

□ Regulatory and Guidance

Strategy Type

- □ Education and Outreach Activities
- Protected Areas
- Strategy Area
 - City/ Cities Alamo
 - County/ Counties Hidalgo

HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes 🗆 |
| Critical Facilities Impacted | Yes 🗆 |
| Notes: | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes D No D

Strategy Costs

| | 1 | 1 | |
|--------------------------------|------------|-------------------------------------|---|
| Total Cost: | \$2,000 | Study Sponsor: | Alamo |
| Non-reoccurring Non- | | These are one-time costs for progra | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2023 | Entity with Oversight | Alamo |
| Time to complete? | 2025 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget |
| | | | |

Have the flood risk and flood reduction impacts been evaluated?

No 🗆

No 🗆

No 🗆

Yes 🗆 No 🗸





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000026

Edcouch #3-1.1

FMS Description

Complete Activities Required To Be A Nfip Participating Community

Strategy Type

- Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- □ Development Standards
- □ Flood Preparedness Programs
- □ Other:

Strategy Area

City/ Cities Edcouch County/ Counties Hidalgo HUC 8 12110208 **HUC 12**

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes □ No □

Strategy Costs

| Total Cost: | \$5,000 | Study Sponsor: | Edcouch |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2021 | Entity with Oversight | Edcouch |
| Time to complete? | 2022 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | FEMA |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000027

Edcouch #5-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- □ Regulatory and Guidance
- □ Development Standards
- ✓ Flood Preparedness Programs
- □ Other:

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Strategy Area

City/ Cities Edcouch County/ Counties Hidalgo HUC 8 12110208 **HUC 12**

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Notes:

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|------------------------------|-------|------|----------------------------|-------|------|
| Population at Risk | | | # of structures inundated | | |
| Roadways flooded | Yes 🗆 | No 🗆 | Miles inundated? | | |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |
| Notos | | | | | |

Strategy Costs

| 05 | | | | |
|--------------------------------|------------|--|---------------------|--|
| Total Cost: | \$2,000 | Study Sponsor: | Edcouch | |
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2021 | Entity with Oversight | Edcouch | |
| Time to complete? | 2021 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget | |
| | | and the second sec | | |

Have the flood risk and flood reduction impacts been evaluated?



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 15200028

Edcouch #7-1.1

FMS Description

Develop Procedures For Mass Notifications To Citizens And Merchants During Natural Hazard Incident. Solicit Bids For System. Purchase Emergency Notification System And Install Distribute Information On New System And Conduct Training

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- Regulatory and GuidanceDevelopment Standards
- ✓ Flood Preparedness Programs
 □ Other:

Strategy Area

City/ Cities Edcouch County/ Counties Hidalgo HUC 8 12110208 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🗸 | No 🗆 | Frequency of flooding: # of structures inundated | | |
|-------|------|---|-------|------|
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |
| | | | | |

| Total Cost: | \$25,000 | Study Sponsor: | Edcouch | |
|--|------------|--|---------------------|--|
| Non-reoccurring Non- capital Cost (include in Total | | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| above): | | non-engineering study costs. | | |
| Estimated year to start: | 2021 | Entity with Oversight | Edcouch | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | 2023 | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

Edinburg #1-1.2

FMS ID: 152000029

FMS Description

Implement Reverse 9-1-1 System

Strategy Type

Education and Outreach Activities

□ Protected Areas

Strategy Area

- City/ Cities Edinburg
- County/ Counties Hidalgo

HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes □ No □

Strategy Costs

| Total Cost: | \$250,000 | Study Sponsor: | Edinburg | |
|--------------------------------|------------|---|-------------------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2021 | Entity with Oversight | Edinburg | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | 2022 | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Federal, State, & Local | |

□ Regulatory and Guidance

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

- □ Development Standards □ Other:



Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

FMS ID: 152000030

□ Other:

Edinburg #7-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- Education and Outreach Activities
- Protected Areas
- **Strategy Area**
 - City/ Cities Edinburg
 - County/ Counties Hidalgo
 - HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes □ No □

Strategy Costs

| Total Cost: | \$1,000 | Study Sponsor: | Edinburg |
|--|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| above): | | | |
| Estimated year to start: | | Entity with Oversight | Edinburg |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🖌 No 🗆 |
| | Completed | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸





Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

FMS ID: 152000031

□ Other:

Edinburg #9-1.2

FMS Description

Develop Procedures For Mass Notifications To Citizens And Merchants During Natural Hazard Incident. Solicit Bids For System. Purchase Emergency Notification System And Install Distribute Information On New System And Conduct Training

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

- City/Cities Edinburg County/Counties Hidalgo
 - HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Ye |
|------------------------------|----|
| Population at Risk | |
| Roadways flooded | Ye |
| Critical Facilities Impacted | Ye |
| Notes: | |



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|--------------------------------------|-------|------|
| | <pre># of structures inundated</pre> | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

| Total Cost: | \$31,000 | Study Sponsor: | Edinburg | |
|--------------------------------|------------|---|---------------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | | Entity with Oversight | Edinburg | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | Completed | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



□ Flood Preparedness Programs

FMS ID: 152000032

□ Other:

Hidalgo #5-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- ✓ Education and Outreach Activities
- Protected Areas
- Strategy Area
 - City/ Cities Hidalgo County/ Counties Hidalgo
 - Jounty/ Counties Hidal
 - HUC 8 12110207
 - 12110213

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

| Total Cost: | \$5,000 | Study Sponsor: | Hidalgo |
|--------------------------------|------------|---------------------------------|---|
| Non-reoccurring Non- | | | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2022 | Entity with Oversight | Hidalgo |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2023 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | N/A |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Hidalgo County #11-1.2

FMS ID: 152000033

FMS Description

Implement An Inspection, Maintenance, And Enforcement Program To Ensure Continued Structural Integrity of Dams And Levees.

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- $\hfill\square$ Regulatory and Guidance
- Development Standards
- □ Flood Preparedness Programs
- ✓ Other:

Strategy Area

City/ Cities

County/ Counties Hidalgo

HUC 8 12110207

12110231

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes 🗆 |
| Critical Facilities Impacted | Yes 🗆 |
| Notes: | |



| | Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|----|-------|------|--------------------------------------|---------------|------|
| | | | <pre># of structures inundated</pre> | | |
| | Yes 🗆 | No 🗆 | Miles inundated? | | |
| ed | Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes \square | No 🗆 |

| Total Cost: | \$10,000 | Study Sponsor: | Hidalgo County |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2023 | Entity with Oversight | Hidalgo County |
| Time to complete? | 2025 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget, Grants |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

Hidalgo County #12-1.1

FMS ID: 152000034

□ Other:

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas
- Strategy Area

City/ Cities

County/ Counties Hidalgo

HUC 8 12110207

12110233

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes 🗆 |
| Critical Facilities Impacted | Yes 🗆 |
| Notes: | |



| l? | Yes 🗸 | No 🗆 | Frequency of flooding: # of structures inundated | | |
|---------|-------|------|---|-------|------|
| | Yes 🗆 | No 🗆 | # of structures inundated Miles inundated? | | |
| npacted | Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

| Total Cost: | \$100,000 | Study Sponsor: | Hidalgo County |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2023 | Entity with Oversight | Hidalgo County |
| Time to complete? | 2025 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | FEMA, Department Budget |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000035

Hidalgo County #14-1.1

FMS Description

Develop Procedures For Mass Notifications To Citizens And Merchants During Natural Hazard Incident. Solicit Bids For System. Purchase Emergency Notification System And Install Distribute Information On New System And Conduct Training

Strategy Type

- □ Education and Outreach Activities
- □ Protected Areas

- Regulatory and GuidanceDevelopment Standards
- ✓ Flood Preparedness Programs
 □ Other:

Strategy Area

City/ Cities

County/ Counties Hidalgo

HUC 8 12110207

12110236

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Yes ✓ Population at Risk Roadways flooded Yes □ Critical Facilities Impacted Yes □ Notes:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|--------------------------------------|---------------|------|
| | | <pre># of structures inundated</pre> | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes \square | No 🗆 |

| Total Cost: | \$100,000 | Study Sponsor: | Hidalgo County |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2023 | Entity with Oversight | Hidalgo County |
| Time to complete? | 2025 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Department Budget |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



□ Flood Preparedness Programs

FMS ID: 152000036

□ Other:

Hidalgo County #2-2.1

FMS Description

Incorporate Assessments of Hazards, Including Hurricane, Flood, Wild Land Fires, And Severe Storms, Into Site Selection And Design For New Buildings And When Siting Or Leasing County Facilities

✓ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities

County/ Counties Hidalgo

HUC 8 12110207

12110213

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes 🗆 |
| Critical Facilities Impacted | Yes 🗆 |
| Notes: | |



| | Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|----|-------|------|-----------------------------|-------|------|
| | | | # of structures inundated | | |
| | Yes 🗆 | No 🗆 | Miles inundated? | | |
| ed | Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |
| u | | | Agriculturur Euria Impacteu | | |

| Total Cost: | \$25,000 | Study Sponsor: | Hidalgo County |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2023 | Entity with Oversight | Hidalgo County |
| Time to complete? | 2025 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Annual Department Budget |
FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Hidalgo County #3-1.2

FMS ID: 152000037

FMS Description

Enhance The Appropriate Websites To Provide Convenient Access To Most Current Hazard Maps.

Strategy Type

- □ Education and Outreach Activities
- Protected Areas
- Strategy Area

City/ Cities

County/ Counties Hidalgo

> HUC 8 12110207

> > 12110217

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded **Critical Facilities Impacted** Notes:



□ Development Standards

□ Regulatory and Guidance

- ✓ Flood Preparedness Programs
- □ Other:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|---------------|------|----------------------------|-------|-------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes \square | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

Strategy Costs

| 05 | | | |
|--------------------------------|------------|---|---------------------------------------|
| Total Cost: | \$50,000 | Study Sponsor: | Hidalgo County |
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2023 | Entity with Oversight | Hidalgo County |
| Time to complete? | 2025 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Annual Department Budget and External |
| - | | | Funding |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000038

La Villa #6-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

Strategy Type

- Education and Outreach Activities
- Protected Areas

- □ Regulatory and Guidance
- □ Development Standards
- ✓ Flood Preparedness Programs
- □ Other:

- **Strategy Area**
 - City/Cities La Villa
 - County/ Counties Hidalgo
 - HUC 8 12110208

Yes ✓

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

No 🗆 Frequency of flooding: # of structures inundated Miles inundated? Yes 🗆 No 🗆 Agricultural Land impacted Yes □ No □ Yes 🗆 No 🗆

Strategy Costs

| Total Cost: | \$1,000 | Study Sponsor: | La Villa | |
|---|------------|--|------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | | Entity with Oversight | La Villa | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | Completed | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗆 | (Potential) Source of Funding | N/A | |

Have the flood risk and flood reduction impacts been evaluated?





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FMS

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- ✓ Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

FMS ID: 152000039

□ Other:

La Villa #8-1.1

FMS Description

Develop Procedures For Mass Notifications To Citizens And Merchants During Natural Hazard Incident. Solicit Bids For System. Purchase Emergency Notification System And Install Distribute Information On New System And Conduct Training

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities La Villa County/ Counties Hidalgo HUC 8 12110208 HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

Strategy Costs

| Total Cost: | \$31,000 | Study Sponsor: | La Villa | |
|--|------------|---|---------------------|--|
| Non-reoccurring Non- | \$31,000 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total above): | | non-engineering study costs. | | |
| Estimated year to start: | 2021 | Entity with Oversight | La Villa | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | 2023 | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget | |

Have the flood risk and flood reduction impacts been evaluated?



FMS

Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

✓ Flood Preparedness Programs

FMS ID: 152000040

□ Other:

McAllen #11-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities McAllen
- County/ Counties Hidalgo
 - HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Strategy Costs



| Frequency of flooding: | | |
|--------------------------------------|-------|--------------|
| <pre># of structures inundated</pre> | | |
| Miles inundated? | | |
| Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$1,000 | Study Sponsor: | McAllen | |
|---|------------|--|---------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | | Entity with Oversight | McAllen | |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | Completed | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget | |

Have the flood risk and flood reduction impacts been evaluated?



FMS

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- ✓ Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

FMS ID: 152000041

□ Other:

McAllen #1-2.1

FMS Description

Develop Emergency Notification Awareness System For Traveling Public Via Transportation System In The Event of Severe Weather In McAllen

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/Cities McAllen
- County/ Counties Hidalgo
 - HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes □ No □

Strategy Costs

| | - | | |
|--------------------------------|------------|-------------------------------------|---|
| Total Cost: | \$500,000 | Study Sponsor: | McAllen |
| Non-reoccurring Non- | | These are one-time costs for progra | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2021 | Entity with Oversight | McAllen |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2024 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Grants, Matching City Funds |

Have the flood risk and flood reduction impacts been evaluated?



FMS

Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

✓ Flood Preparedness Programs

FMS ID: 152000042

FMS Description

McAllen #1-2.1

Provide A Means of Disseminating Emergency Information To The Citizens of McAllen

□ Regulatory and Guidance

Strategy Type

- □ Education and Outreach Activities
- Protected Areas
- Strategy Area
 - City/Cities McAllen
 - County/ Counties Hidalgo
 - HUC 8 12110208
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes 🗆 |
| Critical Facilities Impacted | Yes 🗆 |
| Notes: | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes D No D

Strategy Costs

| Total Cost: | \$500,000 | Study Sponsor: | McAllen |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2021 | Entity with Oversight | McAllen |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2022 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Grants, Matching City Funds |

Have the flood risk and flood reduction impacts been evaluated?

No 🗆

No 🗆

No 🗆





FMS

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- ✓ Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

FMS ID: 152000043

□ Other:

Mercedes #11-1.1

FMS Description

Develop Procedures For Mass Notifications To Citizens And Merchants During Natural Hazard Incident. Solicit Bids For System. Purchase Emergency Notification System And Install Distribute Information On New System And Conduct Training

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- □ Protected Areas

Strategy Area

- City/ Cities Mercedes County/ Counties Hidalgo
 - HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



| | | Frequency of flooding: | No 🗆 | Yes 🗸 | |
|------|-------|--------------------------------------|------|-------|--|
| | | <pre># of structures inundated</pre> | | | |
| | | Miles inundated? | No 🗆 | Yes 🗆 | |
| No 🗆 | Yes 🗆 | Agricultural Land impacted | No 🗆 | Yes 🗆 | |
| | | | | | |

Strategy Costs

| <u></u> | | | | |
|--------------------------------|------------|-------------------------------------|---|--|
| Total Cost: | \$25,000 | Study Sponsor: | Mercedes | |
| Non-reoccurring Non- | | These are one-time costs for progra | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2021 | Entity with Oversight | Mercedes | |
| Time to complete? | 2023 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget | |

Have the flood risk and flood reduction impacts been evaluated?



FMS

Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- ✓ Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

□ Flood Preparedness Programs

FMS ID: 152000044

✓ Other:

Yes 🗆 No 🗆

Mercedes #9-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

Strategy Type

- □ Education and Outreach Activities
- □ Protected Areas

- □ Regulatory and Guidance
- Development Standards

- Strategy Area
 - City/ Cities Mercedes
 - County/ Counties Hidalgo
 - HUC 8 12110208
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk



Strategy Costs

| Total Cost: | \$1,000 | Study Sponsor: | Mercedes |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2022 | Entity with Oversight | Mercedes |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | 2024 | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget |

Have the flood risk and flood reduction impacts been evaluated?



| Page 1 | of 2 |
|--------|------|
|--------|------|



FMS

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- ✓ Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000045

Mission #1-1.1

FMS Description

Develop Procedures For Mass Notifications To Citizens And Merchants During Natural Hazard Incident. Solicit Bids For System. Purchase Emergency Notification System And Install Distribute Information On New System And Conduct Training

Strategy Type

- □ Education and Outreach Activities
- □ Protected Areas

- Regulatory and GuidanceDevelopment Standards
- ✓ Flood Preparedness Programs□ Other:

Strategy Area

- City/ Cities Mission
- County/ Counties Hidalgo
 - HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No |
|------------------------------|-------|----|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | N |
| Critical Facilities Impacted | Yes 🗆 | N |
| Notes: | | |

Vice of the second seco

| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

Strategy Costs

| Total Cost: | \$31,000 | Study Sponsor: | Mission |
|--------------------------------|------------|-------------------------------------|---|
| Non-reoccurring Non- | | These are one-time costs for progra | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | | Entity with Oversight | Mission |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | Completed | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | City Of Mission |

Have the flood risk and flood reduction impacts been evaluated?



FMS

Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- ✓ Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FIOOD Management Strategies Fact Sheet

✓ Flood Preparedness Programs

FMS ID: 152000046

□ Other:

Mission #7-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- □ Regulatory and Guidance
- Development Standards

- Strategy Area
 - City/ Cities Mission
 - County/ Counties Hidalgo
 - HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes 🗆 |
| Critical Facilities Impacted | Yes 🗆 |
| Notes: | |

| | Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-----|-------|------|----------------------------|-------|------|
| | | | # of structures inundated | | |
| | Yes 🗆 | No 🗆 | Miles inundated? | | |
| ted | Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |
| | | | | | |

Strategy Costs

| Total Cost: | \$8,500 | Study Sponsor: | Mission |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | | Entity with Oversight | Mission |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | Completed | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | City Of Mission |

Have the flood risk and flood reduction impacts been evaluated?



FMS

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes No TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- ✓ Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



✓ Flood Preparedness Programs

FMS ID: 152000047

□ Other:

FMS Description

Palmview #5-1.1

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Palmview

County/ Counties Hidalgo

HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes: Dur Prevelo

| | Frequency of flooding: | Yes 🖌 No 🗆 | |
|------------|----------------------------|------------|--|
| | # of structures inundated | | |
| | Miles inundated? | Yes 🗆 No 🗆 | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 No 🗆 | |
| | | | |

Strategy Costs

| Total Cost: | \$1,000 | Study Sponsor: | Palmview |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | | Entity with Oversight | Palmview |
| Time to complete? | | Included in a Hazard Mitigation | |
| | Completed | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | N/A |

Have the flood risk and flood reduction impacts been evaluated?



FMS

Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- □ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000048

Palmview #7-1.1

FMS Description

Develop Procedures For Mass Notifications To Citizens And Merchants During Natural Hazard Incident. Solicit Bids For System. Purchase Emergency Notification System And Install Distribute Information On New System And Conduct Training.

Strategy Type

□ Education and Outreach Activities

City/ Cities

HUC 8

HUC 12

Hidalgo

12110208

County/ Counties

Study Area (sq. mi.)

Protected Areas

Strategy Area

- Regulatory and GuidanceDevelopment Standards
- Flood Preparedness Programs
- ✓ Flood Measurement and Warning



| Known | Flood | Diale |
|-------|-------|-------|
| Known | FIUUU | RISK |

Emergency Need

Yes 🗸 No 🗆

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|-------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

Strategy Costs

| Total Cost: | \$31,000 | Study Sponsor: | Palmview |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | | Entity with Oversight | Palmview |
| Time to complete? | Completed | Included in a Hazard Mitigation Action Plan or other plan? | Yes 🗸 No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000049

Pharr #10-1.1

FMS Description

Develop Procedures For Mass Notifications To Citizens And Merchants During Natural Hazard Incident. Solicit Bids For System. Purchase Emergency Notification System And Install Distribute Information On New System And Conduct Training.

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Regulatory and GuidanceDevelopment Standards

- □ Flood Preparedness Programs
- ✓ Flood Measurement and Warning



City/ Cities

County/ Counties Hidalgo

HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes [|
| Critical Facilities Impacted | Yes [|
| Notes: | |



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|--------------------------------------|-------|--------------|
| | | <pre># of structures inundated</pre> | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

Strategy Costs

| Total Cost: | \$5,000 | Study Sponsor: | Pharr |
|--------------------------------|------------|---|---------------------|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | | Entity with Oversight | Pharr |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | Completed | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



□ Flood Preparedness Programs

FMS ID: 152000050

Pharr #8-1.1

FMS Description

Implement Program To Provide Links To Weather Alerts And Departmental Phone Listings With Contact Personnel For Residents.

□ Regulatory and Guidance

Strategy Type

- Education and Outreach Activities
- □ Protected Areas

Strategy Area

City/ Cities

County/ Counties Hidalgo

> HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated?

Strategy Costs

| Total Cost: | \$1,000 | Study Sponsor: | Pharr |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | | Entity with Oversight | Pharr |
| Time to complete? | | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | Completed | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Jurisdiction Budget |

Have the flood risk and flood reduction impacts been evaluated?

- ✓ Flood Measurement and Warning □ Development Standards
 - Agricultural Land impacted Yes □ No □



FMS

Flood Management Strategies Fact Sheet

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- □ Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000051

Alamo #4-1.2

FMS Description

Provide Traffic Control And Evacuation Assistance During Emergency Situations

Strategy Type

- □ Education and Outreach Activities
- Protected Areas
- Strategy Area
 - City/ Cities Alamo County/ Counties Hidalgo
 - HUC 8 12110208

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



- Development Standards
- □ Flood Preparedness Programs
- □ Other:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|---------------|------|--------------------------------------|-------|--------------|
| | | <pre># of structures inundated</pre> | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes \square | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

Strategy Costs

| Total Cost: | \$10,000 | Study Sponsor: | Alamo | |
|--------------------------------|------------|---|------------------------------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Alamo | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department | |
| - | | | Budget | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

Yes 🗸 No 🗆

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

Starr County Hazard Mitigation Plan Action #2

FMS ID: 152000052

FMS Description

Develop needs assessment to identify and fund improvements to flood proof critical facilities such as lift stations and treatment plants.

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities County Wide
- County/ Counties Starr County
 - HUC 8
 - HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

| Yes | ✓ | No 🗆 |
|------------|---|--------------|
| Yes Yes | | No □ No □ |

✓ Regulatory and Guidance□ Development Standards

Flood Preparedness ProgramsOther:



| , |
|---|

Strategy Costs

| Total Cost: | 20,000,000 | Study Sponsor: | Starr County | |
|--------------------------------|------------|---|------------------------------------|--|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Starr County | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department | |
| - | | | Budget | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

Yes 🗸 No 🗆

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Preparedness Programs

FMS

Starr County Hazard Mitigation Plan Action #6

FMS Description

Building a shelter within a community to serve for flood situations in Rio Grande City.

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- Development Standards

- Strategy Area
 - City/ Cities Rio Grande City
 - County/ Counties Starr
 - HUC 8
 - HUC 12
 - Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 |
|------------------------------|-------|------|
| Population at Risk | | |
| Roadways flooded | Yes 🗆 | No 🗆 |
| Critical Facilities Impacted | Yes 🗆 | No 🗆 |
| Notes: | | |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes D No D

Strategy Costs

| Total Cost: | \$4,000,000 | Study Sponsor: | Starr County | |
|--------------------------------|-------------|---|------------------------------------|--|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Rio Grande City | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department | |
| | | | Budget | |





FMS ID: 152000053

□ Other:

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

Yes 🗸 No 🗆

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Preparedness Programs

FMS

Starr County Hazard Mitigation Plan Action #10

Yes 🗸 No 🗆

Yes 🗆 No 🗆

Yes 🗆 No 🗆

FMS Description

Retrofit community center as shelter for flooding events. (Roma)

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Roma County/ Counties Starr HUC 8 HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Strategy Costs

| Total Cost: | \$1,000,000 | Study Sponsor: | Starr County | |
|--------------------------------|-------------|---|------------------------------------|--|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Roma | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department | |
| | | | Budget | |

Frequency of flooding: # of structures inundated

Miles inundated? Agricultural Land impacted Yes
No

✓ Regulatory and Guidance

□ Development Standards



FMS ID: 152000054

□ Other:


FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Preparedness Programs

FMS

Starr County Hazard Mitigation Plan Action #19

Yes 🗸 No 🗆

Yes I No I Yes No I

FMS Description

Develop maintenance schedule for creeks within jurisdiction

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- ✓ Regulatory and Guidance
- $\hfill\square$ Development Standards

Strategy Area

City/ Cities County Wide

County/ Counties Starr

HUC 8

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Strategy Costs

| Total Cost: | \$335,000 | Study Sponsor: | Starr County | |
|--------------------------------|------------|---|------------------------------------|--|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Roma | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department | |
| | | | Budget | |



Frequency of flooding: # of structures inundated Miles inundated?

Agricultural Land impacted Yes □ No □

FMS ID: 152000055

□ Other:



FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

Flood Management Strategies Fact Sheet

City of Laguna Vista - Laguna Vista Establish/Join Drainage District

FMS Description

Secure funding to become/join drainage district

Laguna Vista

Cameron

Strategy Type

Education and Outreach Activities

City/ Cities

HUC 8 HUC 12

County/ Counties

Study Area (sq. mi.)

Emergency Need

Known Flood Risk

Critical Facilities Impacted

History of Flooding? Population at Risk Roadways flooded

Yes 🖌 No 🗆

Protected Areas

Strategy Area

- □ Regulatory and Guidance
- Development Standards
- □ Flood Preparedness Programs
 ✓ Other:



FMS ID: 152000056

| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

Strategy Costs

Notes:

| Total Cost: | \$174,750 | Study Sponsor: | City of Laguna Vista | |
|--------------------------------|------------|-------------------------------------|---|--|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for progra | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | City of Laguna Vista | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department | |
| | | | Budget | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

Willacy County Drainage District - Re-negotiate El Sauz contractual agreement

FMS ID: 152000057

FMS Description

Re-negotiate agreement with El Sauz Ranch to facilitate more outfall volume

Strategy Type

Education and Outreach Activities

City/ Cities

HUC 8 HUC 12

County/ Counties

Study Area (sq. mi.)

Emergency Need

Known Flood Risk

Critical Facilities Impacted

History of Flooding? Population at Risk Roadways flooded

Yes 🖌 No 🗆

County Wide

Willacy

Protected Areas

Strategy Area

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|--------------------------------------|-------|------|
| | <pre># of structures inundated</pre> | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

Strategy Costs

Notes:

| Total Cost: | \$2,500,000 | Study Sponsor: | Willacy County Drainage District |
|--------------------------------|-------------|---|------------------------------------|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department |
| | | | Budget |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS *Nanagement Strategies*

Flood Management Strategies Fact Sheet

Cameron County Drainage District No. 5 -Cameron County Levee Certification

FMS ID: 152000058

FMS Description

Coordinate with all on-going FIFs in Cameron County, provide a summary analysis for internal drainage and submit Levee Certifiaction to FEMA. Utlize IBWC data for application. Manage review process and coordinate between County, IBWC, and FEMA.

Strategy Type

- Education and Outreach Activities
- $\hfill\square$ Protected Areas

Strategy Area

City/ Cities County Wide County/ Counties Cameron HUC 8 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

□ Regulatory and Guidance

- $\hfill\square$ Development Standards
- □ Flood Preparedness Programs
 ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

| Total Cost: | \$250,000 | Study Sponsor: | Cameron County Drainage District No. 5 |
|--------------------------------|-----------|-------------------------------------|---|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for progra | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Cameron County Drainage District No. 5 |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |



Funding Dedicated? Yes □ No ✓ (Potential) Source of Funding Budget Identify Grants; Police Department Budget

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- □ Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



□ Flood Preparedness Programs

Sewer Manhole Rainguards

FMS ID: 152000059

✓ Other:

FMS Description

Installation of rainguards in existing manholes will keep rainwater from entering sewer collection system.

Strategy Type

- Education and Outreach Activities
- Protected Areas

- □ Regulatory and Guidance
- □ Development Standards

- **Strategy Area**
 - City/ Cities Edcouch
 - County/ Counties Hidalgo
 - HUC 8
 - **HUC 12**
 - Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Total Cost:

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Frequency of flooding: # of structures inundated Miles inundated? Agricultural Land impacted Yes 🗆 No 🗆

Strategy Costs \$200,000 Study Sponsor: City of Edcouch These are one-time costs for program development, education campaign, and Non-reoccurring Non-\$1,000 capital Cost (include in Total non-engineering study costs.

Yes 🗸 No 🗆

Yes 🗆 No 🗆 Yes 🗆 No 🗆

| above): | | | |
|--------------------------|------------|---------------------------------|------------------------------------|
| Estimated year to start: | 2024 | Entity with Oversight | City of Edcouch |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department |
| | | | Budget |





FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



City of Progreso - Progreso Storm Ditch improvement Equipment

FMS ID: 152000060

FMS Description

Develop maintenance plan and identify funding strategy to acquire heavy equipment (dozer, long reach excavator) for ditch cleaning operations

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Progresso County/ Counties Hidalgo HUC 8 HUC 12 Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

- $\hfill\square$ Regulatory and Guidance
- $\hfill\square$ Development Standards
- □ Flood Preparedness Programs
 ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

| Total Cost: | \$390,280 | Study Sponsor: | City of Progresso |
|---|------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2024 | Entity with Oversight | City of Progresso |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department |

FMS

Have the flood risk and flood reduction impacts been evaluated? Yes □ No ✓

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

Flood Management Strategies Fact Sheet

City of Indian Lake - Indian lake Drainage **Infrastructure Funding Study**

Indian Lake

Cameron

FMS ID: 152000061

FMS Description

Develop Plan for funding for future drainage infrastructure

Strategy Type

Education and Outreach Activities

City/ Cities

HUC 8 **HUC 12**

County/ Counties

□ Protected Areas

Strategy Area

- □ Regulatory and Guidance □ Development Standards
- □ Flood Preparedness Programs ✓ Other:



Emergency Need

Study Area (sq. mi.)

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Ye |
|------------------------------|----|
| Population at Risk | |
| Roadways flooded | Ye |
| Critical Facilities Impacted | Ye |
| Notes: | |

Frequency of flooding: es 🗸 No 🗆 # of structures inundated es 🗆 No 🗆 Miles inundated? Agricultural Land impacted Yes 🗆 No 🗆 es 🗆 No 🗆

| Total Cost: | \$250,000 | Study Sponsor: | City of Indian Lake |
|--|------------|---|------------------------------------|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total above): | | non-engineering study costs. | |
| Estimated year to start: | 2024 | Entity with Oversight | City of Indian Lake |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; Police Department |
| | | | Budget |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Preparedness Programs

Cameron County Drainage District No.1 - San Martin Lake dredging

FMS ID: 152000062

✓ Other:

FMS Description

Develop plan to fund and dredge lake to increase storage capacity

Strategy Type

- Education and Outreach Activities
- Protected Areas

Regulatory and GuidanceDevelopment Standards

- Strategy Area
 - City/ Cities Brownsville
 - County/ Counties Cameron
 - HUC 8
 - HUC 12
 - Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes ✔ No | Frequency of flooding: | | |
|----------|----------------------------|-------|-------------|
| | # of structures inundated | | |
| Yes 🗆 No | Miles inundated? | | |
| Yes 🗆 No | Agricultural Land impacted | Yes 🗆 | No \Box |

| Total Cost: | \$1,196,000 | Study Sponsor: | Cameron County Drainage District No.1 | |
|---|-------------|--|---------------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Cameron County Drainage District No.1 | |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

Cameron County Drainage District No.1 - Ditch 1 outfall dredging

FMS ID: 152000063

FMS Description

Develop plan to fund and dredge sediment from outfall in Bahia Grande (in Navigation dist/port of Brownsville)

Strategy Type

- □ Education and Outreach Activities
- □ Protected Areas
- Strategy Area
 - City/Cities Brownsville County/ Counties Cameron HUC 8 **HUC 12**
 - Study Area (sq. mi.)

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



□ Regulatory and Guidance

- □ Development Standards
- □ Flood Preparedness Programs ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|--------------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$560,625 | Study Sponsor: | Cameron County Drainage District No.1 | |
|---|------------|--|---------------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Cameron County Drainage District No.1 | |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FIOOD Management Strategies Fact Sheet

City of South Padre Island - SPI Sand Dune restoration/protection program

FMS ID: 152000064

FMS Description

Establish Beach Protection/replenishing program. Build up dunes to protect against tidal surge

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:



City/ Cities South Padre Island

County/ Counties Cameron

HUC 8

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|--------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$174,750 | Study Sponsor: | Cameron County Drainage District No.1 | |
|--|------------|---|---------------------------------------|--|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total above): | | non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Cameron County Drainage District No.1 | |
| Time to complete? | 2024 | Included in a Hazard Mitigation | , , | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- □ Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

Willacy County Drainage District No.1 - WCDD1 FMS ID: 152000065 pump station improvements

FMS Description

Perform assessment of pump station to make it flood proof and resilient.

Strategy Type

- Education and Outreach Activities
- Protected Areas

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:

Strategy Area

City/ Cities County Wide

County/ Counties Willacy

HUC 8

HUC 12

Study Area (sq. mi.)

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



| Yes ✔ N | 0 | Frequency | y of flooding: | | |
|---------|-----|-----------------|----------------|---------------|-------------|
| | | # of structur | es inundated | | |
| Yes 🗆 N | 0 | Mile | s inundated? | | |
| Yes 🗆 N | 0 🗆 | Agricultural La | ind impacted | Yes \square | $No \ \Box$ |

| Total Cost: | \$2,100,000.00 | Study Sponsor: | Willacy County Drainage District | |
|---|----------------|--|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✓ No 🗆 | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of Harlingen – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 152000066

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Harlingen County/ Counties Cameron HUC 8 12110208 HUC 12 Study Area (sq. mi.) 40.4

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:



| Yes 🗸 No | Frequency of flooding: | | |
|----------|----------------------------|-------|--------------|
| | # of structures inundated | | |
| Yes 🗆 No | Miles inundated? | | |
| Yes 🗆 No | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|--|----------------|--|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



City of Edinburg - Planning, Operation & Maintenance

FMS ID: 152000067

FMS Description

Develop and Implement a planning, operation & Maintenance plan

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:



City/ Cities Edinburg County/ Counties Hidalgo HUC 8 12110208 HUC 12 Study Area (sq. mi.) 44.7

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|-------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|---|----------------|--|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✓ No 🗆 | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of La Villa - Planning, Operation & Maintenance

FMS ID: 152000068

FMS Description

Develop and Implement a planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities La Villa County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 0.72

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|-------------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|---|----------------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS Vanagement Strategies

Flood Management Strategies Fact Sheet

□ Flood Preparedness Programs

City of Mission - Planning, Operation & Maintenance

FMS ID: 152000069

✓ Other:

FMS Description

Develop and Implement a planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Mission County/ Counties Hidalgo HUC 8 12110208 HUC 12 Study Area (sq. mi.) 36.3

Emergency Need Yes ✓ No □

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|--------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

□ Regulatory and Guidance

□ Development Standards

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|---|----------------|--|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✓ No 🗆 | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS *N*anagement Strategies

Flood Management Strategies Fact Sheet

City of Primera - Planning, Operation & Maintenance

FMS ID: 152000070

FMS Description

Develop and Implement a planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/Cities Primera County/Counties Cameron HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 2.7

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:

- Regulatory and Guidance
 Development Standards
- □ Flood Preparedness Programs
 ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|-------------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|---|----------------|--|----------------------------------|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes 🖌 No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FIOOD Management Strategies Fact Sheet

City of La Feria – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 152000071

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities La Feria County/ Counties Cameron HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 5.4

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

- History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:
- Peridaberg
 Bala

 </ta

| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

Strategy Costs

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|---|----------------|--|---|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |

□ Flood Preparedness Programs
 ✓ Other:

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of La Joya – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 152000072

✓ Other:

□ Flood Preparedness Programs

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities La Joya County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 10.8

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|--------------------------------------|-------|--------------|
| | <pre># of structures inundated</pre> | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|---|----------------|--|----------------------------------|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |
FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FIOOD Management Strategies Fact Sheet

City of Los Fresnos – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 152000073

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities Los Fresnos County/ Counties Cameron HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 4.1

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes: Regulatory and Guidance
 Development Standards

□ Flood Preparedness Programs
 ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|--------------------------------------|-------|-------------|
| | <pre># of structures inundated</pre> | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|--|----------------|---|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of Mercedes - Planning, Operation & Maintenance

FMS ID: 152000074

FMS Description

Develop and Implement a planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:

Strategy Area

- City/ Cities Mercedes County/ Counties Hidalgo HUC 8 10000000 HUC 12
- Study Area (sq. mi.) 27

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|--------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|--------------------------------|----------------|---------------------------------|---|
| Non-reoccurring Non- | \$1,000 | | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of Palmhurst – Flood Warning System, Planning, Operation & Maintenance

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities Palmhurst County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 4.5

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes: Test sources 102 - Panjunt 102 - Panjunt 102 - Panjunt

FMS ID: 152000075

✓ Other:

□ Flood Preparedness Programs

 Yes ✓ No □
 Frequency of flooding: # of structures inundated

 Yes □
 No □

 Yes □
 No □

 Agricultural Land impacted
 Yes □

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|--|----------------|--|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| above): | | 5 5 5 | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



City of Palmview - Planning, Operation & Maintenance

FMS ID: 152000076

FMS Description

Develop and Implement a planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Regulatory and GuidanceDevelopment Standards

- Strategy Area
 - City/ Cities Palmview County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 0.6

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|--------------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

Strategy Costs

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|--------------------------------|----------------|---------------------------------|---|
| Non-reoccurring Non- | \$1,000 | | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |

□ Flood Preparedness Programs ✓ Other:

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of San Benito – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 152000077

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities San Benito County/ Counties Cameron HUC 8 12110208 **HUC 12**
- Study Area (sq. mi.) 16.4

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded **Critical Facilities Impacted** Notes:

□ Regulatory and Guidance

□ Development Standards

□ Flood Preparedness Programs ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|--------------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|--------------------------------|----------------|---------------------------------|---|
| Non-reoccurring Non- | \$1,000 | | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of San Juan – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 152000078

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities San Juan County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 11.9

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



□ Flood Preparedness Programs
 ✓ Other:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|--------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|--|----------------|---|----------------------------------|--|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total above): | | non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FIOOD Management Strategies Fact Sheet

City of Weslaco – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 152000079

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Weslaco County/ Counties Hidalgo HUC 8 12110208 HUC 12 Study Area (sq. mi.) 16.4

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



□ Flood Preparedness Programs
 ✓ Other:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|--------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | | |
|--------------------------------|----------------|---------------------------------|---|--|--|
| Non-reoccurring Non- | \$1,000 | 1 0 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | | |
| above): | | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | | |
| | | Action Plan or other plan? | | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of Alamo - Planning, Operation & Maintenance

FMS ID: 15200080

✓ Other:

□ Flood Preparedness Programs

FMS Description

Develop and Implement a planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities Alamo County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 7.5

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



| Yes 🗸 N | 0 | Frequency | of flooding: | | |
|---------|---|------------------|--------------|-------|-------------|
| | | # of structure | s inundated | | |
| Yes 🗆 N | 0 | Miles | inundated? | | |
| Yes 🗆 N | 0 | Agricultural Lan | d impacted | Yes 🗆 | No \Box |

□ Regulatory and Guidance

□ Development Standards

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|---|----------------|--|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes 🖌 No 🗆 | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

City of Alton – Flood Warning System, Planning, Operation & Maintenance

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities Alton County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 7.2

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes: Regulatory and GuidanceDevelopment Standards

□ Flood Preparedness Programs
 ✓ Other:

FMS ID: 152000081



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|-------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | | |
|--------------------------------|----------------|---------------------------------|---|--|--|
| Non-reoccurring Non- | \$1,000 | 1 0 | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | | |
| above): | | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | | |
| | | Action Plan or other plan? | | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of Brownsville – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 15200082

✓ Other:

□ Flood Preparedness Programs

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

□ Regulatory and Guidance

□ Development Standards

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities Brownsville County/ Counties Cameron HUC 8 12110208 HUC 12 Study Area (sq. mi.) 145.9

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

- History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:

| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|--------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|---|----------------|--|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation Action Plan or other plan? | Yes ✔ No 🗆 | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

Cameron County – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 15200083

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

City/ Cities County/ Counties Cameron HUC 8 12110208 HUC 12

Study Area (sq. mi.) 1276

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|-------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \Box |

| \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|----------------|--|---|--|
| \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| 2024 | Entity with Oversight | Willacy County Drainage District | |
| 2026 | Included in a Hazard Mitigation | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
| Yes 🗆 No 🗸 | | Identify Grants; | |
| | \$1,000 | \$1,000 These are one-time costs for progra non-engineering study costs. 2024 Entity with Oversight 2026 Included in a Hazard Mitigation Action Plan or other plan? | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of Combes – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 15200084

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- □ Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities Combes County/ Counties Cameron HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 3.6

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|--------------------------------------|-------|------|
| | <pre># of structures inundated</pre> | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No 🗆 |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District | |
|--|----------------|--|----------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| above): | | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District | |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 | |
| | | Action Plan or other plan? | | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; | |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FIOOD Management Strategies Fact Sheet

City of Donna – Flood Warning System, Planning, Operation & Maintenance

FMS ID: 152000085

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities Donna County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 14.4

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:



□ Flood Preparedness Programs
 ✓ Other:



| Yes 🖌 No 🗆 | Frequency of flooding: | | |
|------------|----------------------------|-------|--------------|
| | # of structures inundated | | |
| Yes 🗆 No 🗆 | Miles inundated? | | |
| Yes 🗆 No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|--------------------------------|----------------|---|----------------------------------|
| Non-reoccurring Non- | \$1,000 | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

City of Elsa – Flood Warning System, Planning, Operation & Maintenance

FMS Description

Develop and Implement a Flood warning system, planning, operation & Maintenance plan

Strategy Type

- Education and Outreach Activities
- Protected Areas

Strategy Area

- City/ Cities Elsa County/ Counties Hidalgo HUC 8 12110208 HUC 12
- Study Area (sq. mi.) 2.0

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

History of Flooding? Population at Risk Roadways flooded Critical Facilities Impacted Notes:

- Regulatory and GuidanceDevelopment Standards
- □ Flood Preparedness Programs
 ✓ Other:

FMS ID: 152000086



| Yes 🗸 | No 🗆 | Frequency of flooding: | | |
|-------|------|----------------------------|-------|--------------|
| | | # of structures inundated | | |
| Yes 🗆 | No 🗆 | Miles inundated? | | |
| Yes 🗆 | No 🗆 | Agricultural Land impacted | Yes 🗆 | No \square |

| Total Cost: | \$5,000,000.00 | Study Sponsor: | Willacy County Drainage District |
|--|----------------|--|----------------------------------|
| Non-reoccurring Non- capital Cost (include in Total | \$1,000 | These are one-time costs for program development, education campaign, and non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2024 | Entity with Oversight | Willacy County Drainage District |
| Time to complete? | 2026 | Included in a Hazard Mitigation | Yes 🗸 No 🗆 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗆 No 🗸 | (Potential) Source of Funding | Identify Grants; |

FMS

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes \Box No \checkmark TWDB guidelines?

Related Goals

- ✓ Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- □ Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS

Flood Management Strategies Fact Sheet

Hidalgo County Drainage District #1 - Action #1

FMS ID: 152000087

FMS Description

Purchase NOAA All-Hazard Radios

Strategy Type

- Education and Outreach Activities
- Infrastructure Projects
- Regulatory and GuidanceOther:
- ✓ Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

 Image: constrained of the state of the

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | |
|------------------------------|------------|---------------------------------------|--|
| Population at Risk | 244,800 | # of structures inundated 75,816 | |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? 1,840.41 | |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted Yes 🗸 No 🗆 | |
| Notes: | | | |

| Total Cost: | \$50,000 | Study Sponsor: Hidalgo County Drainage District 1 |
|---|----------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. |



Flood Management Strategies

Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

Hidalgo County Drainage District #1 - Action #10

FMS Description

Adopt and implement program for cleaning debris from bridges, drains, culverts

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

- ✓ Regulatory and Guidance□ Other:
- $\hfill\square$ Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$50,000 | Study Sponsor: | Hidalgo County Drainage District 1 |
|--------------------------------|----------|---|------------------------------------|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |



5 Lower Rio Grande Regional Flood Planning Group

FIOOD Management Strategies

Fact Sheet

FMS ID: 15200088



Flood Management Strategies

Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- ✓ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

Hidalgo County Drainage District #1 - Action #124

FMS Description

Adopt and implement program for cleaning debris from bridges, drains, culverts

Strategy Type

- ✓ Education and Outreach Activities
- □ Infrastructure Projects

- Regulatory and GuidanceOther:
- $\hfill\square$ Flood Measurement and Warning

Strategy Area

City/ Cities

County/ Counties Hidalgo

HUC 8 **12110208, 13090002, 13090001** HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$200,000 | Study Sponsor: | Hidalgo County Drainage District 1 |
|---|-----------|---|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | m development, education campaign, and |
| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |





FMS ID: 152000089



Flood Management Strategies

| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
|--------------------|------------|---------------------------------|------------|
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- ✓ Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

Yes 🖌 No 🗆

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS

Flood Management Strategies Fact Sheet

Hidalgo County Drainage District #1 - Action #105

FMS Description

Coordinate a debris removal program

Strategy Type

- □ Education and Outreach Activities
- Infrastructure Projects

- ✓ Regulatory and Guidance□ Other:
- □ Flood Measurement and Warning

Strategy Area

City/ Cities

HUC 8 **12110208, 13090002, 13090001** HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$750,000 | Study Sponsor: | Hidalgo County Drainage District 1 | |
|--------------------------------|-----------|---|------------------------------------|--|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | | |
| capital Cost (include in Total | | non-engineering study costs. | | |
| above): | | | | |



FMS ID: 152000090


Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- ✓ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Flood Management Strategies Fact Sheet

Hidalgo County Drainage District #1 - Action #91

FMS Description

Projects to increase cyber security

Strategy Type

- □ Education and Outreach Activities
- Infrastructure Projects

- ✓ Regulatory and Guidance□ Other:
- $\hfill\square$ Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500



FMS ID: 152000091

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗌 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗌 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

| Total Cost: | \$250,000 | Study Sponsor: Hidalgo County Drainage District 1 |
|--------------------------------|-----------|---|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. |
| above): | | |



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- ✓ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

Hidalgo County Drainage District #1 - Action #106

FMS Description

Develop a program to provide hyperlinks to weather data

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

- Regulatory and GuidanceOther:
- ✓ Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 **12110208, 13090002, 13090001** HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$247,250 | Study Sponsor: Hidalgo County Drainage District 1 |
|--------------------------------|-----------|---|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. |
| above): | | |



Lower Rio Grande Regional Flood Planning Group

FMS ID: 152000092



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Flood Management Strategies Fact Sheet

Hidalgo County Drainage District #1 - Action #14

FMS Description

Develop Acquisition/ buy-out program

Strategy Type

- Education and Outreach Activities
- ✓ Infrastructure Projects

- Regulatory and GuidanceOther:
- $\hfill\square$ Flood Measurement and Warning

FMS ID: 152000093

Strategy Area

City/ Cities

| County/ Counties | Hidalgo |
|------------------|---------|
| County/ Counties | Hidaigo |

HUC 8 **12110208, 13090002, 13090001** HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$10,000,000 | Study Sponsor: | Hidalgo County Drainage District 1 |
|--------------------------------|--------------|-------------------------------------|--|
| Non-reoccurring Non- | | These are one-time costs for progra | m development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |

Legend



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2030 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

Hidalgo County Drainage District #1 - Action #36

FMS Description

Develop Hazardous Material Spills Prevention and Contingency Plan

Strategy Type

- Education and Outreach Activities
- Infrastructure Projects

- ✓ Regulatory and Guidance□ Other:
- Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$30,000 | Study Sponsor: | Hidalgo County Drainage District 1 |
|--------------------------------|----------|-------------------------------------|---|
| Non-reoccurring Non- | | These are one-time costs for progra | im development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |



Lower Rio Grande Regional Flood Planning Group

Flood Management Strategies

Fact Sheet

FMS ID: 152000094



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Flood Management Strategies Fact Sheet

Hidalgo County Drainage District #1 - Action #107

FMS ID: 152000095

FMS Description

Develop procedures for mass notifications

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

- Regulatory and GuidanceOther:
- ✓ Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500



Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

| Total Cost: | \$243,800 | Study Sponsor: | Hidalgo County Drainage District 1 |
|--------------------------------|-----------|-------------------------------------|--|
| Non-reoccurring Non- | | These are one-time costs for progra | m development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- ✓ Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Hidalgo County Drainage District #1 - Action #17

FMS Description

Identify flood-prone and repetitive loss properties

Strategy Type

- □ Education and Outreach Activities
- ✓ Infrastructure Projects

- □ Regulatory and Guidance Other:
- □ Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 130900020305, 130900011705, 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$1,000,000 | Study Sponsor: Hidalgo County Drainage District 1 |
|--------------------------------|-------------|---|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. |
| above): | | |





FMS Flood Management Strategies

Fact Sheet

FMS ID: 152000096



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Flood Management Strategies Fact Sheet

Hidalgo County Drainage District #1 - Action #90

FMS Description

Illegal dumping outreach program

Strategy Type

- ✓ Education and Outreach Activities
- Infrastructure Projects

- Regulatory and GuidanceOther:
- $\hfill\square$ Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500



FMS ID: 152000097

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

| Total Cost: | \$500,000 | Study Sponsor: | Hidalgo County Drainage District 1 |
|--------------------------------|-----------|-------------------------------------|--|
| Non-reoccurring Non- | | These are one-time costs for progra | m development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS

Hidalgo County Drainage District #1 - Action #16

FMS Description

Incorporate Higher standards for hazard resistance

Strategy Type

- □ Education and Outreach Activities
- □ Infrastructure Projects

- ✓ Regulatory and Guidance□ Other:
- Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 **130900020305, 130900011705,** 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$15,000 | Study Sponsor: Hidalgo County Drainage District 1 |
|--------------------------------|----------|---|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. |
| above): | | |





FMS ID: 152000098



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- ✓ Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



Flood Management Strategies Fact Sheet

Hidalgo County Drainage District #1 - Action #35

FMS Description

Install lightning protection systems

Strategy Type

- Education and Outreach Activities
- ✓ Infrastructure Projects

- Regulatory and GuidanceOther:
- $\hfill\square$ Flood Measurement and Warning

FMS ID: 152000099

Strategy Area

City/ Cities

| County/ | Counties | Hidalgo |
|----------|----------|---------|
| country, | counties | |

HUC 8 HUC 12 HUC

807.24

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗌 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$200,000 | Study Sponsor: Hidalgo County Drainage District 1 |
|---|-----------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. |
| Estimated year to start: | 2027 | Entity with Oversight Hidalgo County Drainage District 1 |

Legend



Fact Sheet

| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
|--------------------|------------|---------------------------------|------------|
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- ✓ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS Description

#121

Remote Operations/Monitoring of Stormwater Pumps

Strategy Type

- □ Education and Outreach Activities
- ✓ Infrastructure Projects
- □ Regulatory and Guidance Other:
- □ Flood Measurement and Warning

Strategy Area

City/ Cities

- County/ Counties Hidalgo
 - HUC 8 12110208, 13090002, 13090001
 - HUC 12 130900020305, 130900011705, 121102080100, 121102080600, 121102080300, 121102080400, 130900020301, 130900020401, 130900020311, 121102080200, 121102080500

Study Area (sq. mi.) 807.24

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 244,800 | <pre># of structures inundated</pre> | 75,816 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 1,840.41 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$3,000,000 | Study Sponsor: Hidalgo County Drainage District 1 |
|--------------------------------|-------------|---|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. |
| above): | | |

EMS 152000100



Hidalgo County Drainage District #1 - Action

FMS ID: 152000100



FMS Flood Management Strategies

Fact Sheet



Fact Sheet

FMS

| Estimated year to start: | 2027 | Entity with Oversight | Hidalgo County Drainage District 1 |
|--------------------------|------------|---------------------------------|------------------------------------|
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- ✓ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS ID: 152000101

FMS Description

City of La Joya

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

| City/ Cities | La Joya |
|----------------------|--|
| County/ Counties | Hidalgo |
| HUC 8 | 12110208, 13090002, 13090001 |
| HUC 12 | 130900011705, 130900011706, 121102080100, 130900020301, 121102080200 |
| Study Area (sq. mi.) | 52.36 |

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 | Frequency of flooding: | 100-yea | r |
|------------------------------|-------|------|--------------------------------------|---------|------|
| Population at Risk | | 242 | <pre># of structures inundated</pre> | 104 | |
| Roadways flooded | Yes 🗸 | No 🗆 | Miles inundated? | 5.05 | |
| Critical Facilities Impacted | Yes 🗸 | No 🗆 | Agricultural Land impacted | Yes 🗸 | No 🗆 |
| Notes: | | | | | |

Strategy Costs

| Total Cost: | \$500,000 | Study Sponsor: La Joya |
|--------------------------------|-----------|---|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. |
| above): | | |
| Estimated year to start: | 2027 | Entity with Oversight La Joya |





FMS

□ Flood Measurement and Warning



Flood Management Strategies

Fact Sheet

| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
|--------------------|------------|---------------------------------|------------|
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS ID: 152000102

FMS Description

City of Elsa

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Elsa County/ Counties Hidalgo HUC 8 12110208 HUC 12 121102080300 Study Area (sq. mi.) 5.5

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Yes ✓ No □ 1,769 Yes ✓ No □ Yes ✓ No □

- ✓ Regulatory and Guidance□ Other:
- □ Flood Measurement and Warning



| Frequency of flooding: | 100-year | |
|--------------------------------------|------------|--|
| <pre># of structures inundated</pre> | 541 | |
| Miles inundated? | 15.37 | |
| Agricultural Land impacted | Yes 🖌 No 🗆 | |

| Total Cost: | \$300,000 | Study Sponsor: | Elsa |
|--|-----------|---|---|
| Non-reoccurring Non- capital Cost (include in Total | | These are one-time costs for progra non-engineering study costs. | im development, education campaign, and |
| above): | | | |
| Estimated year to start: | 2027 | Entity with Oversight | Elsa |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |







| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|-----------------|-------------------------------|----------|
| Have the flood risk a | and flood reduc | ction impacts been ev | aluated? |
| | | | |

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

FMS ID: 152000103

FMS Description

City of Edcouch

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Edcouch County/ Counties Hidalgo HUC 8 12110208 HUC 12 121102080300 Study Area (sq. mi.) 10.88

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | |
|------------------------------|--|
| Population at Risk | |
| Roadways flooded | |
| Critical Facilities Impacted | |
| Notes: | |

Yes ✓

Yes ✓

Yes 🗸 No 🗆

No 🗆

1,758

No 🗆

Strategy Costs

| Total Cost: | \$300,000 | Study Sponsor: | Edcouch |
|--|-----------|---|---|
| Non-reoccurring Non- capital Cost (include in Total | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| above): | | ····· ···· ··························· | |
| Estimated year to start: | 2027 | Entity with Oversight | Edcouch |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |

Frequency of flooding:

Miles inundated?

of structures inundated

Agricultural Land impacted

✓ Regulatory and Guidance□ Other:

□ Flood Measurement and Warning



100-year

Yes 🗸 🛛 No 🗆

287

7.50





| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|----------------|-------------------------------|----------|
| Have the flood risk a | and flood redu | uction impacts been ev | aluated? |
| Yes 🗆 No 🗸 | | | |

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000104

FMS Description

City of Primera

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Primera County/ Counties Cameron HUC 8 12110208 HUC 12 121102080700 Study Area (sq. mi.) 44.86

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Yes ✓

Yes ✓

Yes 🗸 No 🗆

No 🗆

1,107

No 🗆

Strategy Costs

| Total Cost: | \$300,000 | Study Sponsor: | Primera |
|---|-----------|---|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | m development, education campaign, and |
| Estimated year to start: | 2027 | Entity with Oversight | Primera |
| Time to complete? | 2028 | Included in a Hazard Mitigation Action Plan or other plan? | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |

Frequency of flooding:

Miles inundated?

Agricultural Land impacted Yes ✓ No □

of structures inundated



100-year

389

7.25





| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|----------------|-------------------------------|----------|
| Have the flood risk a | and flood redu | uction impacts been ev | aluated? |
| Yes 🗆 No 🗸 | | | |

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000105

FMS Description

City of San Benito

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

| City/ Cities | San Benito |
|----------------------|---|
| County/ Counties | Cameron |
| HUC 8 | 12110208 |
| HUC 12 | 121102080800, 121102080600, 121102080700, 121102080900 |
| Study Area (sq. mi.) | 2.78 |

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 6,785 | <pre># of structures inundated</pre> | 2,409 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 67.38 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

| Total Cost: | \$500,000 | Study Sponsor: San Benito |
|--|-----------|--|
| Non-reoccurring Non- capital Cost (include in Total | | These are one-time costs for program development, education campaign, and non-engineering study costs. |
| above): | | |
| Estimated year to start: | 2027 | Entity with Oversight San Benito |







Flood Management Strategies

Fact Sheet

| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
|--------------------|------------|---------------------------------|------------|
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000106

FMS Description

City of Weslaco

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Weslaco County/ Counties Hidalgo HUC 8 12110208 HUC 12 121102080100, 121102080300 Study Area (sq. mi.) 14.45

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Yes ✓ No □ 12,194 Yes ✓ No □ Yes ✓ No □

| Frequency of flooding: | 100-yeai | · |
|--------------------------------------|----------|------|
| <pre># of structures inundated</pre> | 4,532 | |
| Miles inundated? | 103.54 | |
| Agricultural Land impacted | Yes 🗸 | No 🗆 |

| Total Cost: | \$500,000 | Study Sponsor: | Weslaco |
|---|-----------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | im development, education campaign, and |
| Estimated year to start: | 2027 | Entity with Oversight | Weslaco |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |







| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | | |
|-----------------------|----------------|-------------------------------|----------|--|
| Have the flood risk a | and flood redu | iction impacts been eva | aluated? | |
| | | | | |

Yes □ No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

FMS ID: 152000107

FMS Description

City of Los Fresnos

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Los Fresnos County/ Counties Cameron HUC 8 12110208 HUC 12 121102080800, 121102080900 Study Area (sq. mi.) 4.16

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | |
|------------------------------|--|
| Population at Risk | |
| Roadways flooded | |
| Critical Facilities Impacted | |
| Notes: | |

Yes ✓ No □ 1,640 Yes ✓ No □ Yes ✓ No □

- ✓ Regulatory and Guidance□ Other:
- □ Flood Measurement and Warning



| Frequency of flooding: | 100-year |
|--------------------------------------|------------|
| <pre># of structures inundated</pre> | 489 |
| Miles inundated? | 15.24 |
| Agricultural Land impacted | Yes 🖌 No 🗆 |

| Total Cost: | \$500,000 | Study Sponsor: | Los Fresnos |
|--------------------------------|-----------|-------------------------------------|---|
| Non-reoccurring Non- | | These are one-time costs for progra | am development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2027 | Entity with Oversight | Los Fresnos |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |





| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|-----------------|-------------------------------|----------|
| Have the flood risk a | and flood reduc | ction impacts been ev | aluated? |
| | | | |

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain



FMS ID: 152000108

Cameron County Drainage District #1

FMS Description

FMS 2 - Assessment, development, and updating of the Drainage District's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

| | City/ Cities |
|------------------------|----------------------|
| Cameron | County/ Counties |
| 12110208 | HUC 8 |
| 121102080800, 12110208 | HUC 12 |
| 7.53 | Study Area (sq. mi.) |

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Yes ✓ No □ 17,771 Yes ✓ No □ Yes ✓ No □



□ Flood Measurement and Warning



| Frequency of flooding: | 100-year |
|--------------------------------------|------------|
| <pre># of structures inundated</pre> | 5,622 |
| Miles inundated? | 223.53 |
| Agricultural Land impacted | Yes 🖌 No 🗆 |

| Total Cost: | \$500,000 | Study Sponsor: | Cameron County Drainage District #1 | |
|---|-----------|--|-------------------------------------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. | | |
| Estimated year to start: | 2027 | Entity with Oversight | Cameron County Drainage District #1 | |
| Time to complete? | 2028 | Included in a Hazard Mitigation Action Plan or other plan? | Yes □ No ✓ | |


| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | | |
|---|------------|-------------------------------|--|--|
| Have the flood risk and flood reduction impacts been evaluated? | | | | |
| | | | | |

Yes □ No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000109

FMS Description

City of La Feria

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities County/ Counties Cameron HUC 8 12110208 HUC 12 121102080600 Study Area (sq. mi.) 2.20

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Yes 🗸

Yes ✓

Yes 🗸 No 🗆

No 🗆

1,427

No 🗆

Strategy Costs

| Total Cost: | \$300,000 | Study Sponsor: | La Feria |
|---|-----------|--|------------|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, non-engineering study costs. | |
| Estimated year to start: | 2027 | Entity with Oversight | La Feria |
| Time to complete? | 2028 | Included in a Hazard Mitigation Action Plan or other plan? | Yes □ No 🗸 |

Frequency of flooding:

Miles inundated?

of structures inundated

Agricultural Land impacted



100-year

Yes 🗸 No 🗌

684

20.65





| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|----------------|-------------------------------|----------|
| Have the flood risk a | and flood redu | iction impacts been ev | aluated? |
| | | | |

Yes □ No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

FMS ID: 152000110

FMS Description

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Escobares County/ Counties Starr HUC 8 13090001 HUC 12 130900011109, 130900011108 Study Area (sq. mi.) 7.62

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | |
|------------------------------|--|
| Population at Risk | |
| Roadways flooded | |
| Critical Facilities Impacted | |
| Notes: | |

Yes ✓ No 🗆 698 Yes ✓ No 🗆 Yes 🗸 No 🗆

- ✓ Regulatory and Guidance
- □ Flood Measurement and Warning



| Frequency of flooding: | 100-year |
|--------------------------------------|------------|
| <pre># of structures inundated</pre> | 92 |
| Miles inundated? | 3.18 |
| Agricultural Land impacted | Yes 🖌 No 🗆 |

Strategy Costs

| Total Cost: | \$300,000 | Study Sponsor: | Escobares |
|---|-----------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | im development, education campaign, and |
| Estimated year to start: | 2027 | Entity with Oversight | Escobares |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |



City of Escobares

Other:



| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|-----------------|-------------------------------|----------|
| Have the flood risk a | and flood reduc | ction impacts been ev | aluated? |
| | | | |

Yes □ No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

FMS ID: 152000111

FMS Description

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities La Grulla County/ Counties Starr HUC 8 13090001 HUC 12 130900011107 Study Area (sq. mi.) 1.16

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | |
|------------------------------|--|
| Population at Risk | |
| Roadways flooded | |
| Critical Facilities Impacted | |
| Notes: | |

Yes ✓ No □ 61 Yes ✓ No □ Yes ✓ No □

- $\checkmark\,$ Regulatory and Guidance
- □ Flood Measurement and Warning



| Frequency of flooding: | 100-year |
|--------------------------------------|------------|
| <pre># of structures inundated</pre> | 32 |
| Miles inundated? | 0.80 |
| Agricultural Land impacted | Yes 🖌 No 🗆 |

Strategy Costs

| Total Cost: | \$300,000 | Study Sponsor: | La Grulla |
|--------------------------------|-----------|---|------------|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and | |
| capital Cost (include in Total | | non-engineering study costs. | |
| above): | | | |
| Estimated year to start: | 2027 | Entity with Oversight | La Grulla |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |



City of La Grulla

✓ Regula□ Other:



| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|----------------|-------------------------------|----------|
| Have the flood risk a | and flood redu | iction impacts been ev | aluated? |
| | | | |

Yes □ No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS ID: 152000112

FMS Description

City of Palmview

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Palmview County/ Counties Hidalgo HUC 8 12110208 HUC 12 121102080100, 121102080300, 121102080200 Study Area (sq. mi.) 40.61

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 2,703 | <pre># of structures inundated</pre> | 853 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 15.15 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$300,000 | Study Sponsor: | Palmview |
|---|-----------|--|------------|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. | |
| Estimated year to start: | 2027 | Entity with Oversight | Palmview |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |





FMS

Other:

- ✓ Regulatory and Guidance
- □ Flood Measurement and Warning



Flood Management Strategies Fact Sheet

| | | Action Plan or other plan? | |
|--------------------|------------|-------------------------------|--|
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000113

FMS Description

City of Alton

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

No 🗆

4,952

No 🗆

Yes 🗸 No 🗆

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Alton County/ Counties Hidalgo HUC 8 12110208 HUC 12 121102080300, 121102080200 Study Area (sq. mi.) 16.55

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 |
|------------------------------|-------|
| Population at Risk | |
| Roadways flooded | Yes 🗸 |
| Critical Facilities Impacted | Yes 🗸 |
| Notes: | |

Strategy Costs

| Total Cost: | \$300,000 | Study Sponsor: | Palmview |
|---|-----------|--|------------|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. | |
| Estimated year to start: | 2027 | Entity with Oversight | Palmview |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |

Frequency of flooding:

of structures inundated 1,694

Miles inundated?

Agricultural Land impacted Yes □ No ✓



33.17





| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|----------------|-------------------------------|----------|
| Have the flood risk a | and flood redu | uction impacts been ev | aluated? |
| Yes 🗆 No 🗸 | | | |

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
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- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000114

FMS Description

Willacy County

FMS 2 - Assessment, development, and updating of the County's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

| City/ | Cities |
|-------|--------|
| | |

| County/ Counties | Willacy |
|----------------------|--|
| HUC 8 | 12110207, 12110208 |
| HUC 12 | 121102080800, 121102081000, 121102080300, 121102080400, 121102080700, 121102080500, 121102070100, 121102081100, 121102070200 |
| Study Area (sq. mi.) | 36.43 |

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 11,895 | <pre># of structures inundated</pre> | 4,777 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 273.04 |
| Critical Facilities Impacted | Yes 🖌 No 🗌 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$500,000 | Study Sponsor: | Willacy |
|--------------------------------|-----------|-------------------------------------|--|
| Non-reoccurring Non- | | These are one-time costs for progra | m development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. | |







Flood Management Strategies

Fact Sheet

| above): | | | |
|--------------------------|------------|---------------------------------|------------|
| Estimated year to start: | 2027 | Entity with Oversight | Willacy |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
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- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
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- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS ID: 152000115

FMS Description

City of Edinburg

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities **Edinburg** County/ Counties **Hidalgo** HUC 8 **12110208** HUC 12 **121102080300, 121102080400, 121102080200** Study Area (sq. mi.) 12.05

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 47,171 | <pre># of structures inundated</pre> | 11,174 |
| Roadways flooded | Yes 🗸 No 🗆 | Miles inundated? | 252.65 |
| Critical Facilities Impacted | Yes 🗸 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$500,000 | Study Sponsor: | Edinburg |
|---|-----------|---|---|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for progra non-engineering study costs. | am development, education campaign, and |
| Estimated year to start: | 2027 | Entity with Oversight | Edinburg |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |





FMS



Flood Management Strategies Fact Sheet

| | | Action Plan or other plan? | |
|--------------------|------------|-------------------------------|--|
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
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- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000116

FMS Description

City of Mission

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

| Mission |
|--|
| Hidalgo |
| 12110208, 13090002 |
| 130900020305, 12110208010 121102080300, 13090002030 121102080200 |
| 7.30 |
| |

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗌 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 15,487 | <pre># of structures inundated</pre> | 5,464 |
| Roadways flooded | Yes 🗸 No 🗆 | Miles inundated? | 129.58 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$500,000 | Study Sponsor: Mission |
|---|-----------|--|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. |
| Estimated year to start: | 2027 | Entity with Oversight Mission |







Flood Management Strategies

Fact Sheet

| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
|--------------------|------------|---------------------------------|------------|
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

FMS

FMS ID: 152000117

FMS Description

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Mission County/ Counties Hidalgo HUC 8 12110208 HUC 12 121102080100, 121102080300 Study Area (sq. mi.) 0.56

Emergency Need

Yes 🗸 No 🗆

Known Flood Risk

| History of Flooding? |
|------------------------------|
| Population at Risk |
| Roadways flooded |
| Critical Facilities Impacted |
| Notes: |

Yes ✓ No 🗆 9,696 Yes ✓ No 🗆 Yes 🗸 No 🗆

✓ Regulatory and Guidance

□ Flood Measurement and Warning



| Frequency of flooding: | | |
|--------------------------------------|-------|------|
| <pre># of structures inundated</pre> | 2,591 | |
| Miles inundated? | 62.42 | |
| Agricultural Land impacted | Yes 🗆 | No √ |

Strategy Costs

| Total Cost: | \$500,000 | Study Sponsor: | San Juan |
|--|-----------|---|---|
| Non-reoccurring Non- capital Cost (include in Total | | These are one-time costs for progro non-engineering study costs. | am development, education campaign, and |
| above): | | | |
| Estimated year to start: | 2027 | Entity with Oversight | San Juan |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |



City of San Juan

Other:



| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|-----------------|-------------------------------|----------|
| Have the flood risk a | and flood reduc | ction impacts been ev | aluated? |
| | | | |

Yes □ No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National
 Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate
 Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
- Increase acreage of publicly protected open space in critical flood risk areas that is reused for a beneficial public use
- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000118

FMS Description

City of Donna

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

| Donna |
|---|
| Hidalgo |
| 12110208, 13090002 |
| 121102080100, 121102080300, 130900020311 |
| 2.08 |
| |

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 9,715 | <pre># of structures inundated</pre> | 3,107 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 59.76 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$500,000 | Study Sponsor: | Donna |
|---|-----------|--|------------|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. | |
| Estimated year to start: | 2027 | Entity with Oversight | Donna |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |







Flood Management Strategies Fact Sheet

| | | Action Plan or other plan? | |
|--------------------|------------|-------------------------------|--|
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
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- Increase outreach and education activities, specifically targeting municipal floodplain managers, hosted by Region 15 RFPG and available on the website
- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
- □ Increase use of nature-based flood risk reduction projects
- Develop a regionally coordinated warning and emergency response program that can detect the flood threat and provide timely warning of impending flood danger
- Increase the amount of publicly owned land in the region that can be utilized for future regional stormwater infrastructure
- Increase the proficiency of floodplain managers by increasing the # of them that are certified as Certified Floodplain Managers (CFM) with the Texas Floodplain Management Association
- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS

FMS ID: 152000119

FMS Description

City of Harlingen

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

| Harlingen |
|--|
| Cameron |
| 12110208, 13090002 |
| 121102080600, 121102080300 121102080700, 121102080900 |
| 2.75 |
| |

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🖌 No 🗆 | Frequency of flooding: | 100-year |
|------------------------------|------------|--------------------------------------|------------|
| Population at Risk | 16,552 | <pre># of structures inundated</pre> | 4,647 |
| Roadways flooded | Yes 🖌 No 🗆 | Miles inundated? | 174.59 |
| Critical Facilities Impacted | Yes 🖌 No 🗆 | Agricultural Land impacted | Yes 🖌 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$500,000 | Study Sponsor: | Harlingen |
|---|-----------|--|------------|
| Non-reoccurring Non- capital Cost (include in Total above): | | These are one-time costs for program development, education campaign, and non-engineering study costs. | |
| Estimated year to start: | 2027 | Entity with Oversight | Harlingen |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |







Flood Management Strategies Fact Sheet

| | | Action Plan or other plan? | |
|--------------------|------------|-------------------------------|--|
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗆 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
- Increase the # of communities participating in the National Flood Insurance Program
- Decrease the average age of FEMA Flood Insurance Rate Maps used to define SFHAs
- Increase the coverage of available flood hazard data by completing studies with identified construction projects to address flooding hazards
- □ Increase participation in the regional flood planning process
- Provide regional detention that could be used for water reuse applications or as part of a floodplain management program
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- Increase the use reverse 911, TV, radio, social media, and billboards to communicate flood warnings, evacuation routes, and shelter locations
- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
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□ Flood Measurement and Warning

FMS

FMS Description

City of Alamo

FMS 2 - Assessment, development, and updating of the City's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

✓ Regulatory and Guidance

Other:

Yes 🖌 No 🗆

Yes 🗸 No 🗆

Yes 🖌 No 🗆

9,335

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities Alamo County/ Counties Hidalgo HUC 8 12110208 HUC 12 121102080100, 121102080300 Study Area (sq. mi.) 16.52

Emergency Need

Yes ✓ No 🗆

Known Flood Risk

| History of Flooding? | |
|------------------------------|--|
| Population at Risk | |
| Roadways flooded | |
| Critical Facilities Impacted | |
| Notes: | |

Strategy Costs Total Cost: \$500,000 Study Sponsor: Alamo Non-reoccurring Non-These are one-time costs for program development, education campaign, and capital Cost (include in Total non-engineering study costs. above): Estimated year to start: 2027 Entity with Oversight Alamo Time to complete? 2028 Included in a Hazard Mitigation Yes □ No ✓ Action Plan or other plan?

Frequency of flooding:

Miles inundated?

Agricultural Land impacted Yes ✓ No □

of structures inundated

FMS ID: 152000120

| | Canto Alizzo | |
|---|----------------|-----------------------------|
| Staduar a | Alamo Communer | traces of |
| THE OWNER OF | South Alturo | Pomp State Tank Beach |
| Legend FMS 152000120 Repth | | Colonia |

100-year

3.056

58.46





| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |
|-----------------------|----------------|-------------------------------|----------|
| Have the flood risk a | and flood redu | ction impacts been eva | aluated? |
| | | | |

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Yes □ No ✓ TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
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- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
- Increase the # of entities that integrate National Weather Service and USGS Texas Water Science Center (TXWSC) flood warning system information into their local capabilities to disseminate warnings
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- Increase participation in the Community Rating System by encouraging Region 15 floodplain management programs to incorporate dedicated drainage fees to implement future FMEs and FMPs; incorporate noncompliance penalties; and who regulate development in the future conditions floodplain

□ Flood Measurement and Warning

FMS ID: 152000121

FMS Description

County of Kenedy

FMS 2 - Assessment, development, and updating of the County's ordinances, orders, policies, engineering specifications, guidance documents and other flood management tools. The objective is to update flood management planning tools to existing local, state, and federal standards, to include innovative methodologies, and to promote universal regional approaches. This study will target the development of new/revised ordinances, orders, policies, engineering guidance designs, operation and maintenance requirements and similar planning tools.

Strategy Type

- Education and Outreach Activities
- □ Infrastructure Projects

Strategy Area

City/ Cities

County/ Counties Kenedy HUC 8 12110205, 12110206, 12110203, 12110207, 12110208 HUC 12 121102030100, 121102050706, 121102060501, 121102060502, 121102050807, 121102080500,

121102070100, 121102070200

Study Area (sq. mi.) 1782.61

Emergency Need

Yes 🖌 No 🗆

Known Flood Risk

| History of Flooding? | Yes 🗸 | No 🗆 | Frequency of flooding: 100-year |
|------------------------------|-------|------|---|
| Population at Risk | | 28 | # of structures inundated 53 |
| Roadways flooded | Yes 🗸 | No 🗆 | Miles inundated? 62.94 |
| Critical Facilities Impacted | Yes 🗸 | No 🗆 | Agricultural Land impacted 🛛 Yes 🗸 🛛 No 🗆 |
| Notes: | | | |

Strategy Costs

| Total Cost: | \$300,000 | Study Sponsor: Kenedy |
|--------------------------------|-----------|---|
| Non-reoccurring Non- | | These are one-time costs for program development, education campaign, and |
| capital Cost (include in Total | | non-engineering study costs. |





FMS

✓ Regulatory and Guidance□ Other:



Flood Management Strategies

Fact Sheet

| above): | | | |
|--------------------------|------------|---------------------------------|------------|
| Estimated year to start: | 2027 | Entity with Oversight | Kenedy |
| Time to complete? | 2028 | Included in a Hazard Mitigation | Yes 🗆 No 🗸 |
| | | Action Plan or other plan? | |
| Funding Dedicated? | Yes 🗌 No 🗸 | (Potential) Source of Funding | |

Have the flood risk and flood reduction impacts been evaluated?

Yes 🗌 No 🗸

Was the strategy missing sufficient data to assess whether the proposed strategy has a negative effect, per Ves \Box No \checkmark TWDB guidelines?

Related Goals

- Increase community access routes to critical facilities, evacuation routes, during and after a flooding event
- Reduce the # of newly constructed vulnerable critical facilities within the existing and future 100-YR floodplain
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- Reduce the # of structures that have been subject to repeated flooding events through property buyouts

RFPG Recommended

- Increase the # of entities that adopt higher than NFIPminimum standards
- ✓ Develop and maintain an operational stormwater asset management plan
- Increase the # of flood gauges (rainfall/stream) in the region
- Increase the # of entities that have multi-year drainage CIP list
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