City of Bastrop, Texas

Project Identification Exercise Report

July 28, 2025

Texas A&M AgriLife Extension | Community Health and Resource Management

FEMA

Table of Contents

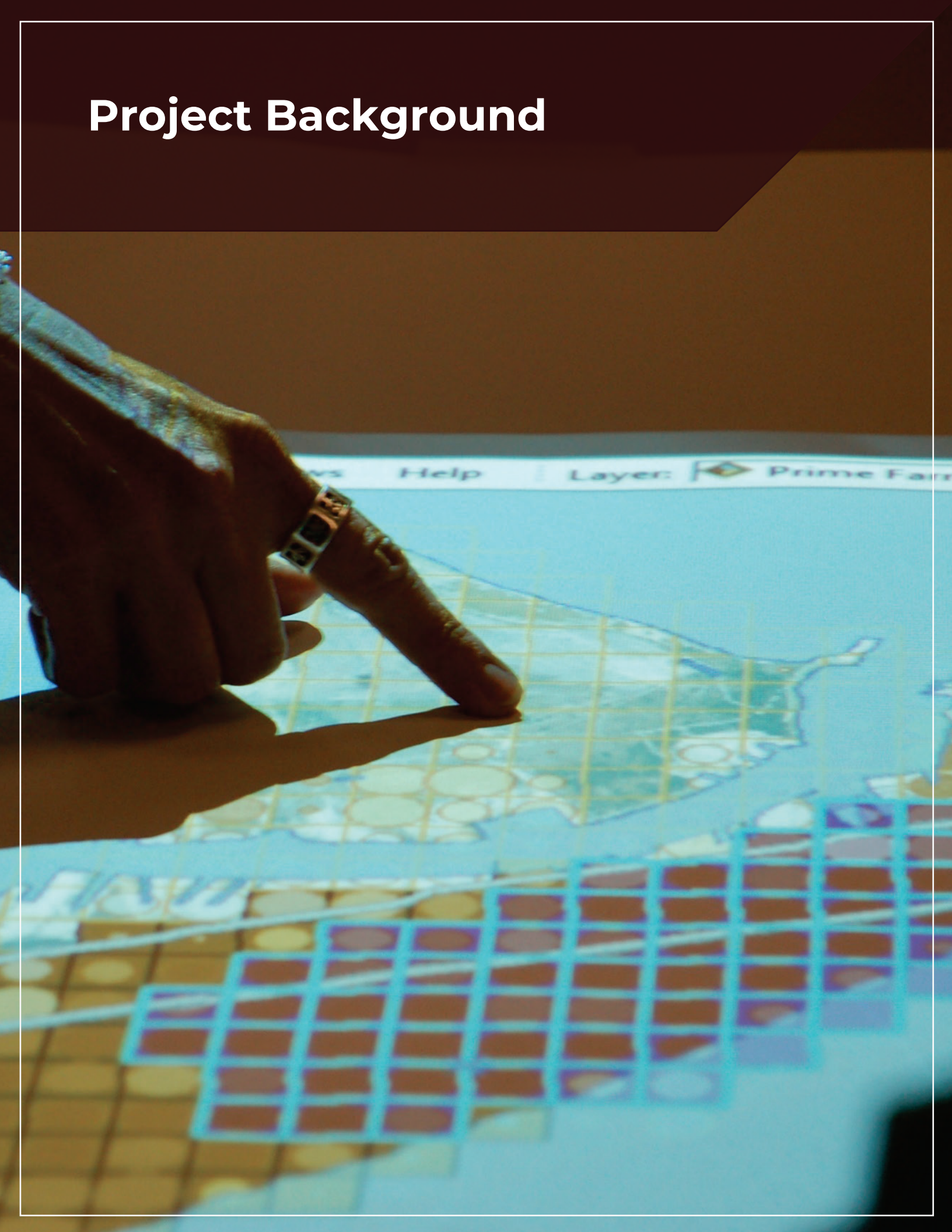
List of Tables

Table of Figures

List of Acronyms

ASFPM	Association of State Floodplain Managers
BLE	Base Level Engineering
BUILD	Better Utilizing Investments to Leverage Development
CAPCOG	Capital Area Council of Governments
CHARM	Community Health and Resource Management
CRS	Community Rating System
CTP	Cooperating Technical Partner
EWN	Engineering with Nature
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPMS	Floodplain Management Services
GIFT	Green Infrastructure for Texas
GIS	Geographic Information System
GLO	Texas General Land Office
iSWM	Integrated Stormwater Management Program
LID	Low Impact Development
NCTCOG	North Central Texas Council of Governments
NFIP	National Flood Insurance Program
NPS	National Park Service
PIE	Project Identification Exercise
RCP	Resilient Communities Program
RTCA	Rivers, Trails, and Conservation Assistance Program
TCEQ	Texas Commission on Environmental Quality
TCWP	Texas Community Watershed Partners
TDEM	Texas Department of Emergency Management
TFMA	Texas Floodplain Management Association
TWDB	Texas Water Development Board
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation

Project Background



Project Set Up

Staff from the City of Bastrop reached out to Texas Community Watershed Partners (TCWP), to bring a facilitated planning workshop to the community of Bastrop. On June 25, 2025, staff from the City of Bastrop, City Council, and Planning & Zoning Commissions attended a Project Identification Exercise (PIE) Workshop, facilitated by staff at TCWP at the Bastrop City Hall - Council Chambers.

These services are provided in-kind to the City of Bastrop as part of a cooperative effort between the City and Texas A&M AgriLife Extension Service. The Community Health and Resource Management (CHARM) mapping platform demonstrated in the workshop, is a program of TCWP, within the Texas A&M AgriLife Extension Service's Disaster Assessment and Recovery unit. TCWP's technical services are supported by the Federal Emergency Management Agency (FEMA) Cooperating Technical Partner (CTP) program.

Exercise Attendees

Local and Regional Stakeholders

Table 1: Local Stakeholder Workshop Attendees

Name	Organization/Agency/Department	Title
Ishmael Harris	City of Bastrop	Mayor
Kerry Fossler	City of Bastrop, City Council	Council Member, Place 4
John Kirkland	City of Bastrop, City Council	Mayor Pro-Tem, Commissioner, Place 5
Perry Lowe	City of Bastrop, City Council	Council Member, Place 1
Cynthia Meyer	City of Bastrop, City Council	Council Member, Place 2
Kevin Plunkett	City of Bastrop, City Council	Council Member, Place 3
Brittany Epling	City of Bastrop, Development Services Department	Senior Planner
Alonda Macias	City of Bastrop, Development Services Department	Planner
Elizabeth Wick	City of Bastrop, Engineering Department	Project Manager
Robert Barron	City of Bastrop, Information Technology Department	GIS Manager
David Barrow	City of Bastrop, Planning & Zoning Commission	Commissioner, Place 9
Pete Parsons	City of Bastrop, Planning & Zoning Commission	Commissioner, Place 6
Jordan Scott	City of Bastrop, Planning & Zoning Commission	Commissioner, Place 8

Glenda Dayton	County Museum, Bastrop	President
Jane Wright	County Museum, Bastrop	Vice President

Texas Community Watershed Partners, Texas A&M AgriLife Extension Staff

Table 2: Texas Community Watershed Partners Staff

Organization	Name	Title
Amanda Cain	TCWP, Texas A&M AgriLife Extension Service	Resilience Planner
Dana Borham	TCWP, Texas A&M AgriLife Extension Service	Geospatial Analyst
Kelsey Johnson	TCWP, Texas A&M AgriLife Extension Service	Associate Planning Program Director
Erika Pham	TCWP, Texas A&M AgriLife Extension Service	Geospatial Analyst
Dana Raborn	TCWP, Texas A&M AgriLife Extension Service	Resilience Planner
Carlos Reyes	TCWP, Texas A&M AgriLife Extension Service	Geospatial Analyst

CHARM Overview

The CHARM approach supports community decision-making by fostering dialogue and collaboration through data-driven exercises. During a CHARM session, TCWP works with communities to identify key stakeholders, gather local data on community risks, and prepare interactive facilitated exercises designed to generate meaningful outcomes.

CHARM utilizes geographic information system (GIS)-based technology powered by CommunityViz software, enabling participants to model scenarios by painting new features on a map and instantly calculating potential risks. The exercises use the weTable, an interactive setup that encourages stakeholders to gather "around-the-table" to engage with models of their community, encouraging engagement and collaboration for actional insights.

This PIE Report builds upon the insights gained from the CHARM exercises and discussions to identify and prioritize actional projects addressing the community's critical needs. The following documents are included as attached appendices:

Appendix A: Bastrop PIE Workshop – Memo – June 2025, a document provided to the City following the workshop, includes compiled information regarding key discussion points from the workshop.

Appendix B: Bastrop County CHARM Resiliency Workshop Report (2022) is provided for reference to previous CHARM interactions with the City of Bastrop.

Community Overview

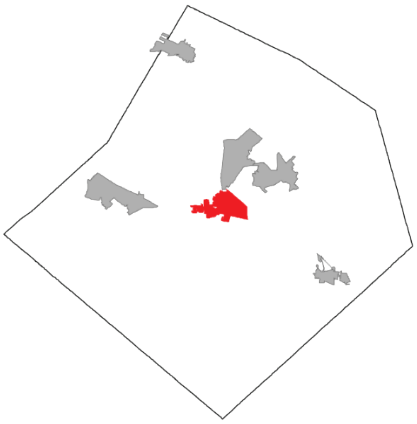


Figure 1: Bastrop, Texas

Bastrop is highlighted in red. The Bastrop County boundary in black is for reference.

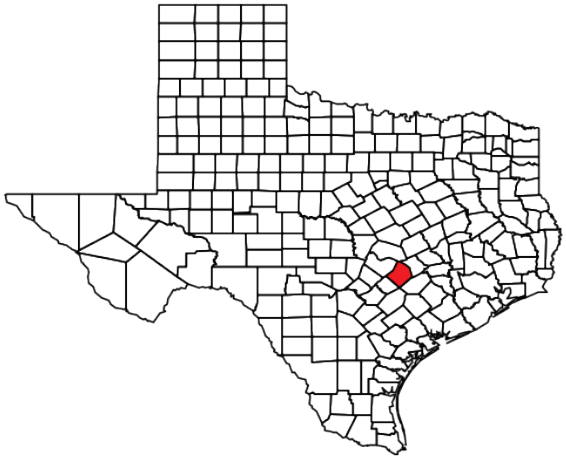


Figure 2: Bastrop County, Texas

Bastrop County, highlighted in red, provides reference to its location within Texas

Bastrop, TX

The City of Bastrop is approximately 30 miles southeast of Austin, part of the Greater Austin metropolitan area. The lower Colorado River runs through the City and has historically contributed to flood hazards in the community throughout the years. The City has recently updated their Comprehensive plan to include enhanced future land use categories and descriptions in order to prepare for a growing community. Bastrop also participates in the Bastrop County Hazard Mitigation Plan, which was last updated in 2022. As a part of the Greater Austin metropolitan area, this area is projected to see increased population growth over the next several decades.

Population Statistics
2010 Population: 7,218
2020 Population: 9,689
Population figures from the 2010 and 2020 Decennial Census.

Mapping Products

The Bastrop PIE Workshop brought together key stakeholders from City Council and the Planning & Zoning Commission to collaboratively discuss community hazards and risks pertaining to flooding. The discussions between the two tables held at the workshop have been synthesized into a single document that was provided to the City soon after the workshop (Appendix A). This document covers the variety of topics that came up during the workshop, and led to the identification of potential projects for the City to consider, which are described in detail in the **Project Identification Overview** section.

The following maps (**Figure 3 - Figure 9**) provide relevant information to all table discussions regarding flood zone data (Flood Insurance Rate Maps and Base Level Engineering), as well as captured comments from different discussion topics. These products combined with Appendix A provide a comprehensive overlook of the conversations held during the workshop.

City of Bastrop, FEMA 2023 Effective Flood Zones

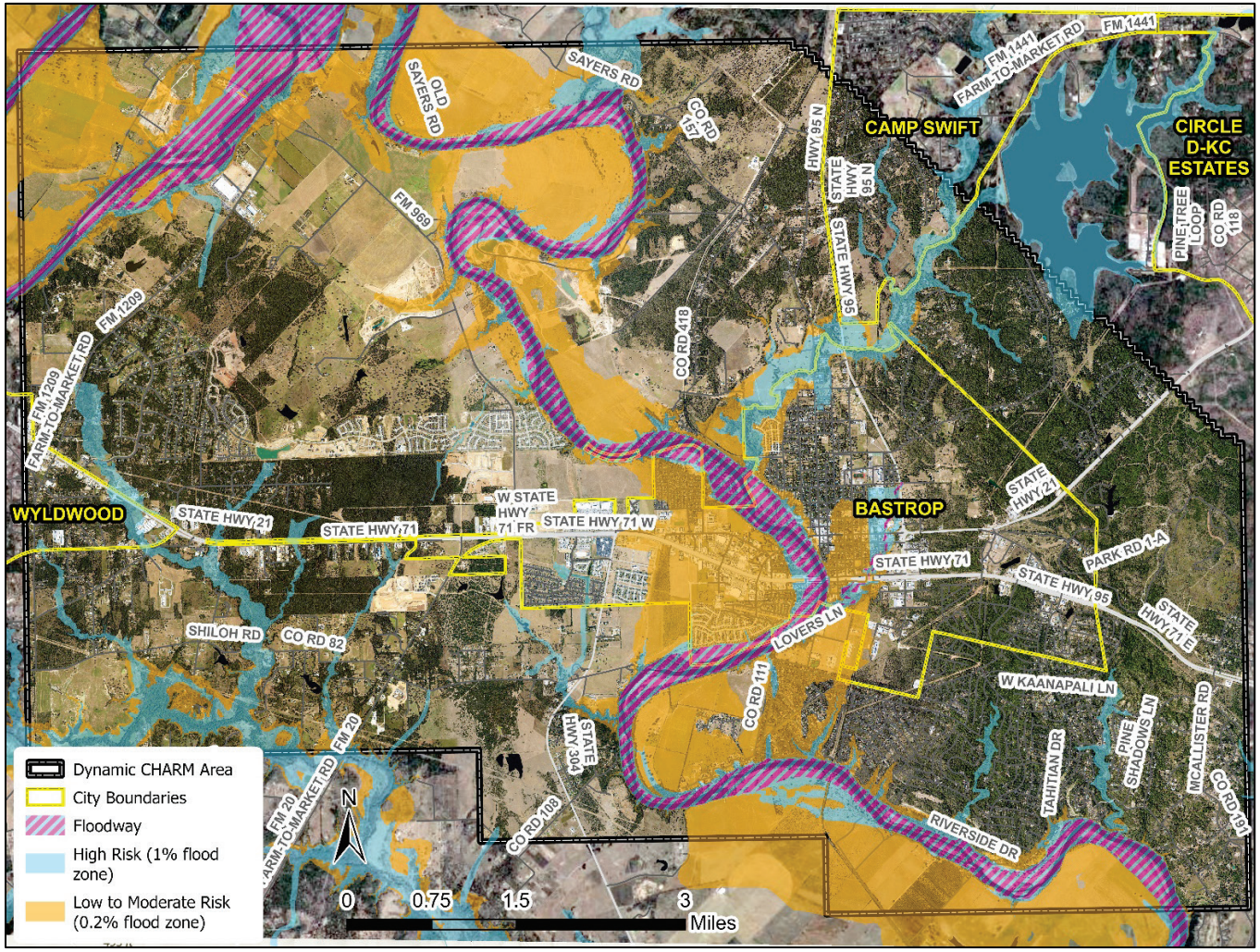


Figure 3: City of Bastrop, FEMA 2023 Effective Flood Zones

This map displays the FEMA 2023 Effective Flood Zones, as represented in the current regulatory FIRM. The FEMA 2023 Effective Flood Zones (FIRMs) in this map are the regulatory standard as of the date of this report. Other flood data, such as Base Level Engineering (BLE) are not considered regulatory, however, those can be utilized as "best available data". FIRMs and BLE can be utilized together to provide a more comprehensive representation of risk when looking for best available data.

The Effective FIRMs show there is significant coverage of the 0.2% (500-year) flood zone in parts the City compared to the 1% (100-year) flood zone.

City of Bastrop, FEMA Base Level Engineering

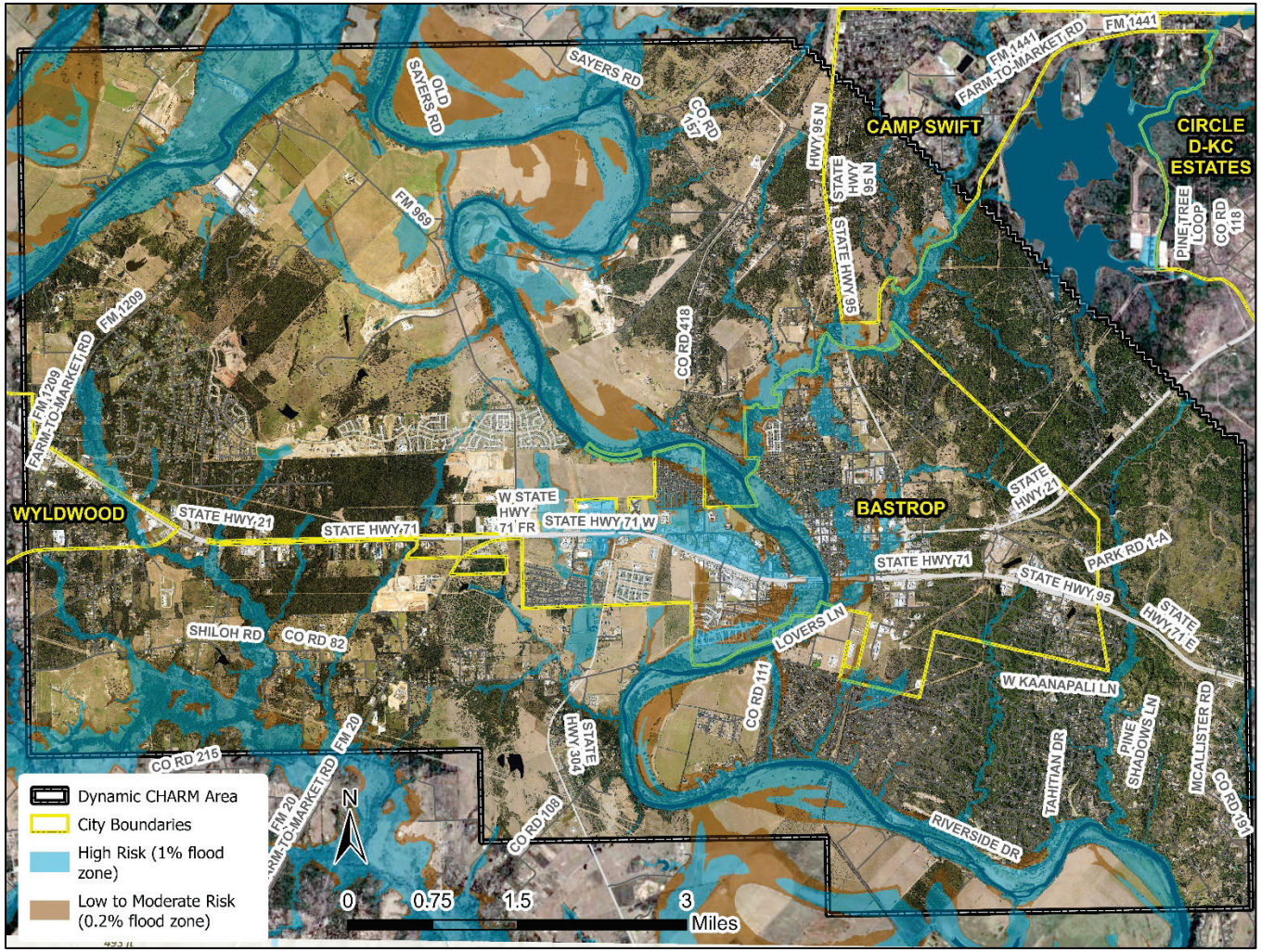


Figure 4: City of Bastrop, FEMA Base Level Engineering

This map provides an overview of the CHARM model's planning area (dynamic CHARM area) and highlights flood zones. The flood zone data shown here is FEMA's Base Level Engineering (BLE).

Unlike the Effective FIRMs showing more coverage of the 0.2% (500-year) flood zone compared to the 1% (100-year) flood zone, the inverse applies here where there is more coverage of the 1% flood zone compared to the 0.2% flood zone.

While BLE data is not regulatory and does not replace FEMA Effective FIRMs, it can support "best available data" for planning purposes. This information is valuable for informing ordinances, planning documents, and future development considerations

More information about BLE can be found at: webapps.usgs.gov/infrm/estbfe.

Combined Comments from Table 1 and Table 2, North, Bastrop

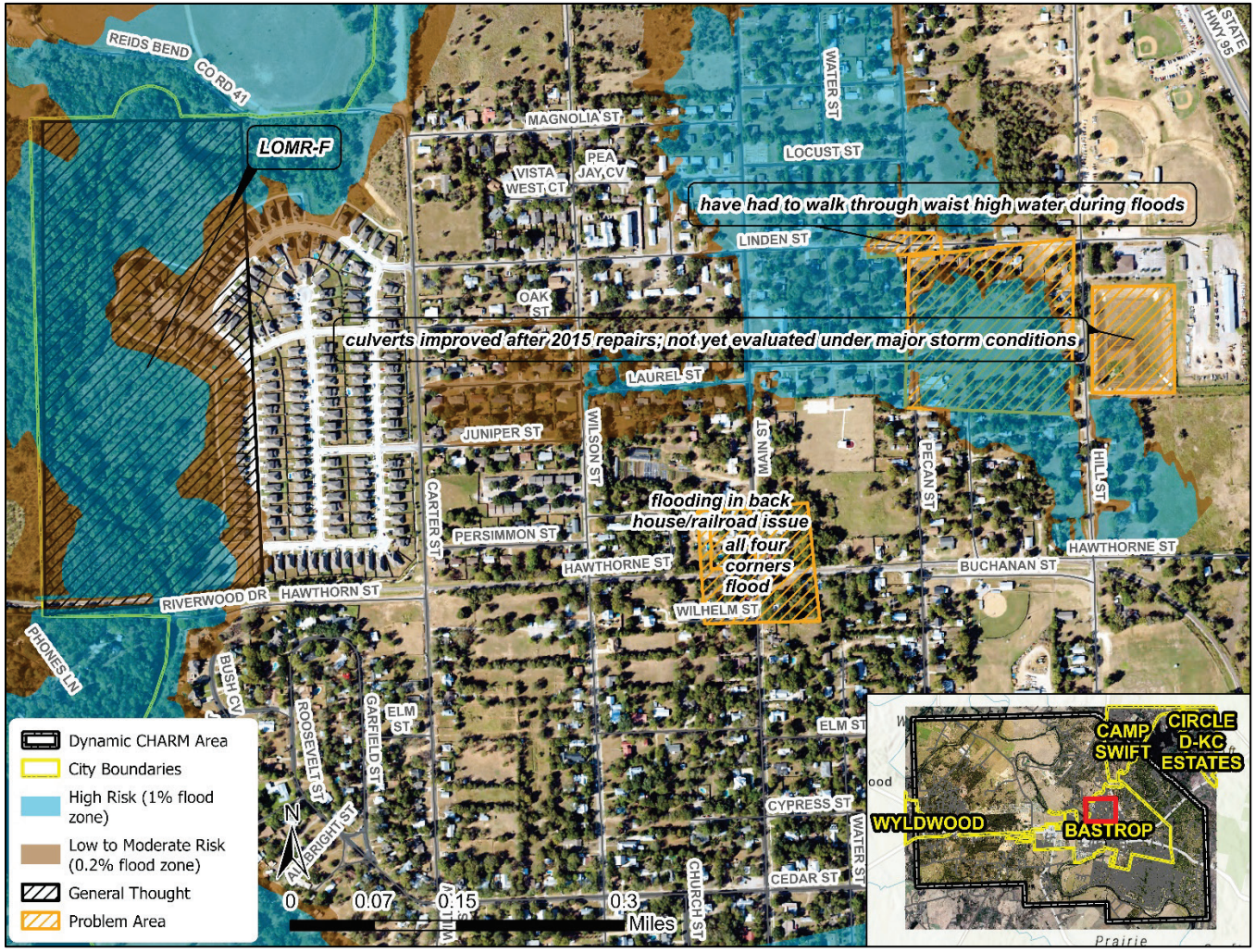


Figure 5: Combined Comments from Table 1 and Table 2, North, Bastrop

This map captures the combined comments from discussions at Table 1 and Table 2, focusing on the north side of Bastrop. Comments are only shown against the FEMA BLE data. Key discussion points included known problem areas impacted by flooding, ongoing flood and infrastructure issues, and proposed or planned drainage and infrastructure projects. This map provides a comprehensive view of the shared insights and priorities identified during the workshop discussions for this part of Bastrop.

Combined Comments from Table 1 and Table 2, West, Bastrop

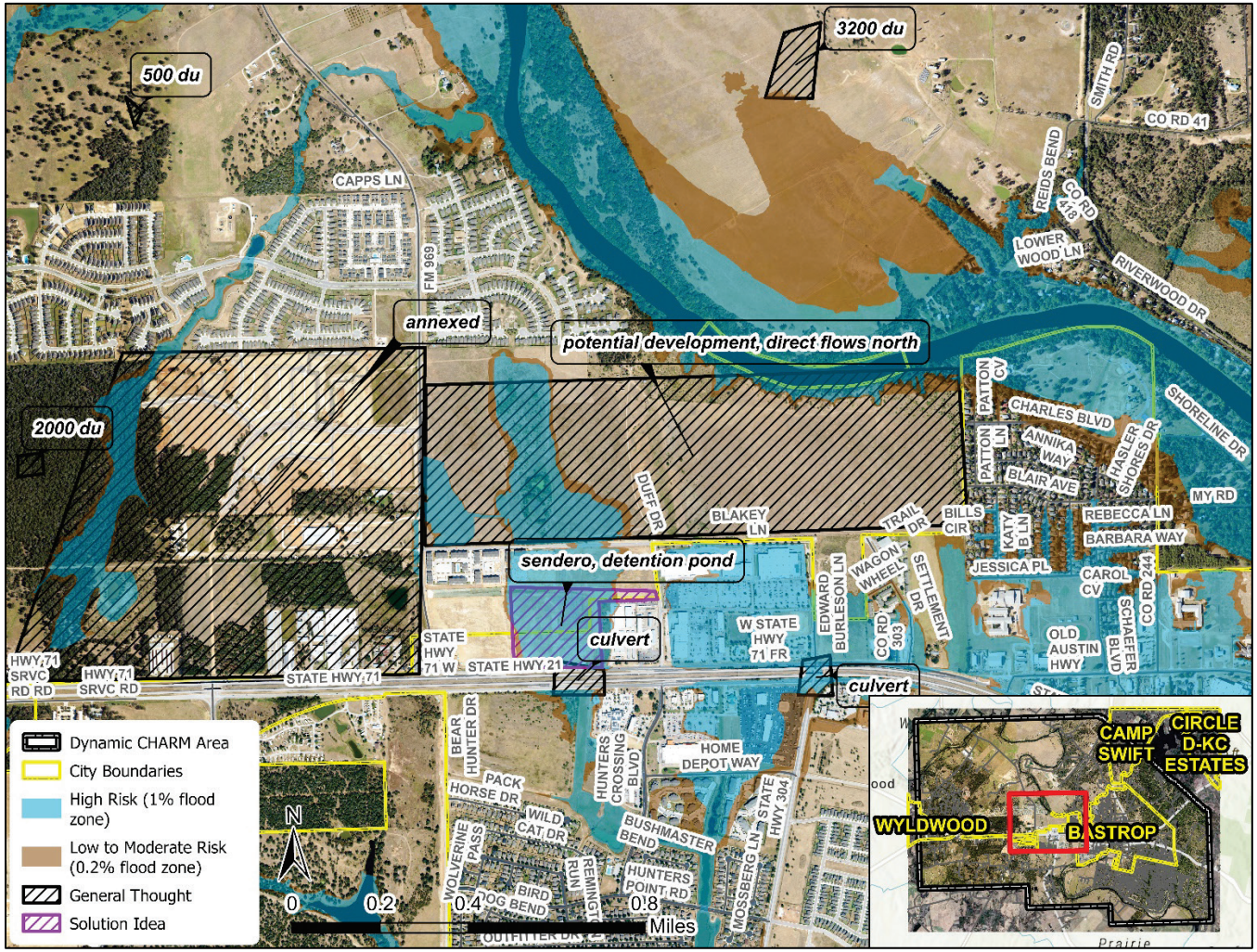


Figure 6: Combined Comments from Table 1 and Table 2, West, Bastrop

This map captures the combined comments from discussions at Table 1 and Table 2, focusing on the west side of Bastrop. Comments are only shown against the FEMA BLE data. Key discussion points included new residential developments and proposed or planned drainage and infrastructure projects. This map provides a comprehensive view of the shared insights and priorities identified during the workshop discussions for this part of Bastrop.

Combined Comments from Table 1 and Table 2, South (1), Bastrop

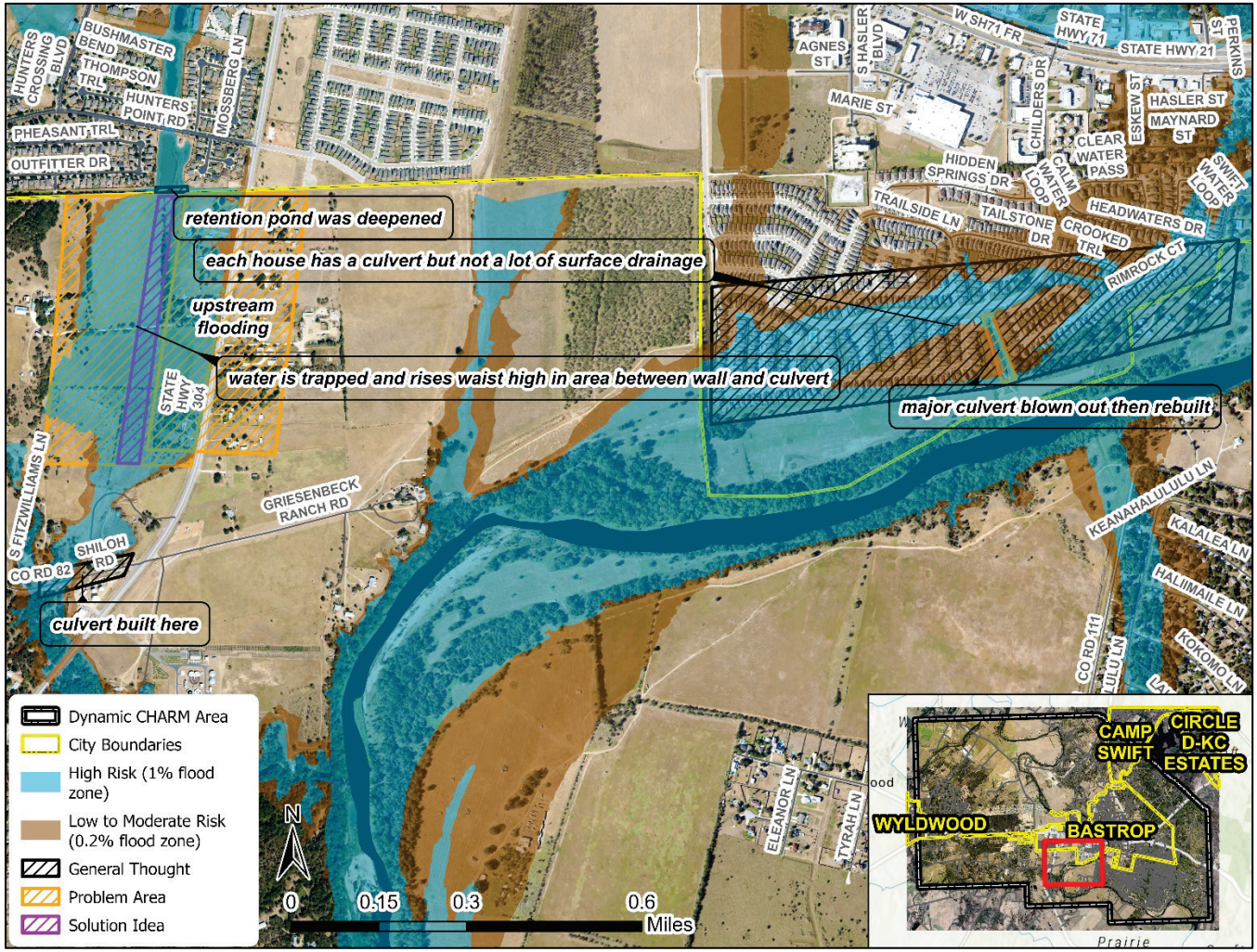


Figure 7: Combined Comments from Table 1 and Table 2, South (1), Bastrop

This map captures the combined comments from discussions at Table 1 and Table 2, focusing on the south side (1) of Bastrop. Comments are only shown against the FEMA BLE data. Key discussion points included known problem areas related to flooding, issues with drainage infrastructure, and improvements proposed or existing to support flood mitigation efforts. This map provides a comprehensive view of the shared insights and priorities identified during the workshop discussions for this part of Bastrop.

Combined Comments from Table 1 and Table 2, South (2), Bastrop

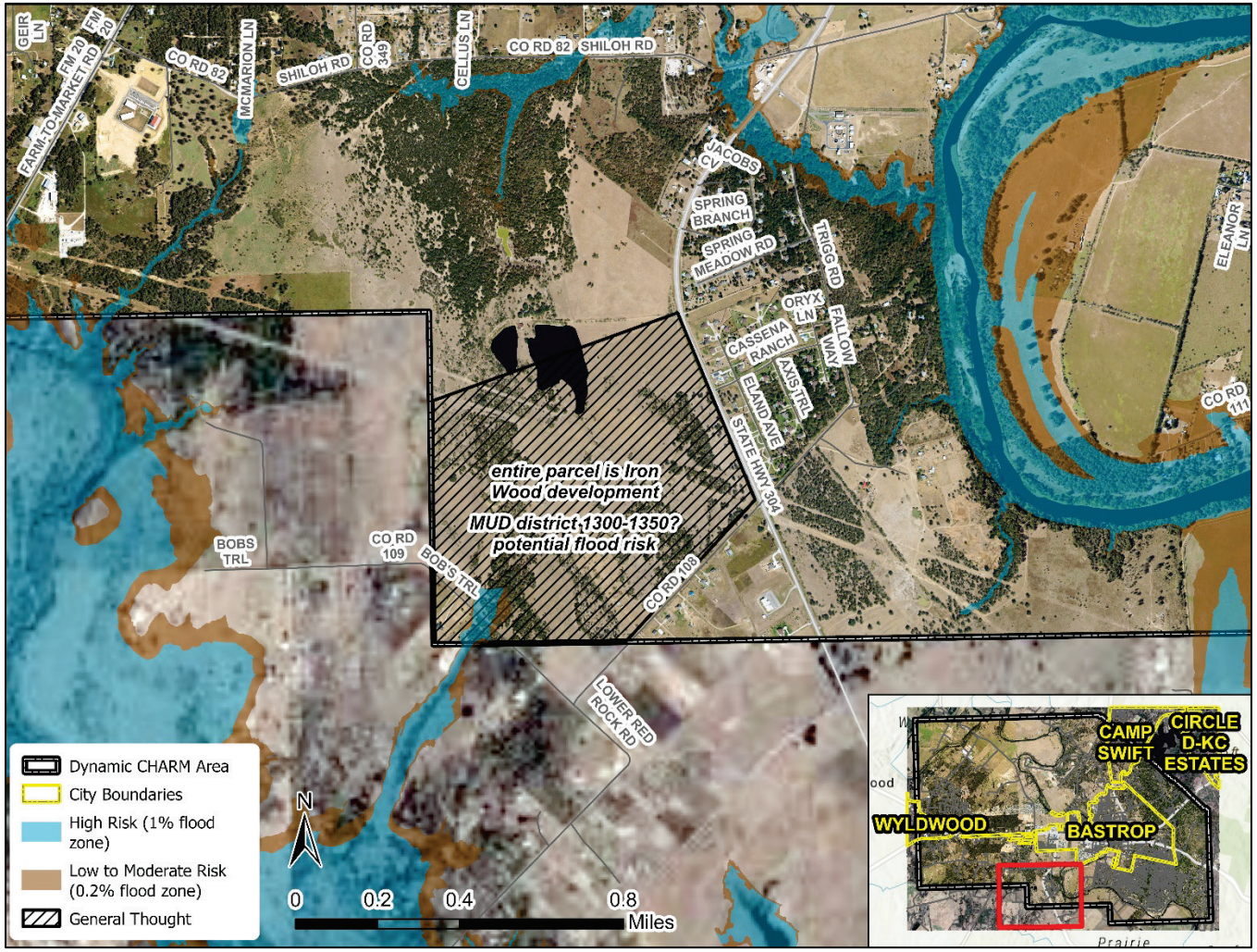


Figure 8: Combined Comments from Table 1 and Table 2, South (2), Bastrop

This map captures the combined comments from discussions at Table 1 and Table 2, focusing on the south side (2) of Bastrop. Comments are only shown against the FEMA BLE data. Key discussion points here focused on development and potential associated flood risk. This map provides a comprehensive view of the shared insights and priorities identified during the workshop discussions for this part of Bastrop.

Combined Comments from Table 1 and Table 2, Central, Bastrop

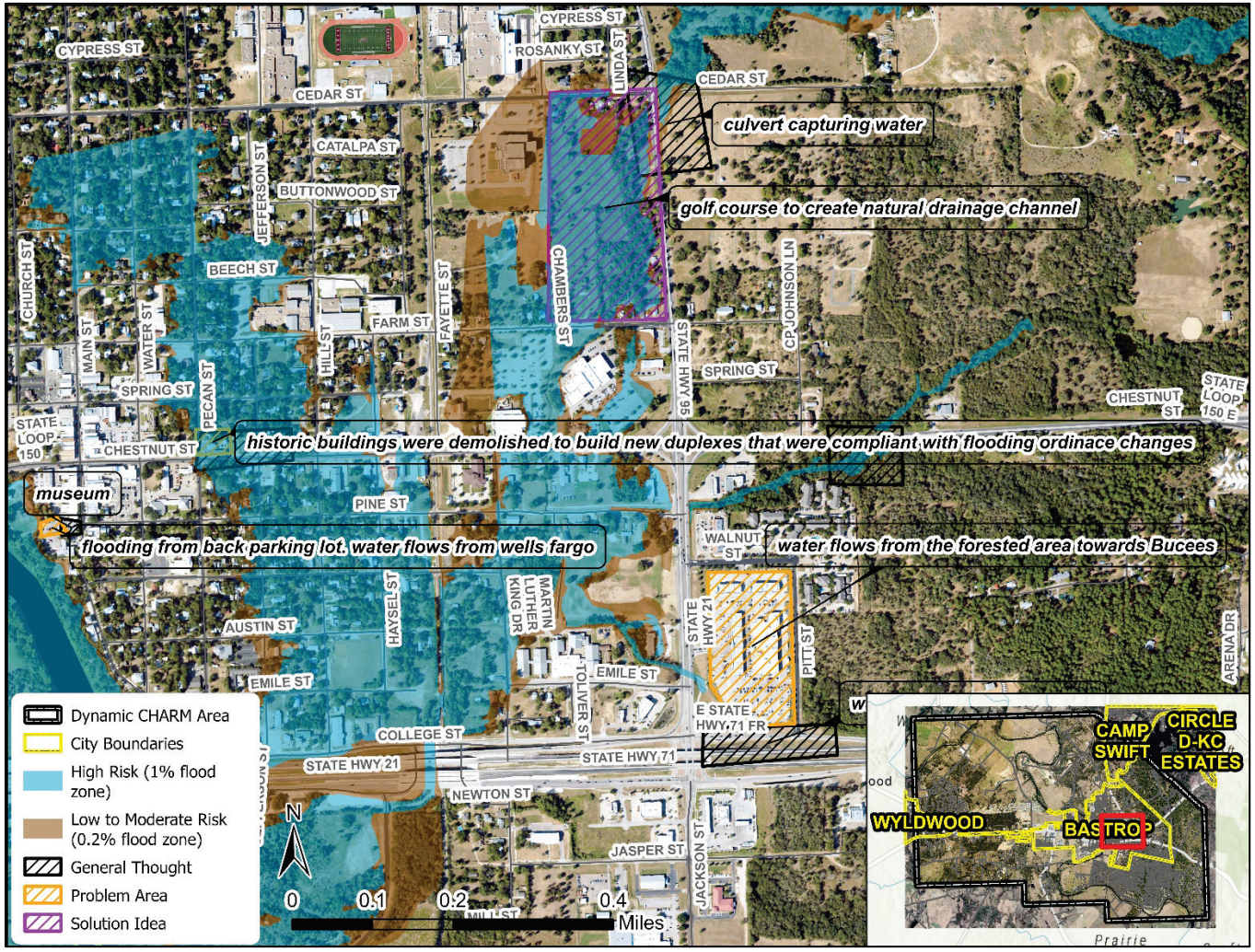
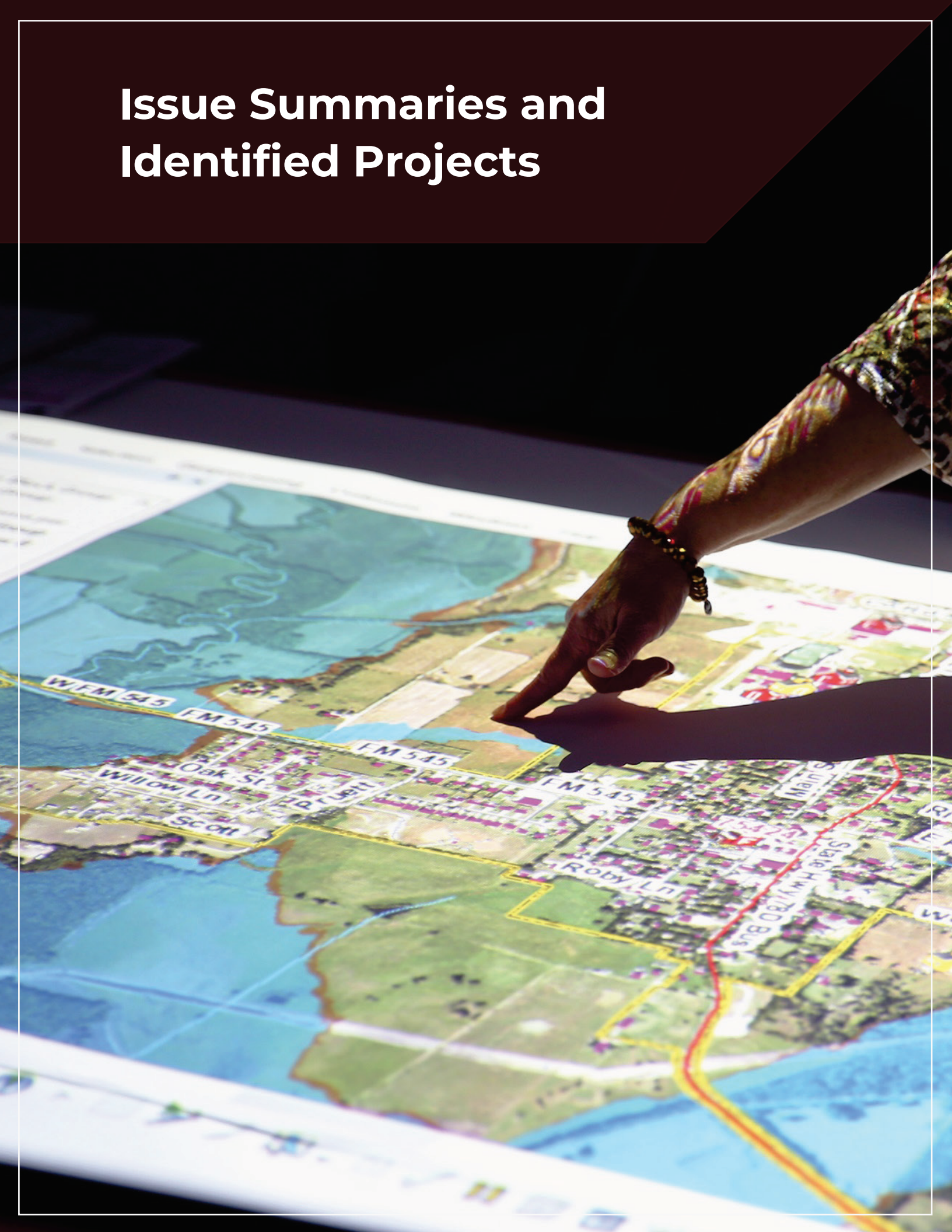


Figure 9: Combined Comments from Table 1 and Table 2, Central, Bastrop

This map captures the combined comments from discussions at Table 1 and Table 2, focusing on the south side (2) of Bastrop. Comments are only shown against the FEMA BLE data. Key discussion points here focused flooding issues and impacts, changes to residential infrastructure, and potential solutions to support flood mitigation efforts. This map provides a comprehensive view of the shared insights and priorities identified during the workshop discussions for this part of Bastrop.

Issue Summaries and Identified Projects



Project Identification Overview

Three projects were identified based on the discussions and priority areas recognized during the Bastrop PIE Workshop. The workshop discussion focused on key issues such as previous areas of flooding and drainage challenges, the differences between Base Level Engineering (BLE) data and FEMA Flood Insurance Rate Maps (FIRM), and opportunities for public education on flooding and drainage issues. These projects are designed to help Bastrop take initial steps towards addressing risks and enhancing community resilience.

Please note, identified projects are conceptional and not fully developed. They provide a foundation of resources and recommendations to guide the planning process.

Each project includes the following components:

- Issue Overview: Detailed description of the issue that led to the project's identification, based on discussions and input from workshop participants.
- Recommended Action Items and Supporting Resources:
    - Recommended Actions: List of potential actions for Bastrop to consider in their continued path towards addressing community risks.
    - Supporting Resources:
        - Tools and Technical Guidance: List of tools and resources to support planning and implementation efforts.
        - Potential Funding Sources: Potential funding opportunities to assist with implementing the recommended actions.

Identified Project #1 – Comprehensive Floodplain Administration Education for Local Leaders

Issue Overview:

As the City of Bastrop faces continued growth and development pressure, a strong understanding of floodplain management principles among local leadership, including, City Council, Planning and Zoning Commission, and City Staff, will be increasingly important. Although individual expertise across the board is not necessary, building a shared foundation of knowledge across leadership roles can support more consistent decisions, improve communication with the public, and help the City navigate future challenges with confidence.

Workshop discussions highlighted a range of perspectives on topics such as stormwater infrastructure, mapped floodplains, and best available data. There were several important discussions surrounding the differences between BLE data and FEMA FIRMs and how both datasets can be utilized in planning as well as development reviews. All these conversations reinforced the importance of clear, accessible training and resources to help leaders engage more effectively with both technical staff and community members.

Providing structured and ongoing floodplain management education will build internal capacity, increase alignment across departments and commissions, and prepare the City to more effectively implement future risk reduction strategies. Establishing a strong foundation now will ensure that future City leadership will be able to continue building and improving risk mitigation in the future.

Recommended Actions & Supporting Resources

Recommended Actions

Table 3: Identified Project #1 Recommended Actions

Action	Description
Training/Capacity Building for Leadership	Offer foundational floodplain management training to elected officials, board and commission members, and relevant city staff. The content should cover basic concepts of floodplain management, the National Flood Insurance Program (NFIP), Community Rating System (CRS), No Adverse Impact principles, local ordinance administration, and floodplain mapping (FIRM and BLE).
Quick-Guide for Bastrop	Develop a quick-reference guidance document specific to Bastrop that clearly explains local regulations, planning documents, and roles/responsibilities. This guide could include: • A visual crosswalk showing how documents like the Comprehensive Plan, Stormwater Drainage Manual, Zoning Ordinances, etc., relate to each other. • An FAQ section on floodplain terms and regulatory processes. • Can also consider incorporating tie-ins into the State Flood Plan and Regional Flood Plans.
Regional and Shared Partnerships	Explore local/regional partnerships for in-kind or shared training: Bastrop County, nearby jurisdictions/municipalities, regional planning organizations such as the Capital Area Council of Governments (CAPCOG).
Local Champion	Identify someone from Bastrop leadership who can help champion this initiative and ensure a strong foundation that will be able to be built upon by future leadership. At the time of this report, Bastrop city ordinances (Article 3.17 Flood Damage Prevention, Sec. 3.17.007 – Administration), designate the City Manager, or their designee, as the Floodplain Administrator. The designated Floodplain Administrator could potentially serve as the local champion as they should have greater knowledge surrounding floodplain management practices and better understand the flooding hazards that Bastrop faces. • Certified Floodplain Manager. Another step a local champion could take to expand their role is to become a Certified Floodplain Manager, through the Texas Floodplain Management Association (TFMA), a recognized and accredited chapter through the Association of State Floodplain Managers (ASFPM).

Supporting Resources:

Tools and Technical Guidance:

Table 4: Identified Project #1 Tools and Technical Guidance

Tool/Technical Guidance	Description	Resource Location
FEMA Floodplain Management Training for Local Elected Officials	This training helps explain floodplain management to community leadership, including how a strong floodplain management program enhances public safety before and during disasters as well as minimizes impacts to local tax bases after disasters.	*www.fema.gov/floodplain-management/training/courses/local-elected-executive*
Texas Water Development Board (TWDB) Floodplain Management Training Floodplain Management 101	This free online training provides attendees with an introduction to the NFIP, basic concepts of floodplain management, maps and studies, ordinance administration, and relationship between floodplain management and flood insurance.	*www.twdb.texas.gov/flood/workshop*
ASFPM In-Person Training EL0273: Managing Floodplain Development Through the National Flood Insurance Program	This course is intended to prepare participants to understand the roles and responsibilities of a local Floodplain Administrator.	*www.floods.org/training-center/in-person-training/*
ASFPM Flood Science Center: Elected Officials' Flood Guide	This guide is written to help elected officials gain a comprehensive understanding of the range of choices that are available as they evaluate how to prepare for - and respond to - flood events in their communities.	*www.floods.org/training-center/in-person-training/*
Capital Area Council of Governments (CAPCOG) Regional Planning Services - Water Central Texas	CAPCOG has compiled general information about water issues, plans and more throughout the region to help provide a better understanding of topics related to water planning.	*www.capcog.org/divisions/regional-planning-services/water-central-texas/*

Base Level Engineering Tools and Resources	FEMA provides a comprehensive source of tools, templates and resources to assist communities for the local review and incorporation of Base Level Engineering into their floodplain management activities. These resources can help local leaders better understand BLE.	BLE Tools/Resources: *www.fema.gov/about/organization/region-6/base-level-engineering-ble-tools-and-resources* estBFE (BLE) Viewer: *webapps.usgs.gov/infrm/estBFE/*
Texas Water Development Board (TWDB) Flood Programs	TWDB hosts a suite of information regarding flood programs within the State, as well as other resources.	*www.twdb.texas.gov/flood*
Texas Floodplain Management Association (TFMA)	TFMA is an established chapter of the Association of State Floodplain Managers (ASFPM). TFMA is an organization of professionals involved in floodplain management, flood hazard mitigation, the NFIP, flood preparedness, warning and disaster recovery. This organization offers any member in good standing to apply for and take an exam to become a Certified Floodplain Manager.	*www.tfma.org/*

Potential Funding Resources:

Table 5: Identified Project #1 Potential Funding Resources

Funding Source	Description	Resource Location
ASFPM/TWDB	The ASFPM Managing Floodplain Development Through the National Flood Insurance Program is offered in-kind, and can be set up through the Texas Water Development Board NFIP Coordinator.	*www.floods.org/training-center/in-person-training*
TWDB	Texas Water Development Board hosts free, online training geared towards local elected officials. Coordinate with TWDB for training opportunities.	*https://www.twdb.texas.gov/flood/workshop*

Identified Project #2 – Public Comprehensive Education and Outreach Campaign

Issue Overview:

Participants at the PIE workshop shared recurring concerns about limited public understanding of floodplain management, development impacts, and local drainage issues. Multiple data sources, unknown personal risk, and confusing drainage decisions all suggest a need for improved education and outreach between city officials and the general public. There is a visible and growing desire in Bastrop for transparency in local governance, and the City is already taking steps to address this. This project provides an opportunity to use flood education to continue working towards Bastrop's transparency goals.

Generally, when there is a lack of public education efforts, it is not uncommon to see misinformation, strained trust between residents, city leadership, and the development community and friction during review of new projects. A coordinated and sustained public education and outreach campaign could help address issues, while building shared understanding and improving community resilience overall. Although the City of Bastrop does not currently participate in the CRS program under the NFIP, the development of an outreach campaign can aid in pursuit of CRS participation and gain credit for transparency-focused activities.

Recommended Actions & Supporting Resources

Recommended Actions

Table 6: Identified Project #2 Recommended Actions

Action	Description
Comprehensive Campaign	Design and launch a comprehensive flood risk education campaign, focused on raising awareness around: • The difference between BLE and FIRM maps, how to interpret them, and how they can be utilized in the community. • Explaining local drainage challenges and responsibilities, to help the community understand priorities and procedures. • The importance of flood insurance options and affordability. Participating in the NFIP CRS program would lead towards lowered insurance premiums for policy holders. • Regional and local risk mitigation measures, including what residents themselves can do in support of a more resilient community. • Highlight regional efforts and coordination (i.e., Texas State Flood Plan, Region 10 and 11 Flood Planning Group Plans, Bastrop County Hazard Mitigation Plan) to show residents that Bastrop is actively engaged in broader flood resilience efforts.

CRS Participation and Outreach Activities	Link outreach and education campaigns to future CRS participation - use this effort to meet selected CRS public information and outreach activities. Selected CRS activities, identified in the CRS Coordinator's Manual, are intended to provide the public with information needed to increase flood hazard awareness and to motivate actions to reduce flood damage, encourage flood insurance coverage, and protect the natural functions of floodplains. • 330 Outreach Projects. • 340 Hazard Disclosure. • 350 Flood Protection Information. • 370 Flood Insurance Promotion.
Communication Channels and Methods of Outreach	Provide a variety of communication channels and formats to reach a broad audience. This may include: • Virtual town halls and Q&A sessions. • Printed mailers and handouts in utility bills. • Interactive web content and social media. The City of Bastrop already has a Floodplain Management dedicated web page - consider using this as a space to provide resources and major updates (e.g., when FIRMs are updated).
Local Champion	Identify a staff or community champion to lead the campaign and coordinate messaging across departments and platforms. This could also be the local champion identified for Identified Project #1 Comprehensive Floodplain Administration Education for Local Leaders

Supporting Resources:

Tools and Technical Guidance:

Table 7: Identified Project #2 Tools and Technical Guidance

Tool/Technical Guidance	Description	Resource Location
FEMA Flood Risk Communication Toolkit for Community Officials	This toolkit includes templates and guides for designing a communication plan, effective public meetings, and a social media strategy for addressing flood risk.	*www.fema.gov/floodplain-management/manage-risk/communication-toolkit-community-officials*
TWDB Effective Flood Awareness Communication	This guidance document identified end-users for flood awareness campaigns, created a flood awareness outreach campaign and developed best practices for effective flood risk communication specific to identified end-users.	*www.twdb.texas.gov/flood/research/Flood-Awareness-2022*
TWDB Community Official Flood Resource Guide	This guidance document provides resources to assist local flood officials with conducting effective flood education and communication with the public. It also provides online resources that can be shared with various stakeholders to better prepare them for flooding events in Texas.	*www.twdb.texas.gov/flood/research/Flood-Resource-Guide-2022*
CRS Resources	FEMA hosts information about the CRS program and provides resources on forms, participating communities, discounts available for flood insurance, data visualizations, case studies, blogs and fact sheets. The CRS Resources website provides reference materials related to CRS and hosts information on CRS documents, worksheets, and tools relevant to the activities credited under the CRS Coordinator's Manual.	*www.fema.gov/floodplain-management/community-rating-system* *crsresources.org/*

State and Regional Flood Plans	The State Flood Plan brings together the findings of the 15 river-basin-based regional flood plans and makes legislative and floodplain management recommendations to guide state, regional, and local flood control policy. Bastrop County is split into 3 Flood Planning Groups - Region 8, 10 and Region 11, however, the City of Bastrop is located within Region 10 specifically.	State Flood Plan (2024): *www.twdb.texas.gov/flood/planning* Lower Colorado-Lavaca Regional Flood Planning Group (Region 10) *www.lowercoloradolavacaflood.org/* Region 10 Flood Plan (2023): *www.lowercoloradolavacaflood.org/2023-flood-plan3*

Potential Funding Resources:

Table 8: Identified Project #2 Potential Funding Resources

Funding Source	Description	Resource Location
Texas Flood Information Clearinghouse	This is Texas' "one-stop-shop" for information on flood mitigation funding opportunities for communities in Texas. Green infrastructure, nature-based solutions, and other related activities are eligible for funding through the programs listed below. Not all sources are available for every activity (e.g., some may include requirements like Presidential Disaster Declarations). Funding varies per program.	*texasfloodclearinghouse.org/* Hazard Mitigation Grant Program (administered by the Texas Department of Emergency Management (TDEM)). *www.tdem.texas.gov/mitigation/hazard-mitigation-section* Flood Insurance Fund (administered by TWDB). *www.twdb.texas.gov/financial/programs/fif* Texas Water Development Fund (administered by TWDB). *www.twdb.texas.gov/financial/programs/twdf* Development Block Grants – Disaster Recovery (administered by GLO). *www.glo.texas.gov/disaster-recovery*

Texas General Land Office (GLO) Resilient Communities Program (RCP)	This program provides grants up to $300,000 for eligible entities to develop, adopt, and implement modern and resilient building codes and flood damage prevention ordinances to ensure that structures built within the community can withstand future hazards. Public service activities are not considered standalone eligible options, but can support the plan, ordinance, code, or zoning that is being funded under the program. If the City of Bastrop decides to pursue any eligible activities under this program, public education and outreach can be supported as well.	*www.glo.texas.gov/disaster-recovery/mitigation/resilient-communities-program*
American Flood Coalition Flood Funding Finder	This interactive website simplifies federal grants to help communities identify and prioritize opportunities to fund resilience. This resource may over time include funding opportunities for projects such as this, as well as many others.	*floodcoalition.org/fundingfinder/*

Identified Project #3 – Establish Framework for Resilient Development with Green Infrastructure Opportunities

Issue Overview:

As Bastrop continues to grow, decision makers will be increasingly challenged by development proposals in areas with complex flood risk characteristics. While many new developments meet minimum drainage requirements, there is still a potential concern for any cumulative impacts that are not visible right now. During this period of growth, it is important to reduce and mitigate downstream impacts and infrastructure strain now with pending developments, near-term and long-term.

The workshop participants highlighted a need for clearer guidance, policy tools or tool improvements, and design practices that help steer future development toward outcomes that protect the floodplain, reduce runoff, and maximize long-term resilience. Participants expressed an interest in using open space, natural features, and potentially city-owned land to support drainage and environmental benefits.

The City has already made steps towards implementing resilient measures, such as reducing impervious cover requirements, no adverse impacts, and best data available, adding to this will continue to improve resilience around the community. An opportunity exists to develop (or continue to improve) a flexible framework for resilient development that can encourage voluntary best practices as well as integration of green stormwater infrastructure practices.

Recommended Action Items & Supporting Resources

Recommended Actions

Table 9: Identified Project #3 Recommended Actions

Action	Description
Encourage Resilient Practices	Develop a Resilient Development Guidance document that encourages several practices. For example it may include: • Cluster development and conservation subdivision designs. • Low Impact Development (LID) approaches (e.g., permeable pavements). • Voluntary drainage standards that exceed minimums, including detaining stormwater to reduce runoff and improve water quality.
Establish a Framework	Develop a Nature-Based Infrastructure Planning Framework to: • Identify opportunities for natural drainage, passive detention, or floodplain restoration where feasible. • Evaluate city-owned and county-owned land for pilot projects to demonstrate green infrastructure practices that work for the community. • Prioritize integration of green infrastructure practices into Capital Improvement Plans and other future land use decisions, where feasible.

Education and Guidance Opportunities	Provide guidance and opportunities for local developers and engineers to learn about green infrastructure practices that can be incorporated into new developments in a way that supports the City. Potential examples could include: • Hosting technical design charrettes/workshops with local developers and engineers to build shared understanding and explore implementation pathways that make sense for all parties involved. • Develop sample site plans and visual renderings to illustrate identified best practices and alternatives to conventional subdivision layouts. This could be structured similarly to the B3 Pattern Book for various stakeholders.
CRS Participation and Green Infrastructure Activities	Link green infrastructure practices to future CRS participation - use this effort to meet selected CRS open space and nature-based activities. Certain CRS activities, identified from the CRS Coordinator's Manual, are intended to provide the public with information needed to increase flood hazard awareness and to motivate actions to reduce flood damage, encourage flood insurance coverage, and protect the natural functions of floodplains. • 420 Open Space Preservation. • 450 Stormwater Management. • 540 Drainage System Maintenance.

Supporting Resources:

Tools and Technical Guidance

Table 10: Identified Project #3 Tools and Technical Guidance

Tool/Technical Guidance	Description	Resource Location
Texas A&M AgriLife Extension Green Infrastructure for Texas (GIFT)	This program provides resources and programming about nature-based solutions for stormwater management through outreach, coalition-building, education, and on-the-ground projects.	*agrilife.org/gift/*
The North Central Texas Council of Governments (NCTCOG) Integrated Stormwater Management Program (iSWM)	With the support of the NCTCOG, the iSWM Program was established to help communities within that region achieve their goals of water quality protection, streambank protection, and flood mitigation. iSWM has a Criteria Manual that provides design guidance and a framework for incorporating effective and environmentally sustainable stormwater management into site development and construction processes. There is also a Technical Manual available that focuses on Planning, Water Quality, Hydrology, Hydraulics, Site Development Controls, Construction Controls, and Landscape. The iSWM Program and associated documents are useful sources to understand how to implement a framework across a region - something that Bastrop could consider with nearby municipalities and counties, and regional council of governments (CAPCOG).	*www.iswm.nctcog.org/* *iswm.nctcog.org/criteria-manual* *iswm.nctcog.org/technical-manual*
U.S. Army Corps of Engineers (USACE) Engineering with Nature (EWN)	This program applies science and engineering to deliver infrastructure solutions that are effective, resilient, and operationally efficient. With the integration of natural and built systems, EWN enhances infrastructure performance while strengthening resilience, potentially reducing costs, and creating lasting value for communities and ecosystems. This program has developed several resources for use, including implementation, research, tools, designs, and more.	*ewn.erdc.dren.mil/*

CRS Resources	FEMA hosts information about the CRS program and provides resources on forms, participating communities, discounts available for flood insurance, data visualizations, case studies, blogs and fact sheets. The CRS Resources website provides reference materials related to CRS and hosts information on CRS documents, worksheets, and tools relevant to the activities credited under the CRS Coordinator's Manual.	*www.fema.gov/floodplain-management/community-rating-system* *crsresources.org/*
TWDB Nature-based Solutions for Flood Mitigation in Texas	This guidance document will synthesize guidance on the use of nature-based flood mitigation solutions into a single, statewide manual for Texas communities. The intent is to help address flood risk, water quality, groundwater recharge, habitat improvement, and community enhancement goals as independent nature-based solutions or in combination with traditional flood mitigation and infrastructure. A public draft of this document is expected in Fall 2025, with a completed version at the end of 2025.	*www.twdb.texas.gov/flood/research/Nature-based-Solutions-2022*

Potential Funding Resources:

Table 11: Identified Project #3 Potential Funding Resources

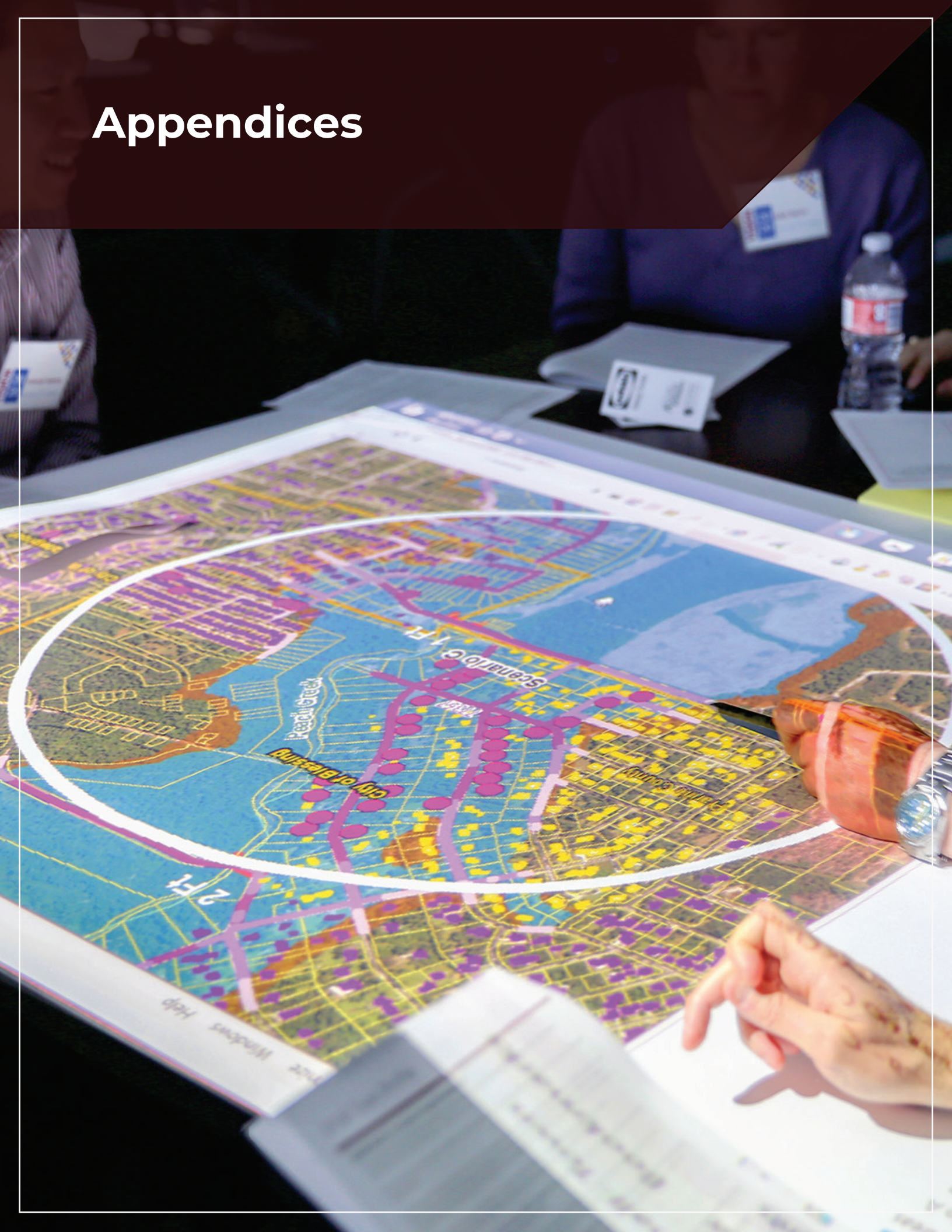
Funding Source	Description	Resource Location
Texas Flood Information Clearinghouse	This is Texas' "one-stop-shop" for information on flood mitigation funding opportunities for communities in Texas. Green infrastructure, nature-based solutions, and other relative activities are eligible for funding through the programs listed below. Not all sources are available for every activity (e.g., some may include requirements like Presidential Disaster Declarations). Funding varies per program.	*texasfloodclearinghouse.org/* Hazard Mitigation Grant Program (administered by TDEM). *www.tdem.texas.gov/mitigation/hazard-mitigation-section* Pre-Disaster Mitigation (administered by TDEM). *www.tdem.texas.gov/mitigation/hazard-mitigation-section* Flood Mitigation Assistance (administered by TWDB). *www.twdb.texas.gov/financial/programs/FMA*

		Flood Insurance Fund (administered by TWDB). *www.twdb.texas.gov/financial/programs/fif* Clean Water State Revolving Fund (administered by TWDB). *www.twdb.texas.gov/financial/programs/CWSRF* Texas Water Development Fund (administered by TWDB). *www.twdb.texas.gov/financial/programs/twdf* Development Block Grants - Disaster Recovery (administered by GLO). *www.glo.texas.gov/disaster-recovery*
Texas General Land Office (GLO) Resilient Communities Program (RCP)	This program provides grants up to $300,000 for eligible entities to develop, adopt, and implement modern and resilient building codes and flood damage prevention ordinances to ensure that structures built within the community can withstand future hazards. While green infrastructure planning and implementation alone is not a standalone activity, if Bastrop decides to incorporate these measures into codes, ordinances, and plans, the RCP may be able to fund a comprehensive project	*www.glo.texas.gov/disaster-recovery/mitigation/resilient-communities-program*
U.S. Department of Transportation (USDOT) Better Utilizing Investments to Leverage Development (BUILD) Grant Program	Capital projects (including projects to replace or rehabilitate a culvert or prevent stormwater runoff for the purpose of improving habitat for aquatic species while advancing the goals of the BUILD program), and planning projects (which include planning, preparation, or design) are considered eligible under this program. For FY25, capital grants for rural areas were required to request at least $1 million in BUILD funding; there was no minimum funding request for planning grant applications; and grants were capped at $25 million.	*www.transportation.gov/BUILDgrants*

National Fish and Wildlife Foundation - Five Star and Urban Waters Restoration Grant Program	This program seeks to develop nationwide community stewardship of local natural resources, preserving these resources for future generations and enhancing habitat for local wildlife. Grants seek to address water quality issues in priority watersheds, such as erosion due to unstable streambanks, pollution from stormwater runoff, and degraded shorelines caused by development. Projects awarded through this program provide environmental education and training through projects that restore wetlands and streams. Grants awards are around $10,000 - $40,000.	*www.epa.gov/wetlands/five-star-wetland-and-urban-waters-restoration-grants* *www.nfwf.org/programs/five-star-and-urban-waters-restoration-grant-program*
U.S. Army Corps of Engineers (USACE) Flood Plain Management Services (FPMS)	This program offers technical services that include urbanization impacts, stormwater management, natural and nature-based solutions, and other flood-specific efforts. Efforts under this program are funded at 100% federal cost to local, regional, state, and other non-federal governmental partners. Funding varies by district, availability, and eligibility of project.	*www.usace.army.mil/Missions/Civil-Works/Technical-Assistance/FPMS/* *www.swf.usace.army.mil/ (Bastrop is located within the Fort Worth USACE District)*
National Park Service (NPS) Rivers, Trails, and Conservation Assistance Program (RTCA)	This program supports locally-led conservation and outdoor recreation projects by assisting communities and public land managers in developing or restoring parks, conservation areas, rivers, and wildlife habitats, as well as creating outdoor recreation opportunities. Financial assistance and monetary grants are not provided as part of this program - instead, as a collaborative partner NPS-RTCA will provide professional services to help achieve conservation and outdoor recreation project visions.	*www.nps.gov/orgs/rtca*

Texas Commission on Environmental Quality (TCEQ) Nonpoint Source Program Grant	This program provides funding to projects that address the objectives, goals, or priorities addressed in the Texas Nonpoint Source Management Program. Priority is given to projects that lead to water quality improvements and develop and implement EPA-accepted watershed protection plans. Although there is no defined maximum or minimum grant amount, recent awarded projects ranged from $60,000 to $480,000 in federal dollars, with total costs ranging from $100,000 to $800,000. Projects must include a non-federal match for 40% of total project cost.	*www.tceq.texas.gov/waterquality/nonpoint-source/grants*
American Flood Coalition Flood Funding Finder	This interactive website simplifies federal grants to help communities identify and prioritize opportunities to fund resilience. This resource may over time include funding opportunities for projects such as this, as well as many others.	*floodcoalition.org/fundingfinder/*

Appendices



Appendix A: Bastrop PIE Workshop – Memo – June 2025

Appendix B: Bastrop County CHARM Resiliency Workshop Report (2022)

Appendix A

TO: City of Bastrop
FROM: Texas Community Watershed Partners, Texas A&M AgriLife Extension Service
DATE: June 25, 2025
SUBJECT: Project Identification Exercise Workshop Notes – Bastrop – June 2025

1. Purpose

This document summarizes the key discussion points from the Project Identification Exercise Workshop, held in Bastrop, Texas on June 25, 2025.

2. Workshop Overview

Date & Time:	June 25, 2025, 1:30 PM – 3:30 PM
Location:	Bastrop Council Chambers – City Hall 1311 Chestnut Street, Bastrop, TX 78602
Participants:	16 Workshop Participants City Staff, Council Members, Planning & Zoning Commission, County Museum
Format:	Two breakout tables using the CHARM setup for "around-the-table" mapping exercises and facilitated discussion. Participants were split between the two tables, and some participated at both table discussions.

3. Key Discussion Points

The summarized key discussion points are provided below. Content is combined from both breakout tables.

<u>Flood Insurance Rate Maps (FIRM) and Base Level Engineering (BLE)</u>
The FIRMs and the BLE data for Bastrop seem to be complementary to each other. When considered together, they show more comprehensive risk across the community. One set of data does not necessarily have to be better than the other but instead consider the dataset that shows the greater risk – also known as "best available data". The best available data should be used when making development and growth decisions and plans.

<u>Gills Branch</u>
Discussion started with a focus on the area at Pecan St and Beech St and drainage improvements related to Gills Branch – the Gills Branch improvement area between 95 and Cedar Street. Bar ditches and culverts.

Gills Branch Improvement Project – Phase 1 includes channel improvements to Gills Branch; goal is to curb flooding during a 100-year, or 1%, flood event.

Northside of town (Between Mesquite St. and Cedar St.)
Discussion started with a focus on the northside of town, around Mesquite St., Hawthorne St., Water St., Pecan St., Laurel St., and Hickory. There is known street flooding, and water has entered homes before. The railroad in this area acts like a levee during rain events, which impacts drainage.

Pecan Street
Pecan and Linden – One participant lost 2 cars in 2015; Hill St. standing water in home; There was considerable discussion on the subject of Pecan Street and the fact that the street is elevated. The question arose as to how and why the street is elevated, and whether it is higher than it used to be, due to utility work being done underneath the street.

Southwest of town (Near Hunters Crossing)
There was concern expressed about flooding issues at the Bastrop city limits, on the southwest side of town in the Hunters Crossing area. Citizens right outside the city limits, but within the ETJ are experiencing flooding issues.

Just north of Hwy 21 near this area, there is a natural high point close to the Colorado River and there were some concerns expressed about future development in this area and what impacts there could be. Concerns raised here focused on developers and can recommendations or changes be made for any water diversion to reduce nearby and downstream impacts.

Hunters Crossing
Discussion of Hunters Crossing included that water is coming in from Burleson – Potential concerns for problems downstream; Sendero detention pond; need to understand north side; land north of Sendero is currently undeveloped.

Incoming Development
Various developments were mentioned during the workshop. Some were in lower risk areas (i.e., 500 year or 0.2% flood zone), while others were in “dry” or minimal risk areas. While developments may be constructed in lower risk areas, consideration may still be needed to ensure no downstream impacts. This was not a comprehensive list, but the information was provided to help understand what type of growth the community is facing.

- Multi-family/senior living community complex center.

- Large residential subdivision, ¼-acre lots near FM 969.
- Expecting a lot of commercial development as the City continues to grow.

Infrastructure Needs

With the expected development growth and pressure Bastrop is seeing, ensuring adequate infrastructure is in place to support the growth is essential (wastewater, water, roads, etc.)

Decreased Impervious Cover

The city has decreased its impervious cover requirements. For minor plats in the ETJ, drainage calculations are required to show that the development does not exceed 60% impervious cover.

No Adverse Impact

The group discussed potential engineering solutions to slow water down. Reference was made to the section of the Stormwater Drainage Design Manual that there be "No Adverse Impact" on adjacent properties (Section 1.B.3) – "development shall not increase stormwater runoff peak flow discharge or velocities over natural conditions, particularly on adjacent and downstream properties for a 2-year, 25-year, or 100-year, 24 hour storm events, unless a downstream assessment shows no impact to the downstream receiving stream. When preliminary drainage studies indicate that peak flows or velocities will be increased, then detention basins or other techniques shall be provided to reduce flows to natural conditions."

Improve Drainage with New Developments

The question was posed as to whether developers have actually improved drainage, because they often claim that their development will improve on-site and off-site drainage. The city manager indicated that in her decades of experience, she could not think of one example of a development that had improved existing drainage in its vicinity. The group asked what some potential solutions might be, and she responded that cluster development could help if it set aside a large enough open space that could help slow and allow run off to infiltrate. The group discussed whether a massive detention pond could be a/the solution.

How Can the City Prepare for the Future?

Communication is key, as well as regional support. There are opportunities for the City and the County to work together, and even other cities within the County that face similar issues, to share burdens and face problems together when feasible. Knowing that development is coming, now is the time for the City (and any partners) to mitigate decisions that could cause impacts in the future.

There was a discussion about what will happen next, in the context of who will continue to champion the flood issues and see that they remain a priority as needed. Planning documents such as the Future Land Use Plan are helpful in that future boards and councils can utilize to understand what the plan is and to keep the plan moving forward as best as possible.

As the community continues to see growth, now is the time to educate new residents who come in. Teach them about the FIRM and the BLE and inform them of their flood risk. If they are willing to take certain risks, at least they are making informed decisions.

4. Next Steps

Staff from Texas Community Watershed Partners, Texas A&M AgriLife Extension Service will prepare a final Workshop Summary report, that includes projects identified based on discussions and priority areas recognized during the Bastrop Project Identification Exercise Workshop. While identified projects are expected to be conceptual and not fully developed, they are intended to provide a foundation of resources and recommendations to guide the planning process. The final Workshop Summary Report is expected to be available for the City Council meeting on August 12, 2025.

5. Attachments

Attachment 1:	Workshop Agenda
Attachment 2:	Sign-in Sheets
Attachment 3:	Images from the CHARM model used during the workshop, showing the FIRM and BLE

CHARM

Bastrop Project Identification Exercise Workshop Agenda

Hosted by Texas A&M AgriLife Extension Service

Attachment 1: Agenda

Wednesday June 25, 2025

Bastrop Council Chambers - City Hall
1311 Chestnut Street, Bastrop, TX 78602

1:00 PM *Doors Open & Sign-in*

1:30 PM *Welcome and Introduction to CHARM*

***Amanda Cain**, Resilience Planner, Texas A&M AgriLife Extension*
***Ishmael Harris**, Mayor, City of Bastrop*
***Kelsey Johnson**, Associate Planning Program Director, Texas A&M AgriLife Extension*

1:45 PM *CHARM Table Exercises*

3:15 PM *Full Room Debrief*

3:25 PM *Closing Remarks and Next Steps*

3:30 PM *Adjourn*

CHARM

Bastrop Project Identification Exercise Workshop

June 25, 2025 | Bastrop, TX

Attachment 2: Sign-in Sheets

Name	Organization	Title	E-mail Address	Present
Robert Barron	City of Bastrop	GIS Manager	rbarron@cityofbastrop.org	
David Barrow	City of Bastrop Planning & Zoning Commission	Commissioner, Place 9	david@edeneastaustin.com	
Brittany Epling	City of Bastrop Development Services Department	Senior Planner	bepling@cityofbastrop.org	
Kerry Fossler	City of Bastrop City Council	Council Member, Place 4	kfossler@cityofbastrop.org	
Ishmael Harris	City of Bastrop	Mayor	iharris@cityofbastrop.org	
Perry Lowe	City of Bastrop City Council	Council Member, Place 1	plowe@cityofbastrop.org	
Alondra Macias	City of Bastrop Development Services Department	Planner	amacias@cityofbastrop.org	
Cynthia Meyer	City of Bastrop City Council	Council Member, Place 2	cmeyer@cityofbastrop.org	
Gary Moss	City of Bastrop Planning & Zoning Commission	Commissioner, Place 4	gary1706moss@gmail.com	
Pete Parsons	City of Bastrop Planning & Zoning Commission	Commissioner, Place 6	pparsons51@aol.com	

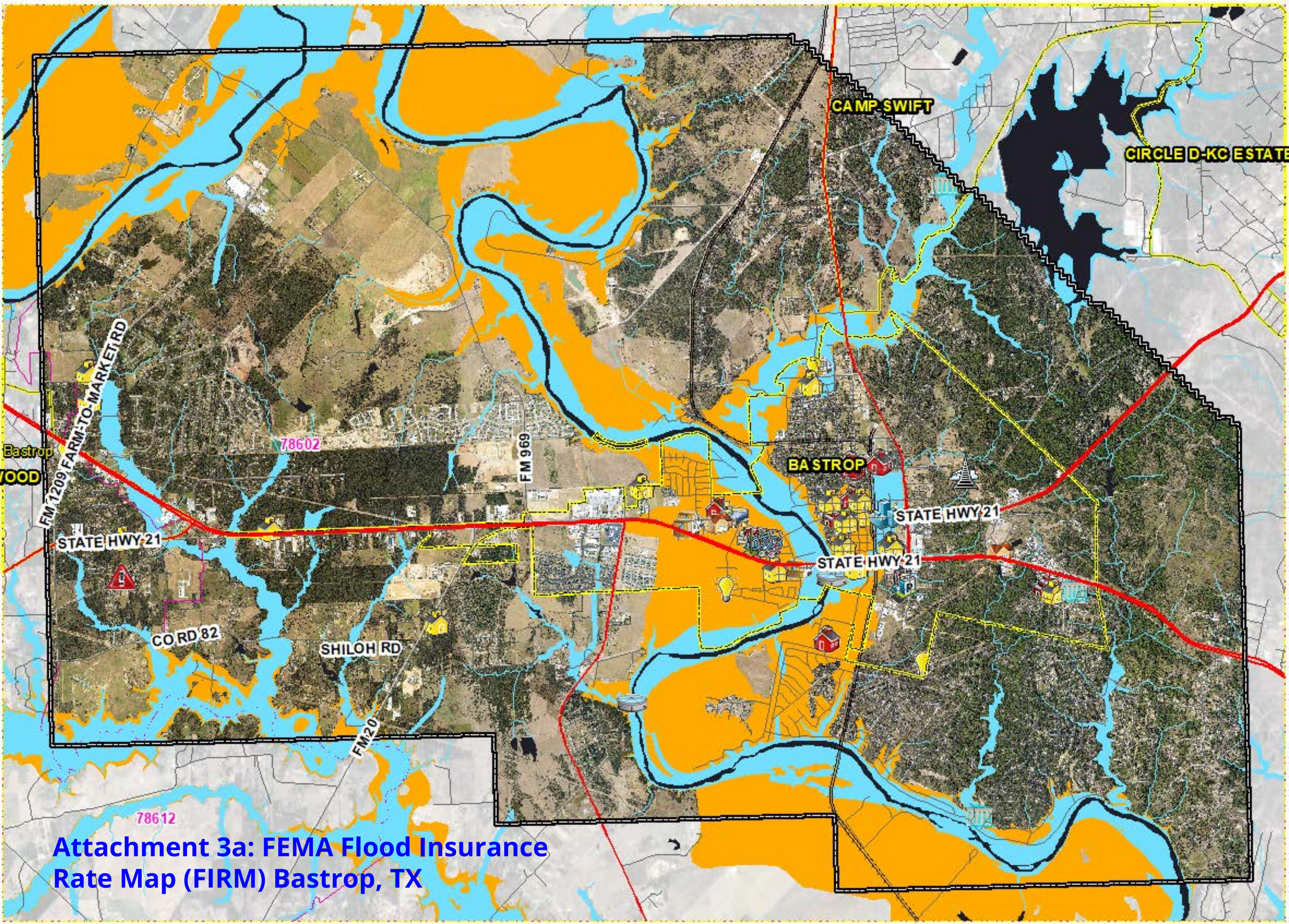
CHARM

Bastrop Project Identification Exercise Workshop

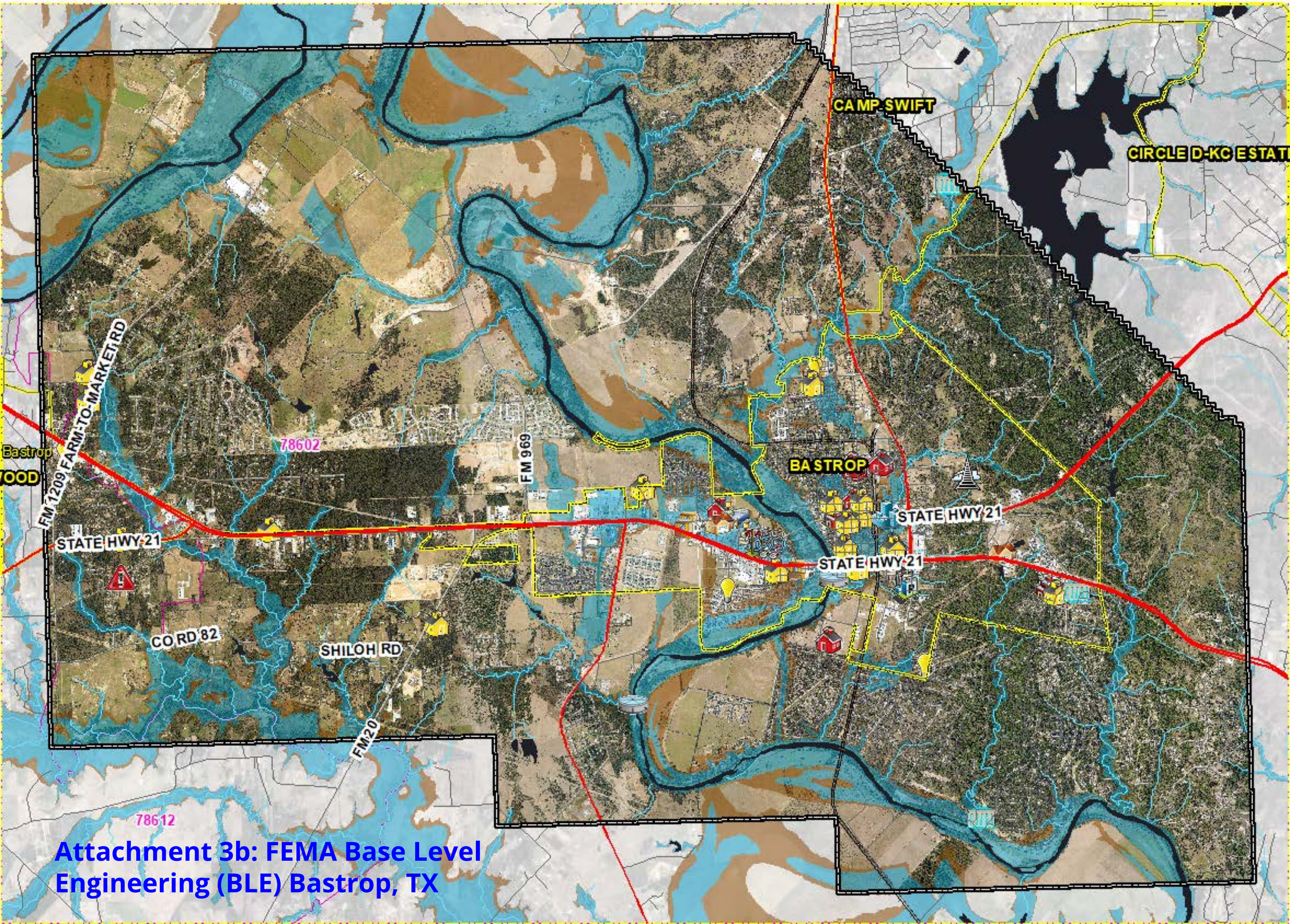
June 25, 2025 | Bastrop, TX

Name	Organization	Title	E-mail Address	Present
Kevin Plunkett	City of Bastrop City Council	Council Member, Place 3	kplunkett@cityofbastrop.org	KP
Jordan Scott	City of Bastrop Planning & Zoning Commission	Commissioner, Place 8	j.scott2051@gmail.com	JS
Chris Toth	City of Bastrop Planning & Zoning Commission	Commissioner, Place 1	christoth01@gmail.com	CT
Elizabeth Wick	City of Bastrop Engineering Department	Project Manager	ewick@cityofbastrop.org	Ew
John Kirkland	City of Bastrop City Council	MPT PLACE 5 (Mayor Pro-Tem)	JKirkland@cityofbastrop.org	JK
JANE WRIGHT	BASTROP COUNTY MUSEUM	VICE PRESIDENT	Jane.h.wright@outlook.com	✓
GLENDA DAYTON	BASTROP COUNTY MUSEUM	PRESIDENT	director@bchs1832.org	✓

14



Attachment 3a: FEMA Flood Insurance Rate Map (FIRM) Bastrop, TX

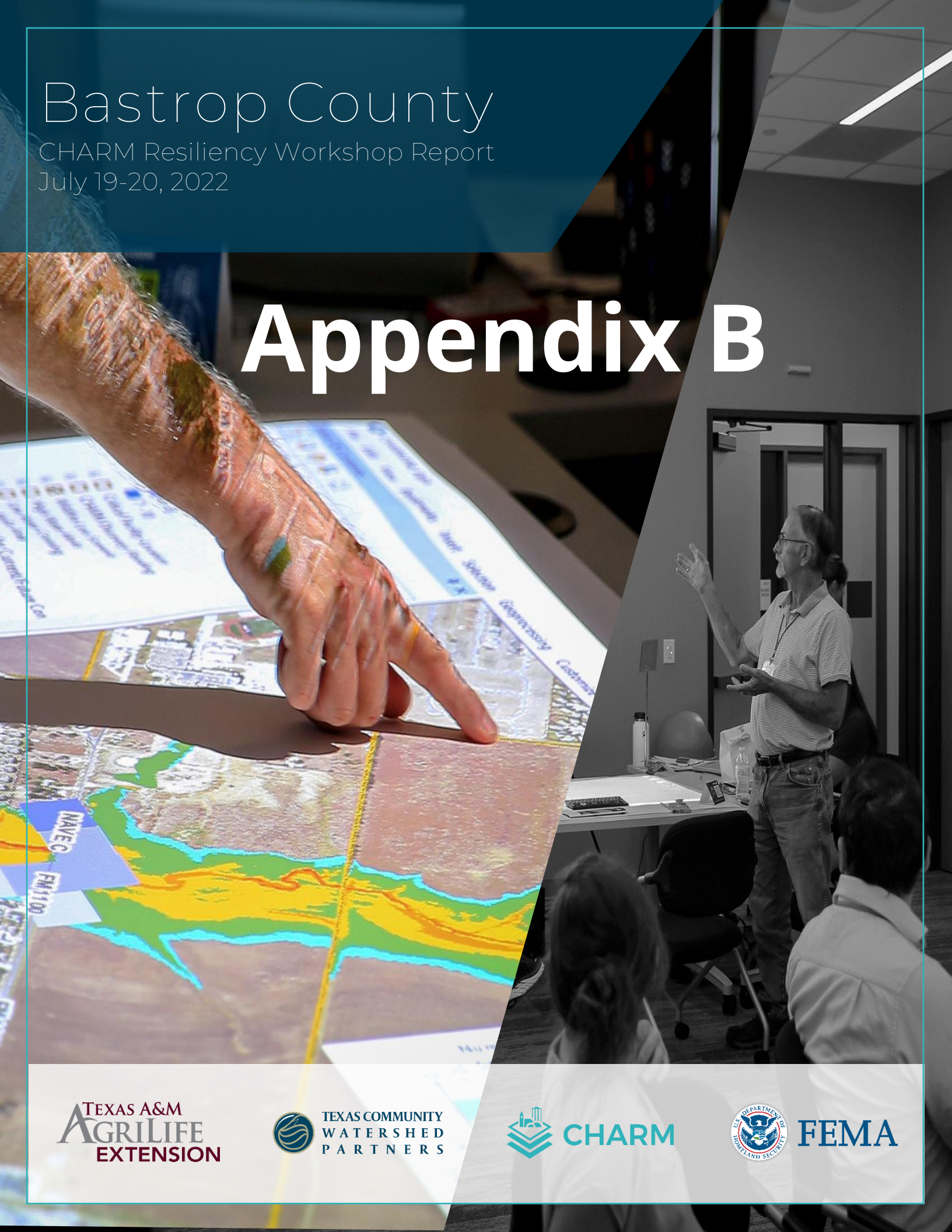


Attachment 3b: FEMA Base Level Engineering (BLE) Bastrop, TX

Bastrop County

CHARM Resiliency Workshop Report

July 19-20, 2022



Appendix B

Texas A&M AgriLife Extension

Texas Community Watershed Partners

CHARM

FEMA

Executive Summary

On July 19th and 20th, 2022, the Texas Community Watershed Partners (TCWP) project team conducted the Bastrop County Resiliency Workshop supported by resources provided by the Federal Emergency Management Agency (FEMA).

18 County stakeholders, as well as State and federal partners attended the two-day, hybrid-format workshop and worked together to improve local understandings of how urban planning and development decisions can better prepare communities for the future through hazard mitigation. The workshop was held both online via the Zoom platform (on July 19th) and in-person at the Bastrop County Emergency Operations Center, Mike Fisher Building (on July 20th). The virtual portion of the workshop included an introduction to the CHARM program and concepts of resilience and risk, in addition to presentations from State and Federal partner organizations. Presentations covered best practices in hazard mitigation, risk data, and how each of their organizations can support local hazard mitigation efforts.

The in-person second day included breakout tables, each set up with the CHARM platform, and face-to-face discussions around local risks and opportunities for resilience building. The CHARM platform allows communities to digitally draw different growth and development scenarios on a map of their community and see the implications of their planning decisions in real time. Using CHARM, participants were able to determine which approaches and scenarios might either increase or decrease disaster risk in their communities, and where potential mitigation actions can decrease risk.

TCWP personnel worked closely with FEMA, Bastrop County Office of Emergency Management, and Texas A&M AgriLife Extension Service personnel stationed in Bastrop County to coordinate the workshop and establish strong community relationships.

Post-workshop survey results demonstrated that all participants learned something they would apply in future planning work and decision-making aimed at managing risk and advancing resilience in their communities.

Contents

The CHARM Approach

The CHARM Resiliency Workshop

Introduction to CHARM, Education, and Partnerships

Amanda Ashcroft, a Project Manager at TCWP, provided an overview of the CHARM platform and approach, workshop agenda, goals, and priorities. Andrew Knuppel, the Planning Program Manager at TCWP, introduced the various components of resiliency and risk such as hazards, vulnerability, and exposure. The introduction drew on characteristics of resilient places and institutions based on established hazard mitigation research, discussed case studies and initiatives to enhance community resilience, and offered an overview of the CHARM platform and the workshop goals. The CHARM workshop was supported by TCWP's status as a Cooperating Technical Partner with FEMA Region 6. Additionally, key state and federal partners presented on their programs during the first morning of the workshop which took place on Zoom.

Hands-On Application and Discussion

During the in-person second day of the workshop, participants were assigned to breakout tables divided by community to engage with the CHARM platform. Each exercise was facilitated by a trained staff member who explained the mapping software, basic tools, layers, and indicators and attributes. Following this introduction, participants took direct control of the mouse and began to digitally "paint" development scenarios on the map itself. Participants explored map data and development scenarios, identified mitigation opportunities, and discussed what they had learned with one another.

Reflection and Debrief

After the breakout session, each table facilitator engaged breakout participants in a debrief conversation. Each table discussed guiding hazard mitigation principles and priorities, needs or capacity gaps, and potential short-term actions that might be taken locally to enhance resilience. Following table debriefs, representatives from each table shared key topics and themes covered by their groups.

Supporting Mitigation Action

Creating Relationships, Continuing Conversations

CHARM aims to bring together a variety of local stakeholders for conversations about community risk and future change. TCWP hopes that the conversations at a CHARM workshop will lead to opportunities for improved collaboration and coordination in participating communities.

Identifying Strategies and Technical Assistance Opportunities

CHARM exercises aim to help communities assess risk and identify opportunities to become more resilient. At the end of the workshop, TCWP staff provided an overview of technical assistance programs available to Texas communities.

The CHARM Platform

CHARM (Community Health and Resource Management) helps communities visualize how planning decisions made today will impact tomorrow's environment and community. With over three dozen indicators for assessing planning decisions, CHARM gives local officials, stakeholders, and citizens the power to map and analyze hypothetical growth with real-time feedback.

CHARM Data Layer: CHARM integrates a variety of local, state, and federal datasets to provide curated and hyper-local analyses for communities.

ArcGIS & CommunityViz: These software packages visualize data and conduct analyses in real-time.

weTable: Using off-the-shelf technology, CHARM can easily be displayed on any surface to facilitate in-person, "around the table" interactions and discussion.

CHARM Exercises

The basic unit of analysis in CHARM is the 2.5-acre grid cell. It enables the team to create hyper-local indicators and scenarios, based on data collected from publicly available federal, state, and local sources. Utilizing this framework. CHARM includes the following standardized and fully customizable exercises:

Social Vulnerability

Participants explore how, and where, risk impacts different population groups in their community, using Census (American Community Survey) demographic and socioeconomic data.

Flood Extent & Depth

Participants assess how flood events could impact neighborhoods using recently modeled flood elevation data (such as FEMA's Base Level Engineering [BLE] initiative) and local housing and population data.

Dedicate/Elevate/Vacate Mitigation Exercises

Participants screen locations for open space preservation, structural elevation, and buy-outs of flood-prone properties using flood, open space, and housing data.

Discovery Flooding

Participants map local flooding issues not shown in other datasets, including overbank and backflow flooding, street flooding, and ponding.

Future Land Use Scenario Painting

Participants paint future development scenarios and assess their resulting risk and growth trends using 13 development 'paints' corresponding with local land uses.

Critical Facilities

Participants assess how flood events could impact critical facilities and community "lifelines" and identify opportunities for mitigation projects.

Partner Presentations

The Bastrop County Resiliency Workshop brought together a diverse group of participants and speakers. State and federal agency partners offered presentations on risk, resilience building, and partnership opportunities and engaged with participants in CHARM activities. Partners' presentations were made available to workshop participants. Summaries of the presentation topics are provided below.

Texas Water Development Board

Raddiete Sogaolu
Flood Outreach Specialist
Community Assistance Program

Raddiete Sogaolu provided information on TWDB programs and grants for disaster-prone communities. Programs she introduced included the National Flood Insurance Program (NFIP), the Community Rating System (CRS), and the Community Assistance Program.

Ms. Sogaolu also discussed the Flood Mitigation Assistance Planning grants, projects grants, and the Cooperating Technical Partners program.

Learn about TWDB's flood programs here.
Contact Raddiete Sogaolu at: raddiete.sogaolu@twdb.texas.gov

TEXAS DIVISION OF EMERGENCY MANAGEMENT
TDEM
THE TEXAS A&M UNIVERSITY SYSTEM

Hollie Bierbauer
Mitigation Coordinator
Hazard Mitigation Division

Hollie Bierbauer provided an overview of programs, resources, and hazard mitigation grants. Grant opportunities included the Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA), and Fire Mitigation Grant Program (FM-5420) grants as well as risk assessments and qualifications for determining grant eligibility.

Learn about TDEM's hazard mitigation section here.
Learn about TDEM's current funding opportunities here.
Contact Jasper Cooke at: jasper.cooke@tdem.texas.gov

D.A.R.
DISASTER ASSESSMENT AND RECOVERY

Troy Luepke
Disaster Assessment and Recovery
Agent, District 10, West

Trop Luepke presented information on the Disaster Assessment and Recovery (DAR) Unit's structure and programs. This included an overview of DAR's efforts to enhance disaster readiness in Texas and its work in operating shelters, managing COVID-19 vaccine distribution, and supporting community risk reduction activities.

Contact Troy Luepke at: troy.luepke@ag.tamu.edu

FEMA

Diane Howe & Dustin Busse
Risk MAP Lead & Risk MAP Outreach and Communication Coordinator
FEMA Region VI

Diane Howe and Dustin Busse discussed various online resources and data provided by FEMA. These included the Estimated Base Flood Elevation (estBFE) Viewer; and the Interagency Flood Risk Management (InFRM) site.

The estBFE Viewer allows users to visualize available Base Level Engineering data and base flood elevations within 1% and .2% flood zones. The InFRM site, a collaboration between FEMA and other federal agencies focused on emergency management, provides tools that allow users to estimate base flood elevations, assess weather conditions that might impact resilience and risk management, and assess hydrology across watersheds by river basin.

Visit the InFRM site here.
Visit the estBFE Viewer here.
Contact Diane Howe at: diane.howe@fema.dhs.gov
Contact Dustin Busse at: dustin.busse@fema.dhs.gov

US Army Corps of Engineers ®

Lisa McCracken Mairs
Project Manager, Flood Risk Manager
U.S. Army Corps of Engineers
Galveston District

Lisa McCracken Mairs provided details on flood resilience training, mitigation, response, and recovery services USACE provides, including the Silver Jackets and Flood Plain Management Service (FPMS) programs.

Visit the Silver Jackets site here.
Visit the FPMS program site here.
Contact Lisa McCracken Mairs at: lisa.m.mairs@usace.army.mil

TEXAS A&M FOREST SERVICE

Jake Gosschalk
Wildland Urban Interface
Specialist II

Jake Gosschalk provided information on the Texas A&M Forest Service (TFS) programs and grants for Bastrop County communities. Programs introduced included the State Fire Assistance for Mitigation (SFAM) Mechanical Fuel Reduction Grant which provides financial assistance to reduce the hazard of high-risk fuels on private lands via hazardous fuel reduction. Mr. Gosschalk also introduced TFS resources that can be found on their website, including the funding connector tool that provides information about various natural resource programs that offer financial assistance to Texas landowners that implement conservation practices.

Learn about TFS programs here.
Find the TFS Funding Connector Tool here.
Contact Jake Gosschalk at: jgosschalk@tfs.tamu.edu

Participant Evaluations

Participant evaluations were collected at the end of the workshop.

- Of the participants in attendance at the in-person portion of the workshop, 9 responded to survey questions.
- 100% agreed that the workshop was a good use of their time.
- 100% agreed that they learned something that can be applied in future decisions.

Selected Comments

"Which aspect of this workshop was most useful to you and why?"

"Using data to inform land use and planning decisions and prioritizing communities most affected."

"Integration of planning data with emergency management data."

"Learning about the CHARM resource. Many applications for planning and grant writing."

"Small group, hands-on learning format was excellent."

Recurring Themes

The Bastrop County Resiliency Workshop provided a forum to help communities better understand their risk and make sound development decisions. It also provided a platform for members of different organizations to identify critical needs in communities across the county.

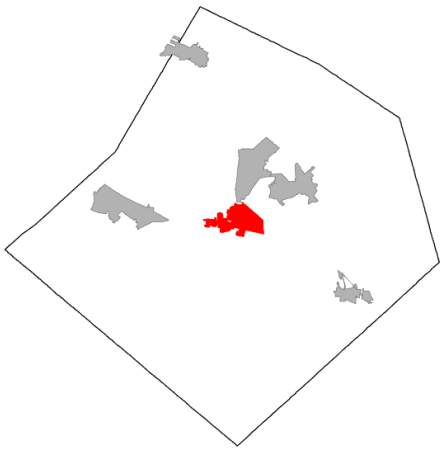
Some common themes included:

- High levels of social vulnerability and how it relates to the state.
- Accuracy of social vulnerability data based on 2020 census results in communities with a large or growing number of non-citizens who may not have participated in the census.
- Communication of risk and mitigation actions residents can implement for both flood and fire concerns; public education would support communities in reducing vulnerability of residents and increase preparedness for future disasters.
- Other hazards of concern to communities within Bastrop County- including wildfires and tornadoes/straight line winds.

Table Summaries

City of Bastrop, City of Elgin

City of Bastrop



Localities included in the study area are shown in red. The outline of Bastrop County is included for reference.

Overview

The City of Bastrop's growth pattern is influenced by the presence of sensitive environmental lands, and the endangered Houston Toad species, within and around the community. Growth is limited by the capacities of the city's various public utility systems. The city also experiences significant risk from wildfires, which can exacerbate flood risks. One of the most destructive wildfires in Texas history, the Bastrop County Complex fire, occurred partially within the city limits. The Bastrop Complex Fire destroyed 1,691 homes, killed two people, and caused $325 million of insured property damage. The city is seeing growth in the form of sprawl from rising costs within the City of Austin and expects this pattern to continue as more Austinites move to find more affordable housing options.

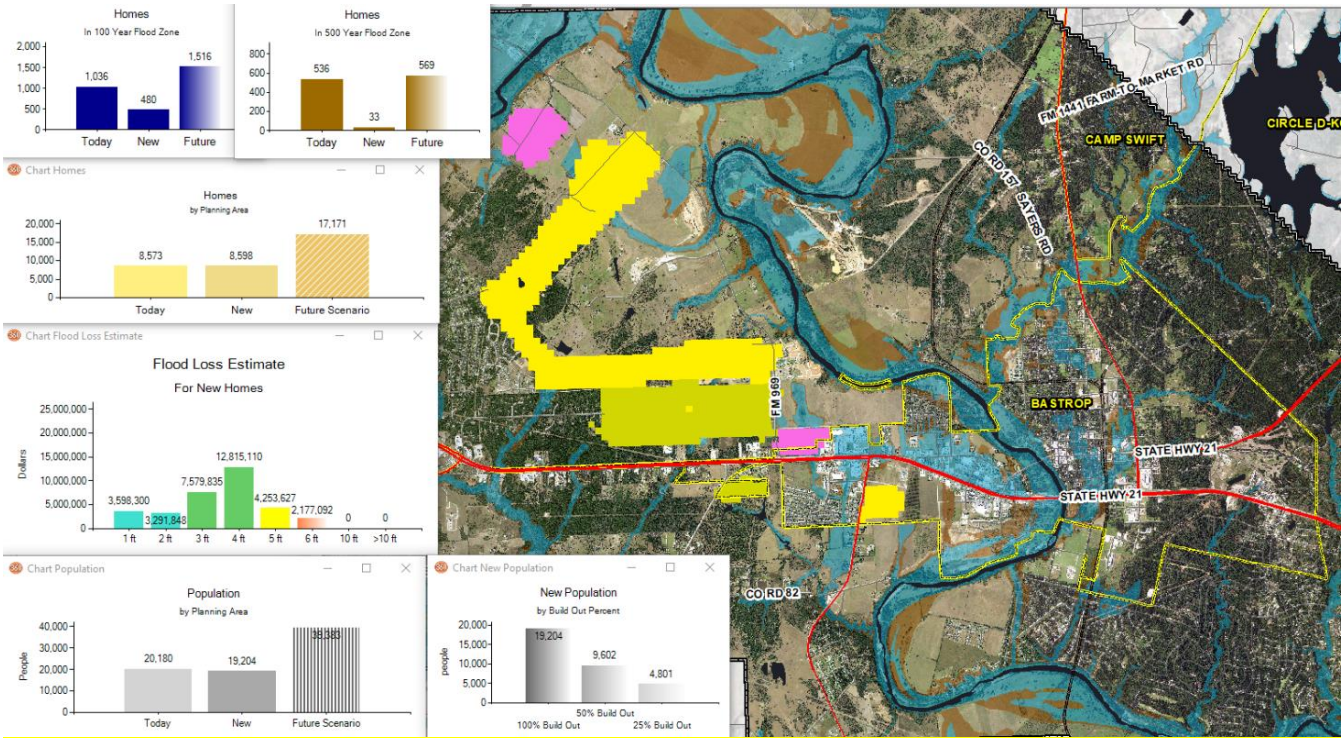
Stats

2010 Population: 7,218
2020 Population: 10,182
Projected 2040 Population: 21,003

2010 and 2020 population figures from the 2010 and 2020 Decennial Census. Population projections from Texas Water Development Board, 2017.

Discussion Topics

- Ingress and egress points for the larger new developments coming in.
- Flooding is not always directly associated with rivers and creeks: it can be from low elevation or lack of drainage for the rain event rather than just a riverine flood event. Participants noted that a heavy rain event would flood the city, and many areas that could potentially flood aren't necessarily shown as being within a flood zone.
- Wildfire risk to the city and wildfire mitigation activities being implemented such as building and subdivision codes for homes within the Wildland Urban Interface (WUI).
- CHARM and data being useful for grant applications the city could apply for.
- Houston Toad habitat and conservation area.
- Emergency response challenges within the Tahitian Village development due to limited ingress/egress points and confusion surrounding street names within the subdivision.
- Demographics of the community are changing quickly due to rapid growth.
- Concerns about the long-term resiliency of key infrastructure such as roadways.
- Future development projects will be annexed into city limits, increasing the tax base but putting strain on current infrastructure and services.



Potential Mitigation Actions

Plans and Regulations

- Implement No Adverse Impact principles in new developments to minimize impact to neighboring communities and subdivisions.
- Consider updating subdivision regulations to include additional ingress or egress points to aid in the timely evacuation of citizens.

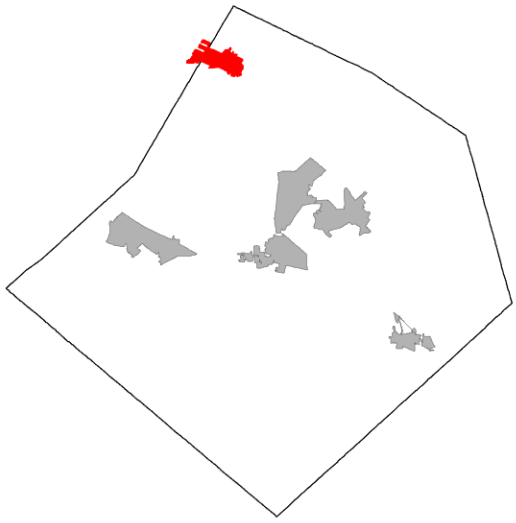
Structure and Infrastructure Projects

- Consider higher standards such as elevating or floodproofing structures facing repetitive flooding issues.
- Improve drainage infrastructure within the Hunter's Crossing subdivision on SH 304.

Administration, Partnerships, and Outreach

- Raise awareness of Base Level Engineering data among residents and developers to encourage higher building standards above the BLE + 2-foot freeboard requirement currently in place, and to strengthen community buy-in.
- Raise awareness and education of citizens regarding fire mitigation and wildfire risks, wildland-urban interface zones, prescribed burns, wood chipping, fuel mitigation and other actions that can be effectively implemented on their property.
- Work with TxDOT to address blocked or undersized culverts and other necessary improvements.

City of Elgin



Localities included in the study area are shown in red. The outline of Bastrop County is included for reference.

Overview

Elgin is located in both Bastrop and Travis counties and is considered to be one of the fastest growing communities in Texas. The City of Elgin experienced a population growth of 20% between 2010-2020. The city is experiencing rapid growth due in part to rising costs and home prices within the City of Austin to the West. There are numerous new subdivision development projects being constructed with the city. New developments are arriving at such an unprecedented pace that city leaders expect all city services to be affected due to increased demand for services such as police, fire, parks, schools, childcare, and water demand among others.

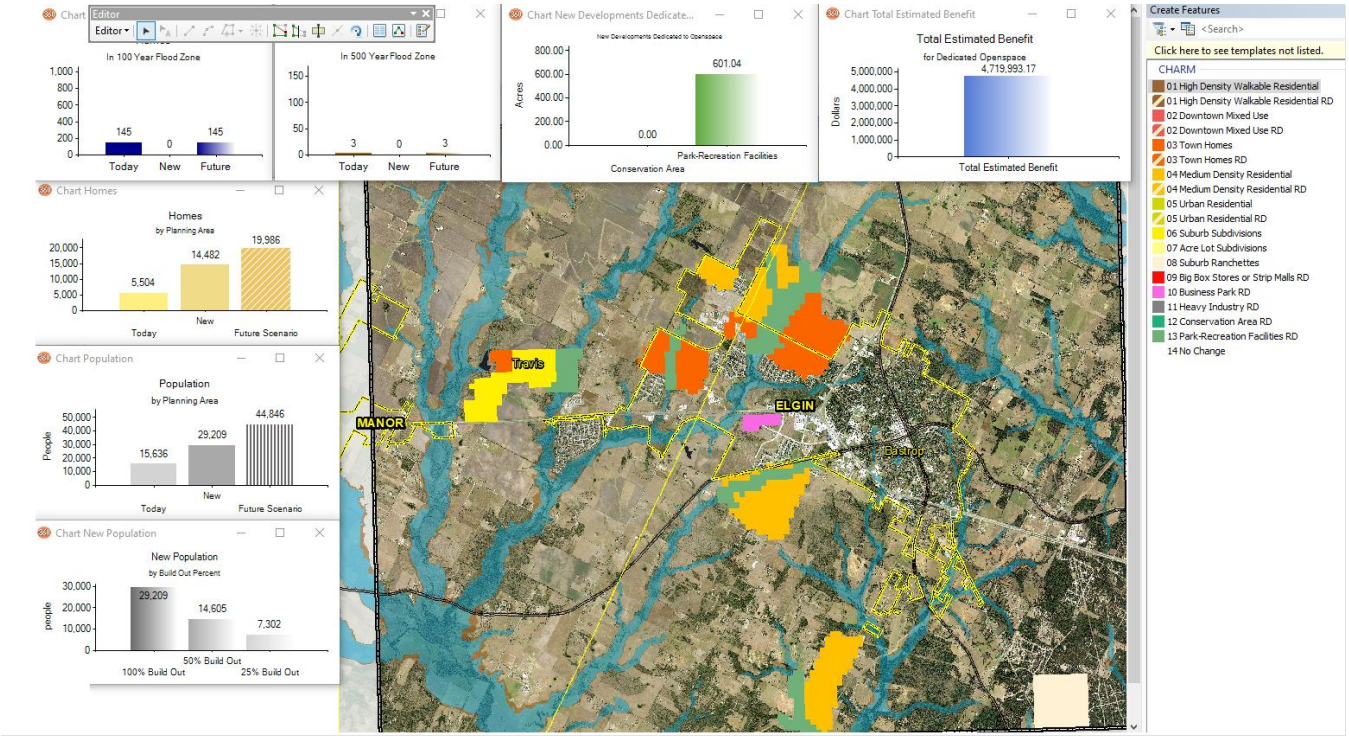
Stats

2010 Population: 8,290
2020 Population: 9,784
Projected 2040 Population: 23,619

2010 and 2020 population figures from the 2010 and 2020 Decennial Census. Population projections from Texas Water Development Board, 2017.

Discussion Topics

- Projected population for 2040 was estimated at 23,619 from TWDB, but city staff believe that number is higher and are expecting population growth to hit 50,000 by 2040.
- The amount of growth and new developments the City of Elgin is seeing due to sprawl from the City of Austin to the West.
- City can no longer annex areas within their ETJ, and the County has limited growth management capacity, leaving the city with no way to manage growth in surrounding areas.
- For areas that agree to annexation- this will increase the tax base of the city but will put strain on current infrastructure and services.
- Development agreements for subdivisions being built now are from 10-15 years ago.
- Critical facilities needed to keep up with the surge in population growth, including hospitals, police, fire, childcare, schools, grocery stores, etc.
- Critical facilities within the flood zone- schools.
- The city participates in the Community Rating System (CRS) Program but would like to explore options to qualify for more points to improve their class rating for flood insurance.
- Subdivisions with many minority and lower income residents see the most flood risk.
- Homeowners, mostly new residents, that reside in flood zones are not aware that they are in high-risk areas.
- Insufficient drainage systems and street flooding along Kennedy Street and Taylor Street.
- Current and future availability of groundwater.



Potential Mitigation Actions

Plans and Regulations

- Consider adopting procedures that would utilize Base Level Engineering data as “best available information” for floodplain management purposes.
- Consider a drainage study to identify solutions to known existing drainage problem areas. Kennedy St. below Central Ave. and Taylor St. all flood due to insufficient drainage system.
- Implement No Adverse Impact principles in new developments to minimize impact to neighboring communities.
- Conduct a traffic study regarding the influx of residents and new developments being built.

Structure and Infrastructure Projects

- Consider elevating or further incentivizing the voluntary buyout program for structures facing repetitive flooding issues.
- Consider implementing green infrastructure and low impact development practices in areas that flood.

Natural Systems Protection

- Continue to identify undeveloped areas that can be dedicated for conservation to reduce stormwater runoff to neighboring communities and improve CRS rating.

Administration, Partnerships, and Outreach

- Raise awareness of Base Level Engineering data among residents and developers to encourage higher building standards.
- Educate incoming residents who are purchasing homes within existing flood zones and are unaware of the risks.

Resources

Technical Assistance and Other TCWP Programs

Technical Assistance

Local planning and mitigation efforts are critical steps in helping communities become more resilient. Although resources and best practices may be available, we recognize that communities may need additional assistance or resources to develop solutions that fit local contexts. TCWP provides a range of services that can assist communities in addressing local planning challenges.

Project Identification Exercises

TCWP facilitates project identification exercises using CHARM to help communities turn local mitigation and planning priorities into achievable projects. These data-driven consultations can assist with identifying relevant federal and state funding opportunities, enhancing knowledge of local hazards and potential solutions, and promoting stronger dialogue between groups and organizations.

These facilitated workshops are available at no cost and provide an opportunity to continue working with CHARM and mapping data outside of the Resiliency Workshop context.

Community Technical Assistance

As a FEMA Cooperating Technical Partner, TCWP provides technical expertise in planning, GIS, and green infrastructure at no cost to communities pursuing resilience-related planning priorities. We are able to assist communities that may need additional staff support, expertise, or other resources through services including but not limited to:

Planning and Regulations

- Comprehensive and Long-Range Planning
- Zoning, Subdivision, and Development Regulations
- Higher Standards Ordinances

GIS Analyses & Data

- Buildout and Risk Analysis
- Buyout Analysis
- Loss Avoidance Studies
- GIS Data Production

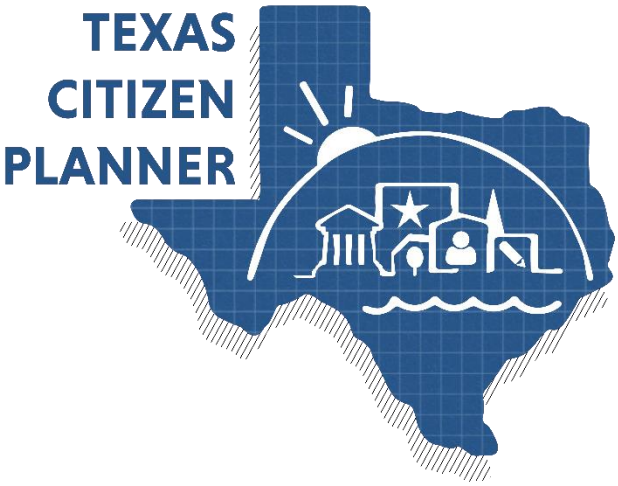
Training and Facilitation

- Trainings for Local Officials
- GIS Trainings (CHARM School)
- Public Input & Discovery Workshops
- Community Visioning Exercises and Stakeholder Facilitation

Other needs? Other ideas? Let's discuss!

Texas Citizen Planner

Texas Citizen Planner is a training and education program that places the tools of community resilience into the hands of local elected and appointed officials — our citizen planners. Every day, local governments are confronted with planning decisions – large and small – that will shape how their communities grow for years to come. Our local leaders must be armed with skills and knowledge to enhance quality of life, economic opportunities, and sound environmental stewardship. Planning and land use decisions made today will determine how resilient we are for decades to come.



Online On-Demand Courses

Texas Citizen Planner has four online, on-demand courses available through AgriLife Learn. Click on the course titles for the links to the courses. A discounted bundle is also available. In March 2022, the Texas Citizen Planner Program launched two new online, self-paced courses for local officials to learn about flood mitigation and resilience: ASFPM's No Adverse Impact Floodplain Management and Community Planning for Flood Mitigation and Resiliency.

Planning Foundations

Planning Foundations provides participants with insights and knowledge around the planning process as well as techniques for promoting collaboration and resilience in your community.

Community Planning for Hazards

Hear first-person perspectives about strategic approaches other Texas communities have used to link risk management with their ongoing community planning efforts and vision.

ASFPM's No Adverse Impact Floodplain Management

Join us in partnership with ASFPM for a Texas Citizen Planner course covering ASFPM's No Adverse Impact (NAI) Floodplain Management. The NAI approach ensures the action of any community or property owner, public or private, does not adversely impact the property and rights of others. The NAI approach will lead to reduced flood losses while promoting and rewarding strong water stewardship and mitigation at the local level.

Community Planning for Flood Mitigation and Resiliency

While floods may seem to be a hazard outside of a community's control, local planning is one of the most effective tools in reducing current and future flood losses. In this course you will learn about local trends in flood management, how to plan, fund, and implement activities related to the Community Rating System Program such as open space preservation, building retrofits and elevations, green infrastructure, and more.

Green Infrastructure for Texas (GIFT)

Green Infrastructure for Texas (GIFT) is a program of the Texas A&M AgriLife Extension Service through the Texas Community Watershed Partners.

GIFT empowers Texas to build resilient communities adaptable to social, economic, and environmental change. We provide necessary resources about nature-based solutions to stormwater management. Through outreach, coalition-building, education, and on-the-ground demonstration projects. GIFT inspires communities to implement green infrastructure projects at any scale. Green infrastructure uses innovative design practices that emphasize local strengths and context to reduce flood risk while providing a multitude of other benefits.

For more information: Visit the GIFT website at agrilife.org/gift/ or email Charriss York at charriss.york@ag.tamu.edu.

Appendix A: Workshop Agenda

CHARM

Bastrop County CHARM Resiliency Workshop

Hosted by Texas A&M AgriLife Extension Service

Agenda

TUESDAY
JULY 19th, 2022
9:00 - 10:30 AM

Virtual workshop via Zoom

Introduction to CHARM and Partner Presentations
9:00 AM CT

- *Welcome and Introductions — TCWP*
- *Introduction to CHARM - TCWP*
- *Partner Presentations*
  - *Texas Water Development Board*
  - *Texas A&M Forest Service*
  - *FEMA Region 6*
  - *AgriLife Disaster Assessment and Recovery*
- *Questions & Answers*

WEDNESDAY
JULY 20th, 2022
9:00 AM - 1:00 PM

Bastrop County Office of Emergency Management, Mike Fisher Building

1501 Business Park Drive
Bastrop, Texas 78602

Doors open at 8:30 AM

Welcome
9:00 AM CT

Breakouts - Tabletop Exercises
9:15 AM CT

Lunch and Workshop Debrief
12:00 PM CT

Adjourn
1:00 PM CT

Texas A&M AgriLife Extension | Texas Community Watershed Partners | FEMA

Appendix B: Workshop Flyers

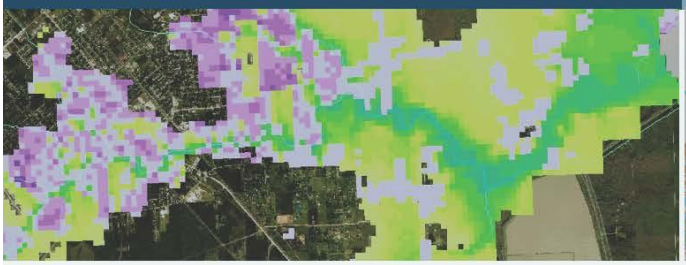
Bastrop County
CHARM Resiliency Workshop

Connecting planning and community resilience through collaborative engagement and interactive data.

Virtual Pre-Workshop Webinar
July 19th: 9:00 AM – 10:30 AM

In-Person Workshop
July 20th: 9:00 AM – 1:00 PM

-Lunch provided for those that RSVP-



Texas A&M AgriLife Extension | Texas Community Watershed Partners | CHARM

Bastrop County CHARM Resiliency Workshop

Day 2, In-Person Workshop Agenda
9:00 Welcome & Overview
9:15 Breakouts - Tabletop Exercises
12:00 Lunch and Workshop Debrief
1:00 Adjourn

Learn more at: communitycharm.org/bastrop

What's Happening

The Community Health and Resource Management (CHARM) Resiliency Workshop focuses on building risk awareness and disaster resiliency at the local level. Workshop participants collaborate over a live table-top interface and use local mapping data to plan hypothetical growth scenarios for their community.

CHARM helps decision makers make sense of the many challenges and opportunities involved in growth planning, solicit input and educate the public about the "what-ifs" of long term growth, and gather participant's values about the community's future. Our goal is to give attendees from Bastrop County the power to map and analyze growth with real-time feedback. At this workshop we will also focus on:

- Social Vulnerability
- Mitigation Policy Scenarios
- Visualizing Wildfire Data

Why Now

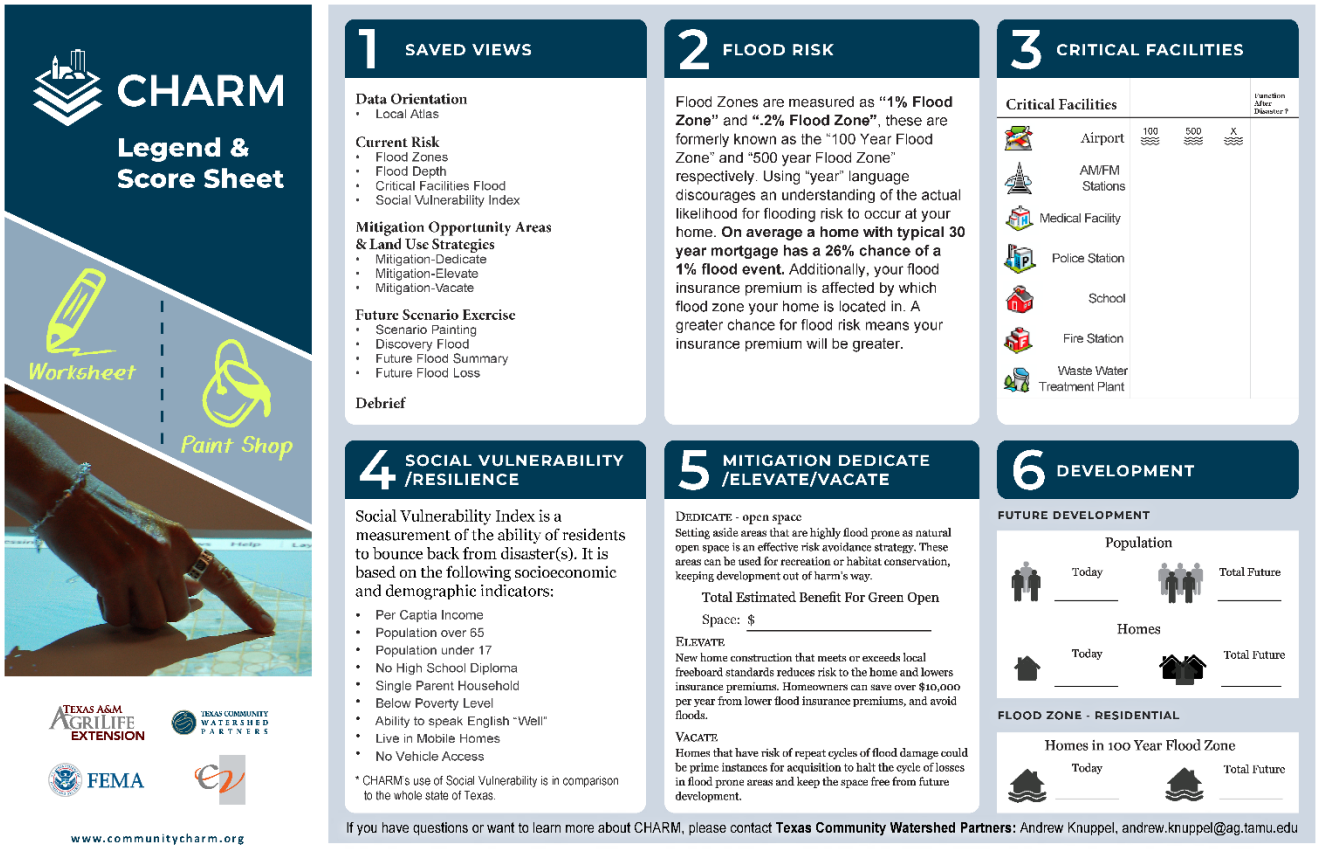
While floods may seem to be a hazard outside of a community's control, local planning is one of the most effective tools in reducing current and future flood losses.

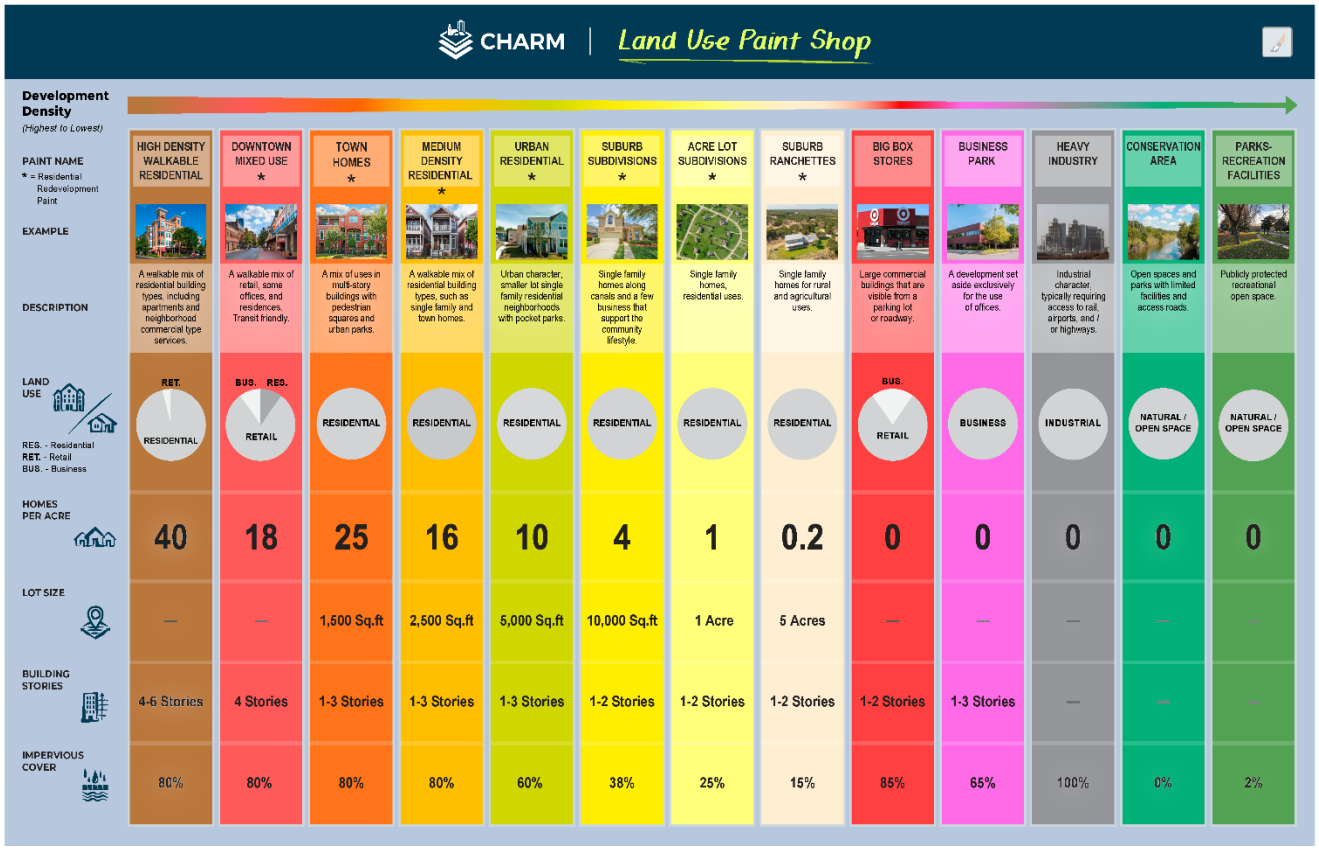
Who Should Attend

Local officials, planners, developers, resource managers, and others who want to actively participate in community planning activities.

Register at: BastropCHARM.eventbrite.com

Appendix C: CHARM Land Use Paints





Appendix D: Workshop Attendees

Local and Regional Stakeholders

Organization	Name	Title
City of Elgin	Chuck Swain	Councilmember
CAMPO	William Lisska	Regional Planning Manager
Texas A&M AgriLife Extension Service	Hillary Kahn Long	County extension Agent
Bastrop County	Carolyn Dill	Interim Director of Engineering and Development
City of Bastrop	Jennifer Bills	Director of Planning and Development
Bastrop County	Aimee Robertson	Planner
Bastrop County	Fran Hunter	Tourism & Economic Development
Bastrop County	James Altgelt	Emergency Management Coordinator
Bastrop County	Deena Thomas	Bastrop County CERT Program Manager
City of Bastrop	Andres Rosales	Fire Chief
Bastrop County	Julie Sommerfeld	GIS Manager
Bastrop County	Clara Beckett	County Commissioner, Precinct 2
City of Bastrop	Jimmy Crouch	Councilmember
City of Elgin	Theresa McShan	Mayor
Texas Division of Emergency Management	James Blount Jr	Mitigation Coordinator
Texas Division of Emergency Management	Bruce Clements	Regional Section Chief, Region 6

State and Federal Partners

Organization	Name	Title
FEMA Region IV	Diane Howe	Risk MAP Lead
FEMA Region IV	Dustin Busse	Risk MAP Outreach and Communication Coordinator
Texas A&M AgriLife Extension Service	Troy Luepke	Disaster Assessment and Recovery Agent, District 10, West
Texas Water Development Board	Raddiete Sogaolu	Flood Outreach Specialist
Texas Forest Service	Jake Gosschalk	Program Specialist III
Texas Division of Emergency Management	Hollie Bierbauer	Mitigation Coordinator
U.S. Army Corps of Engineers	Lisa McCracken Mairs	Project Manager
U.S. Army Corps of Engineers	Elizabeth Williams	Project Coordinator

Texas Community Watershed Partners Staff

Organization	Name	Title
Texas A&M AgriLife Extension Service	Andrew Knuppel, AICP	Planning Program Manager
Texas A&M AgriLife Extension Service	Amanda Ashcroft, AICP	Project Manager/Planner
Texas A&M AgriLife Extension Service	Dana Snyder	Project Manager/Planner
Texas A&M AgriLife Extension Service	Camden Arnold	Program Coordinator I/Planner
Texas A&M AgriLife Extension Service	Adam Train	Program Coordinator II/Planner
Texas A&M AgriLife Extension Service	Erika Pham	Geospatial Analyst
Texas A&M AgriLife Extension Service	Dana Borham	Geospatial Analyst
Texas A&M AgriLife Extension Service	Brian Garcia	Graphic Designer


BASTROP COUNTY CHARM WORKSHOP
July 19-20, 2022