



Region 3 Trinity Flood Planning Group Meeting
Monday, August 10, 2026
2:00 p.m.

The Region 3 Trinity Flood Planning Group (R3TRFPG) will hold a public meeting in-person pursuant to Texas Government Code, Section 551.127. This meeting will be conducted in a hybrid format.

In-person:

Tarrant Regional Water District – Richland Chambers Lake Office
140 Farm to Market 416
Streetman, TX 75859

Virtually:

To attend the meeting virtually, please register in advance using the following Microsoft Teams link: <https://events.teams.microsoft.com/event/43844254-ce57-484e-a369-07a34084bacc@c9de0af1-361b-42ae-ace3-ab4cea6cb8dc>

Important Notes:

- This meeting will be conducted via **Microsoft Teams**, not Webex.
- During registration, you will be asked to provide your name and email address. Upon completion, you will receive a confirmation email containing the meeting link and an option to add the event to your calendar.
- At the scheduled meeting time, click the provided link to join. You will enter a virtual lobby and be admitted by a meeting organizer or presenter.
- Please join at least **15 minutes early** to ensure a prompt 2:00 p.m. start.

Meeting Platform Guidelines:

- Microphone, camera, and chat functions will be disabled for attendees unless otherwise permitted.
- Attendees may use the Q&A feature or the “Raise Hand” reaction to participate.
- Registered attendees will receive email updates regarding any changes to the meeting.

Members of the public may attend, participate and/or address the RFPG in-person, or they may virtually access the meeting using the videoconference link or teleconference information provided above. Members of the public wishing to address the Trinity RFPG during the meeting are encouraged to follow the registration and comment procedures found below.

MEETING AGENDA

1. Call to order
2. Roll call

3. * Approval of minutes from the previous meeting
4. Acknowledgement of written public comments received
5. Receive registered public comments on specific agenda items – limit 3 minutes per person
6. TWDB Update
7. Update from Region 3 Technical Consultant
 - a. Chapter 4 updates
 - i. Task 4C Performance of FMEs
 - b. Chapter 5 updates
 - i. Task 5A Recommended FMEs, FMPs and FMSs
 - ii. *Consider approving lists of FMEs, FMPs and FMSs for inclusion as recommended actions in the 2028 Flood Plan
 - iii. Task 5B Update on TWDB FMEs by TWDB consultant
 - c. Chapter 6 introduction
 - i. Task 6A Impacts of Flood Plan
 - ii. Task 6B Contributions and Impacts to Water Supply
 - d. Chapter 7 Flood Response introduction
 - e. Chapter 8 Admin, Regulatory and Legislative Recommendations update
 - f. Chapter 9 Infrastructure Financing introduction
 - g. Task 11 Comparison to 2023 Flood Plan introduction
 - h. Task 10 Outreach updates
 - i. Project schedule
8. Updates from liaisons for adjoining coastal regions
 - a. Region 5 Neches RFPG
 - b. Region 6 San Jacinto RFPG
9. Updates from Planning Group Sponsor
 - a. *Consider revisions to RFPG Bylaws regarding election of officers
10. Receive registered general public comments – limit 3 minutes per person
11. Announcements
12. Confirm meeting date for next meeting(s)
13. Adjourn

** Denotes Action Item*

ORAL PUBLIC COMMENTS

If you wish to provide oral public comments at the meeting, you are encouraged to register in advance by emailing info@trinityrfpg.org no later than 1:00 p.m. on August 10, 2026, providing your name, phone number, email address and who are you representing, and indicating if you wish to comment on a specific agenda item or provide general comments. During the meeting, those who have registered to speak, either in-person or virtually, will be called upon by the Chair during the appropriate comment period. At the discretion of the Chair, unregistered attendees who wish to speak may also have the opportunity to provide oral comments during the public comment periods of the agenda.

Trinity Regional Flood Planning Group August 10, 2026, Meeting Notice and Agenda, continued

- Those participating by videoconference will be asked to use the “raise hand” function, visible by hovering the cursor over the attendee’s name onscreen, to indicate their interest in speaking during the appropriate public comment period.
- Those participating by teleconference will be asked to enter *3 to indicate their interest in speaking and to be placed into the queue in order to be called upon during the appropriate public comment period.

WRITTEN PUBLIC COMMENTS

If you wish to provide written comments prior to or after the meeting, please email your comments to info@trinityrfpg.org and include “Region 3 Trinity Flood Planning Group Meeting” in the subject line of the email.

Additional information may be obtained from:

Alexis Long at: (817) 467-4343 or by email at: longas@trinityra.org

Physical location: 5300 South Collins Street, Arlington, TX 76018



August 10, 2026





1. Call to order



2. Roll call



3. Approval of minutes

Region 3 Trinity Flood Planning Group Meeting
Monday, May 11, 2026
2:00 p.m.

The Region 3 Trinity Flood Planning Group convened a public meeting, in person as well as virtual, on Monday, May 11, 2026, 2:00 p.m.

Chairman Glenn Clingenpeel opened the meeting at 2:00 P.M.

Voting Members Present:

Melissa Bookhout
Glenn Clingenpeel
Scott Harris
Sean Howard, absent
Andrew Isbell
Jordan Macha, absent
Rachel Ickert
Galen Roberts
Matt Robinson
Lissa Shepard
Eduardo Valerio for Sarah Standifer

9 voting members were present at the time of roll call, constituting a quorum.

Ex Officio Members Present:

Susan Alvarez, joined after roll call
Mark Northcut for Steve Bednarz
John Blount
Justin Bower, absent
Todd Burrer, absent
Humberto (Bert) Galvan, absent
Larry Voice for Diane Howe
Lonnie Hunt
Risa King, absent
Neely Kirkland
Manuel Martinez, absent
Sarah Magana for Katie Koslan
Andrea Sanders, absent
Bret Higginbotham, absent
Lisa McCracken, absent
Greg Waller, absent
Adam Whisenant, absent
Amanda Young, joined after roll call

Approval of the Minutes for the February 26, 2026 Meeting

Motion: Galen Roberts moved to approve the minutes as presented;
Second: Lissa Shepard; Action: Minutes were unanimously approved.

Acknowledgement of written public comments received

Dorothy White, Cooksey Communications provided an update. Several written public comments had been received. Ms. White reported receiving an inquiry regarding an abandoned vessel in Lake Lewisville; however, the matter was determined to be outside the jurisdiction of the R3RFPG and was referred to the appropriate Sheriff's Department for follow-up.

Ms. White also reported receiving multiple comments and inquiries related to the submission of additional Flood Management Evaluations (FMEs). Correspondence was received from Mike Linder of the City of Denton, Erika Bridges of the County of Rockwall, and Samuel Stewart of the Upper Sabine Valley Soil and Water Conservation District. These comments generally expressed interest in funding for flood management projects, flood risk analyses, emergency action planning efforts, and extending the submission period for consideration of additional FMEs.

The Chair noted that the written comments had been included in the meeting packet distributed to R3RFPG members and that discussion regarding the potential extension of the FME submission period would occur under a later agenda item.

Receive registered public comments on specific agenda items

No registered public comments were received.

TWDB Update – Sarah Magana, TWDB

Sarah Magana provided an update on behalf of TWDB. Ms. Magana reported that the Task 5B submittals were currently under review and noted that requests for information would be issued if additional clarification or documentation was needed during the review process. Ms. Magana also advised that TWDB's informal comments on the Technical Memorandum were anticipated to be provided by the end of summer 2026. In addition, she reported that TWDB had distributed a newsletter summarizing events and activities from December 2025 through March 2026, which was available on the agency's [second-cycle documents webpage](#). Finally, Ms. Magana informed the group that the TWDB approved fourteen amended regional flood plans on March 31, 2026.

Updates from Region 3 Technical Consultant – Stephanie Griffin, Halff

Stephanie Griffin, Halff, provided an overview of several ongoing planning efforts and upcoming action items. The update included the status of FMEs being performed on behalf of the R3RFPG, as well as Chapter 5 updates focused on the process for advancing potentially feasible FMEs to recommended Flood Management Projects (FMPs).

Ms. Griffin indicated that the R3RFPG would be asked to consider and approve the proposed methodology for selecting recommended FMEs. Additional updates were provided regarding Task 5B, including FMEs being performed by the TWDB, and the ongoing development of a running list of potential improvements and topics for consideration in Chapter 8 of the next regional flood plan.

Ms. Griffin also reported on recent public outreach activities and introduced the concept of reopening the FME solicitation period for consideration by the R3RFPG.

a. Chapter 4 Updates – Audrey Giesler-Klump, Halff

i. Task 4C Performance of FMEs

Audrey Giesler-Klump provided an update on Task 4C, which involves the advancement of selected FMEs to FMPs on behalf of the R3RFPG. She noted that the effort mirrors a similar task completed during the first planning cycle and is separate from the FME evaluations currently being conducted by the TWDB. Ms. Giesler-Klump explained that each consultant firm participating in the Technical Consultant Team had been assigned one FME for further development and would provide individual progress updates.

Phase #2 Stormwater Master Plan

Ms. Giesler-Klump reported that Halff was advancing the FME for the City of Denton. Existing-condition hydraulic and hydrologic models, along with previous studies provided by the City, were being utilized to support the analysis.

The City of Denton identified specific focus areas within the broader study area to ensure that available resources were directed toward locations with the greatest residential flood risk. Alternative analyses were underway, and the effort was expected to result in two to three recommended FMPs aimed at reducing flood risk to residential structures. Coordination with the City of Denton was ongoing as alternatives were evaluated and refined.

Project 14 – Ridgeway Circle and Ridgeway Drive System

Sheena Providence, Freese and Nichols (FNI), provided an update on Project 14, The Ridgeway Circle and Ridgeway Drive System project in the City of Richardson. Ms. Providence reported that existing and proposed-condition hydraulic models were available for the project and that the effort originated from the City of Richardson's 2018 Cottonwood Creek Watershed Capital Improvement Program (CIP). FNI was reviewing existing conditions and evaluating whether modifications to the previously identified concept would be necessary to ensure the project would provide flood risk reduction benefits without creating adverse impacts elsewhere.

The project was anticipated to result in one recommended FMP. Coordination with the City of Richardson had occurred in March 2026 to confirm the City's continued interest in the project and verify that the need remained. Based on previous CIP analyses, the proposed improvements were expected to reduce flood risk for approximately eight residential structures.

The preliminary concept involved replacing an existing 30-inch reinforced concrete pipe with a 42-inch pipe to improve stormwater conveyance and alleviate localized flooding caused by insufficient upstream drainage capacity. The consultant team was evaluating whether this remained the optimal solution for improving existing conditions and reducing flood impacts within the project area.

Ellis County Drainage Master Plan

Julie Jones, Nathan D. Maier (NDM), provided an update on the Ellis County Master Plan FME being advanced under Task 4C. Coordination had occurred with Ellis County and the County's engineering staff to identify priority areas and available data sources for the evaluation. Because many stream reaches within the study area lacked effective FEMA floodplain models, the analysis relied on a combination of Base Level Engineering (BLE) models and effective FEMA models, depending on the stream being evaluated.

County staff initially identified approximately fifteen locations for consideration. Through coordination with NDM, the list was refined to three priority creek corridors to allow for a more focused and feasible analysis. The effort was intended to identify opportunities to reduce flood risk to both roadways and residential structures, with the expectation that at least one recommended FMP could be developed for each creek.

The study focused primarily on unincorporated areas within Ellis County, consistent with the County's direction. Priority evaluations were concentrated on the top-ranked creek locations, with additional sites to be considered if schedule and budget allowed. Ongoing technical work included updating hydraulic models through the incorporation of LiDAR-derived data and additional cross sections to improve model accuracy. These updates were necessary because many of the existing models were older or based on BLE analyses that did not fully incorporate structures and other site-specific features. It was also noted that the unincorporated study areas generally contained lower population densities than nearby incorporated areas, reflecting the County's focus on flood risk concerns outside municipal jurisdictions.

Woody Branch Floodplain Management Study

Dr. Nick Fang, Morning Star Strategies (MSS), provided an update on the Woody Branch Floodplain Management Study being advanced under Task 4C. He explained that the study focuses on a relatively small watershed, Woody Branch, located within the City of Dallas. The primary objective of the effort was to evaluate and refine existing hydraulic models provided by the City to identify priority locations for erosion stabilization and floodplain management improvements.

Dr. Fang reported that the study would build upon the City of Dallas' existing regulatory models through updated analyses and alternative evaluations. MSS planned to update existing-condition models to better reflect current, as-built conditions and assess potential flood mitigation strategies. The effort was anticipated to result in at least one recommended FMP.

Coordination with the City of Dallas occurred on April 22, 2026, and model data was subsequently received on April 28, 2026. Dr. Fang noted that the watershed is located south of downtown Dallas near the airport and is an active area with multiple ongoing projects. MSS intended to coordinate with other project partners working within the watershed to ensure a collaborative and complementary approach to flood risk reduction efforts.

R3RFPG members requested the consultant team report back on the total budget allocated to this task as this task goes directly back to the community to help alleviate flooding.

b. Chapter 5 Updates – Audrey Giesler-Klump, Halff

i. Task 5A Recommended FMEs, FMPs and FMSs

Audrey Giesler-Klump, Halff, provided an update on Task 5A, which focuses on the process for determining which potentially feasible FMEs, FMPs, and FMSs should be recommended for inclusion in the 2028 Regional Flood Plan. She explained that Task 5A builds upon the work completed under Task 4, where FMXs were identified across the region, and establishes the framework for determining which actions ultimately advance into the Regional Flood Plan.

Ms. Giesler-Klump presented the proposed FMX recommendation methodology, which had previously been reviewed by the Technical Subcommittee and was brought before the R3RFPG for approval. Under the proposed approach, FMXs would be recommended if they met TWDB requirements, supported regional flood planning goals, and demonstrated measurable flood risk reduction benefits. She further outlined several conditions under which an action would not be recommended, including situations where a study had already been completed, funding had already been secured, adverse impacts could not be adequately evaluated or mitigated, quantifiable benefits could not be demonstrated, or the sponsoring entity was unwilling to support implementation.

Ms. Giesler-Klump reported that, with approval of the methodology, the Technical Consultant team would continue evaluating the currently identified FMXs and prepare recommendations for review by the Technical Subcommittee. She noted that a Technical Subcommittee meeting was anticipated in June 2026 to review and consider recommended FMXs. She also explained that, if the R3RFPG later elected to reopen the FMX solicitation period, any newly submitted actions could be evaluated under the same approved methodology during a subsequent Technical Subcommittee meeting, ensuring that the overall planning schedule remained on track.

- *Consider approving approach to recommend FMXs from potentially feasible

Chairman Glenn Clingenpeel called for a motion to approve the approach to recommend FMXs from potentially feasible.

Motion: Scott Harris moved to approve the approach to recommend FMXs from potentially feasible;

Second: Galen Roberts; Action: Motion was unanimously approved.

ii. Task 5B List of FMEs for TWDB to Perform

Audrey Giesler-Klump, Halff, provided an update on Task 5B, which involves the FMEs selected for performance by the TWDB technical consultant. She noted that these FMEs are separate from the Task 4C studies being performed on behalf of the R3RFPG and are focused on FMEs submitted by eligible small and rural communities.

Ms. Giesler-Klump reported that the Technical Subcommittee had previously reviewed and ranked the candidate FMEs through an established evaluation process. Required information was submitted to TWDB on March 26 and April

24, 2026, in accordance with program deadlines. One request for information (RFI) was received and addressed on April 23, 2026. She further reported that the Liberty County FME was removed from consideration after it was determined that the proposed study area and scope were already included within a larger mitigation project funded through a Texas General Land Office Community Development Block Grant–Mitigation award. Following coordination among Liberty County, its consultant, and the R3RFPG Technical Consultants, all parties agreed that advancing the FME would constitute redundant funding.

Ms. Giesler-Klump explained that Community Affirmation Forms had been requested by TWDB for selected communities. These forms documented a community's need for the FME, confirmed limited local resources to perform the work independently, identified key points of contact, and provided supporting background information. Community Affirmation Forms had been received from Kaufman County, Westworth Village, Cooke County, and Polk County. While the forms were not required by TWDB, it was understood that communities providing the forms could receive prioritization consideration during project selection.

The R3RFPG Technical Consultants had been notified that TWDB's technical consultant accepted the first two submitted scopes of work and had initiated coordination with the communities. Ms. Giesler-Klump noted that future updates regarding Task 5B would likely be provided directly by TWDB's technical consultant team as project development progressed.

During discussion, R3RFPG noted the importance of supporting planning efforts in small and rural communities, particularly in rapidly developing areas where proactive flood planning can provide greater long-term benefits and reduce future mitigation costs. No further action was requested of the R3RFPG at that time.

c. Task 8 Updates – Stephanie Griffin, Halff

Stephanie Griffin, Halff, provided an update on Task 8, which focuses on the development of recommendations for improving future regional flood planning cycles. She explained that the task serves as a mechanism for capturing lessons learned and identifying opportunities to improve the effectiveness, efficiency, and overall administration of the flood planning process.

Ms. Griffin reviewed the existing list of recommendations, which were organized into the categories of administrative and regulatory, funding, legislative, and other considerations. She noted that no new recommendations had been added since the February 2026 meeting but encouraged members to continue identifying potential improvements for inclusion in the running list.

d. Task 10 Outreach Updates – Dorothy White, Cooksey Communications

Dorothy White, Cooksey Communications, provided an update on public outreach and stakeholder engagement activities. Ongoing efforts included maintaining and updating the stakeholder contact database, distributing meeting notices and materials, responding to public inquiries, and coordinating communications regarding R3RFPG activities. Ms. White reported receiving several inquiries regarding future FMX submission opportunities and continued to maintain a media distribution list of more than 100 contacts throughout the Trinity River Basin region. Media advisories were distributed to encourage coverage of the regional flood planning process.

Website and social media outreach activities also continued. Updates included posting meeting information, approved R3RFPG and Technical Subcommittee meeting minutes, and recent news coverage highlighting regional flood planning activities. Information was shared through the project website, LinkedIn, and X platforms to increase public awareness and engagement.

i. *Consider approval of reopening FMX solicitation- Stephanie Griffin, Halff

The R3RFPG discussed reopening the solicitation period for additional FMXs. It was noted that several requests had been received from communities interested in submitting new FMXs for consideration in the 2028 Regional Flood Plan. It was explained that any newly submitted FMXs would not be eligible for the ongoing Task 4C or Task 5B evaluation processes because those selections had already been completed; however, eligible projects could still be incorporated into the 2028 Regional Flood Plan.

The R3RFPG discussed submission requirements, emphasizing that all proposed FMXs must be technically complete and include all information required by the TWDB, including supporting documentation, mapping, modeling, and geospatial data as applicable. R3RFPG members also discussed the need for clear guidance, firm submission deadlines, and administrative guardrails to manage the Technical Consultant workload and maintain project schedules.

The deadline for FMX submissions is October 30, 2026. An FAQ, like the FAQ produced for the Amended Plan, will be created. FMX submissions will be reviewed in the order they are received, to the extent funding is available. To be considered for review, FMX submissions must be complete.

Chairman Glenn Clingenpeel called for a motion to reopen the solicitation of FMXs for inclusion in the Region 3 Regional Flood Plan, where FMXs must meet all TWDB eligibility and completeness requirements for inclusion, FMPs will be considered in the order received and only to the extent that available time and resources allow for their evaluation;

Motion: Lissa Shepard moved to reopen the solicitation of FMXs for inclusion in the Region 3 Regional Flood Plan, where FMXs must meet all TWDB eligibility and completeness requirements for inclusion, FMPs will be considered in the order received and only to the extent that available time and resources allow for their evaluation;

Second: Scott Harris; Action: Motion was unanimously approved.

e. Project schedule

Stephanie Griffin, Halff, provided an overview of the project schedule and upcoming milestones for the Regional Flood Planning Group. She reported that work would continue on advancing selected Flood Management Evaluations (FMEs) to Flood Mitigation Projects (FMPs) under Task 4C and on evaluating and recommending flood management actions under Task 5A in coordination with the Technical Subcommittee.

Ms. Griffin indicated that a Technical Subcommittee meeting was anticipated for late June 2026, although the specific date was still being finalized. She also noted that,

consistent with the R3RFPG bylaws requiring quarterly meetings, the next full R3RFPG meeting was expected to occur in early August 2026, with the date to be confirmed.

At the August 2026 R3RFPG meeting, the consultant team planned to provide updates on ongoing Tasks 4C and 5A and introduce work associated with Tasks 6, 7, 9, and 11. Project activities would continue to advance throughout the remainder of the year, with additional progress updates anticipated at the R3RFPG's November 2026 meeting. No questions were raised regarding the proposed schedule.

Updates from liaisons for adjoining coastal regions

- a. Region 5 Neches RFPG: No update provided
- b. Region 6 San Jacinto RFPG: No update at this time

Update from Planning Group Sponsor – Chairman Glenn Clingenpeel, TRA

- a. Bylaws Review

Chairman Glenn Clingenpeel provided an update regarding the R3RFPG's officer election process and raised a discussion item concerning potential amendments to the bylaws. The discussion focused on the current misalignment between the two-year officer terms and the five-year staggered terms of voting members, which has resulted in recurring administrative challenges associated with election notices, publication requirements, and timing considerations.

R3RFPG members discussed several potential alternatives, including maintaining the current two-year officer terms, extending officer terms to three years, or aligning officer terms with the five-year regional flood planning cycle. R3RFPG members noted that longer officer terms could provide greater continuity in leadership, reduce administrative burdens, and avoid changes in officers during active planning cycles. It was also noted that aligning officer terms with the planning cycle would allow the same leadership team to guide a plan from development through completion.

Officer term lengths are established through the R3RFPG's bylaws and that any proposed changes would likely require a bylaw amendment subject to the applicable approval requirements. R3RFPG members generally expressed interest in further evaluating potential modifications.

It was agreed that a formal proposal would be developed and distributed for consideration prior to the August 2026 meeting. The proposal would outline potential bylaw revisions and provide members an opportunity to review and discuss the options before any formal action was considered.

Receive registered public comments – limit 3 minutes per person

There were no registered public comments.

Announcements

Members shared several announcements and updates of interest to the Regional Flood Planning Group. The group was reminded that Flood Awareness Week would take place

the following week, and members were encouraged to participate in awareness activities and social media outreach efforts.

Dr. Nick Fang announced the recent launch of the Water Engineering Research Center at the University of Texas at Arlington. He reported that the Center's inaugural event was well attended and described its mission as addressing both flood risk and water supply challenges through collaboration among researchers, practitioners, and policymakers. The Center was established to serve as a platform for advancing innovative solutions to regional and statewide water resource issues.

Chairman Glenn Clingenpeel recognized Audrey Geisler-Klump for her presentation at the Collin County Soil and Water Conservation District Local Work Group Meeting regarding the regional flood planning process. The presentation was noted as being well received and was highlighted as a useful outreach tool that could support future educational and stakeholder engagement opportunities.

Additionally, an upcoming speaking opportunity was announced for a joint meeting of the local chapters of the American Society of Civil Engineers scheduled for July 2026. The presentation was expected to focus on regional flood planning efforts, the Inland Port study, and related flood infrastructure initiatives. Members were invited to participate as co-presenters.

Confirm meeting date for next meeting

2:00 P.M. on August 10, 2026, Tarrant Regional Water District – Richland Chambers Lake Office, 140 Farm to Market 416, Streetman, TX 75859 .

Adjourn

3:12 PM adjourned

THE ABOVE AND FOREGOING ARE CERTIFIED TO BE TRUE AND CORRECT MINUTES OF THE REGULAR MEETING OF THE REGION 3 TRINITY FLOOD PLANNING GROUP HELD MAY 11, 2026.

SCOTT HARRIS, Secretary
REGION 3 TRINITY FLOOD PLANNING GROUP

Date

GLENN CLINGENPEEL, Chair
REGION 3 TRINITY FLOOD PLANNING GROUP

Date



4. Acknowledgement of written comments received



5. Public comments on agenda items



6. TWDB update



7. Consultant update



Agenda

1.

2.

3.

4.

CONSULTANT UPDATE

- **Chapter 4 Update**
 - Update of Task 4C – FMEs Performed by the RFPG
- **Chapter 5 Update**
 - Update of Task 5A – Recommended FMXs
 - Consider approving lists of recommend FMXs*
 - Update of Task 5B – FMEs Performed by TWDB
- **Chapter 6 Introduction**
- **Chapter 7 Introduction**
- **Chapter 8 Update**
- **Chapter 9 Introduction**
- **Chapter 11 Introduction**
- **Public outreach updates**
- **Project schedule**

* Denotes Action Item

The background of the slide is a deep teal color with a wavy, horizontal line across the middle, resembling the surface of water. Below this line, the water is slightly more transparent, showing some light rays and bubbles, while above it is a darker, more solid teal. The overall effect is a calm, aquatic atmosphere.

Chapter 4

Task 4C FME to FMP Conversions



FME Progression Update



Phase #2 of Stormwater Master Plan

City of Denton

Development Status: Post-Processing

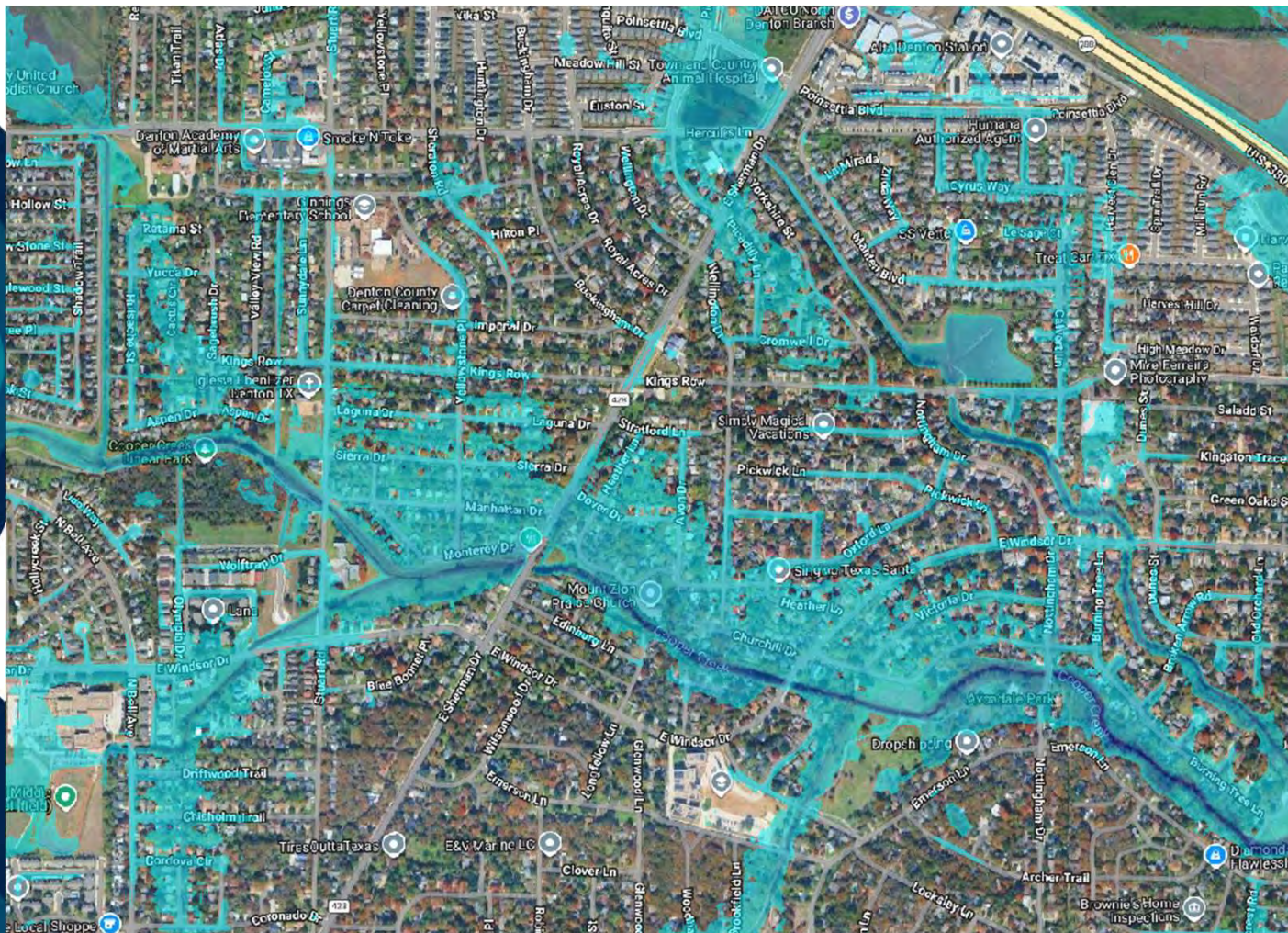
- Alternative modeling is completed; currently working through required documentation.

Number of FMPs Expected: 2

Additional Details

- Ongoing coordination with City to identify the most feasible/useful alternatives for their situation
- City has requested for the FME to not be removed from the 2028 Regional Flood Plan

FME Progression Update



**Existing Conditions
Modeling Results**
City of Denton,
Cooper Creek



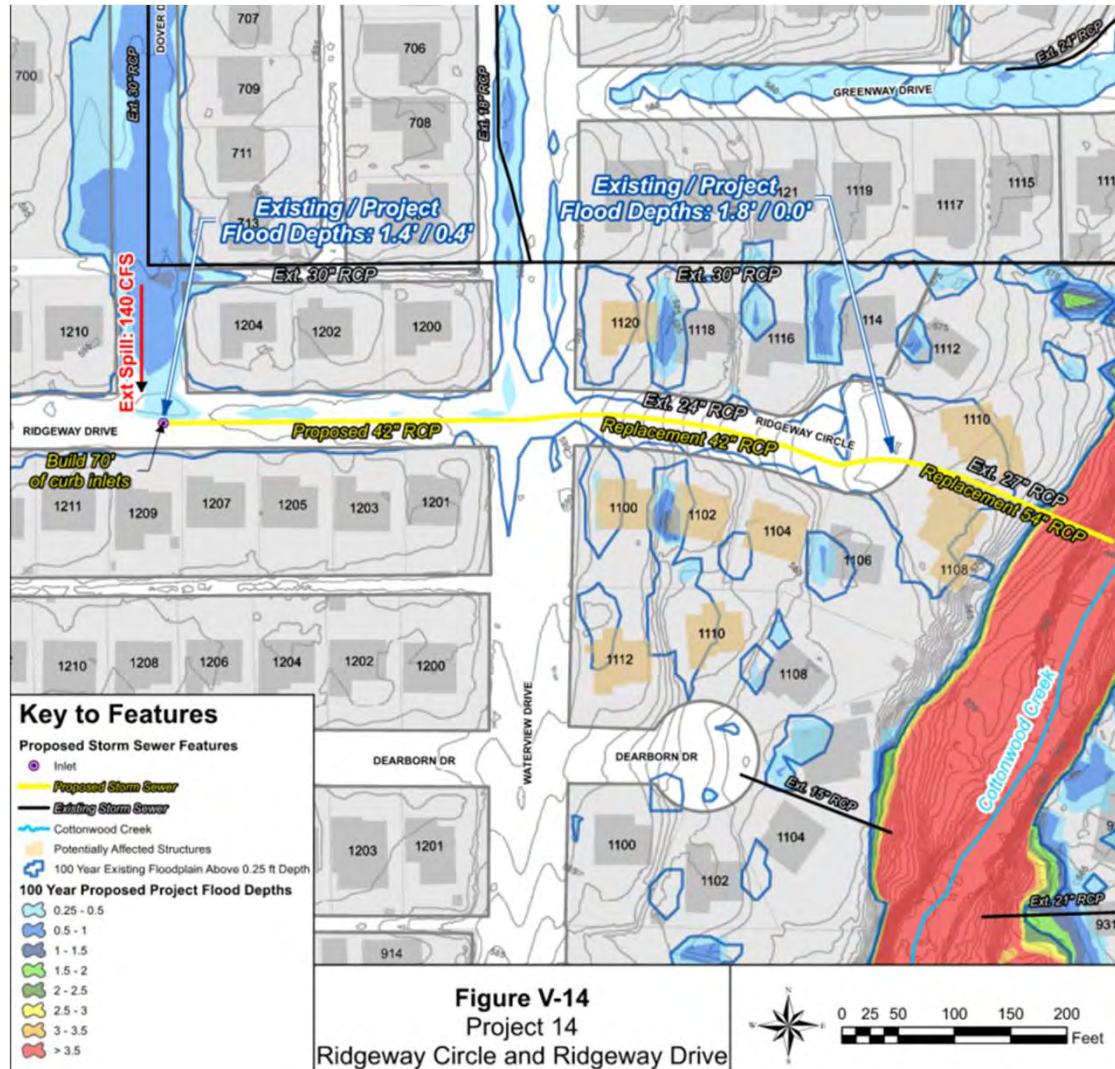
FME Progression Update



Project 14 – Ridgeway Circle and Ridgeway Drive System

City of Richardson

- Development Status:
 - Existing & proposed hydraulic models (XPSWMM) have successfully run
 - Leveraging CIP Cottonwood Creek Watershed report (2018)
 - **Next steps:** finalize proposed concept to mitigate adverse impacts
- Number of FMPs Expected: 1
- Additional Details:
 - Met with City of Richardson (3/24/2026) to verify need and scope
 - Based on report, 8 residential structures impacted



Project 14 Ridgeway Circle and Ridgeway Drive System

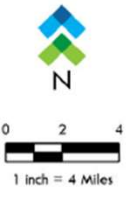
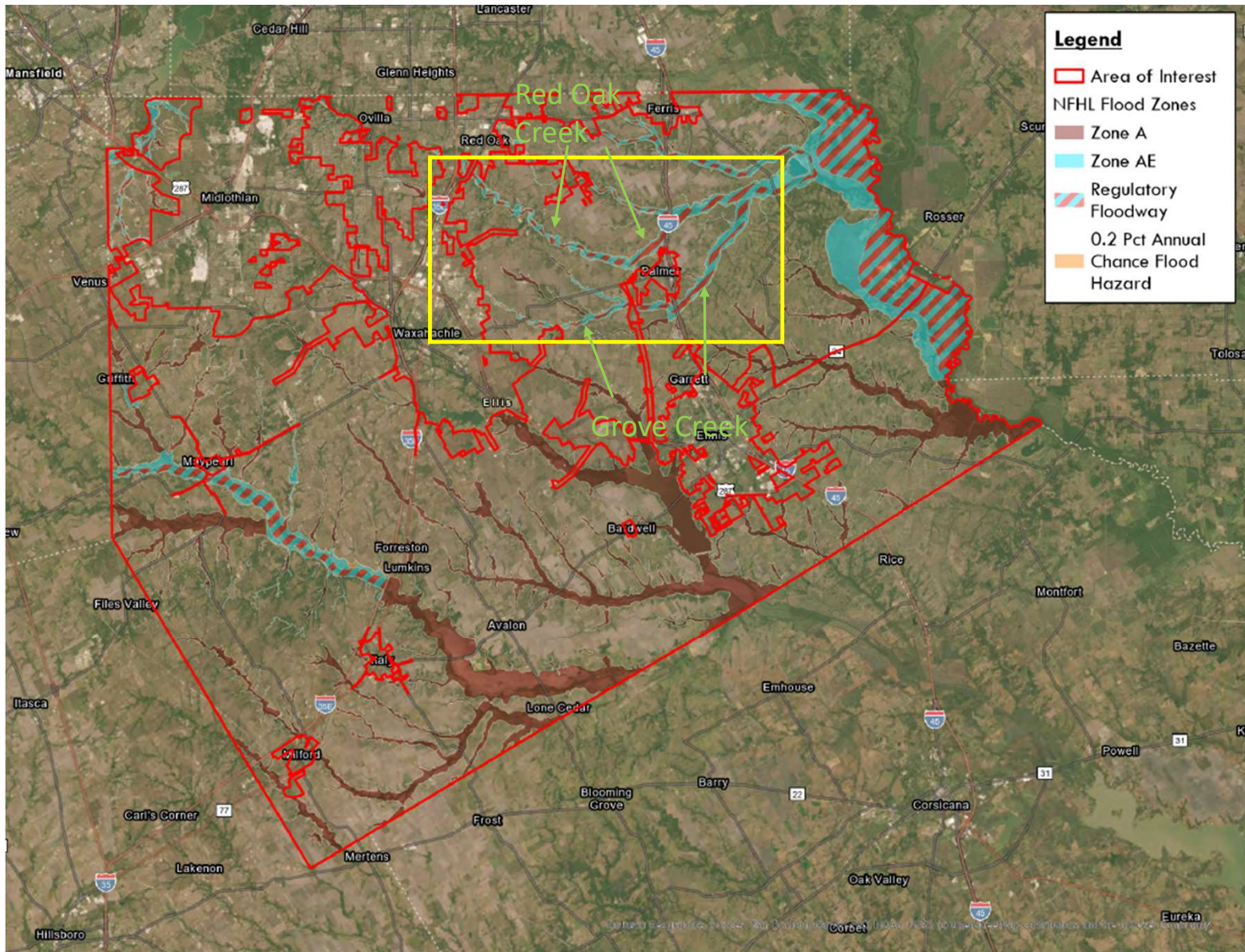
City of Richardson



FME Progression Update



- **Ellis County Drainage Master Plan**
- Development Status: Existing Conditions BLE Modeling
- Number of FMPs Expected: 3+
- Additional details
 - Focus on Red Oak Creek and Grove Creek
 - Received Grove Creek HEC-2 model from City of Waxahachie
 - Converted Grove Creek HEC-2 model to HEC-RAS
 - Submitted model requests to FEMA to obtain hydrologic and hydraulic models for both creeks
 - Developing workmap layout and comparison tables of HEC-2/HEC-RAS sections



Ellis County, Texas
Trinity Regional Flood Plan FME Submittal
Exhibit 1
Ellis County Unincorporated Areas

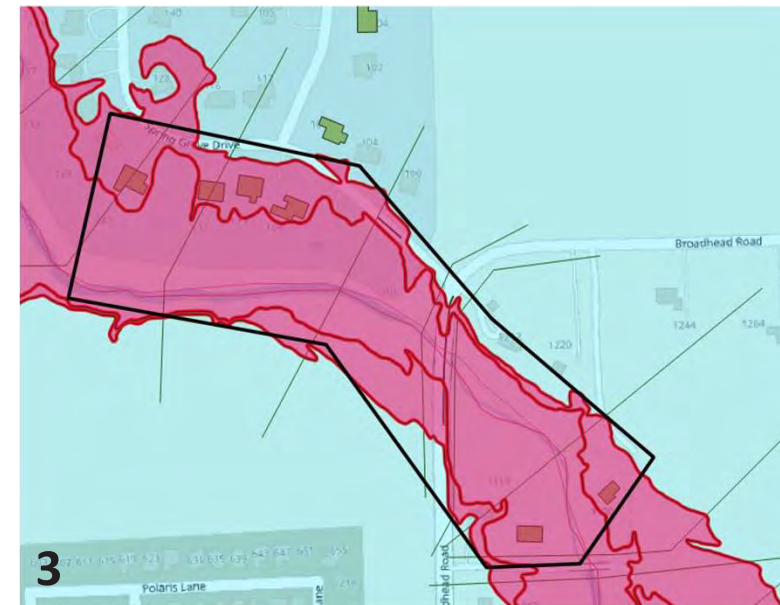
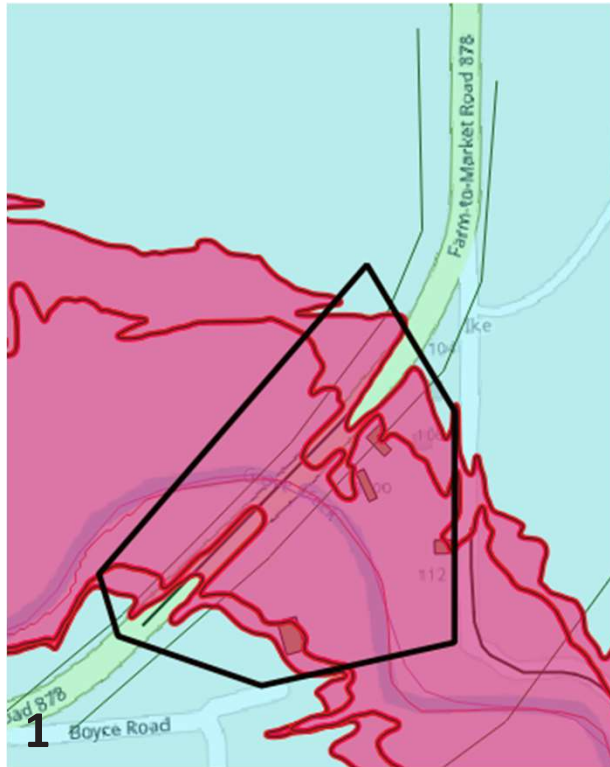
September 2025



Date Saved: 9/23/2025

Grove Creek Potential Sites

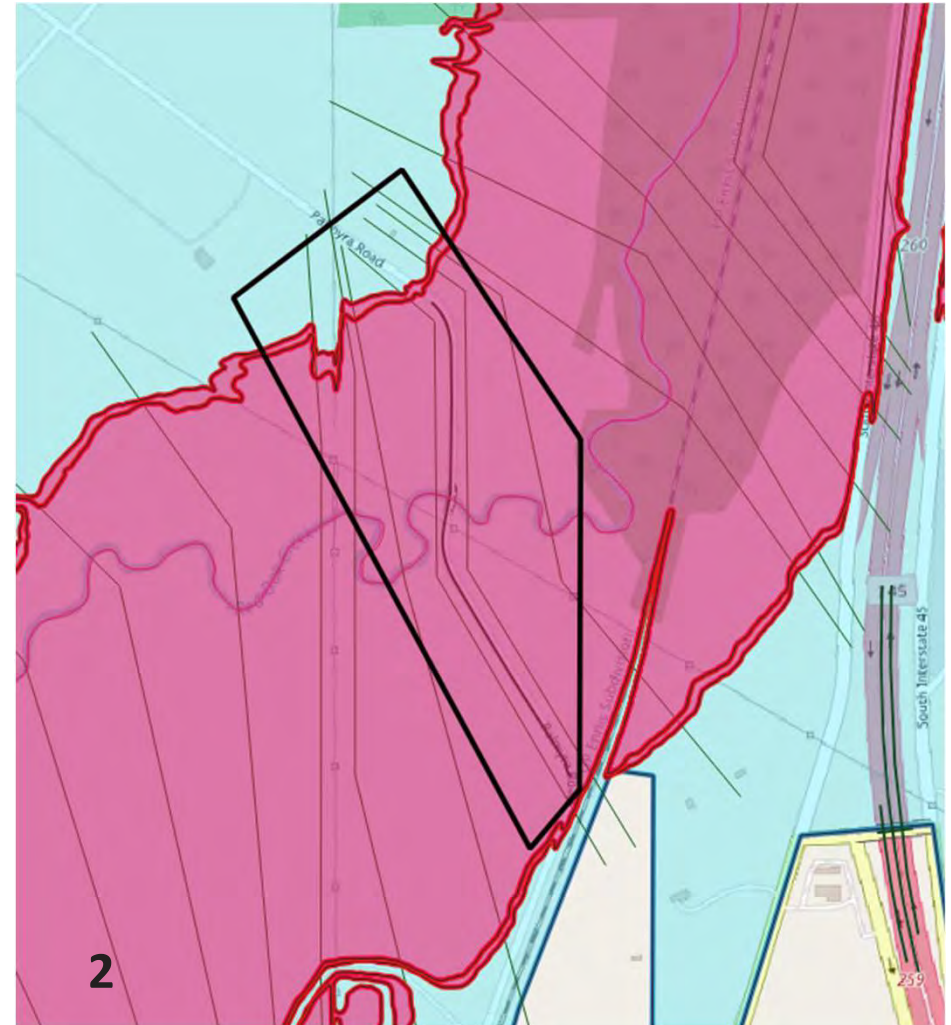
1. FM 878
2. Youngblood Rd
3. Broadhead Rd



Red Oak Creek Potential Sites

— if budget allows

1. Neck Rd
2. Palmyra Rd





FME Progression Update

Woody Branch Floodplain Improvements

City of Dallas

- Development Status: Existing Conditions Modeling
 - Regulatory models received from City
 - **Next steps:** investigate models to determine best locations for erosion stability projects
- Number of FMPs Expected: 1+
- Additional Details:
 - Met with City of Dallas (4/22/2026) to verify need and scope
 - Information from City received 4/28/2026
 - Information of the Golf Course Improvement project received 5/21/2026
 - Additional models from City received 5/26/2026
 - Information of historic erosion control projects received 6/18/2026

Woody Branch Floodplain Management Study



FME Area



Regional view of FME area

Woody Branch Floodplain Management Study

AREA 39

INTERSECTION OF I-67 AND W RED BIRD LN



PROBLEM DESCRIPTION

AREA 39 is located within the southwestern portion of the City of Dallas within Council District 3. The Woody Branch watershed includes several structures inundated by WMP model flooding, 2 storm drainage projects and 2 flood management projects on the needs inventory, 2 unmitigated repetitive loss properties, 4 critical facilities, and 10 city site visits since 2015. The drainage system generally has a 5-year capacity with pipe sizes ranging from 18" to 42". The existing system has inadequate capacity and high tailwater elevations.

FLOOD FACTS

	2	At-Risk Structures
	0	At-Risk Critical Infrastructures
	0.1 mi	Impacted Roadways
	0.5 hrs	Duration of Flooding
	1.7 ft	Max. Depth of Flooding

CANDIDATE SOLUTIONS FOR EVALUATION

	1	2	3
Description	Improve Storm Drainage System from Matland Dr to Club Manor Dr	Improve Storm Drainage System Along Club Manor Dr to Clubwood Dr	Buy-Outs Near Brooklawn Branch Can Be Used for Detention
Cost	\$\$	\$\$	\$\$
Permitting	Standard	Standard	Standard
Additional Considerations	Pavement Reconstruction & Utility Conflicts Likely	Pavement Reconstruction & Utility Conflicts Likely	Buy-Outs
Support/Opposition	☒	☒	☒
Up/Downstream Impacts	Some Mitigation Likely	Some Mitigation Likely	Would Serve as Mitigation

FME ID: 03-51-0000000426

Name: Woody Branch Floodplain Management Study

Sponsor: City of Dallas

Study Area: Approximately 10 square miles in Dallas County along Woody Branch, a tributary of Five Mile Creek

Flooding Concern:

Riverine flooding has been reported at five residential properties along Woody Branch

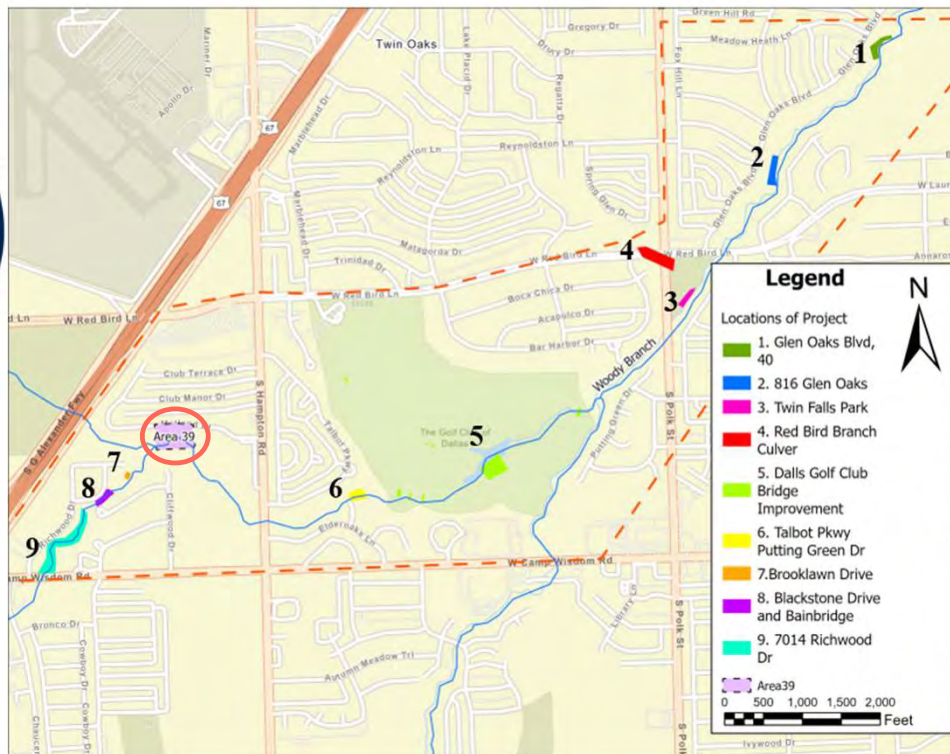
Planning Level Study Cost: \$250,000

Currently Identified Funding: \$25,000

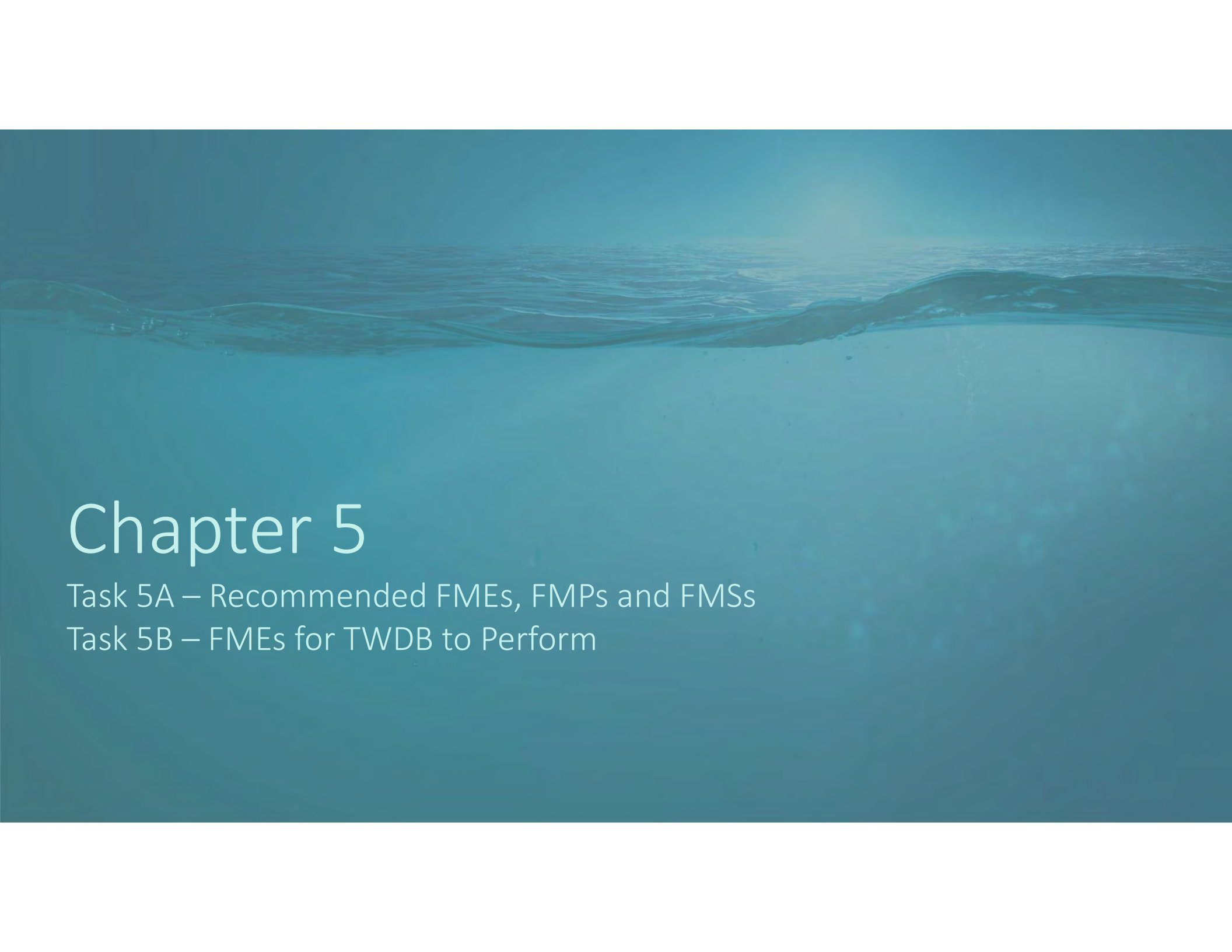
Woody Branch Floodplain Management Study – Area of Historic Erosion Projects



Woody Branch Floodplain Management Study – Historic Erosion Projects (9)



S.N.	Name of the Project	Project Type
1	Glen Oaks Blvd, 40	Erosion Control at Various Locations
2	816 Glen Oaks	Storm Drainage Improvements and Erosion Control at Various Locations - Phase C
3	Twin Falls Park	Erosion Control Improvements
4	Red Bird Branch Culvert @ Red Bird Lane W	Storm Drainage Improvements
5	Golf Club of Dallas Bridge Replacement Project	Floodplain Study and Floodplain Alteration Permit Application
6	Talbot Pkwy Putting Green Dr	Erosion Control Improvements
7	Brooklawn Drive	Erosion Control at Various Locations: Phase 7
8	Blackstone Drive and Bainbridge	Erosion Control Improvements
9	7014 Richwood Dr	Erosion Control Improvements

The background of the slide is a deep teal color with a wavy, horizontal line across the middle, resembling the surface of water. Below this line, the water is slightly darker and has some subtle, lighter-colored speckles or bubbles, giving it an underwater appearance.

Chapter 5

Task 5A – Recommended FMEs, FMPs and FMSs

Task 5B – FMEs for TWDB to Perform



Discussion: Recommendation Approach

Issue:

Do any changes need to be made to the 2023 Cycle's approach to recommending FMXs?

2023 Approach:

- ✓ Include all eligible FMXs
- ✓ Must support a Goal (Task 3C)
- ✓ 1% or smaller recurrence interval investigated/addressed
- ✓ No maintenance projects
- ✓ Discrete studies/projects/solutions – no recurring actions, entire capital programs, or “conglomerate” actions
- ✓ Does not negatively impact an entity's water supply
- ✓ Does not overallocate a water source

Approved by RFPG
on 6/3/2026!

Reasons to not recommend an FMX:

- FME
 - Study has already been performed
 - Study already has allocated funding
 - Entity not willing to sponsor FME
- FMP
 - Adverse impacts noted or unverified
 - H&H models do not exist or are insufficient
 - Move to FME
 - Entity not willing to sponsor FMP
- FMS (theoretical)
 - Adverse impacts noted
 - Does not provide reduction to flood impacts
 - Entity is not willing to sponsor



Recommended FMEs

Cycle Year	Potentially Feasible FMEs	Recommended FMEs
2023	522	508
2028	574+	546+

- 9 of new communities involved with pending recommendation
- 8 of FMEs requiring follow-up
 - Approval in early 2027 Technical Subcommittee Meeting
- Some FMEs have been promoted to FMPs
- Some, smaller FMEs have been combined into single, larger FMEs.

Region 3 - Potential FME						Rec		546		2 Not Rec		14	
						Tech Cons.			Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes		
031000001	Archer County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Archer	Watershed Planning - Flood Mapping Updates	Archer County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000002	Anderson County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Anderson	Watershed Planning - Flood Mapping Updates	Anderson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000003	Chambers County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Chambers	Watershed Planning - Flood Mapping Updates	Chambers County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000004	Clay County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Clay	Watershed Planning - Flood Mapping Updates	Clay County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000005	Collin County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Collin	Watershed Planning - Flood Mapping Updates	Collin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000006	Cooke County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Cooke	Watershed Planning - Flood Mapping Updates	Cooke County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000007	Denton County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Denton	Watershed Planning - Flood Mapping Updates	Denton County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000008	Ellis County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Ellis	Watershed Planning - Flood Mapping Updates	Ellis County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000009	Fannin County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Fannin	Watershed Planning - Flood Mapping Updates	Fannin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000010	Freestone County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Freestone	Watershed Planning - Flood Mapping Updates	Freestone County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000011	Grayson County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Grayson	Watershed Planning - Flood Mapping Updates	Grayson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000012	Grimes County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Grimes	Watershed Planning - Flood Mapping Updates	Grimes County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000013	Henderson County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Henderson	Watershed Planning - Flood Mapping Updates	Henderson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000014	Hill County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Hill	Watershed Planning - Flood Mapping Updates	Hill County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000015	Hood County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Hood	Watershed Planning - Flood Mapping Updates	Hood County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000016	Houston County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Houston	Watershed Planning - Flood Mapping Updates	Houston County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000017	Hunt County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Hunt	Watershed Planning - Flood Mapping Updates	Hunt County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		
031000018	Jack County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Jack	Watershed Planning - Flood Mapping Updates	Jack County	Y		X			Part of 2023 Regional / 2024 State Flood Plan		

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000019	Johnson County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Johnson	Watershed Planning - Flood Mapping Updates	Johnson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000020	Kaufman County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Kaufman	Watershed Planning - Flood Mapping Updates	Kaufman County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000021	Leon County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Leon	Watershed Planning - Flood Mapping Updates	Leon County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000022	Liberty County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Liberty	Watershed Planning - Flood Mapping Updates	Liberty County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000023	Limestone County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Limestone	Watershed Planning - Flood Mapping Updates	Limestone County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000024	Madison County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Madison	Watershed Planning - Flood Mapping Updates	Madison County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000025	Montague County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Montague	Watershed Planning - Flood Mapping Updates	Montague County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000026	Navarro County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Navarro	Watershed Planning - Flood Mapping Updates	Navarro County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000027	Parker County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Parker	Watershed Planning - Flood Mapping Updates	Parker County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000028	Polk County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Polk	Watershed Planning - Flood Mapping Updates	Polk County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000029	Rockwall County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Rockwall	Watershed Planning - Flood Mapping Updates	Rockwall County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000030	San Jacinto County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	San Jacinto	Watershed Planning - Flood Mapping Updates	San Jacinto County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000031	Trinity County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Trinity	Watershed Planning - Flood Mapping Updates	Trinity County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000032	Van Zandt County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Van Zandt	Watershed Planning - Flood Mapping Updates	Van Zandt County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000033	Walker County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Walker	Watershed Planning - Flood Mapping Updates	Walker County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000034	Wise County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Wise	Watershed Planning - Flood Mapping Updates	Wise County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000035	Young County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA mapping as needed.	Young	Watershed Planning - Flood Mapping Updates	Young County	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000036	East Fork Trinity HUC-8 - East Fork Trinity and Tributaries Flood Risk Identification	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Grayson , Fannin , Hunt , Collin , Rockwall , Dallas , Kaufman	Watershed Planning - Flood Mapping Updates	NCTCOG	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000037	Denton HUC-8 - Hog Branch Flood Risk Identification	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	Denton	Watershed Planning - Flood Mapping Updates	NCTCOG	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000038	Collin County Dam Inundation Study	Inundation studies of all high and moderate hazard dams	Collin	Watershed Planning - Flood Mapping Updates - Dam Failure	Collin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000039	Chambers County Dam/Levee Failure Inundation Map Updates	Update dam and levee failure inundation maps.	Chambers	Watershed Planning - Flood Mapping Updates - Dam Failure	Chambers County, Anahuac, Beach City, Mount Belvieu, Cove, Chambers-Liberty Counties Navigation District, and Old-River-Winfree	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000040	Dallas County Dam Inundation Study	Conduct studies to develop dam inundation maps and models	Dallas	Watershed Planning - Flood Mapping Updates - Dam Failure	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000041	Lake Ray Hubbard and Duck Creek Tributary Inundation Study	Conduct studies to develop inundation maps for Lake Ray Hubbard and Duck Creek Tributary and how it affects the Town of Sunnyvale.	Dallas	Watershed Planning - Flood Mapping Updates - Dam Failure	Town of Sunnyvale	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000042	Denton County Dam Inundation Study	Inundation studies of all high and moderate hazard dams	Denton	Watershed Planning - Flood Mapping Updates - Dam Failure	Denton County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000043	Ellis County Dam Inundation Study	Inundation studies of all high and moderate hazard dams	Ellis	Watershed Planning - Flood Mapping Updates - Dam Failure	Ellis County, Alma, Bardwell, Ennis, Ferris, Garrett, Italy, Maypearl, Midlothian, Milford, Oak Leaf, Ovilla, Palmer, Red Oak, Waxahachie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000044	Madison County Dam Inundation Study	Create dam failure inundation maps	Madison	Watershed Planning - Flood Mapping Updates - Dam Failure	Madison County	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000045	Navarro County Dam Inundation Study	Conduct inundation studies of all high and moderate hazard dams.	Navarro	Watershed Planning - Flood Mapping Updates - Dam Failure	Navarro County, Corsicana, Kerens	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000046	Parker County Dam Inundation Study	Conduct a dam inundation study	Parker	Watershed Planning - Flood Mapping Updates - Dam Failure	Parker County, Willow Park	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000047	Tarrant County Dam Inundation Study	Identify and evaluate high hazard dams.	Tarrant	Watershed Planning - Flood Mapping Updates - Dam Failure	Fort Worth, Tarrant County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000048	Irving Levee District Flood Risk Assessment	Conduct review of the area in the four levee districts that would be inundated by a levee failure. Analyze all available routes out of the Levee Districts and any new streets that would not be flooded.	Dallas	Watershed Planning - Flood Mapping Updates - Levee Failure	Irving	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000049	West Fork of the Trinity River Levee Failure Hydrologic Study	Hydrologic study to determine threat, risk, and potential impacts of flooding from levee failure along the West Fork of the Trinity River.	Tarrant	Watershed Planning - Flood Mapping Updates - Levee Failure	River Oaks	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000050	City of Lavon DMP	Evaluate City and identify future projects.	Collin	Watershed Planning - Drainage Master Plan	Lavon	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000051	University Park DMP	Evaluate City and identify future projects.	Dallas	Watershed Planning - Drainage Master Plan	University Park	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000052	City of Rowlett DMP	Evaluate City and identify future projects.	Dallas	Watershed Planning - Drainage Master Plan	Rowlett	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000054	City of Cockrell Hill DMP	Evaluate City and identify future projects.	Dallas	Watershed Planning - Drainage Master Plan	Cockrell Hill	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000055	City of Aubrey DMP	Evaluate City and identify future projects.	Denton	Watershed Planning - Drainage Master Plan	Aubrey	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000056	City of Argyle DMP	Evaluate City and identify future projects.	Denton	Watershed Planning - Drainage Master Plan	Argyle	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000057	City of Maypearl DMP	Evaluate City and identify future projects.	Ellis	Watershed Planning - Drainage Master Plan	Maypearl	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000058	City of Dayton DMP	Evaluate City and identify future projects.	Liberty	Watershed Planning - Drainage Master Plan	Dayton	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000059	City of Denton DMP	Evaluate City and identify future projects.	Denton	Watershed Planning - Drainage Master Plan	City of Denton	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000060	City of Madisonville DMP	Evaluate City and identify future projects.	Madison	Watershed Planning - Drainage Master Plan	Madisonville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000061	City of Rockwall DMP	Evaluate City and identify future projects.	Rockwall	Watershed Planning - Drainage Master Plan	Rockwall	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000062	City of Everman DMP	Evaluate City and identify future projects.	Tarrant	Watershed Planning - Drainage Master Plan	Everman	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000063	City of Colleyville DMP	Evaluate City and identify future projects.	Tarrant	Watershed Planning - Drainage Master Plan	Colleyville	N	Study already completed/underway. City indicated DMP could be removed during original phase of outreach in 2024/2025.	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan City indicated DMP could be removed during original phase of outreach in 2024/2025.
031000064	Haltom City DMP	Evaluate City and identify future projects.	Tarrant	Watershed Planning - Drainage Master Plan	Haltom City	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000065	City of Southlake DMP	Evaluate City and identify future projects.	Tarrant	Watershed Planning - Drainage Master Plan	Southlake	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000066	City of North Richland Hills DMP	Evaluate City and identify future projects.	Tarrant	Watershed Planning - Drainage Master Plan	North Richland Hills	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000068	City of Trinidad DMP	Evaluate City and identify future projects.	Henderson	Watershed Planning - Drainage Master Plan	Trinidad	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000069	Cedar Hill-DeSoto-Duncanville DMP	Evaluate City and identify future projects.	Dallas	Watershed Planning - Drainage Master Plan	Cedar Hill, DeSoto, Duncanville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000070	City of Athens DMP	Evaluate City and identify future projects.	Henderson	Watershed Planning - Drainage Master Plan	City of Athens	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000071	Sansom Park DMP	Evaluate City and identify future projects.	Tarrant	Watershed Planning - Drainage Master Plan	Sansom Park	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000072	City of Decatur DMP	Evaluate City and identify future projects.	Wise	Watershed Planning - Drainage Master Plan	City of Decatur	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000073	City of Waxahachie DMP (Phase 2 Continuation)	Evaluate City and identify future projects. Continue efforts of current DMP Phase 2 efforts.	Ellis	Watershed Planning - Drainage Master Plan	City of Waxahachie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000074	City of Crockett DMP	Evaluate City and identify future projects.	Houston	Watershed Planning - Drainage Master Plan	City of Crockett	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000075	Town of Dish DMP	Evaluate City and identify future projects.	Denton	Watershed Planning - Drainage Master Plan	Town of Dish	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000076	City of Corinth DMP	Evaluate City and identify future projects.	Denton	Watershed Planning - Drainage Master Plan	City of Corinth	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000077	City of Keller DMP	Evaluate City and identify future projects.	Tarrant	Watershed Planning - Drainage Master Plan	City of Keller	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000078	Anderson County DMP	Evaluate County and identify future projects.	Anderson	Watershed Planning - Drainage Master Plan	Anderson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000079	Cooke County DMP	Evaluate County to identify future projects.	Cooke	Watershed Planning - Drainage Master Plan	Cooke County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000080	Fannin County DMP	Evaluate County and identify future projects.	Fannin	Watershed Planning - Drainage Master Plan	Fannin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000081	Freestone County DMP	Evaluate County and identify future projects.	Freestone	Watershed Planning - Drainage Master Plan	Freestone County, Fairfield, Streetman, Teague, Wortham	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000082	Houston County DMP	Evaluate County and Identify future projects.	Houston	Watershed Planning - Drainage Master Plan	Houston County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000083	Jack County DMP	Evaluate County and identify future projects.	Jack	Watershed Planning - Drainage Master Plan	Jack County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000084	Johnson County DMP	Evaluate County and identify future projects.	Johnson	Watershed Planning - Drainage Master Plan	Johnson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000085	Leon County DMP	Evaluate County and identify future projects.	Leon	Watershed Planning - Drainage Master Plan	Leon County	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.		Subcommittee			
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000086	Liberty County DMP	Evaluate County and identify future projects.	Liberty	Watershed Planning - Drainage Master Plan	Liberty County	N	Study is currently in progress, however, is currently being funded by grant through the GLO (ineligible for FMP processing due to redundant funding). See FME 94.	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan
031000087	Montague County DMP	Evaluate County and identify future projects.	Montague	Watershed Planning - Drainage Master Plan	Montague County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000088	Parker County DMP	Evaluate County and identify future projects.	Parker	Watershed Planning - Drainage Master Plan	Parker County, Willow Park	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000089	Polk County DMP	Evaluate County and identify future projects.	Polk	Watershed Planning - Drainage Master Plan	Polk County, Livingston, Goodrich, Onalaska, Seven Oaks, Corrigan	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000090	San Jacinto DMP	Evaluate County and Identify future projects.	San Jacinto	Watershed Planning - Drainage Master Plan	San Jacinto County, Coldspring, Point Blank, Shepherd	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000091	Trinity County DMP	Evaluate County and identify future projects.	Trinity	Watershed Planning - Drainage Master Plan	Trinity	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000092	Van Zandt County DMP	Evaluate County and identify future projects.	Van Zandt	Watershed Planning - Drainage Master Plan	Van Zandt County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000093	Wise County DMP	Evaluate County and identify future projects.	Wise	Watershed Planning - Drainage Master Plan	Wise County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000094	Dallas County DMP and Vulnerability Assessment	Evaluate County to identify future projects. Risk and vulnerability assessment to determine the number of people, property and infrastructure exposed to flooding.	Dallas	Watershed Planning - Drainage Master Plan	Dallas County	N	Sponsor is doing a portion of this FME with Cat 1 FIF Study. Do not recommend.		X		Part of 2023 Regional / 2024 State Flood Plan
031000095	Merritt Road, Sachse Road, and Willow Lake Improvements	Hydrologic and Hydraulic Study of Stream 2E3, 2E4 and Willow Lake to determine causes of flooding along Merritt Rd and identify necessary drainage improvements.	Collin , Dallas	Watershed Planning - H&H Modeling	City of Sachse	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000097	Copper Canyon Poindexter Branch Flood Mitigation Plan	Copper Canyon Poindexter Branch Flood Mitigation Plan	Denton	Watershed Planning - H&H Modeling	Copper Canyon	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000098	Holiday Park North Drainage Study Update	Area 2	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Rec		546		2 Not Rec	
						Tech Cons.		Subcommittee		14	
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000099	Buhler, Cresthaven, Madewell & Maryland Drainage Study Update	Area 4	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000100	Bellaire Heights Drainage Study Update	Area 5	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000101	Country Club Add., Club Hill Est., & Eastern Hills Est. Drainage Study Update	Area 6	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000102	Shorehaven-Garvon-Rosewood Terrace-Garland Heights-Freeman Heights-Range-Cooper-Barger Drainage Study Update	Area 7	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000103	Brentwood Place-Two Worlds-Apollo East Park Village Drainage Study Update	Area 8	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000104	Ridgewood Park-Regal Estates-Meadowcreek Square Drainage Study Update	Area 9	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000105	Eastern Meadows-Southlake Estates-Greenbrook-Green Acres-Rosehill Acreage Drainage Study Update	Area 10	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000106	La Prada 7 & 8 Drainage Study Update	Area 11	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000107	Gatewood Drainage Study Update	Area 12	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000108	Curtis Drive Drainage Study Update	Area 13	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000109	Center Creek Plaza 8 Southgate Estates Drainage Study Update	Area 14	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000110	Bluffview Drainage Study Update	Area 15	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000111	Camelot Drainage Study Update	Area 16	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000112	Downtown Drainage Study Update	Area 17	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000113	Main & Wilson Streets Drainage Study Update	Area 18	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000114	Royal Crest-Meadowview Drainage Study Update	Area 19	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000115	Garvon West, Innovation & Kingsley Ind. Park Drainage Study Update	Area 20	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000116	Northlake & Castlewood Drainage Study Update	Area 21	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000117	Legend Drive Drainage Study Update	Area 22	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000118	Brazos Drive Drainage Study Update	Area 23	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000119	Sweetbriar-Glenrose Alley Drainage Study Update	Area 26	Dallas	Engineering Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000120	Mc Adams Ditch Feasibility Study	Evaluate alternatives for improvements to Mc Adams Ditch (crosses FM 3180 South).	Chambers	Project Planning	Chambers County	N	Study already completed/underway. Promoted to FMP #131	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan Now included as FMP #131
031000122	Hackberry Gully and Cotton Bayou Shelving Study	Evaluate shelving the entire length of Hackberry Gully and Cotton Bayou from South of I-10 to Cotton Lake; thereby increasing their flow capacity.	Chambers	Engineering Project Planning	Chambers County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000123	Collin County Retention Structures Rehabilitation Project	Conduct hazard/vulnerability assessment and inundation study on NRCS flood retention structures and rehabilitate structures found to be a high hazard.	Collin	Engineering Project Planning	Collin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000125	Cooke County Low-Water Crossing Barriers Evaluation	Evaluate installation of automatic flood crossing barriers at low water crossing to prevent automobiles from driving through high water.	Cooke	Engineering Project Planning	Cooke County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000126	Wheeler Creek Channelization Study	Evaluate channelization of Wheeler Creek to reduce flooding in the west side of town.	Cooke	Engineering Project Planning	Gainesville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000127	Pecan Creek Channelization Study	Evaluate channelization project for Pecan Creek to reduce flooding.	Cooke	Engineering Project Planning	Valley View	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000128	Lindsay Waterways Improvements Study	Identify alternatives to reshape waterways to allow quicker flow in areas that have regular flooding. Study potential construction of gabion retaining walls, and widening and/or deepening of the waterway.	Cooke	Project Planning	Lindsay	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000129	O'Neal St Low-Water Crossing Automatic Barrier Study	Evaluate installation of an automatic barricade for low-water crossing on O'Neal St.	Cooke	Engineering Project Planning	Gainesville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000130	Elm Fork Bridge Improvements Assessment	Assessment to alleviate flooding issues with the Elm Fork bridge on I-35.	Cooke	Engineering Project Planning	Gainesville	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000131	Brockbank and Embassy Channel Basin Improvements Assessment	Evaluate channel improvements on Brockbank Channel Basin north of SH 183; and Embassy Channel Basin north of SH 183	Dallas	Engineering Project Planning	Irving	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000133	Exall and Wycliffe Dam Maintenance Protocol for Drainage Systems and Flood Control Structures	Analyze maintenance protocol for Drainage Systems/Flood Control Structures in and around the Exall and Wycliffe Dams. Conduct study to determine roadway reconstruction, culvert/bridge construction and associated bank protection and improvements	Dallas	Engineering Project Planning	Highland Park	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000134	Farmers Branch Retention Pond Dredging	Evaluate the dredging of the retention ponds along the creeks within the City.	Dallas	Engineering Project Planning	Farmers Branch	Y/?	Outreach needed to sponsor to confirm inclusion of O&M plan in FMS or to remove entirely. Will be included in 2027 TC Rec Mtg.	2027	2027	Confirm with sponsor that "evaluate" means "study"; what is purpose of dredging - reduce flooding, adding depth?	Part of 2023 Regional / 2024 State Flood Plan
031000135	Ten Mile Creek Channel Expansion Study	Study to improve and increase the capacity of storm water system by expanding the Ten Mile Creek downstream channel to prevent flooding in flood prone areas to include structural stormwater management projects	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000136	Hunterwood Stream Stabilization Project	Evaluate the installation and maintenance of gabion walls to mitigate stream bank erosion during extreme flood events	Dallas	Engineering Project Planning	Coppell	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000137	Carrollton Flood Warning Barrier System Study	Evaluate the procurement and installation of flood warning barrier system to prevent motorists from driving into flooded areas.	Dallas,Denton	Engineering Project Planning	Carrollton	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000138	Westside Drive Drainage System and Street Reconstruct Study	Study to reconstruct Drainage System and Street in the 4500-4700 blocks of Westside Drive	Dallas	Engineering Project Planning	Highland Park	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000139	Garner Rd, Chiesa Rd, and Wayne Way Storm Drain System Improvements	Evaluation of storm drain system redirection and improvements at Garner Rd, Chiesa Rd, and Wayne Way	Dallas	Engineering Project Planning	Rowlett	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000140	Cooks Creek Drainage Infrastructure Improvements	Evaluation of improvements to drainage infrastructure along Cooks Creek between Bee St and Spring Valley.	Dallas	Engineering Project Planning	Farmers Branch	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000141	Carrollton Drainage Upgrades	Evaluate upgrades to drainage and targeted regrading of streets and properties. Add additional drains and supporting infrastructure in older neighborhoods to increase offloading of flash flood waters.	Dallas,Denton	Engineering Project Planning	Carrollton	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000142	Little Elm Drainage Improvements	Evaluate drainage improvements to mitigate future flash and lake flooding problems.	Denton	Engineering Project Planning	Little Elm	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000143	Shady Shores Rd Elevation Study	Evaluate alternatives to elevate Shady Shores Rd to reduce future loss due to flooding	Denton	Engineering Project Planning	Shady Shores	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000144	Sanger Creek Waterways Reconstruction Study	Evaluate alternatives to reconstruct creek waterways to correct drainage issues	Denton	Engineering Project Planning	Sanger	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000145	CR 1400 drainage study	Evaluate widening road and installing box drains where necessary.	Henderson	Engineering Project Planning	Malakoff	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000146	Malone Bridge Improvements	Evaluate alternatives to elevate roadways in flood-prone areas through bridge improvements	Hill	Engineering Project Planning	Malone	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000147	FM 2114 Automated Flood Gate Feasibility Assessment	Evaluate installation of an automated flood gate that prevents traffic flow on FM 2114 within the flood-prone area during flooding events.	Hill	Engineering Project Planning	Penelope	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000148	Houston County dike for critical facilities	Evaluate alternatives to build earthen dike to elevate emergency vehicle access road to critical facilities to provide protection to 500-year flood level	Houston	Engineering Project Planning	Houston County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000149	Grapeland Critical Facilities Floodproofing Assessment	Assess flood proofing critical facilities to the 500-year flood that are located in flood-prone areas of the city in Region 3	Houston	Engineering Project Planning	Grapeland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000150	Jack County WWTP and Lift Station Flood-Proofing.	Evaluate alternatives to flood-proof sewage treatment plans in flood hazard / low-lying areas. Raise electrical components of sewage lift stations above the BFE.	Jack	Engineering Project Planning	Jack County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000151	County Rd 125 Automatic Warning Barricade Installation	Evaluate alternatives to install automatic warning barricades at County Rd 125 low-water crossing	Kaufman	Engineering Project Planning	Kaufman County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000152	City of Liberty WWTP Levee Study	Study to evaluate constructing levee floodwall around waste water treatment plant	Liberty	Engineering Project Planning	City of Liberty	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000153	Liberty County Re-canalization	Evaluate alternatives to dechannelize existing feeder creeks that flow from north to south and improve drainage for storm water runoff	Liberty	Engineering Project Planning	Liberty County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000154	Liberty County Culverts Upgrades	Evaluate alternatives to reduce flooding by increasing size of culverts to 24 inches on County Rd 2361, 2362, 2363, and 2364 and CR 2358	Liberty	Engineering Project Planning	Liberty County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000155	County Rd 2331 Re-Routing	Evaluate alternatives to re-route County Rd 2331 to area not prone to flooding	Liberty	Engineering Project Planning	Dayton Lake Estates	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000157	Polk County Road and Drainage Improvements	Evaluate road elevation and drainage improvements.	Polk	Engineering Project Planning	Polk County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000158	Seven Oaks Drainage Ditches	Evaluate drainage ditch along city streets Camp Rd, Pickens Loop, Franklin Rd, Austin Street, and Hunt Street	Polk	Engineering Project Planning	Seven Oaks	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000159	Old 35 Sover Sampson Creek Bridge Elevation	Evaluate alternatives to elevate bridge on Old 35 Sover Sampson Creek	Polk	Engineering Project Planning	Goodrich	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000160	Pennington Rd Culverts	Evaluate alternatives to install multiple culverts under Pennington Rd	Polk	Engineering Project Planning	Goodrich	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000161	Seven Oaks Culvert Installation	Evaluate alternatives to install multiple new culverts under Camp Rd, Pickens Loop, and Franklin Rd	Polk	Engineering Project Planning	Seven Oaks	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000162	San Jacinto County Drainage and Conveyance Capacity Improvements	Evaluate alternatives to improve drainage and conveyance capacity for Big Creek.	San Jacinto	Engineering Project Planning	Shepherd, San Jacinto County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000163	Rock Creek Road Improvements	Evaluate alternatives to mitigate repetitive damages to Rocky Creek Rd sustained between 2015 - Present	San Jacinto	Engineering Project Planning	San Jacinto County, Shepherd	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000164	Chipmunk Rd Culverts Replacement	Evaluate alternatives to replace Chipmunk Rd culverts with a bridge	San Jacinto	Engineering Project Planning	San Jacinto County, Shepherd	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000165	Comanche Drive Culvert and Retention Wall Construction Feasibility Assessment	Evaluate feasibility for building a larger culvert and retention wall for watershed over low crossing on Comanche Drive	Tarrant	Engineering Project Planning	Lake Worth	N	Study already completed/underway - outreach to sponsor ongoing to confirm status. Will be included in 2027 TC Rec Mtg.	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan
031000167	Lower Hardisty Storm drain Improvements	Storm drain analysis to determine cause of flooding and develop feasible alternatives up to 30% design.	Tarrant	Engineering Project Planning	Richland Hills	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000168	Big Bear Creek, Little Bear Creek, and Marshall Branch Stream Bank Erosion Study	Study to reduce stream bank erosion impacts along Big Bear Creek, Little Bear Creek, and Marshall Branch to improve drainage within the City of Keller	Denton,Montague, Tarrant,Wise	Engineering Project Planning	Keller	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000169	Calloway Branch Erosion Control Installation	Evaluate erosion control measures in Calloway Branch to eliminate erosion of stream bank.	Tarrant	Engineering Project Planning	City of Hurst	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000170	Mansfield Stream Stabilization	Evaluate alternatives to protect public infrastructure and private property from damages due to streambank erosion. Alternatives could include Saddlehorn/Walnut Creek sewer interceptor aerial crossing and Brookfield Hogpen sewer interceptor	Tarrant	Engineering Project Planning	Mansfield	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000171	Turkey Creek Trail Bridge	Evaluate alternatives to construct Bridge at Low-Water Crossing on Turkey Creek Trail.	Wise	Engineering Project Planning	Bridgeport	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000172	Turkey Creek Trail Rebuild	Evaluate alternatives to rebuild Turkey Creek Trail from 9th Street to State Highway 114.	Wise	Engineering Project Planning	Bridgeport	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000173	West Bridgeport Creek Channelization and Drainage Project	West Bridgeport Creek Channelization and Drainage Project Feasibility Assessment.	Wise	Engineering Project Planning	Bridgeport	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000174	North Weatherford St and Oakwood St Structure Improvements	Structure improvements assessment - North Weatherford St in front of fire station and Oakwood St between Granada and El Camino.	Wise	Engineering Project Planning	Chico	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000175	Hurstview Drive Bridge Improvement	Lorean watershed; \$ Estimated construction cost of390,000 cost estimate; from 2013 study	Tarrant	Engineering Project Planning	City of Hurst	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000176	Regional Detention at Mayfair Park	Valley View watershed; \$ Estimated construction cost of1,900,000 cost estimate; from 2017 study	Tarrant	Engineering Project Planning	City of Hurst	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000177	TRE & SH-10 Culvert Improvements	Valley View watershed; \$ Estimated construction cost of750,000 cost estimate; from 2017 study	Tarrant	Engineering Project Planning	City of Hurst	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000178	Pipeline Road Bridge Improvement	Walker watershed; \$ Estimated construction cost of1,700,000 cost estimate; from 2020 study	Tarrant	Engineering Project Planning	City of Hurst	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000179	Redbud Drive Bridge Improvement	Walker watershed; \$ Estimated construction cost of1,200,000 cost estimate; from 2020 study	Tarrant	Engineering Project Planning	City of Hurst	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000180	Northeast Mall Culvert Improvement	Walker watershed; \$ Estimated construction cost of11,600,000 cost estimate; from 2020 study	Tarrant	Engineering Project Planning	City of Hurst	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000181	Grand Parkway Culvert Crossing	Evaluate alternatives to upsize cross-culverts to allow for developed flow	Chambers	Engineering Project Planning	City of Mont Belvieu	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000182	Cherry Point Gully PER	Evaluate alternatives to construct a diversion channel; channel improvements upstream of diversion; construction of regional detention basins as alternative to diversion channel construction	Chambers	Engineering Project Planning	City of Mont Belvieu	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000183	Cotton Bayou PER	Evaluate alternatives to construct a diversion channel within irrigation canal ROW to drain to Old River; construction of detention basins to serve new development; linear detention through channel improvements; expansion of existing detention basins	Chambers	Engineering Project Planning	City of Mont Belvieu	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000184	Belt Line Rd (FM1382) at Cottonwood Creek	Study update - Channel Improvements; Estimated construction cost of \$4,502,500	Dallas,Tarrant	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000185	North Grand Prairie High School Pond Crossing	Study update - Gopher Creek 430 feet north of Small Hill St; channel improvements; Estimated construction cost of \$159,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000186	Belt Line Rd at Plattner Creek	Study update - Channel Improvements; Estimated construction cost of \$435,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000187	Small Hill St at Gopher Creek	Study update - Channel Improvements; Estimated construction cost of \$307,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000188	Carrier Parkway at Dalworth Creek	Study update - 190 feet southeast of Capetown; Channel Improvements; Estimated construction cost of \$1,092,000	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000189	East Tarrant Rd at Gopher Creek	Study update - Channel Improvements; Estimated construction cost of \$381,300	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000190	NE 5th St at Gopher Creek	Study update - Channel Improvements; Estimated construction cost of \$390,200	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000191	Grass-covered Culvert at Dalworth Creek	Study update - 520 feet west of Carrier Parkway; Channel Improvements; Estimated construction cost of \$1,048,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000192	High School Drive at Gopher Creek	Study update - Channel Improvements; Estimated construction cost of \$402,400	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000193	Duncan Perry Rd at Johnson Creek	Study update - Channel Improvements; Estimated construction cost of \$5,374,200	Dallas,Tarrant	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000194	Great Southwest Parkway at Cottonwood Creek Bridge and Roadway Raising Improvements (Stream Station 104+64)	Study update - Channel Improvements; Estimated construction cost of \$9,538,300	Dallas,Tarrant	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000195	West Park Square Rd at Turner Branch	Study update - Channel Improvements; Estimated construction cost of \$445,200	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000196	Carrier Parkway at Cottonwood Creek and South Fork Cottonwood Creek - Bridges	Study update - Channel Improvements; Estimated construction cost of \$18,164,400	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000197	3rd St at Cottonwood Creek and Cottonwood Creek from SW 3rd to FM 1382	Study update - Channel Improvements; Estimated construction cost of \$12,733,000	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000198	FM 661 at Mountain Creek (Future with Development)	Study update - Channel Improvements; Estimated construction cost of \$7,750,000	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000199	Green Hollow Drive North and South of Thornbush Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$247,000	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000200	Carrier Parkway & Egyptian Way	Study update - Storm Drain Improvements; Estimated construction cost of \$3,165,300	Dallas,Tarrant	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000201	East Pioneer Parkway & SE 14th St	Study update - Storm Drain Improvements; Estimated construction cost of \$3,742,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000202	Great Southwest Parkway & Pinewood Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$3,998,200	Dallas,Tarrant	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000203	Lake Park Drive and Victoria Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$1,094,100	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000204	Regional Detention at Bowie Elementary School	Study update - Storm Drain Improvements; Estimated construction cost of \$3,433,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000205	Shady Grove Rd - Jones St Storm Drainage Improvements	Study update - Storm Drain Improvements; Estimated construction cost of \$1,679,200	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000206	Duncan Perry Rd, Heritage Court and Goodwin Branch	Study update - Storm Drain Improvements; Estimated construction cost of \$1,175,300	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000207	Thousand Oaks Court	Study update - Storm Drain Improvements; Estimated construction cost of \$742,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000208	East Marshall Drive, Santa Cruz Circle & Belt Line Rd	Study update - Storm Drain Improvements; Estimated construction cost of \$1,753,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000209	East Main St & NE 14th St	Study update - Storm Drain Improvements; Estimated construction cost of \$5,879,400	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000210	Marshall Drive from Emerald to SW 3rd	Study update - Storm Drain Improvements; Estimated construction cost of \$3,603,100	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000211	Varsity Drive and Christy St from Varsity to Mountain Creek Lake	Study update - Storm Drain Improvements; Estimated construction cost of \$4,768,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000212	SE 10th Street and Avion Parkway from Perman South to Culvert Crossing	Study update - Storm Drain Improvements; Estimated construction cost of \$1,158,400	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000213	SW 3rd Street from Dorris North to Concrete Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$4,024,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000214	Bowles St & Hensley Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$1,295,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000215	Manana Channel Improvements	Study update - Storm Drain Improvements; Estimated construction cost of \$967,600	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000216	South of Bardin Rd and North of Newberry St	Study update - Storm Drain Improvements; Estimated construction cost of \$2,007,600	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000217	Cherokee Trace and Choctaw Trace to Clarice	Study update - Storm Drain Improvements; Estimated construction cost of \$2,715,600	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000218	Gilbert Rd Drainage Improvements	Study update - Storm Drain Improvements; Estimated construction cost of \$5,825,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000219	27th Street and Graham Street from Rinehart to Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$1,419,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000220	East Marshall Drive & Avenue C, East Coral & SE 14th Street and in SE 14th Street & Bogarte Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$6,399,100	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000221	Lakeview Drive & SE 14th Street	Study update - Storm Drain Improvements; Estimated construction cost of \$3,570,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000222	WE Roberts St & SW 16th St	Study update - Storm Drain Improvements; Estimated construction cost of \$1,625,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000223	Jelmak Rd - Hardrock Rd	Study update - Storm Drain Improvements; Estimated construction cost of \$5,095,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000224	Shady Grove Rd, Gilbert Rd, Wright Blvd	Study update - Storm Drain Improvements; Estimated construction cost of \$2,860,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000225	Parker Rd - Hardrock Rd	Study update - Storm Drain Improvements; Estimated construction cost of \$5,760,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000226	North Carrier Parkway & Main St to Dalworth Creek Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$8,803,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000227	Pioneer Parkway from Brady to Plattner Creek (TXDOT)	Study update - Storm Drain Improvements; Estimated construction cost of \$9,511,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000228	NW 24th St & NW 23rd St from West Main to Ditch Near Dalworth St and Doreen St	Study update - Storm Drain Improvements; Estimated construction cost of \$5,982,600	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000229	Detention Basin at St. Michael's Church Vacant Property and Relief Storm Drains in Corn Valley Rd and Neighboring Streets from Santa Anna to Kirby Creek Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$18,766,400	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000230	River Ridge Boulevard	Study update - Storm Drain Improvements; Estimated construction cost of \$6,148,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000231	East Grand Prairie Rd & 14th Street from Austin to Ditch South of Skyline	Study update - Storm Drain Improvements; Estimated construction cost of \$8,549,300	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000232	Shady Grove Rd	Study update - Storm Drain Improvements; Estimated construction cost of \$6,737,200	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000233	Various Streets and Alleys from Dallas Street West of NW 20th Street to Ditch Just South of WE Roberts Street	Study update - Storm Drain Improvements; Estimated construction cost of \$10,656,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000234	South Great Southwest Parkway from Warrior to Kirby Creek Concrete Channel North of Mayfield	Study update - Storm Drain Improvements; Estimated construction cost of \$1,411,100	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000235	South Great Southwest Parkway from North of Forum Drive to Prairie Creek Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$2,127,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000236	South Great Southwest Parkway from Sherman to Cottonwood Creek	Study update - Storm Drain Improvements; Estimated construction cost of \$6,881,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000237	Arbor Creek Pedestrian Bridge Repair and Channel Bottom Stabilization	Evaluate the improvements needed along Arbor Creek, including the pedestrian bridge and channel stabilization: 270 feet south of Johnson Creek and 290 feet east of SH 161; \$270,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000238	Gopher Creek Stream Bottom Stabilization	Evaluate the improvements needed along Gopher Creek: downstream of NE 5th Street; between High School Drive and NE 5th Street; downstream of Belt Line Road; \$65,600 (?) + \$127,300; downstream of High School Drive; \$70,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000239	Turner Branch Stream Bottom Stabilization	Evaluate the improvements needed along Turner Branch: 380 feet south of Small Hill Street to 450 feet north of East Tarrant Road; \$187,200 (?)	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000240	Arbor Creek Channel Bottom Stabilization	Evaluate the improvements needed along Arbor Creek, including channelization, stabilization, and bank armoring from SH 161 East to Johnson Creek Confluence; \$2,096,900; from Duncan Perry to SH 161; \$991,600	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000241	North Fork of Cottonwood Creek Stabilization	Evaluate the improvements needed along the North Fork of Cottonwood Creek: from Great Southwest to Carrier; \$214,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000242	Kirby Creek Channel Lining Replacements	Evaluate the improvements needed along Kirby Creek: from 800 feet east of Great Southwest to West of Waterwood; just north of Kildeer cul-de-sac and from Waterwood East to End of Channel Lining just east of Greenvista; \$1,267,200	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000243	Dry Branch Stream Bottom Stabilization	Evaluate the improvements needed along Dry Branch: 300 feet south of Rock Island (2 locations); \$91,300	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000244	Johnson Creek Avenue J Stabilization	Evaluate the improvements needed along Johnson Creek Avenue J, including bridge abutment repair and channel bank stabilization; \$168,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000245	Garden Branch Stabilization	Evaluate the improvements needed along Garden Branch: channel bottom stabilization from Camp Wisdom to Great Southwest; \$176,100	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000246	Warrior Creek Stabilization	Evaluate the improvements needed along Warrior Creek: From Great Southwest to South Fork Cottonwood Creek; \$518,500	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000247	Dalworth Creek Stabilization	Evaluate the improvements needed along Dalworth Creek, including repair of gabions and protection of wastewater crossing downstream of I-30; \$402,000; from Dalworth Street to Roman; \$278,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000248	South Fork Cottonwood Creek	Evaluate improvements along South Fork Cottonwood Creek: from Great Southwest to Carrier; \$781,200	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000249	Willis Branch Stabilization	Evaluate improvements along Willis Branch: Dam removal and south channel bank stabilization just west of Devon cul-de-sac; \$48,600; from Great Southwest to Sheffield; \$200,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000250	Johnson Creek Stabilization	Evaluations along Johnson Creek: replacement of failed inline channel structure 500 feet east of SH 161 and sediment removal; \$1,979,000; south bank stabilization north of Babbling Brook from Quest to Shadow Pass; \$831,700; north bank stabilization	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000251	Henry Branch Stream Stabilization	Evaluate improvements along Henry Branch: from apartments at 1000 South Belt Line to Grand Prairie Road; \$127,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000252	Plattner Creek Stabilization	Evaluate improvements along Plattner Creek: from FM 1382 to City Limits of Dallas, west of SE 14th; \$252,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000253	Prairie Creek Stabilization	Evaluate improvements along Prairie Creek: from upstream of Great Southwest Pkwy to upstream of Robinson Road; \$606,900	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000254	Stuart Branch Stabilization	Evaluate improvements along Stuart Branch: from 460 feet north of Sanctuary Drive and 350 feet northeast of Nature Court cul-de-sac to Joe Pool Lake (future with development); \$349,700	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000255	Swadley Branch Stabilization	Evaluate improvements along Swadley Branch: from 2200 feet south of Koscher Drive to Joe Pool Lake (future with development); \$286,800	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000256	Mills Branch Stabilization	Evaluate improvements along Mills Branch: from 880 feet south of South Periwinkle Court cul-de-sac to Joe Pool Lake (future with development); \$599,300	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000257	Tarrell Creek Stabilization	Evaluate improvements along Tarrell Creek: from a Stream Point 2420 feet south of South Periwinkle Court cul-de-sac and 800 feet east of South Periwinkle Court cul-de-sac to Joe Pool Lake (future with development); \$747,200	Dallas	Engineering Project Planning	City of Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000258	Jackson Meadows Pond Erosion Control	Evaluate erosion control measures around three pond headwalls to decrease flow velocity.	Collin , Dallas	Engineering Project Planning	City of Sachse	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000259	Long Branch Channel Improvements (Dewitt to Ingram)	Evaluate channel improvements to replace a failed headwall and reduce erosive velocities. Sewer line relocation to protect against potential failure due to erosion.	Collin , Dallas	Engineering Project Planning	City of Sachse	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000260	North Colony Blvd. at Powers Street	Streams SC-1A Drainage Study and storm drain upgrades to deal with flooding	Denton	Engineering Project Planning	City of The Colony	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000261	Office Creek Drainage Study	Update Drainage Study and Improvements at Five Star Park	Denton	Engineering Project Planning	City of The Colony	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000262	Bill Allen Park Erosion Repairs	Evaluate erosion control measures at Blair Oaks Drive to Good Shepherd Lutheran Church.	Denton	Engineering Project Planning	City of The Colony	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000263	Johnson County Low Water Crossings - East Side	Hydraulic evaluation to determine how to reduce flooding risk at multiple low water crossings.	Johnson	Engineering Project Planning	Johnson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000264	Johnson County Low Water Crossings - West Side	Hydraulic evaluation to determine how to reduce flooding risk at multiple low water crossings.	Johnson	Engineering Project Planning	Johnson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000265	Tributary SB-1 Culvert Improvements	Evaluate and define necessary culvert improvements: Circle Lane, Shirley Way, Briar Drive, Schumac Lane, and Donna Lane	Tarrant	Engineering Project Planning	City of Bedford	Y	In 2023 cycle, FMEs were to be merged to one, large FME as opposed to five, small FMEs. This merge did not occur. Correction will be made in 2028 Plan.	X			Merge SB-1 FMEs into one FME
031000270	Sulphur Branch Culvert Improvements	Evaluate and define necessary culvert improvements: Circle Lane and Bedford Road	Tarrant	Engineering Project Planning	City of Bedford	Y	In 2023 cycle, FMEs were to be merged to one, large FME as opposed to two, small FMEs. This merge did not occur. Correction will be made in 2028 Plan.	X			Merge Sulphur FMEs into one FME

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031000272	Fairfield South Bateman Drainage Study	Fairfield South Bateman Drainage Study	Freestone	Engineering Project Planning	Fairfield	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000273	City of Plano DMP	Evaluate alternatives for citywide drainage improvements for areas with history of flooding.	Collin	Watershed Planning - Drainage Master Plan	City of Plano	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000274	Collin County flooding hazard/vulnerability assessment	Conduct a hazard/vulnerability assessment for personal properties and structures located in the floodplain.	Collin	Studies on Flood Preparedness	Collin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000275	Houston County Lake Dam Emergency Action Plan	Develop Emergency Action Plan for Houston County Lake Dam	Houston	Studies on Flood Preparedness	Houston County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000276	Grayson County Dams Compliance Assessment	Determine owners of high and significant hazard dams and obtain copies of all EAPs. Obtain available dam failure impact data necessary for determining most appropriate mitigation approach that would achieve compliance with the State’s TCEQ regulations	Grayson	Studies on Flood Preparedness	Grayson County	Y/?	FMS suggested due to lack of evaluation. Description proposes obtaining existing EAPs and relevant data - not developing any. No modeling effort immediately evident. Open to discussion.	2027	2027	Move to FMS category?	Part of 2023 Regional / 2024 State Flood Plan
031000277	Denton County USDA (NRCS) Dam Studies and Rehabilitation	USDA (NRCS) Dam Studies and Rehabilitation	Denton	Other - Dam Studies	Denton County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000278	Spring Creek Retaining Walls	Evaluate results from the 2021 Spring Creek Erosion and Retaining Wall Assessment project. This project identified 19 locations with recommended repairs/maintenance to erosion structures.	Dallas	Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000279	Colonel Palm Valley Drainage Improvements	Evaluate results from the Colonel Drive Drainage Study. This study identified mitigation options in Coloneal Drive and Palm Valley Drive.	Dallas	Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000280	Ashville Drive Drainage Improvements	Evaluate results from the Ashville Drainage Study. This study identified recommended mitigation options that can provide 100-year protection and minimal improvements for greater frequency storm events.	Dallas	Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000281	Freeman Heights Drainage Improvements	Evaluate results from the Garland-Freeman Height Drainage Study. This study identified improvement projects for the storm sewer.	Dallas	Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000282	Tobin trail Drainage Analysis	Evaluate results from the Tobin Trail Drainage Study. This study identified mitigation options to determine what solutions can be provided to eliminate or reduce flooding that occurs in Tobin Trail.	Dallas	Project Planning	City of Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000283	Whites Bayou/Spring Branch Flood Study	Flood study north of I-10 through Hankamer	Chambers	Watershed Planning	Chambers County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000284	Predicted Maximum Probable Inundation Map	Use NWS gage height forecasts from the River Forecast Center to generate a potential floodplain along the main stem of the Trinity River.		Watershed Planning	Trinity River Authority	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000285	Headwaters of South Fork Trinity River Tributaries Through Hudson Oaks	Study to determine flooding issues and potential future projects.	Parker	Watershed Planning	Hudson Oaks	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000286	Headwaters of Clear Fork Trinity River Tributaries Through Hudson Oaks	Study to determine flooding issues and potential future projects.	Parker	Watershed Planning	Hudson Oaks	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000287	Headwaters of Willow Creek Regulatory Floodplain Determination Study	Mapping study for Headwaters of Willow Creek through Mansfield ETJ.	Tarrant	Watershed Planning	Mansfield	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000288	Mountain Creek and Tribs Regulatory Floodplain Determination Study	Mapping study for Mountain Creek and Tribs through Mansfield ETJ.	Johnson,Ellis	Watershed Planning	Mansfield	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000289	Hogpen Creek and Detention Facilities H&H Modeling Update	Detailed headwaters study completed with detention. Needs a connectivity H&H modeling with identified detention.	Tarrant	Watershed Planning	Mansfield	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000290	Rock Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	Johnson	Watershed Planning	City of Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000291	Walnut Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	Johnson	Watershed Planning	City of Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000292	North Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	Johnson,Tarrant	Watershed Planning	City of Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000293	Quil Miller Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	Johnson	Watershed Planning	City of Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000294	Hurst Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	Johnson	Watershed Planning	City of Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000295	City of Wilmer FMP	Evaluate City and identify future projects.	Dallas	Watershed Planning	City of Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000296	Alta Mesa Branch at Persimmon Road	Evaluate bridge improvements for Persimmon Road over Alta Mesa Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000297	Alta Mesa Branch at Simpson Stuart Road	Evaluate culvert improvements for Simpson Stuart Road over Alta Mesa Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000298	Alta Mesa Branch at Tracy Road	Evaluate bridge improvements: Tracy Road over Alta Mesa Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000299	Ricketts Branch at Camp Wisdom Road	Evaluate bridge improvements for Camp Wisdom Road over Ricketts Branch (2 structures)	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000300	Ricketts Branch at IH 35E Service	Evaluate bridge improvements for IH 35E over Ricketts Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000301	Runyon Springs Branch at Crouch Road	Evaluate bridge improvements for Crouch Road over Runyon Springs Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000302	Whites Branch at Langdon Road	Evaluate bridge improvements for Langdon Road over Whites Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000303	Wilson Branch at Bonnie View Road	Evaluate bridge improvements for Bonnie View Road over Wilson Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000304	Wilson Branch at J J Lemmon Road	Evaluate bridge improvements for J J Lemmon Road over Wilson Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000305	Wilson Branch at Tioga Street	Evaluate bridge improvements for Tioga Street over Wilson Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000306	Woody Branch at Loop 12	Evaluate bridge improvements for Loop 12 over Woody Branch	Dallas	Engineering Project Planning	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000307	Hutchins Creek at Denton Street	Evaluate culvert improvements for Denton Street over Hutchins Creek	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000308	Hutchins Creek at J J Lemmon Street	Evaluate bridge improvements for J J Lemmon Street over Hutchins Creek	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000309	Hutchins Creek at Main Street	Evaluate bridge improvements for Main Street over Hutchins Creek	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000310	Rawlins Creek at Dowdy Ferry Road	Evaluate bridge improvements for Dowdy Ferry Road over Rawlins Creek	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000311	Rawlins Creek at IH 45	Evaluate bridge improvements for IH 45 over Rawlins Creek	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000312	Rawlins Creek at Main Street	Evaluate bridge improvements for Main Street over Rawlins Creek	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000313	Stream 4A4 at Goode Road	Evaluate bridge improvements for Goode Road over Stream 4A4	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000314	Stream 4A4 at IH 45	Evaluate bridge improvements for IH 45 over Stream 4A4	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000315	Stream 4B4 at Austin Street	Evaluate culvert improvements for Austin Street over Stream 4B4	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000316	Stream 4B4 at Crestridge Drive	Evaluate culvert improvements for Crestridge Drive over Stream 4B4	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000317	Stream 4B4 at Denton Street	Evaluate culvert improvements for Denton Street over Stream 4B4	Dallas	Engineering Project Planning	Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000318	Halls Branch at 1st Street	Evaluate bridge improvements for 1st Street over Halls Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000319	Halls Branch at 4th Street	Evaluate bridge improvements for 4th Street over Halls Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000320	Halls Branch at 6th Street	Evaluate bridge improvements for 6th Street over Halls Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000321	Halls Branch at Cedar Street	Evaluate bridge improvements for Cedar Street over Halls Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000322	Halls Branch at Main Street	Evaluate bridge improvements for Main Street over Halls Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000323	Halls Branch at Redbud Lane	Evaluate bridge improvements for Redbud Lane over Halls Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000324	Keller Branch at Jefferson Street	Evaluate bridge improvements for Jefferson Street over Keller Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000325	Keller Branch at Main Street	Evaluate bridge improvements for Main Street over Keller Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000326	Keller Branch at Pleasant Run Road	Evaluate bridge improvements for Pleasant Run Road over Keller Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000327	Mill Branch at Houston School Road	Evaluate bridge improvements for Houston School Road over Mill Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000328	Mill Branch at Wintergreen Road	Evaluate bridge improvements for Wintergreen Road over Mill Branch	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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031000329	Stream 3A1 at Ten Mile Road	Evaluate bridge improvements for Ten Mile Road over Stream 3A1	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000330	Stream 3A6 at Belt Line Road	Evaluate bridge improvements for Belt Line Road over Stream 3A6	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000331	Ten Mile Creek at Bluegrove Road	Evaluate bridge improvements for Bluegrove Road over Ten Mile Creek	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000332	Ten Mile Creek at Houston School Road	Evaluate bridge improvements for Houston School Road over Ten Mile Creek	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000333	Ten Mile Creek at IH 35E Service	Evaluate bridge improvements for IH 35E Service over Ten Mile Creek	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000334	Ten Mile Creek at IH 35E Service (County Highway 1382)	Evaluate bridge improvements for IH 35E Service (County Highway 1382) over Ten Mile Creek	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000335	Ten Mile Creek at Nokomis Road	Evaluate bridge improvements for Nokomis Road over Ten Mile Creek	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000336	Ten Mile Creek at Old Red Oak Road	Evaluate bridge improvements for Road over Ten Mile Creek at Old Red	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000337	Ten Mile Creek at SH 342	Evaluate bridge improvements for SH 342 over Ten Mile Creek	Dallas	Engineering Project Planning	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000338	Cottonwood Creek of Ten Mile Creek at Goode Road	Evaluate bridge improvements for Goode Road over Cottonwood Creek of Ten Mile Creek	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000339	Cottonwood Creek of Ten Mile Creek at IH 45	Evaluate bridge improvements for IH 45 over Cottonwood Creek of Ten Mile Creek	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000340	Cottonwood Creek of Ten Mile Creek at IH 45 Northbound Service Road	Evaluate bridge improvements for IH 45 Northbound Service Road over Cottonwood Creek of Ten Mile Creek	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000341	Cottonwood Creek of Ten Mile Creek at IH 45 Southbound Service Road	Evaluate bridge improvements for IH 45 Southbound Service Road over Cottonwood Creek of Ten Mile Creek	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000342	Cottonwood Creek of Ten Mile Creek at Kissell (College) Road	Evaluate bridge improvements for Kissell (College) Road over Cottonwood Creek of Ten Mile Creek	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000343	Cottonwood Creek of Ten Mile Creek at Millers Ferry Road	Evaluate bridge improvements for Millers Ferry Road over Cottonwood Creek of Ten Mile Creek	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000344	Cottonwood Creek of Ten Mile Creek at Pleasant Run Road	Evaluate bridge improvements for Pleasant Run Road over Cottonwood Creek of Ten Mile Creek	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000345	Stream 4A1 at Goode Road	Evaluate bridge improvements for Goode Road over Stream 4A1	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000346	Stream 4A5 at Goode Road	Evaluate bridge improvements for Goode Road over Stream 4A5	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000347	Stream 4A5 at IH 45	Evaluate bridge improvements for IH 45 over Stream 4A5	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000348	Ten Mile Creek at Ferris Road	Evaluate bridge improvements for Ferris Road over Ten Mile Creek	Dallas	Engineering Project Planning	Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000349	Stream 4A4 at Fulghum Road	Evaluate bridge improvements for Fulghum Road over Stream 4A4	Dallas	Engineering Project Planning	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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						Tech Cons.			Subcommittee		
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
031000350	Stream 4A1 at Geller Road	Evaluate bridge improvements for Geller Road over Stream 4A1	Dallas	Engineering Project Planning	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000351	Ten Mile Creek at Parkinson Road	Evaluate bridge improvements for Parkinson Road over Ten Mile Creek	Dallas	Engineering Project Planning	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000352	City of Hutchins DMP	Evaluate city and identify future projects.	Dallas	Watershed Planning - Drainage Master Plan	City of Hutchins	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000353	City of Seagoville DMP	Evaluate city and identify future projects.	Dallas	Watershed Planning - Drainage Master Plan	City of Seagoville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
031000354	City of Huntsville DMP	Evaluate city and identify future projects	Walker	Watershed Planning - Drainage Master Plan	City of Huntsville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000355	City of Weatherford DMP	Evaluate city and identify future projects	Parker	Hydrologic and Hydraulic Modeling	Weatherford	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000358	City of Irving DMP	Evaluate city and identify future projects	Dallas	Hydrologic and Hydraulic Modeling	Irving	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000359	Arlington California Lane Drainage Improvements	Study to determine mitigation options in order to implement California Lane Drainage Improvement alternatives from March 2020 report. Alternative est const cost = \$11,722,000	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000360	Peaks Branch Upper Basin Relief System (RL Area 13)	Evaluate drainage relief system for Peaks Branch watershed from Buckner Park north to M Streets; continuation of Middle Peaks Branch Phases I & II	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000361	North Delaware Creek Phases 2 & 3	Study to devise channel modifications on North Delaware Creek from upstream at Finley St downstream at Henry Dr	Dallas	Feasibility Assessments	Irving	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000362	Willow Creek Wilshire Blvd (SH 174) Improvements	Study to devise channel modifications of Willow Creek to prevent flooding downstream of the Wilshire Blvd crossing	Johnson	Feasibility Assessments	Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000363	Western Heights Drainage Improvements	Study to determine mitigation options in order to implement Western Heights Drainage Improvements from report dated Sept 2019	Dallas	Feasibility Assessments	Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000364	Terrell BC1 Watershed Drainage Improvements	Study to alleviate flooding by implementing culverts and channel improvements throughout watershed area including West End Drive, UPRR crossing, the nearby park and cemetery, and US 80	Kaufman	Preliminary Engineering	Terrell	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000365	DMP Phase 2: Dunlap	Evaluation of culvert and channel modifications to alleviate flooding in the study area. Area expanded to include Dunlap St storm sewer, Henry St culvert, and railroad crossing to Rock Spring Branch.	Ellis	Preliminary Engineering	Waxahachie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000366	Stream 7C2 Channel Improvements	Evaluation of possible culvert and channel improvements beneath Loop 12 to alleviate flooding along stream 7C2	Dallas	Feasibility Assessments	Irving	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000367	Village Creek CR 802 (east) Improvements	Evaluation of possible culvert improvements to prevent overtopping of CR 802 at Village Creek crossings	Johnson	Feasibility Assessments	Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000368	Drainage Improvements for Stream 2C5, Keen Creek, From North Barnes Drive to North Yale Drive	Study to determine mitigation options needed to implement Drainage Improvements from Stream 2C5 (Keen Creek)	Dallas	Preliminary Engineering	Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000369	Terrell KT1 Watershed Drainage Improvements	Study to reduce watershed deficiencies by implementing drainage improvements along University Street and channel improvements along Airport Road.	Kaufman	Preliminary Engineering	Terrell	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000370	Village Creek CR 802 (west) Improvements	Evaluation of possible roadway and culvert improvements to prevent overtopping of CR 802 at Village Creek crossings	Johnson	Preliminary Engineering	Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000371	Terrell KC5 Watershed Drainage Improvements	Evaluation of possible culvert improvements at the railroad spur and channel improvements downstream of railroad spur to tie in with Oldcastle improvements	Kaufman	Preliminary Engineering	Terrell	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000372	Shannon Creek - Culvert to Main Stem Shannon Creek	Study to assess the implementation of additional culverts and channel improvements to prevent overtopping of John Jones Dr.	Johnson	Preliminary Engineering	Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000373	Terrell BC5 Watershed Drainage Improvements	Study to mitigate residential sheet flow in the Terrell BC5 watershed through a storm drain added onto Brookhollow Drive, channel improvements between backyard property lines, and proposed storm drain improvements on Davidson Street .	Kaufman	Preliminary Engineering	Terrell	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000374	Centerville Market Place Drainage Improvements	Study to determine viability of green improvements and mitigation to offset implementation of proposed alternatives from the Centerville Marketplace Report from May 2015	Dallas	Preliminary Engineering	Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000375	Miami Drive Drainage Improvements	Stream bank erosion evaluation and investigation of other repair or restoration options for Stream 2C-1 parallel to Miami Drive	Dallas	Preliminary Engineering	Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000376	Project 14 – Ridgeway Circle and Ridgeway Drive System	Study to reduce potential flooding of residential structures along Ridgeway Circle by replacing undersized storm sewer and constructing additional curb inlets. Est const cost = \$1.3M in 2028 USD	Collin, Dallas	Preliminary Engineering	Richardson	N	RFPG performing to full extent requested by community		X	Agree not to include as recommended FME	Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000377	Project 15 – James Drive and Weatherred Drive System	Study to reduce flooding at residential structures along James Drive and Blue Lake Circle by replacing undersized storm sewer and constructing additional curb inlets. Est const cost = \$1,705,000	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000378	10’ X 4.5’ Culvert at Glenville Drive	Study to eliminate overtopping for Huffhines Creek at Glenville Drive crossing for 10-year storm event and above by constructing an additional barrel. Est const cost - \$827,000	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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03-51-0000000379	2-9' X 7' Culverts Plano Road	Study to eliminate overtopping for Huffhines Creek at Plano Road crossing for a 100-year storm event by constructing two additional barrels. Est const cost = \$1,459,000	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000380	10' X 8' Culvert at St Johns Drive	Study to eliminate overtopping for Huffhines Creek at St. John's Drive crossing for 10-year storm event and above by constructing an additional barrel. Est const cost = \$1,623,000	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000381	3-10' X 8' Culverts at Yale Blvd.	Study to eliminate overtopping for Huffhines Creek at Yale Boulevard crossing for a 100-year storm event by constructing three additional barrels. Est const cost = \$950,000	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000382	Sub-project A4 - College Park Improvements	Study to reduce flooding along College Park Boulevard and adjacent streets by replacing undersized storm sewer. Est const cost = \$2,458,000	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000383	Sub-project A5 - Annapolis Drive Improvements	Study to reduce flooding along Annapolis Drive and spill to College Park Boulevard by replacing undersized storm sewer. Est const cost = \$1,349,000	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000384	Sub-project A7 - Improvements along Windsong Trail	Study to reduce flooding along Windsong Trail and spill to Glenville Drive by replacing undersized storm sewer. Est. const. cost = \$2,456,000	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000385	Sub-project C3 - Spring Valley at Towne House Lane	Study to reduce flooding Spring Valley Road and overflow to Towne House Lane by replacing undersized storm sewer.	Dallas	Preliminary Engineering	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000386	Arlington Bowman Branch - Mansfield Webb Road Main Stem Crossing Improvements	Study to evaluate existing Mansfield Webb Road crossing and propose up to three (3) alternatives.	Tarrant	Feasibility Assessments	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000387	Arlington Bowman Branch - Spring Miller Court Crossing Improvements	Evaluate additional culvert barrel at Spring Miller Court Crossing to reduce flooding	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000388	Arlington Cottonwood Creek at Park Row Buyout	Property acquisition at Park Row. There are no channel improvements planned.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000389	Arlington North Fish Creek Detention between Allen Avenue & SH 360	Evaluate detention of peak flows for Harvest Hills and Briar neighborhood to reduce or eliminate requirement for downstream channel improvements. Two (2) alternatives proposed.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000390	Arlington Mayfield Road Channel & Culvert Improvements at Tributary NF-1	Evaluate downstream channel improvements and additonal barrels along Mayfield Road and North Fish Creek due to the increase in flows from proposed storm drain improvements.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000391	Arlington Cottonwood Creek at Sherry Street Crossing Improvements	Flood study evaluating three (3) alternatives which preserve access to the existing fire station while reducing flooding at this crossing.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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03-51-0000000392	Arlington Johnson Creek - JC-2 at Pioneer Parkway and Center Street Buyout	Property acquisition of sixty-eight (68) structures along JC-2 in the 100-year floodplain. Study needed to mitigate adverse impacts to water surface elevation and velocity.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000393	Arlington Johnson Creek Storm Drain Upgrades on JC-9	Evaluate storm drainage upgrades to system draining to JC-9.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000394	Arlington Johnson Creek - JC-9 Channel Rehabilitation from Cooper to Sanford	Evaluate channel rehabilitation at Cooper to Sandford for Stream JC-9.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000395	Arlington Johnson Creek - JC-9 at Collins Street Culvert Improvements	Evaluate culvert improvements at Collins Street for stream JC-9	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000396	Arlington Johnson Creek - JC-10 Buyouts	Acquisition of nineteen (19) structures. No channel improvements planned. Est buyout cost = \$2,126,000	Tarrant	Preliminary Engineering	Arlington	N	Study already completed/underway Promoted to FMP #137	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000397	Arlington Johnson Creek - JC-12 Buyouts	Removal of four (4) structues in the 100-year floodplain along stream JC-11. No channel improvements planned. Est buyout cost = \$1,599,000	Tarrant	Preliminary Engineering	Arlington	N	Study already completed/underway Promoted to FMP #136	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000398	Arlington Rush Creek - Warehouse Buyout and Floodplain Restoration	Evaluate feasibility of floodplain restoration through acquiring and improving warehouse site; anticipated acquisition & construction cost = \$8,107,000	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000399	Arlington Upper Village VC(A)-4 at Orchard Hill Drive Crossing Improvements	Evaluate crossing improvements at Orchard Hill Drive.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000400	Arlington Upper Village VC(A)-6 at Shorewood Drive Crossing Improvements	Evaluate crossing improvements for fully-developed conditions at Shorewood Drive.	Tarrant	Feasibility Assessments	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000401	Hulen Street/Railroad Conceptual Bridge Span Layout	Study to assess the implementation of a 2-span, 34' wide bridge on Hulen st	Johnson	Preliminary Engineering	Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000402	City of Decatur - S. Sendero/S/ Workman Rd Drainage Improvements	Evaluate proposedstorm sewer improvements along South Workman Road and South Sendero Road by upsizing existing lines and constructing additional inlets. Anticipated const. cost = \$1,285,148	Wise	Preliminary Engineering	Decatur	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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03-51-0000000403	City of Decatur - S. FM 51 (West Side)	Evaluate channel improvements along the west side of South FM-51.	Wise	Preliminary Engineering	Decatur	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000404	Dallas County Inland Port Drainage Improvements - Creek (4B4) - UPRR	Study to alleviate overtopping during the 100-yr storm event via implementation of an enlarged/parallel culvert at UPRR	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000405	Dallas County Inland Port Drainage Improvements - Creek (4B4) - Millers Ferry Rd	Study to alleviate overtopping during the 100-yr storm event via implementation of an enlarged/parallel culvert at Millers Ferry Road	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000406	Dallas County Inland Port Drainage Improvements - Creek (4B4) - Old Main St.	Study to alleviate overtopping during the 100-yr storm event via implementation of an enlarged/parallel culvert at Old Main St.	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000407	Dallas County Inland Port Drainage Improvements - Creek (4A4) - Goode Road.	Study to alleviate overtopping during the 100-yr storm event via implementation of a new culvert at N. Goode Road	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000408	Dallas County Inland Port Drainage Improvements - Creek (4A4) - Fulghum Road.	Study to alleviate overtopping during the 100-yr storm event via implementation of a new culvert at Fulghum Road	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000409	Dallas County Inland Port Drainage Improvements - Keller Branch Creek - W Main	Study to alleviate overtopping during the 100-yr storm event via implementation of a new culvert at W Main	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000410	Dallas County Inland Port Drainage Improvements - Keller Branch Creek - N Jefferson	Study to alleviate overtopping during the 100-yr storm event via implementation of a new Bridge at N Jefferson	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000411	Dallas County Inland Port Drainage Improvements - Keller Branch Creek - 2nd St.	Study to alleviate overtopping during the 100-yr storm event via implementation of a new culvert at 2nd St	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000412	Dallas County Inland Port Drainage Improvements - Alta Mesa Branch - Tracy Road	Study to alleviate overtopping during the 100-yr storm event via implementation of a new Bridge at Tracy Road	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000413	Dallas County Inland Port Drainage Improvements -Alta Mesa Branch - Simpson St.	Study to alleviate overtopping during the 100-yr storm event via implementation of a new Bridge at Simpson Street	Dallas	Preliminary Engineering	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan

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03-51-0000000414	Pecan Acres Floodway Lot Acquisitions	Study for property acquisition of lots completely contained within FEMA floodway of Timber Creek within the Pecan Acres Subdivision.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000415	East Waketon Road Drainage Improvement	Study for the installation of a drainage channel between FM2499 culverts and Waketon Road culverts in combination with berm construction along the north side of Waketon Road.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000416	Garden Ridge Boulevard Bridge Erosion Stabilization	Study for the implementation of modifications to existing erosion protection to provide stabilization to erosive conditions at the Timber Creek crossing of the Garden Ridge Boulevard bridge.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000417	Jernigan Road Drop Inlet and Bar Ditch Improvements	Study for the installation of drop inlet structure and bar ditch grading located on Jernigan Road.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000418	Pecan Acres Drainage Improvements	Study for the removal and replacement of existing driveway approaches and culverts to allow for the regrading of roadway bar ditches for positive flow within the ROW of the Pecan Acres subdivision.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000419	Range Wood Drive, Kings Road & Lusk Lane Drainage Improvements	Study for the installation of a mixture of box culverts, storm piping and bar ditch grading along King Road, Lusk Lane and Range Wood Drive.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000420	Royal Oaks Curb Inlet Improvements	Study for modifications to inlet structures within the Royal Oaks subdivision to reduce bypass flow that reaches Dexter Court.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000421	Stream Bank Stabilization – Various Locations Town Wide	Study for the installation of erosion stabilization along stream banks in various locations in Flower Mound.	Dallas, Denton, Tarrant	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000422	Sunset Trail Drop Inlet and Outfall Improvement	Study for modifications to existing drop inlet structure and outlet piping located on Sharps Branch Tributary 1 to adequately convey upstream flows.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000423	Timber Creek Road Bridges Erosion Stabilization	Study for modifications to existing erosion protection to provide stabilization to erosive conditions at the Timber Creek crossing of the Timber Creek Road bridges.	Denton	Preliminary Engineering	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000424	Rush Creek - RC1 Railroad Culvert and RC1A Channel Improvements	Feasibility Study of stream RC1 and RC1A to mitigate reported upstream flooding.	Tarrant	Feasibility Assessments	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000425	Joes Creek - West Fork Channel and Culvert Improvements	Floodplain study of Joes Creek for the purpose of evaluating flood hazards and establishing floodplain management criteria.	Dallas	Studies on Flood Preparedness	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000426	Woody Branch Floodplain Management Study	Evaluate minor channel rectification to alleviate flooding and erosion along Woody Branch, a tributary of Fivemile Creek.	Dallas	Feasibility Assessments	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan RFPG performing, but not to full extent requested by community.

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03-51-0000000427	Ledbetter Branch Detention Basin	Evaluate proposed flood control berm to reclaim six (6) houses on Ledbetter Branch, a tributary of Fivemile Creek.	Dallas	Feasibility Assessments	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000428	Lower Five Mile Creek Management Plan	Evaluate proposed ecosystem restoration and economic redevelopment with 41- acres to be reclaimed and the conversion of a pond to a wetland on Lower Five Mile Creek. Anticipated const. cost = \$30,973,737	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000429	Coombs Creek Bridge @ Plymouth	Evaluate proposed bridge installment and to raise Plymouth Road for flood protection. Anticipated const. cost = \$6,400,000	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000430	Coombs Creek Bridge @ Ivandell	Evaluate proposed bridge installment along Ivandell for flood protection.	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000431	Coombs Creek Bridge @ Burlingdell	Evaluate proposed bridge installment along Burlingdell for flood protection.	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000432	Coombs Creek Bridge @ Gibsondell	Evaluate proposed bridge installment along Gibsondell for flood protection.	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000433	Coombs Creek Bridge @ Brooklyndell	Evaluate proposed bridge installment along Brooklyndell for flood protection.	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000434	Coombs Creek Bridge @ Colorado	Evaluate proposed bridge installment and raising Colorado Road for flood protection. Anticipated const. cost = \$1,439,000	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000435	Coombs Creek Bridge @ Barnett	Evaluate proposed bridge installment along Barnett for flood protection.	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000436	Coombs Creek Culvert @ Hampton	Evaluate proposed storm drainage improvements by adding two culverts along Hampton Road.	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000437	Knights Branch Upper Relief System Study	Study, Model, & Prelim.Design: Update capital drainage recommendations & cost estimate for the Knights Branch Upper Relief System projects.	Dallas	Hydrologic and Hydraulic Modeling	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000438	Knights Branch Upper Relief System Phase 2	Evaluate Knights Branch Upper Relief System to improve neighborhoods served, including Preston Park (Bryn Mawr).	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000439	Knights Branch @ Denton Dr.	Analysis and design for crossing to determine necessary culvert size for crossing to maximize level of service and raise road if necessary	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000440	Knights Branch Upper Relief System - Inwood/Mockingbird	Evaluate and define major relief system of enclosed portion of Upper Knights Branch watershed from Lowe's culvert extension (ds of Inwood/Lemon) north on Inwood to Wateka, using two, 12x10 RCBs with smaller lateral systems as necessary.	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000441	City of Dallas Dam Program - Bachman Lake Dam	Study of possible rehabilitation of the Bachman Lake Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria.	Dallas	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000442	City of Dallas Dam Program - Cherrybrook Lake Dam	Study of possible rehabilitation of the Cherrybrook Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria.	Dallas	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000443	City of Dallas Dam Program - Hatfield Branch Detention Dam	Study of possible rehabilitation of the Hatfield Branch Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria. Existing emergency spillway altered and does not functioned as hydraulically designed.	Dallas	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000444	City of Dallas Dam Program - Kidd Springs Lake Dam	Study of possible rehabilitation of the Kidd Springs Lake Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria.	Dallas	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000445	City of Dallas Dam Program - Lake Cliff Dam	Study of possible rehabilitation of Lake Cliff Dam. Remove trees and establish 4:1 slope on downstream embankment. Improve dam spillway capacity to pass the TCEQ required 75% PMF event.	Dallas	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000446	City of Dallas Dam Program - Lake Simonds Dam	Study of possible rehabilitation of the Lake Simonds Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria.	Dallas	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000447	City of Dallas Dam Program - White Rock Lake Dam	Study of possible rehabilitation of the White Rock Lake Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria.	Dallas	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000448	City of Dallas Dam Program - Woody Branch Dam	Study for the implementation of erosion protection, RCC separation, survey monumentation, and redoing service road	Dallas	Feasibility Assessments	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000449	City of Dallas Dam Program - Emerald Lake Dam	Study of possible rehabilitation of the Emerald Lake Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria.	Dallas	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000450	City of Dallas Dam Program - Forney Dam	Study of possible rehabilitation of the Forney Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria.	Collin, Dallas, Kaufman, Rockwall	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000451	City of Dallas Dam Program - Tawakoni Balancing Reservoir	Study of possible rehabilitation of the Tawakoni Balancing Reservoir Dam embankment, principal spillway, and/or emergency spillway to meet TCEQ dam safety criteria.	Kaufman	Other	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000452	Stewart Creek & Legacy Gabion Repair	Updates to existing study to perform creek bank stabilization in the Stewart Creek & Legacy Gabion area.	Collin, Denton	Feasibility Assessments	Frisco	N	Study already completed/underway City requested removal during 2024/2025 outreach.	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000453	Edgewood	Updates to existing study to perform creek bank stabilization in the Edgewood neighborhood	Collin	Feasibility Assessments	Frisco	N	Study already completed/underway. City requested removal during 2024/2025 outreach.	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000454	Regional Detention Study on Poindexter Creek	Evaluate proposed 320 ac-ft regional detention pond along Poindexter Branch and Poindexter Branch Tributary 5 and replacement of one (1) 80-ft bridge at Estates Drive. Anticipated const. cost = \$1,338,000	Denton	Preliminary Engineering	Copper Canyon	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000455	Downtown Floodplain Mapping and Reclamation Improvements Evaluation	Detailed flood study of Montague Creek to produce updated inundation mapping and provide proposed channel and crossing improvements through the central district of the city.	Cooke	Hydrologic and Hydraulic Modeling	Lindsay	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000456	Preliminary Engineering Study for Mary’s Creek Mitigation for Fort Worth Floodway and Central City	Preliminary engineering of a flood mitigation concept in the Mary’s Creek basin upstream of the Fort Worth Floodway Federal Project and the Fort Worth Central City (FWCC) Project	Parker, Tarrant	Preliminary Engineering	Tarrant Regional Water District	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000457	Kaufman-Van Zandt SWCD Watershed-wide Dam Evaluations	Kaufman-Van Zandt watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Kaufman, Van Zandt	Studies on Flood Preparedness	Kaufman-Van Zandt SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000458	Upper Elm-Red SWCD Watershed-wide Dam Evaluations	Upper Elm-Red watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Cooke, Grayson, Montague	Studies on Flood Preparedness	Upper Elm-Red SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000459	Collin County SWCD Watershed-wide Dam Evaluations	Collin county watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Collin	Studies on Flood Preparedness	Collin County SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000460	Fannin SWCD Watershed-wide Dam Evaluations	Fannin watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Fannin	Studies on Flood Preparedness	Fannin SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000461	Cooper Creek Drainage Study	Flood study in the City of Denton to quantify existing flooding severity and develop mitigation strategies to protect hydraulic structures and property adjacent to Cooper Creek.	Denton	Hydrologic and Hydraulic Modeling	Denton	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000462	Jack SWCD Watershed-wide Dam Evaluations	Jack watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Jack	Studies on Flood Preparedness	Jack Soil and Water SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Rec 546		2 Not Rec 14			
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Tech Cons.	Reason for Decision	Subcommittee		Meeting Notes	Working Notes
						Recommends? (Y/N)		Rec	Not Rec		
03-51-0000000463	Denton SWCD Watershed-wide Dam Evaluations	Denton watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Denton	Studies on Flood Preparedness	Denton SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000464	Dalworth SWCD Watershed-wide Dam Evaluations	Dalworth watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Dallas, Ellis, Johnson, Tarrant	Studies on Flood Preparedness	Dalworth SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000465	Upper Sabine SWCD Watershed-wide Dam Evaluations	Upper Sabine watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Hunt	Studies on Flood Preparedness	Upper Sabine SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000466	Arlington Johnson Creek - Pioneer Parkway and Collins Street Buyout at Johnson Creek	Property acquisition of ninety-five (95) structures along Collins Street and Division Street. No channel improvements planned.	Tarrant	Preliminary Engineering	Arlington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000467	Floodplain Evaluation of Kings Branch and Farmers Branch	Flood study to identify areas that will be suitable for an FMP for future floodplain cycles.	Tarrant	Feasibility Assessments	Westworth Village	N	TWDB Performing	X		TWDB Guidance does NOT instruct RFPG to remove an FME from the plan just because TWDB is performing it. Keep in the plan.	Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000468	Wise SWCD Watershed-wide Dam Evaluations	Wise watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification	Wise	Studies on Flood Preparedness	Wise SWCD	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000469	Trinity Basin Assessment of Flood Mitigation and Performance of Nature-based Solutions	Analysis of the flood mitigation value of select nature based solutions at varying scales and land use types basin wide.	All	Feasibility Assessments	The Nature Conservancy	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000470	City of Normangee Watershed-wide Dam Evaluations	City of Normangee watershed-wide evaluation of dams to assess flood performance for 100-year and 500-year events. Includes breach analyses mapping, risk indices, hazard classification assessment, and safety performance.	Leon, Madison	Studies on Flood Preparedness	Normangee	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000473	Point Barrow Gully Improvements Study	Evaluate and define channel modifications to Point Barrow Gully to improve conveyance from downstream of McCollum Park Road to the outfall into Trinity Bay	Chambers	Preliminary Engineering	Chambers County	N	Study already completed/underway; outreach to sponsor underway to confirm no further evaluation anticipated; will be included in 2027 TC Rec Mtg.	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000474	Cedar Gully Improvements Study	Evaluate and define channel modifications to Cedar Gully upstream of FM 2354 to improve conveyance to outfall into Trinity Bay	Chambers	Preliminary Engineering	Chambers County	N	Study already completed/underway Promoted to FMP #125; outreach to sponsor underway to confirm no further evaluation anticipated; will be included in 2027 TC Rec Mtg.	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Rec 546		2 Not Rec 14			
						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000477	Cotton Bayou Improvements Study	Evaluate and define diversion, detention, or channel modifications to Cotton Bayou to improve conveyance from downstream of IH-10 to confluence with Hackberry Gully	Chambers	Preliminary Engineering	Chambers County	N	Study already completed/underway Promoted to FMP #130; outreach to sponsor underway to confirm no further evaluation anticipated; will be included in 2027 TC Rec Mtg.	2027	2027	Agree not to include as recommended FME if study is complete. If study is in progress, keep on the list. TC will confirm with Sponsor if they agree with the RFPG removing from the list.	Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000478	Floodplain Mapping Updates of Bakers Branch Tributary 1	Floodplain mapping of Bakers Branch Tributary 1 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000479	Floodplain Mapping Updates of Bakers Branch Tributary 2	Floodplain mapping of Bakers Branch Tributary 2 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000480	Floodplain Mapping Updates of Bakers Branch	Floodplain mapping updates on Bakers Branch to establish base flood elevations and convert Zone A to Zone AE via LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000481	Floodplain Mapping Updates of Graham Branch Tributary 3	Floodplain mapping of Graham Branch Tributary 3 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000482	Floodplain Mapping Updates of Graham Branch Tributary 9	Floodplain mapping of Graham Branch Tributary 9 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000483	Floodplain Mapping Updates of Graham Branch Tributary 10	Floodplain mapping of Graham Branch Tributary 10 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000484	Floodplain Mapping Updates of Graham Branch	Floodplain mapping of Graham Branch to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000485	Floodplain Mapping Updates of McKamy Creek	Floodplain mapping of McKamy Creek to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton, Tarrant	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000486	Floodplain Mapping Updates of Sharps Branch Tributary 3	Floodplain mapping of Sharps Branch Tributary 3 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000487	Floodplain Mapping Updates of Sharps Branch	Floodplain mapping of Sharps Branch to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000488	Floodplain Mapping Updates of Stream SB-1 Tributary 1	Floodplain mapping of Stream SB-1 Tributary 1 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000489	Floodplain Mapping Updates of Stream SB-1 Tributary 2	Floodplain mapping of Stream SB-1 Tributary 2 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000490	Floodplain Mapping Updates of Stream SB-1	Floodplain mapping of Stream SB-1 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000491	Floodplain Mapping Updates of Stream WB-1	Floodplain mapping of Stream WB-1 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.		Subcommittee			
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000492	Floodplain Mapping Updates of Stream WC-1	Floodplain mapping of Stream WC-1 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000493	Floodplain Mapping Updates of Stream WC-3	Floodplain mapping of Stream WC-3 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000494	Floodplain Mapping Updates of Stream WC-4	Floodplain mapping of Stream WC-4 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000495	Floodplain Mapping Updates of TC-2 Tributary 2	Floodplain mapping of TC-2 Tributary 2 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000496	Floodplain Mapping Updates of TC-2 Tributary 4	Floodplain mapping of TC-2 Tributary 4 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000497	Floodplain Mapping Updates of Timber Creek Tributary 9	Floodplain mapping of Timber Creek Tributary 9 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000498	Floodplain Mapping Updates of Timber Creek Tributary 10	Floodplain mapping of Timber Creek Tributary 10 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000499	Floodplain Mapping Updates of Timber Creek Tributary 11	Floodplain mapping of Timber Creek Tributary 11 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000500	Floodplain Mapping Updates of Timber Creek Tributary 13	Floodplain mapping of Timber Creek Tributary 13 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000501	Floodplain Mapping Updates of Timber Creek Tributary 16	Floodplain mapping of Timber Creek Tributary 16 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000502	Floodplain Mapping Updates of Timber Creek Tributary 17	Floodplain mapping of Timber Creek Tributary 17 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000503	Floodplain Mapping Updates of Timber Creek Tributary 18	Floodplain mapping of Timber Creek Tributary 18 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000504	Floodplain Mapping Updates of Tributary C to Timber Creek	Floodplain mapping of Tributary C to Timber Creek to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000505	Floodplain Mapping Updates of Unnamed 4	Floodplain mapping of Unnamed 4 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000506	Floodplain Mapping Updates of Unnamed 5 Tributary 1.2	Floodplain mapping of Unnamed 5 Tributary 1.2 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000507	Floodplain Mapping Updates of Unnamed 5 Tributary 1	Floodplain mapping of Unnamed 5 Tributary 1 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000508	Floodplain Mapping Updates of Unnamed Tributary to Bakers Branch	Floodplain mapping of Unnamed Tributary to Bakers Branch to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000509	Floodplain Mapping Updates of WB-1 Tributary 1	Floodplain mapping of WB-1 Tributary 1 to establish base flood elevations in order to convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000510	Floodplain Mapping Updates of Whites Branch Tributary 2.1	Floodplain mapping updates of Whites Branch Tributary 2.1. Establish BFE’s and convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000511	Floodplain Mapping Updates of Whites Branch Tributary 2	Floodplain mapping updates of Whites Branch Tributary 2. Establish BFE’s and convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000512	Floodplain Mapping Updates of Whites Branch	Floodplain mapping updates of Whites Branch. Establish BFE’s and convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000513	Floodplain Mapping Updates of Wichita Chase Tributary	Floodplain mapping updates of Wichita Chase Tributary. Establish BFE’s and convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000514	Floodplain Mapping Updates of Wichita Creek	Floodplain mapping updates of Wichita Creek. Establish BFE’s and convert Zone A to Zone AE via a LOMR.	Denton	Flood Mapping Updates	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000515	Hydrologic Updates of Town Wide Fully Developed Hydrology	Update citywide, fully-developed hydrologic model and identify future projects	Dallas, Denton, Tarrant	Hydrologic and Hydraulic Modeling	Flower Mound	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000516	Kaufman County Countywide Drainage Study - Phase 2	Kaufman Countywide Drainage Study – Phase 2. Development of detailed hydraulic models for additional areas of high flood risk identified in Phase 1. Perform alternatives analysis and develop FMPs for second cycle of the State Flood Plan.	Kaufman	Preliminary Engineering	Kaufman County	N	TWDB performing	X		TWDB Guidance does NOT instruct RFPG to remove an FME from the plan just because TWDB is performing it. Keep in the plan.	Part of 2023 Regional / 2024 State Flood Plan TWDB performing
03-51-0000000517	Phase #2 of Stormwater Master Plan	Part of the City of Denton's Comprehensive Storm Water Master Plan. This study identifies potential flood risk and develops projects that will reduce flooding by improving the efficiency of the storm sewers.	Denton	Feasibility Assessments	Denton	Y		X			Part of 2023 Regional / 2024 State Flood Plan RFPG performing, but not to full extent requested by community.
03-51-0000000518	Copper Canyon Master Drainage Plan/Study	Evaluate City and identify future projects.	Denton	Hydrologic and Hydraulic Modeling	Copper Canyon	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000519	Mill Creek Drainage Relief System - Upper-Middle Improvements	Evaluate and define lateral improvements, tunnel alignments, and trunk improvements for overall drainage relief. Model for NAI conformance. Anticipated const. cost = \$35,509,837	Dallas	Preliminary Engineering	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000520	Village Creek Clubhouse Dr Improvements – Culverts	Study to assess the efficacy of alleviating overtopping of Clubhouse Dr by raising the roadway elevation and either improving culverts or replacing them with a 375' bridge.	Johnson	Preliminary Engineering	Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000521	Montclair No 2 & 3 Drainage Improvements (Alternative 2)	Study to mitigate proposed improvements include a new storm drainage system along La Jolla from previous study. Alternative 2 includes additional inlets on Intervale Drive, Mill River Drive, La Jolla Drive, and Birchwood Drive.	Dallas	Preliminary Engineering	Garland	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000522	Terrell KC2 Watershed Drainage Improvements	Evaluate proposed drainage improvements throughout watershed including increased culvert crossings, upsized storm drains, and channel improvements to alleviate watershed flooding	Kaufman	Preliminary Engineering	Terrell	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000523	DMP Phase 1: Anderson Street (Project 3)	Study to alleviate flooding on Anderson Street through the implementation of a detention basin, additional inlets, and an additional storm drain	Ellis	Preliminary Engineering	Waxahachie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
03-51-0000000524	City of Buffalo Master Drainage Plan	Drainage master plan to identify and address drainage issues. Phase 1 focuses on gathering data, engaging with the public, and creating models. Phase 2 involves developing and prioritizing projects to address the issues identified in Phase 1.	Leon	Hydrologic and Hydraulic Modeling	Buffalo	Y		X			Part of 2025 Amendment
03-51-0000000525	City of Centerville Master Drainage Plan	Drainage master plan to identify and address drainage issues. Phase 1 focuses on gathering data, engaging with the public, and creating models. Phase 2 involves developing and prioritizing projects to address the issues identified in Phase 1.	Leon	Hydrologic and Hydraulic Modeling	Centerville	Y		X			Part of 2025 Amendment
03-51-0000000526	City of Crowley Drainage Master Plan (DMP)	Evaluate City and Identify future projects	Tarrant	Hydrologic and Hydraulic Modeling	Crowley	Y		X			Part of 2025 Amendment
03-51-0000000528	Upper Trinity Basin Nature-Based Solutions (NBS) Project Identification and Prioritization	Development of a prioritized regional portfolio of flood mitigation NBS in the NCTCOG counties of the Upper Trinity River Basin	Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Navarro, Parker, Rockwall, Tarrant, Wise	Regional Watershed Studies	North Central Texas Council of Governments	Y		X			Part of 2025 Amendment
03-51-0000000530	Liberty County WCID #5 Master Drainage Plan	Perform H&H modeling to identify and define flood risk, develop conceptual alternatives to reduce flood risk, develop OPCC for conceptual alternatives, and rank projects. Conceptual alternatives should evaluate feasibility of nature based solutions.	Liberty	Hydrologic and Hydraulic Modeling	Liberty County WCID #5	Y		X			Part of 2025 Amendment
03-51-0000000531	City of Liberty Master Drainage Plan	Perform H&H modeling to identify and define flood risk, develop conceptual alternatives to reduce flood risk, develop OPCC for conceptual alternatives, and rank projects. Conceptual alternatives should evaluate feasibility of nature based solutions.	Liberty	Hydrologic and Hydraulic Modeling	Liberty	Y		X			Part of 2025 Amendment

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000532	Aurora Drainage Master Plan	Study to identify existing deficiencies, forecast future needs, identify potential alternative solutions, and prioritize capital improvement projects to reduce flood risk and support sustainable development		Hydrologic and Hydraulic Modeling	Aurora	Y		X			
03-51-0000000533	Ash Creek and Walnut Creek Regional Watershed Study	Comprehensive, watershed study to evaluate the watersheds that converge downstream of the City of Azle, determine issues and priority areas, and establish a basis for communities in the region to manage local and riverine flood risk.		Regional Watershed Studies	Azle (and more?)	Y		X			
03-51-0000000534	Little Bear Creek at Martin Crossing	Study and determine the feasibility of proposed Bedford Road improvements from the Colleyville DMP, model proposed improvements, and escalate up to 30% design of mitigation for adverse water surface elevation impacts, if necessary	Tarrant	Preliminary Engineering	Colleyville	Y		X			
03-51-0000000535	Little Bear Creek at Bedford Road Crossing	Study and determine the feasibility of proposed Bedford Road improvements from the Colleyville Drainage Master Plan, model proposed improvements, and escalate up to 30% design of mitigation for adverse water surface elevation impacts, if necessary	Tarrant	Preliminary Engineering	Colleyville	Y		X			
03-51-0000000536	Broadway Estates, Section 2	Analyzing the drainage and developing conceptual solutions to minimize or eliminate flooding for the Broadway Estates, Phase 2 and Denton Addition subdivisions in the City of Collinsville		Feasibility Assessments	Collinsville	Y		X			
03-51-0000000537	Collinsville Drainage Master Plan	Drainage Master Plan to assist with understanding drainage issues within the City, develop conceptual solutions and prepare a Drainage Capital Improvement Program as well as prepare for additional development within the City.		Hydrologic and Hydraulic Modeling	Collinsville	Y		X			
03-51-0000000538	Elemetary School - Elder Street	Study to evaluate drainage and potential solutions for approximately 40 acres of drainage area coming towards the elementary school and the north end of Elder Street, causing roadway and property inundation.		Feasibility Assessments	Collinsville	Y		X			
03-51-0000000539	South Broadway Street	Study to evaluate drainage and potential solutions for homes along S Broadway Street.		Feasibility Assessments	Collinsville	Y		X			
03-51-0000000540	East Fork of the Trinity River - Malloy Bridge Road	Evaluation of bridge and crossing alternatives to prevent overtopping of Malloy Bridge Rd		Feasibility Assessments	Seagoville	Y	Outreach to new sponsor necessary to confirm desire to have FME in the plan. Will be included in 2027 TC Rec Mtg.	2027	2027	Sponsor is Seagoville, not Dallas County	Malloy Bridge frequently overtops with releases from Lake Ray Hubbard. Fatality has been recorded at this location associated with flooding. Study to determine potential crossing alternatives and/or raising the bridge.

Region 3 - Potential FME						Rec		546	2 Not Rec		14
Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000541	Red Oak Creek - City of Cedar Hill	Study to determine cause and extent of flooding and design alternatives up to 30% at Red Oak Creek		Preliminary Engineering	Dallas County	Y		X			Creek experiences extreme flooding during large rain events. Study to determine cause and extent of flooding, and design alternatives up to 30%.
03-51-0000000542	Parkinson Road Bridge	Study to support design for bridge reconstruction of Parkinson Road Bridge to convert multi-span bridge to free-span.		Preliminary Engineering	Dallas County	Y		X			
03-51-0000000543	CSDSA Area 3	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000544	CSDSA Area 4	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000545	CSDSA Area 18	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000546	CSDSA Area 19	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000547	CSDSA Area 31	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000548	CSDSA Area 35	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000549	CSDSA Area 42	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000550	CSDSA Area 46	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000551	CSDSA Area 47	Evaluation of CSDSA Area, including development of proposed alternatives to support mitigation of flood risk		Feasibility Assessments	Dallas	Y		X			
03-51-0000000552	Dish Drainage Master Plan	Study to identify existing deficiencies, forecast future needs, identify potential alternative solutions, and prioritize capital improvement projects to reduce flood risk and support sustainable development		Hydrologic and Hydraulic Modeling	Dish	Y		X			
03-51-0000000553	O'Guinn Creek Alternatives Analysis	Analysis of existing conditions and conceptual-level alternative improvements for unmapped branch of O'Guinn Creek		Regional Watershed Studies	Duncanville	Y		X			
03-51-0000000554	Ellis County Drainage Master Plan	Evaluation and development of conceptual solutions for culvert crossings in FEMA and unmapped floodplain and localized drainage problems along County roads and within subdivisions, including cost estimates and prioritization.		Hydrologic and Hydraulic Modeling	Ellis County	Y		X		RFPG performing, but not to full extent requested by community.	
03-51-0000000555	Geomophic Assessment for Farmers Branch Creek	Study to update the 2018 DMP to update erosion areas along Farmers Branch. Study to identify at-risk areas and feasible alternatives.		Feasibility Assessments	Farmers Branch	Y		X			

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000556	Farmers Branch Citywide Storm Drain Study	Study to investigate the closed-pipe conduit drainage system within the City of Farmers Branch. Project to identify restrictions and future improvement areas, potentially up to feasibility of alternatives.		Feasibility Assessments	Farmers Branch	Y		X			
03-51-0000000557	Ephriham MapShed Analysis	Perform hydrologic and hydraulic modeling to identify the non-FEMA flood risk, identify hazardous roadway overtopping locations, evaluate mitigation alternatives.		Hydrologic and Hydraulic Modeling	Fort Worth	Y		X			
03-51-0000000558	Englewood Heights MapShed Analysis	Perform hydrologic and hydraulic modeling to identify the non-FEMA flood risk, identify hazardous roadway overtopping locations, evaluate mitigation alternatives.		Hydrologic and Hydraulic Modeling	Fort Worth	Y		X			
03-51-0000000559	Rosemont MapShed Analysis	Perform hydrologic and hydraulic modeling to identify the non-FEMA flood risk, identify hazardous roadway overtopping locations, evaluate mitigation alternatives.		Hydrologic and Hydraulic Modeling	Fort Worth	Y		X			
03-51-0000000560	Duck Creek Watershed Master Drainage Plan	Master Drainage Plan for entire Duck Creek Watershed in order to identify a list of prioritized drainage / flood improvements projects.		Hydrologic and Hydraulic Modeling	Garland	Y		X			
03-51-0000000561	Rowlett Creek Watershed Master Drainage Plan	Master Drainage Plan for lower portion of the Rowlett Creek Watershed in order to identify a list of prioritized drainage / flood improvements projects.		Hydrologic and Hydraulic Modeling	Garland	Y		X			
03-51-0000000562	Spring Creek and Upper Rowlett Creek Watershed Master Drainage Plan	MDP for Spring Creek and Upper Rowlett Creek Watersheds to identify a list of prioritized drainage / flood improvements projects. This scope includes Program Management as well as integrating all models and GIS data into a stormwater management plan.		Hydrologic and Hydraulic Modeling	Garland	Y		X			
03-51-0000000563	Glenn Heights Stormwater Master Plan Study	Evaluate city and identify future projects		Hydrologic and Hydraulic Modeling	Glenn Heights	Y		X			The City of Glenn Heights currently does not have a stormwater management plan and wishes to submit this project for consideration. The estimated cost to cover engineering consultant fees is \$300,000.00
03-51-0000000564	Bear Creek Flood Mitigation Master Plan	Study to identify causes and extent of flooding along Bear Creek in Glenn Heights. Study will include flood mitigation analysis up to a 30% design.		Preliminary Engineering	Glenn Heights	Y		X			
03-51-0000000565	Grandview Regional Watershed Study	Comprehensive, watershed study to evaluate the two watersheds that intersect the City of Grandview, determine issues and priority areas, including the impacts of IH-35W crossings, and establish a basis to manage local and riverine flood risk.		Regional Watershed Studies	Grandview	Y		X			

Region 3 - Potential FME						Tech Cons.	Subcommittee				
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes
03-51-0000000566	Point Vista Low Water Crossing Analysis	Evaluate and define drainage improvements at low water crossing		Preliminary Engineering	Hickory Creek	Y		X			LWC in community entraps residents during rainfall events. May qualify for emergency need. Bridge crossing replacement has been previously suggested, but never designed.
03-51-0000000567	Central Huntsville Area (between SHSU to downtown) Towne Branch Drainage Study	Study to determine cause of flooding and evaluate any feasible solutions in the area at risk.		Feasibility Assessments	Huntsville	Y		X			
03-51-0000000568	Central Huntsville Area in the Harmon Creek Drainage Study	Study to determine cause of flooding and evaluate any feasible solutions in the area at risk.		Feasibility Assessments	Huntsville	Y		X			
03-51-0000000569	Crabb Creek-Nelson Creek Study and Design	Study to determine cause of flooding and evaluate any feasible solutions in the area at risk.		Feasibility Assessments	Huntsville	Y		X			
03-51-0000000570	US 377 crossing Marshall Branch	Drainage study along Marshall Branch at US 377 crossing to determine feasible alternatives to prevent US 377 from overtopping during rainfall events.	Tarrant	Feasibility Assessments	Keller	Y		X			
03-51-0000000571	Bear Creek Parkway West	Drainage study along Bear Creek and Bear Creek Parkway west of Rufe Snow. Roadway is currently in a FEMA Flood Zone and is frequently overtopped during storm events.	Tarrant	Feasibility Assessments	Keller	Y		X			
03-51-0000000572	Nightingale Circle Low Water Crossing	Study to determine feasible crossing replacement for the low water crossing along Nightingale Circle.	Tarrant	Feasibility Assessments	Keller	Y		X			
03-51-0000000573	Bear Creek Erosion Repairs	Evaluate erosion control measures along Bear Creek.	Tarrant	Feasibility Assessments	Keller	Y		X			Erosion repairs at various locations along Bear Creek. Preliminary solutions have been identified, but not modeled and are not sure the solutions are feasible. FME to get to 30% design
03-51-0000000574	Midlothian Drainage Master Plan	Study to perform a comprehensive evaluation of local and riverine drainage issues throughout the community and develop conceptual solutions. DMP will be used to develop and refine the City’s Drainage CIP to prioritize and budget for future projects.		Hydrologic and Hydraulic Modeling	Midlothian	Y		X			
03-51-0000000575	Nevada Zone AE Floodplain Study	Study to develop detailed Zone AE floodplains through the City Limits		Flood Mapping Updates	Nevada	Y		X			
03-51-0000000576	Ponder Drainage Master Plan	Study to identify existing deficiencies, forecast future needs, identify potential alternative solutions, and prioritize capital improvement projects to reduce flood risk and support sustainable development		Hydrologic and Hydraulic Modeling	Ponder	Y		X			
03-51-0000000577	Calloway Branch Storm Drain Analysis	Drainage study for the storm drain system that outfalls into Calloway Branch within the City of Richland Hills to determine cause of flooding solutions and generate feasible alternatives up to 30% design.	Tarrant	Preliminary Engineering	Richland Hills	Y		X			

Region 3 - Potential FME						Rec		546		2 Not Rec		14		
						Tech Cons.							Subcommittee	
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Recommends? (Y/N)	Reason for Decision	Rec	Not Rec	Meeting Notes	Working Notes			
03-51-0000000578	Citywide Waxahachie Stormwater Master Plan and Prioritization Study	Comprehensive, citywide study to evaluate, manage, and enhance the community's stormwater infrastructure and drainage systems.		Hydrologic and Hydraulic Modeling	Waxahachie	Y		X						
03-51-0000000579	Dove Road Drainage Analysis	Analysis and conceptual plans for improvements to mitigate flooding along Dove Road between Broken Bend Drive and Fair Oakes Drive related to retention pond discharges during storm events.		Preliminary Engineering	Westlake	Y		X						
03-51-0000000580	FEMA Mapping Updates for Westlake	Study of Zone A floodplain for 5 tributaries within Westlake to provide accurate maps for use in ensuring adequate crossings, protection of adjacent structures and properties and better floodplain management.		Flood Mapping Updates	Westlake	Y		X			Detailed study of Zone A floodplain for 5 tribs within Westlake to provide accurate maps for use in ensuring adequate crossings, protection of adjacent structures and properties and better floodplain management.			
03-51-0000000581	Clear Fork Trinity River below Lake Weatherford	Study to evaluate the Clear Fork Trinity River below Lake Weatherford in Parker County, within Willow Park City Limits. Study to determine flood risk and exposure of assets.		Hydrologic and Hydraulic Modeling	Willow Park	Y		X						
03-51-0000000582	Bear Creek Parkway East	Evaluate and model solutions to undermining of Bear Creek Trail		Preliminary Engineering	Keller	Y		X			Bear Creek is undermining Bear Creek Trail system to the east of Rufe Snow, in the park. Solutions are already designed, but adverse impact modeling is needed			
03-51-0000000583	Dixon Branch Improvements	Evaluate and model mitigation solutions along Dixon Branch		Preliminary Engineering	Dallas	Y		X			100% Design of mitigation along Dixon Branch between Easton and Peavy via relief tunnel to White Rock Lake or conveyance improvements with crossing upgrades at Vinemont St and Deep Branch Channel.			



Recommended FMPs

Cycle Year	Potentially Feasible FMPs	Recommended FMPs
2023	100	83
2028	140+	100+

- 9 of new communities involved with pending recommendation
- 22 of FMPs requiring follow-up
 - Approval in early 2027 Technical Subcommittee Meeting
- Primary reason for FMPs not being recommended is due to modeling insufficiencies or lack of availability.
- Several FMPs were submitted as part of a multi-sponsor FIF-funded FME and individual sponsor confirmation needs to be confirmed.

Region 3 - Potential FMPs							Rec 101 0 Not Rec 23				
						Tech. Cons.	Subcommittee				
FMP ID	FMP Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for <u>TC Rec</u>	Rec	NOT Rec	Meeting Notes	Internal Notes
03-52-0000000007	Spring Meadows Estates Detention Pond Design	Pond redesign and reconstruction to lower normal pool elevation to be below inlets upstream. Increase storage capacity and design outlet works to increase level of service to 100-yr storm event.	Dallas	Regional Detention	Sachse	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000008	West Irving Creek Phases 2, 3, and 4	FIF - 13792; reconstruction of over 2.5 miles of vertical wall channel. Reconstruction of 15 road crossings and several miles of wastewater main. Upstream detention improvements and water quality ponds will be implemented as well.	Dallas	Infrastructure (channels, ditches, ponds, pipes, etc.)	Irving	Y/?	FIF committed 11/19/2025; keep on list until project is completed	X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000016	Arlington VC(A)-1 Drainage and Erosion Improvements	Arlington VC(A)-1 Drainage and Erosion Improvements; unfunded FIF #13646 This project includes improving the drainage in a residential area with an undersized bridge and severe erosion issues.	Tarrant	Infrastructure (channels, ditches, ponds, pipes, etc.)	Arlington	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000030	Lancaster/Foch Area Mitigation (Trail Drive)	To decrease the flooding depths near the Norwood/Bledsoe/Crockett intersections, a storm drain alternative was developed. The storm drain system would run along Foch Street and then through Trinity Park to the river.			Fort Worth	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000031	Linwood Park Flood Mitigation (Western Arlington Heights)	To mitigate the flooding depths in the Linwood Park area, a storm drain would outfall to the West Fork Trinity River.			Fort Worth	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000032	Zoo Creek Storm Drain Flood Mitigation (Sandage)	A 10'x10' RCB section of the storm drain line reduces the 5-yr max depth at Berry St from 3.6 ft to 0.8 ft and the 100-yr max depth from 5.5 ft to 3.1 ft.			Fort Worth	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000033	Sunnyvale Culvert Improvements	Proposed alternatives to reduce roadway overtopping include culvert improvements, raising roadway elevations, and some minor channel grading to accommodate new culvert sizes.	Dallas	Infrastructure (channels, ditches, ponds, pipes, etc.)	Sunnyvale	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000036	Sunnyvale Urban Flooding Reduction Improvements - Area 2	Proposed alternatives to reduce roadway overtopping's during the 100-year ultimate storm such as culvert, ditch and storm drain improvements.	Dallas	Infrastructure	Sunnyvale	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000037	Project 1 - Point North Parkway System	Prairie Creek; Approx 450 ft of channel improvement, prop. storm sewer main crossing Point North Pkwy, new wingwalls, and adtl 100 LF inlet capacity to minimize sedimentation at Synergy Park Blvd and reduce flood depths at Point North Pkwy.	Collin	Infrastructure	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000038	Project 4 - Big Horn Lane/Canyon Creek Drive system	Prairie Creek; Upsize existing storm sewer main between Big Horn Lane and Canyon Creek Drive with 36" and 48" dia storm sewer; adtl 70 LF inlet capacity to reduce the flooding along Big Horn Lane, Canyon Creek Drive and Canyon Creek Country Club property	Collin	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000039	Project 6 - Valley Forge Street System	Prairie Creek; Parallel culvert xing KCS RR, construct concrete flume from cul-de-sac to alley parallel to KCS RR, upsize existing storm sewer main with 36" and 60" dia storm sewer, new wingwalls, and adtl 50 LF inlet cap. to keep floodwaters within ROW	Collin, Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000040	Project 8 - Lower Canyon Creek Drive System	Prairie Creek; Replaces the existing storm sewer with larger 24", 36" and 42" storm sewer along Lower Canyon Creek Drive; new 42" storm sewer; and additional 70 LF inlet capacity to keep floodwaters within the road ROW	Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FMPs											
Rec 101 0 Not Rec 23											
Tech. Cons.						Subcommittee					
FMP ID	FMP Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for TC Rec	Rec	NOT Rec	Meeting Notes	Internal Notes
03-52-0000000041	Project 9 - Grandview Drive System	Prairie Creek; Replaces the existing storm sewer with larger storm sewer along Grandview Drive; new wingwalls; and additional 100 LF inlet capacity to keep floodwaters within the road ROW	Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000042	Project 16 - Valley Glen drive System	Prairie Creek; Parallel storm sewer along the existing storm sewer alignment and extends the existing system further downstream; additional 230 LF inlet capacity to reduce the flooding along Valley Glen Drive and Pleasant Valley Lane	Collin	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000043	Project 19 – Pebblebrook Circle System	Prairie Creek; Replaces the existing storm sewer with larger 36" storm sewer near Pebblebrook Circle; new 30" storm sewer; and additional 30 LF inlet capacity to keep floodwaters within the road ROW	Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000044	Project 2 – Campbell Road System	Cottonwood Creek; Replaces the existing storm sewer main with a larger 30" storm sewer; includes the addition of a 36" and 42" parallel storm sewer; and additional 50 LF inlet capacity near Campbell Road to keep floodwaters within the road ROW	Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000045	Project 6 – Wisteria Way Circle at Timberlake Circle	Cottonwood Creek; Upsize a portion of existing storm sewer system with 30" RCP and implement an RCBC system connecting to the existing stub out adjacent to the Pinehurst Dr and Wisteria Way, adtl 120 LF inlet cap. to keep floodwaters in the ROW	Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000062	Hickory Creek Flood Protection - Alternative 1	Alternative 1: Construct storm water detention facilities, and remove Stein Road at river station 54955 on Hickory Creek. Part of the Hickory Creek Drainage Improvements Project 2022 Update.	Dallas	Infrastructure	Balch Springs	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000063	Hickory Creek Flood Protection - Alternative 2	Alternative 2: Construct channel modifications, detention facilities, and remove Stein Road at river station 54955 on Hickory Creek. Part of the Hickory Creek Drainage Improvements Project 2022 Update.	Dallas	Infrastructure	Balch Springs	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000064	Hickory Creek Flood Protection - Alternative 3	Alternative 3: Construct levee protection, channel modifications, and remove Stein Road at river station 54955 on Hickory Creek. Part of the Hickory Creek Drainage Improvements Project 2022 Update.	Dallas	Infrastructure	Balch Springs	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000065	Town Creek [Tarrant Ave, Warren St, Johnson Ave, Newton Dr] Safety Improvement	Implement safety improvements including high-water warning flashers, staff gauges, flood hazard signs, and additional light fixtures at four crossings along Town Creek in Burleson: Tarrant Ave, Warren St, Johnson Ave, and Newton Dr.	Johnson	Flood Readiness and Resilience	Burleson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000067	Ansley Dr. Storm Sewer System Improvement	Replace 1400 LF concrete drainage channel with storm sewer, replace curb cuts with 6 storm sewer inlets into existing channel, upgrade existing junction box for storm sewer, & patch pavement above proposed storm sewer. Includes all phases of project.	Tarrant	Infrastructure	Westworth Village	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000068	Main A Conveyance and Pump Station Improvements	The proposed improvements include the rehabilitation and upsizing of Pump Station A, upsizing the North Travis Street Culverts to 5-8'x8' box culverts, and channel improvements along the Main A channel.	Liberty	Infrastructure	Liberty County Water Control Improvement District #5	Y		X			Part of the 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FMPs											
Rec 101 0 Not Rec 23											
						Tech. Cons.					
							Subcommittee				
FMP ID	FMP Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for <u>TC Rec</u>	Rec	NOT Rec	Meeting Notes	Internal Notes
03-52-0000000069	Highland Ave. Drainage Improvements	Upsize Highland SD system from Sycamore St through W Marvin Ave to 10’x4’ RCB & add 36” RCP at UPRR culvert. Acquire parcels along creek south of BNSF RR to detain 64,000 CY. Install drop inlet at Harding St. & W. Main St., & add 24” RCP along Highland	Ellis	Storm Drain Improvements	Waxahachie	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000070	Fairgrounds Detention Option 3	Construct detention upstream of Denton Center Shopping Mall along North Pecan Creek	Denton	Regional Detention	Denton	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000071	Design/Construction for Holland Lake Spillway	Upgrade dam to be able to pass the 25% PMF and meet TCEQ dam safety requirements. Add an emergency spillway through the right abutment of the dam along with raising the top of dam elevation.	Parker	Dam Improvements, Maintenance and Repair	Weatherford	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000072	Elkins Lake Dam Rehabilitation	Modify dam to pass required 75% PMF and meet TCEQ criteria. Addition of two 60-in diameter culverts to the existing spillway and widening of vegetated approach channel. Raise the crest of the dam to 569.5 ft.	Tarrant	Dam Improvements, Maintenance and Repair	Dalworthington Gardens	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000073	Bonneville/Greenbrook Drainage Improvement	Proposed improvements include realignment of storm drain, upsizing of existing trunk lines, and addition of curb inlets through Greenbrook Dr and Huntwick. Includes construction of Downstream Channel Improvement Option 1 to offset negative impacts	Denton	Infrastructure	Arlington	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000074	Lebow Flood Mitigation Project	Improve storm water conveyance while minimizing impact on existing residential structures, maintain a 'no-rise' condition in the existing 100-yr WSE. The project includes: Section 404 permit, phased implementation, and utility relocations.	Tarrant	Infrastructure	Fort Worth	Y/?	FIF committed 12/16/2025; keep on list until project is completed	X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000075	Village Creek [Dobson St (CR 714)] Safety Improvements	Implement safety improvements including automatic closure gates with flashers on the north and south side of the floodplain, flood hazard signs and staff gauges at CR 714 along Village Creek in Burleson.	Johnson	Flood Readiness and Resilience	Burleson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000077	White Settlement Rd. Storm Sewer System Improvements	Upgrade of 1940 LF of existing storm sewer, 5 existing junction boxes, and 2 headwalls from east of Burton Hill Road to west of Tanny Street. Construction of 5 new inlets and 5 curb inlet extensions.	Tarrant	Storm Drain Improvements	Westworth Village	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000078	Main B Conveyance and Pump Station Improvements	The proposed improvements include the rehabilitation and upsizing of Pump Station B, upsize the culverts at North Travis Street, Milam Street and Woods Drive, and construction of a detention basin upstream of Main Street.	Liberty	Infrastructure	Liberty County Water Control Improvement District #5	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000079	Cordell Detention Pond (Rayzor Elementary School Pond)	Construct detention pond located on the intersection of W Univesity Drive and Malone Street along Pecan near Rayzor Elementary School. Pond capacity will be approximately 90 acre-feet with a surface area of approximately 12 acres.	Denton	Regional Detention	Denton	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000081	Town Creek Warren Park Extension	This alternative proposes voluntary acquisitions of structures at risk of flooding and extending the existing Warren Park. This extension would include a park with walking paths, exercise pads, and a dog park.	Johnson	Nature Based Solutions	Burleson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000082	Project 18 - Waterview Dr. Re-Route	The project consists of replacing RCP with larger diameter RCP, constructing new RCBC, constructing additional curb inlets, and new junction boxes with manholes.	Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan

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03-52-0000000083	Pumphrey Dr. Storm Sewer System Improvements	Upgrade of 280 LF of existing sewer, 2 existing inlets, and 1 headwall	Tarrant	Storm Drain Improvements	Westworth Village	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000084	Channel and Crossing Improvements on Redmond Creek south of the City of Ames	The proposed improvements include channel widening to a 5' bottom width and a trapezoidal shape with 4:1 side slopes. The primary crossing of Redmond Creek will be upsized to 4-8'x7' RCB and a crossing to the west will be upsized to a 2-3'x2' RCB.	Liberty	Infrastructure	Liberty County Water Control Improvement District #5	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000085	Harvest Hills Channel and Drainage Improvements	Option 2 (Briar Meadow Diversion) DS channel improvements gives a 100-year LOS to protect structures, uses larger pipes, channel widening for conveyance, 6 buyouts, positive overflow & separate outfalls of existing dual 48” RCPs. Total cost \$12,656,000.	Tarrant	Infrastructure	Arlington	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000086	Project 8A - Cheyenne Dr	Project 8a replaces existing storm sewer mains with larger storm sewers and increases the number of curb to gutter inlets to reduce flooding.	Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000087	Johnson Creek - Arkansas Lane and Pioneer Parkway Buyout at Johnson Creek	Design channel modifications following property acquisition of thirty (30) structures at Pioneer Parkway and Center Street. Also known as "Pioneer and Arkansas Buyouts".	Tarrant	Property or Easement Acquisition	Arlington	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000088	Project 13 - Mimosa & Melrose Dr	Project 13 proposes upsizing existing storm sewer mains and laterals, adding parallel storm sewers, and adding additional curb to gutter inlets to eliminate the 140 cfs of uncollected flow going to the east, alleviating ponding at the intersection.	Dallas	Storm Drain Improvements	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000089	Arlington Johnson Creek - Collins Street and Division Street Buyout	Design channel benching between Abrams Street and the UP Railroad following property acquisition of approximately ninety-five (95) structures along Collins Street and Division Street.	Tarrant	Property or Easement Acquisition	Arlington	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000090	Town Creek Railroad and S. Warren Street Improvements	This FMP includes improving the capacity of the crossing by adding a third 12' x 10' barrel to the RCB. This solution also includes raising S Warren St by 2.5' and increasing the capacity of the crossing.	Johnson	Low Water Crossings or Bridge Improvements	Burleson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000091	Saturn Springs Estates Drainage Improvements	Erosion control improvements to protect utilities, structures, and high-velocity areas from erosion; storm drain improvements such as upsized lines, additional laterals, regraded alleyways, and new curb and gutter along several roads.	Dallas	Infrastructure	Garland	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000092	Terrell KC1 Watershed Drainage Improvements	Implement and upsize storm drain on Brin St, College St, Rochester St, & Gardner St. Add additional drainage crossing at SH 34. Place inlets at every intersection to capture additional runoff. Upsize railroad crossing and improve adjacent channel.	Kaufman	Infrastructure	Terrell	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000093	Design/Construction for S. Holland Channel Retention Pond	Design and construct S. Holland Channel Retention Pond	Parker	Regional Detention	Weatherford	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000094	Lois Branch Main Channel Improvements	Alternative proposes channel geometry modifications for 3,900 LF, drop structures, culvert crossing resizing, and raising one roadway by 1.0 feet.	Dallas	Infrastructure	Richardson	Y		X			Part of the 2023 Regional / 2024 State Flood Plan

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03-52-0000000095	DMP Phase 1: Kirven Avenue (Project 1)	Supplement existing storm drain system with additional parallel system near the intersection of Almond St and Sycamore St that extends downstream along Harbin Ave to the existing Marvin Ave outfall. Upsize Marvin Ave to 8' x 7' RCB outfall.	Ellis	Storm Drain Improvements	Waxahachie	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000096	Estates Drive Bridge Replacement	Replace Estates Drive Bridge over Poindexter Creek	Denton	Low Water Crossings or Bridge Improvements	Copper Canyon	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000097	PEC-4 Phases 3&4	Install 3,200 linear ft of 10’x8’, 12’x8’, and 16’x8’ underground box culvert from the intersection with Phase 2 at Prairie following the PEC 4 Tributary and then traveling down Mulberry to Bernard. Box culvert will contain the 100-yr floodplain.	Denton	Storm Drain Improvements	Denton	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000098	Kingstree Rd Drainage Improvements	Proposed bridge installation over creek crossing on Kingstree Road to reduce roadway overtopping during storm events. Includes creek channel grading improvements.	Kaufman	Low Water Crossings or Bridge Improvements	Kaufman County	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000100	Arlington Upper Village VC(A)-5 Channel and Culvert Improvements	Proposed improvements include upsizing RCBC, replacing existing concrete-lined trapezoidal channel with 20' wide, 7' deep rectangular channel, and transitions downstream of Bowman Springs Road crossing and upstream of Crossgate Court crossing.	Tarrant	Regional Channel Improvements	Arlington	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000101	Channel improvement on Brockbank Channel Basin north of SH 183	Proposed improvements to the upstream closed storm drain network and the downstream open channel. There are two phases for the storm drain network: trunk line and lateral improvements.	Dallas	Infrastructure	Irving	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000107	Plantation Ridge Channel Improvements	Proposed 40’ natural channel connecting Prairie Meadow and Helms Trail. Also includes significant improvements to culverts and new drainage ditches to protect residential lots from offsite flooding.	Kaufman	Regional Channel Improvements	Kaufman County	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000108	CR-243 Drainage Improvements	Proposed culvert upgrades and roadside drainage ditch improvements to reduce roadway overtopping along County Road 243.	Kaufman	Regional Channel Improvements	Kaufman County	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000109	Valley View/Ravenhill-Devonshire Drainage Improvements	Proposed culvert upgrades and grading improvements to reduce roadway overtopping along Valley View Road and Ranch Road near Ravenhill Road intersection.	Kaufman	Regional Channel Improvements	Kaufman County	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000110	CR-4116 Drainage Improvements	Proposed upgrades to roadway drainage ditches and culverts along CR4116 to reduce structural inundation on both sides of the road. Includes additional collection channels to direct flow around existing structures.	Kaufman	Regional Channel Improvements	Kaufman County	Y		X			Part of the 2023 Regional / 2024 State Flood Plan
03-52-0000000111	Fort Worth Central City Flood Control Project	Construct 1.5 mile bypass channel to reroute flood waters near downtown area. Where bypass channel and original river intersect, 3 isolation gates will be installed. Includes stormwater pump station.	Tarrant	Infrastructure	Tarrant Regional Water District	Y		X			Part of the 2025 Amendment
03-52-0000000112	Mary’s Creek Flood Control Reservoir	Construct a dry detention reservoir for flood damage reduction and open space preservation with opportunities for regional recreation, increased property values, heat island reduction and streamlined development.	Tarrant	Regional Detention	Tarrant Regional Water District	Y		X			Part of the 2025 Amendment

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03-52-0000000113	Barron Avenue and Porter Street Drainage Improvements	Channel improvement along South Fork Chambers Creek south of Barron Ave.	Tarrant	Regional Channel Improvements	Everman	Y		X			Part of the 2025 Amendment
03-52-0000000114	E. Enon Ave and Forest Hill Drive Improvements	Roadway, bridge, and channel improvements for Chambers Creek	Tarrant	Regional Channel Improvements	Everman	Y		X			Part of the 2025 Amendment
03-52-0000000115	Race Street and Christie Avenue Drainage Improvements	Increase conveyance for Race Street crossing to avoid hazardous overtopping. Channel improvement along South Fork Chambers Creek south of Christie Ave.	Tarrant	Regional Channel Improvements	Everman	Y		X			Part of the 2025 Amendment
03-52-0000000116	West Potomac Drainage Improvements	Upsize and install 3100 LF of storm pipe and 36 curb inlets to capture and convey peak flow within the Town right-of-way.	Dallas	Storm Drain Improvements	Highland Park	Y		X			Part of the 2025 Amendment
03-52-0000000117	Dartmouth Drainage Improvements	Upsize and install 2050 LF of storm pipe and 9 curb inlets to capture and convey peak flow within the Town right-of-way.	Dallas	Storm Drain Improvements	Highland Park	Y		X			Part of the 2025 Amendment
03-52-0000000118	Airline Drainage Improvements	Upsize and install 3500 LF of storm pipe and 19 curb inlets to capture and convey peak flow within the Town right-of-way.	Dallas	Storm Drain Improvements	Highland Park	Y		X			Part of the 2025 Amendment
03-52-0000000119	East Potomac Drainage Improvements	Upsize and install 1700 LF of storm pipe and 6 curb inlets to capture and convey peak flow within the Town right-of-way.	Dallas	Storm Drain Improvements	Highland Park	Y		X			Part of the 2025 Amendment
03-52-0000000120	Lomo Alto Drainage Improvements	Upsize and install 16,000 LF of storm pipe and 68 curb inlets to capture and convey peak flow within the Town right-of-way.	Dallas	Storm Drain Improvements	Highland Park	Y		X			Part of the 2025 Amendment
03-52-0000000121	Douglas and Beverly Drainage Improvements	Upsize and install 7000 LF of storm pipe and 11 curb inlets to capture and convey peak flow within the Town right-of-way.	Dallas	Storm Drain Improvements	Highland Park	Y		X			Part of the 2025 Amendment
03-52-0000000122	Wycliffe Transportation Project	Remove the existing morning-glory spillway and construct a weir embankment, bridge crossing, and receiving concrete channel to contain and convey flow within Turle Creek during peak strom events.	Dallas	Comprehensive Regional Project	Highland Park	Y		X			Part of the 2025 Amendment
03-52-0000000123	Hackberry Creek Phase 1	Upsize existing Beverly Drive crossing in order to contain 100-year storm event.	Dallas	Low Water Crossings or Bridge Improvements	Highland Park	Y		X			Part of the 2025 Amendment
03-52-0000000124	Forest Hill Regional Detention	Proposed regional detention pond and associated storm drain infrastructure. Upsizing of existing channels, storm drain, and inlets. This project includes: phased implementation and utility relocations.	Tarrant	Comprehensive Regional Project	Forest Hill	Y		X			Part of the 2025 Amendment
03-52-0000000125	Tri City Cutoff Gully Culvert Improvements	Upsize FM 2354 culvert crossing and the culvert crossing at Cedar Gully Road. Channel improvements to be conducted for the segment of Tri-City Cutoff Gully downstream of FM 2354.	Chambers	Regional Channel Improvements	Chambers	Y		X			Part of the 2025 Amendment
03-52-0000000126	Frazier Gully Culvert Improvements	Widen and deepen Frazier Gully; upgrade the culvert crossing at FM 2354 to 4-8'x5' RCBs.	Chambers	Regional Channel Improvements	Chambers	Y		X			Part of the 2025 Amendment
03-52-0000000127	Spring Branch Drainage Improvements	Construct a 7.5 acre detention pond along with various culvert upgrades to reduce flooding for the residential properties in the vicinity.	Chambers, Liberty	Comprehensive Regional Project	Chambers	Y		X			Part of the 2025 Amendment

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03-52-0000000128	Hankamer Drairage Improvements	Conduct channel improvements to Whites Bayou, Spring Branch, the unnamed channel segment between HWY 61 and Spring Branch as well as the channel south of IH-10. Crossing under IH-10 to be upsized to reduce restriction of flow.	Chambers, Liberty	Regional Channel Improvements	Chambers	Y		X			Part of the 2025 Amendment
03-52-0000000129	Spring Creek Gully Detention	Construct channel improvements and upsize culvert crossing under Gou Hole Rd. to feed into a proposed detention pond that will alleviate flooding impacts for the nearby neighborhood.	Chambers	Comprehensive Regional Project	Chambers	Y		X			Part of the 2025 Amendment
03-52-0000000130	Hackberry-Gully Channel Improvements	Construct channel improvements along the length of Hackberry Gully and Cotton Bayou . Crossing improvements at FM 3180 and FM 565 will be required.	Chambers	Regional Channel Improvements	Chambers	Y		X			Part of the 2025 Amendment
03-52-0000000131	FM 3180 Improvements	Construct channel improvements and crossing upgrades along McAdams Ditch to alleviate flooding impacts upstream of FM 3180 and for the residential properties immediately adjacent to McAdams Ditch.	Chambers	Regional Channel Improvements	Chambers	Y		X			Part of the 2025 Amendment
03-52-0000000132	Skylane Gully Improvements	Construct a diversion channel from Skylane Gully to the western ditch to alleviate flooding for the nearby neighborhood. The ditch is to be widened and accompanied by improvements to its intersecting crossings to be able to handle the increased flow.	Chambers	Regional Channel Improvements	Chambers	Y		X			Part of the 2025 Amendment
03-52-0000000133	Old River/Cove Channel Improvements	Install channel improvements near FM 3246 and a detention pond north of a tributary to Old River Lake.	Chambers	Comprehensive Regional Project	Chambers	Y		X			Part of the 2025 Amendment
03-52-0000000134	Sunset Heights Neighborhood and Downtown Dayton Improvements	Improve the roadside ditches and channel around the Sunset Heights neighborhood to better convey the sheet flow coming from the north. Crossings at CR 493 and SH 146 will be updated to better convey flow.	Liberty	Regional Channel Improvements	Dayton	Y		X			Part of the 2025 Amendment
03-52-0000000135	Lawrence Street Improvements	Improve culvert crossing at N. Winfree St and install trunkline downstream under the existing ditch along Lawrence Street. Laterals to be installed connecting the trunkline with Manor Street, Chester Street, Holbrook Street, and Pearl Street.	Liberty	Comprehensive Regional Project	Dayton	Y		X			Part of the 2025 Amendment
03-52-0000000136	Arlington Johnson Creek - JC-12 Buyouts	Removal of four (4) structures along Stream JC-12 in the City of Arlington. No channel improvements planned.	Tarrant	Property or Easement Acquisition	Arlington	Y		X			Part of the 2025 Amendment
03-52-0000000137	Arlington Johnson Creek - JC-10 Buyouts	Acquisition of nineteen (19) structures within the City of Arlington. No channel improvements planned.	Tarrant	Property or Easement Acquisition	Arlington	Y		X			Part of the 2025 Amendment
03-52-0000000138	Snider Bridge and Approach Reconstruction	Reconstruction of Snider Bridge culvert crossing and approach to an elevated bridge crossing		Low Water Crossings or Bridge Improvements	Lucas	Y		X			
03-52-0000000139	Culvert and Bridge Improvements at Alta Mesa Creek	Build a bridge on Tracy Road, add a new culvert under Simpson Stuart Road, raise the roads above 100-year WSE.		Low Water Crossings or Bridge Improvements	City of Dallas	Y		2027	2027	Outreach to new sponsor required.	
03-52-0000000140	Culvert Improvement at Beaver Creek Drive	The project consists of replacing the culvert under Beaver Creek Drive, adding riprap, and adding detention upstream. This prevents overtopping and maintains access to 92 homes during the 100-year event.		Low Water Crossings or Bridge Improvements	Cedar Hill	Y		2027	2027	Outreach to new sponsor required.	

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03-52-0000000141	Channel Improvements at Cedar Creek Drive	The project consists of adding gabion baskets along Tenmile Creek to reduce the water surface elevation and remove houses from the floodplain		Regional Channel Improvements	Duncanville	Y		2027	2027	Outreach to new sponsor required.	
03-52-0000000142	Flood Structure Improvements at Ernie Roberts Park	The project consists of channel benching, an added berm and the removal of a weir. This will lower water surface elevations and remove houses from the floodplain.		Regional Channel Improvements	DeSoto	Y		2027	2027	Outreach to new sponsor required.	
03-52-0000000143	Road Improvements at Main Street in Lancaster	The project consists of road reconstruction at Main Street to prevent overtopping. In addition, channel improvement and channel benching will be provided to mitigate downstream impacts.		Low Water Crossings or Bridge Improvements	Lancaster	Y		2027	2027	Outreach to new sponsor required.	
03-52-0000000144	Channel Improvements in Cottonwood Creek	The project consists of channel reconstruction along Cottonwood Creek between Greene Rd and Goode Road to reduce the water surface elevation and remove houses and roads from the floodplain - Concrete Option		Regional Channel Improvements	Wilmer	Y		2027	2027	Outreach to new sponsor required.	
03-52-0000000145	Improvements at Intersection of Denton Street and Lancaster-Hutchins Road	The project consists of adding bridges under Denton Street and Lancaster-Hutchins road, road reconstruction of 3rd Street, adding riprap, and adding cut upstream. This prevents the overtopping at this intersection.		Infrastructure	Hutchins	Y		2027	2027	Outreach to new sponsor required.	
03-52-0000000146	Improvements at S Millers Ferry Road and Union Pacific Railroad	Construct an additional culvert barrel under Millers Ferry Road and add a 72 inch steel pipe under the railroad along Rawlins Creek		Low Water Crossings or Bridge Improvements	Hutchins	Y/?	Insufficient data provided; delaying submittal to new open FMX window	2027	2027		
03-52-0000000147	Improvements at E Pleasant Run Road and Gant Drive	Replace 3 pipes in Gant Drive Crossing with two box culverts, add one culvert in W Pleasant Road, create channelization for about 2000 feet of Tributary 3A6.		Regional Channel Improvements	Lancaster	Y		2027	2027	Outreach to new sponsor required.	
03-52-0000000149	Brookhaven Golf Course Flood Mitigation - Scenario 3	Construct an overflow channel near 14435 Valley Hi Circle, raise Pebble Beach Drive with culverts to pass the 100-year flow, dredge and modify existing ponds with new spillways, and extend a gabion structure near Brookhave Club Drive		Infrastructure	Farmers Branch	Y		X			
03-52-0000000150	Josey Lane Bridge Reconstruction	Raise Josey Lane bridge by 5.5 feet to accommodate the 100-year flow.		Low Water Crossings or Bridge Improvements	Farmers Branch	Y/?	Need 100-year for NAI validation; description may need revision	2027	2027	Outreach needed	
03-52-0000000151	Mallon Park Creek Reconfiguration - Alternative 1, Option 2	Sediment removal and channelization of Farmers Branch Creek within Mallon Park. Includes 120-foot pedestrian bridge to connect the existing trail system and removal of existing debris-trapping crossings.		Regional Channel Improvements	Farmers Branch	Y		X			
03-52-0000000152	Valley View Storm Sewer Replacement Phase 2	Upgrade existing storm drain system along Denton Drive, Mustang Station, Valley View Lane, Bee Street, and Goodland Street. Lower outfall into Rawhide Creek. Phase 1 already under construction in 2025.		Storm Drain Improvements	Farmers Branch	Y/?	Storm drain calculations provided, however, no models - insufficient to show NAI	2027	2027	Outreach needed	
03-52-0000000153	Stream 2C5 Channel Improvements and Classic Drive / Yale Drive / Western Heights Drainage Improvements	Area 1 - Improvements to storm drainage infrastructure and the Stream 2C5 channel as identified in the 2022 Classic Dr-Yale Study and the 2022 Western Heights No. 4 Drainage Study (2019 Bond Program)		Infrastructure	Garland	Y/?	Insufficient data provided; delaying submittal to new open FMX window	2027	2027		

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03-52-0000000154	Stream 2C1 Channel Improvements	Area 10 - Channel improvements along Stream 2C1 as identified in the 2023 Miami Drainage Study PREVIOUSLY FME ID #0310000105		Regional Channel Improvements	Garland	Y/?	Adverse impacts	2027	2027	Outreach needed to confirm if dropping or downgrading	
03-52-0000000155	Gatewood - Greenbrook Drainage Improvements	Area 12 - Greenbrook Area as per the Gatewood / Greenbrook Neighborhood Drainage Study 2025 PREVIOUSLY FME ID #0310000107		Storm Drain Improvements	Garland	Y		X			
03-52-0000000156	Gatewood - Gatewood South Drainage Improvements	Area 12 - Greenbrook Area as per the Gatewood / Greenbrook Neighborhood Drainage Study 2025 PREVIOUSLY FME ID #0310000107		Storm Drain Improvements	Garland	Y		X			
03-52-0000000157	Garvon West Industrial Drainage Improvements	Area 20 - 2021 Garvon West Industrial Drainage Study (2019 Bond Program) - Alternative 1 PREVIOUSLY FME ID #0310000115		Storm Drain Improvements	Garland	Y		X			
03-52-0000000158	Garland Freeman Heights Drainage Improvements	Area 7 - 2025 Garland Freeman Heights Drainage Study. Construct downtown area storm drainage improvements PREVIOUSLY FME ID #0310000102		Storm Drain Improvements	Garland	Y		X			
03-52-0000000160	Lakewood Drainage Improvements	Area 24 - Implement Mitigation Option 4 as detailed in the Lakewood Addition Drainage Study 2022, consisting primarily of storm drain improvements.		Storm Drain Improvements	Garland	Y		X			
03-52-0000000161	Holford Road Bridge Improvements	Replacement bridge to elevate low water bridge crossing of Spring Creek to be elevated above floodplain		Low Water Crossings or Bridge Improvements	Garland	Y/?	Insufficient data provided; delaying full submittal to new open FMX window	2027	2027		
03-52-0000000162	Campbell Road Bridge Improvements	Replacement bridge to elevate low water bridge crossing of Rowlett Creek to be elevated above floodplain.		Low Water Crossings or Bridge Improvements	Garland	Y/?	Insufficient data provided; delaying full submittal to new open FMX window	2027	2027		
03-52-0000000163	Downtown Channel Flooding Improvements	Design and construction of improvements to the downtown Gunter drainage system.		Storm Drain Improvements	Gunter	Y/?	Insufficient data provided; delaying full submittal to new open FMX window	2027	2027		
03-52-0000000164	Downtown Street Capacity Improvements	Regrade and reconstruct downtown Gunter's current roadside ditch system to a curb-and-gutter, underground storm drain system through downtown.		Storm Drain Improvements	Gunter	Y/?	Insufficient data provided; delaying full submittal to new open FMX window	2027	2027		
03-52-0000000165	Little Fossil Creek Channel Improvements	Complete construction of previously designed Little Fossil Creek improvements from E. Belknap Street to Thomas Road. CLOMR previously approved and ROW completed.		Regional Channel Improvements	Haltom City	Y		X			
03-52-0000000166	Blue Mound Road West Improvements	Construct improvements to Blue Mound Road West to pass the 100-year event.		Low Water Crossings or Bridge Improvements	Haslet	Y/?	Insufficient data provided; delaying full submittal to new open FMX window	2027	2027		Finalize design and construct improvements to Blue Mound Road West to pass the 100-year event.

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03-52-0000000167	Blue Mound Road East Improvements	Construct culvert enlargements and roadway profile adjustments to Blue Mound Road East to pass the 100-year event.		Low Water Crossings or Bridge Improvements	Haslet	Y		X			Finalize design and construct culvert enlargements and roadway profile adjustments to Blue Mound Road East to pass the 100-year event.
03-52-0000000168	Haslet Park Drainage Improvements	Construct conveyance and culvert improvements to support 100-year drainage design for the Haslet Park subdivision.		Infrastructure	Haslet	Y		X			
03-52-0000000169	1st North St. and Grove St. Drainage Improvements	Construction of improvements to culvert crossings at Nash between Hickory St and Brove St and at 1st North St between Midland Street and Alton St. Includes the storm drain system at Alton and Grove.		Low Water Crossings or Bridge Improvements	Kaufman	Y/?	Models insufficient to prove NAI	2027	2027	Outreach needed	
03-52-0000000170	1st North St., Jenkins St., and Park St. Drainage Improvements	Extension of storm drain system from Ola Road to 1st North Street along Park Street.		Storm Drain Improvements	Kaufman	Y/?	Models insufficient to prove NAI	2027	2027	Outreach needed	
03-52-0000000171	10th Street, Clay Street, and Austin Street Drainage Improvements	Extension of storm drain system from the intersection of 10th Street/Austin Street to the southern end of S Jackson Street.		Storm Drain Improvements	Kaufman	Y/?	Models insufficient to prove NAI	2027	2027	Outreach needed	
03-52-0000000173	Highland Oaks Detention Gabion Wall Repair	Construct permanent repair along the gabion wall of the Highland Oaks Detention Pond. Solution is already designed.		Infrastructure	Keller	Y/?	Repair of wall failure.	2027	2027	Further outreach needed - property ownership question; need specific buy-in from the RFPG	Only emergency need FMP in the plan - no models provided/needed; does not quantify benefits
03-52-0000000174	Business 287 Bypass Drainage Channel	Construct a new channel from Business 287 to FM 157 to relieve drainage impacts along the highways and residences in the City of Mansfield. Project includes improving two roadway crossings and ROW acquisition.		Regional Channel Improvements	Mansfield	Y		X			
03-52-0000000175	Creek Bend Estates Culvert Improvements	Construction of replacement of three culverts on Clearwater Drive, Creekbend Drive, and Nueces Trail to alleviate flooding of homes and overtopping of roadways		Low Water Crossings or Bridge Improvements	Midlothian	Y		X			Alternative 4
03-52-0000000177	E Walcott Street Drainage Improvements	Problem Area 2 - Construct a storm drain diversion system under Walcott Street to alleviate drainage from private properties and clear City thoroughfares.		Storm Drain Improvements	Pilot Point	Y		X			
03-52-0000000178	W Holford Street Drainage Improvements	Problem Area 3 - Construct channel improvements parallel to the Union Pacific Railroad; finalize and construct storm drain and detention along Holford Street - to alleviate private property flooding and reduce downstream impacts		Infrastructure	Pilot Point	Y		X			
03-52-0000000179	Ponder Downtown Drainage Ditch Improvements	Upsize existing culvert crossings under Bailey Street and James Street and regrade the existing channel from James Street to FM 2449.		Infrastructure	Ponder	Y		X			
03-52-0000000180	Panther Island Canals	Construct four canals (over 10,000LF) and pedestrian walkways spanning Panther Island in Fort Worth. Canals will provide detention capacity for the 100-year storm event while Central City bypass channel is constructed, allowing development of the area.		Regional Channel Improvements	TRWD	Y		X			
03-52-0000000181	Willow Park Culvert Upgrades 2028	Upgrades of eleven culverts throughout Willow Park to improve drainage conveyance during storm events.		Low Water Crossings or Bridge Improvements	Willow Park	Y/?	Insufficient data provided	2027	2027	Provide additional data or downgrade	

FMP 033000007 - Spring Meadows Estates Detention Pond Design

The Spring Meadows Estates Detention Pond Design project was generated from the Long Branch Flood Study¹. The proposed project aims to mitigate flooding along the intersection of Spring Meadow Dr and Dewitt Rd in the City of Sachse. This area experiences frequent flooding and creates a considerable safety concern. The primary source of flooding for this area is the overflow from the existing Spring Meadows Estates retention pond. This pond was originally designed as a dry detention pond, but it is currently functioning as a wet pond which effectively eliminates its ability to store floodwaters.

A HEC-RAS 2D model was created for this study to evaluate existing and proposed conditions. The main component of this project is the design and construction of an off-line dry detention pond next to the existing pond that will provide a 100-year LOS (see **Figure F.1**). A diversion structure would be required to redirect runoff from the existing storm drain system into the new pond. The new pond would be approximately 12 ft deep and would provide approximately 10 ac-ft of storage. Pond outlet works would be designed to control the 2-year and 100-year design storm events and would discharge to an existing concrete lined channel via 2-5'x5' RCBs. An additional 24-in RCP is required to reroute runoff from two inlets on Spring Meadows Dr and connect them to the proposed 2-5'x5' RCB's downstream. This project will require acquisition of a portion of the parcel south of the existing pond. The project cost is \$1,868,000.

Following the implementation of the proposed improvements, an estimated 0.34 miles of roadway and 9 residential structures would be completely removed from the 100-year floodplain. This correlates to an estimated 18 individuals removed from the 100-year flood risk. Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements (see Error! Reference source not found.).

¹ *Long Branch Flood Study*, Freese and Nichols, 2020

FMP 033000008 - West Irving Creek Phases 2, 3, and 4

The West Irving Creek FMP was generated from the Flood Infrastructure Fund application #13792. The City of Irving experiences significant flooding within the West Irving Creek watershed. This project identifies several elements to alleviate the flooding in the area.

A HEC-RAS 1D/2D model was created to analyze existing flooding conditions, develop flood mitigation alternatives, and evaluate the impacts of the proposed improvements. The West Irving Creek channel improvements project consists of reconstruction of over 2.5 miles of shallow trapezoidal concrete channel as deeper vertical walled channel to increase capacity and relieve historical flooding issues (see Figure F.2). The vertical walled channels allow the project to remain within a similar footprint as the existing channel to minimize easement needs and impacts to private properties while meeting the flood carrying capacity goals of the project. The channel improvements will also require the reconstruction of 15 road crossings and several miles of wastewater main. In conjunction with the channel improvements, upstream detention improvements will be made as well as the implementation of water quality ponds to reduce pollutant load in the channel and to provide amenity to the adjoining neighborhoods. These improvements will mitigate flood events associated with the 1% annual chance flood (100-year LOS).

The estimated flood risk reduction benefits following the implementation of West Irving Creek FMP include the removal of an estimated 5 miles of roadway and 252 structures from the 100-year floodplain, 230 of which are residential structures. This correlates to an estimated 1,151 individuals removed from the 100-year flood risk. Additionally, 6 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements. One critical facility and 1 low water crossing would also be removed from the 100-year floodplain.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFPG considers that the West Irving Creek FMP conforms to the no negative impacts requirements based on professional engineering judgment (see Error! Reference source not found.).

Increases in peak discharge are expected at the downstream areas of the improved channel due to the significant increase in channel capacity. However, these increases are fully contained within the proposed channel and do not cause any adverse impact to adjacent properties. There is one area within the project's zone of influence that would experience an increase of approximately 1 foot in water surface elevation, but this is a public park area with no insurable structures (see **Figure F.2** and **Figure F.3**). Based on these factors, the RFPG considers that the West Irving Creek FMP conforms to the no negative impacts requirements.

The park areas within the project limits include Shady Grove Trail Park, Markwood Park, and Wyche Park, as well the Dallas College Irving Center, a college campus with a large open space along the channel alignment. Under Existing Conditions, the flooding seen between Tipton Road and Rogers Road is controlled by backwater from Markwood Park and the Dallas College Irving Center campus. While the proposed channel was designed to have 100-year capacity, this area will continue to flood unless the backwater is mitigated. In addition to the backwater, thirteen structures near the Markwood Park and Dallas College Irving Center are within the existing 100-year floodplain limits.

The West Irving Creek Drainage Improvements Comprehensive Planning Study (FNI, 2022) describes the alternatives that were considered for this public park area as part of the project design (Section 3.3.1). Multiple grading alternatives were presented to the City Parks Department, and after discussion it was decided that some alternatives would not be feasible for construction while others would be investigated further during the design phase of the project.

The first alternative involved grading out a bench above the Ordinary High Water Mark (OHWM). This option resulted in the greatest WSE decreases, but grading would result in the removal of Markwood Park and it would no longer be usable as a park area. The second alternative involved deepening the channel. This option would cause moderate impact to Markwood Park, but it would conflict with existing sewer lines in the park and require more extensive environmental permitting as grading would occur below the OHWM. Both alternatives were discarded by the City since they would cause negative impacts on Markwood Park.

Three additional alternatives were investigated in order to find solutions that would not have negative impacts on the park areas. These alternatives investigated options for grading out a bench in the Dallas College Irving Center Campus above the OHWM. These would provide greater capacity and storage and would also allow the majority of the existing open space in the Dallas College Irving Center campus to remain in use. In Markwood Park, various levels of grading and modifications were considered. Through evaluation of these alternatives, it was determined that grading in the Dallas College Irving Center campus provides significant benefits and is necessary in order for any changes within Markwood Park to be beneficial. Coordination and communication with Dallas College Irving Center on the proposed grading along the natural channel will be required in order to address concerns and ensure agreement on the proposed improvements.

After discussion with the City, it was decided that a decision regarding the potential alternatives for improvements in Markwood Park would be made at a later point in the design. The improvements in the Dallas College Irving Center campus will remove six structures from the 100-year floodplain, and the finalized Markwood Park improvements will not impact the design of the upstream channel. Further evaluation of the Markwood Park alternatives will be performed and discussed with the City and the US Army Corps of Engineers (USACE), and the final alternative will be selected as part of the detailed design phase of the project. The project cost is \$80,066,000.

Figure F.2. West Irving Creek Phases 2, 3, and 4 - Project Components (FMP 033000008)

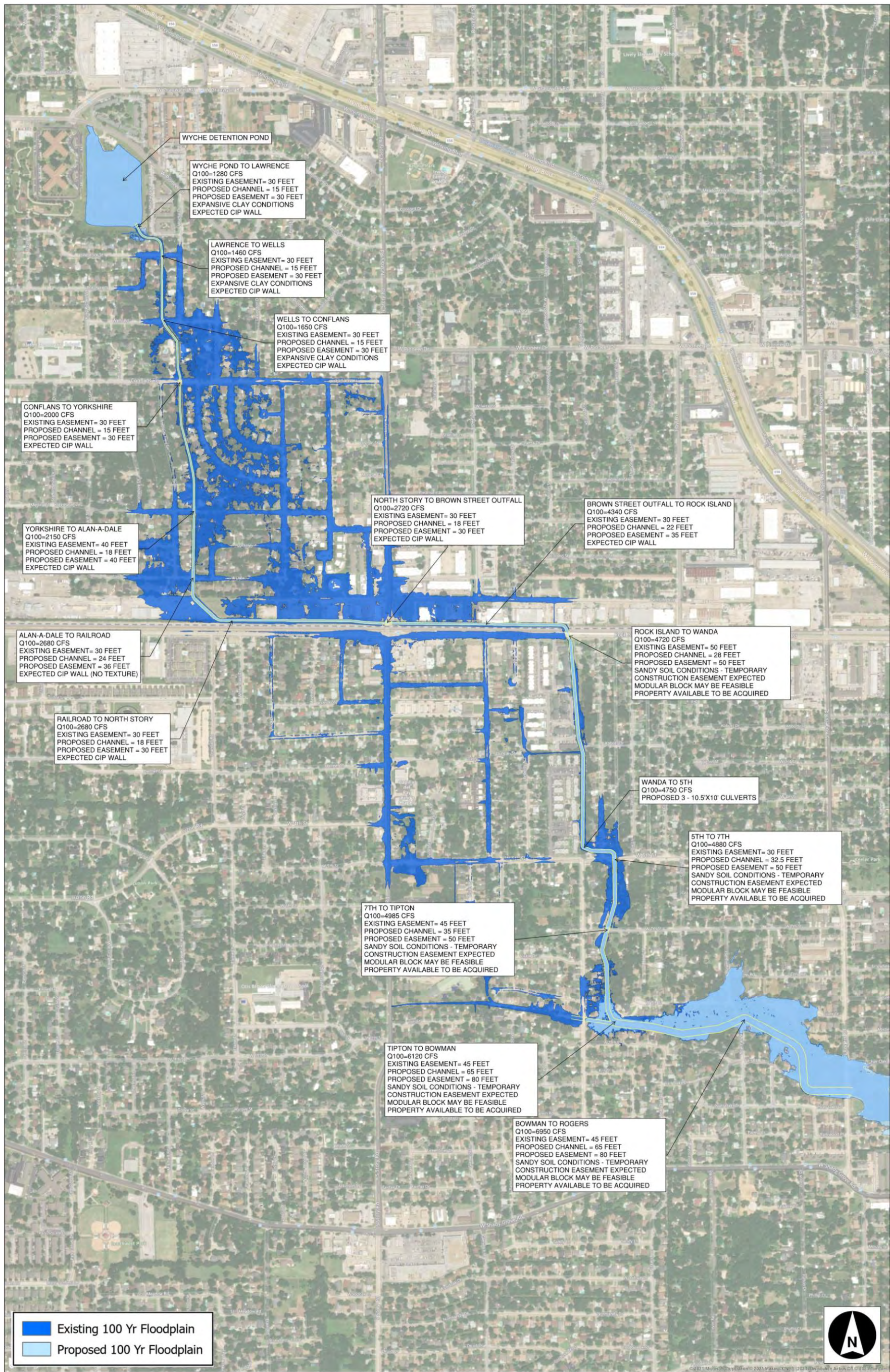


Figure F.3. Existing and Post-Project Floodplain in affected Parks Areas (FMP 033000008)



FMP 033000016 - Arlington VC(A)-1

The Arlington VC(A)-1 FMP, developed from the unfunded Flood Infrastructure Fund application #13646, proposes options for drainage and erosion improvements. The proposed project includes improvements to four low-capacity crossings at Woodland Drive, Sylvan Drive, Park Hill Drive, and West Lamar Boulevard (see **Figure F.4**). HEC-HMS and HEC-RAS models were created to analyze the impact that the proposed improvements would have based on ultimate land use conditions. A stream assessment was also performed and identified erosion risk alternatives to improve the stability of the stream bed and banks.

The proposed project will provide a minimum of a 25-year LOS (4% annual chance flood event). The LOS for the four crossings mentioned above range from 25-year to 100-year. However, flood risk reduction benefits are expected for all crossings up to the 100-year event. The project cost is \$2,601,000.

Following the implementation of these drainage and erosion improvements, an estimated 0.16 mile of roadway and 9 structures would be removed from the 100-year floodplain, 3 of which are residential structures. This correlates to an estimated 24 individuals removed from the 100-year flood risk. Additionally, 29 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFPG considers that the Arlington VC(A)-1 FMP conforms to the no negative impacts requirements based on professional engineering judgment (see Error! Reference source not found.). Model results show a 0.31 ft rise at the Sylvan Dr crossing, but this minor rise is fully contained within the roadway right-of-way and does not impact insurable structures such as residential and commercial buildings

Figure F.4. Arlington VC(A)-1 – Project Components (FMP 033000016)



FMP 033000030 - Linwood-Lancaster/Foch

The Linwood-Lancaster/Foch FMP is sponsored by the City of Fort Worth. Alternatives were evaluated to provide storm drain relief along Norwood Street between West 7th Street and Lancaster Avenue, at the Lancaster Avenue/Bledsoe Street intersection, and the Lancaster Avenue/Currie Street intersection. This is primarily a commercial area in downtown Fort Worth.

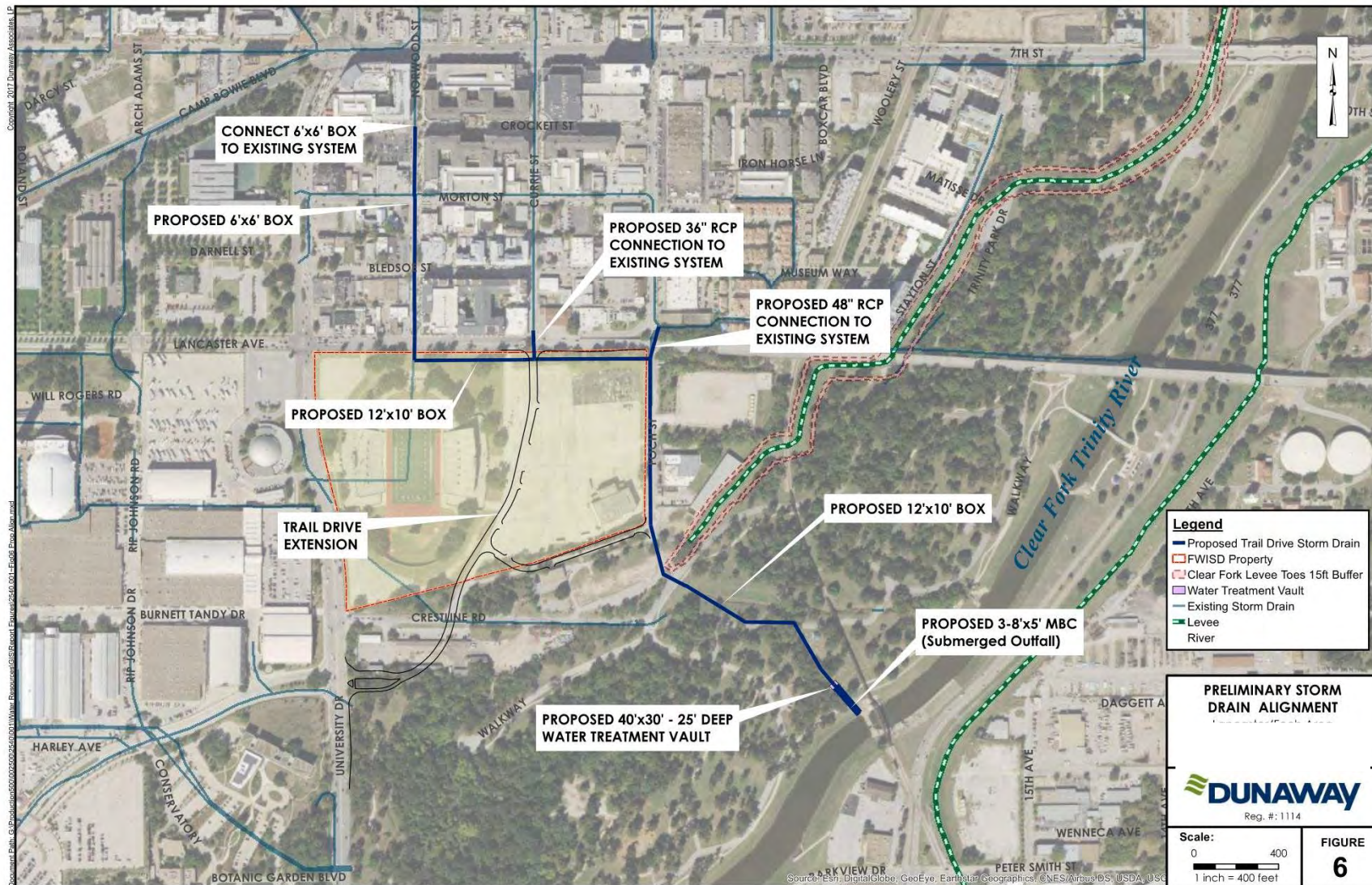
A 2D ICM model was developed to analyze the storm drain trunk lines and identify the deficiencies in the system. The proposed project includes a 6'x6' box section along Norwood Street north of Lancaster Avenue and a 12'x10' box section along the remainder of the relief system length to convey the 100-year discharge (see **Figure F.5**). The project cost is \$26,528,000.

Following the implementation of these mitigation measures, an estimated 0.49 mile of roadway and 10 structures (commercial and public properties) would be removed from the 100-year floodplain. This correlates to an estimated 3,272 individuals removed from the 100-year flood risk. Additionally, 23 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFPG considers that the Lancaster/Foch Area Mitigation FMP conforms to the no negative impacts requirements based on professional engineering judgment (see Error! Reference source not found.).

The proposed project would connect to the existing storm drain system and reduce the overall flow across the project study area. However, this improvement results in an increase (approx. 620 cfs) in peak discharge at the outfall into the Clear Fork Trinity River. The Lancaster/Foch FMP area of interest is less than 0.25 square miles, but the contributing drainage area is close to 3 square miles, which is a small fraction of the overall 90 square mile watershed of the Clear Fork Trinity River. With such a large difference between contributing areas, it is unlikely that there will be peak-on-peak conditions for the flood hydrographs of the Clear Fork Trinity River and the proposed storm drain system (see page 6 of the *SWS 081 - Task Order 1 Lancaster/Foch Area Flood Mitigation* report). Therefore, it is anticipated that this increase in peak discharge would not have a significant impact on the peak water surface elevations for the Clear Fork Trinity River. A timing analysis (i.e. hydrologic analysis) may be required to ultimately determine if there is an increase to the 100-year peak discharge and water surface elevations at the Clear Fork Trinity River.

Figure F.5. Linwood-Lancaster/Foch - Project Components (FMP 033000030)



FMP 033000031 - Linwood-University Drive

The City of Fort Worth completed a flood mitigation study for the Linwood Park area in 2017². This study identified approximately 2,000 cfs of stormwater generated by the area west of University Drive. Therefore, storm drain improvements west of University Drive are necessary to reduce the amount of runoff that reaches the Linwood Park area. Alternatives were identified to reduce the potential for inundation during the 100-year storm event.

An ICM model was created to evaluate the existing storm drain network and potential mitigation alternatives for multiple storm events. One branch of the proposed storm drain system would begin at Belle Place and run along West 7th Street, following three residential streets before turning east on Bristol Road and intersecting the line on University Drive. The storm drain would then run along University Drive to the West Fork Trinity River. A second feeder system would extend east from University Drive along Bristol Road, then turn south on Templeton Drive and extend south along Norwood Street to just north of West 7th Street (see **Figure F.6**). The project cost is \$73,277,000.

Following the implementation of these improvements, an estimated 3.32 miles of roadway and 204 structures would be removed from the 100-year floodplain, 123 of which are residential structures. Additionally, 239 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements. This correlates to an estimated 6,882 individuals removed from the 100-year flood risk.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFPG considers that the Linwood Park Flood Mitigation FMP conforms to the no negative impacts requirements based on professional engineering judgment (see Error! Reference source not found.).

The proposed project would intercept the existing storm drain system and reduce flow across University Drive from 2,000 cfs to 200 cfs (90% reduction). However, this improvement results in a significant increase (approx. 1,853 cfs) in peak discharge at the outfall to the West Fork of the Trinity River. This increase is due to the timing in which flow arrives to the outfall location. The stormwater volume discharging to the West Fork of the Trinity remains the same. The observed increase in peak discharge will not necessarily coincide with the 100-year peak flow at the West Fork of the Trinity at this outfall. A timing analysis (i.e. hydrologic analysis) may be required to ultimately determine if there is an increase to the 100-year peak discharge and water surface elevations at the West Fork.

To that effect, the Linwood Park Flood Mitigation report indicates that although the new relief storm drain would replace the existing, smaller storm drain at the outfall point, there will likely need to be coordination with the US Army Corps of Engineers (USACE) regarding discharge into the West Fork as the river is controlled by the levee system (potential Section 408 permitting). The discharge will also

² SWS 081 - Task Order 3 Linwood Park Flood Mitigation, Dunaway, August 2017.

need to be coordinated with the Tarrant Regional Water District (TRWD) (page 5 of Linwood Area Final Report Compiled 2017-0808).

FMP 033000032 - Zoo Creek Storm Drain Flood Mitigation (Sandage)

The City of Fort Worth performed a study to map flood risk and evaluate flood mitigation for the Zoo Creek watershed in the city. Zoo Creek has a drainage area of 1.27 square miles. This area of the city was developed over 50 years ago, prior to the current drainage standards. Undersized storm drainage infrastructure and a lack of overflow conveyance have contributed to a history of street and structure flooding. This flooding has damaged properties, hindered mobility, and complicated future development planning.

The Zoo Creek Storm Drain Flood Mitigation Study³ entails the development of a detailed InfoWorks ICM (v.8) Model was developed to assess the performance of the existing storm drain system and assist in identifying features to reduce flood risk and frequent flooding in the area. The Conveyance – Sandage Relief Line – Overall is the recommended alternative.

“The majority of the relief line is proposed within the Sandage Ave. and Devitt St. right of way which varies in width from 50 to 60 feet. The 10’x10’ RCB relief line begins at Forest Park, just south of Robert St., near the McPherson outfall. The park outfall will be protected from erosion by a 90’x120’ riprap basin. The 10’x10’ RCB will follow Sandage Ave. south to the existing 72-inch storm drain crossing at Sandage Ave. approximately 300 feet south of Berry St. At this point, the relief line will transition to an 8’x8’ RCB. The 8’x8’ RCB will follow Sandage Ave. to Devitt St. where it will continue east to Cleburne Rd. At Cleburne Rd. the relief line will connect to the existing 48-inch storm drain.”

This alternative will be broken into two phases. Phase 1 encompasses the storm drain upsizing to a 10’x10’ RCB from Forest Park to Berry Street. Phase 2 constructs the remainder of the recommended improvements including extending the relief line to Cleburn Road. (See **Figure F.7.**)

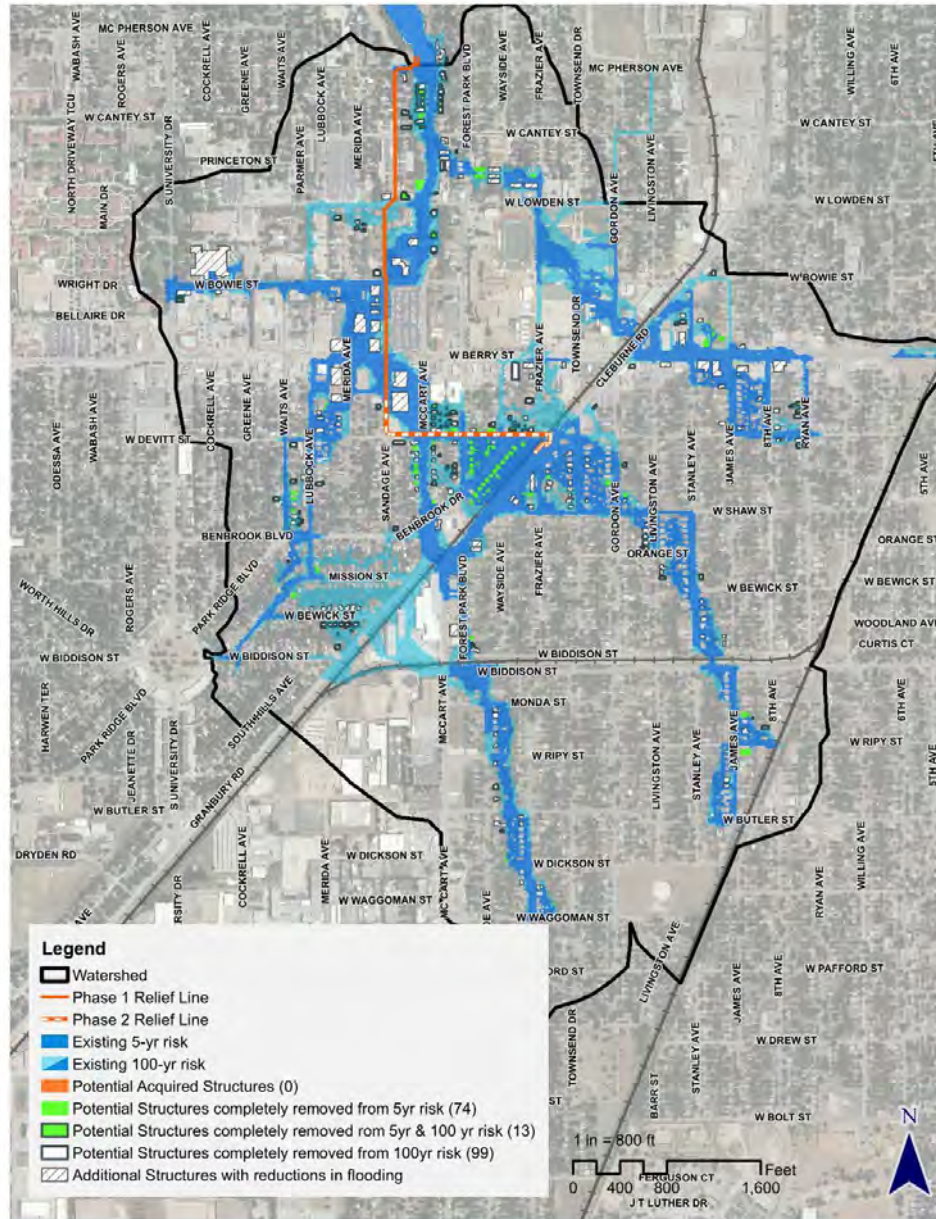
The proposed project will provide a minimum of a 100-year LOS (1% annual chance flood event). The implementation of these drainage improvements will remove an estimated 17 miles of roadway and 153 structures from the 100-year floodplain, 148 of which are residential structures. This correlates to approximately 391 individuals removed from the 100-year flood risk. Additionally, 421 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements. The estimated project cost is \$23,751,000.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A). However, there are negative impact mitigation measures implemented in the design (see **Table F.1**).

³ *Zoo Creek Storm Drain Flood Mitigation Study*, Halff Associates, November 2018

Figure F.7. Zoo Creek Storm Drain Flood Mitigation (Sandage) (FMP 033000032)

Project Details	Reduction in Road Hazard	Reduction in Risk of Structures	Cost / Phasing	Support / Opposition
- 3400 LF 10"x10' RCB across Berry St - 1680 LF 8"x8' RCB to Cleburne Rd - Additional 120 LF inlets	- Berry at Sandage - 2.80 ft reduction (5YR) - 3.58 ft reduction (100YR)	-90 Parcels with reductions in structural flooding	- \$23M - 2 Phase opportunity \$18.5M/\$4.6M	- Existing partnership with Parks Dept. for outfall in Forest Park - Potential Opportunity to work with TCU Master Plan



CONVEYANCE - SANDAGE RELIEF LINE - OVERALL

ZOO CREEK STORM DRAIN WATERSHED | FORT WORTH, TEXAS

SMS-054 AS.3.1

FMP 033000033 - Sunnyvale Urban Flooding Reduction Improvements – Area 1

The City of Sunnyvale completed a stormwater masterplan for the Long Creek watershed in 2018⁴. This study identified alternatives for local area improvements to reduce the potential for inundation during the ultimate conditions 100-year storm event. This FMP pertains to Area 1, which includes the Sunnyvale Middle and High School, portions of the Deer Creek neighborhood, and the ditch and culvert system along Tripp Road from Collins Street to East Fork Road. The ditch and culvert system along Tripp Road is undersized for the 100-year event, causing potential flooding to the road and neighboring structures. Causes for flooding along Tripp Road include not only the size of the culverts and ditches, but also the grades. Some of the systems have negative slopes or are filled with sediment. Portions of Tripp Road experience significant flooding, with upwards of 3 feet of inundation at the cross culvert from the Deer Creek detention pond.

An ICM model was created to model the performance of exiting stormwater infrastructure, identify areas of inundation, and develop alternatives to mitigate flooding risks. The proposed improvements for Area 1 include an alternative ditch and culvert system for Tripp Road, which was sized to contain the 100-year ultimate flows within the right-of-way and under the driveways. Proposed improvements also include increasing existing ditch, culvert, and pipe sizes, adjusting inlet sizes and parameters for inlets receiving runoff from the school, and adjusting flowlines to establish a positive slope for the system. Channel geometry was selected to fit within the estimated right-of-way. Where capacity issues necessitated culvert sizes larger than 24-in, a multiple-barrel culvert or wider box culvert was proposed to avoid constructability issues related to the residential driveways (see **Figure F.8**). The project cost is \$4,560,000.

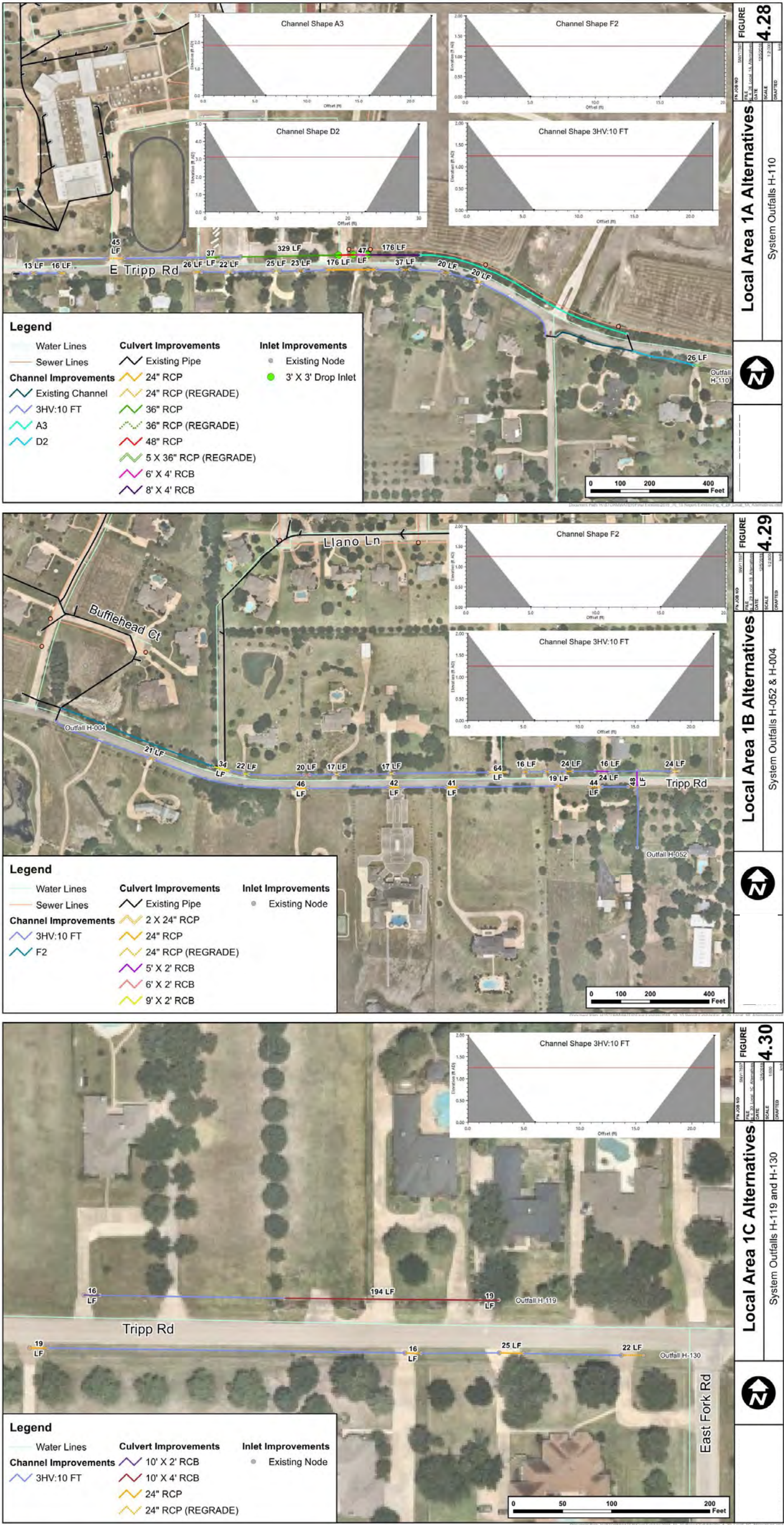
Following the implementation of these local area improvements, an estimated 0.32 mile of roadway and 14 structures would be removed from the 100-year floodplain, 9 of which are residential structures. This correlates to an estimated 56 individuals removed from the 100-year flood risk.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFPG considers that the Sunnyvale Urban Flooding Reduction Improvements – Area 1 FMP conforms to the no negative impacts requirements based on professional engineering judgment (see Error! Reference source not found.).

Although there are noticeable increases in peak flow at the downstream outfall of the project, the increases to the 100-year inundation boundary are minimal and do not affect any structures downstream. In most areas, the inundation has been reduced due to proposed drainage infrastructure and building inundation has been greatly reduced. Sheet flow that used to leave Tribb Road and flow south, has been concentrated to flow in the proposed channels.

⁴ *Town of Sunnyvale Stormwater Masterplan*, Freese and Nichols, Inc., November 2018.

Figure F.8. Urban Flooding Reduction Improvements – Area 1 – Project Components (FMP 033000033)



FMP 033000036 - Sunnyvale Urban Flooding Reduction Improvements – Area 2

The City of Sunnyvale completed a stormwater masterplan for the Long Creek watershed in 2018⁵. This study identified alternatives for local area improvements to reduce the potential for inundation during the ultimate conditions 100-year storm event. This FMP pertains to Area 2, which includes storm drainage infrastructure along Tripp Road and Jobson Road adjacent to and including Sunnyvale Estates neighborhood. The ditch and culvert system along Tripp Road is undersized for the 100-year event, causing structure inundation and road overtopping. Causes for flooding along Tripp Road include not only the size of the culverts and ditches, but also the grades. Some of the systems have negative slopes or have very flat slopes which greatly reduce the channel capacity.

An ICM model was created to model the performance of exiting stormwater infrastructure, identify areas of inundation, and develop alternatives to mitigate flooding risks. Proposed improvements include increasing existing ditch, culvert, and pipe sizes, and adjusting flowlines to establish a positive slope for the system. Channel geometry was selected to fit within the estimated right-of-way. An additional parallel 60" RCP and an additional 42" RCP are proposed for the two existing culvert crossings at Jobson Road to reduce inundation depths at Jobson Road (see **Figure F.9**). The project cost is \$5,701,000.

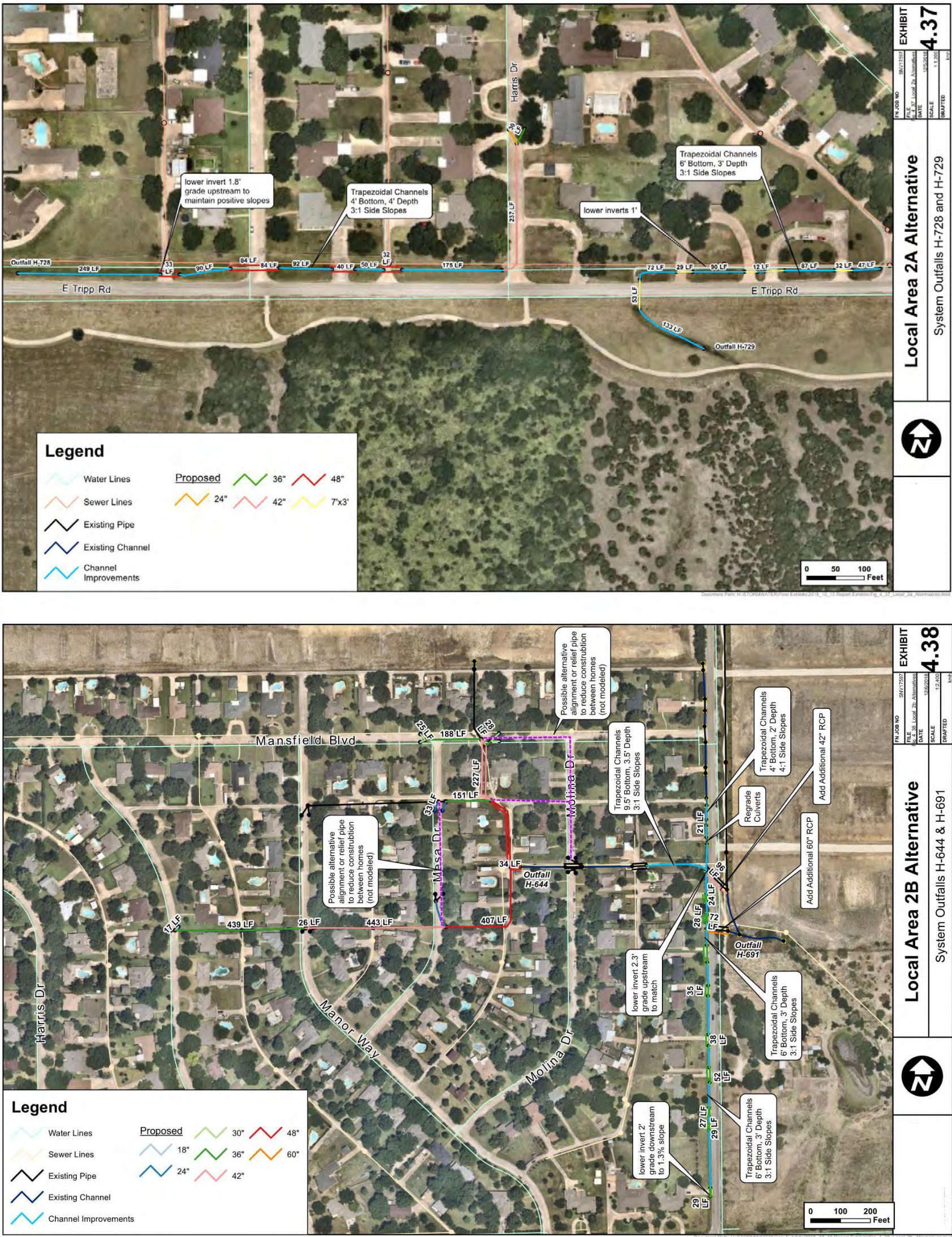
Following the implementation of these local area improvements, an estimated 0.8 mile of roadway and 32 structures would be removed from the 100-year floodplain, all of which are residential structures. This correlates to an estimated 113 individuals removed from the 100-year flood risk.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFGP considers that the Sunnyvale Urban Flooding Reduction Improvements – Area 2 FMP conforms to the no negative impacts requirements based on professional engineering judgment (see Error! Reference source not found.).

Although there are noticeable increases in peak flow at the downstream outfall of the project, the increases to the 100-year inundation boundary are minimal and do not affect any structures downstream. In most areas, the inundation has been reduced due to proposed drainage infrastructure and building inundation has been greatly reduced. Flow is now concentrated to the east of Jobson Road and to the south of Tribb Road where there are no affected structures.

⁵ *Town of Sunnyvale Stormwater Masterplan*, Freese and Nichols, Inc., November 2018.

Figure F.9. Urban Flooding Reduction Improvements – Area 2 – Project Components (FMP 033000036)



FMP 033000037 - Project 1 - Point North Parkway System

The Point North Parkway System 1 FMP, from the Prairie Creek Watershed Study Capital Improvement Plan⁶, is located near the intersection of Synergy Park Boulevard. Roadway flooding reaches depths of 1.7 feet during the 100-year storm event in this area due to undersized storm sewer, high HGL in the downstream channel (backwater), and significant sedimentation in the culverts that extend under Synergy Park Boulevard, likely caused by low velocities through the channel. The result is a 10-year LOS (10% annual chance flood event).

Project 1 proposes a 100-year LOS (1% annual chance flood event) solution with approximately 450 feet of channel improvements to lower the HGL along with a storm sewer main crossing Point North Parkway and additional inlet capacity. Existing storm sewer will remain except for the inlet laterals which will be abandoned and/or diverted to the proposed storm sewer main. The proposed improvements will minimize sedimentation at the Synergy Park Boulevard culverts and will reduce the flood depths at Point North Parkway. Improvements of the storm sewer were evaluated in an XPSWMM model whereas proposed channel capacity was evaluated outside XPSWMM, using the total flow calculated from the model.

As part of the channelization of this alternative, 1,900 cubic yards downstream of Synergy Park Boulevard will be excavated. Improvements also include an additional 50 LF of 4-ft by 4-ft RCBC and 110 LF of 5-ft by 5-ft RCBC with wingwalls at the outfall into the channel. An additional 100 LF of curb inlets is also recommended. (See **Figure F.10**)

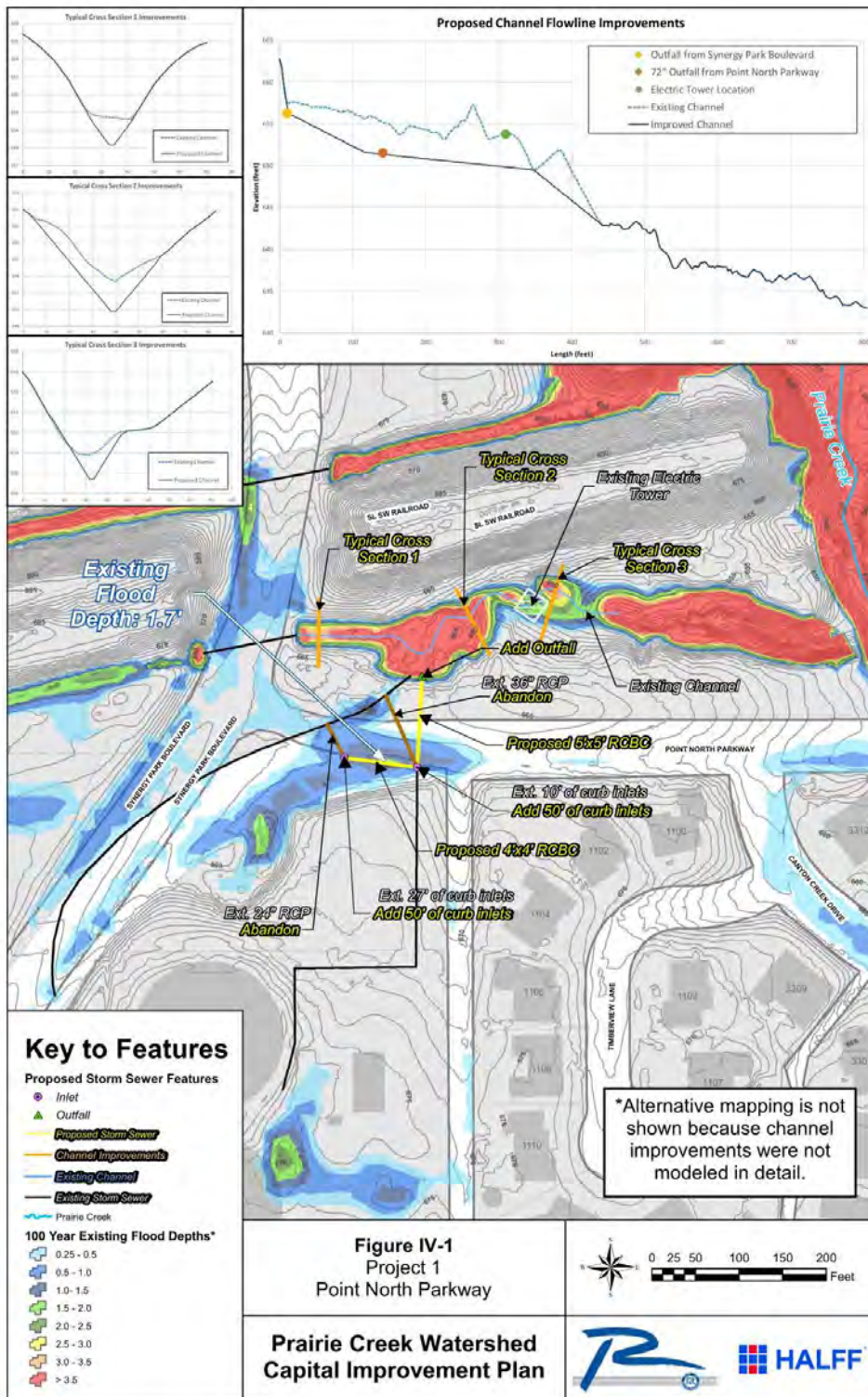
An implementation restriction is possible due to channel grading near an electric tower foundation in the area. Any additional precautions or restrictions have not been included in the cost estimate for this project.

Following the implementation of these drainage improvements, an estimated 0.96 miles of roadway will be removed from the 100-year floodplain. Moreover, 4 structures would have reduced risk during the 100-year storm event but would not be fully removed from the flood risk following these improvements. The project cost is \$946,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

⁶ *Prairie Creek Watershed Capital Improvement Plan*, Halff Associates, March 2018

Figure F.10. Project 1 - Point North Parkway System (FMP 033000037)



FMP 033000038 - Project 4 - Big Horn Lane/Canyon Creek Drive System

The Big Horn Lane/Canyon Creek Drive System project, developed from the Prairie Creek Watershed Capital Improvement Plan⁷, has an existing storm sewer system between Big Horn Lane and Canyon Creek Drive that allows flood depths to reach 1.5 feet in the Big Horn Lane right-of-way, with 45 cfs spilling into adjacent properties during the 100-year storm event. Flooding along Canyon Creek Country Club is 2.5 feet, and flood water depths along Canyon Creek Drive reach 1.1 feet. This is primarily caused by undersized storm sewer main and limited inlet capacity. Due to these limitations, the area has a LOS of a 5-year event (20% annual chance flood event).

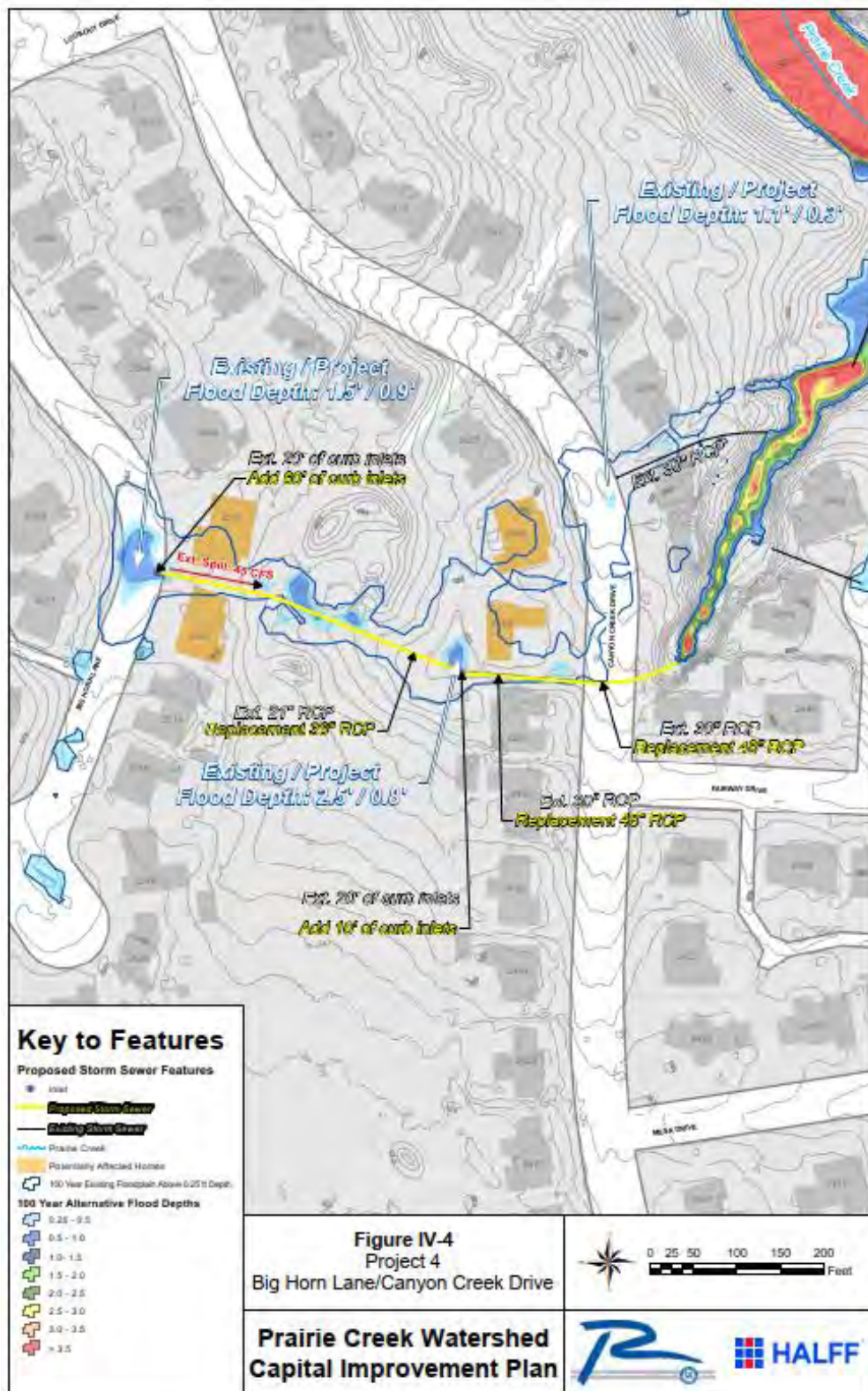
The proposed solution upsizes the existing storm sewer to reduce flooding. Specifically, 260 LF of 30-inch RCP will be replaced with 48-inch RCP. 360 LF of 21-inch RCP will be replaced with 36-inch RCP, and an additional 70 LF of curb inlets will be constructed. (See **Figure F.11.**)

Project implementation will result in the flood depth being reduced from 1.5 feet to 0.9 feet along Big Horn Lane, 2.5 feet to 0.8 feet in the Canyon Creek Country Club, and 1.1 feet to 0.3 feet along Canyon Creek Drive. Following the implementation of these drainage and erosion improvements, an estimated 0.16 miles of roadway and 3 structures would be removed from the 100-year floodplain, all of which are residential structures. This correlates to an estimated 8 individuals removed from the 100-year flood risk. Additionally, 10 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements. The estimated project cost is \$622,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

⁷ *Prairie Creek Watershed Capital Improvement Plan*, Halff Associates, March 2018

Figure F.11. Project 4 - Big Horn Lane/Canyon Creek Drive system (FMP 033000038)



FMP 033000039 - Project 6 - Valley Forge Street System

The Valley Forge Street System project, developed from the Prairie Creek Watershed Capital Improvement Plan⁸, is located in the Valley Forge cul-de-sac near the Kansas City Southern (KCS) Railroad. 1.9 feet of depth occurs along the road and causes spilling into adjacent properties during the 100-year storm year. Additionally, Flat Creek Drive floods a maximum flood depth of 1.5 feet. The cause for this flooding problem is a combination of undersized storm sewer mains and a high hydraulic grade line (HGL) due to backwater from the railroad ditch. The area has a 10-year LOS (10% annual chance flood event) and the project is a high priority project due to the severity and extent of the flooding.

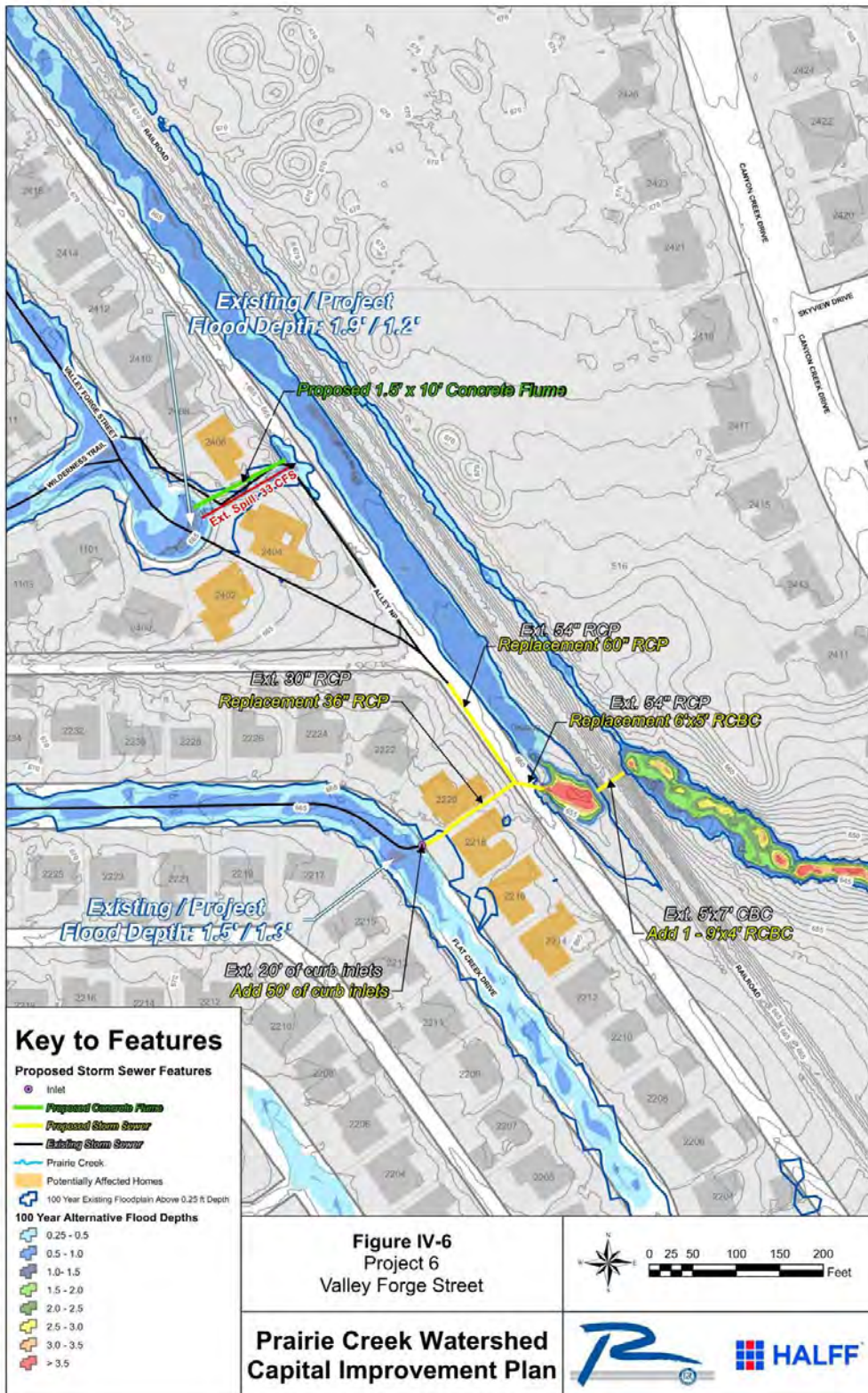
The proposed solution will provide a 100-year LOS (1% annual chance flood event) and consists of a parallel concrete flume culvert crossing the KCS Railroad that extends from the cul-de-sac to the alley parallel to the KCS Railroad. The replacement of the existing storm sewer main with larger storm sewer will also be necessary to keep floodwaters within the road ROW. To be specific the propose system entails the replacement of a 54-inch RCP with 6-ft by 5-ft RCBC, the replacement of a 30-inch RCP with 36-inch RCP, the replacement of a 53-inch RCP with 60-inch RCP, the construction of a 9-ft by 4-ft RCBC at KCS Railroad, the construction of a 1.5-ft high by 10-ft wide concrete flume, the construction of 50 LF of curb inlets, the construction of a 5-ft wingwalls at the 6-ft by 5-ft RCBC outfall, and the construction of two (2) 7-ft wingwalls at the KCS Railroad. (See **Figure F.12.**) The estimated project cost is \$755,000.

Following the implementation of these drainage improvements, an estimated 0.43 miles of roadway and 5 structures would be removed from the 100-year floodplain, 4 of which are residential structures. This correlates to an estimated 18 individuals removed from the 100-year flood risk. Additionally, 11 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

⁸ *Prairie Creek Watershed Capital Improvement Plan*, Halff Associates, March 2018

Figure F.12. Project 6 - Valley Forge Street System (FMP 033000039)



FMP 033000040 - Project 8 - Lower Canyon Creek Drive System

The Lower Canyon Creek Drive System, which originates from the Prairie Creek Watershed Capital Improvement Plan⁹, has a flooding issue at the southern end of Canyon Creek Drive. The flood depths reach ¼ feet in the road with 75 cubic feet per second spilling into the adjacent properties during the 100-year storm event. The reason for this flooding is the undersized storm sewer and insufficient inlet capacity. The area currently has a LOS corresponding to a 25-year storm event (4% annual chance storm event) and the system improvements are categorized as a high priority project.

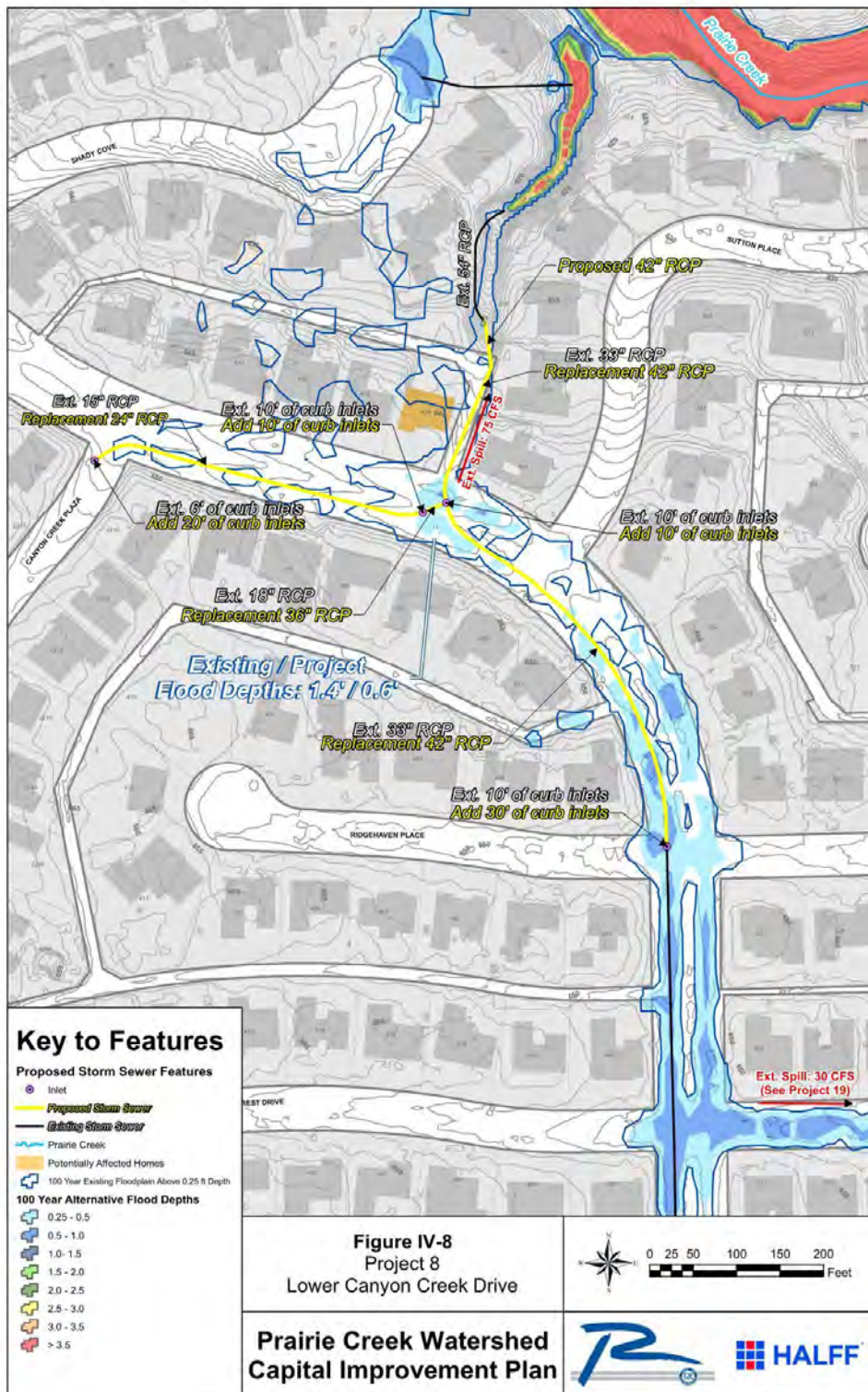
The proposed project model shows a LOS corresponding to a 100-year storm event (1% annual chance storm event). The improvements plan consists of replacing the existing storm sewer with a larger storm sewer to reduce the flooding. Specifically, the proposed solution includes replacing an 18-inch RCP with 36-inch RCP, replacing a 15-inch RCP with 24-inch RCP, and replacing a 33-inch RCP with a 42-inch RCP, as well as constructing 20 LF of new, 42-inch RCP to convey floodwaters from the roadway into the drainage ditch. The constructions of an additional 70 LF of curb inlets is also recommended. (See **Figure F.13**) The estimated project cost is \$1,502,000.

Following the implementation of these drainage improvements, an estimated 0.59 miles of roadway and 14 structures would be removed from the 100-year floodplain, all of which are residential structures. This correlates to an estimated 40 individuals removed from the 100-year flood risk. This solution would decrease the flood depths in the road from 1.4 feet to 0.6 feet, keeping floodwaters within the ROW and not overflowing to adjacent properties.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

⁹ *Prairie Creek Watershed Capital Improvement Plan*, Halff Associates, March 2018

Figure F.13. Project 8 - Lower Canyon Creek Drive System (FMP 033000040)



FMP 033000041 - Project 9 - Grandview Drive System

The Grandview Drive System originated from the Prairie Creek Watershed Capital Improvement Plan¹⁰ and is the location of a flooding issue along Grandview Drive near the intersection of Fall Creek Drive. Flood depths reach 2.2 feet in Fall Creek Drive and overtops into adjacent properties during the 100-year storm. Little Creek Drive reaches flood depths of 0.9 feet and overtops into adjacent properties during the 100-year storm. The reason for this flooding problem is the undersized storm sewer mains and lack of inlet capacity. This project is considered high priority because of high roadway flood depths, spills into residential properties, and currently has a LOS corresponding to a 5-year flood event (20% annual chance flood event).

The proposed solution for this project is to upsize the existing storm sewer. Upsizing the storm sewer will keep the floodwaters within the road ROW and not spill into adjacent properties. Specifically, the proposed solution consists of the following:

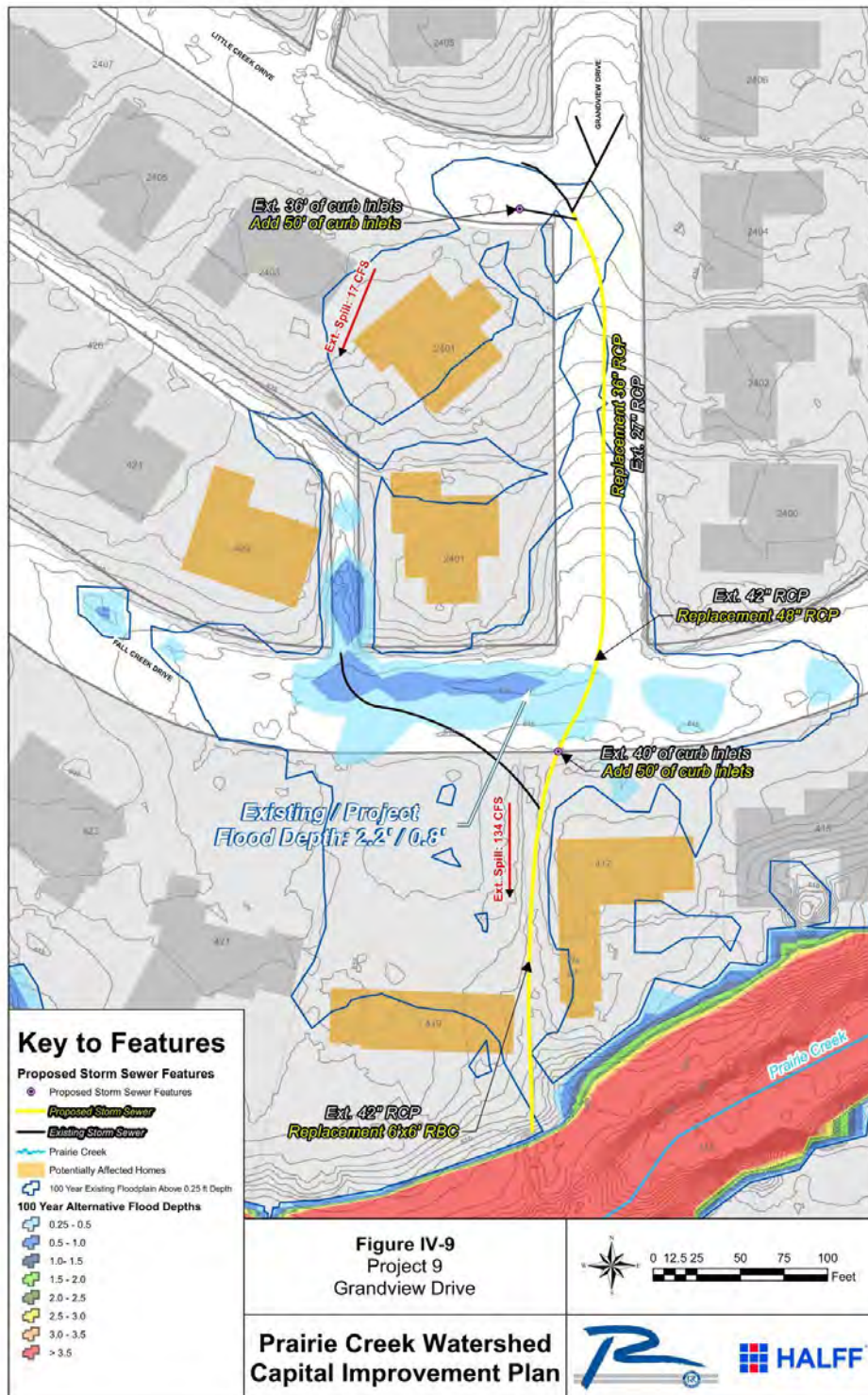
- Replace 90 LF of 42-inch RCP with a 48-inch RCP
- Replace 200 LF of 42-inch RCP with a 6-ft by 6-ft RCBC
- Replace 260 LF of 27-inch RCP with a 36-inch RCP,
- Construct an additional 100 LF of curb inlets, and
- Construct 6-ft wingwalls at the 6-ft by 6-ft RCBC outfall.

(See **Figure F.14**). The proposed project will provide a 100-Year LOS (1% annual chance flood event), and reduce the flood depths from 2.2 feet to 0.8 feet along Fall Creek Drive. The estimated project cost is \$750,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹⁰ *Prairie Creek Watershed Capital Improvement Plan*, Halff Associates, March 2018

Figure F.14. Project 9 - Grandview Drive System (FMP 033000041)



FMP 033000042 - Project 16 - Valley Glen Drive System

Project 16, Valley Glen Drive System, was developed from the Prairie Creek Watershed Capital Improvement Plan¹¹. The area is subject to flood depths that reach 2.3 feet in the roadway, subsequently flooding adjacent properties during the 100-year storm event. The cause of this flooding problem is primarily due to the undersized storm sewer mains and insufficient inlet capacity. The priority of this project is high as the current LOS corresponds to a 10-year storm event (10% annual chance storm event).

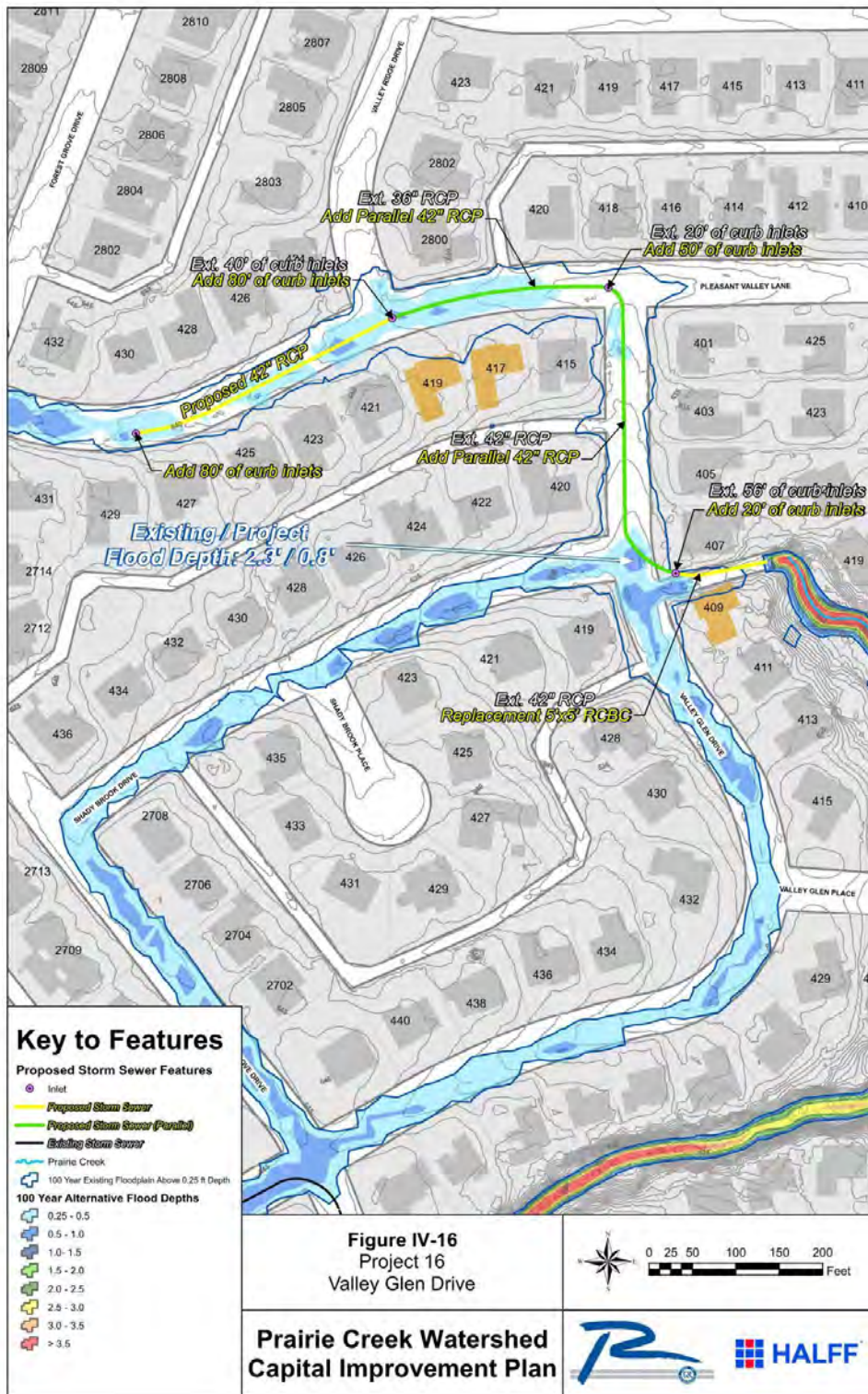
The proposed solution is to construct a parallel storm sewer along the existing storm sewer that extends further downstream. Specifically, the proposal entails the construction of new 42-inch RCP between Forest Grove Drive and Valley Ridge Drive along Pleasant Valley Lane. The parallel line will consist of 620 LF of 42-inch RCP along Pleasant Valley Lane from Valley Ridge Drive, turning south along Valley Glen Drive, and change into a single, 5-ft by 5-ft RCB before outfalling into the drainage ditch near the Shady Brook Drive intersection. (See **Figure F.15**)

Following the implementation of these improvements, an estimated 0.33 miles of roadway and 2 structures would be removed from the 100-year floodplain, all of which are residential structures. This correlates to an estimated 14 individuals removed from the 100-year flood risk. Additionally, 9 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements. The estimated cost of the project is \$1,513,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹¹ *Prairie Creek Watershed Capital Improvement Plan*, Halff Associates, March 2018

Figure F.15. Project 16 - Valley Glen Drive System (FMP 033000042)



FMP 033000043 - Project 19 – Pebblebrook Circle System

Project 19 stems from the Prairie Creek Watershed Capital Improvement Plan¹². The location of the flooding problem is near the intersection of Pebblebrook Circle and Prairie Creek Drive. Since the current site only has a LOS corresponding to the 25-year storm event (4% annual chance storm event), flood depths reach up to 1.2 feet in the roadway during the 100-year storm event. Uncontained floodwaters spill over to Robin Way and Ridge Crest Drive. The cause for this flooding is mainly undersized storm sewer main, which produces a high hydraulic grade line (HGL) that prevents runoff from entering the system. The flooding is contained within the ROW in existing conditions.

The proposed solution is to replace the existing storm sewer main with a larger storm sewer. The proposed improvements will reduce and continue to contain flooding in the ROW.

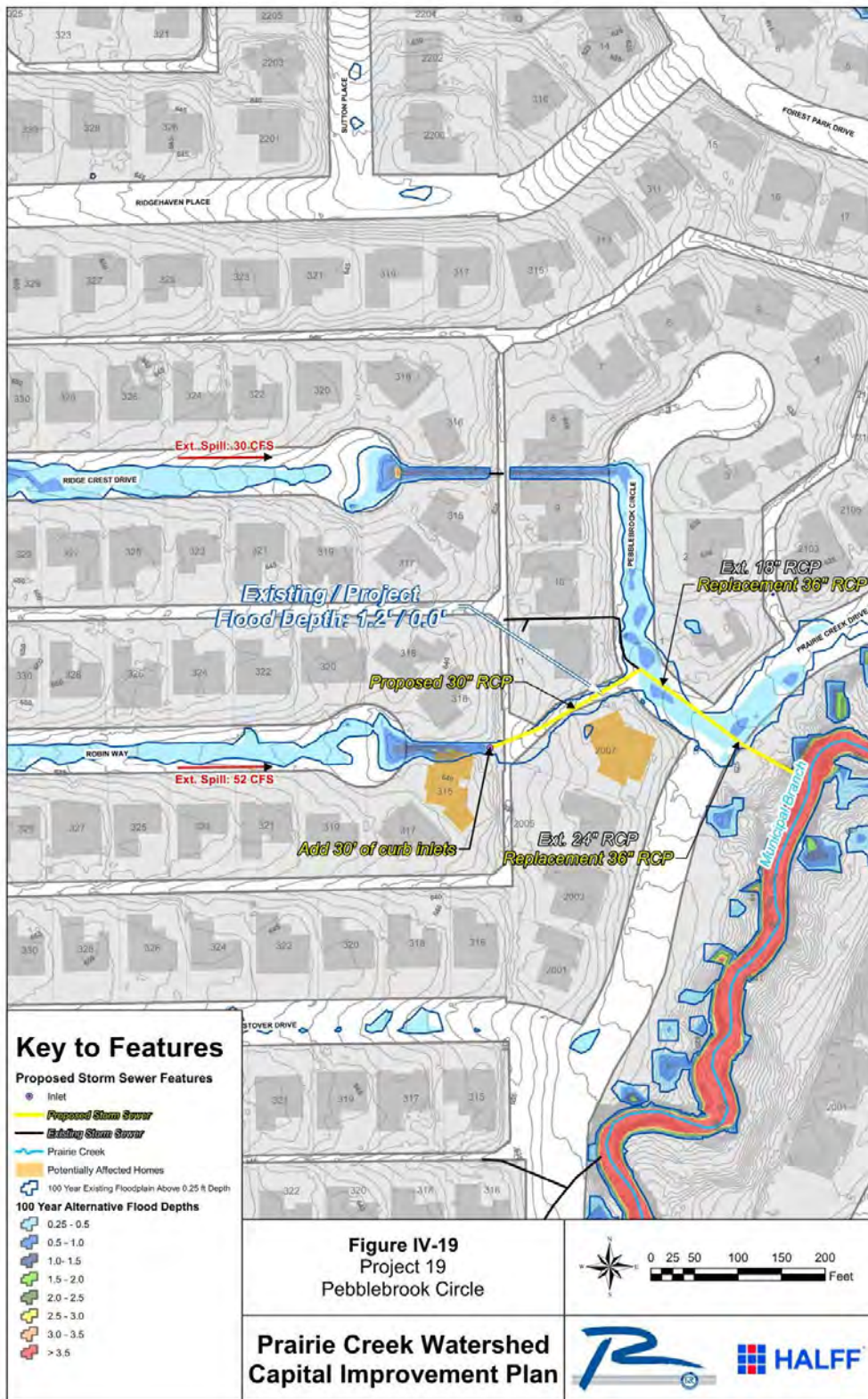
Specifically, the proposal entails replacing 180 LF of 24-inch RCP with 36-inch RCP, constructing 200 LF of new 30-inch RCP, constructing an additional 30 LF of curb inlets. (See **Figure F.16**)

Implementation of these improvements would lead to an estimated 0.15 miles of roadway and 1 residential structure removed from the 100-year floodplain. This correlates to an estimated 24 individuals removed from the 100-year flood risk. The estimated project cost is \$511,000 with a LOS corresponding to the 100-year storm event (1% annual chance storm event).

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹² *Prairie Creek Watershed Capital Improvement Plan*, Halff Associates, March 2018

Figure F.16. Project 19 – Pebblebrook Circle System (FMP 033000043)



FMP 033000044 - Project 2 – Campbell Road System

The Campbell Road System FMP, developed from the Cottonwood Creek Final Report¹³, proposes options for storm sewer improvements. . Presently, the storm sewer system between Campbell Road and Old Campbell Road causes flood depths of 2.1 feet during the 100-year storm event that inundates an adjacent commercial building. The current site has a LOS corresponding to the 10-year storm event (10% annual chance storm event).

The flooding in this area is primarily caused by an undersized storm sewer main and insufficient inlet capacity. This problem area is considered high priority due to the deep ponding at the commercial building located at 561 West Campbell Road.

The proposed project includes improvements to replace or construct portions of the existing Campbell Road storm sewer system. HEC-RAS, HEC-HMS, and XPSWMM models were used to model the fully developed hydraulics for the public drainage infrastructure within the watershed.

Project 2 replaces the existing storm sewer main with a larger storm sewer and includes the addition of a parallel storm sewer to reduce the flooding. Specifically, improvements include:

- Replacement of 62 LF of 18-inch RCP with a 30-inch RCP
- Construction of 170 LF of 36-inch RCP
- Construction of 890 LF of 42-inch RCP
- Construction of an additional 50 LF of curb inlets

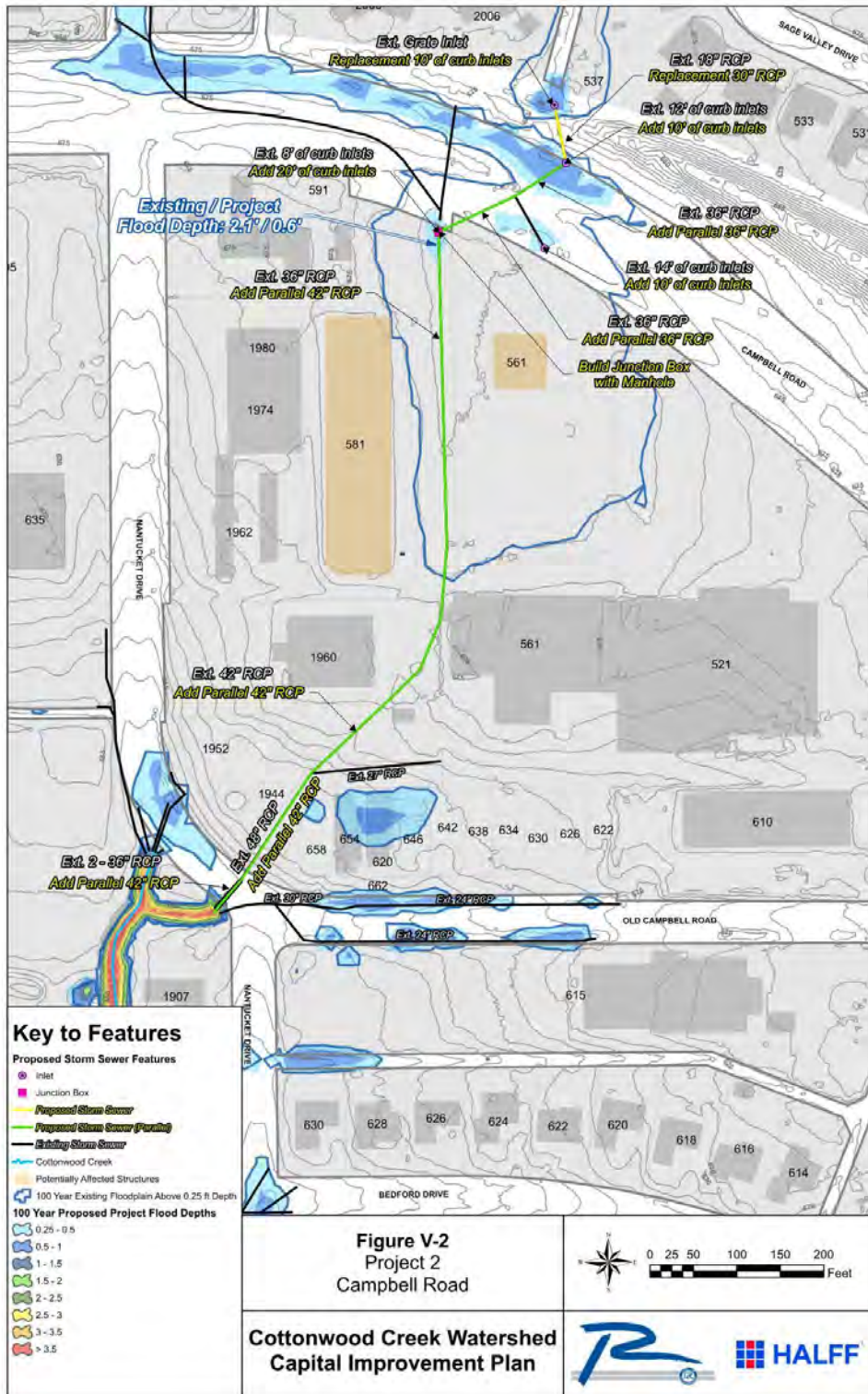
(See **Figure F.17**) The estimated project cost is \$1,349,000.

The proposed improvements will reduce the flood depth from 2.1 feet to 0.6 feet, keeping floodwaters within the road ROW and away from the adjacent properties. The proposed project removes 6 structures from the 100-year floodplain, one of which is residential. An LOS of a 100-year storm event is achieved through this project. An additional 10 structures have reduced flood depths during the 100-year event, though they are not entirely removed due to unrelated drainage issues.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹³ *Cottonwood Creek Watershed Capital Improvement Plan*, Halff Associates, December 2018

Figure F.17. Project 2 – Campbell Road System (FMP 033000044)



FMP 033000045 - Project 6 – Wisteria Way Circle at Timberlake Circle

Project 6 was developed from the Cottonwood Creek Watershed Capital Improvement Plan¹⁴. The location of the flooding problem is at the intersection of Wisteria Way with Timberlake Circle and 25 cubic feet per second spill through ten (10) properties along Wisteria Way from Maryland Drive to Timberlake Circle during the 100-year storm event. The cause for this flooding problem is an undersized storm sewer main. This is a high priority project because the current site only has a LOS corresponding to the 2-year storm event (50% annual chance storm event).

The proposed solution to this project is to replace a portion of the existing storm sewer system with a larger storm sewer and proposes an extensive storm sewer system connecting to the existing stub out adjacent to the Pinehurst Drive and Wisteria Way intersection to reduce flooding along the road.

Specifically, the proposal upsizing 50 LF of 24-inch RCP with 30-inch RCP, constructing an additional 450 LF of 42-inch RCP, 600 LF of 5-ft by 4-ft RCBC, 220 LF of 6-ft by 4-ft RCBC, and an additional 120 LF of curb inlets. Two junction boxes with manholes are also proposed for constructability and maintenance. (See **Figure F.18**)

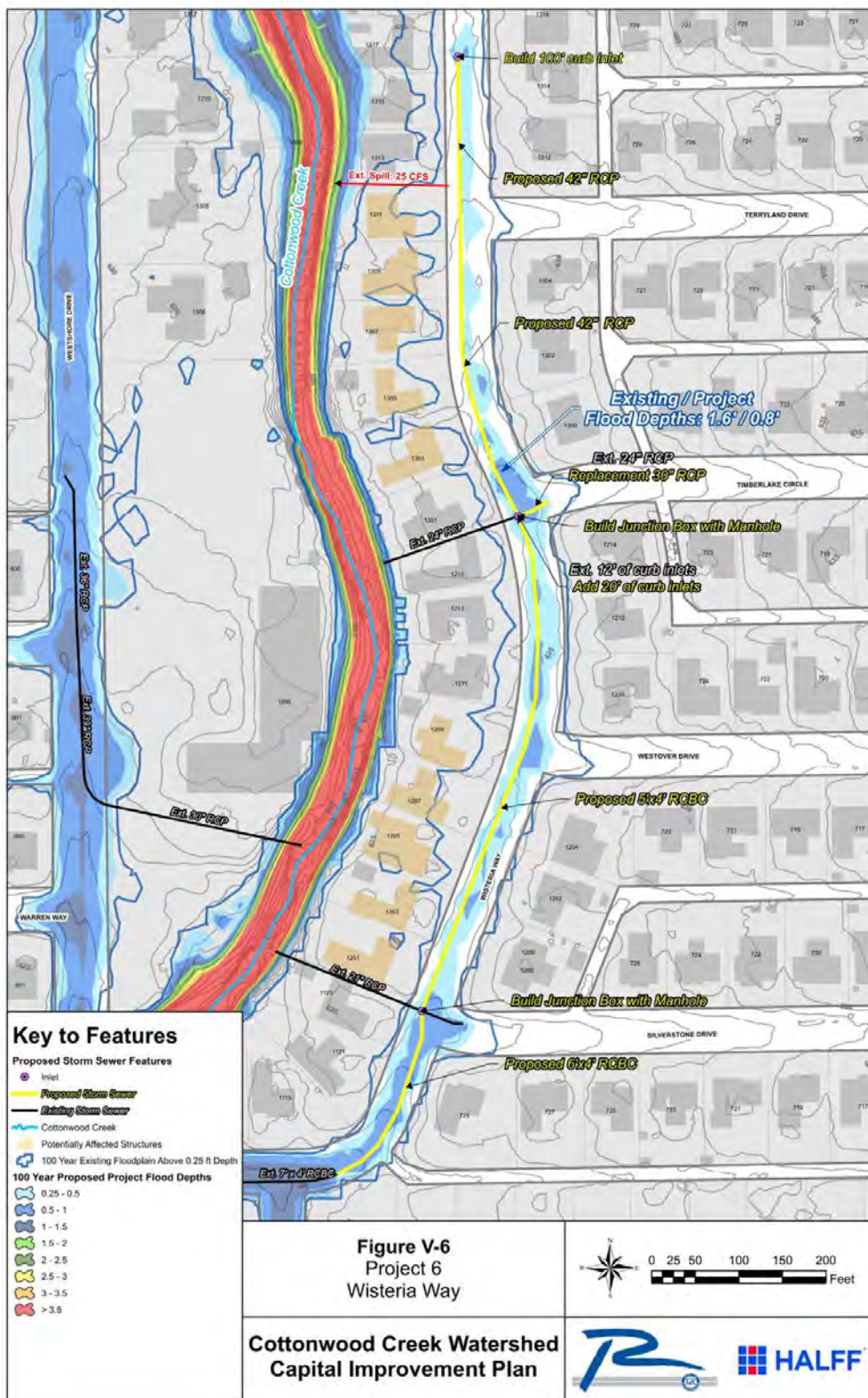
This proposal will reduce roadway flooding from 1.5 feet to 0.8 feet, keeping water within the ROW and not spilling into adjacent properties. Once the proposed project is implemented, an estimated 0.51 miles of roadway and 10 structures would be removed from the 100-year floodplain, 5 of which are residential structures. This correlates to an estimated 16 individuals removed from the 100-year flood risk. Additionally, 20 structures would have reduced flood depths within the 100-year floodplain but would not be fully removed from flood risk due to other flooding sources.

The estimated project cost is \$2,015,000 with a LOS corresponding to the 100-year storm event (1% annual chance storm event).

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹⁴ *Cottonwood Creek Watershed Capital Improvement Plan*, Halff Associates, December 2018

Figure F.18. Project 6 – Wisteria Way Circle at Timberlake Circle (FMP 033000045)



FMP 033000062 - Hickory Creek Flood Protection - Alternative 1

The Alternative 1 FMP was developed from the Hickory Creek Flood Protection Plan¹⁵. The Hickory Creek Watershed, within the City of Balch Springs, has led to frequent episodes of flooding through the city. During the 100-year, a total of 109 single-family and small multi-family dwellings and 15 commercial/public buildings are within flood risk. 26 structures are within 2-year flood risk, according to existing conditions simulations.

The proposed Alternative 1 includes the excavation of twelve detention areas located along Hickory Creek, Stream 4C6, and Stream 4C6 Tributary 2. These detention ponds add an additional storage volume of over 414 acre-feet to the Hickory Creek watershed. The proposed ponds have a 4:1 side slope and outfall structures sized to provide 1-foot of freeboard below the top of pond elevation. Detention ponds were graded to be less than 40 acre-feet in volume to be outside of TCEQ jurisdiction. (See **Figure F.19** through **Figure F.22**).

Alternative 1 should be the first of three projects to be completed as part of the overall Hickory Creek Flood Protection project. Alternative 2 and Alternative 3 can be implemented subsequently, and are included in this plan as FMP 033000063 and FMP 033000064, respectively.

At a cost of \$27,272,000, the Alternative 1 project alone will reduce damages along Lona Lane, Sheilah Drive and Dinah Drive and remove 29 homes and 2 business from the floodplain. This correlates to an estimated 90 people removed from the 100-year flood plain.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹⁵ *City of Balch Springs Hickory Creek Flood Protection Planning Study Update Report*, Halff Associates, July 2022

Figure F.19. Hickory Creek Flood Protection - Alternative 1 (FMP 033000062)

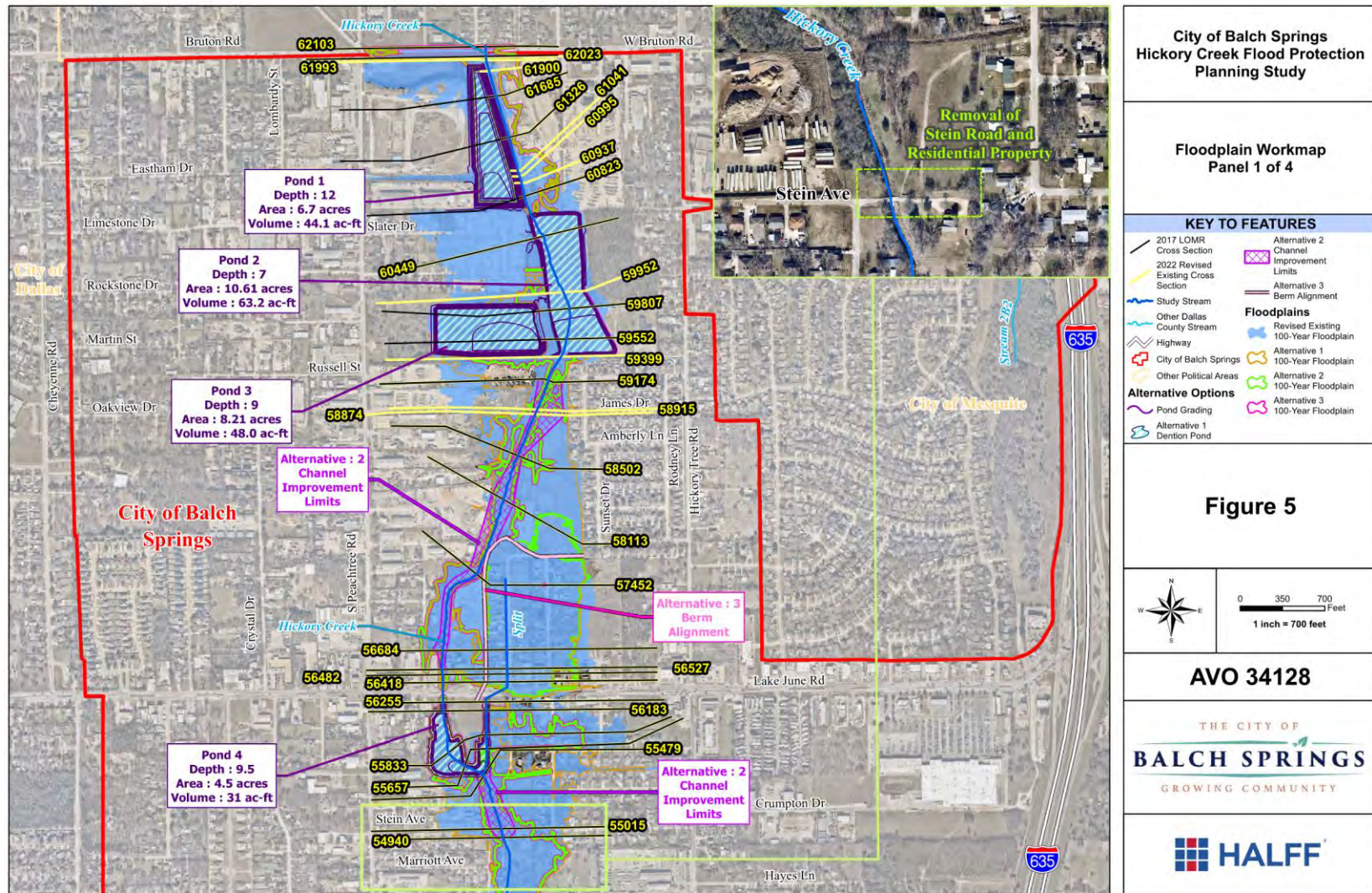


Figure F.20. Hickory Creek Flood Protection - Alternative 1 (FMP 033000062)

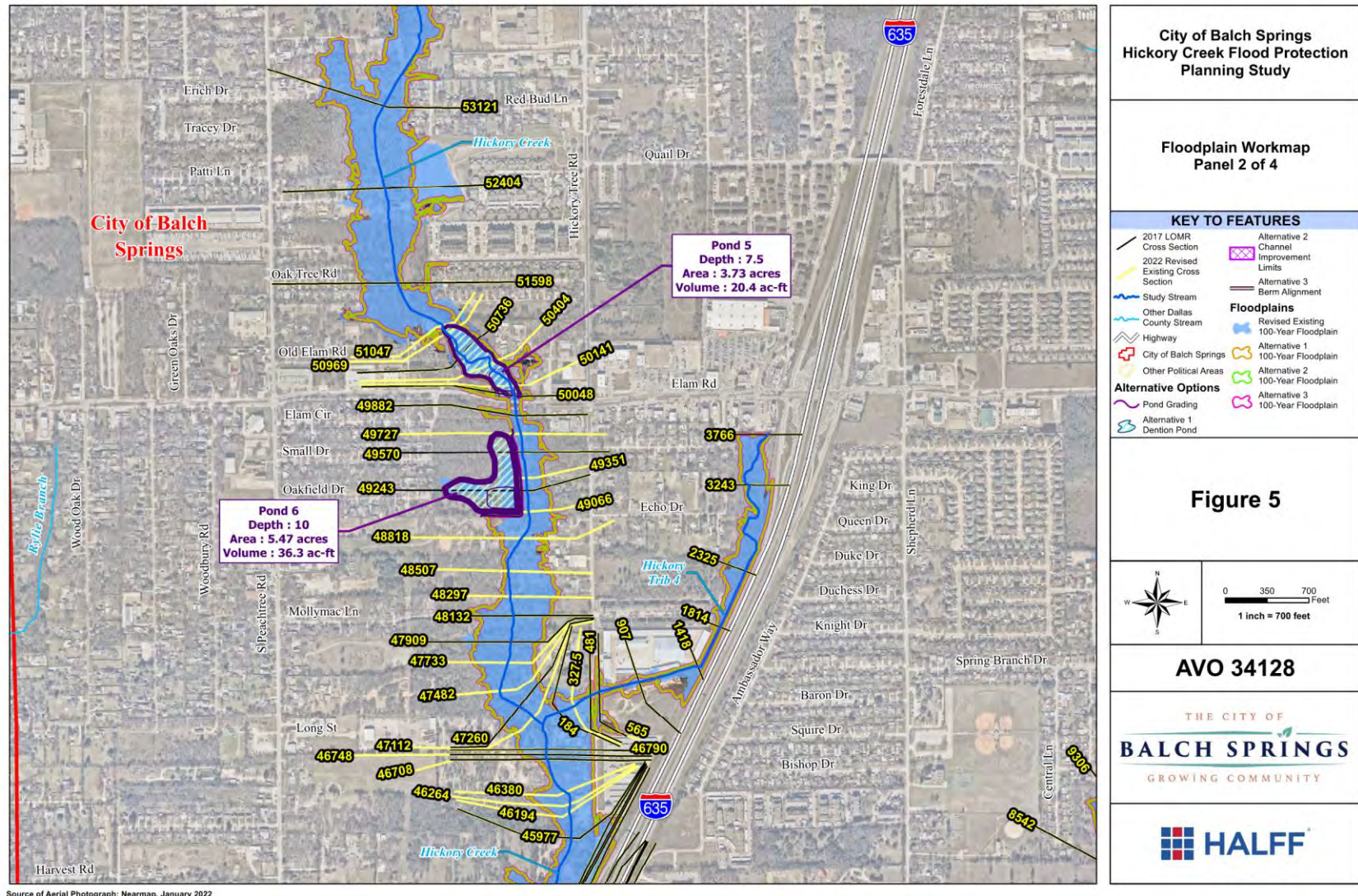
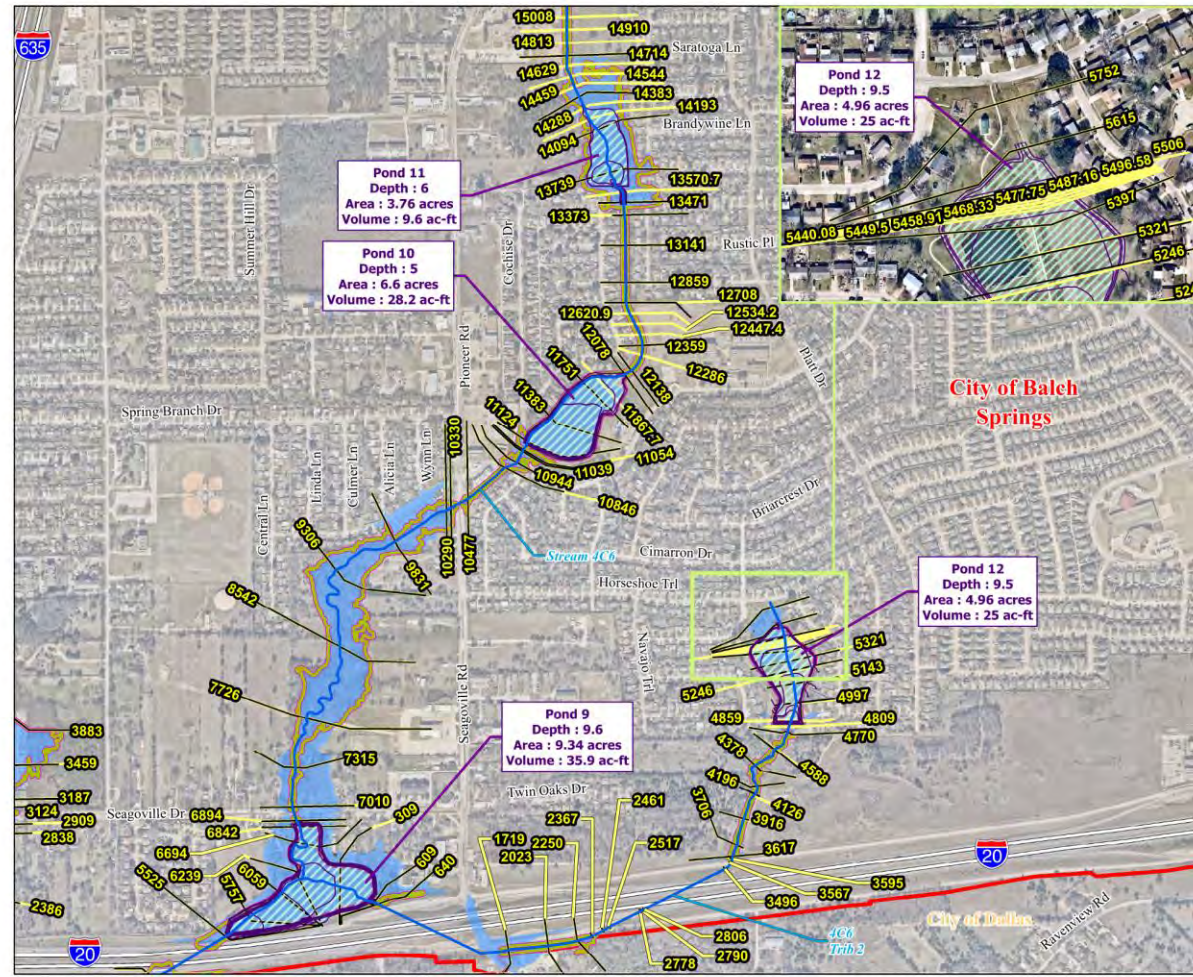


Figure F.21. Hickory Creek Flood Protection - Alternative 1 (FMP 033000062)



**City of Balch Springs
Hickory Creek Flood Protection
Planning Study**

**Floodplain Workmap
Panel 3 of 4**

KEY TO FEATURES

- 2017 LOMR Cross Section
- 2022 Revised Existing Cross Section
- Study Stream
- Other Dallas County Stream
- Highway
- City of Balch Springs
- Other Political Areas
- Pond Grading
- Alternative 1 Denton Pond
- Alternative 2 Channel Improvement Limits
- Alternative 3 Berm Alignment
- Floodplains**
- Revised Existing
- 100-Year Floodplain
- Alternative 1
- Alternative 2
- Alternative 3
- 100-Year Floodplain

Figure 5

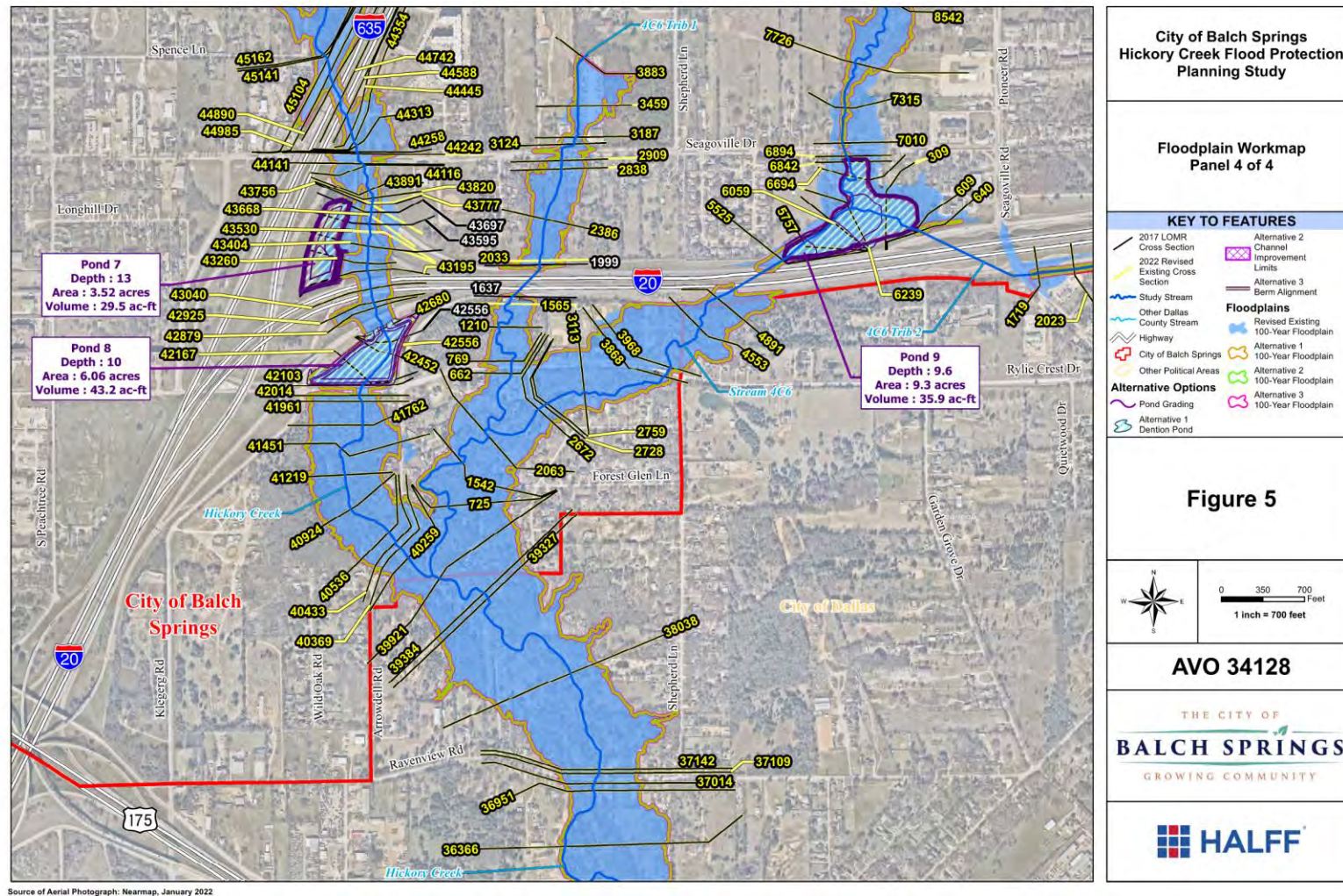
0 350 700 Feet
1 inch = 700 feet

AVO 34128

THE CITY OF
BALCH SPRINGS
GROWING COMMUNITY

HALFF

Figure F.22. Hickory Creek Flood Protection - Alternative 1 (FMP 033000062)



FMP 033000063 - Hickory Creek Flood Protection - Alternative 2

The Alternative 2 FMP was developed from the Hickory Creek Flood Protection Plan¹⁶. The Hickory Creek Watershed, within the City of Balch Springs, has led to frequent episodes of flooding through the city. Following the implementation of Alternative 1, 80 residential structures and 13 commercial or public structures would still be within 100-year flood risk.

Alternative 2 for the Hickory Creek project involves channel improvements in two locations along the creek, to be completed after Alternative 1. This alternative includes channelization along Hickory Creek at two locations, totaling an additional storage capacity of approximately 58 acre-feet in the Hickory Creek watershed. This will reduce peak discharges along Hickory Creek. (See **Figure F.23.**)

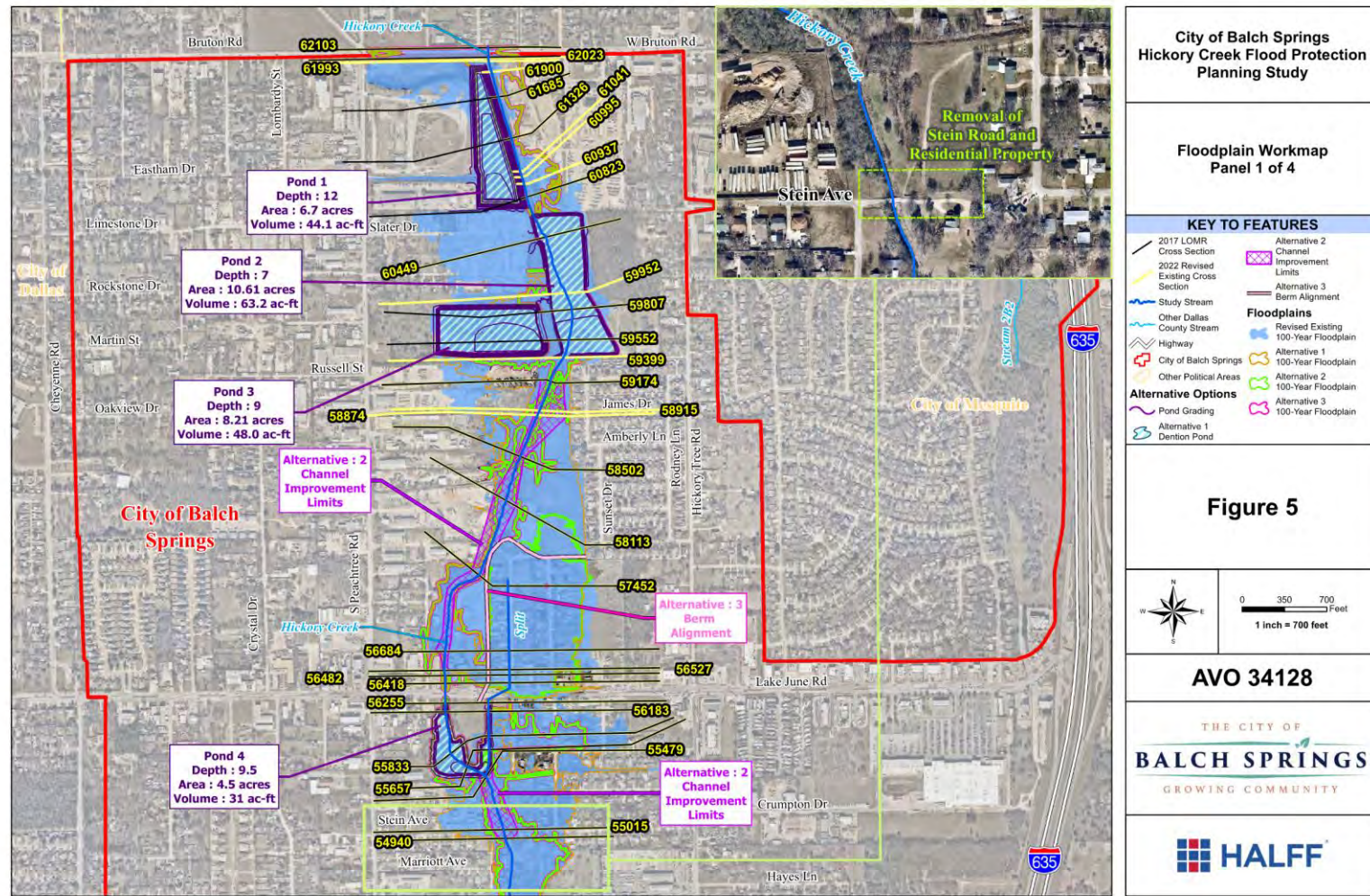
These improvements are necessary to mitigate the impacts of Alternative 3, which incorporates a levee to protect homes in the floodway near Lake June Road. It is not recommended to build Alternative 3 as a stand-alone project due to localized, negative impacts.

At a cost of \$30,531,000, Alternative 2 reduces water surface elevations enough to confine most of the flow in the existing channel. It removes 27 homes and 3 businesses from the 100-year floodplain. This means an estimated 90 people would be removed from 100-year floodplain.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹⁶ *City of Balch Springs Hickory Creek Flood Protection Planning Study Update Report*, Halff Associates, July 2022

Figure F.23. Hickory Creek Flood Protection – Alternative 2 (FMP 033000063)



FMP 033000064 – Hickory Creek Flood Protection – Alternative 3

The Alternative 3 FMP was developed from the Hickory Creek Flood Protection Plan¹⁷. The Hickory Creek Watershed, within the City of Balch Springs, has led to frequent episodes of flooding through the city. Following the implementation of Alternative 2, 78 residential structures and 12 commercial/public structures would still be within 100-year flood risk.

Alternative 3 involves building a protective levee along the western boundary of residential structures and turning east towards Lora Lane and terminating at Eloise Drive. This levee is designed to be completed after Alternatives 1 and 2.

The height of the levee is recommended to be constructed at the 500-year water surface elevation. (See **Figure F.24.**) However, it is not recommended to build this alternative without the previous projects, Alternative 1 and Alternative 2, due to potential adverse impacts downstream caused by the loss of channel conveyance.

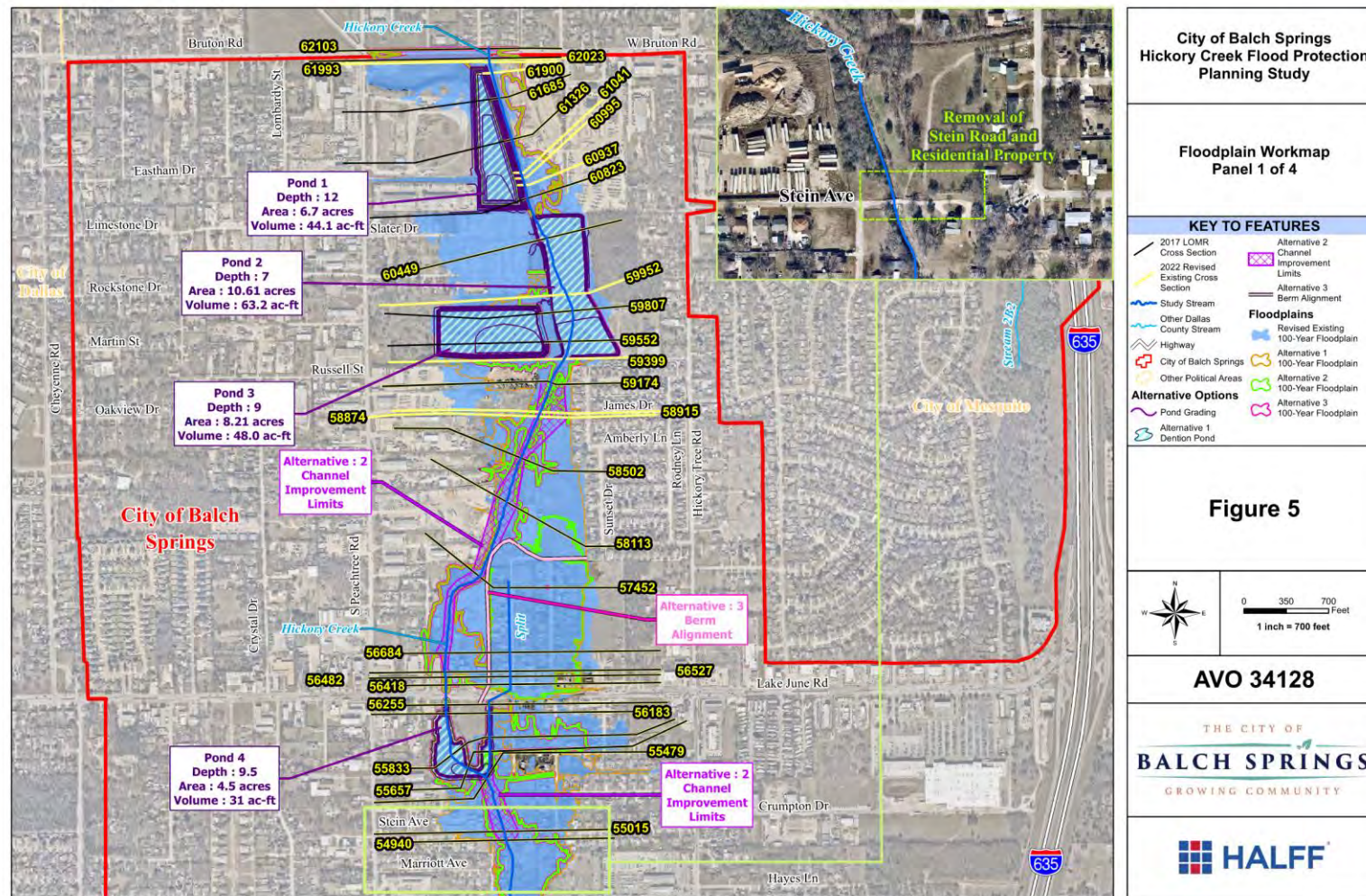
At a cost of \$30,671,000, Alternative 3 reduces water surface elevations enough to confine most of the flow in the existing channel. It removes 43 homes and 6 businesses from the 100-year floodplain. This correlates to an estimated 152 individuals removed from the 100-year floodplain.

The current levee alignment coincides with a trail running through the City. The intention is to keep the trail along the top of the levee, providing further social benefit to the proposed improvement.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹⁷ *City of Balch Springs Hickory Creek Flood Protection Planning Study Update Report*, Halff Associates, July 2022

Figure F.24. Hickory Creek Flood Protection - Alternative 3 (FMP 033000064)



FMP 033000065 - Town Creek [Tarrant Ave, Warren St, Johnson Ave, Newton Dr] Safety Improvement

The City of Burleson completed a stormwater masterplan for the Town Creek and Shannon Creek watersheds in 2004 and updated in 2021¹⁸. This study identified alternatives to improve street and structure flooding during the ultimate conditions 100-year storm event. This FMP pertains to Safety Improvements in the Town Creek watershed, which includes creek crossings at Tarrant Avenue, Warren Street, Johnson Avenue, and Newton Drive. These crossings are under-sized, with less than a 2-year level of service and experience the most flooding in the Town Creek watershed. This is due to the under-sized railroad crossing just downstream of N Warren Street. The railroad crossing causes a large amount of backwater and contributes to structure flooding upstream to Johnson Ave. In addition, the area is generally low lying with little topographical relief.

Road crossing alternatives were analyzed for this area. However, those alternatives were costly and provided little relief until the railroad crossing was improved. As a cost-effective, short-term solution, safety improvements are proposed for these four crossings. These safety improvements may include high-water warning flashers, staff gauges, flood hazard signs, and additional light fixtures (See **Figure F.25**.) The project cost is \$367,000.

No physical or quantifiable benefits would result from the implementation of these safety improvements. However, these improvements would be a prevention measure to help reduce the traffic on flooded roads.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. This FMP does not propose to alter the hydrology or hydraulics of the watershed. The proposed improvements are limited to minor disturbances to place signs or lights to increase visibility in the area. Therefore, no negative impacts are anticipated with the implementation of this FMP (see **Table F.1**).

¹⁸ *Town Creek and Shannon Creek Master Drainage Plan*, Freese and Nichols, Inc., 2021.

Figure F.25. Town Creek [Tarrant Ave, Warren St, Johnson Ave, Newton Dr] Safety Improvements



Tarrant Ave. Safety Improvements



Warren St. Safety Improvements



Johnson Ave. Safety Improvements



Newton Dr. Safety Improvements

FMP 033000067 - Ansley Dr. Storm Sewer System Improvements

The Ansley Dr. Storm Sewer System Improvements FMP was developed from City of Westworth Master Drainage Plan¹⁹. The current site has a LOS corresponding to the 1-year storm event (100% annual chance storm event).

The proposed improvements include replacing 1400 LF of existing concrete-lined drainage channel with a double-barrel, 7-ft by 7-ft RCB, as well as constructing 6 new storm sewer inlets to replace curb cuts on Ansley Dr. The existing junction box at the upstream end of the channel will also be upgraded to a 10-ft by 18-ft junction box to accommodate the new storm sewer. A headwall is also recommended at the channel outfall. PCSWMM models were created to analyze the impact that the proposed improvements would have based on ultimate land use. Peak flow rates and route hydrographs were also used to determine containment within the sewer system. (See **Figure F.26**)

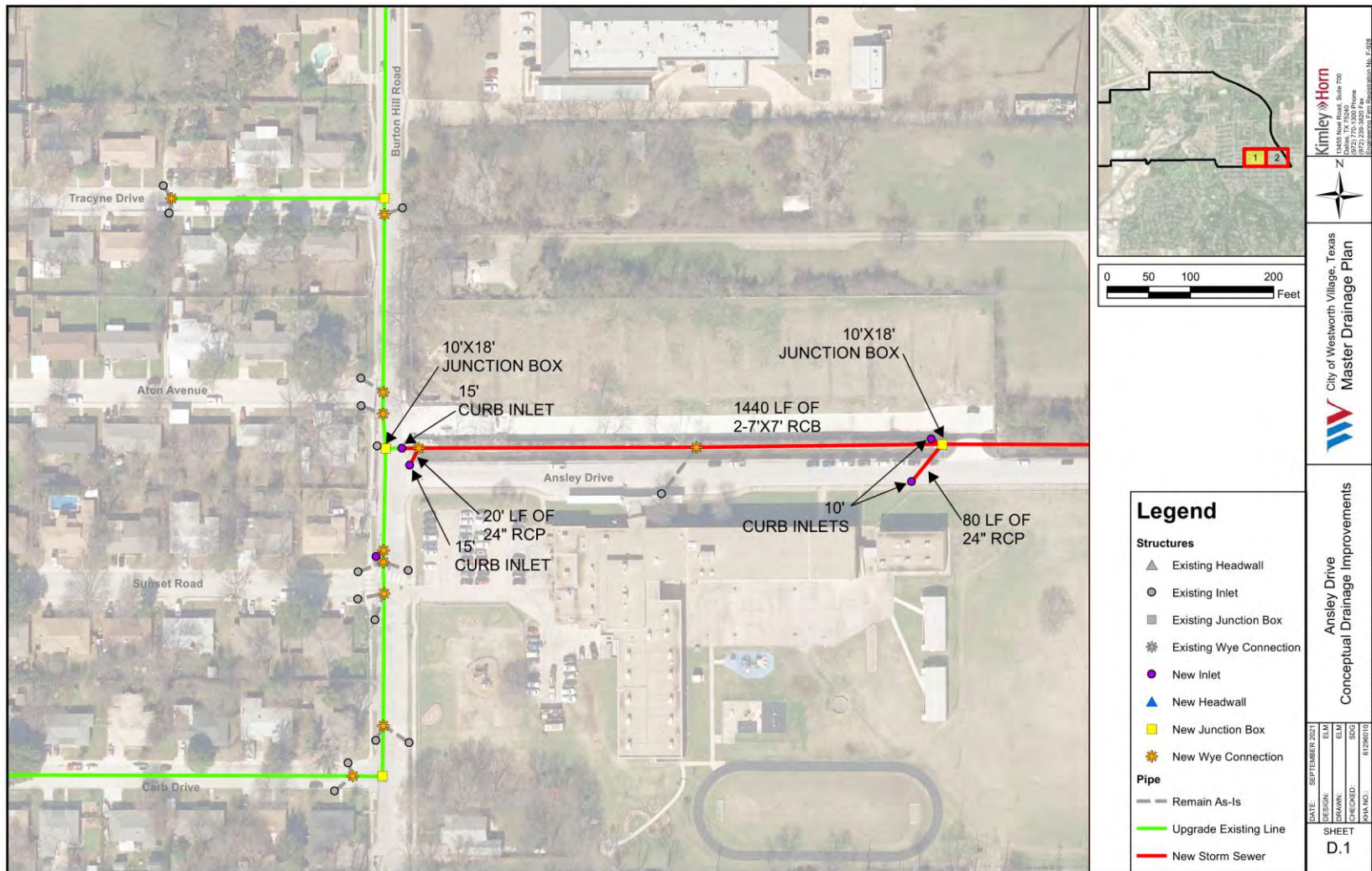
Following the implementation of these storm sewer system improvements, an estimated 0.14 miles of roadway and 1 structure will be removed from the 100-year floodplain. Additionally, there are 12 homes documented on Oaks Lane that have no road access in a 100-year storm event. While these homes are not in the 100-year floodplain, the proposed project will provide unflooded access.

At a cost of \$4,225,000, the proposed project will provide a 100-year storm event containment (1% annual chance flood event). The cost estimate also includes the installation of pavement above the proposed storm sewer between Burton Hill Road and Oaks Lane in support of a new bus lane.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

¹⁹ *City of Westworth Village Master Drainage Plan*, Kimley-Horn, September 2021

Figure F.26. Ansley Dr. Storm Sewer System Improvements (FMP 033000067)



FMP 033000068 - Main A Pump Station and Conveyance Improvements

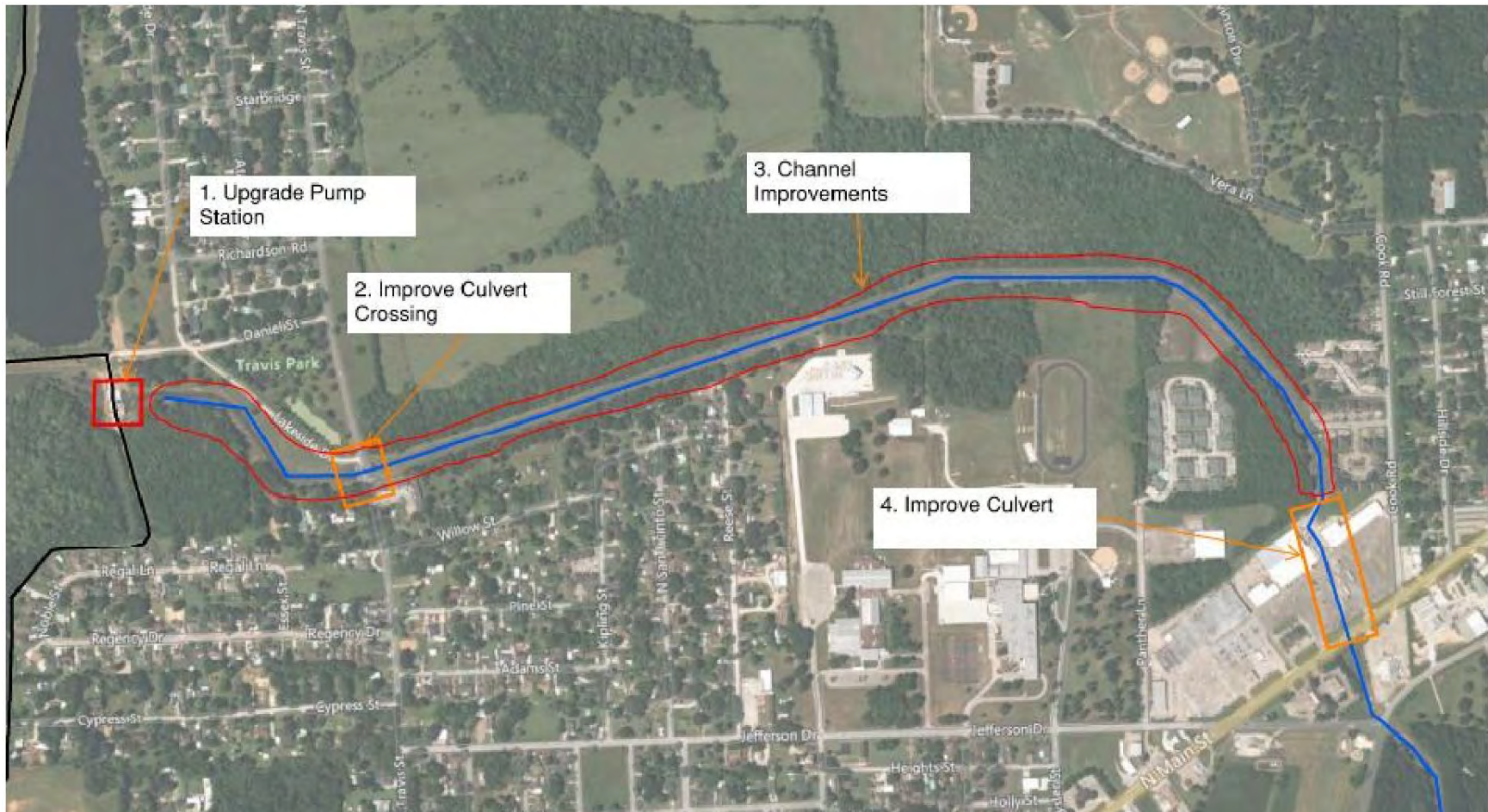
The City of Liberty has been subjected to numerous widespread flooding events. To protect the City from high stages on the Trinity River, a levee system was constructed around the northwestern side of the City. The levee has a number of gravity outfalls throughout its perimeter as well as three pump stations that are used to drain the City when the Trinity is in flood stage. In spite of the levee, the City remains at an elevated flood risk due to inadequate internal drainage systems that can efficiently convey water out of the City. The stage of the Trinity River is often elevated by releases from Lake Livingston, requiring that the pump stations are the only means of removing stormwater from the system. The local water control and improvement district, Liberty County WCID#5 is responsible for operating and maintaining the pump stations as well as the drainage channel infrastructure that feeds into the pump stations. The City is served by two primary drainage channels that lead to two pump stations operated and maintained by WCID#5 commonly referred to as Main A and Main B.

The proposed improvements consist of:

1. Rehabilitating and upsizing of Pump Station A. Currently the twin pumps have a maximum capacity of 60.6 cfs when operating together at full capacity. The pumped capacity is lower than the free flow out of the Main A system under gravity flow conditions by a factor of 2 (136 cfs). To increase the pumping capacity, it is proposed to replace the existing pumps with upgraded ones to match what is currently in place at the Main B pump station that are capable of pumping an approximate maximum capacity of 143 cfs. Included in the pump station upgrade are the necessary structural, electrical, and other necessary upgrades to serve the pump station.
2. Upsizing the North Travis Street Culverts from 2-54" and 2-48" pipe culverts to 5-8'x8' box culverts to remove restrictions on flow reaching pump station Main A.
3. Channel improvements along the Main A channel from the parking lot culvert outfall to the pump station. These improvements include approximately 1 mile of regrading the channel to include a 15' bottom width, 4:1 side slopes and resetting the channel slope to allow for consistent drainage. The channel improvements are modified downstream of North Travis Street to pump station Main A for approximately 1,400 feet to include a 30' bottom width while keeping 4:1 side slopes.
4. The culvert under the tractor supply parking lot will be upsized from 1-84" pipe to 2-84" pipes

(See **Figure F.27.**) Following the implementation of these local area improvements, 4 miles of road and an estimated 167 structures (including 1 critical facility) would be removed from the 100-year floodplain; 123 of these are residential structures, ultimately resulting in approximately 1,850 individuals removed from the 100-year flood risk. Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**). The project cost is \$7,639,000.

Figure F.27. Main A Pump Station and Conveyance Improvements (FMP 033000068)



FMP 033000069 – Highland Ave. Drainage Improvements

The City of Waxahachie developed a Drainage Master Plan to evaluate existing conditions and develop alternatives to address flooding concerns in five (5) specific areas – one of these areas is the Highland Avenue project area. The Highland Avenue project area includes the Highland Avenue storm drain, West Marvin Avenue storm drain, Union Pacific Railroad culvert, BNSF Railroad Bridge, BNSF Railroad culvert, West Main Street Culvert, and West Jefferson Street culvert connecting to Waxahachie Creek as shown in **Figure F.28**.

An ICM model was created to model the performance of existing stormwater infrastructure, identify buildings and roads at flood risk, and develop three alternatives to mitigate flood risks both upstream and downstream in accordance with the “Manual for Design of Storm Drainage Systems” criteria (May 2001). Each individual alternative proposes improvements to the Highland Avenue storm drain system; however, the alternatives were designed to work in unison together, with mitigation in one area corresponding to the increased conveyance in another area. The proposed improvements include:

- Major conveyance improvements by upsizing and installing additional inlets while simultaneously using the alleys between Highland Avenue and West University Avenue to deliver flow and tie into the Highland Avenue storm drain system at Martha Street and West Ross Street
- Implementing a regional detention pond to limit flows to the railroad capacity
- Downstream conveyance improvements by having additional storm drain to capture flow to West Main Street culvert and divert flow downstream towards West Jefferson Street.

The project cost is \$9,365,000, and following the implementation of these mitigation measures, an estimated 0.24 miles of roadway, 20 structures – all of which are residential buildings - and 33 people would be removed from the 100-year floodplain.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFPG considers this project to conform to the no negative impacts requirements based on professional engineering judgment (see Error! Reference source not found.).

Although there are slight increases in peak flow at the upstream portion of the project, this is likely due to the increase in storm drain capacity. Additionally, the increases to the 100-year inundation boundary are minimal and do not affect any structures downstream. In most areas, the inundation has been reduced due to proposed drainage infrastructure and building inundation has also been reduced.

Legend

- Storm Drain
- Waxahachie Creek
- Study Area

Scale

0 200 400 800 Feet

Study Area

City of Waxahachie

Freese Nichols

801 Cherry Street, Suite 2800
Fort Worth, TX 76102
(F) 817-735-7300 (F) 817-735-7491

EXHIBIT 1

WAXAHACHIE STORM DRAIN

FILE 12/22/2022

SCALE 1"=750'

DRAFTED 08/25/23

FMP 033000070 – Fairgrounds Detention Option 3

The Fairgrounds Detention FMP, developed from the Pecan North Pecan Watershed Study Report²⁰, proposes options for a detention pond upstream of Denton Center Shopping Mall along North Pecan Creek. The current system has a LOS corresponding to the 10-year storm event (10% annual chance storm event).

The proposed project includes mitigating structural flooding during the 100-year storm event (1% annual chance flood event) floodplain. HEC-HMS version 4.2 and HEC-RAS version 5.0.5. models were created to analyze the impact that the proposed improvements would have in the event of a 100-year storm event (1% annual chance storm event).

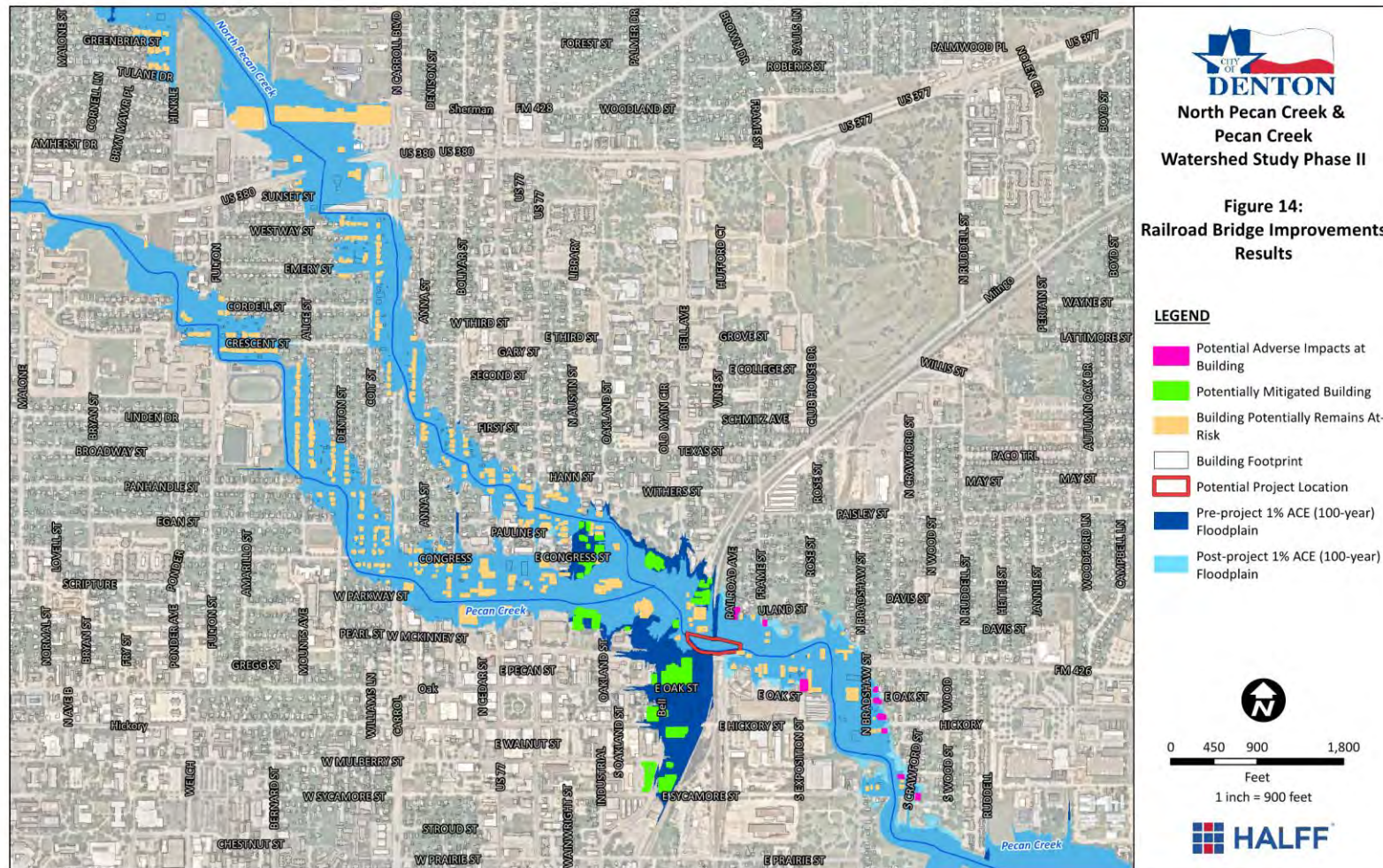
At a cost of \$24,234,000, the proposed project will provide a level of service (LOS) corresponding to the 100-year storm event (1% annual chance storm event). The pond will feature a surface area of 35 acres and a storage volume of 265 acre-feet, reducing 100-year flows to 76% of their previous magnitude. This pond would be an inline pond along North Pecan Creek. With a dam height above 6 feet, the location would be subject to TCEQ regulations. (See **Figure F.29.**)

Following the implementation of this detention pond, an estimated 2.51 miles of roadway and 58 structures, 37 of which are residential structures, would be removed from the 100-year floodplain. This correlates to an estimated 1228 individuals removed from the 100-year flood risk. This alternative also removes the Denton Center Shopping Mall downstream from 100-year flood risk.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

²⁰ *Pecan Creek and North Pecan Creek Watershed Study & Alternatives Analysis*, Halff Associates, February 2021

Figure F.29. Fairgrounds Detention (FMP 033000070)



FMP 033000071 – Design/Construction for Holland Lake Spillway

Holland Lake Dam is located on Holland Lake Creek in the Trinity River Basin, within the City of Weatherford, Texas in Parker County. The lake impounded by the dam, which is owned and operated by the City of Weatherford, serves as a recreational pond for the city-owned Holland Lake Park. The Design/Construction of Holland Lake Spillway project was initially conceptualized in the Holland Lake Dam (TX09628) Hydrologic Assessment & Breach Analysis study performed by Freese and Nichols, Inc. (FNI), in October 2012. This study included various dam safety analyses and associated project recommendations to achieve compliance with Texas Commission on Environmental Quality (TCEQ) dam safety standards. FNI was later retained to design the recommended dam improvements and a 90% design plan set was completed in July 2017. The 2012 study included a hydrologic assessment to approximate the Probable Maximum Flood (PMF) for Holland Lake Dam. The PMF analysis is necessary in order to determine the hydraulic adequacy of the dam in its current condition. A dam breach analysis was performed to determine the potential downstream hazards associated with a dam failure. The PMF and Breach Analyses were conducted following TCEQ's Hydrologic and Hydraulic Guidelines for Dams (2007).

Holland Lake Dam falls under the jurisdiction of the TCEQ due to potential impacts in case of dam failure. As a small, low hazard dam, Holland Lake Dam is required to pass 25 percent of the PMF according to State criteria. The dam was found to be only capable of passing 5 percent of the PMF without overtopping. Holland Lake Dam is therefore considered hydraulically inadequate in its current condition.

Several modification alternatives were analyzed to upgrade the dam to be able to pass the 25 percent PMF, which would be the required design storm if the dam were able to maintain a low hazard classification. For the Holland Lake Dam watershed, the 25 percent PMF peak inflow roughly corresponds to the 100-year flood peak inflow, as developed in a previous study. The proposed modifications consist of a combination of adding an emergency spillway through the right abutment of the dam along with raising the top of dam elevation. The proposed emergency spillway will have a crest elevation of 989 feet, approximately 1.5 feet above the service spillway crest of 987.5 feet. (See **Figure F.30**.) The proposed top of dam would be raised approximately 5 feet from existing conditions to an elevation of 995.1 feet. The project cost is \$3,860,000.

Aerial imagery from 2012 was reviewed to identify structures that could potentially be impacted by outflows from Holland Lake Dam. If a dam break were to occur during the 25% PMF event (approximately a 100-yr event), one structure would experience flooding conditions (flood depth = 0.35 ft). The proposed dam modifications are intended to safely pass the 25% PMF event, and reduce the risk of dam failure. Furthermore, with these improvements, the potentially-impacted property would not experience flooding conditions during the 25% PMF event.

Based on this comparative assessment, this FMP meets all no negative impacts requirements (see Error! Reference source not found.).

NOT FOR CONSTRUCTION

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FREESE WATKINS
CIVIL ENGINEERS
4005 International Drive, Suite 200
Weatherford, TX 76087
Phone: (817) 257-7137
Fax: (817) 257-7138
Web: www.freese.com

CITY OF WEATHERFORD
HOLLAND LAKE DAM AND CHANNEL IMPROVEMENTS
CIVIL
SPILLWAY AND DAM OVERALL LAYOUT

NOTE:
ALL HORIZONTAL CONTROL INFORMATION FOR ALIGNMENTS ON THIS SHEET TO BE FOUND ON SHEETS C-2 - C-4.

90% SUBMITTAL

SCALE IN FEET
0 20' 40'

SHET
C-1

SEQ.
6

FMP 033000072 - Elkins Lake Dam Rehabilitation

Elkins Lake Dam is located within the City of Dalworthington Gardens, Texas. The dam is situated in the Trinity River Basin and impounds water along an unnamed tributary of Rush Creek. The area located within the potential inundation area of a breach of Elkins Lake Dam only contains structures within City of Arlington. If a breach were to occur at Lake Elkins Dam, City of Arlington residents would be affected. Potential impacts of a breach contain several units (approximately 40 units) of the Cinnamon Park apartment complex, as well as Spanish Trail. The presence of habitable structures, with possible impacts to greater than seven lives, as well as the road, result in the classification of Elkins Lake Dam as a high hazard dam. According to Texas Administrative Code §299.15, a small size, high hazard structure is required to pass 75 percent of the Probable Maximum Flood (PMF) without being overtopped. The dam currently passes 31 percent of the PMF, well short of the required minimum.

The dam is hydraulically inadequate in its current condition. The City of Dalworthington Gardens determined that an evaluation of the dam and advancement of the design be performed, as necessary, to comply with TCEQ Dam Safety regulations. An alternatives analysis was completed in February 2020 which included additional modeling to evaluate alternatives for improvement and achieve compliance with TCEQ. The selected alternative consists of the addition of two 60-inch diameter culverts to the existing spillway and widening of the vegetated approach channel. In addition, the crest of the dam would be raised to a crest elevation of 569.5 ft, which is a maximum of 3.1 ft raise. (See **Figure F.31.**) The purpose of the modifications to the structure is to bring the dam into compliance with TCEQ criteria by adding discharge and storage capacity. The project cost is \$1,705,000.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFPG considers that the Elkins Lake Dam Rehabilitation FMP conforms to the no negative impacts requirements based on professional engineering judgment (See Error! Reference source not found.).

Although there are increases in the 100-yr water surface elevations (WSE) and peak flows downstream of the dam, increases do not cause any adverse impacts to insurable structures or means of ingress/egress. Apartment buildings located along Spanish Trail are not flooded and maintain a freeboard of more than 5 ft in proposed conditions. More than 2.5 ft of freeboard to the bottom of the bridge deck remains at Spanish Trail in proposed conditions.

Conversations with various City staff including the Floodplain Manager is still needed, as well as coordination with the Natural Gas Drilling and Exploration Company.

Figure F.31. Elkins Lake Dam Rehabilitation (FMP 033000072)



FMP 033000073 - Arlington Bonneville/Greenbrook Drainage Improvements

The Bonneville/Greenbrook Drainage Improvements FMP was developed from the City of Arlington's Bonneville/Greenwood Neighborhood Drainage Study²¹. The current storm drain system surcharges during storm events as frequent as the 5-year storm, resulting in 0.25 miles of road flooding and 14 structures in the floodplain in the 100-year event. Several structures flood in more frequent events.

The proposed alternative realigns the 12-ft by 4-ft RCB storm drain through Greenbrook Dr. and the Huntwick Addition to outfall farther to the south along Rush Creek Tributary 5. The improvement includes upsizing of existing trunk lines including:

- Replacing 590 LF of 36-inch RCP with 8-ft by 3-ft RCB
- Replacing the Bonneville Drive 18-inch lateral with a 27-inch RCP.
- Replacing 470 LF of 48-inch RCP with 10-ft by 4-ft RCB
- Replacing 85 LF of 39-inch RCP to 10-ft by 4-ft RCB
- Constructing an additional 200 LF of 8-ft by 4-ft RCB
- Upsizing multiple 10-ft and 15-ft curb inlets to 20-ft curb inlets
- Upsizing multiple 5-ft curb inlets to 10-ft curb inlets

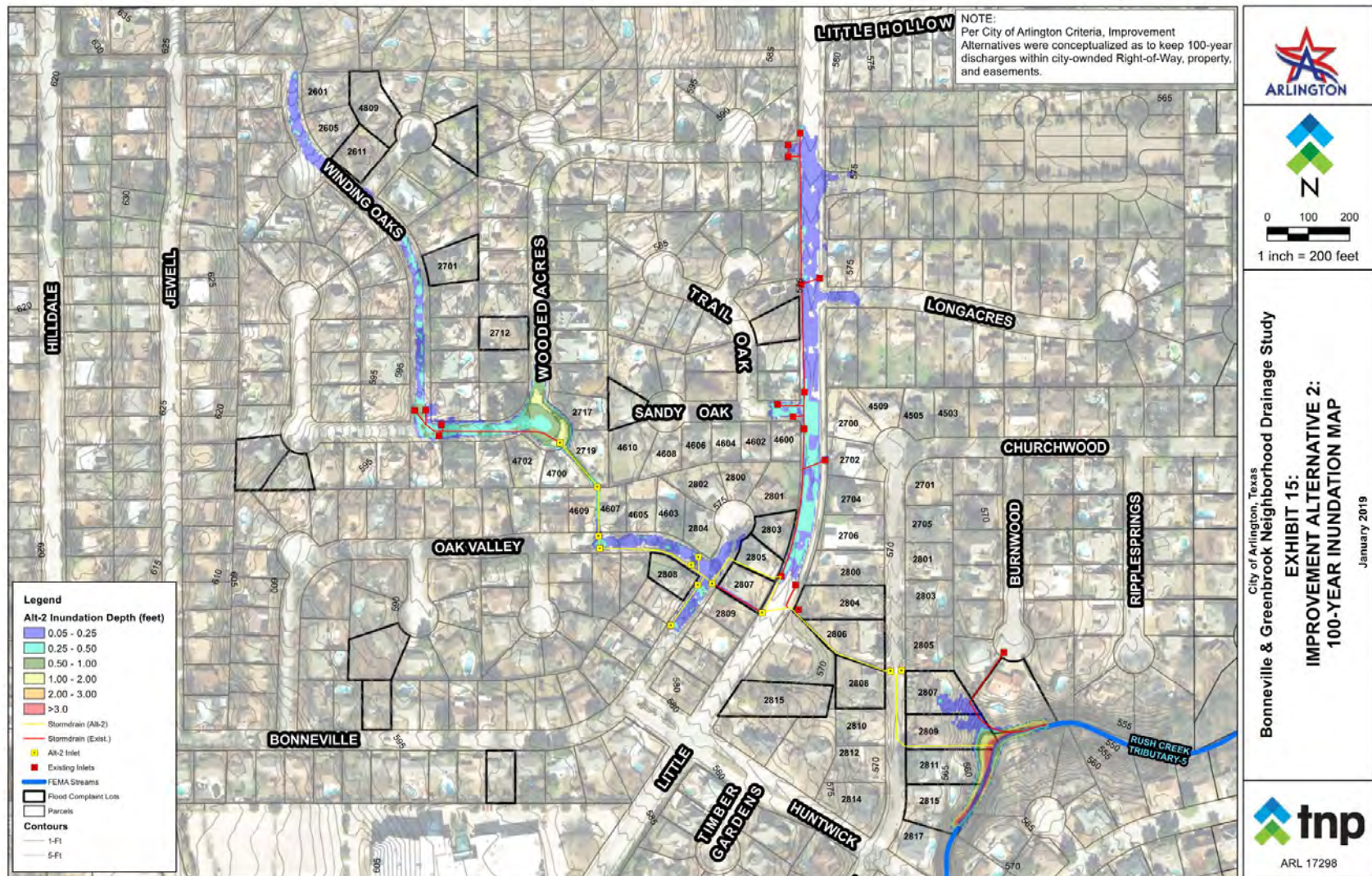
and addition of curb inlet capacity in several locations. The improvement also includes some acquisition of property to facilitate construction of improvements, reconstruction of a portion of Little Road and an alternative alignment for the proposed outfall line into the stream. (See **Figure F.32.**)

At a cost of \$4,939,000, the improvements mitigate flooding throughout the study area with the storm drain capacity improvements eliminating stormwater overflow in the 100-year storm event. This will remove 0.25 miles of road from the floodplain as well as all 14 structures. This correlates to an estimated 37 people removed from the 100-year floodplain. The alternative also allows for more feasible construction of the upsized pipes by utilizing Greenbrook drive and nearby driveways and drainage easements.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A). However, the City of Arlington's Bonneville/Greenwood Neighborhood Drainage Study includes an adverse impacts mitigation solution at an additional cost. The proposed mitigation alternative mitigates downstream impacts from the proposed project alternative. This mitigation alternative also alleviates erosion downstream of Woodside Drive along the northern channel and extends a gabion or modular block, which will provide additional support to the channel bank that is currently eroding and prevent further erosion. The mitigation alternative is a separate improvement from the chosen project alternative but would need to be implemented to mitigate the downstream impacts created by the chosen project alternative (see **Table F.1**).

²¹ *Bonneville / Greenbrook Neighborhood Drainage Study*, Teague, Nall, and Perkins, June 2020

Figure F.32. Arlington Bonneville/Greenbrook Drainage Improvements (FMP 033000073)



FMP 033000074 - Lebow Flood Mitigation Project

Lebow Channel has an existing LOS less than 1-year storm event. The crossings along Lower Lebow are undergoing effort to achieve an LOS of the 100-year storm event except Schwartz Avenue, which requires channel modifications in order to meet the 100-year LOS.

The Upper Lebow portion encounters more flooded structures than Lower Lebow. Upper Lebow is a channel over 8,000 LF in length, crossing a total of nine roadways, all of which are overtopped during the 2-year event, except Terminal Road and Long Avenue. The channel generally has a 2-year capacity, with the 100-year floodplain averaging 400 to 500 feet wide.

In general, the Lower Lebow channel improvements consist of widening and regrading the channel to include benching and a naturally-aligned low-flow channel. Approximately 4,000 LF of the low-flow channel flowline will be lowered between one and seven feet. The overbank slopes are as steep as 4:1 (H:V) in some locations, but are less steep in most areas. Two bypass channels are proposed, one paralleling Hardy Street and one along Vera Cruz Street. Both bypass channels were selected and designed to minimize impacts to the tree canopy in the area.

Upper Lebow will need to be widened and lowered with 0.5:1 (H:V) sloped gabion-basket walls. The proposed bottom width averages between 32 and 38 feet, reaching as wide as 48 feet at culverts. Eight out of the nine crossings along Upper Lebow will be upgraded to pass the 100-year storm event and maintain one foot of freeboard. (See **Figure F.33.**) The Upper Lebow improvements also include a detention facility located north of Long Avenue, adjacent to the Diamond Hill Addition. The Upper Lebow Storm Water Detention Facility is proposed to maintain a 'no-rise' condition in the existing 100-year water surface elevation. (See **Figure F.34.**)

Significant utility coordination will need to take place to accommodate the Upper Lebow improvements. Right of way acquisition will be required for the capacity improvements, including easements along the entire alignment, some properties at crossings, and additional property for the detention pond at Long Avenue. The project requires a USACE Section 404 individual permit and will be subject to a strategically phased implementation plan based on factors including public safety, hydraulic dependency, FEMA permitting/mapping, environmental impact/mitigation, property acquisition/easement takings and funding availability. It is anticipated the improvements will provide 100-year level of service in both Upper and Lower Lebow. The total cost for the construction of the Lebow Channel improvements is estimated to be \$30,349,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

Figure F.33. Lebow Flood Mitigation Project [Lower End] (FMP 033000074)

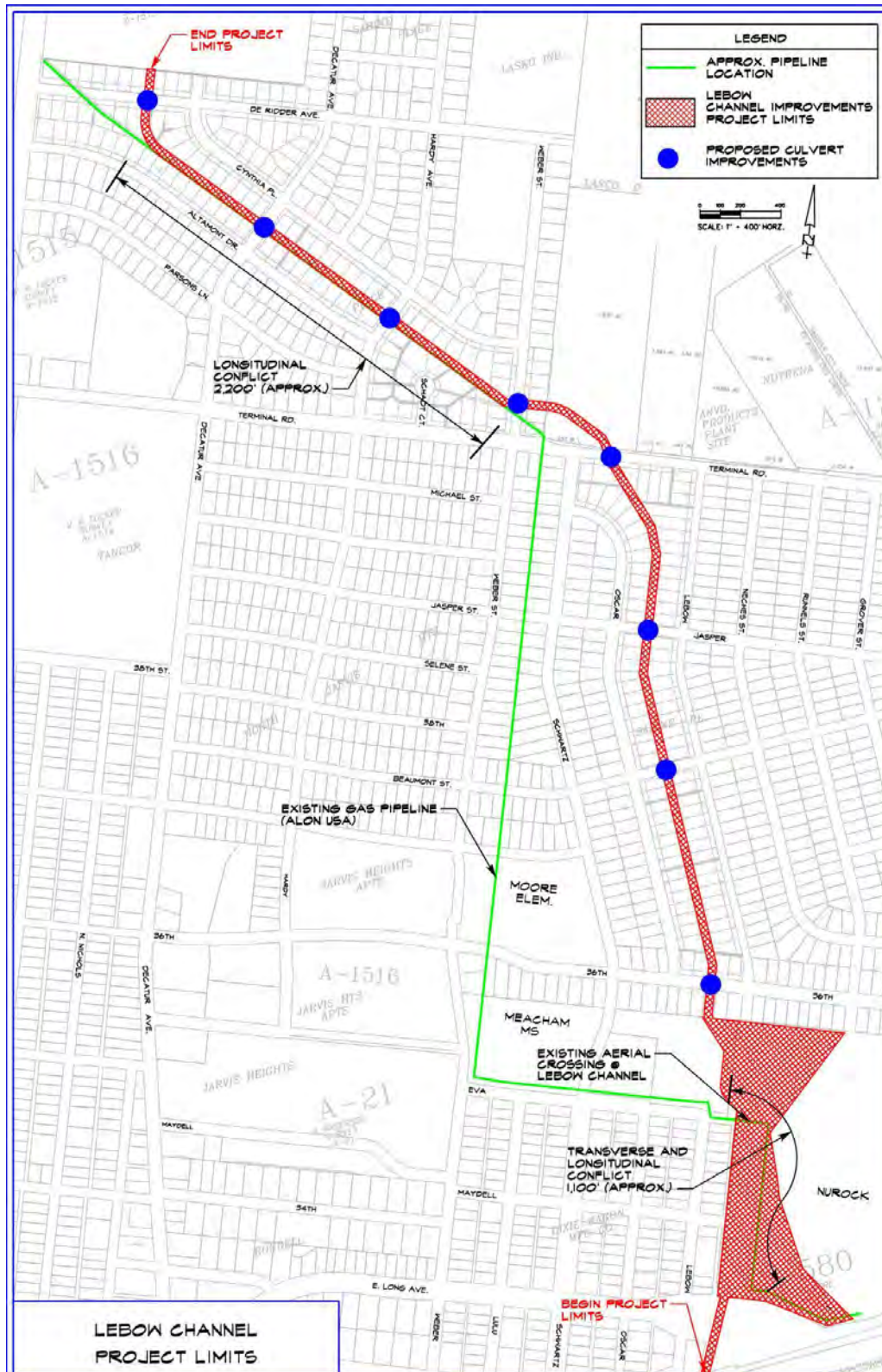


Figure F.34. Upper Lebow Storm Water Detention Facility



FMP 033000075 - Village Creek [Dobson St (CR 714)] Safety Improvements

The City of Burleson completed a stormwater masterplan for the Willow Creek and Village Creek watersheds in 2023²². This study identified alternatives to improve street and structure flooding during the ultimate conditions 100-year storm event. This FMP pertains to Safety Improvements in the Village Creek watershed, which includes a creek crossing at County Road 714.

Significant improvements are needed at this crossing as it currently has less than a 2-year level of service. Since those improvements would be costly, safety improvements are recommended for this crossing. These safety improvements may include high-water warning flashers, staff gauges, flood hazard signs, and additional light fixtures (See **Figure F.35**). The project cost is \$273,000.

No physical or quantifiable benefits would result from the implementation of these safety improvements. However, these improvements would be a prevention measure to help reduce the traffic on flooded roads.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. This FMP does not propose to alter the hydrology or hydraulics of the watershed. The proposed improvements are limited to minor disturbances to place signs or lights to increase visibility in the area. Therefore, no negative impacts are anticipated with the implementation of this FMP (see **Table F.1**).

²² *Willow Creek and Village Creek Master Drainage Plan*, Freese and Nichols, Inc., 2023.

Figure F.35. Village Creek [Dobson St (CR 714)] Safety Improvements (FMP 033000075)



FMP 033000077 - White Settlement Rd. Storm Sewer System Improvements

The White Settlement Rd FMP was developed from the Westworth Village Master Drainage Plan²³ for storm sewer improvements. The level of service for White Settlement Rd does not currently contain beyond the 1-Year storm event (100% annual chance storm event).

The proposed project improvements include upgrading the existing storm sewer, which consists of upsizing 1940 LF of existing storm sewer, 5 junction boxes and 2 headwalls from east of Burton Hill Road to west of Tanny Street, along with 5 new inlets and 5 new curb extensions. (See **Figure F.36** and **Figure F.37**.)

PCSWMM models were used to model the fully developed hydraulics for the public drainage infrastructure within the watershed. Peak runoff flow rates for multiple storm events in fully developed conditions within the City's watershed were determined via PCSWMM Method & Energy Step Method.

The proposed project will provide significant containment in the event of a 100-year storm (1% annual chance storm event) at a cost of \$1,904,000.

Following the implementation of these drainage and erosion improvements, an estimated 0.64 miles of roadway and 12 structures will be removed from the 100-year floodplain, 11 of which are residential structures. This correlates to an estimated 33 individuals removed from the 100-year flood risk. Additionally, 2.16 acres of farmland would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

²³ *Westworth Village Master Drainage Plan*, Kimley-Horn, September 2021

Figure F.36. White Settlement Rd. Storm Sewer System Improvements (FMP 033000077)

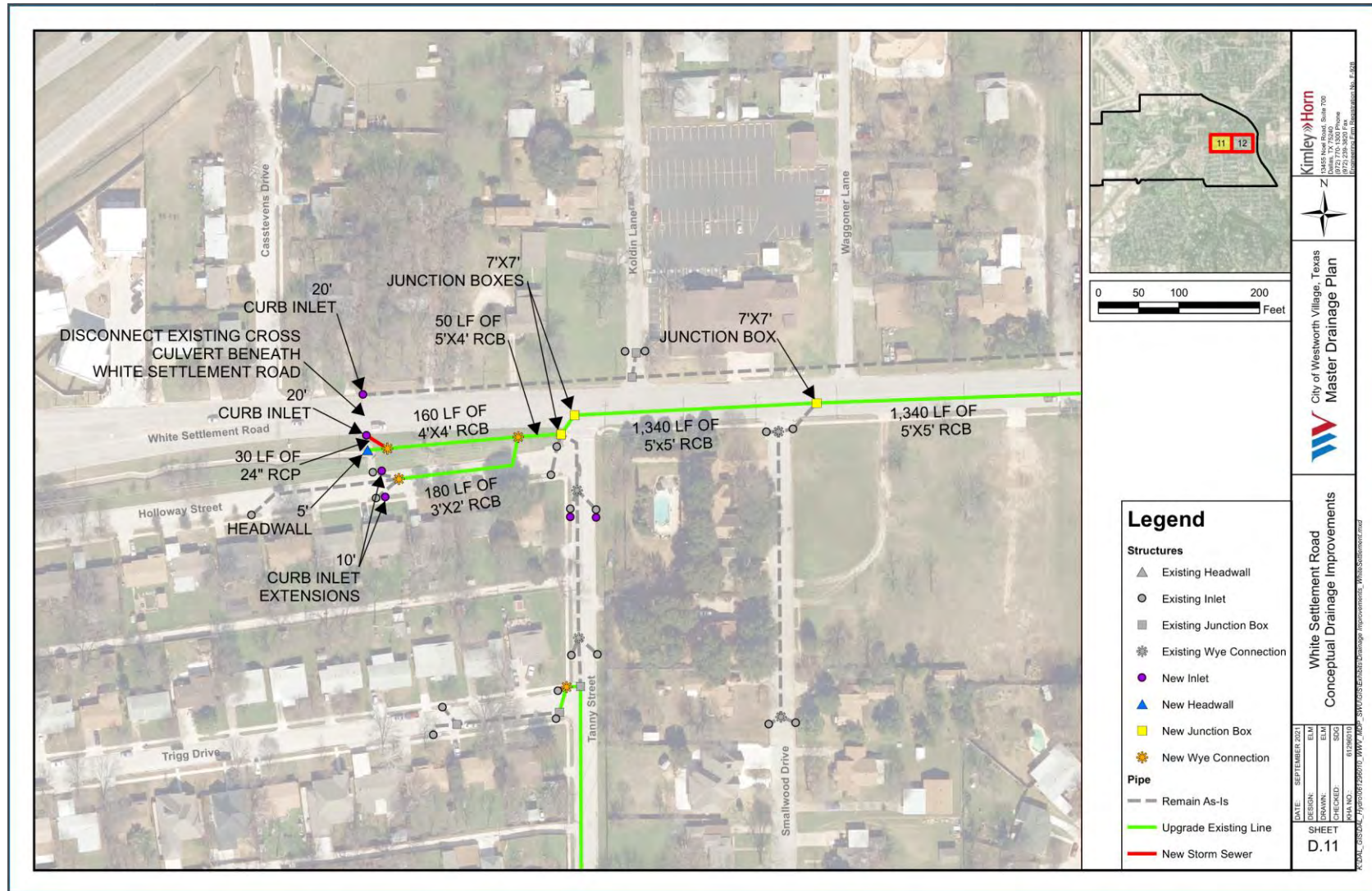
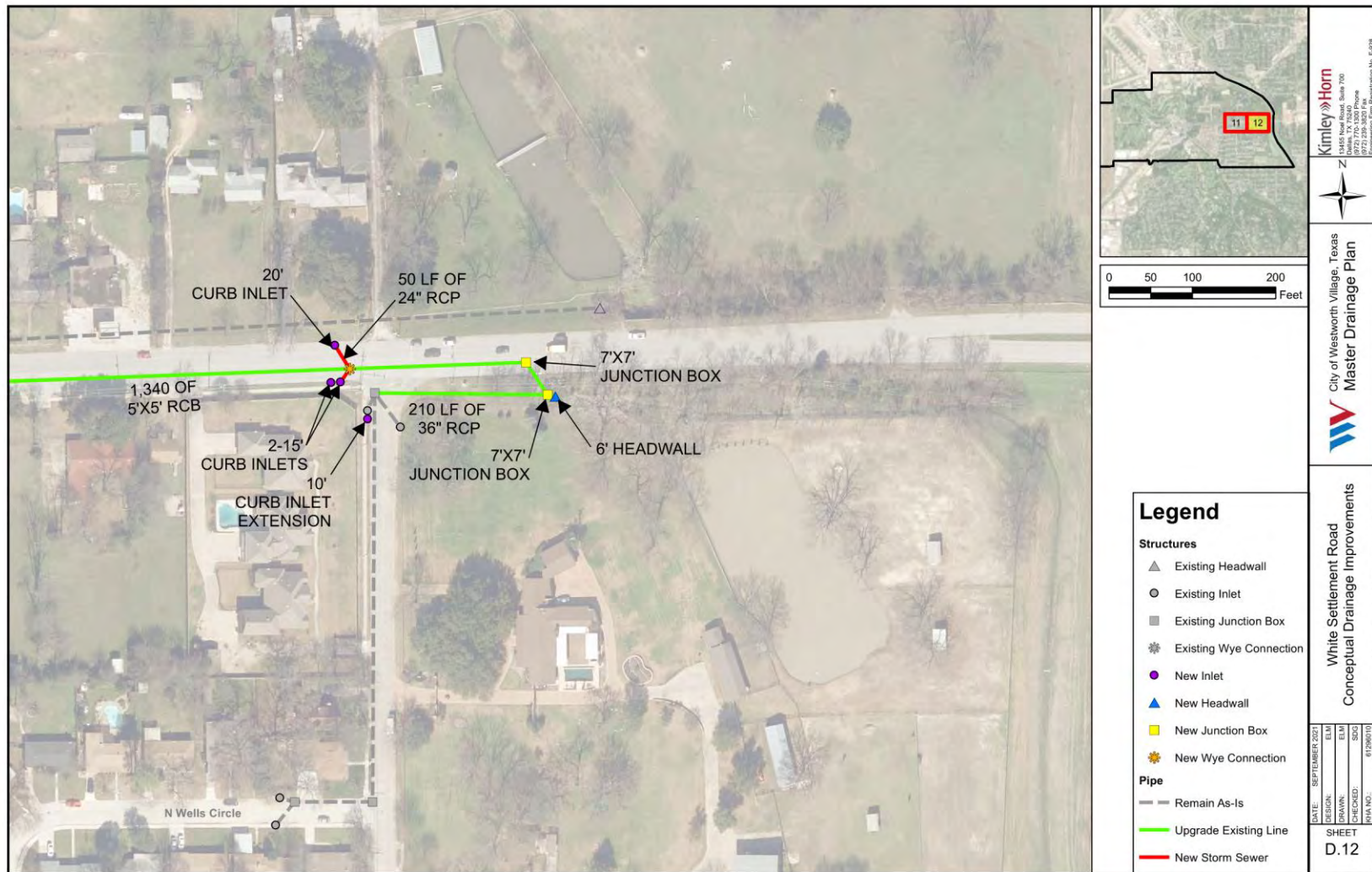


Figure F.37. White Settlement Rd. Storm Sewer System Improvements (FMP 033000077)



FMP 033000078 - Main B Pump Station, Detention, and Conveyance Improvements

The City of Liberty has been subjected to numerous widespread flooding events. To protect the City from high stages on the Trinity River, a levee system was constructed around the northwestern side of the City. The levee has a number of gravity outfalls throughout its perimeter as well as 3 pump stations that are used to drain the City when the Trinity River is in flood stage. In spite of the levee, the City remains at an elevated flood risk due to inadequate internal drainage systems that can efficiently convey water out of the City. The stage of the Trinity River is often elevated by releases from Lake Livingston requiring that the pump stations are the only means of removing stormwater from the system. The local water control and improvement district, Liberty County WCID#5 is responsible for operating and maintaining the pump stations as well as the drainage channel infrastructure that feeds into the pump stations. The City is served by two primary drainage channels that lead to two pump stations operated and maintained by WCID#5 commonly referred to as Main A and Main B.

The proposed improvements consist of:

1. Rehabilitating and upsizing Pump Station B. Currently the twin pumps have a maximum capacity of 142.6 cfs when operating together at full capacity. It is proposed to upgrade the existing pumps and add a third pump of similar capacity to bring the total pumped capacity up to 213.9 cfs. Included in the pump station upgrade are the necessary structural, electrical, and other necessary upgrades to serve the pump station.
2. Upsizing the culverts on Main B to be a consistent size. The culverts at North Travis Street and Milam Street will be upsized from 1-6'x5' and 2-5'x5' to 3-6'x6' RCBs, and the culverts at Woods Drive will be upsized from 3-5'x5' to 3-6'x6' RCBs to reduce the flow restrictions on the Main B channel.
3. Regional detention basin upstream of Main Street to reduce peak flows traveling downstream into the Main B system where capacity is more limited. The proposed basin is approximately 12.5 acres adjacent to the channel and will be filled via a weir that allows the basin to function to shave off peak flows from the primary flood wave.

(See **Figure F.38.**) Following the implementation of these local area improvements, an estimated 3 structures would be removed from the 100-year floodplain, all of which are residential, ultimately resulting in approximately 12 individuals removed from the 100-year flood risk. Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (See **Table F.1.**). The project cost is \$14,433,000.

Figure F.38. Main B pump station, detention, and conveyance improvements (FMP 033000078)



FMP 033000079 - Cordell Detention Pond (Rayzor Elementary School Pond)

The Cordell Detention Pond project was developed from Pecan Creek and North Pecan Watershed Study & Alternatives Analysis²⁴. This project is located southeast of the intersection of West University Drive and Malone Street along Pecan Creek near Newton Rayzor Elementary School. The current LOS for the area is less than what could contain the 10 years storm event (<10% annual chance storm event).

This pond would be an inline pond that requires excavation and grading to maximize the storage. The construction of a dam across Pecan Creek would be required to detain the desired volume of floodwaters. The detention pond near the school would have approximately 90 acre-feet in capacity and a surface area of around 12 acres. (See **Figure F.39.**)

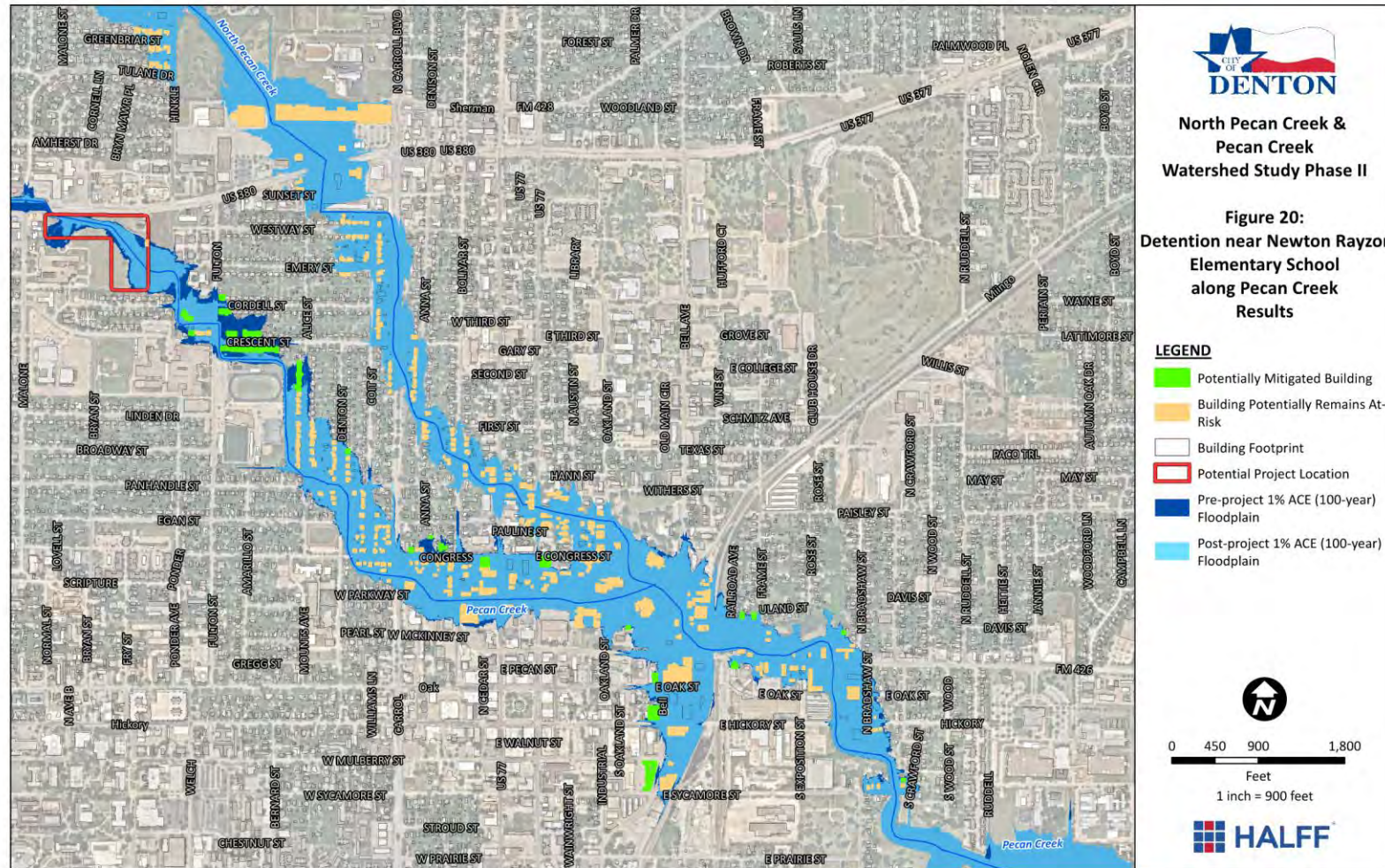
At a cost of \$15,497,000, the project reduces water surface elevations enough to remove 39 homes and 3 businesses from the 100-year floodplain. This correlates to an estimated 373 individuals removed from the 100-year floodplain. This project is anticipated to provide a LOS corresponding to the 100-year storm event.

This proposal results in a 1% ace peak flow reduction of 7% to 14% along Pecan Creek. The peak flow is also reduced 28% directly downstream of the pond. This project alternative will reduce the flood risks along Pecan Creek.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

²⁴ *Pecan Creek and North Pecan Creek Watershed Study & Alternatives Analysis*, Halff Associates, February 2021

Figure F.39. Cordell Detention Pond (Rayzor Elementary School Pond) (FMP 033000079)



FMP 033000081 - Town Creek Warren Park Extension

The City of Burleson completed a stormwater masterplan for the Town Creek and Shannon Creek watersheds in 2004 and updated in 2021²⁵. This study identified alternatives to improve street and structure flooding during the ultimate conditions 100-year storm event. This FMP pertains to property buyouts in the Town Creek watershed.

Significant improvements are needed at the railroad crossing downstream as it currently has a 10-year level of service and causes backwater effects to multiple roadway crossings upstream. Since those improvements would be costly, property buyouts in the area immediately upstream of the railroad would be a solution to decrease structural flooding in the area. This solution proposes the voluntary acquisition of structures that are at risk of flooding and extending the existing Warren Park (see **Figure F.40**). The project cost is \$10,346,000.

Project models reveal that 19 structures that were once inundated over one foot can be bought by the City and the property converted into a park. In total, 27 structures would be purchased and removed from the floodplain along with 0.1 miles of roadway. These 27 structures are all residential structures, which correlates to 65 individuals removed from the 100-year flood risk.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. This FMP would replace impervious area with pervious area, so a reduction in flows could occur. A reduction in peak flows would be a benefit to this community. No negative impacts are anticipated with the implementation of this FMP (see **Table F.1**).

²⁵ *Town Creek and Shannon Creek Master Drainage Plan*, Freese and Nichols, Inc., 2021.

[illegible]

FMP 033000082 - Project 18 - Waterview Dr. Re-route

Project 18 – Waterview Dr. Re-Route was developed from the West Fork of Cottonwood Creek Capital Improvement Projects Report²⁶. N. Waterview Drive drains by various isolated storm sewer systems that convey water to the main creek (West Fork of Cottonwood Creek). These systems do not have capacity to convey the 100-year storm event individually, causing the system to surcharge at different locations along N. Waterview Drive.

Project 18 proposes a 5,700 LF storm sewer diversion system that will redirect water from the main creek at approximately 520 feet downstream of Campbell Road and outfall back to the main creek just upstream of Arapaho Road. (See **Figure F.41**) Specifically, the project proposes:

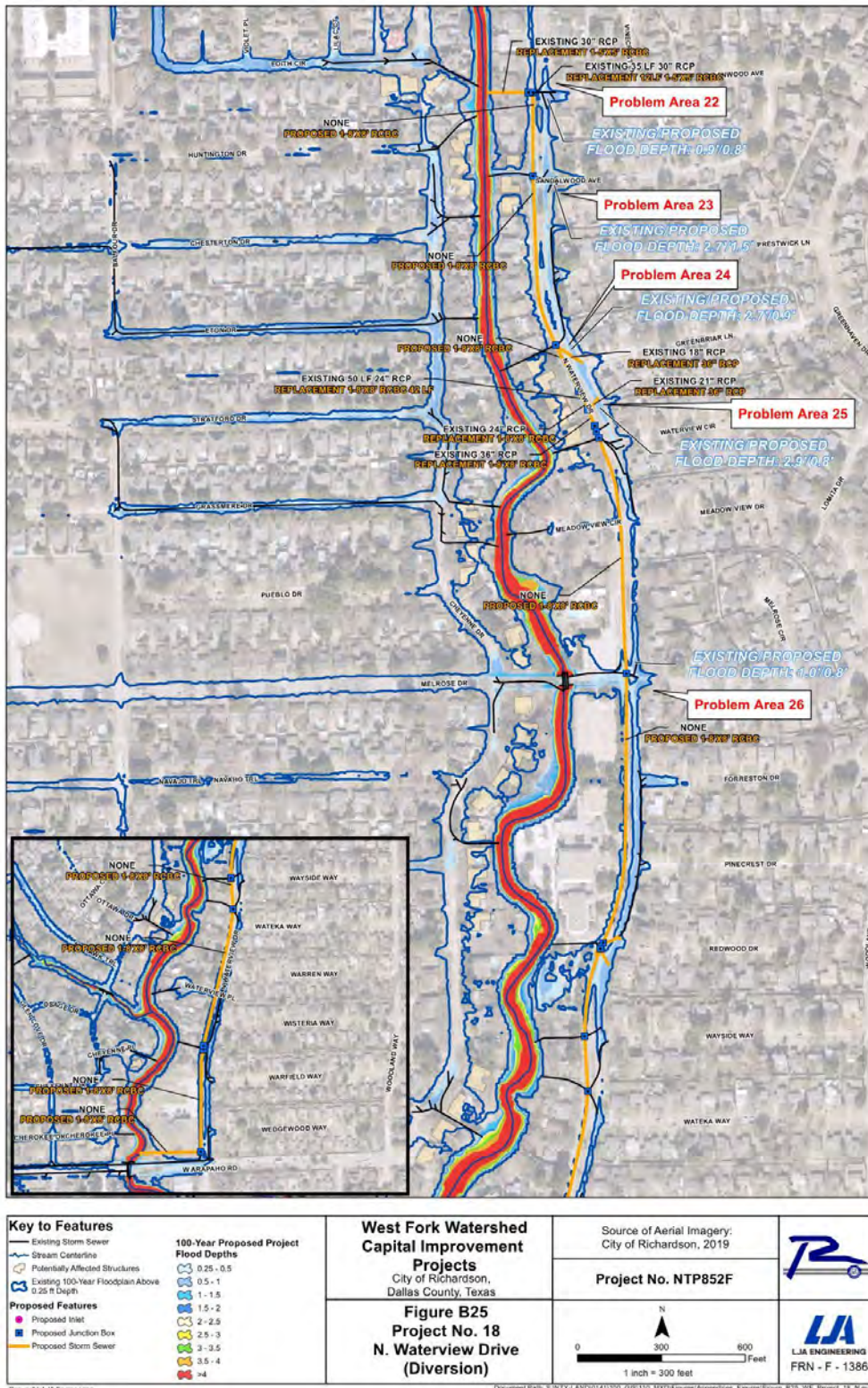
- Replace 12 LF of 15-inch RCP with a 30-inch RCP.
- Replace 29 LF of 15-inch RCP with a 36-inch RCP.
- Replace 110 LF of 18-inch RCP with a 36-inch RCP.
- Replace 134 LF of 21-inch RCP with a 36-inch RCP.
- Replace 45 LF of 27-inch RCP with a 30-inch RCP.
- Replace 73 LF of 24-inch RCP with an 8-ft by 8-ft RCBC.
- Replace 152 LF of 30-inch RCP with a 5-ft by 5-ft RCBC.
- Replace 83 LF of 36-inch RCP with an 8-ft by 8-ft RCBC.
- Construct 5,413 LF of 8-ft by 8-ft RCBC.
- Construct 10 LF of additional curb inlets
- Construct 18 junction boxes with manholes for constructability and maintenance

After implementation, the project will remove 33 homes from the 100-year floodplain. This correlates to an estimated 118 individuals removed from the 100-year floodplain. The estimated project cost is \$11,500,000 and a 100-year LOS (1% annual chance floodplain).

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

²⁶ *West Fork of Cottonwood Creek Capital Improvement Projects (CIPs)*, LJA Engineering, August 2022

Figure F.41. Project 18 - Waterview Dr. Re-route (FMP 033000082)



FMP 033000083 - Pumphrey Dr. Storm Sewer System Improvements

The Pumphrey Drive FMP was developed from the City of Westworth Village Master Development Plan²⁷ for storm sewer improvements. The site currently has less than a 1-year LOS (contains the 100% annual chance storm event), so the area floods frequently and severely.

The proposed project includes upgrading 280 LF of existing storm sewer, two existing inlets, and a headwall. (See **Figure F.42.**) Within the City's watersheds, fully developed conditions peak runoff flow rates for multiple storm events were determined via PCSWMM Method & Energy Step Method in PSCWMM.

At a cost of \$221,000, the proposed project will provide a minimum of a 100-year (1% annual chance) storm event level of service.

Following the implementation of these storm sewer improvements, approximately 300 ft of roadway and 2 structures would be removed from the 100-year floodplain, of which one is a residential structure. This correlates to an estimated 3 individuals removed from the 100-year flood risk.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

²⁷ *Westworth Village Master Drainage Plan*, Kimley-Horn, September 2021

Figure F.42. Pumphrey Dr. Storm Sewer System Improvements (FMP 033000083)



FMP 033000084 - Channel and Crossing Improvements on Redmond Creek south of the City of Ames

The City of Ames lies within the service of Liberty County Water Control and Improvement District #5 (WCID#5) and has been subjected to numerous widespread flooding events. Ames drains primarily through Redmond Creek and its tributaries, which face a restriction at the FM 160 crossing south of the City. A neighborhood along Redmond Creek is subject to street flooding and excessive street flow due to lack of localized drainage infrastructure and restrictions at FM 160 and Redmond Creek as well as a culvert restriction east of Redmond Creek that serves to collect local sheet flow. FM 160 itself is subject to flooding and overtopping in relatively minor storm events which can be remedied by the improvements proposed in this project.

The proposed improvements consist of:

1. Channel improvements to Redmond Creek to include widening the channel to have a 5' bottom width and a trapezoidal shape to include 4:1 side slopes and clearing out of overgrown heavy vegetation within the channel itself.
2. Upsizing the culverts at two locations on FM 160. The primary crossing of Redmond Creek will be upsized from 3 – 84" RCPs to 4-8'x7' RCBs. A crossing to the west will also be upsized from an estimated 1-24" RCP to 2-3'x2' RCBs to better conveyed roadside ditch drainage that collects sheet flow from a large area to the north and conveys Redmond Creek overflows to a channel south of FM 160.

(See **Figure F.43.**) While the proposed improvements do not remove any structures from the 100-year floodplain, the model shows that an estimated 3 structures will see a reduced 100-year flood risk. Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A). There are minor increases to peak flows downstream of FM 160 in the 10-year and 100-year events, but these changes are merely 0.15% and 0.5% increases in peak flows. It is anticipated that as the design progresses these minor increases in flows can be removed by further refining the proposed improvements (see **Table F.1**). The project cost is \$1,255,000.

Figure F.43. Channel and Crossing Improvements on Redmond Creek south of the City of Ames (FMP 033000084)



FMP 033000085 - Arlington Harvest Hills Channel and Drainage Improvements

The Arlington Harvest Hills Channel and Drainage Improvements FMP, developed from the Harvest Hills and Briar Meadow Neighborhood Drainage Study²⁸, is an area currently impacted in events as minor as 2-year storms. During the 5-year storm, roadway flooding over 2 feet is seen along Wickersham Drive and Guinevere Street. Structure flooding up to one foot is seen during the 5-year storm for two residences. The 100-year storm causes flooding in up to 47 homes. This is primarily caused by undersized storm sewer in the neighborhood.

Proposed drainage system improvements were evaluated to protect homes from the 100-year storm event in the Harvest Hills and Briar Meadow neighborhoods in Arlington. Option 2 (Briar Meadow Diversion) with downstream channel improvements is recommended.

Option 2 involves the removal and replacement of the storm drain system from Coronado Street to the channel, along with required property buyouts. This option will also disconnect the existing 54-inch bypass from the storm drain main line and provide separate outfalls for the bypass and storm drain main. Option 2 will increase the capacity of the storm drainpipe system from approximately 270 cfs to 502 cfs, including the bypass system. (See **Figure F.44**)

The proposed storm drain improvement options causes an increase in flow from existing conditions of approximately 200 cfs to the channel and result in higher peak water surface elevations. Channel and culvert improvements were evaluated in HEC-RAS to reduce peak water surface elevations in the downstream channel system. The channel from Overbrook Drive to New York Avenue, New York Avenue to Mayfield Road, and from Mayfield to the confluence of North Fish Creek (a total of 2,965 linear feet) were modeled as a vertical wall channel with additional depth and top width than existing. In addition, the culvert crossings at New York Avenue and Mayfield Road require additional box culverts. Easements would be required for the channel widening and recommended maintenance access ramp.

Option 2 includes renewal of water, sanitary sewer, and pavement in the locations of proposed storm drain improvements and the acquisition of 6 properties. The anticipated cost of Option 2 with the downstream channel improvements and property acquisitions is \$15,063,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements when constructed with the channel improvements, as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

²⁸ *Harvest Hills and Briar Meadow Neighborhood Drainage Study*, Westra Consultants, April 2019

Figure F.44. Arlington Harvest Hills Channel and Drainage Improvements (FMP 033000085)

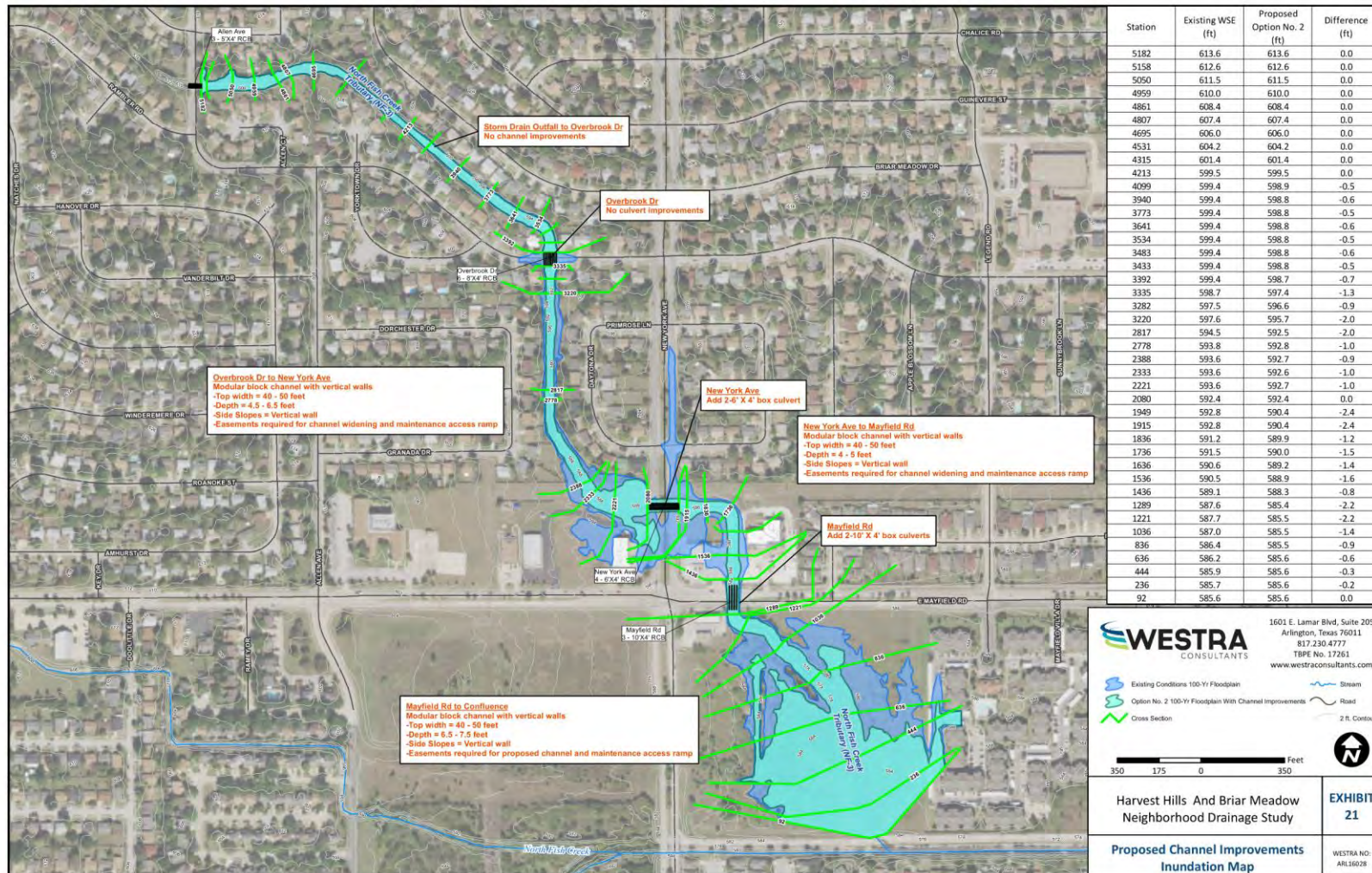


Figure F.45. Arlington Harvest Hills Channel and Drainage Improvements (FMP 033000085)



FMP 033000086 - Project 8a - Cheyenne Dr

As part of the larger West Fork of Cottonwood Creek Capital Improvements Projects Report²⁹, the current project area along Cheyenne Drive experiences ponding depths of up to 3.1 feet during the 100-year storm, primarily due to undersized storm sewer drainage. This ponding adversely affects nine properties in the immediate area.

Project 8a - Cheyenne Dr proposes upsizing the existing storm drain infrastructure on Cheyenne Dr. south of Melrose Dr. and increases the number of curb inlets to reducing flooding of Cheyenne Dr. and adjacent streets. (See **Figure F.46.**) Specifically, the improvement includes:

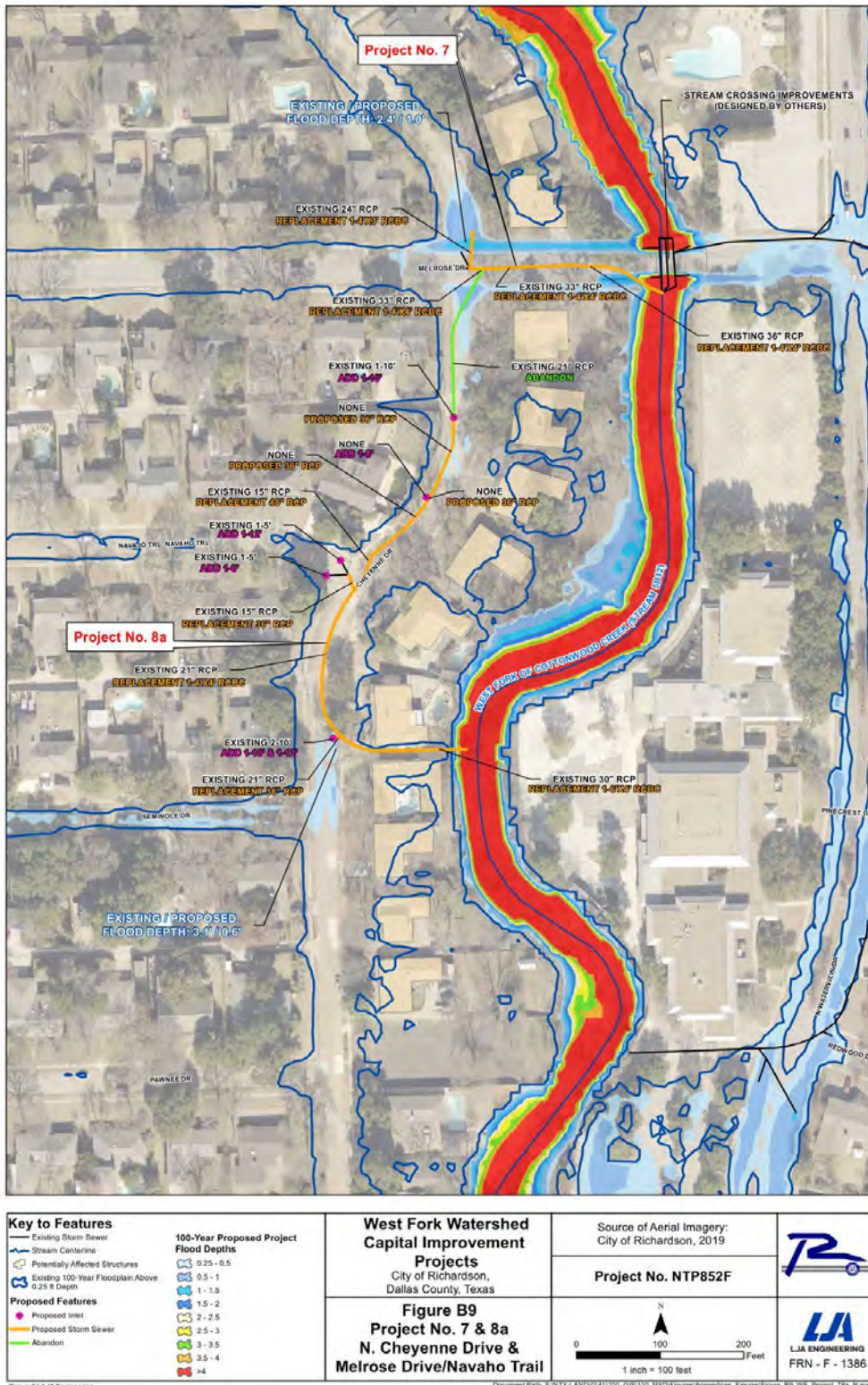
- Replace 19 LF of 15-inch RCP with a 36-inch RCP.
- Replace 45 LF of 15-inch RCP with a 48-inch RCP.
- Replace 9 LF of 21-inch RCP with 36-inch RCP.
- Replace 190 LF of 21-inch RCP with a 4-ft by 4-ft RCBC.
- Replace 180 LF of 30-inch RCP with a 6-ft by 4-ft RCBC.
- Construct 204 LF of 36-inch RCP.
- Construct 60 LF of additional curb inlets.

The proposed project will provide a 100-year LOS (1% annual chance storm event) and remove 7 residential structures, along with an estimated population of 20 individuals, from the floodplain. Proposed improvements will reduce the flood depth from 3.1 feet to 0.6 feet, keeping the floodwaters within the ROW and away from adjacent properties. The estimated cost for this project is \$792,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A).

²⁹ *West Fork of Cottonwood Creek Capital Improvement Projects*, LJA Engineering, August 2022

Figure F.46. Project 8a - Cheyenne Dr (FMP 033000086)



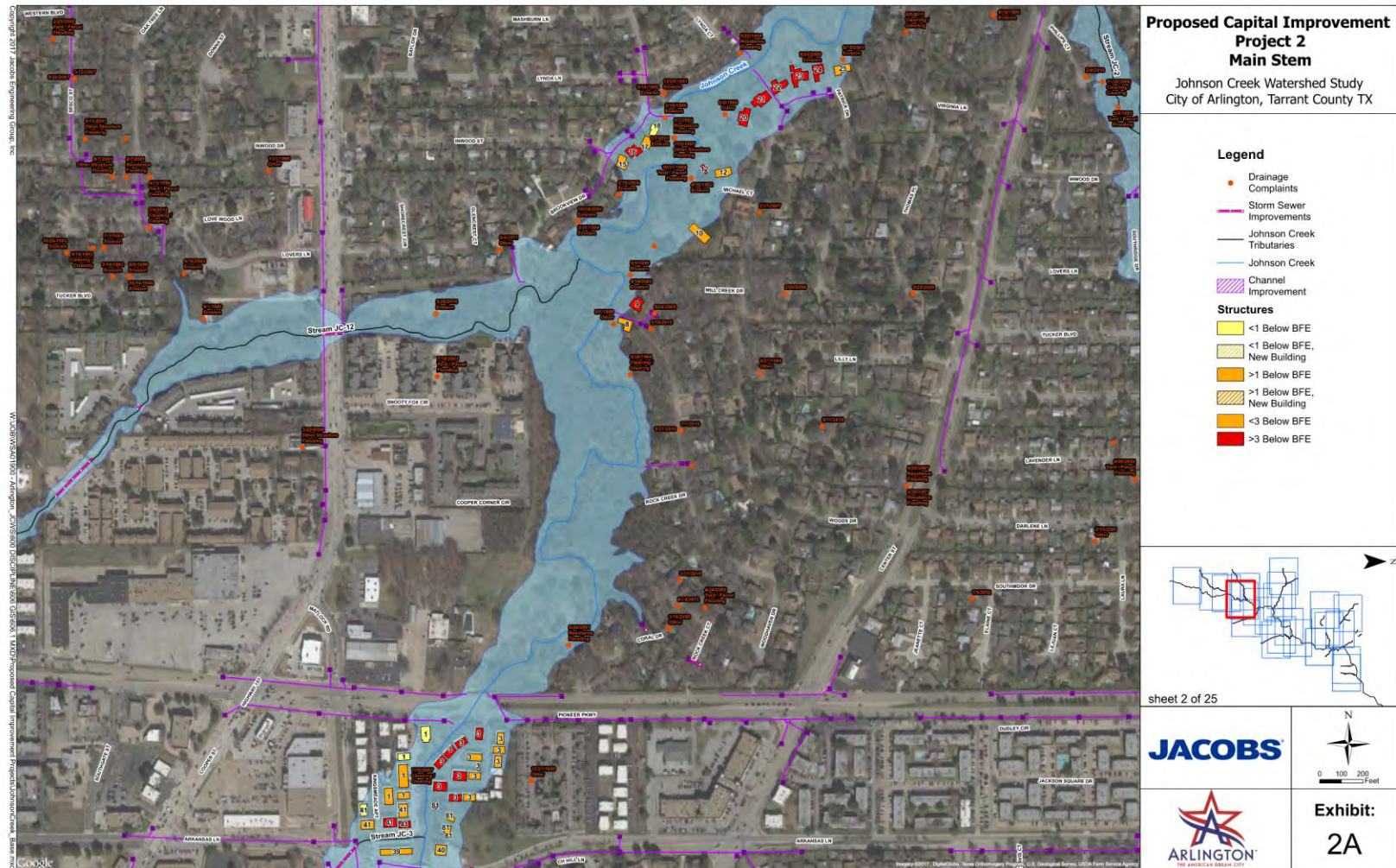
FMP 033000087 - Arlington Johnson Creek - Arkansas Lane and Pioneer Parkway Buyout at Johnson Creek

This project was developed from the Johnson Creek Watershed Study. The project is located between Arkansas Lane and Pioneer Parkway. The project area is currently predicted to have 24 residential structures in the 100-year floodplain (10% annual chance storm event), equating to 157 individuals currently in the 100-year floodplain.

The acquisition and demolition of approximately twenty-four (24) structures is what this project entails. No channel improvements or negative impacts will occur. To address the erosion and flooding concerns along Johnson Creek, these structures need to be bought out. (See **Figure F.47.**) Proposed improvements will remove all residential structures from the floodplain as well as provide 100-year LOS to the immediately surrounding area. The estimated buyout cost is \$7,675,000.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

Figure F.47. Arlington Johnson Creek - Arkansas Lane and Pioneer Parkway Buyout at Johnson Creek (FMP 033000087)



FMP 033000088 - Project 13 - Mimosa & Melrose Dr

The Mimosa Drive & Melrose Drive System FMP, developed from the West Fork of Cottonwood Creek Capital Improvement Projects Report³⁰, proposes options for storm sewer replacements and additions. The current location is subject to severe roadway flooding with 1.33 miles of roadway impacted in the 100-year storm (1% annual chance flood event). The existing conditions model shows 140 CFS of uncollected flow in the roadway which negatively impacts the intersection and surrounding properties.

The proposed project includes upsizing 790 linear feet of storm sewer mains and laterals with larger storm sewers, adding 665 linear feet of parallel storm sewer, constructing 81 linear feet of new storm sewer, and adding 244 linear feet of curb inlets to eliminate inlet overflow. (See **Figure F.48.**) Specifically, the alternative includes:

- Replace 43 LF of 15-inch RCP with a 24-inch RCP.
- Replace 48 LF of 21-inch RCP with a 36-inch RCP.
- Replace 48 LF of 15-inch RCP with a 54-inch RCP.
- Replace 173 LF of 42-inch RCP with two 54-inch RCP.
- Replace 152 LF of 45-inch RCP with two 54-inch RCP.
- Replace 326 LF of 48-inch RCP with two 54-inch RCP.
- Construct Parallel 73 LF of 27-inch RCP.
- Construct Parallel 270 LF of 30-inch RCP.
- Construct Parallel 35 LF of 33-inch RCP.
- Construct Parallel 27 LF of 42-inch RCP.
- Construct Parallel 35 LF of 54-inch RCP.
- Construct Parallel 225 LF of 60-inch RCP
- Construct 81 LF of 30-inch RCP.
- Construct 244 LF of additional curb inlets.
- Construct thirteen junction boxes with manholes.

HEC-RAS and XPSTORM models were created to analyze the impact that the proposed improvements would have. The structural LOS for this alternative is the 100-year storm event (1% chance of occurrence), as the 100-year storm is held to the right-of-way. Following the implementation of these storm sewer improvements, an estimated 0.74 miles of roadway would be removed from the 100-year floodplain. The project area population of 314 people would benefit from reduction in road closures. Additionally, some agricultural land would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements. The project also supports other project areas within the City of Richardson.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

³⁰ *West Fork of Cottonwood Creek Capital Improvement Projects*, LJA Engineering, August 2022

Figure F.48. Project 13 - Mimosa & Melrose Dr (FMP 033000088)



FMP 033000089 - Arlington Johnson Creek - Collins Street and Division Street Buyout

The Collins Street and Division Street Buyout was developed from the Johnson Creek Watershed Study. This project is located between Collins Street to the south and Division Street to the North along Johnson Creek. Currently, there are 76 residential structures, an estimated population of 640 individuals, currently impacted by the 100-year storm event (1% annual chance storm event).

The acquisition of approximately one hundred twenty-four (124) structures is what this project entails. No channel improvements or negative impacts will occur. These structures are recommended to be bought out to address the erosion and flooding concerns along Johnson Creek,. (See **Figure F.49.**)

At a cost of \$30,258,000, the project removes 76 homes, and the 640 residents, from the 100-year floodplain.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

[illegible]

FMP 033000090 - Town Creek Railroad and S. Warren Street Improvements

The City of Burleson completed a stormwater masterplan for the Town Creek and Shannon Creek watersheds in 2004 and updated in 2021³¹. This study identified alternatives to improve street and structure flooding during the ultimate conditions 100-year storm event. This FMP pertains to roadway crossing improvements to reduce structure and roadway flooding in the Town Creek watershed.

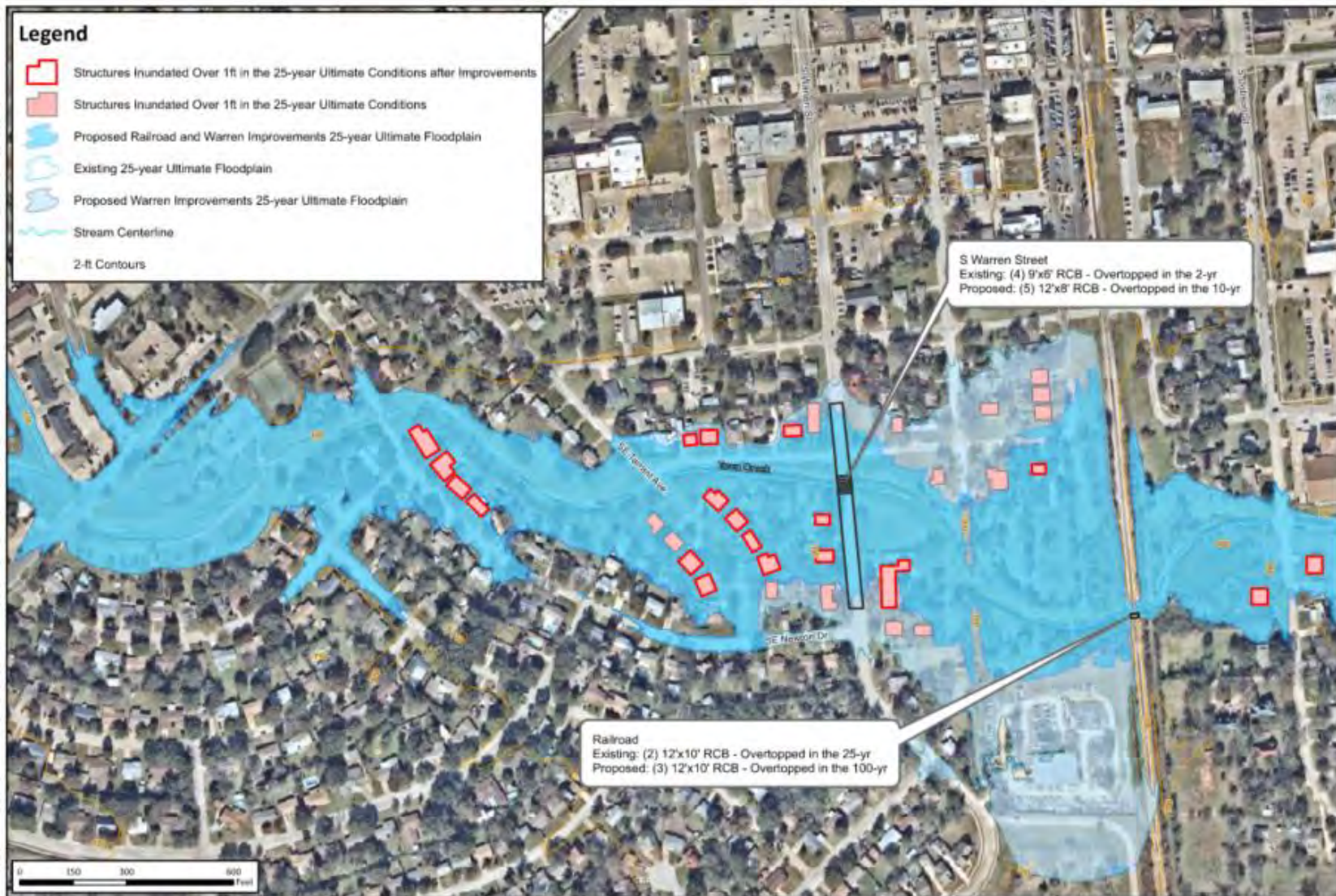
Significant improvements are needed at the railroad crossing as it currently has a 10-year level of service and causes backwater effects to multiple roadway crossings upstream, including S. Warren Street. The existing crossing contains two 12'x10' RCBs, and this project suggests an additional 12'x10' RCB be added to increase capacity. Additionally, the current S. Warren Street crossing is overtopped in the 2-year storm event. Therefore, this project also recommends raising the roadway elevation by 2.5' and replacing the existing four 9'x6' RCBs with five 12'x8' RCBs (see **Figure F.50**). These improvements bring the post-project level of service to 100-yr for the railroad crossing and 10-yr for the S. Warren Street crossing. The project cost is \$2,441,000.

Project models reveal that, while no structures are completely removed from the 100-yr floodplain, 20 structures show a reduced 100-yr flood risk.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)* (see **Table F.1**).

³¹ Town Creek and Shannon Creek Master Drainage Plan, Freese and Nichols, Inc., 2021.

Figure F.50. Town Creek Railroad and S. Warren Street Improvements (FMP 033000090)



FMP 033000091 - Saturn Springs Estates Drainage Improvements

The previous study for the Saturn Springs Estates neighborhood³² includes analysis of the residential street drainage and Stream 2C3 (also known as Ruperts Branch). The current storm sewer is undersized to cope with the current level of development and rainfall, which leads to flooding along roadways and residential properties in events as frequent as the 2-year (50% annual chance event).

Negative impacts from flooding are caused by the insufficient storm drainage at the 50% annual chance storm and riverine flooding at 10% annual chance storm event. The proposed solutions are Alternative Two for the channel improvements and Option Two for the storm drain improvements.

Alternative two focuses on protecting areas prone to erosion near Stream 2C3 by constructing gabions and retaining walls in areas of the channel prone to high velocity, as well as where structures are within 5 feet of the channel bank, where utilities are threatened by erosion, and around the Glenbrook Drive crossing. (See **Figure F.51**) Through alternative two, nine (9) habitable and two (2) accessory structures are removed from the 100-year floodplain.

Option two focuses on storm drain upgrades including upsizing multiple pipes along Briarwood, Glenbrook, Kynn, and Larry Drives; repairing and installing curb and gutter; and installing lateral lines for additional inlets. (See **Figure F.52**) Option two removes sixteen (16) habitable and thirty-one (31) accessory structures from the 100 year floodplain. Both Alternative Two and Option Two are recommended for implementation.

The estimated project cost is \$10,510,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

³² *Saturn Springs Estates Drainage Improvements*, O'Brien Engineering, Inc., October 2021

Figure F.51. Saturn Springs Estates Drainage Improvements (FMP 033000091)

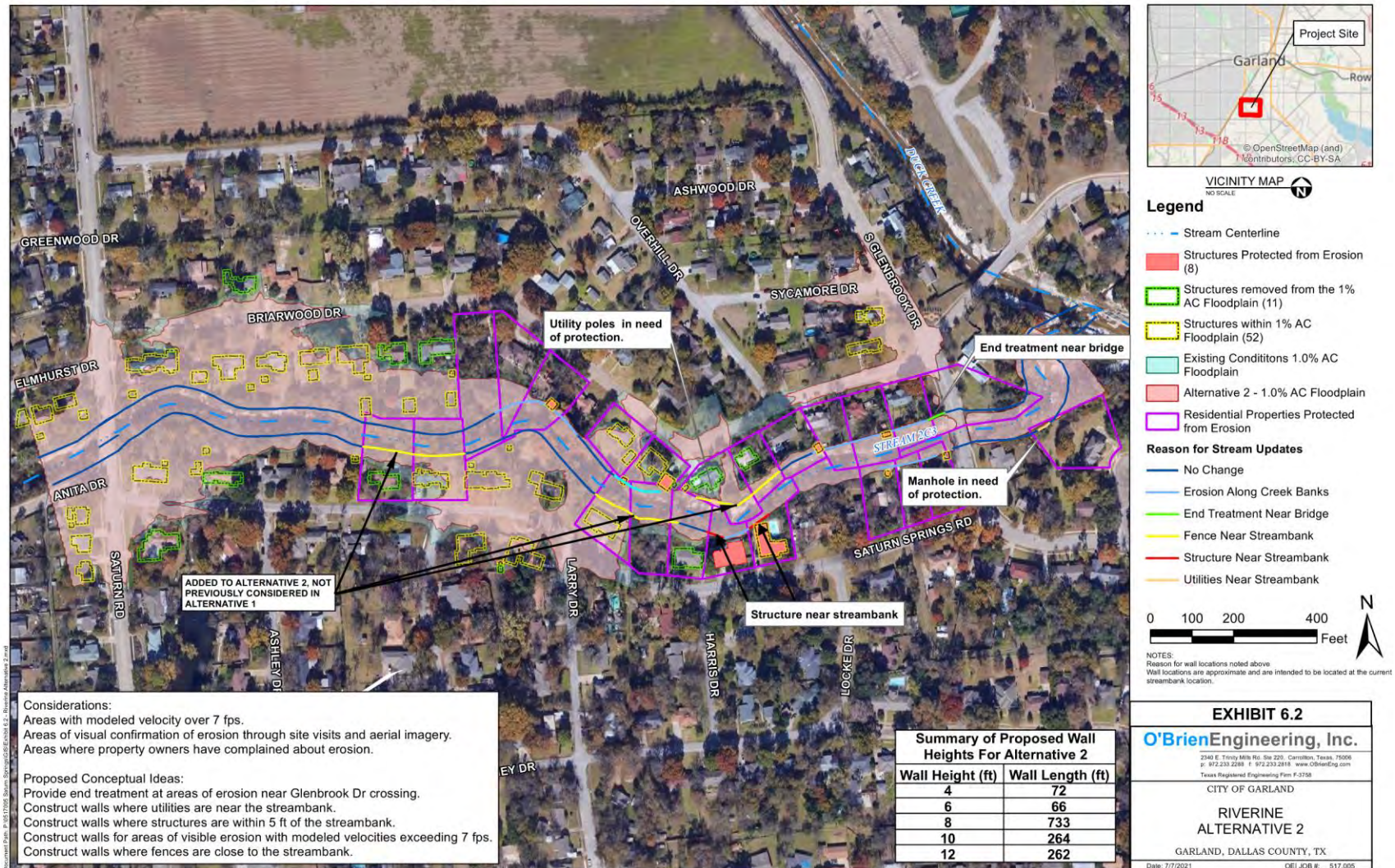
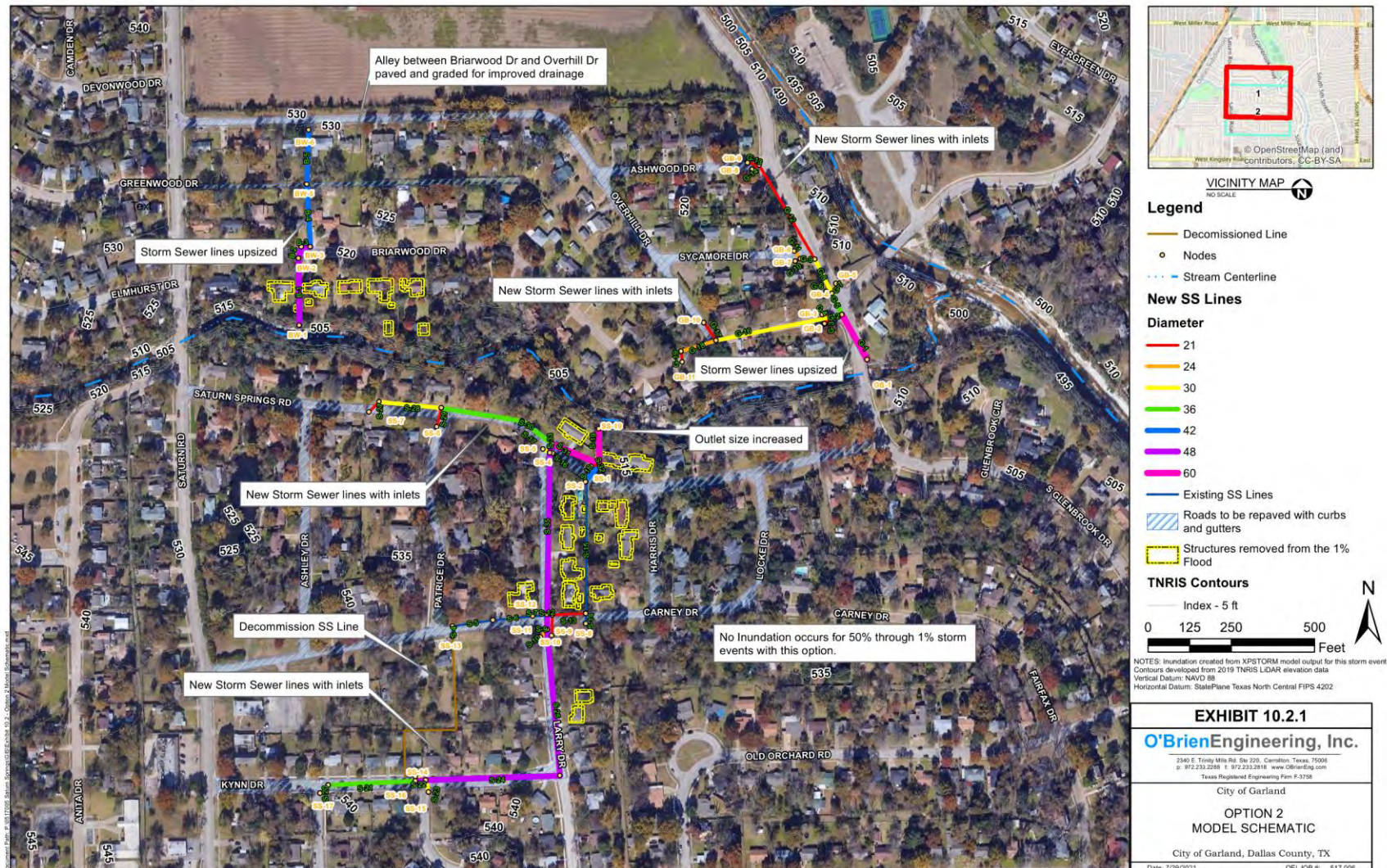


Figure F.52. Saturn Springs Estates Drainage Improvements (FMP 033000091)



FMP 033000092 - Terrell KC1 Watershed Drainage Improvements

The City of Terrell developed a Drainage Master Plan for the portion of the City between Kings Creek on the east and Bachelor Creek on the west. Study area KC1 is generally bounded on the north by Brin Street, the south by Rochester Street, the west by Pacific Avenue, and the east by Kings Creek. The confluence of the tributaries occurs slightly east of the Gardner Street crossing and flows between the railroad tracks and the Stalling's Addition subdivision. The existing storm drain systems vary in age and condition, though are generally in fair or better condition.

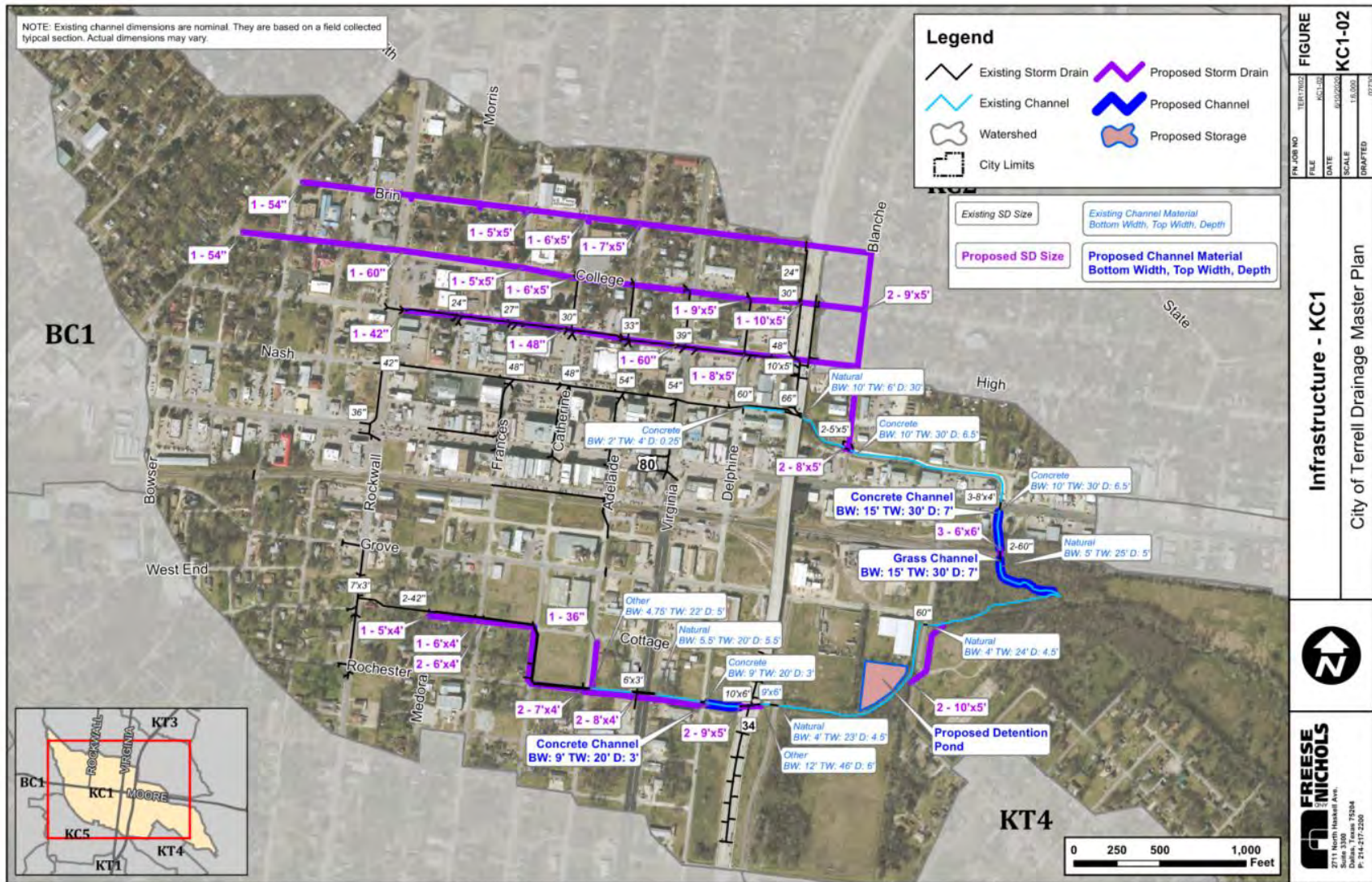
The upper watershed storm drains were modeled using ICM, with separate models north and south of US-80, called "Virginia" and "East" respectively. The lower watershed open channels were modeled using HEC-RAS to the confluence with Kings Creek. The H&H analysis demonstrates that storm drains are needed on Brin Street, College Street, Rochester Street, and Gardner Street with some slight differences in alignments and extents of existing storm drains. Doing so will allow the removal of the valley gutters and the hazard it poses to vehicles. The flow will be contained from Rockwall Avenue all the way to the outfall in the main channel, just downstream of Blanche Street. Additionally, a new drainage crossing at SH 34 is recommended at High Street to provide increased capacity that results in a slight reduction in depth at the High Street sag point during the 100-year storm and a significant reduction during the 2-year storm. Inlet pairs will be placed at every intersection to capture additional runoff along the alignment. Upsizing the Railroad Crossing and improving the channel adjacent reduces flood hazard and will lessen the probability of the railroad being overtopped.

The Gardner Street culvert and channel will remove the severe overtopping and improve the efficiency of flow through the area. The detention pond is included in the project to mitigate the increased flow rates. The combined effect of the proposed infrastructure improvements results is shown in **Figure F.53**. The overtopping across US 80 is significantly reduced and the flooding is better contained to the ROW in the Rochester, Downtown, and Gardner Street areas.

The combined improvements in this watershed are expected to increase discharges downstream, however; these flows are discharged to an engineered channel that has additional capacity. The area downstream of the engineered channel is generally undeveloped in existing conditions. Following the implementation of these mitigation measures, an estimated 2.5 miles of roadway, 61 structures – 19 of which are residential buildings, and 610 people would be removed from the 100-year floodplain.

Based on the comparative assessment performed for this FMP, this proposed project does *not meet all* no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A).] The combined improvements in this watershed are expected to increase discharges downstream; however, these flows are discharged to an engineered channel and detention pond that have the necessary additional capacity. Additionally, the area downstream of the engineered channels is generally undeveloped land in existing conditions.

Figure F.53. Terrell KC1 Watershed Drainage Improvements (FMP 033000092)



FMP 033000094 - Lois Branch Main Channel Improvements

The Lois Branch Main Channel Improvements Project developed from the Floyd Branch Watershed Capital Improvement Plan³³. The study area is located between Polk Street and the confluence with Floyd Branch. The Lois Branch Existing Conditions Hydraulic Model was previously developed and shows 2 residential structures, nearly 4 miles of roadway, and 9 critical facilities are impacted by the 100-year event (1% annual chance flood event).

The recommended alternative modifies the channel geometry to include two drop structures of 3.0 and 3.5 feet to allow larger culverts to be implemented under Pittman Street and Highland Boulevard. The alternative recommends approximately 3,900 LF of channel modification along with these improvements. Most of the existing waterway would be reconstructed into a concrete, rectangular channel between 10 to 15 feet wide and the channel downstream of Spring Valley into a concrete-lined trapezoidal cross section with a base width of 20 feet. The Spring Valley crossing itself would be raised by 1.0 foot at the Lois Branch crossing. (See **Figure F.54** and **Figure F.55**.)

At a cost of \$2,598,000, the 2 residential structures, as well as the 4 miles of roadway, and 8 of the critical facilities will be removed from the 100-year floodplain.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

³³ *Floyd Branch Watershed Capital Improvement Plan*, Freese and Nichols, April 2010

Figure F.54. Lois Branch Main Channel Improvements (FMP 033000094)

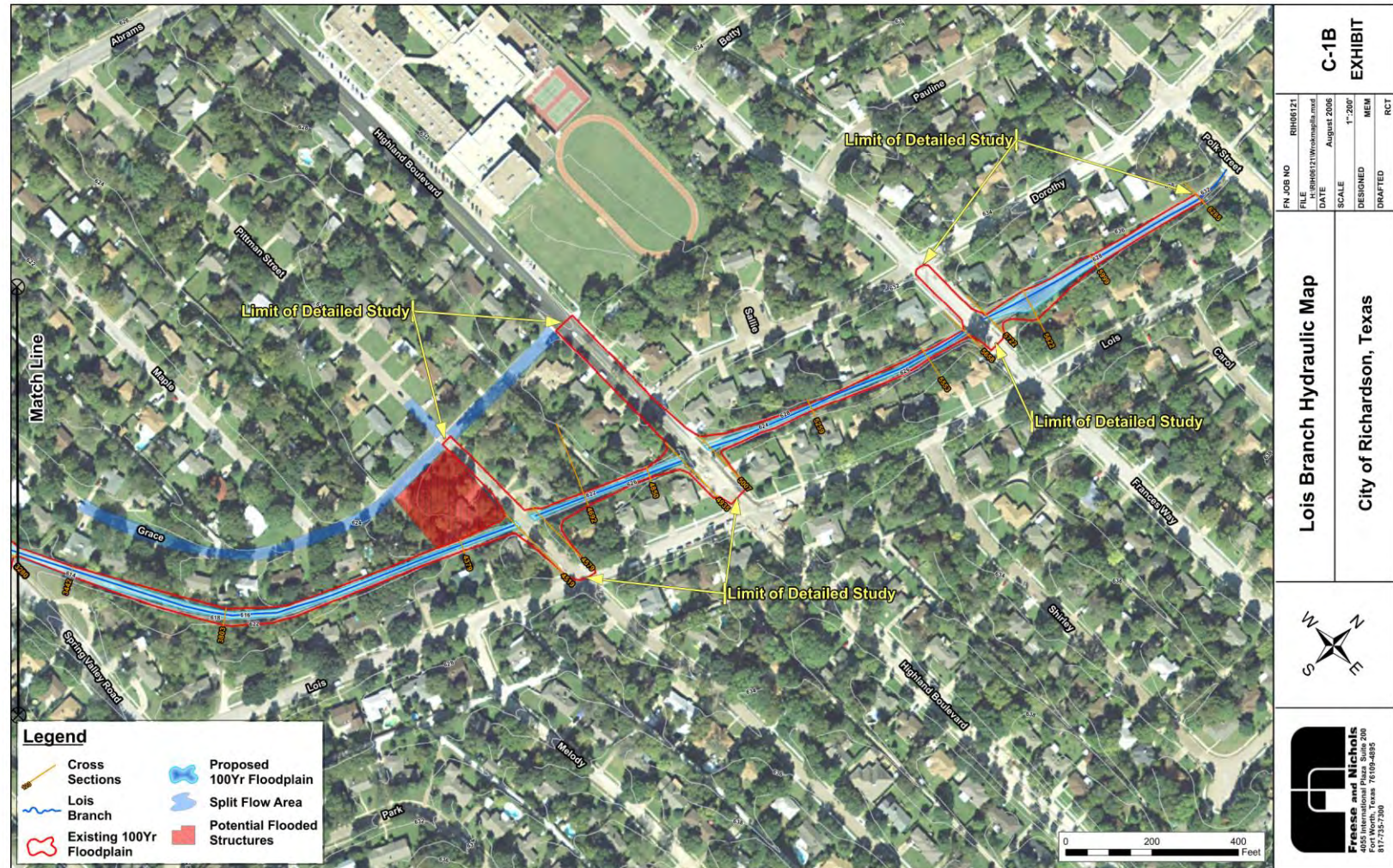
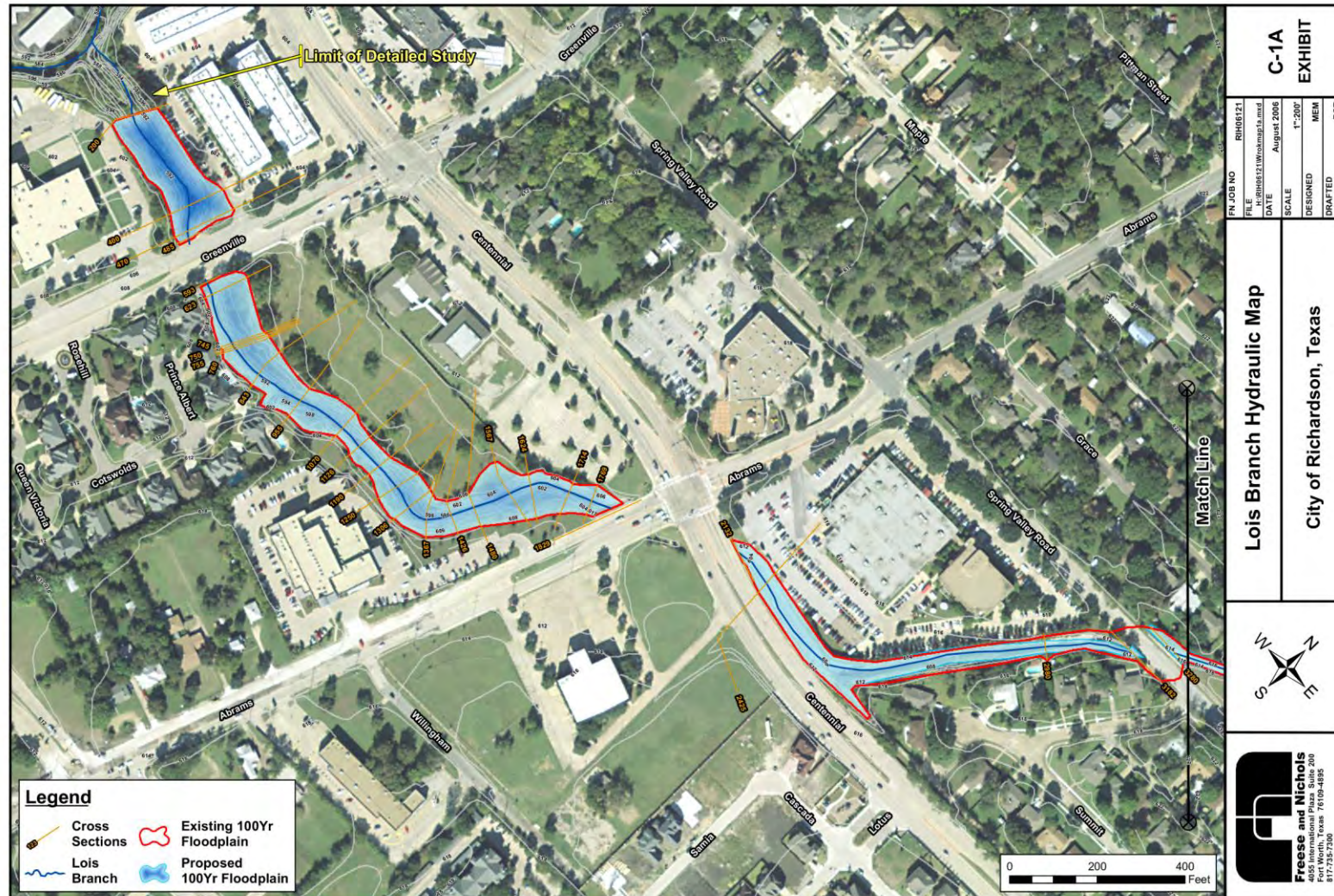


Figure F.55. Lois Branch Main Channel Improvements (FMP 033000094)



FMP 033000095 - DMP Phase 1: Kirven Avenue (Project 1)

The City of Waxahachie prepared a Drainage Master Plan to assist in evaluating existing drainage conditions and developing conceptual solutions to address flooding concerns. The Master Plan is comprised of five (5) potential project areas that were identified through rain-on-mesh (ROM) analysis and local officials' knowledge of historical flooding issues. The Kirven Avenue (Project 1) area is one of those 5 project areas.

HEC-RAS was used to develop a 2D ROM model to identify areas of flooding concern. The hydraulic model captured approximately 148 square miles around the City of Waxahachie, Waxahachie Creek, and the surrounding tributaries of: Grove Creek, Mustang Creek, and South Prong Creek.

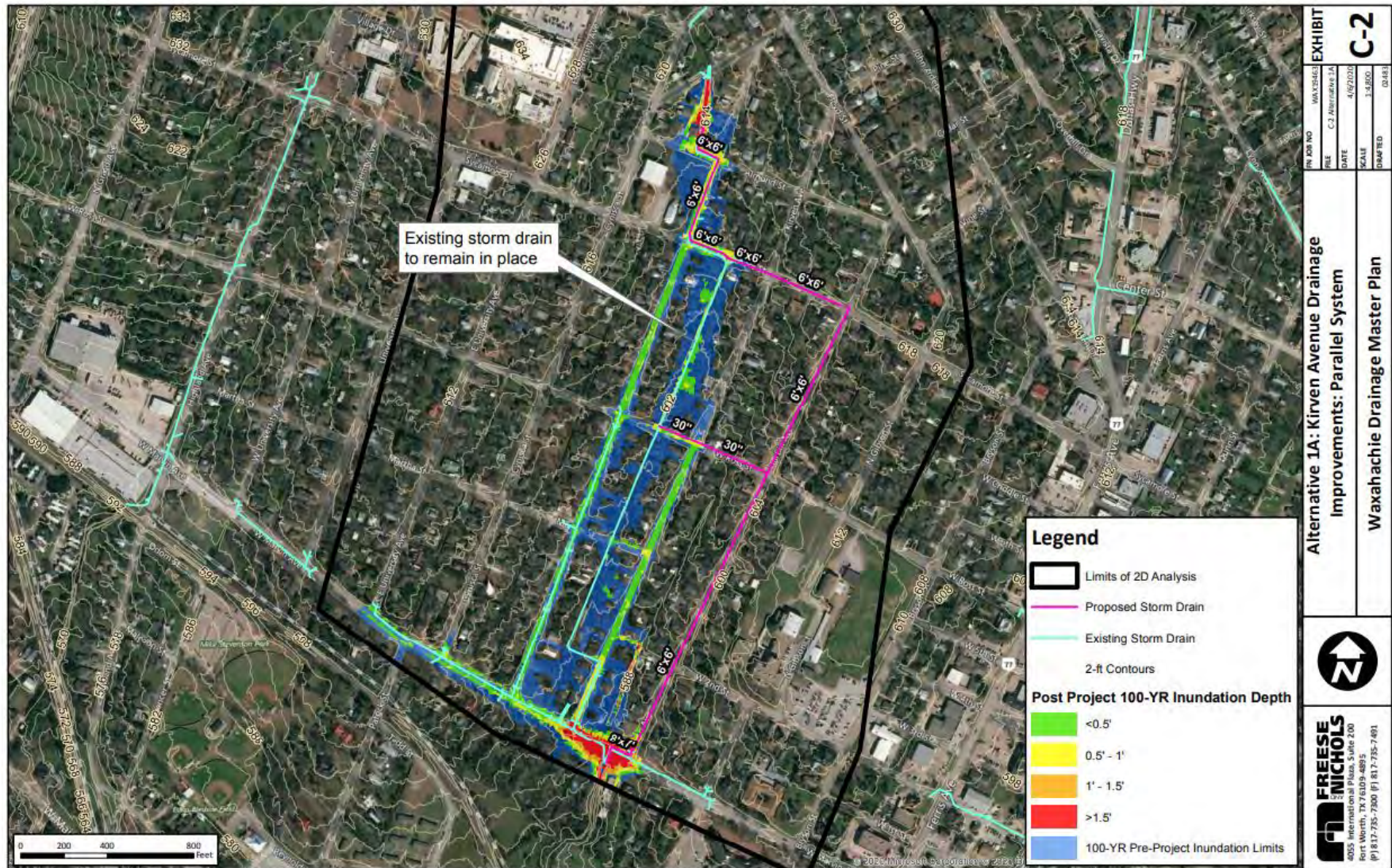
The results of a HEC-RAS 2D rain-on-mesh model indicated that properties located along Kirven Avenue and Virginia Avenue likely experience flooding due to insufficient capacity within the existing storm drain system and the right-of-way (ROW). The flooding generally occurs within the area bounded by Floyd Street in the north and Marvin Avenue in the south. An existing storm drain runs underneath the roadway from Almond Street to Sycamore Street and between properties from Sycamore Street to the existing 8'x4' RCB outfall at Marvin Avenue. An existing conditions model was developed in Infoworks ICM to analyze the existing conditions of this area in further detail by incorporating the overall storm drain capacity. The model results confirm that the existing storm drain is undersized, and as the capacity of this storm drain is exceeded, water overtops the roads and flows across private properties.

On the upstream end of the studied area, structures at Almond Street are at risk of flooding as early as a 5-year storm event, and similarly, Marvin Avenue begins to experience significant ponding in a 5-year event. In the 25-year storm event, the storm drain is overwhelmed, and additional runoff is conveyed along Kirven and Virginia Avenues as well as through the alley between the streets.

The recommended alternative proposes to address flooding by supplementing the existing storm drain system with an additional parallel system contained within the ROW. The upstream end of the proposed storm drain would begin near the intersection of Almond St. and Sycamore St. and would extend downstream along Harbin Ave. to the existing outfall at Marvin Ave. The existing 8'x4' RCB outfall on Marvin Avenue would be replaced with an 8'x7' RCB outfall as shown in **Figure F.56**. Following the implementation of these local area improvements, an estimated 14 structures would be removed from the 100-year floodplain, 12 of which are residential structures, ultimately resulting in approximately 37 individuals removed from the 100-year flood risk.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. The proposed improvements increase the water surface elevation at the outfall near the intersection of Marvin Ave and Harbin Ave. However, comparative analysis demonstrates that this increase does not affect any properties and/or structures and the proposed drainage infrastructure and building inundation have been greatly reduced. Furthermore, the proposed storm drain improvements both upstream and downstream are sized to contain the increases in peak discharge (see Error! Reference source not found.).

Figure F.56. DMP Phase 1: Kirven Avenue (Project 1) (FMP 033000095)



FMP 033000096 - Estates Dr. Bridge Replacement

The Estates Drive bridge crosses over Poindexter Branch in the City of Copper Canyon. The current LOS for the bridge is a 2-year event (50% annual chance flood event). As a result, flooding in the area occurs frequently and with severity.

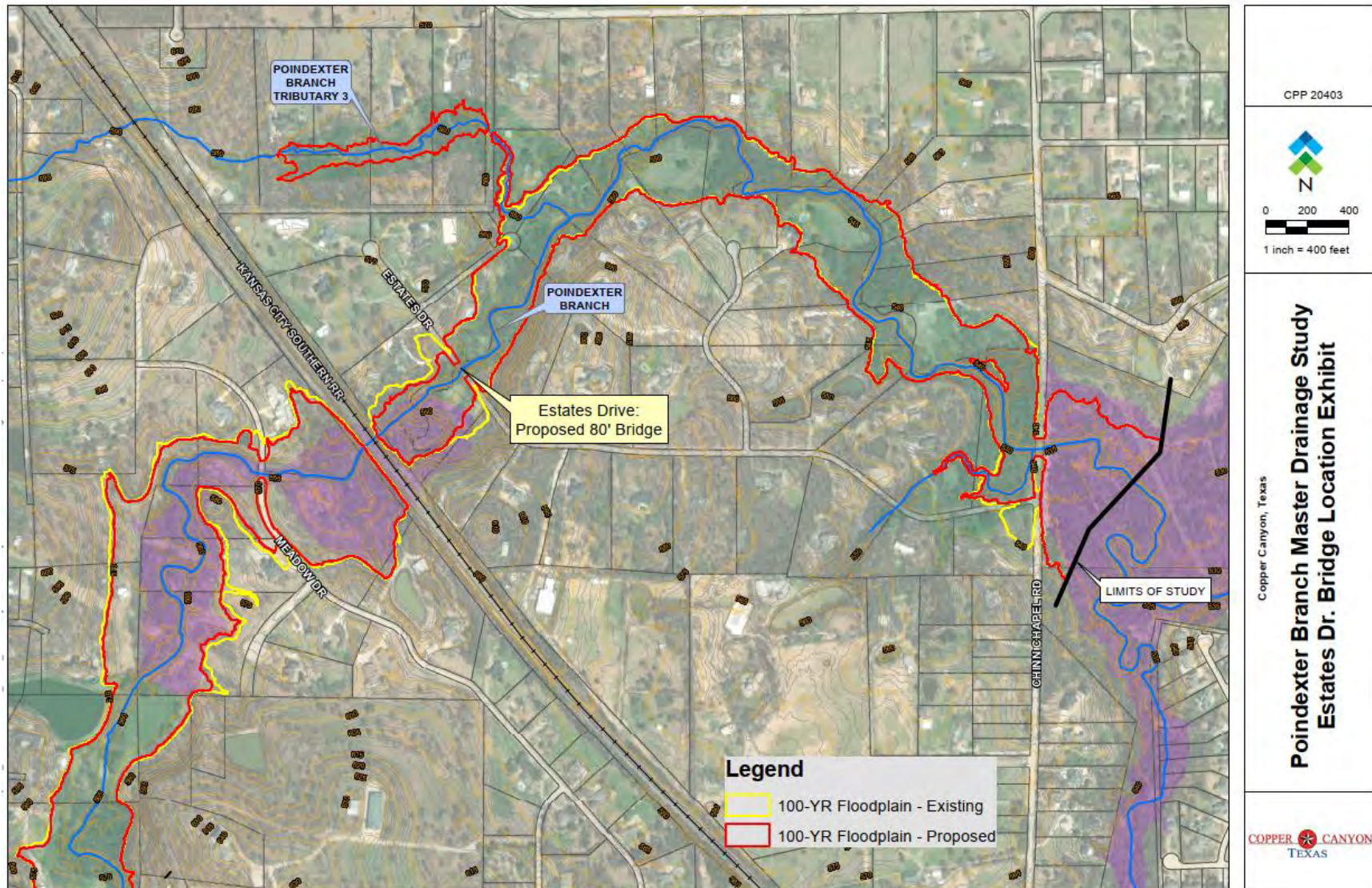
The Estates Dr. Bridge Replacement³⁴ proposes replacing the existing bridge with an 80-ft span over Poindexter Creek. (See **Figure F.57.**) HEC-HMS and HEC-RAS models were created to analyze the impact that the proposed improvements would have.

Following the implementation of these drainage and erosion improvements, an estimated 3.05 miles of roadway and 4 structures would be removed from the 100-year floodplain, 2 of which are residential structures. Additionally, 8 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements. The proposed project will provide a minimum of a 100-year LOS (1% annual chance flood event) for the crossing, at a cost of \$1,338,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

³⁴ *Poindexter Branch Master Drainage Study*, Teague, Nall, and Perkins, January 2023

Figure F.57. Estates Dr. Bridge Replacement (FMP 033000096)



FMP 033000097 - PEC-4 Phases 3 & 4

PEC-4 is located in central Denton, bounded by the University of North Texas and Bernard St on the West, along Hickory St to the North, South Bell Avenue to the East, and Highland St on the South. The contributing drainage area to the outlet of PEC-4 on the east side of Wainwright St encompasses 377 acres. Phases 1 and 2 have previously been designed and constructed and were implemented during modeling. The proposed Phases 3 and 4 will extend upstream north of Prairie St until the south side of the intersection of W Mulberry St and the existing open channel.

Runoff contributing to PEC-4 is collected largely by an underground storm drain network that routes water to the existing open channel that starts at Bernard St. The existing open channel contains 8 culvert crossings transitions underground for approximately 600 feet between Mulberry St and W Sycamore St before transitioning back to open channel. The channel continues downstream until outfalling into a larger open channel to the east of Wainwright St. The total length of the project extents along the main channel of PEC-4 is about 4,500 feet. The PEC-4 existing open channel consists of a rectangular shape with a rock-lined wall and a concrete-lined bottom.

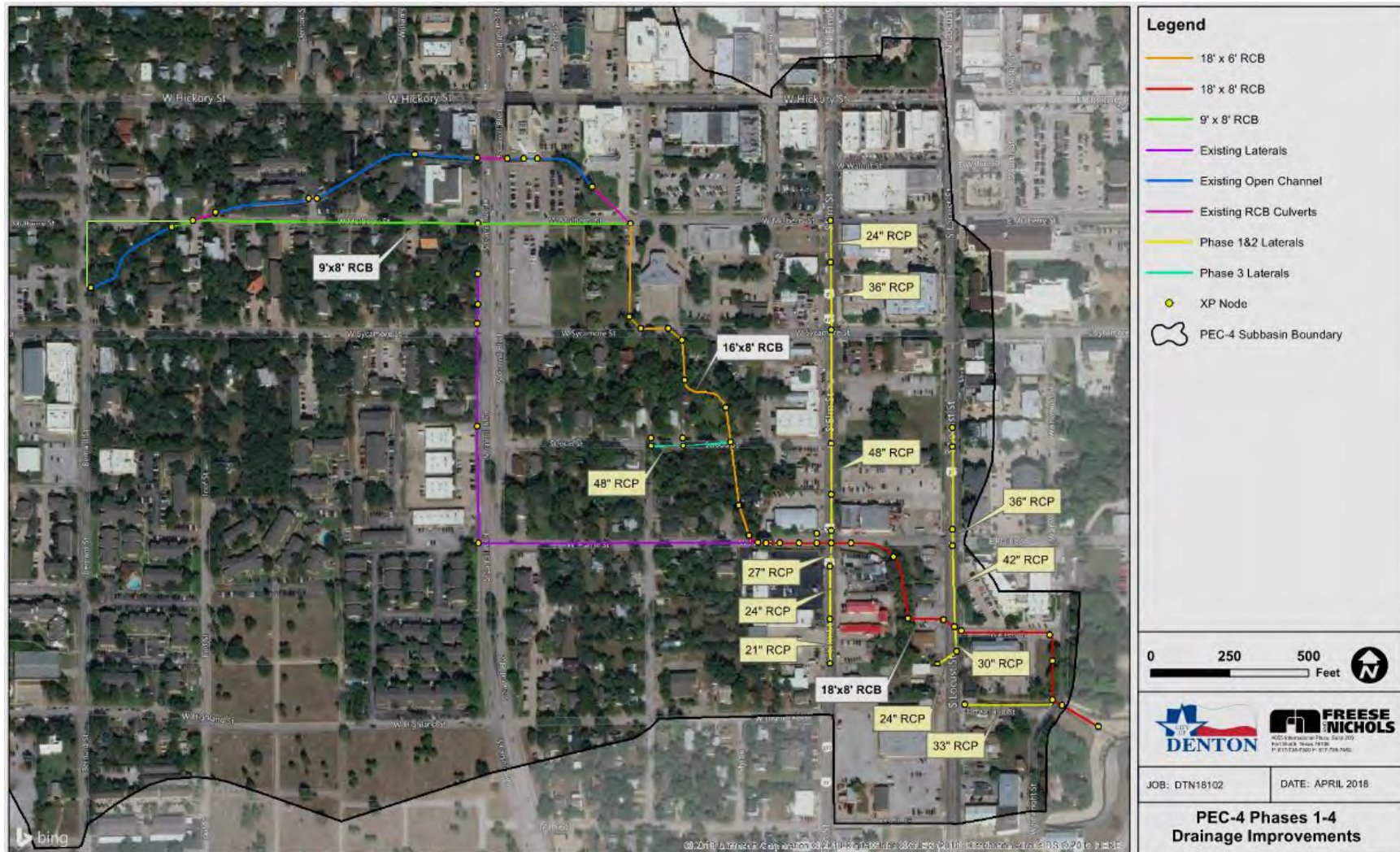
The existing conditions simulations in XPSTORM 2021.3 show that channel banks are overtopped, and pipe systems are surcharged, resulting in surface overflow propagating from the northwest to the southeast towards the outlet, where it accumulates. All areas immediately surrounding the open channel are inundated, along with particularly high impacts along Carroll Blvd, S Locust St, and S Elm St. Inundation was observed for commercial and residential areas.

The proposed PEC-4 Phases 3 & 4 includes reinforced concrete boxes constructed in parallel with the existing open channel from Mulberry St to Bernard St. These boxes are sized to convey the 100-year storm in conjunction with the open channel: 16' x 8' boxes for Phase 3, and 9' x 8' boxes for Phase 4 (see **Figure F.58**). The storm sewer can provide additional capacity for larger storms while collecting the local drainage to the channel. The proposed FMP greatly reduces excess flow along Locust St and Elm St. and removes all buildings within the project extents. Flooding along Bernard St and near the intersection of Bernard St and Mulberry St is also eliminated. The project cost is \$15,973,000.

The estimated flood risk reduction benefits following the implementation of the PEC-4 Phases 3 & 4 FMP include the removal of an estimated 1 mile of roadway and 81 structures from the 100-year floodplain, 70 of which are residential structures. This correlates to an estimated 244 individuals removed from the 100-year flood risk. Additionally, seven structures would have reduced impacts within the 100-year floodplain but would not be fully removed from flood risk. Two critical facilities and one low water crossing would also be removed from the 100-year floodplain.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)* (see **Table F.1**). Proposed improvements cause the peak discharge at the outfall to increase. The 1D maximum flow rates were higher than in the existing scenario due to the higher capacity of the proposed system and reduction of spilling onto the surface. The report indicates that the channel and culvert capacities downstream of SH 183 are adequate to receive this increase in discharge. A conservative 100-yr tailwater condition was adopted for the design of Phases 1 and 2, which were designed with sufficient capacity to add Phases 3 and 4 in the future.

Figure F.58. PEC-4 Phases 3&4 (FMP 033000097)



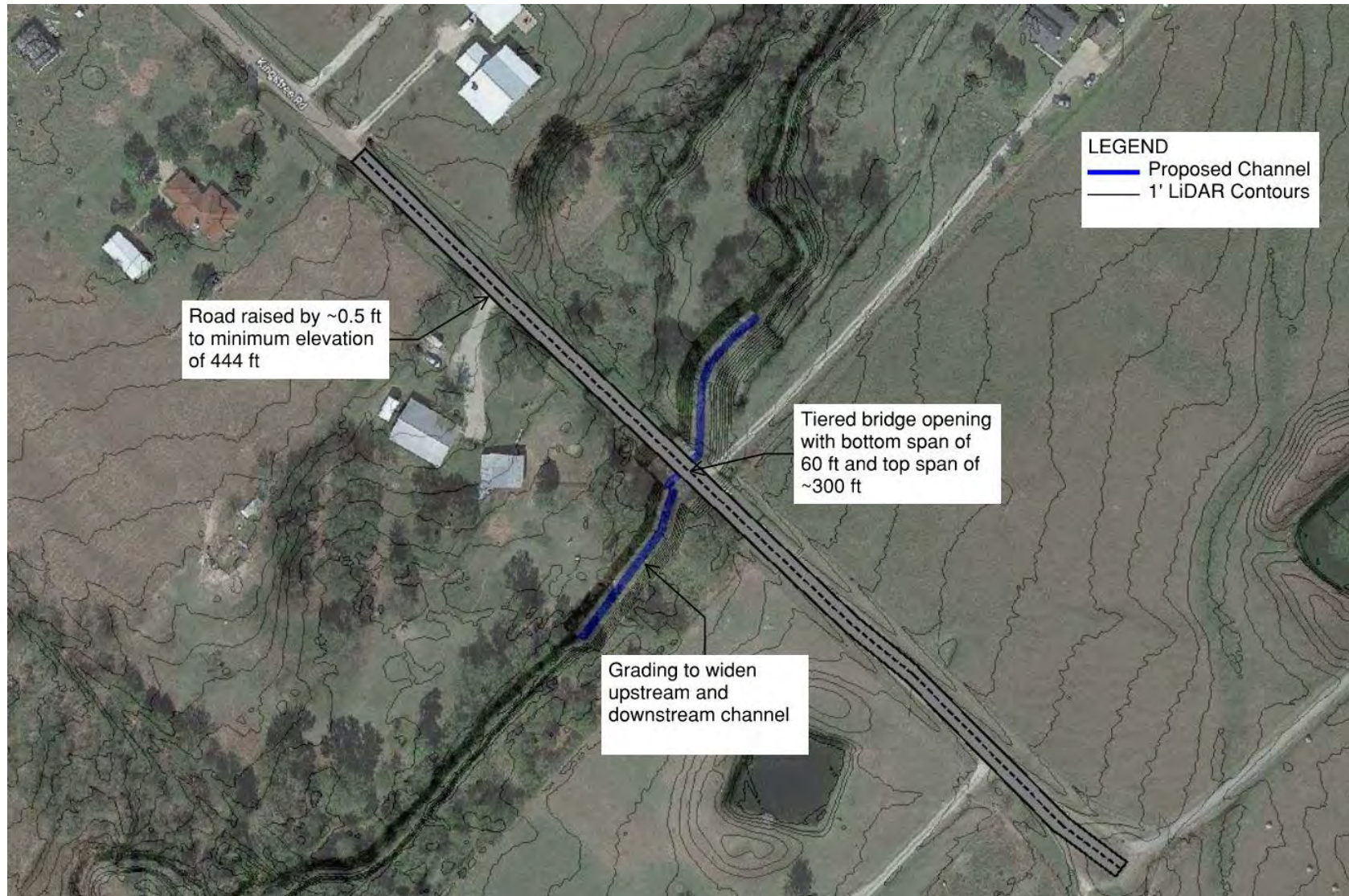
FMP 033000098 - Kingstree Rd Drainage Improvements

The Kingstree Road site is located in Precinct 1 of Kaufman County, approximately 5 miles northeast of the City of Kaufman. The site is located within the Kings Creek watershed in the Trinity River Basin. Kingstree Road is a dead-end road, and a crossing with Big Cottonwood Creek is located toward the end of the road. The existing drainage infrastructure at the crossing includes three 5-foot diameter corrugated metal culverts at the main creek channel, and another 2-foot diameter corrugated metal culvert located at a secondary crossing approximately 65 feet northwest of the main channel. The minimum road elevation over the crossing is approximately 442 feet. Existing drainage infrastructure appears to be significantly undersized and is unable to convey flow from a 2-year storm event. Model results show roadway overtopping and residential structures within the floodplain.

The proposed alternative for the Kingstree Road site includes installing a bridge, raising the road elevation, and upstream and downstream channel grading. The proposed bridge would have a total span of approximately 190 feet, with a bottom span of 40 feet at the main creek channel at elevation 433.5 feet, and two raised shelves at elevation 440 feet on either side with bottom spans of 40 feet each. The road over the crossing is proposed to be raised to an elevation of 444.5 feet for a total length of approximately 450 feet. Channel grading was added upstream and downstream of the crossing to tie in the existing channel to the widened channel at the base of the bridge. **Figure F.59** shows a summary of the proposed improvements, which achieve a 10-yr LOS. Project models reveal that, while no structures are completely removed from the 100-yr floodplain, 13 structures show a reduced 100-yr flood risk. The project cost is \$3,319,000.

Based on the comparative assessment performed for this alternative, the proposed project does not meet all no negative impacts requirements as established in *TWDB Technical Guidance (Exhibit C Section 3.6.A)* (see **Table F.1**). However, the WSE increases above 0.35 ft are contained within a small portion of the drainage ditch on the north side of the roadway. All other affected areas, including residential structures, experience decreases in WSE or an increase below 0.35 ft.

Figure F.59. Kingstree Rd Drainage Improvements (FMP 03300098)



FMP 033000100 - Arlington Upper Village VC(A)-5 Channel and Culvert Improvements

The Arlington VC(A)-5 FMP, developed from the Upper Village and Trinity Tributes Report³⁵, proposes options for channel and culvert improvements. The current LOS for Bowman Springs Road is the 1-year event and the 2-year event for Crossgate Court.

HEC-HMS and HEC-RAS models were created to analyze the impact that the proposed improvements would have based on ultimate land use conditions. Channel improvements are recommended to the existing, concrete-lined trapezoidal channel, to reconstruct the cross section as a 20-ft wide, 7-ft deep rectangular channel between Bowman Springs Road and Crossgate Court. Appropriate channel cross section transitions are recommended at either end of the improvements. The culverts on Bowman Springs Road are further recommended to upsize to reinforced concrete boxes. (See **Figure F.60.**)

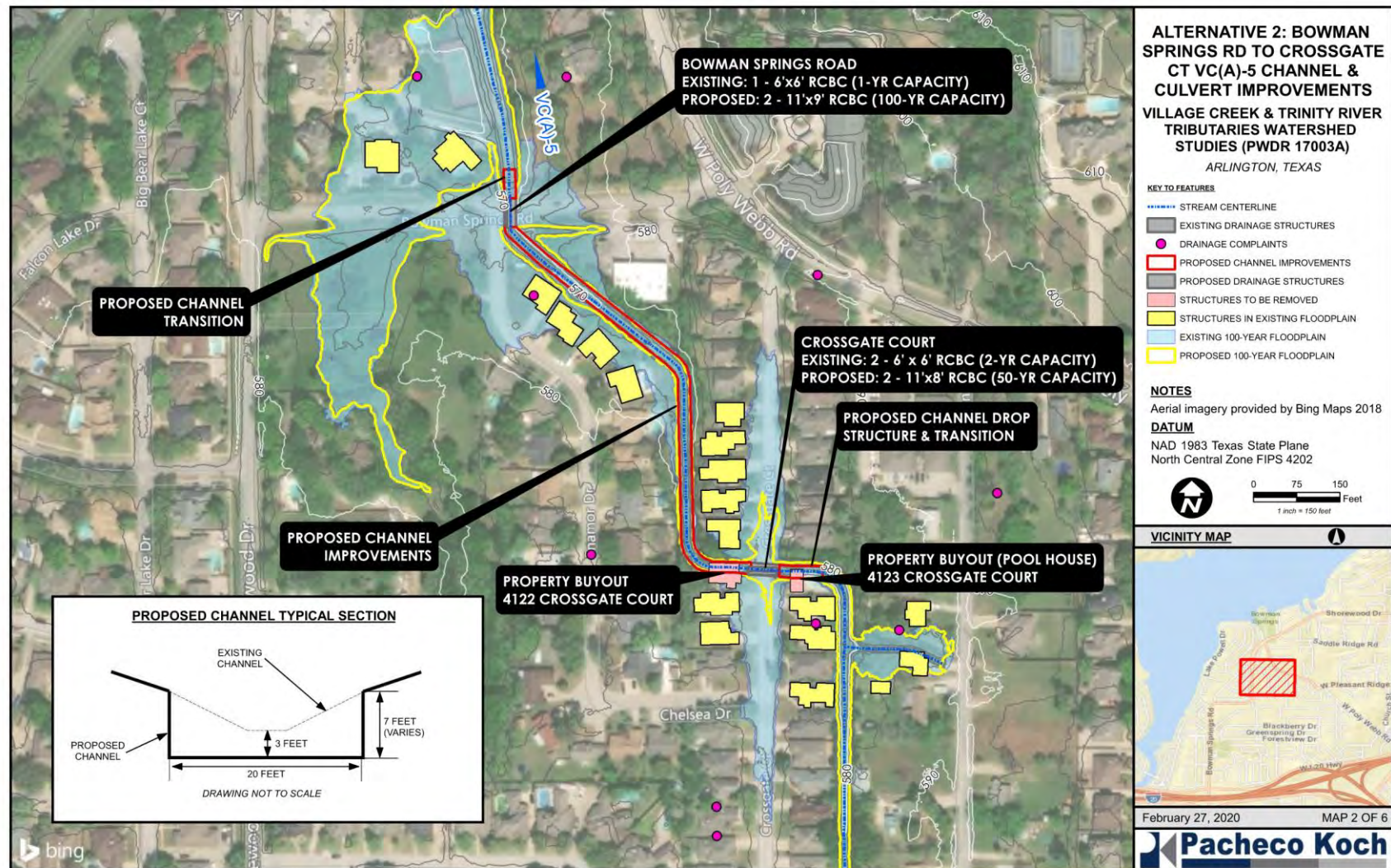
The proposed project will provide a minimum of a 100-year LOS (1% annual chance flood event). Flood risk reduction benefits are expected to bring the LOS for both crossings up to the 100-year event.

Following the implementation of these channel and culvert improvements, an estimated 0.08 miles of roadway and 13 structures would be removed from the 100-year floodplain, all of which are residential structures. This correlates to an estimated 28 individuals removed from the 100-year flood risk. Additionally, 3 structures would have reduced area within the 100-year floodplain but would not be fully removed from flood risk following these improvements. The estimated project cost is \$4,274,000.

Based on the comparative assessment performed for this FMP, the proposed project meets all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A) (see **Table F.1**).

³⁵ *Upper Village Creek & Trinity River Tributaries Watershed Studies*, Pacheco Koch, January 2021

Figure F.60. Arlington Upper Village VC(A)-5 Channel and Culvert Improvements (FMP 033000100)



FMP 033000101 - Channel Improvement on Brockbank Channel Basin north of SH 183

The purpose of the Brockbank Channel study³⁶ is to analyze the existing drainage infrastructure along Brockbank Channel and to provide alternative solutions to alleviate flooding of streets north of Brockbank Channel along Rochelle Road and Rochelle Point in the City of Irving. There are currently 43 structures at risk of flooding in the project area and signs of a continuation of flooding to the north.

One improvement alternative was developed for the open channel. This alternative consists of vertical cast-in-place concrete walls ranging from 20' to 18' bottom widths between Scotland Drive, with an average 7' wall height. The proposed channel footprint fits within the existing 30' ROW, however, temporary construction easements may be needed to brace the existing power poles. Most of the existing power poles near the channel are located at a sufficient distance to avoid relocation, but approximately 10 power poles will need to be relocated. Additionally, an 8-inch liquid petroleum pipeline is located approximately 6" below the existing channel floor north of Scotland Drive and will require relocation for open channel improvements.

An improvement alternative in two phases was developed for the closed storm drain system at Rochelle Road. The proposed alternative would mitigate the 50-year storm event and require removal of the existing 72" RCP that outfalls into Brockbank Channel. Phase 1 consists of installing approximately 625 LF of two, 8'x6' RCBs running from the outfall to Rochelle Road. Phase 2 consists of approximately 330 LF of 12'x4' RCB, 760 LF of 7'x4' RCB and 285 LF of 8'x4' RCB. The project extents are shown in the proposed improvements location map (see **Figure F.61**). The project cost is \$15,197,000.

Following the implementation of this FMP, an estimated 0.61 miles of roadway and 39 residential structures would be completely removed from the 100-year floodplain. This correlates to an estimated 60 individuals removed from the 100-year flood risk.

Based on the comparative assessment performed for this FMP, the proposed project does not meet all no negative impacts requirements as established in the *TWDB Technical Guidance (Exhibit C Section 3.6.A)*. However, the Trinity RFPG considers that the Channel improvement on Brockbank Channel Basin FMP conforms to the no negative impacts requirements based on professional engineering judgment (see Error! Reference source not found.). The open channel improvement causes peak flows to increase by 25.4%. This same increase (1420 to 1780 cfs) occurred at the six most downstream cross-sections of the model results. This increase is allowable, according to the Brockbank Channel Alignment Study.

"A downstream assessment was performed to verify sufficient channel and culvert capacity and potential adverse impacts for Brockbank Channel from SH 183 south to the confluence with Delaware Creek. The 100-year design discharge used for the Lower Brockbank Channel and culvert improvements was 1,830 cfs at SH 183. The more detailed hydrology performed for this study gave a 100-year design discharge of 1,780 cfs at SH 183. The downstream channel and culvert capacities were checked with the lower design discharge values and were verified to be adequate. There is sufficient channel and culvert capacity and no adverse impacts resulting from the proposed Brockbank Channel Improvements."

³⁶ Brockbank Channel Alignment Study, Pacheco Koch Consulting Engineers, 2022.

Figure F.61. Channel improvement on Brockbank Channel Basin north of SH 183 (FMP 0330000101)



FMP 033000107 - Plantation Ridge Channel Improvements

The Plantation Ridge site is in Precinct 1 of Kaufman County, just south of US Highway 80 between Forney and Terrell. The site is located within the Kings Creek watershed in the Trinity River Basin. The site is also located downstream of large commercial warehouse properties. It was noted that the County has installed upgrades to culvert infrastructure at Helms Trail in response to reports of structural flooding upstream. Because the culvert crossings at Helms Trail and Plantation Ridge are in close proximity, the County requested the two sites be combined into one FMP for the alternatives analysis. This allows for a more comprehensive solution to structural flooding in the area rather than only focusing on County roads.

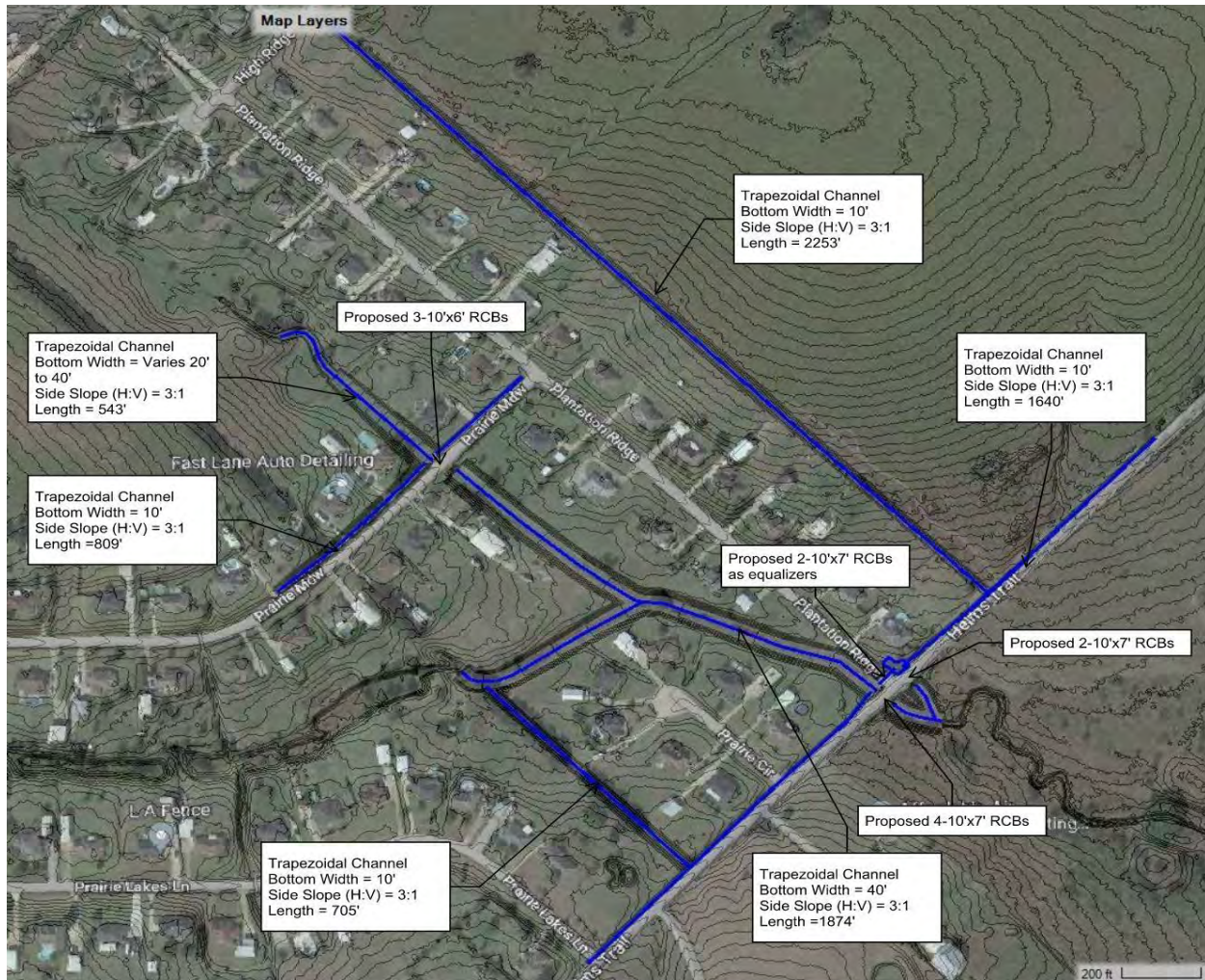
The proposed alternative includes upsizing the existing culverts, significant channel grading, and side ditch grading. Multiple 10'x7' RCBs are being proposed at the Plantation Ridge – Helms Trail intersection and multiple 10'x6' RCBs are being proposed at the Prairie Meadow intersection. The culverts have been sized in conjunction with channel grading to increase conveyance through the project area while not raising any residential road elevations. The proposed grading includes a main trapezoidal channel (40' bottom and 3:1 side slopes) running parallel to Plantation Ridge and through the Helms trail culvert crossing. It is expected that the channel will be vegetated with armoring added at locations of potential erosion. The proposed channel is placed behind existing residential properties in order to reduce infringement on private property. However, it is expected that a well-defined drainage easement will need to be obtained from the property owners. The channel grading effectively removes most of the properties from the 100-yr inundation boundary while not causing a significant rise on other properties.

In addition to the main trapezoidal channel previously mentioned, there are various side ditches proposed for this FMP. Although the side ditches are not as significant as the main channel, they aid in redirecting off site flows around existing structures. For example, there is currently a large open field to the northeast of Plantation Ridge that flows through residential backyards. The proposed 10' trapezoidal channel will redirect flows to the proposed culverts at Helms Trail. (See **Figure F.62.**)

These proposed improvements achieve a 10-yr LOS at the Plantation Ridge-Helms Trail crossing, and a 100-yr LOS at the Prairie Meadow crossing. Following the implementation of these local area improvements, an estimated 0.08 miles of road and 4 structures would be removed from the 100-year floodplain, 3 of which are residential structures; ultimately resulting in approximately 1 individual removed from the 100-year flood risk. The project cost is \$7,966,000.

Based on the comparative assessment performed for this alternative, the proposed project meets all no negative impacts requirements as established in *TWDB Technical Guidance (Exhibit C Section 3.6.A)* (see **Table F.1**).

Figure F.62. Plantation Ridge Channel Improvements (FMP 033000107)



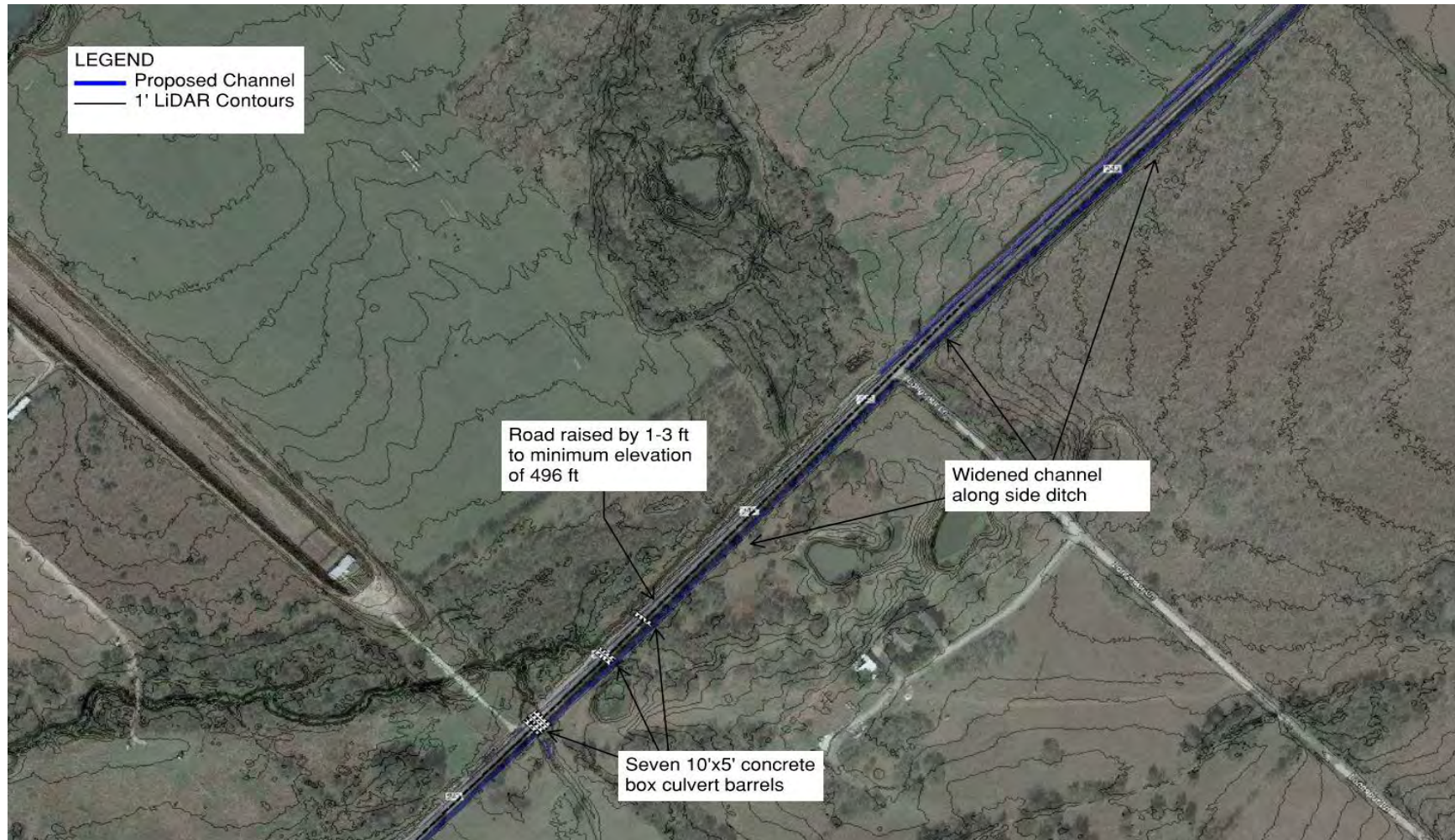
FMP 033000108 - CR-243 Drainage Improvements

The CR 243 site is located in Precinct 3 of Kaufman County, near the intersection of CR 243 and Longspur Lane and adjacent to a private gun range. The site is located within the Kings Creek watershed in the Trinity River Basin. The area receives floodwaters from two different directions. The main source of flow comes from Little High Point Creek, which flows south towards CR 243 before being redirected southwest after intersecting with the road embankment. The side ditch on the north side of CR 243 effectively becomes the main channel of flow for the creek for approximately 670 feet before flowing west away from the roadway. The other source of flow comes from two unnamed tributaries of Little High Point Creek which flow northwest and converge just before intersecting with CR 243, and eventually Little High Point Creek near the point where the creek begins to flow west away from the road. The combination of flow from these two sources creates significant flooding issues along this stretch of CR 243. During heavy storm events, the roadway effectively becomes an overflow channel for Little High Point Creek, carrying floodwaters southwest until it joins with the other tributaries.

The proposed alternative for the CR 243 site includes upgrading existing culverts to concrete box culverts, raising the road, upstream and downstream channel grading, side ditch grading, and grading around culvert entrances and exits. Seven 10'x5' concrete box culverts would be installed, four at the main channel crossing, two at the middle culvert group, and one where the existing culvert pair is located. The road would be raised to a minimum elevation of 496 feet, with most of the road being set to a higher elevation. Channel grading was added upstream and downstream of the main channel crossing. Side ditches were also widened along the south end of CR 243 to help direct flow into the culverts. Grading was added at the culvert entrances and exits as well. **Figure F.63** shows a summary of the proposed improvements, which achieve a 100-year LOS. Following the implementation of these local area improvements, an estimated 0.4 miles of road would be removed from the 100-year floodplain, and approximately 10 structures would show reduced 100-year flood risk. The project cost is \$4,767,000.

Based on the comparative assessment performed for this alternative, the proposed project does not meet all no negative impacts requirements as established in *TWDB Technical Guidance (Exhibit C Section 3.6.A)* (see **Table F.1**). However, all impacts are located upstream of the roadway and cause rises in WSE outside of the County easement. It is anticipated that nearby property owners will be notified of impacts prior to construction. There are no significant increases to WSE at upstream structures, and all increases at upstream structures are less than 0.35 ft.

Figure F.63. CR-243 Drainage Improvements (FMP 033000108)



FMP 033000109 - Valley View/Ravenhill-Devonshire Drainage Improvements

The Valley View/Ravenhill-Devonshire site is in Precinct 2 of Kaufman County, near the intersection of Valley View and Ranch Road and the Devonshire residential community. The site includes two different sites with two separate roadways and tributaries.

The Valley View crossing is located where an unnamed tributary of Buffalo Creek intersects the Valley View roadway. The crossing is unique because it is located just upstream of an SCS reservoir site. During heavy storm events, the roadway is first overtopped by flood waters flowing into the reservoir, then again by reservoir storage, which takes over 36 hours to fully recede in the case of the 50-year event and higher. Existing drainage infrastructure includes two 8-foot diameter metal tanker culvert barrels at the main channel crossing. The roadway has a minimum elevation of approximately 439 feet. Model results show roadway overtopping during the 10-year event and higher. The crossing is located downstream of several new residential areas, which could increase the potential flood risk even further once fully developed.

Existing drainage infrastructure at the Ranch Road crossing includes two 8'x4' half-circle metal tanker culvert barrels with upstream and downstream channel grading at the culvert entrance and exit. The roadway has a minimum elevation of approximately 458 feet. Model results show roadway overtopping during the 10-year, 50-year, and 100-year storm events. Existing drainage infrastructure appears to be undersized and is unable to convey flow from a 10-year storm event.

For the Valley View crossing, the proposed alternative includes installing five 10'x10' concrete box culverts, three at the main channel crossing, and two additional culverts north of the main crossing. Channel grading was added on the upstream side to the main channel and to a secondary channel to the north to help direct flow to the two additional culverts. Side ditch grading and grading at the culvert entrances and exits was added to help direct flow into the larger capacity culverts. The road was raised to a minimum elevation of 443 feet on the north end and 442 feet on the south end. **Figure F.64** shows a summary of the proposed improvements. A 100-year LOS is achieved with the proposed improvements at the Valley View crossing.

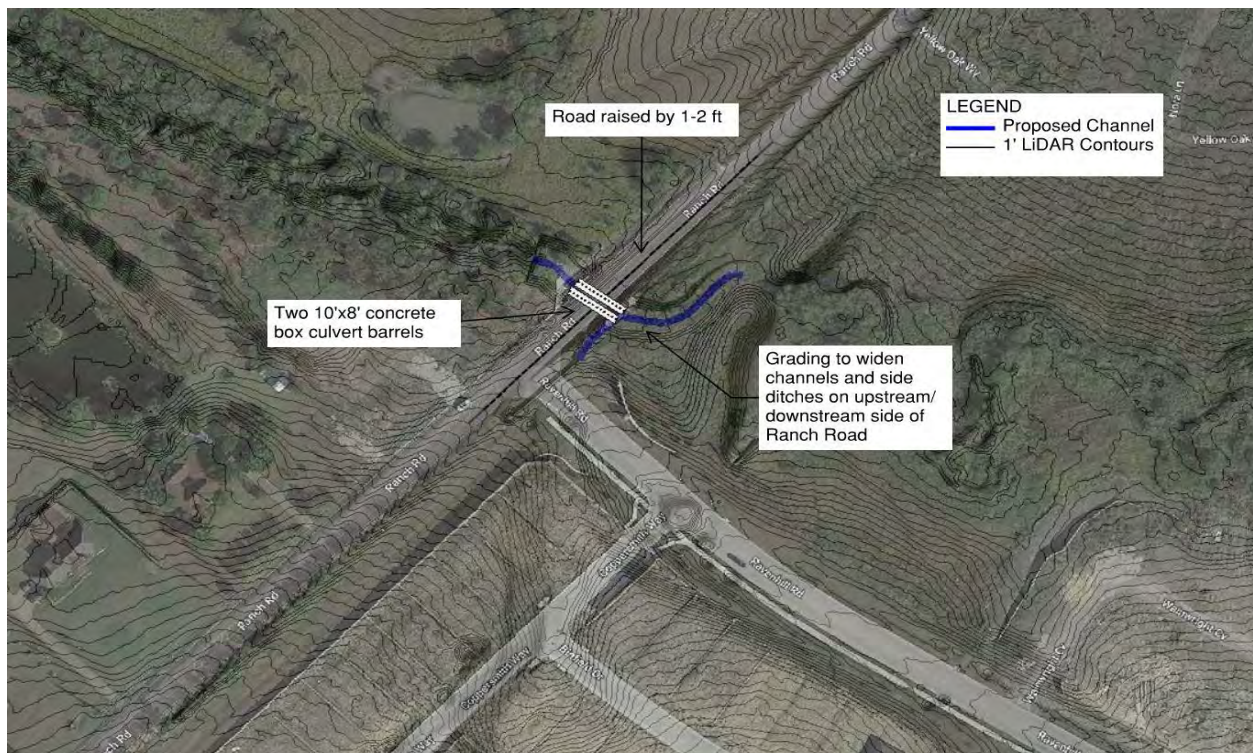
For the Ranch Road crossing, the proposed alternative includes installing two 10'x8' concrete box culverts at the main channel crossing. The culvert would be lowered to allow more flow to pass through the crossing. A minimum slope of 0.5% would be maintained for both culvert barrels. Upstream and downstream channel, side ditch, and culvert entrance and exit grading would also be included to help direct flow into the culverts and away from the roadway. The roadway would be raised to a minimum elevation of 460 feet on the north end and 462 feet on the south end. **Figure F.65** shows a summary of the proposed improvements. A 100-year LOS is achieved with the proposed improvements at the Ranch Road crossing. The project cost is \$6,691,000.

Following the implementation of these local area improvements, an estimated 0.28 miles of road would be removed from the 100-year floodplain. Based on the comparative assessment performed for this alternative, the proposed project meets all no negative impacts requirements as established in *TWDB Technical Guidance (Exhibit C Section 3.6.A)* (see **Table F.1**).

Figure F.64. Valley View/Ravenhill-Devonshire Drainage Improvements (FMP 033000109)



Figure F.65. Valley View/Ravenhill-Devonshire Drainage Improvements (FMP 033000109)



FMP 033000110 - CR-4116 Drainage Improvements

The CR 4116 site is located in Precinct 4 of Kaufman County approximately 1.7 miles south of Gastonia just east of the intersection of CR 4116 and CR 4101. The site is located within the Duck Creek – Trinity River watershed in the Trinity River Basin. The site is located next to the Cherokee Creek RV resort. Based on conversations with County staff there are known cases of residential flooding along County Road 4116. The existing drainage infrastructure consists of driveway culverts and side ditches running along CR 4116 on both sides of the road. The side ditch on the north side of CR 4116 outfalls to an existing culvert just south of the Cherokee Creek RV resort. The southern side ditch outfalls to the downstream side of the same culvert. It is important to note that since CR 4116 was not included in the site visits, all existing culvert dimensions have been estimated from LiDAR and aerial imagery. Additionally, the latest LiDAR for this site indicates that there is significant offsite flow coming from the south side of CR 4116. Historically, this offsite flow appears to have collected on the south side of CR 4116 and was conveyed by natural swales. The natural swales appear to have been disturbed by development and residential structures are at risk of flooding.

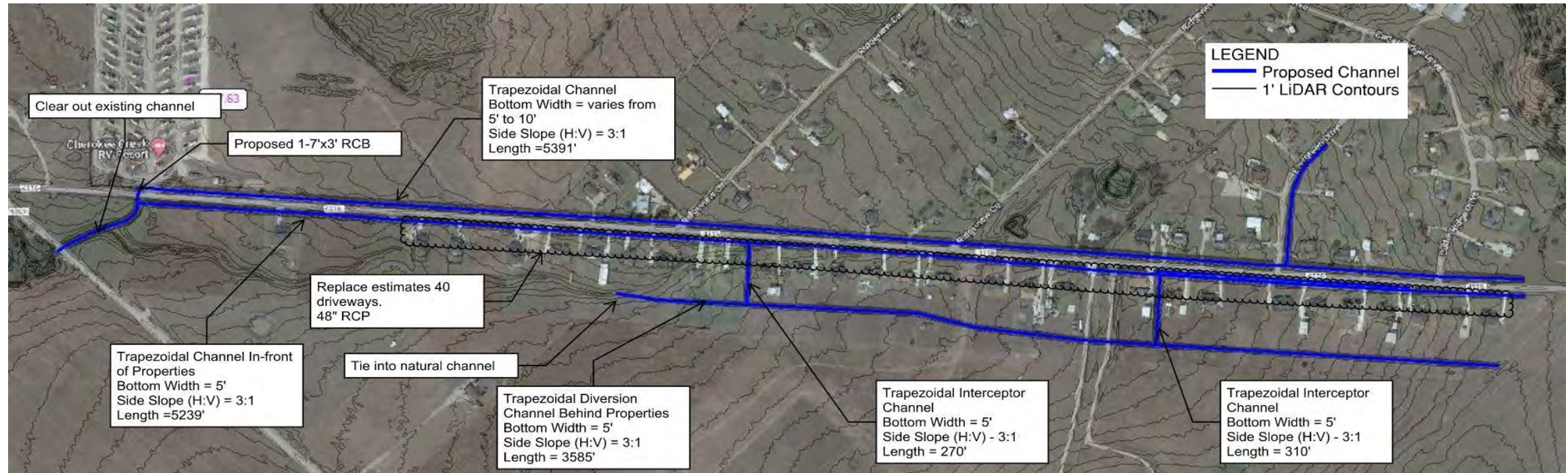
The proposed alternative includes a series of interceptor channels with their accompanying driveway culverts. The channels vary in dimension but reach a maximum bottom width of 10' at the most downstream point. In total, there are three proposed channels running parallel to CR 4116. Two of these channels are located immediately next to CR 4116 and also serve as road drainage. The remaining channel is located 350' to the south. The purpose of the southern channel is to intercept offsite flow before it reaches the residential properties. All the proposed channels running parallel to CR 4116 eventually outfall to the west and direct runoff away from structures. This system of channels is also interconnected at two locations to aid in intercepting runoff.

In addition to the proposed channel grading, a major component of the proposed alternative is the replacement of existing culverts. There are approximately 40 drive culverts to replace with 48" RCPs. Since the proposed channel grading will lower the elevation of the existing side ditches, it is necessary to replace these culverts so that all proposed pipe inverts match the new channel bottom. In addition, the existing culvert at the Cherokee Creek RV resort is also proposed to be upsized to a 7'x3' RCB. (See **Figure F.66.**)

A 100-year LOS is achieved with the proposed improvements. Project models also reveal that, while no structures are completely removed from the 100-year floodplain, 28 structures show a reduced 100-year flood risk. The project cost is \$8,019,000.

Based on the comparative assessment performed for this alternative, the proposed project meets all no negative impacts requirements as established in *TWDB Technical Guidance (Exhibit C Section 3.6.A)* (see **Table F.1**).

Figure F.66. CR-4116 Drainage Improvements (FMP 033000110)



November 27, 2024

Fort Worth Central City Flood Control Project Summary

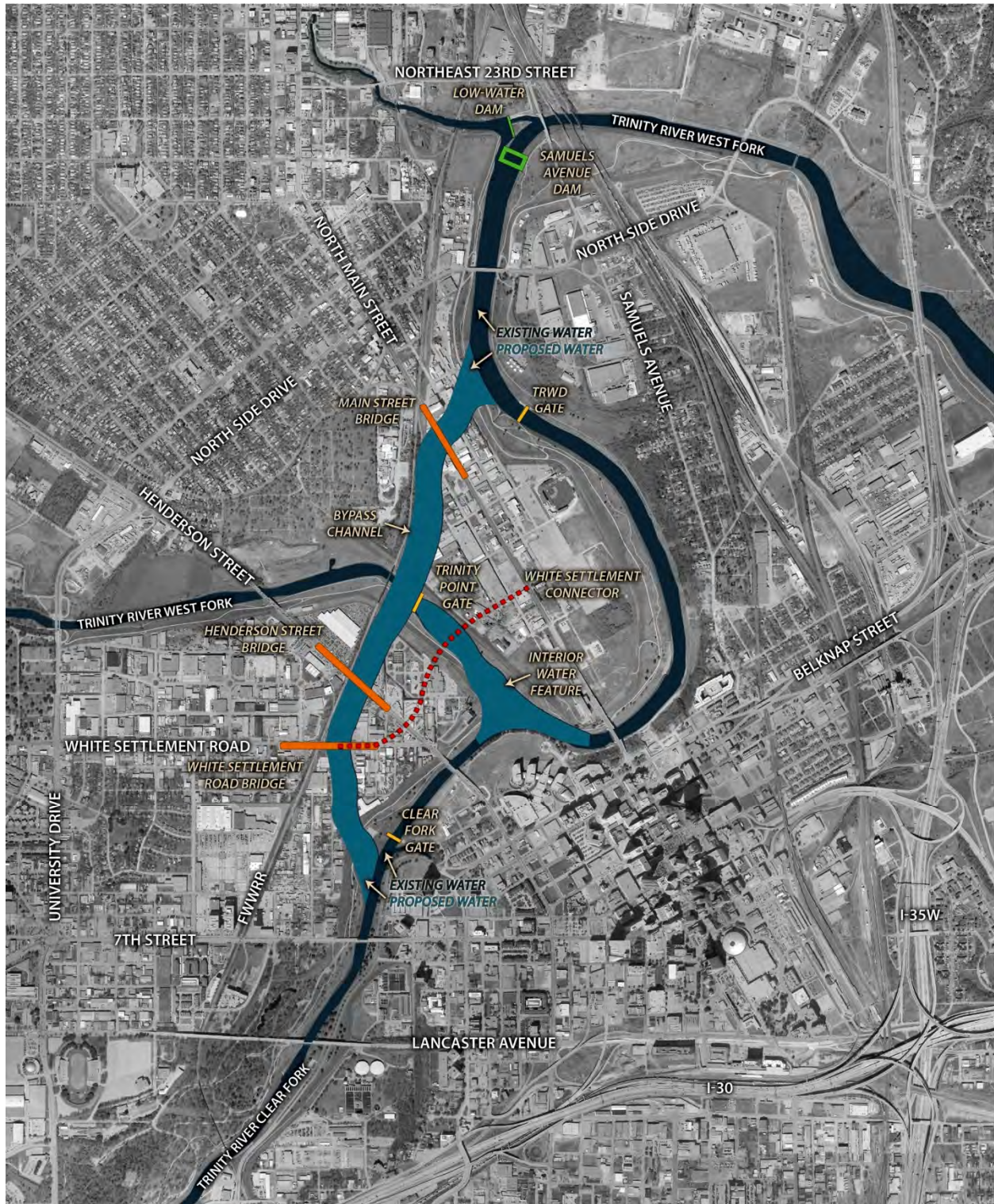
The Central City Flood Control Project is located at the confluence of the Clear Fork and West Fork of the Trinity River in the heart of Fort Worth in Tarrant County, Texas. The project consists of a bypass channel, levee system, and associated improvements to divert flood flows around a segment of the existing floodway system. The Central City study area is bounded generally by the Fort Worth Stockyards to the North, University Drive to the West, I-30 to the South, and Sylvania Avenue to the East. The flood protection goals of the project are to restore the design level of protection (SPF+4 feet) for the project area levee system and maintain or improve flood protection associated with interior drainage to the floodway system.

A 1.5-mile bypass channel will be constructed to reroute flood waters near the downtown area. Rerouting the existing Clear Fork and West Fork through the bypass channel will create a drawdown effect on the water elevations in the Clear Fork and West Fork. This will enable water to pass through the current levee system at a quicker pace and lower elevation, which will return flood protection to the community and maintain the effectiveness of the remaining levee system.

Where the bypass channel and the original river intersect, three isolation gates will be installed. They will be designed and built by the U.S. Army Corps of Engineers (USACE) and maintained and operated by the Tarrant Regional Water District (TRWD). The isolation gates will protect the interior area from riverine flooding. These gates will remain open at most times but can be shut during high water events, redirecting the water through the proposed channel and bypassing the interior area completely.

A stormwater pump station will be constructed on the northeast side of the interior area near the TRWD gate. The station will be designed and built by USACE and maintained and operated by TRWD. During major flood events, the isolation gates will be closed, and excess water will be moved through the pump station. The station will house four pumps, with one spare pump.

Fort Worth Central City Flood Control Project Project Components Map



November 26, 2024

Mary's Creek Flood Control Reservoir Project Summary

The purpose of this project summary is to describe the proposed improvements of the Mary's Creek Flood Control Reservoir. The Tarrant Regional Water District (TRWD) is proposing the Mary's Creek Flood Control Reservoir (MCFCR), intended to provide flood mitigation upstream of the Fort Worth Floodway.

The MCFCR is a dry detention reservoir intended to provide regional benefits, flood damage reduction, and open space preservation. Opportunity for ancillary benefits include increased property values for remaining nearby land, regional recreational opportunities, heat island reduction, and potential for streamlining the development process through implementation of regional detention. The MCFCR is proposed within the Mary's Creek Watershed (Exhibit 1).

As part of the MCFCR, a dam would be constructed across Mary's Creek that would impound floodwaters within the natural valley storage of Mary's Creek during large flood events and would be mostly dry otherwise. The dam is a high hazard dam and will be designed to comply with the Texas Commission of Environmental Quality (TCEQ) Dam Safety Regulations. Downstream of the reservoir location, there are structures that are impacted by the 25-year event. The improvements increase the level of service from less than a 25-year storm to greater than a 100-year storm.

A benefit cost analysis (BCA) of the pre-project and post-project water surface elevations resulted in a benefit-to-cost ratio of 1.25. The improvements would decrease flood damages from \$13,488,000 to \$4,487,000 for the 100-year storm, providing near 70% of flood damage reduction.

On behalf of and under contract with TRWD, FNI is requesting an amendment to the Region 3 Trinity Regional Flood Plan to include the Mary's Creek Flood Control Reservoir as an FMP and seeks eligibility for the 2026-2027 Flood Infrastructure Funding (FIF). The following information is attached to this submittal:

- Exhibit showing project location
- Completed TWDB-required Tables 13, 16 and 19 from the Regional Flood Plan
- Benefit Cost Analysis
- Detailed Cost Estimate
- No Negative Impacts Table
- Completed models with results
- Georeferenced spatial file



0 2,500 5,000 10,000
Feet

- ZoneOfBenefit
- County Boundary
- Lakes
- Streams
- Major Roads

Mary's Creek Flood Control Reservoir

Fort Worth, Texas



FRESE NICHOLS
801 Cherry Street, Suite 2800
Fort Worth, TX 76102
817-735-7300 | www.freese.com

FN JOB NO	TCW22811
FILE	EMP
DATE	11/21/202
SCALE	1:125,000
DRAFTED	00213

EXHIBIT
1



CITY OF EVERMAN

BARRON AVENUE AND PORTER STREET DRAINAGE IMPROVEMENT PROJECT (FMP)

PROJECT SUMMARY

The City of Everman is a primarily residential city located on the south side of Fort Worth. Chambers Creek is the primary watershed within the City and dozens of homes flood in events as frequent as the 1-year storm. Everman completed a study of Chambers Creek in May 2024. The study identified three areas of needed improvement. The Barron Avenue and Porter Street area floods due to inadequate channel capacity. Proposed improvements have been identified as the following:

- Constructing an 800 LF, 50 – 80-ft wide improved channel
- Regrading the left bank of the downstream earthen channel

This Flood Mitigation Project (FMP) request will include design and construction of channel improvements. Construction of this project will remove 11 structures from the 100-year floodplain and protect all structures in the area from the 1-, 5-, and 10-year events.



Legend



Area of Interest



N

0 500 1,000



1 inch = 1,000 Feet

Everman, Texas

Trinity Region Flood Plan Amendment Consideration

EXHIBIT #01
Barron Avenue and Porter Street
November, 2024



Date Saved: 11/27/2024



CITY OF EVERMAN

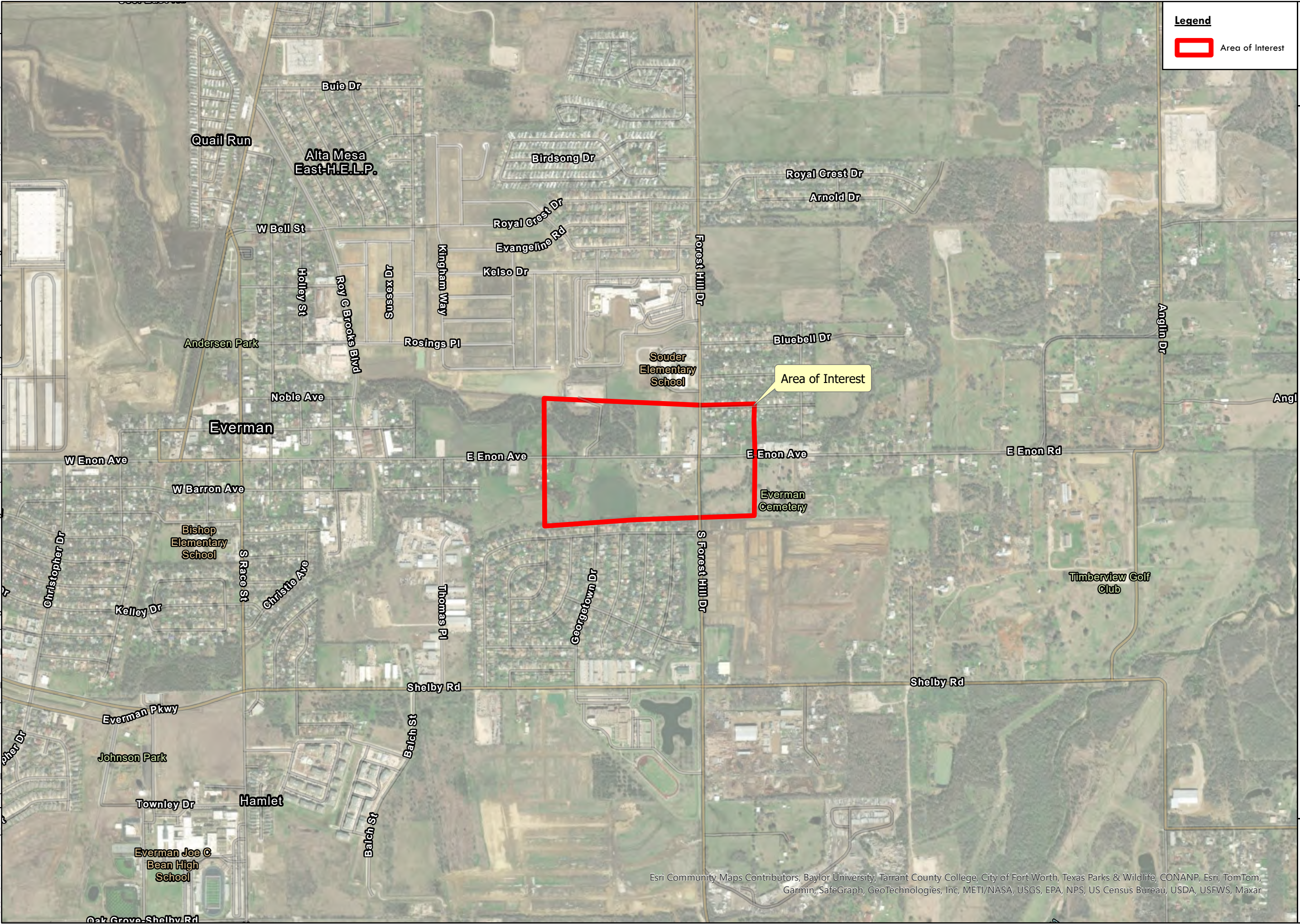
E. ENON AVE. AND FOREST HILL DRIVE DRAINAGE IMPROVEMENT PROJECT (FMP)

PROJECT SUMMARY

The City of Everman is a primarily residential city located on the south side of Fort Worth. Chambers Creek is the primary watershed within the City and dozens of homes flood in events as frequent as the 1-year storm. Everman completed a study of Chambers Creek in May 2024. The study identified three areas of needed improvement. The E. Enon Ave. and Forest Hill Drive area floods due to inadequately sized culverts and bridges. Proposed improvements have been identified as the following:

- Replacing the existing 2 – 10'x8' RCB culverts along E Enon Avenue at the South Fork with a 100-ft span bridge.
- Replacing the existing 3 – 10'x8' RCB culverts along E Enon Ave at Chambers Creek with a 200-ft span bridge
- Replacing the existing 3 – 10'x9' RCB culverts along Forest Hill Drive and Chambers Creek with a 300-ft span bridge.
- Replacing the existing bridge along Enon Avenue, east of Forest Hill Drive, with 10'x10' RCB culverts.
- Overbank excavation upstream and levee north of Enon Avenue to mitigate impacts on adjacent structures.
- Widening of the existing channel and installing approximately 1,100 LF of gabion wall or similar structure downstream of the proposed culvert to provide stability to the channel banks and provide additional conveyance.

This Flood Mitigation Project request will include design and construction of the bridges and channel improvements. If phasing to reduce initial costs is feasible, that will be identified with project design. Construction of this project will provide 100-year level of service for all bridges/culverts and protect 8 structures from the 5-year event.



Legend



Area of Interest



0 500 1,000



1 inch = 1,000 Feet

Everman, Texas

Trinity Region Flood Plan Amendment Consideration

EXHIBIT #01
East Enon Avenue & Forest Hill Drive Area
November, 2024



Date Saved: 11/27/2024



CITY OF EVERMAN

RACE STREET AT CHRISTIE AVENUE DRAINAGE IMPROVEMENT PROJECT (DMP)

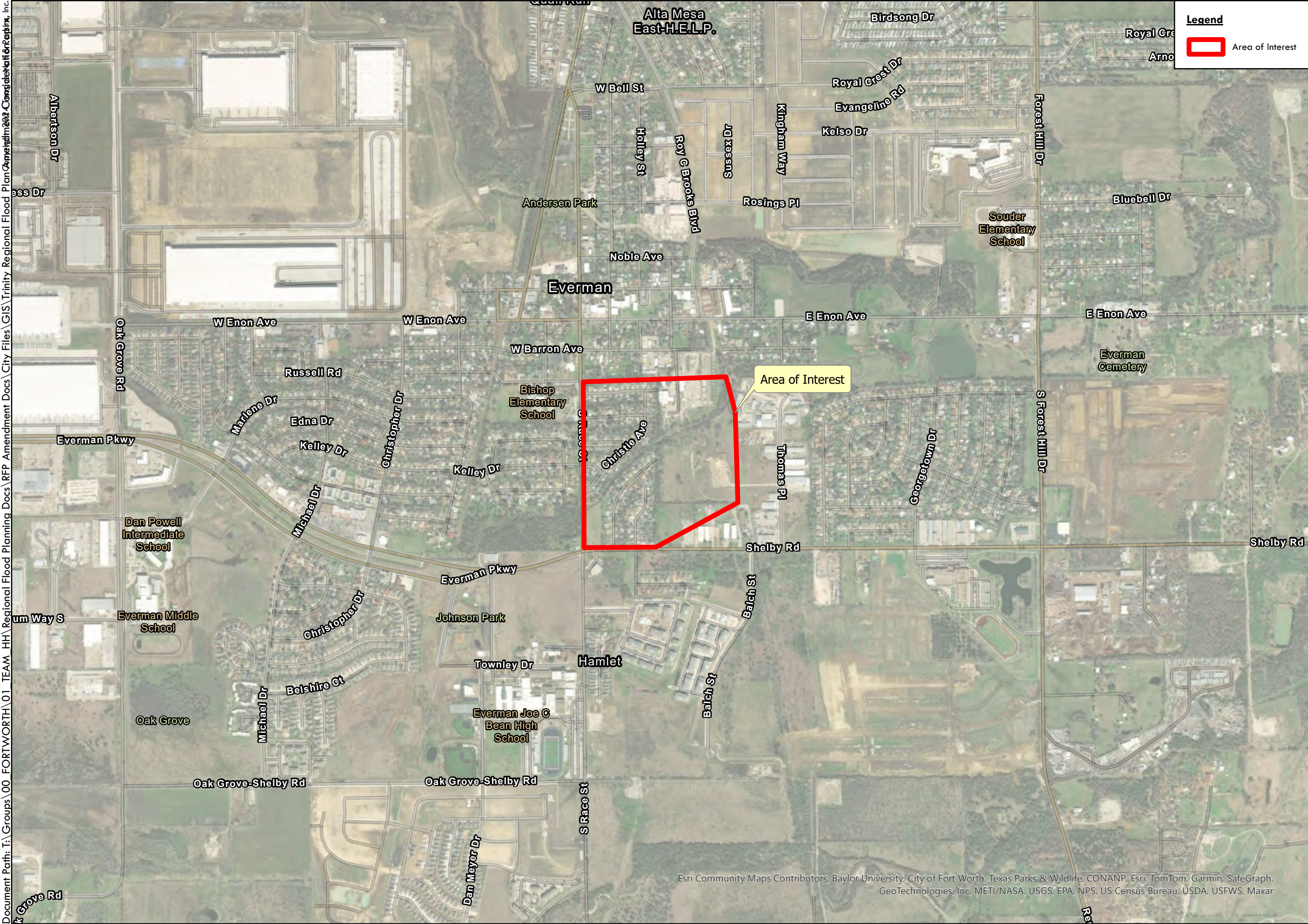
PROJECT SUMMARY

The City of Everman is a primarily residential city located on the south side of Fort Worth. Chambers Creek is the primary watershed within the City and dozens of homes flood in events as frequent as the 1-year storm. Everman completed a study of Chambers Creek in May 2024. The study identified three areas of needed improvement. The Race Street at Christie Avenue area floods due to inadequately sized culverts and channel. Proposed improvements include:

- Converting the existing four 84" culverts to a 150-ft bridge
- Purchasing 20 properties along the north side of the channel on Christie Avenue to allow for additional room for channel improvements.
- Construction of an 8' tall, 75' wide improved channel
- Grading and stabilizing the downstream channel.

This Flood Mitigation Project (FMP) request will include design and construction of the bridge and channel improvements. If phasing to reduce initial costs is feasible, that will be identified with project design. Construction of this project will remove all homes in the area from the 100-year floodplain.

Document Path: I:\Groups\00_FORTWORTH\01_TEAM_HH\Regional Flood Planning Docs\RFP Amendment Docs\City Files\GIS\Trinity Regional Flood Plan Amendment\2024_Consideration\01_Race Street and Christie Ave\Map



Legend

 Area of Interest



TEXAS WATER
DEVELOPMENT BOARD



N



0 500 1,000

1 inch = 1,000 Feet

Everman, Texas

Trinity Region Flood Plan Amendment Consideration

EXHIBIT #01

Race Street and Christie Avenue

November, 2024



West Potomac Drainage Improvements

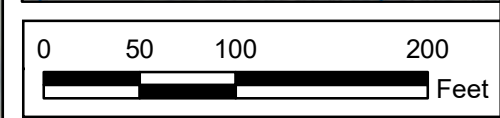
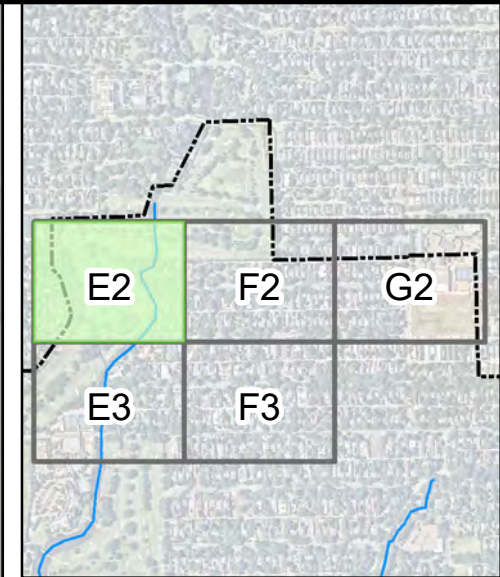
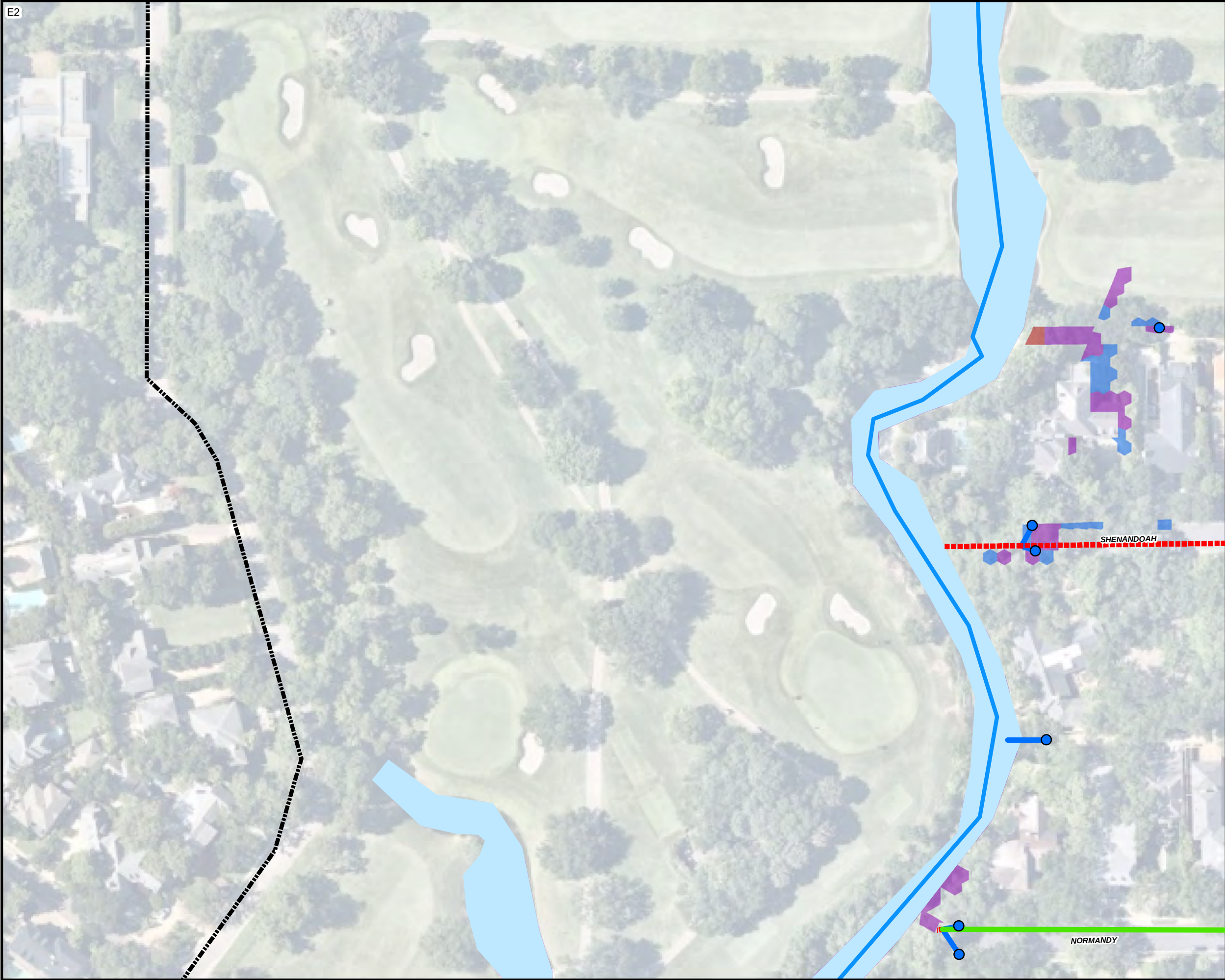
The proposed FMP is the reconstruction of storm sewer facilities in the vicinity of West Potomac Drive in Highland Park, Texas. The improvements were evaluated to meet the Texas Water Development Board's (TWDB) no negative impact criteria. The current storm system is undersized and results in the 100-year flow escaping the Town right-of-way, causing blocked access to residential properties and putting structures at flood risk. The area has 10 structures at flood risk.

The FMP proposes to replace the existing storm sewer with larger facilities and construct additional inlets to capture and convey peak flows. The project allows the 100-year peak flows to be conveyed within the Town right-of-way.

The existing and proposed storm sewer systems and surface flows were modeled using PCSWMM. The modeling shows no adverse impacts downstream as a result of the proposed improvements. Probable construction costs were determined for the design and construction of the alternative. Unit cost rates were obtained from similar projects in the region. Alternative probable construction costs include mobilization, paving, drainage items, utility relocation, and contingencies. The complete OPCC is attached to this submittal.

No USACE permitting is anticipated as part of this project.

A Benefit-Cost Ratio (BCR) analysis was conducted to determine which project provides the best benefit considering probable construction cost and the value of properties all or partially removed from high-risk flood areas. The 2024 TWDB BCA Input Workbook was used to quantify the project's economic impact. The average annual costs and benefits were calculated for a 50-year period of analysis. The primary benefit of the FMP includes removing 7 residential structures from 100-year flood risk, reducing the flood risk associated with an additional 3 structures, and removing approximately 1,050 feet of road from flood risk. The proposed project results in a BCR of 0.1.



Legend

Town Limits

Turtle Creek Centerline

Inlets

- New
- Existing
- Upsized

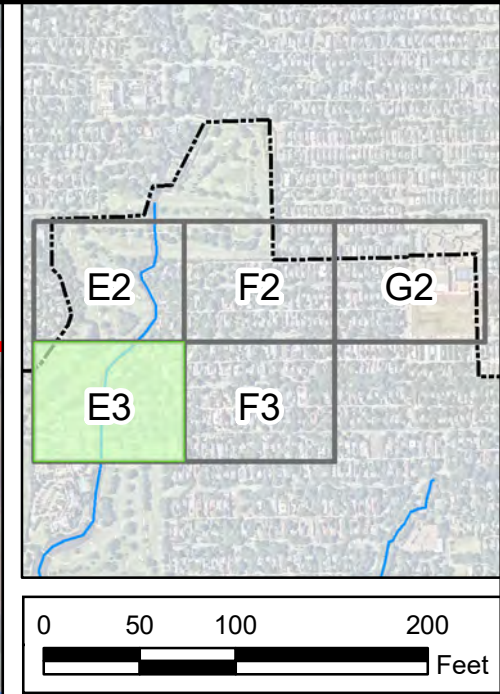
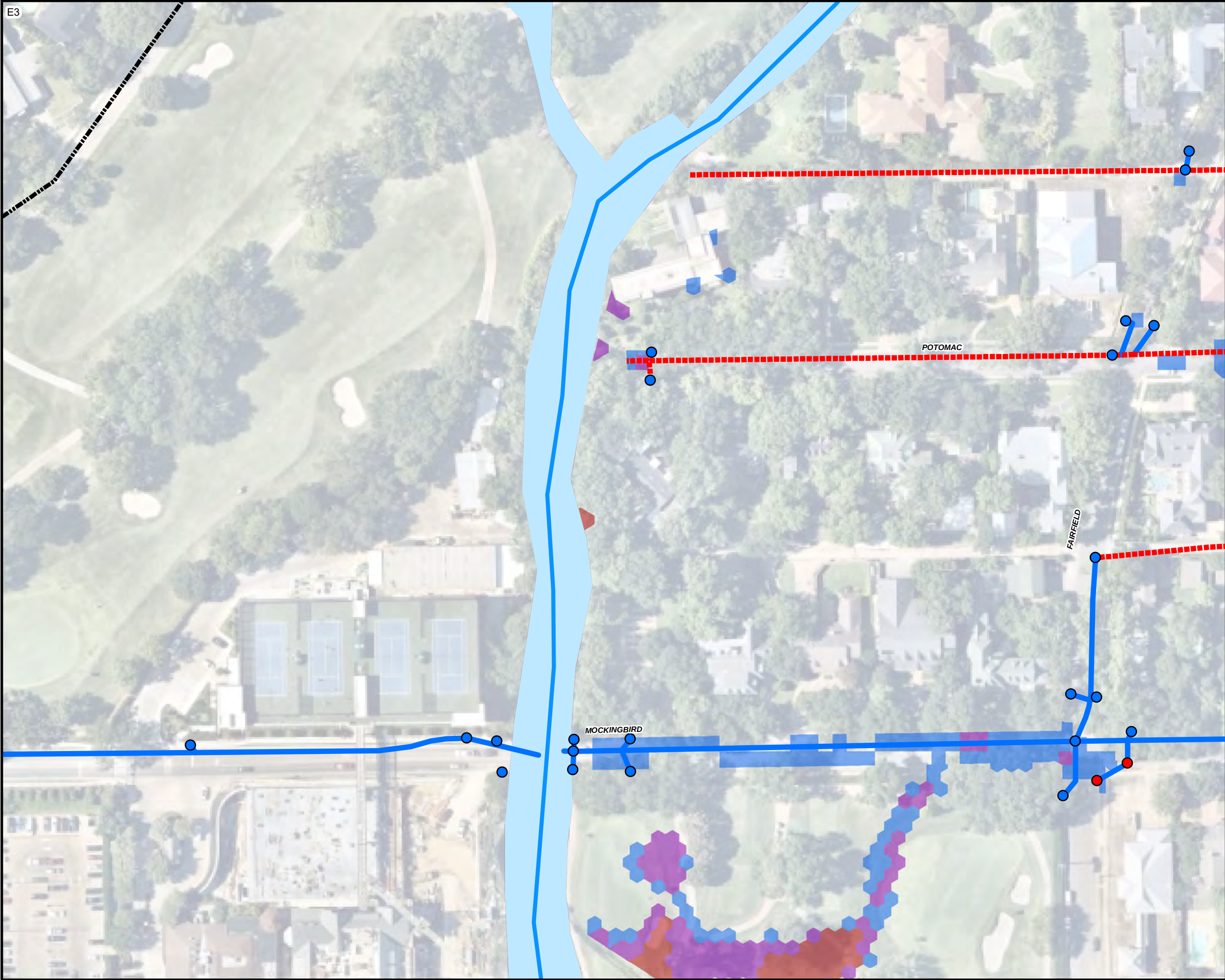
Storm System

- New
- Existing
- Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
- 0.50-2.00
- 2.00+

 Kimley»Horn 13455 Noel Road, Suite 700 Dallas, TX 75240 (972) 770-1300 Phone (972) 239-3620 Fax Engineering Firm Registration No. E-928	 N	Town of Highland Park, Texas Highland Park Master Drainage Plan		West Potomac Proposed 100-Year Improvements	DATE: NOVEMBER 2024
					DESIGN: JKL
					DRAWN: JKL
					CHECKED: SDG
					KHA NO.: 064474567
SHEET E2 Page 1 of 5					



Legend

Town Limits

Turtle Creek Centerline

Inlets

New

Existing

Upsized

Storm System

New

Existing

Upsized

Maximum Depth (ft)

0.00-0.25

0.25-0.50

0.50-2.00

2.00+

DATE: NOVEMBER 2024

DESIGN: JKL

DRAWN: JKL

CHECKED: SDG

KHA NO.: 064474567

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E3

Page 2 of 5

Kimley-Horn
13455 Noel Road, Suite 700
Dallas, TX 75240
(972) 770-1300 Phone
(972) 239-3620 Fax
Engineering Firm Registration No. E-928

Town of Highland Park, Texas

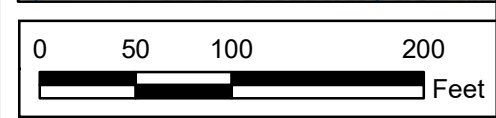
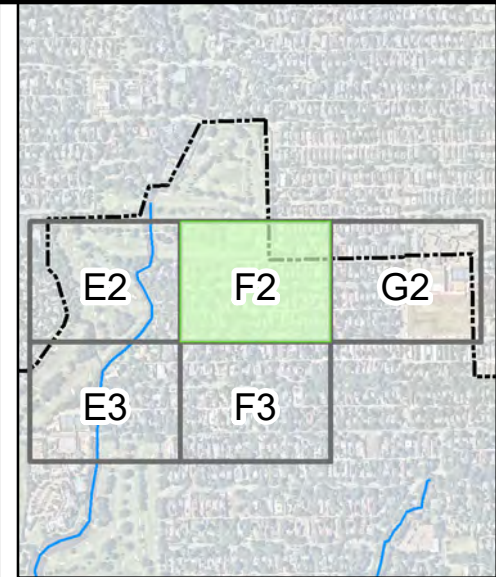
Highland Park

Master Drainage Plan

West Potomac

Proposed 100-Year Improvements

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Legend

 Town Limits

 Turtle Creek Centerline

Inlets

-  New
-  Existing
-  Upsized

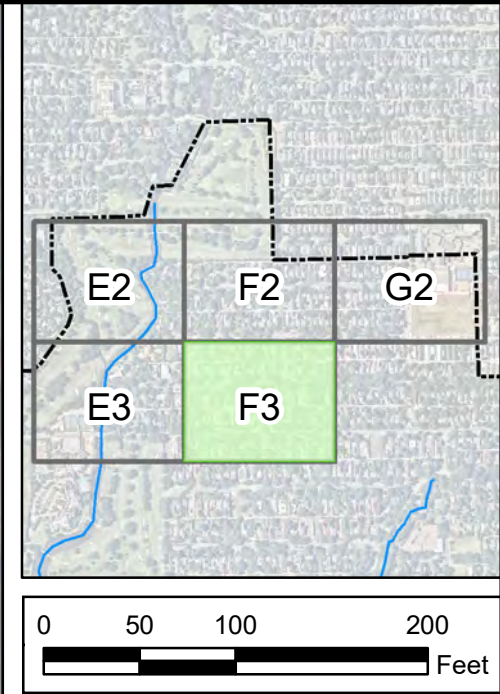
Storm System

-  New
-  Existing
-  Upsized

Maximum Depth (ft)

-  0.00-0.25
-  0.25-0.50
-  0.50-2.00
-  2.00+

 13455 Noel Road, Suite 700 Dallas, TX 75240 (972) 770-1300 Phone (972) 239-3620 Fax Engineering Firm Registration No. E-928	
Town of Highland Park, Texas Highland Park Master Drainage Plan	
	
West Potomac Proposed 100-Year Improvements	
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Legend

 Town Limits

 Turtle Creek Centerline

Inlets

 New

 Existing

 Upsized

Storm System

 New

 Existing

 Upsized

Maximum Depth (ft)

 0.00-0.25

 0.25-0.50

 0.50-2.00

 2.00+

DATE: NOVEMBER 2024

DESIGN: JKL

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KHA NO.: 064474567

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**Kimley-Horn**

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Dallas, TX 75240
(972) 770-1300 Phone
(972) 239-3620 Fax
Engineering Firm Registration No. E-928

Town of Highland Park, Texas

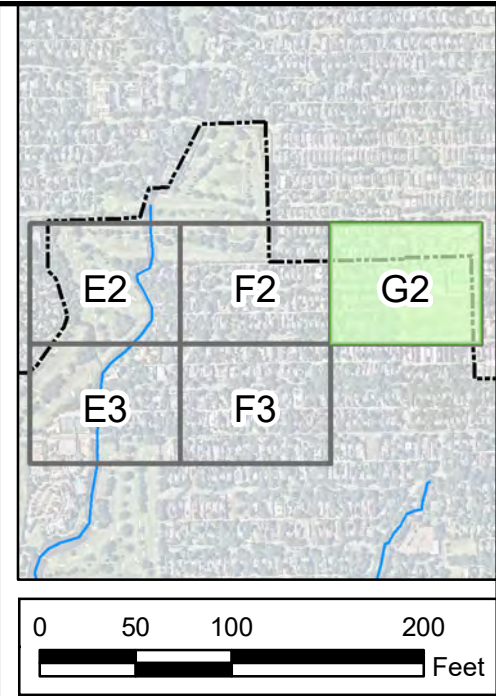
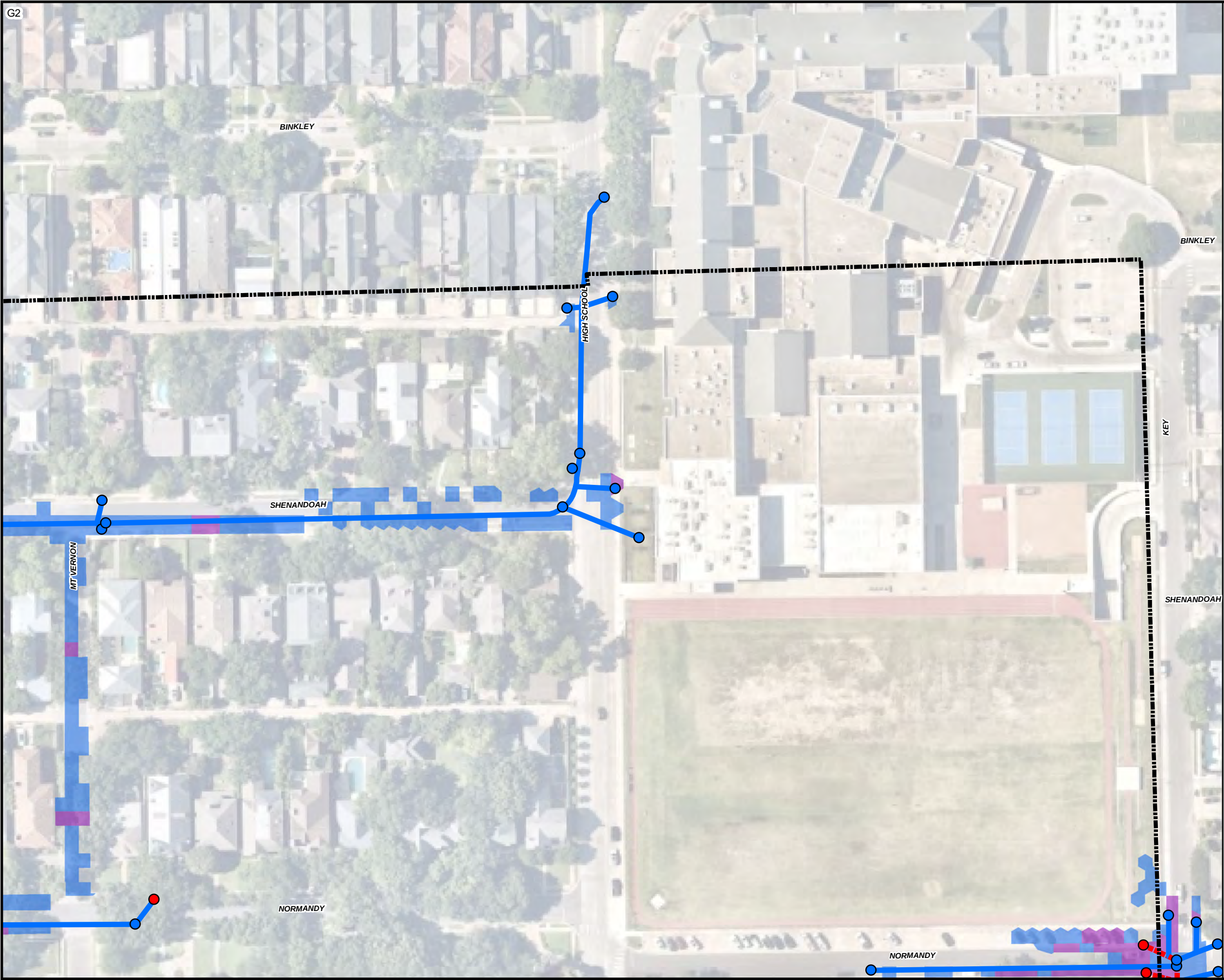


West Potomac
Proposed 100-Year Improvements



Highland Park
Master Drainage Plan

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Legend

Town Limits

Turtle Creek Centerline

Inlets

New

Existing

Upsized

Storm System

New

Existing

Upsized

Maximum Depth (ft)

0.00-0.25

0.25-0.50

0.50-2.00

2.00+

Kimley-Horn

13455 Noel Road, Suite 700
Dallas, TX 75240
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Engineering Firm Registration No. E-928

Town of Highland Park, Texas
Highland Park
Master Drainage Plan

West Potomac
Proposed 100-Year Improvements

DATE: NOVEMBER 2024
DESIGN: JKL
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KHA NO.: 064474567

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Dartmouth Drainage Improvements

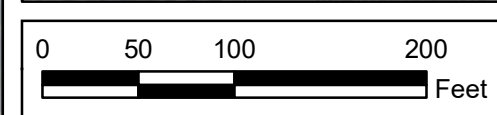
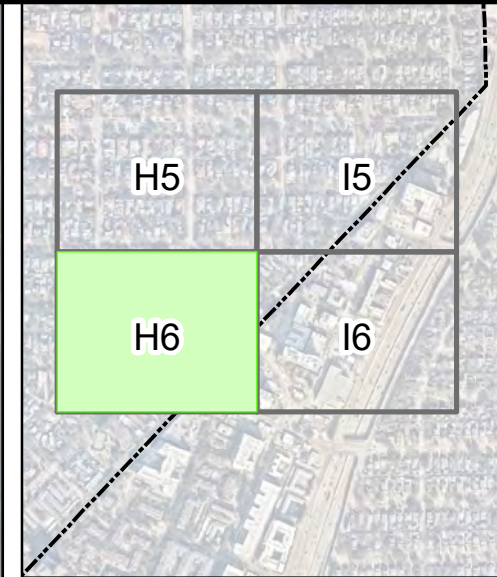
The proposed FMP is the reconstruction of storm sewer facilities in the vicinity of Dartmouth Avenue in Highland Park, Texas. The improvements were evaluated to meet the Texas Water Development Board's (TWDB) no negative impact criteria. The current storm system is undersized and results in the 100-year flow escaping the Town right-of-way, causing blocked access to residential properties and putting structures at flood risk. The area has 12 residential structures at flood risk.

The FMP proposes to replace the existing storm sewer with larger facilities and construct additional inlets to capture and convey peak flows. The project allows the 100-year peak flows to be conveyed within the Town right-of-way.

The existing and proposed storm sewer systems and surface flows were modeled using PCSWMM. The modeling shows no adverse impacts downstream as a result of the proposed improvements. Probable construction costs were determined for the design and construction of the alternative. Unit cost rates were obtained from similar projects in the region. Alternative probable construction costs include mobilization, paving, drainage items, utility relocation, and contingencies. The complete OPCC is attached to this submittal.

No USACE permitting is anticipated as part of this project.

A Benefit-Cost Ratio (BCR) analysis was conducted to determine which project provides the best benefit considering probable construction cost and the value of properties all or partially removed from high-risk flood areas. The 2024 TWDB BCA Input Workbook was used to quantify the project's economic impact. The average annual costs and benefits were calculated for a 50-year period of analysis. The primary benefit of the FMP includes removing 10 residential structures from 100-year flood risk and reducing the flood risk associated with an additional 12 structures. Additionally, approximately 1,150 feet of road are removed from flood risk. The proposed project results in a BCR of 0.3.



Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

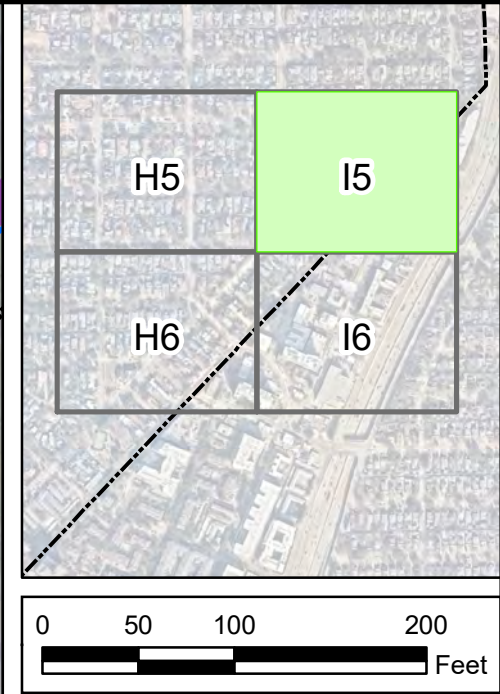
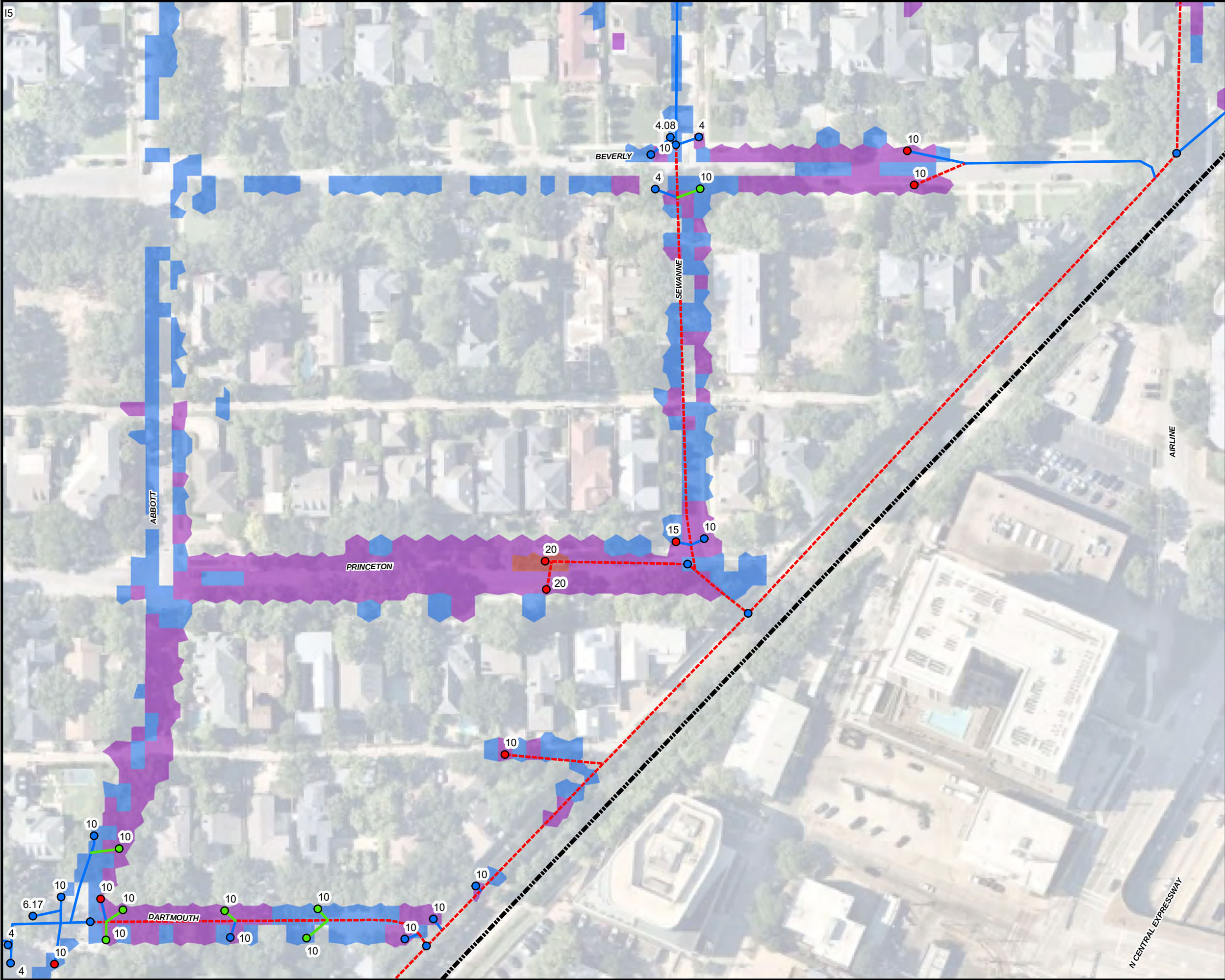
- New
- Existing
- Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
- 0.50-2.00
- 2.00+

 Kimley»Horn 13455 Noel Road, Suite 700 Dallas, TX 75240 (972) 770-1300 Phone (972) 239-3620 Fax Engineering Firm Registration No. E-928	 N	Town of Highland Park, Texas Highland Park Master Drainage Plan		Dartmouth Proposed 100-Year Improvements			
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				KHA NO.: 064474567			
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Legend

Town Limits

Inlets

New

Existing

Upsized

Storm System

New

Existing

Upsized

Maximum Depth (ft)

0.00-0.25

0.25-0.50

0.50-2.00

2.00+

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13455 Noel Road, Suite 700
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Town of Highland Park, Texas

Highland Park

Master Drainage Plan

Dartmouth

Proposed 100-Year Improvements

DATE: NOVEMBER 2024

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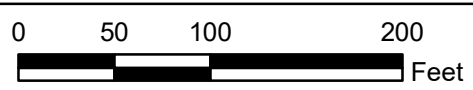
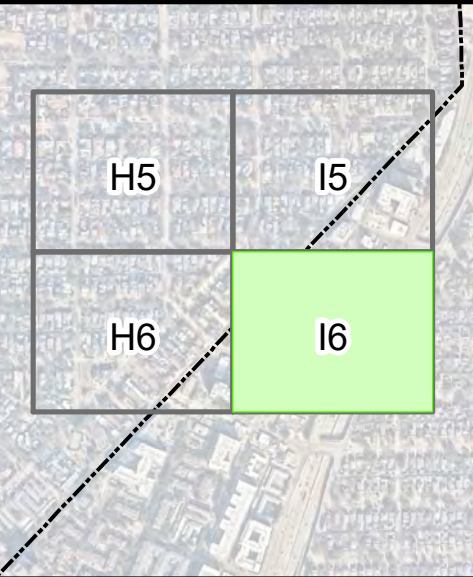
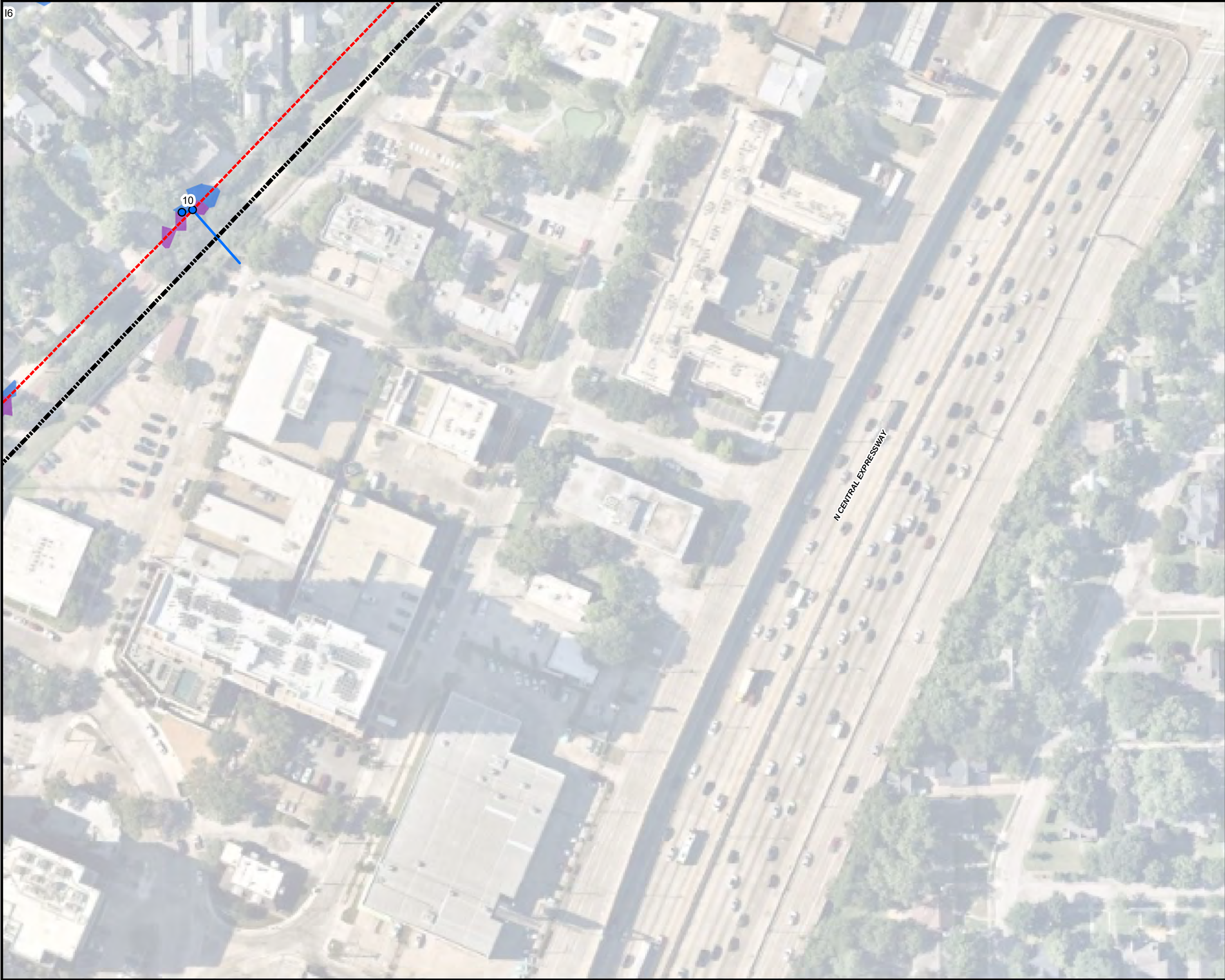
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Town of Highland Park, Texas
Highland Park
Master Drainage Plan



Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
- Existing
- Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
- 0.50-2.00
- 2.00+

DATE:	NOVEMBER 2024
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KHA NO.:	064474567

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Dartmouth
Proposed 100-Year Improvements

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Engineering Firm Registration No. E-928

Airline Drainage Improvements

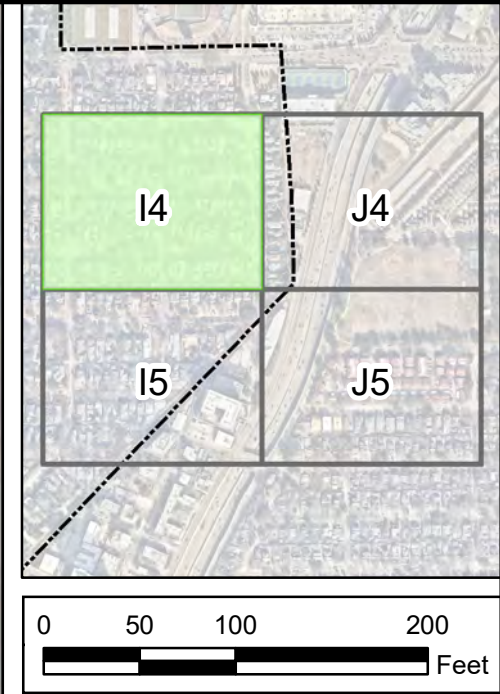
The proposed FMP is the reconstruction of storm sewer facilities in the vicinity of Airline Drive in Highland Park, Texas. The improvements were evaluated to meet the Texas Water Development Board's (TWDB) no negative impact criteria. The current storm system is undersized and results in the 100-year flow escaping the Town right-of-way, causing blocked access to residential properties and putting structures at flood risk. The area has 8 residential structures at flood risk.

The FMP proposes to replace the existing storm sewer with larger facilities and construct additional inlets to capture and convey peak flows. The project allows the 100-year peak flows to be conveyed within the Town right-of-way.

The existing and proposed storm sewer systems and surface flows were modeled using PCSWMM. The modeling shows no adverse impacts downstream as a result of the proposed improvements. Probable construction costs were determined for the design and construction of the alternative. Unit cost rates were obtained from similar projects in the region. Alternative probable construction costs include mobilization, paving, drainage items, utility relocation, and contingencies. The complete OPCC is attached to this submittal.

No USACE permitting is anticipated as part of this project.

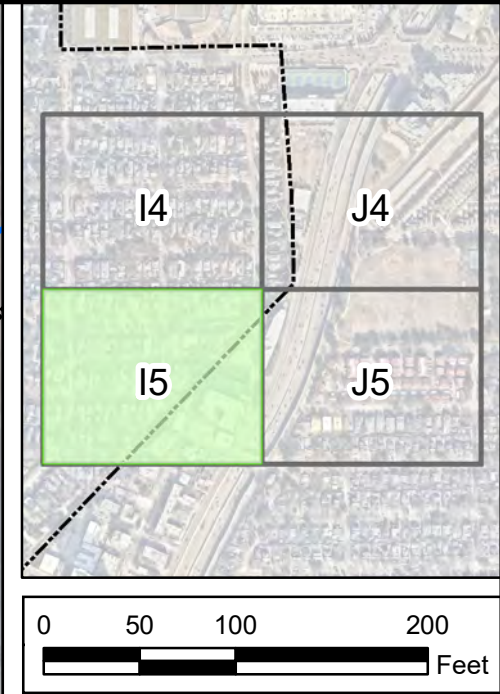
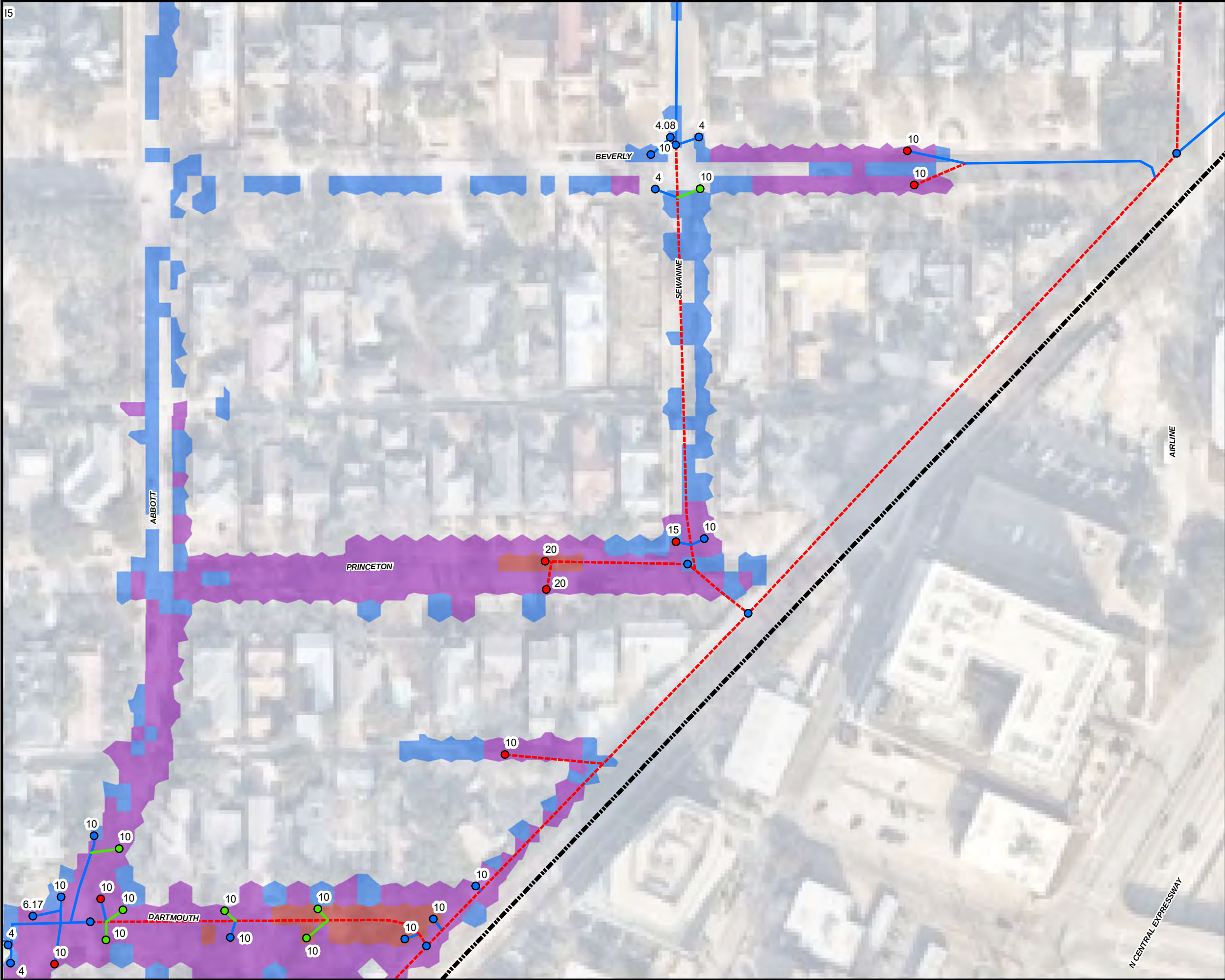
A Benefit-Cost Ratio (BCR) analysis was conducted to determine which project provides the best benefit considering probable construction cost and the value of properties all or partially removed from high-risk flood areas. The 2024 TWDB BCA Input Workbook was used to quantify the project's economic impact. The average annual costs and benefits were calculated for a 50-year period of analysis. The primary benefit of the FMP includes removing 7 residential structures from 100-year flood risk and reducing the flood risk associated with an additional 8 structures. Additionally, approximately 800 feet of road are removed from flood risk. The proposed project results in a BCR of 0.1.



Legend

- Town Limits
- Inlets**
 - New
 - Existing
 - Upsized
- Storm System**
 - New
 - Existing
 - Upsized
- Maximum Depth (ft)**
 - 0.00-0.25
 - 0.25-0.50
 - 0.50-2.00
 - 2.00+

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Airline Proposed 100-Year Improvements			
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Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
- Existing
- Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
- 0.50-2.00
- 2.00+

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Dallas, TX 75240
(972) 770-1300 Phone
(972) 239-3620 Fax
Engineering Firm Registration No. E-928

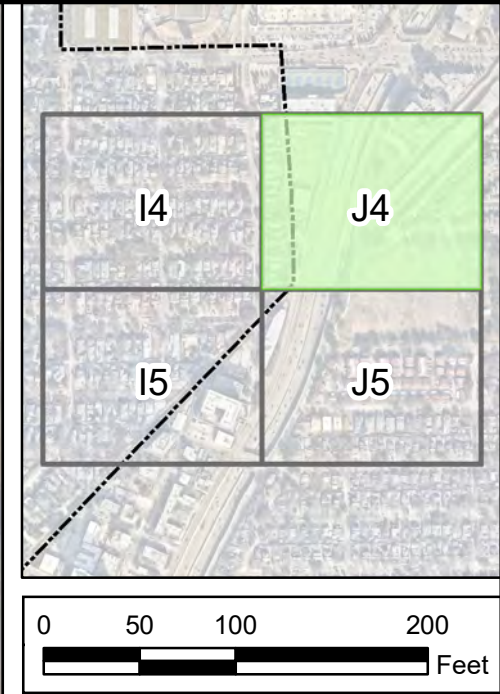
Town of Highland Park, Texas
**Highland Park
Master Drainage Plan**

Airline
Proposed 100-Year Improvements

DATE:	NOVEMBER 2024
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Legend

 Town Limits

Inlets

-  New
-  Existing
-  Upsized

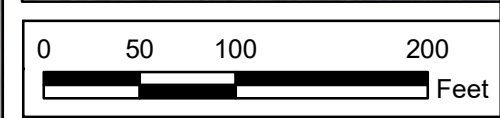
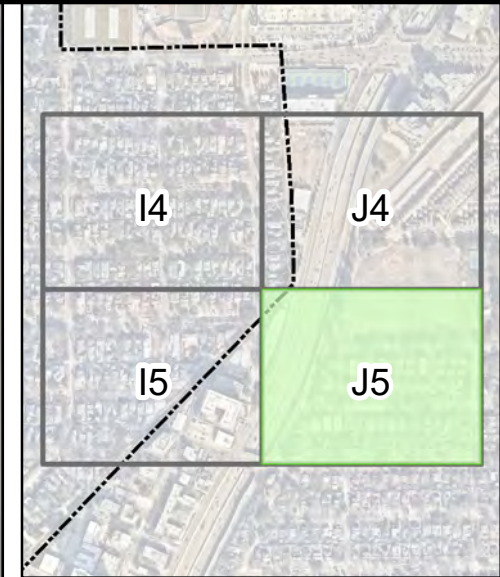
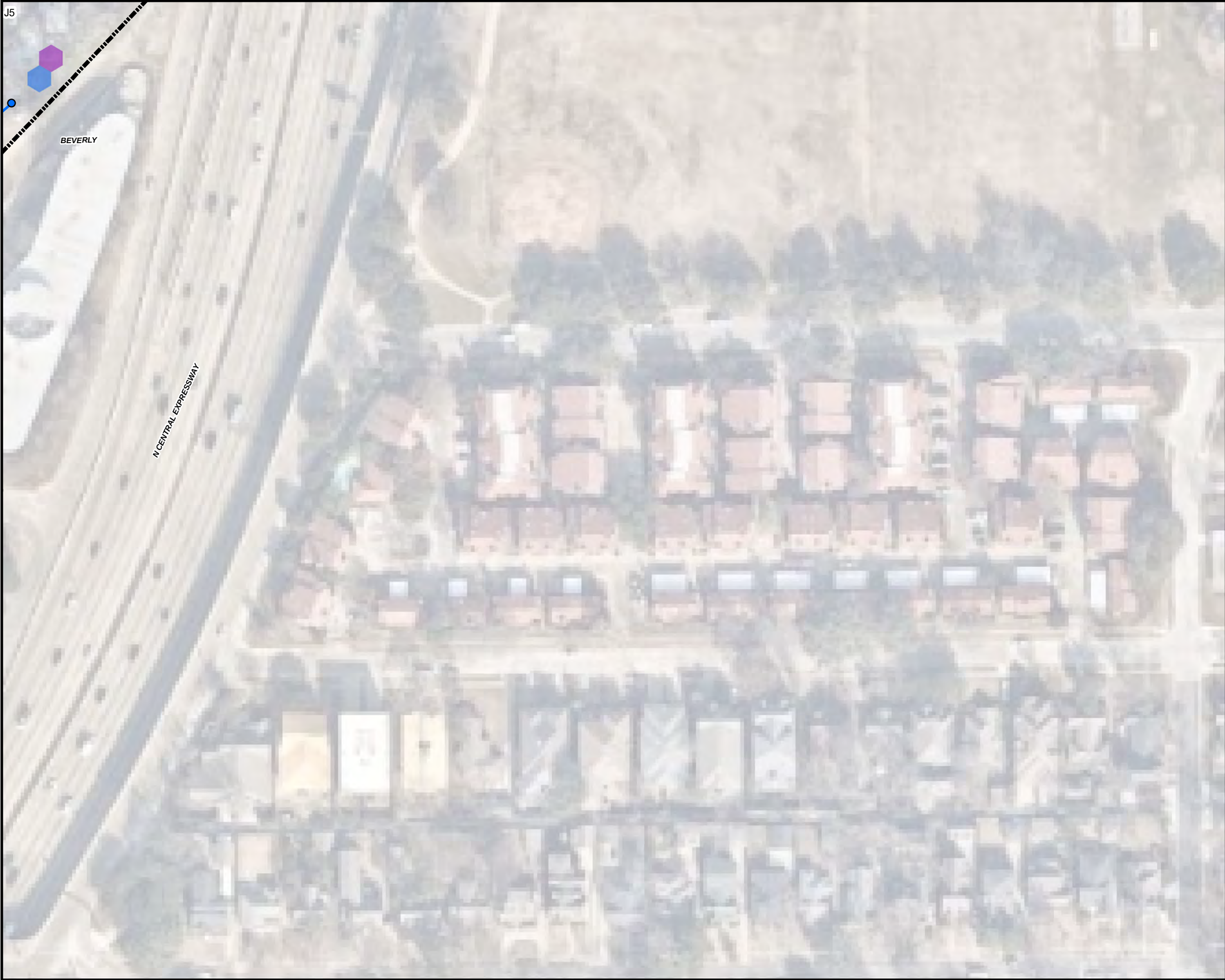
Storm System

-  New
-  Existing
-  Upsized

Maximum Depth (ft)

-  0.00-0.25
-  0.25-0.50
-  0.50-2.00
-  2.00+

DATE: NOVEMBER 2024 DESIGN: JKL DRAWN: JKL CHECKED: SDG KHA NO.: 064474567	Town of Highland Park, Texas Highland Park Master Drainage Plan	 Kimley-Horn 13455 Noel Road, Suite 700 Dallas, TX 75240 (972) 770-1300 Phone (972) 239-3620 Fax Engineering Firm Registration No. E-928		Airline Proposed 100-Year Improvements
				SHEET J4 Page 3 of 4



Legend

 Town Limits

Inlets

-  New
-  Existing
-  Upsized

Storm System

-  New
-  Existing
-  Upsized

Maximum Depth (ft)

-  0.00-0.25
-  0.25-0.50
-  0.50-2.00
-  2.00+

 13455 Noel Road, Suite 700 Dallas, TX 75240 (972) 770-1300 Phone (972) 239-3620 Fax Engineering Firm Registration No. E-928		Town of Highland Park, Texas Highland Park Master Drainage Plan		Airline Proposed 100-Year Improvements	DATE: NOVEMBER 2024
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East Potomac Drainage Improvements

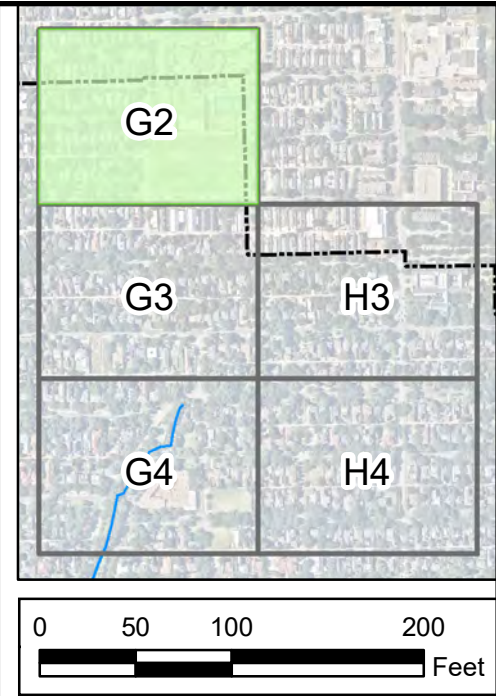
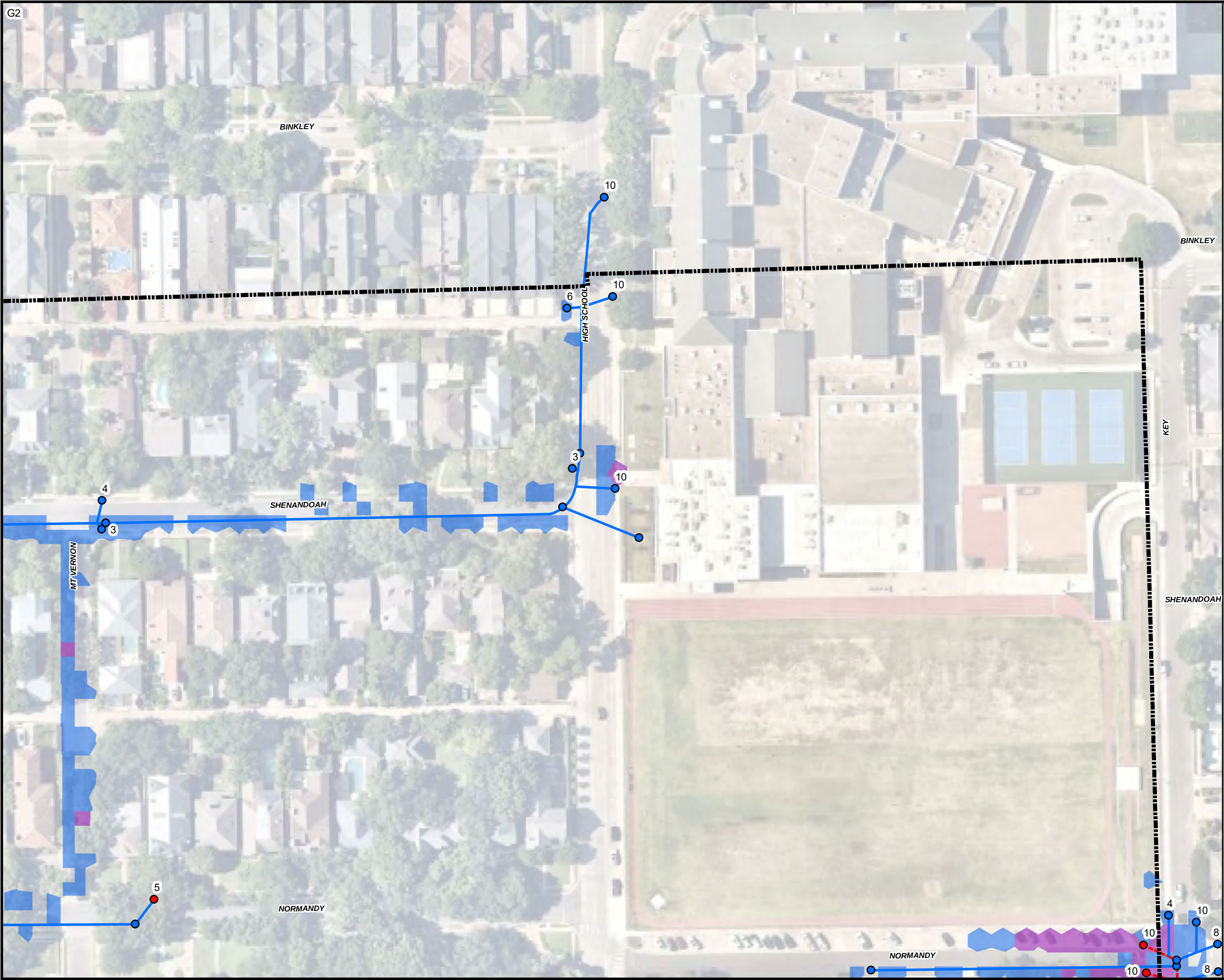
The proposed FMP is the reconstruction of storm sewer facilities in the vicinity of East Potomac Drive in Highland Park, Texas. The improvements were evaluated to meet the Texas Water Development Board's (TWDB) no negative impact criteria. The current storm system is undersized and results in the 100-year flow escaping the Town right-of-way. This results in blocked access to residential properties and 13 residential structures at flood risk. The FMP proposes to replace the existing storm sewer with larger facilities and the construction of additional inlets to capture and convey peak flows. The project allows the 100-year peak flows to be conveyed within the Town right-of-way.

The existing and proposed storm sewer systems and surface flows were modeled using PCSWMM. The modeling shows no adverse impacts downstream as a result of the proposed improvements..

Probable construction costs were determined for the design and construction of the alternative. Unit cost rates were obtained from similar projects in the region. Alternative probable construction costs include mobilization, paving, drainage items, utility relocation, and contingencies. The complete OPCC is attached to this submittal.

No USACE permitting is anticipated as part of this project.

A Benefit-Cost Ratio (BCR) was conducted to determine which project provides the best benefit considering probable construction cost and the value of properties all or partially removed from the high-risk flood areas. The 2024 TWDB BCA Input Workbook was used to quantify the project's economic impact. The average annual costs and benefits were calculated for a 50-year period of analysis. The primary benefit of the FMP includes 4 residential structures from 100-year flood risk, reducing the flood risk associated with an additional 9 structures, and removing approximately 260 feet of road from flood risk. The proposed project results in a BCR of 0.1.





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Engineering Firm Registration No. E-928

Town of Highland Park, Texas

Highland Park

Master Drainage Plan



Legend

 Town Limits

 Hackberry Creek Centerline

Inlets

Upsize

-  New
-  Existing
-  Upsized

Storm System

Upsize

-  New
-  Existing
-  Upsized

Maximum Depth (ft)

-  0.00-0.25
-  0.25-0.50
-  0.50-2.00
-  2.00+

East Potomac

Proposed 100-Year Improvements

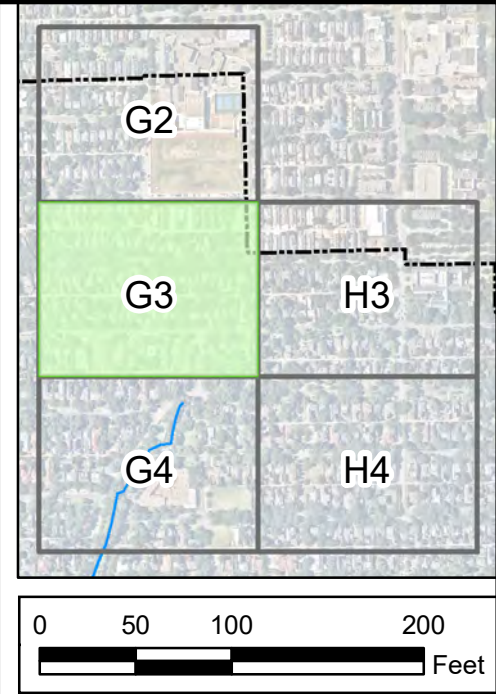
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KHA NO.:	064474567

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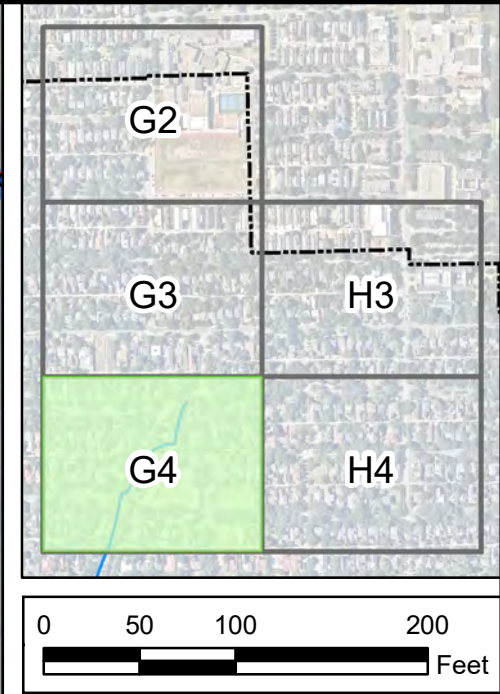
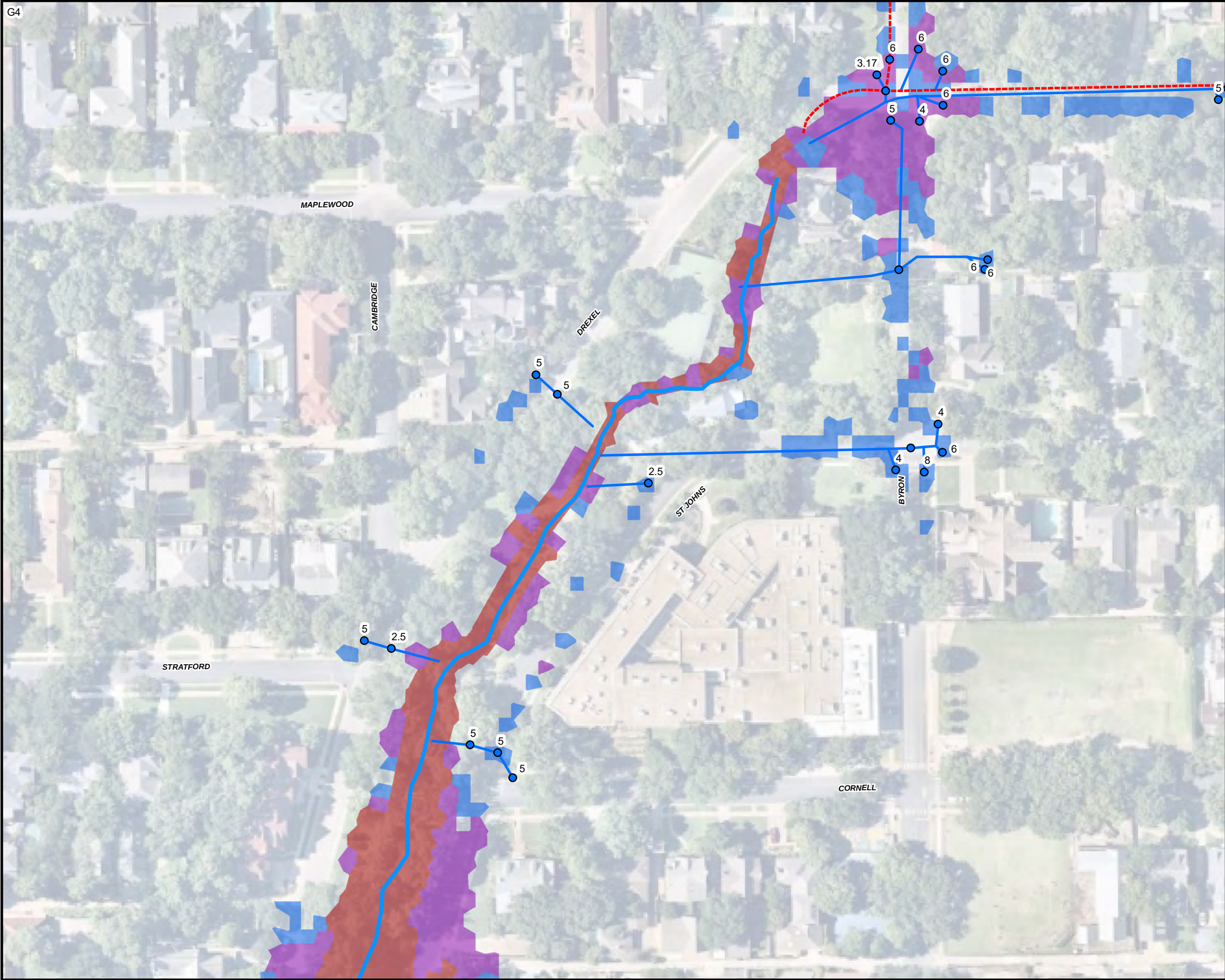
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Legend

- Town Limits
- Hackberry Creek Centerline
- Inlets**
 - New
 - Existing
 - Upsized
- Storm System**
 - New
 - Existing
 - Upsized
- Maximum Depth (ft)**
 - 0.00-0.25
 - 0.25-0.50
 - 0.50-2.00
 - 2.00+

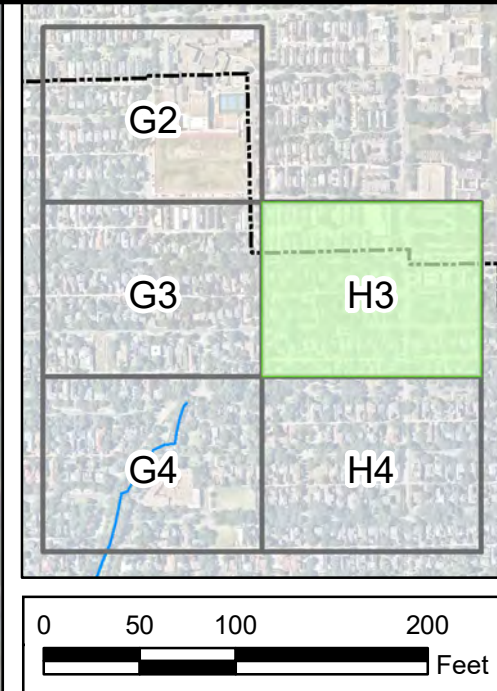
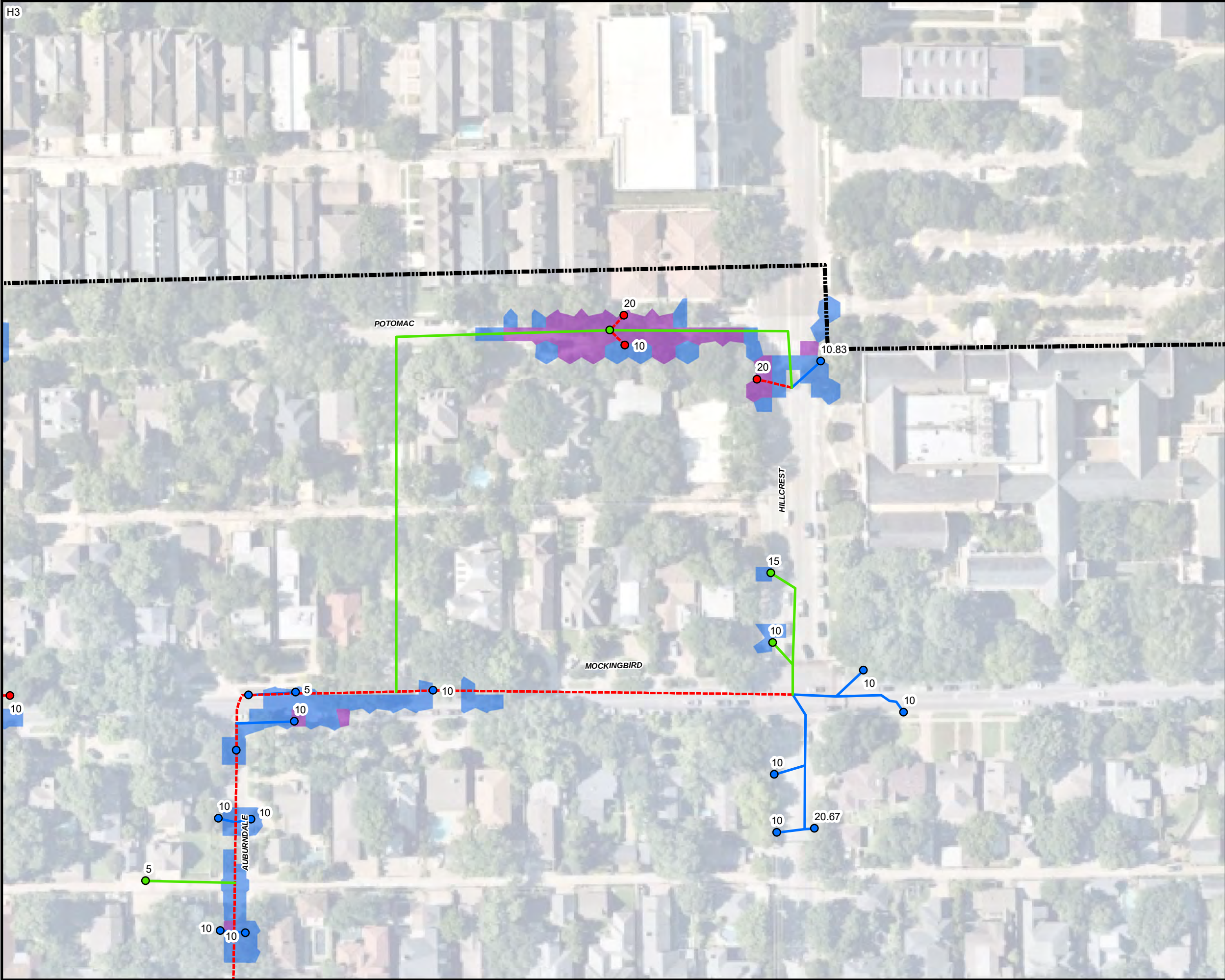
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DATE: NOVEMBER 2024		DESIGN: JKL	
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Legend

- Town Limits
- Hackberry Creek Centerline
- Inlets**
 - New
 - Existing
 - Upsized
- Storm System**
 - New
 - Existing
 - Upsized
- Maximum Depth (ft)**
 - 0.00-0.25
 - 0.25-0.50
 - 0.50-2.00
 - 2.00+

		Town of Highland Park, Texas Highland Park Master Drainage Plan	
DATE: NOVEMBER 2024		DESIGN: JKL	
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KHA NO.: 064474567		K:\DAL_GIS\DAL_Hydro\064474567 - Highland Park MDP\GIS - PH 2101_ Exhibits\D2_Proposed East Potomac Inundation.mxd	
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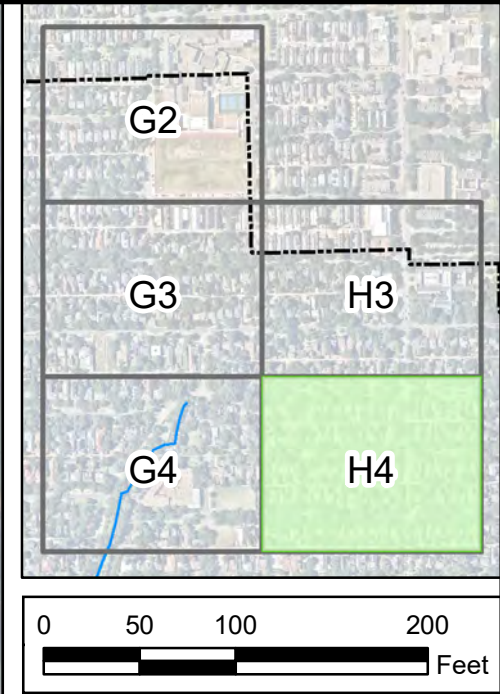
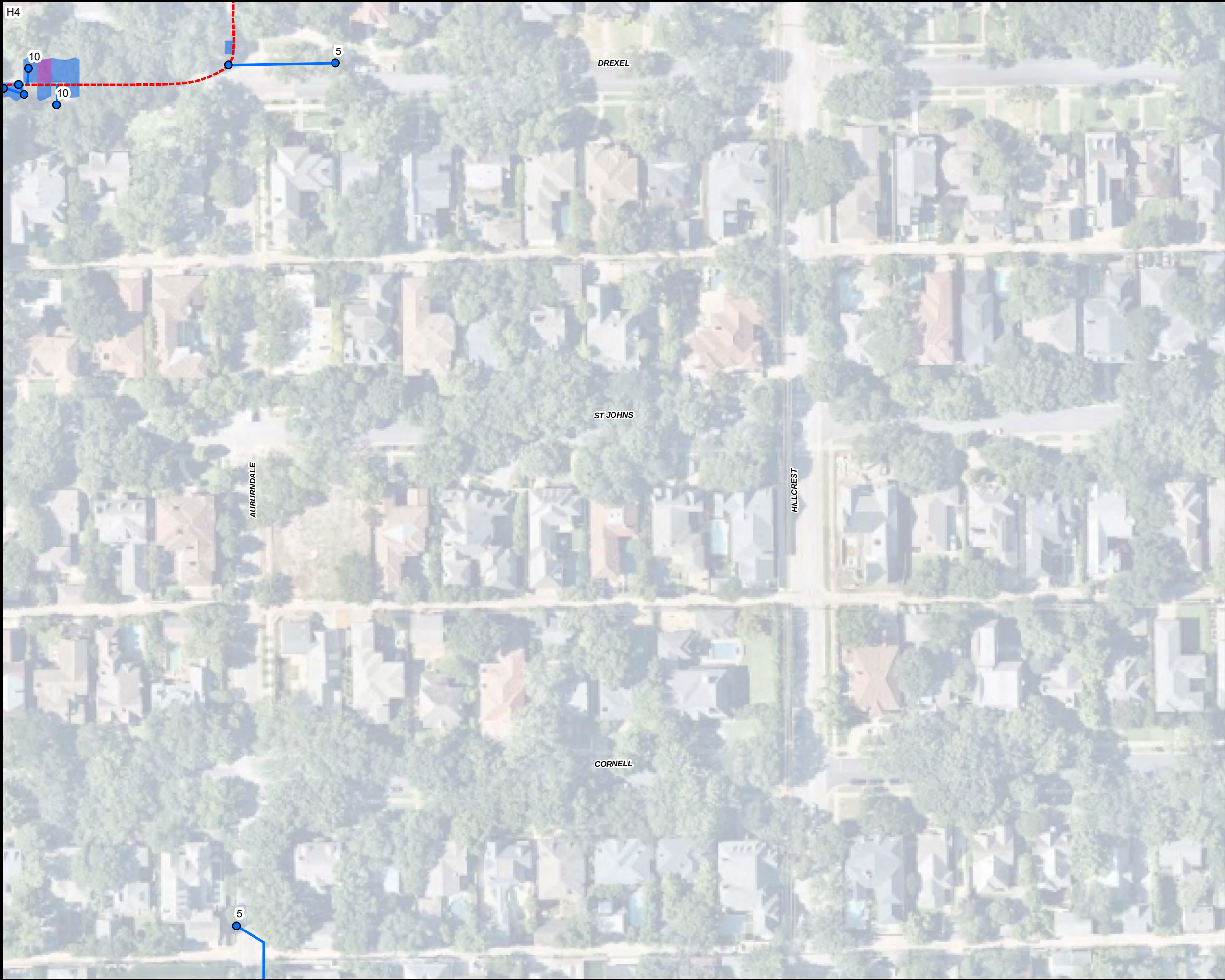
Legend

- Town Limits
- Hackberry Creek Centerline
- Inlets**
 - New
 - Existing
 - Upsized
- Storm System**
 - New
 - Existing
 - Upsized
- Maximum Depth (ft)**
 - 0.00-0.25
 - 0.25-0.50
 - 0.50-2.00
 - 2.00+

	Town of Highland Park, Texas			
	Highland Park Master Drainage Plan			
	East Potomac			
	Proposed 100-Year Improvements			
DATE: NOVEMBER 2024	DESIGN: JKL	DRAWN: JKL	CHECKED: SDG	KHA NO.: 064474567
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Dallas, TX 75240
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Engineering Firm Registration No. E-928



Legend

- Town Limits
- Hackberry Creek Centerline

Inlets

- Upsize
- New
 - Existing
 - Upsized

Storm System

- Upsize
- New
 - Existing
 - Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
- 0.50-2.00
- 2.00+

Kimley»Horn

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Dallas, TX 75240
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Engineering Firm Registration No. E-928

Town of Highland Park, Texas

Highland Park

Master Drainage Plan

East Potomac

Proposed 100-Year Improvements

DATE:	NOVEMBER 2024
DESIGN:	JKL
DRAWN:	JKL
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KHA NO.:	064474567

SHEET

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Lomo Alto Drainage Improvements

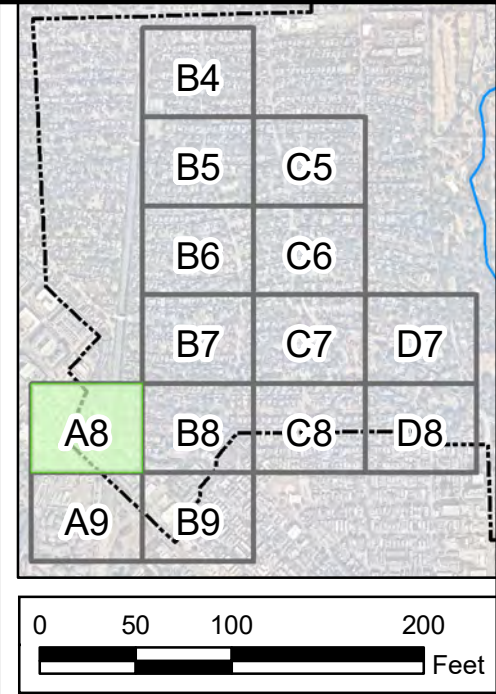
The proposed FMP is the reconstruction of storm sewer facilities in the vicinity of Lomo Alto Drive in Highland Park, Texas. The improvements were evaluated to meet the Texas Water Development Board's (TWDB) no negative impact criteria. The current storm system is undersized and results in the 100-year flow escaping the Town right-of-way, causing blocked access to residential properties and putting structures at flood risk. The area includes 43 residential structures at flood risk, with an additional 3 non-residential structures at risk.

The FMP proposes to replace the existing storm sewer with larger facilities and construct additional inlets to capture and convey peak flows. The project allows the 100-year peak flows to be conveyed within the Town right-of-way.

The existing and proposed storm sewer systems and surface flows were modeled using PCSWMM. The modeling shows no adverse impacts downstream as a result of the proposed improvements. Probable construction costs were determined for the design and construction of the alternative. Unit cost rates were obtained from similar projects in the region. Alternative probable construction costs include mobilization, paving, drainage items, utility relocation, and contingencies. The complete OPCC is attached to this submittal.

No USACE permitting is anticipated as part of this project.

A Benefit-Cost Ratio (BCR) analysis was conducted to determine which project provides the best benefit considering probable construction cost and the value of properties all or partially removed from high-risk flood areas. The 2024 TWDB BCA Input Workbook was used to quantify the project's economic impact. The average annual costs and benefits were calculated for a 50-year period of analysis. The primary benefit of the FMP includes removing 27 residential structures from 100-year flood risk, removing 2 non-residential structures, and reducing the flood risk associated with an additional 37 structures. Additionally, approximately 800 feet of road are removed from flood risk. The proposed project results in a BCR of 0.6.



Legend

 Town Limits

Inlets

-  New
-  Existing
-  Upsized

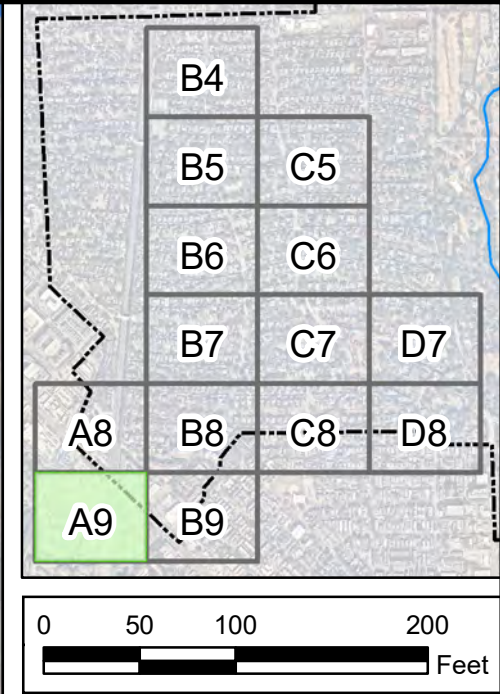
Storm System

-  New
-  Existing
-  Upsized

Maximum Depth (ft)

-  0.00-0.25
-  0.25-0.50
-  0.50-2.00
-  2.00+

 13455 Noel Road, Suite 700 Dallas, TX 75240 (972) 770-1300 Phone (972) 239-3620 Fax Engineering Firm Registration No. E-928			
Town of Highland Park, Texas		Highland Park Master Drainage Plan	
			
Lomo Alto Proposed 100-Year Improvements			
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KHA NO.:	064474567		
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Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
- Existing
- Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
- 0.50-2.00
- 2.00+

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(972) 239-3620 Fax
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Town of Highland Park, Texas
Highland Park
Master Drainage Plan

Lomo Alto
Proposed 100-Year Improvements

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DALLAS NORTH TOLLWAY

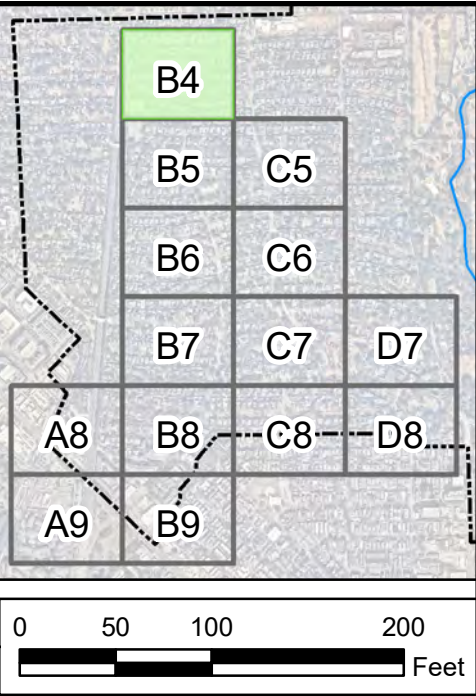
ROLAND

SOUTHERN

LIVINGSTON

LOMO ALTO DR

EDMONSON



Legend

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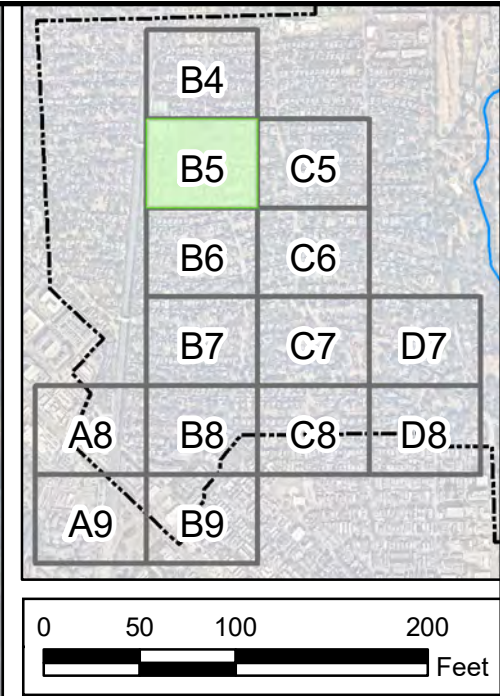
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Town of Highland Park, Texas
**Highland Park
Master Drainage Plan**



**Lomo Alto
Proposed 100-Year Improvements**

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Legend

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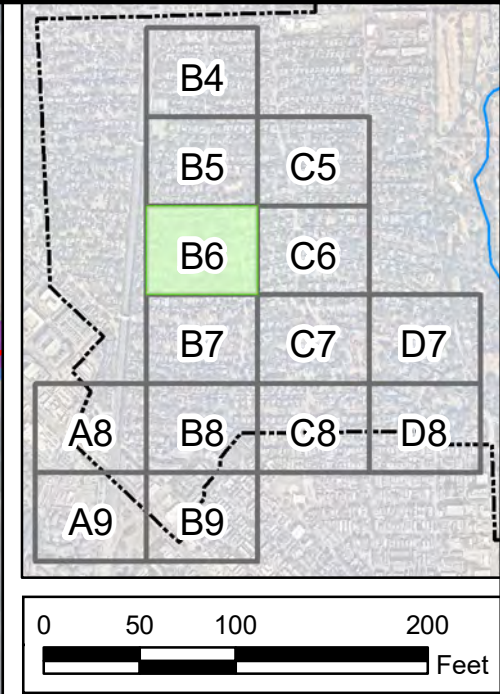
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**Highland Park
Master Drainage Plan**

**Lomo Alto
Proposed 100-Year Improvements**

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Legend

Town Limits

Inlets

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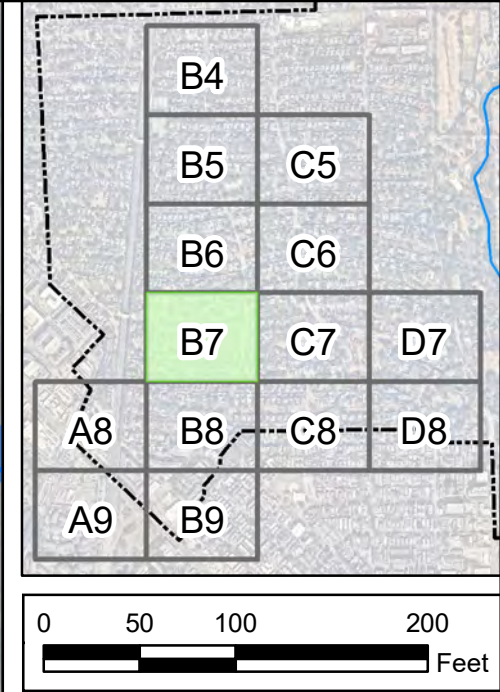
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Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
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- Upsized

Maximum Depth (ft)

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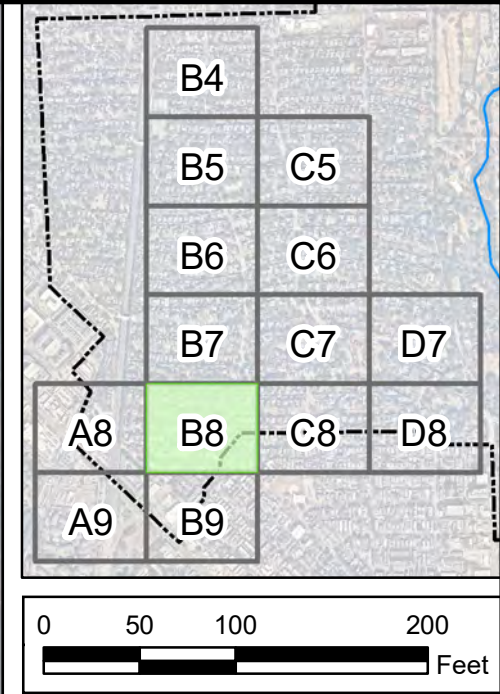
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**Highland Park
Master Drainage Plan**

**Lomo Alto
Proposed 100-Year Improvements**

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Legend

 Town Limits

Inlets

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Storm System

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Maximum Depth (ft)

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**Highland Park
Master Drainage Plan**

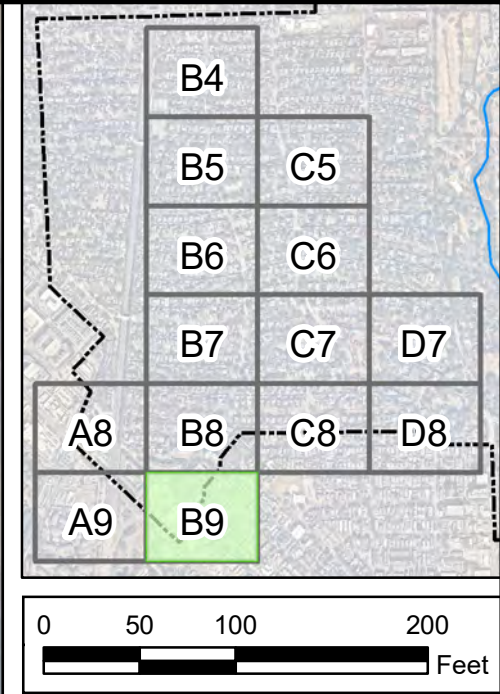
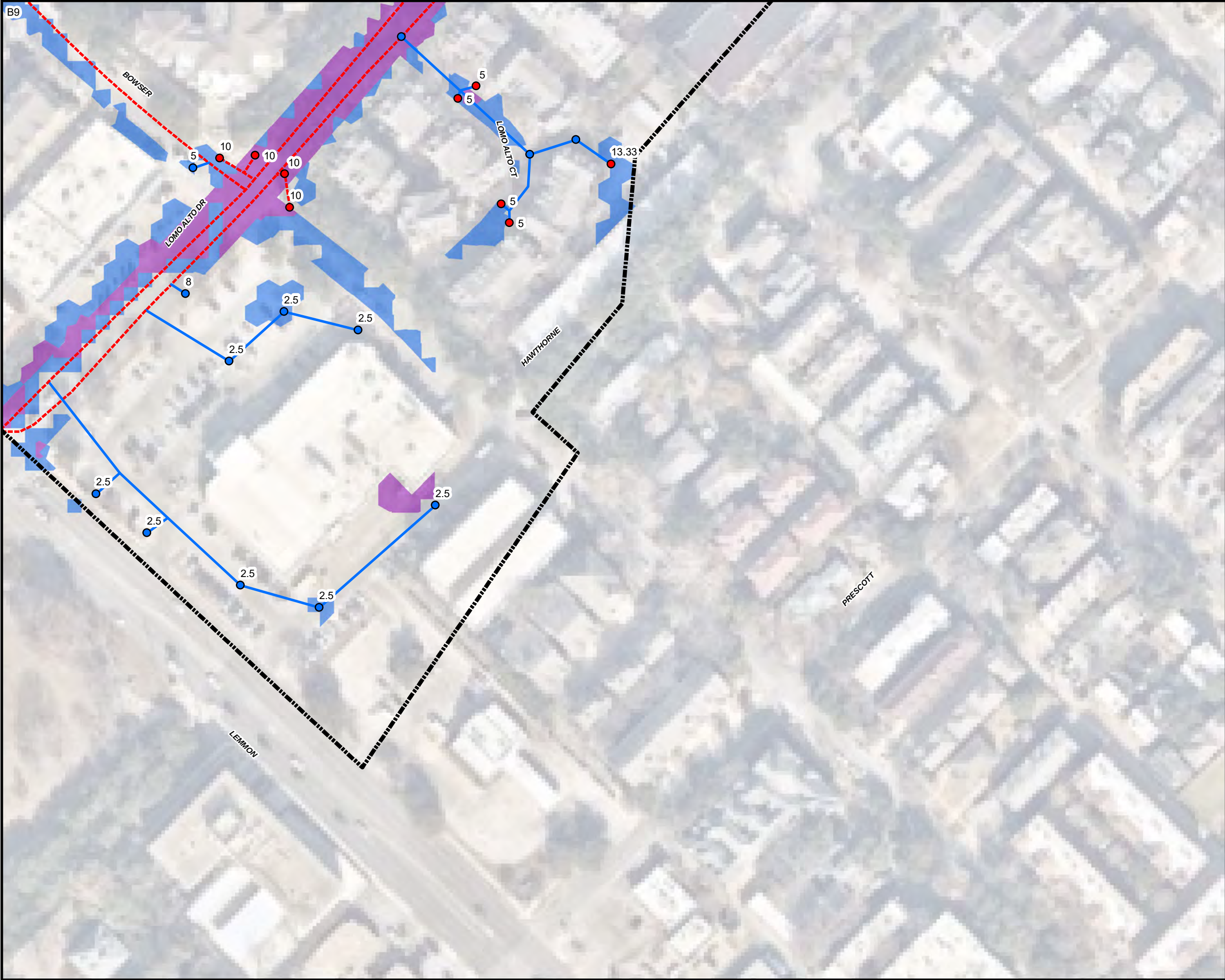


**Lomo Alto
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Legend

Town Limits

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Master Drainage Plan

Lomo Alto

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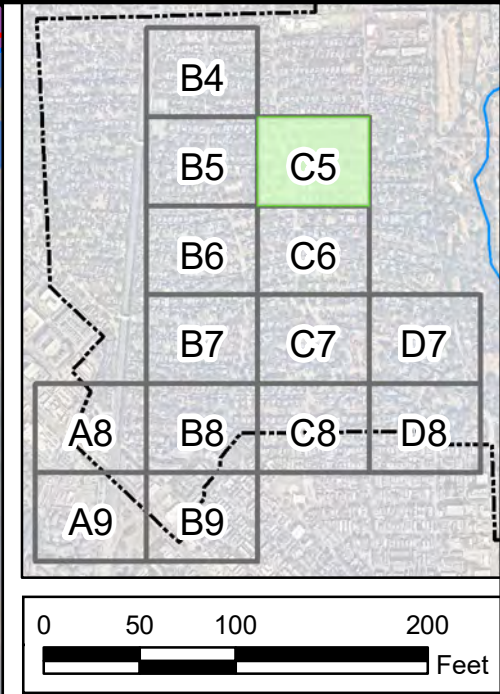
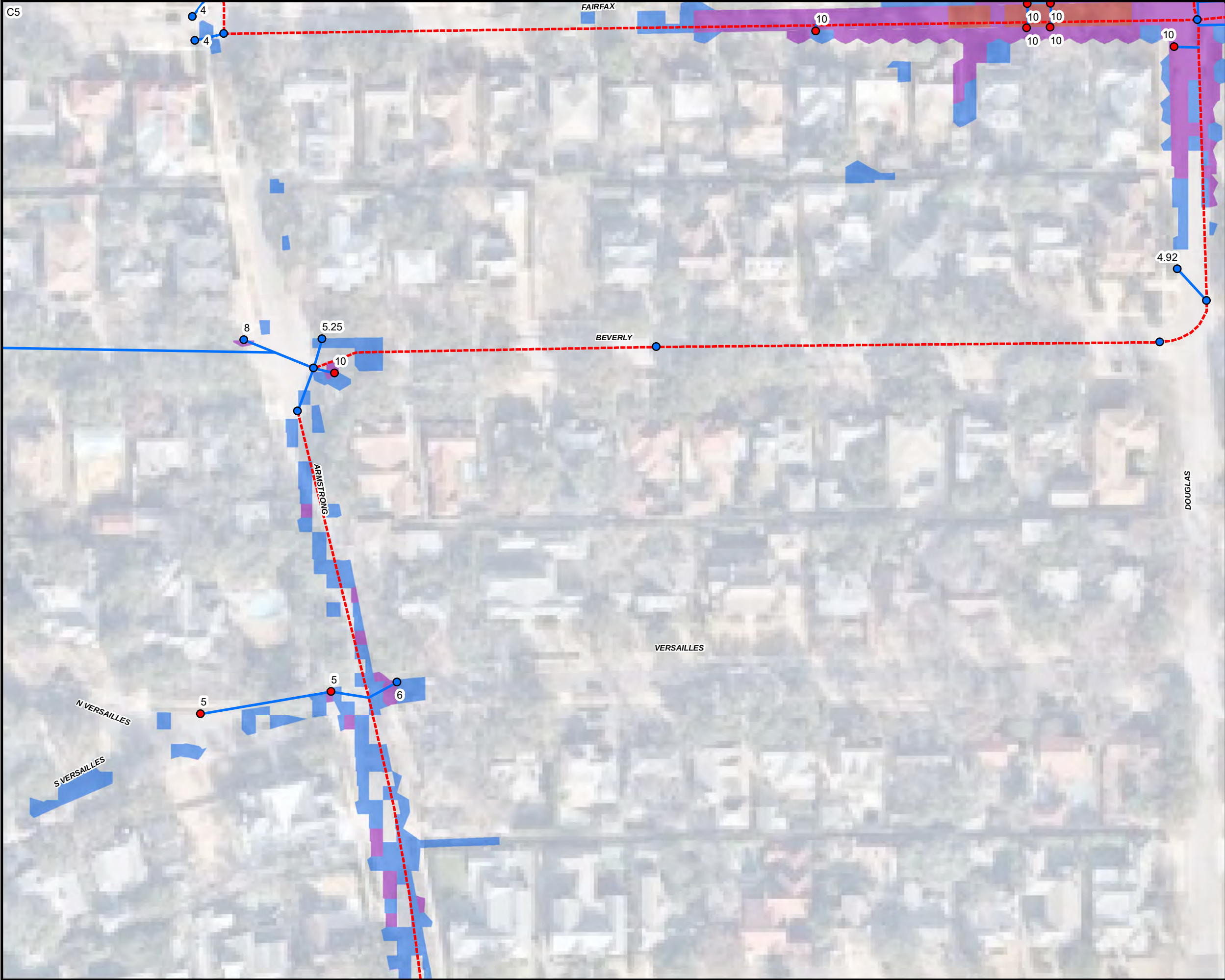
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C5



Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
- Existing
- Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
- 0.50-2.00
- 2.00+

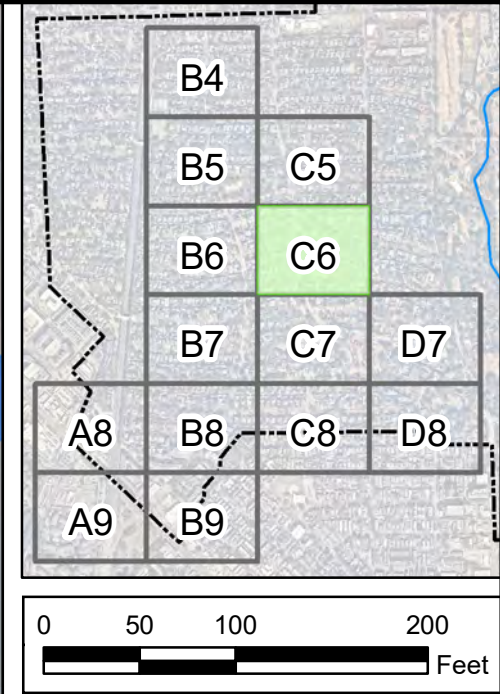
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Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
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- Upsized

Maximum Depth (ft)

- 0.00-0.25
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Town of Highland Park, Texas

Highland Park

Master Drainage Plan

Lomo Alto

Proposed 100-Year Improvements

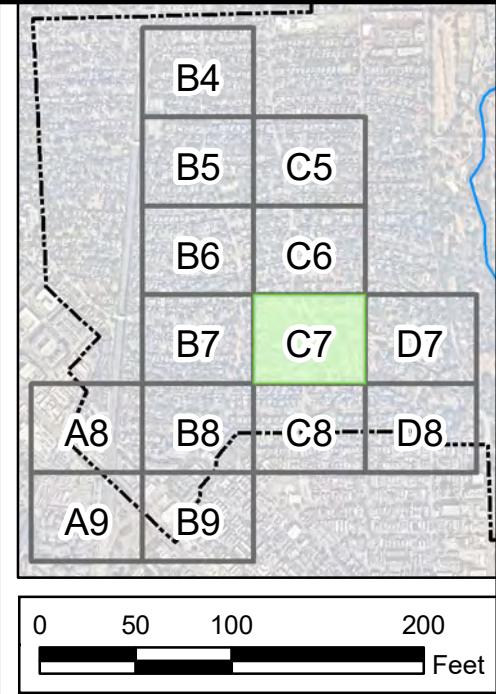
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Legend

 Town Limits

Inlets

-  New
-  Existing
-  Upsized

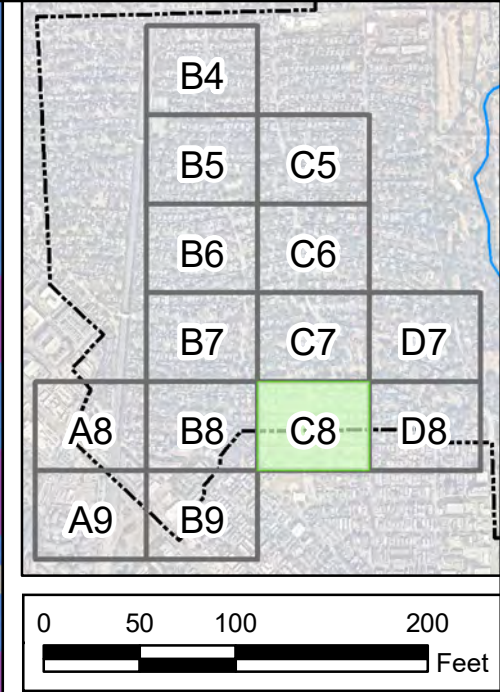
Storm System

-  New
-  Existing
-  Upsized

Maximum Depth (ft)

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-  0.25-0.50
-  0.50-2.00
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Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
- Existing
- Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
- 0.50-2.00
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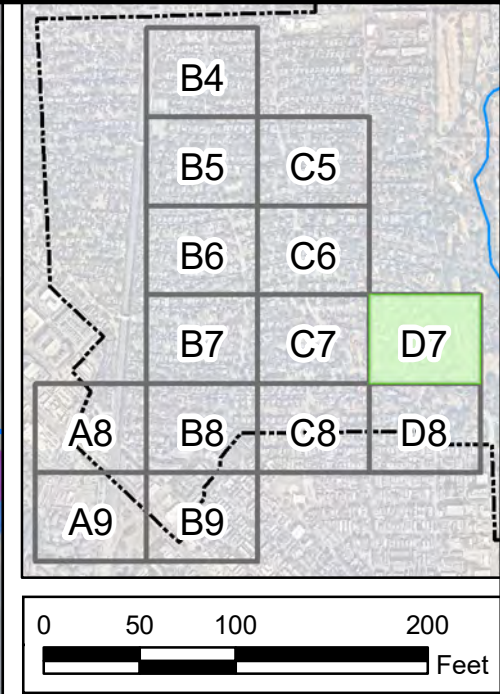
Town of Highland Park, Texas
Highland Park
Master Drainage Plan

Lomo Alto
Proposed 100-Year Improvements

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Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
- Existing
- Upsized

Maximum Depth (ft)

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- 0.25-0.50
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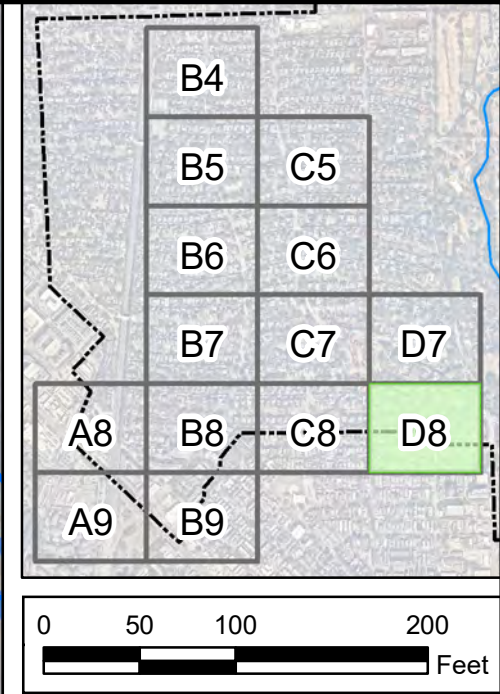
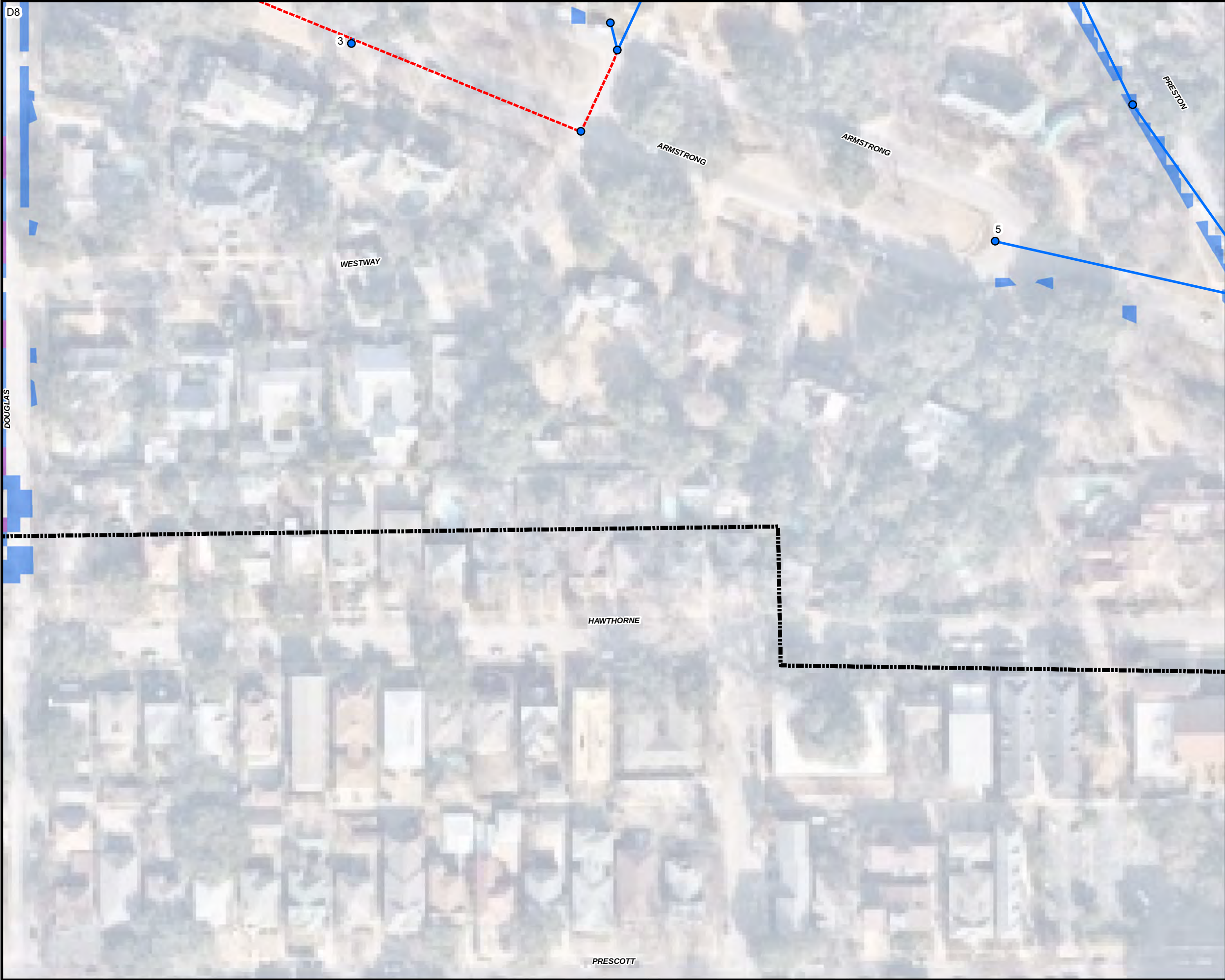
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Town of Highland Park, Texas
**Highland Park
Master Drainage Plan**

**Lomo Alto
Proposed 100-Year Improvements**

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Legend

Town Limits

Inlets

- New
- Existing
- Upsized

Storm System

- New
- Existing
- Upsized

Maximum Depth (ft)

- 0.00-0.25
- 0.25-0.50
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Kimley»Horn

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Highland Park

Master Drainage Plan

Lomo Alto

Proposed 100-Year Improvements

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Douglas & Beverly Drainage Improvements

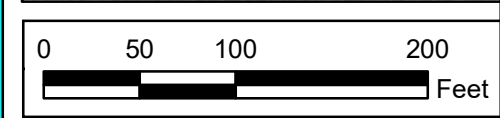
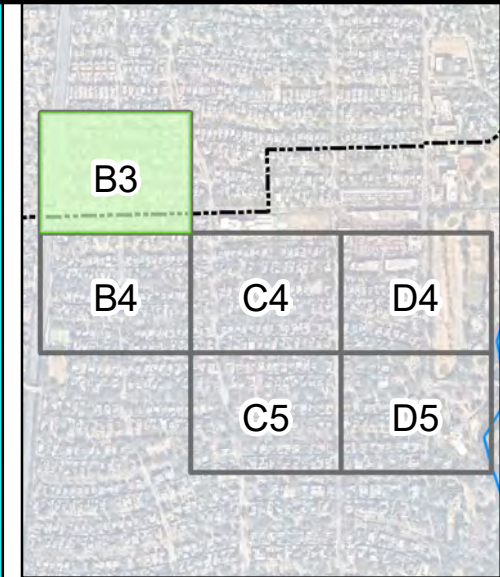
The proposed FMP is the reconstruction of storm sewer facilities in the vicinity of Douglas Avenue and Beverly Drive in Highland Park, Texas. The improvements were evaluated to meet the Texas Water Development Board's (TWDB) no negative impact criteria. The current storm system is undersized and results in the 100-year flow escaping the Town right-of-way, causing blocked access to residential properties and putting structures at flood risk. The area has 19 residential structures at flood risk.

The FMP proposes to replace the existing storm sewer with larger facilities and construct additional inlets to capture and convey peak flows. The project allows the 100-year peak flows to be conveyed within the Town right-of-way.

The existing and proposed storm sewer systems and surface flows were modeled using PCSWMM. The modeling shows no adverse impacts downstream as a result of the proposed improvements. Probable construction costs were determined for the design and construction of the alternative. Unit cost rates were obtained from similar projects in the region. Alternative probable construction costs include mobilization, paving, drainage items, utility relocation, and contingencies. The complete OPCC is attached to this submittal.

No USACE permitting is anticipated as part of this project.

A Benefit-Cost Ratio (BCR) analysis was conducted to determine which project provides the best benefit considering probable construction cost and the value of properties all or partially removed from high-risk flood areas. The 2024 TWDB BCA Input Workbook was used to quantify the project's economic impact. The average annual costs and benefits were calculated for a 50-year period of analysis. The primary benefit of the FMP includes removing 14 residential structures from 100-year flood risk and reducing the flood risk associated with an additional 19 structures. Additionally, approximately 1,800 feet of road are removed from flood risk. The proposed project results in a BCR of 0.1.



Kimley»Horn
13455 Noel Road, Suite 700
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Town of Highland Park, Texas
**Highland Park
Master Drainage Plan**

Legend

Town Limits

Turtle Creek Centerline

Inlets

New

Existing

Upsized

Storm System

New

Existing

Upsized

Maximum Depth (ft)

0.00-0.25

0.25-0.50

0.50-2.00

2.00+

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**Douglas and Beverly
Proposed 100-Year Improvements**

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DALLAS NORTH TOLLWAY

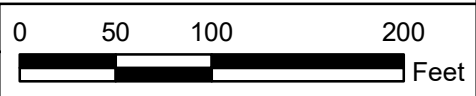
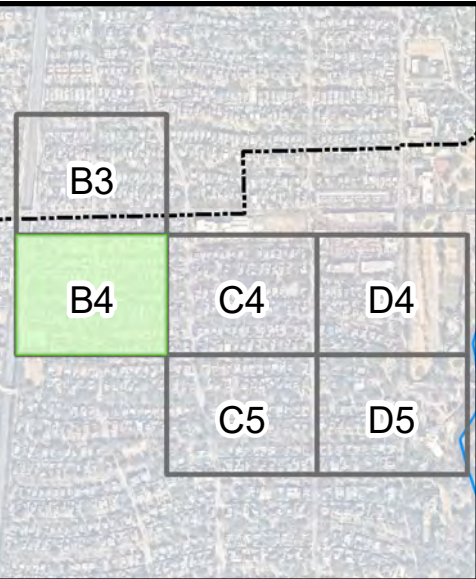
ROLAND

SOUTHERN

LIVINGSTON

EDMONSON

LOMO ALTO DR



Town of Highland Park, Texas
Highland Park
Master Drainage Plan



Douglas and Beverly
Proposed 100-Year Improvements

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Legend

- Town Limits
- Turtle Creek Centerline

Inlets

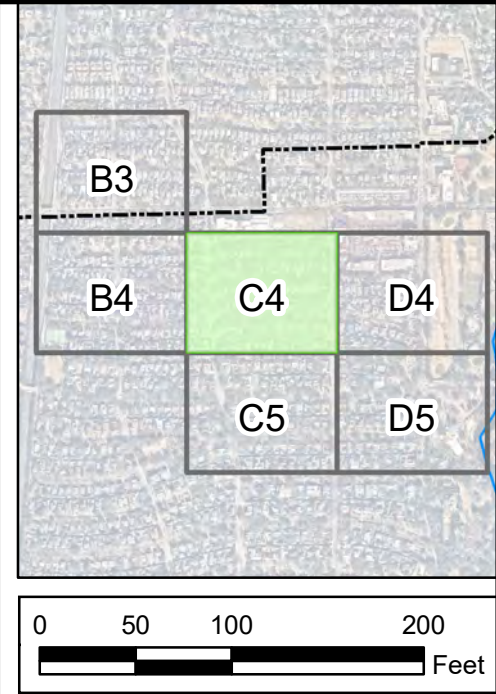
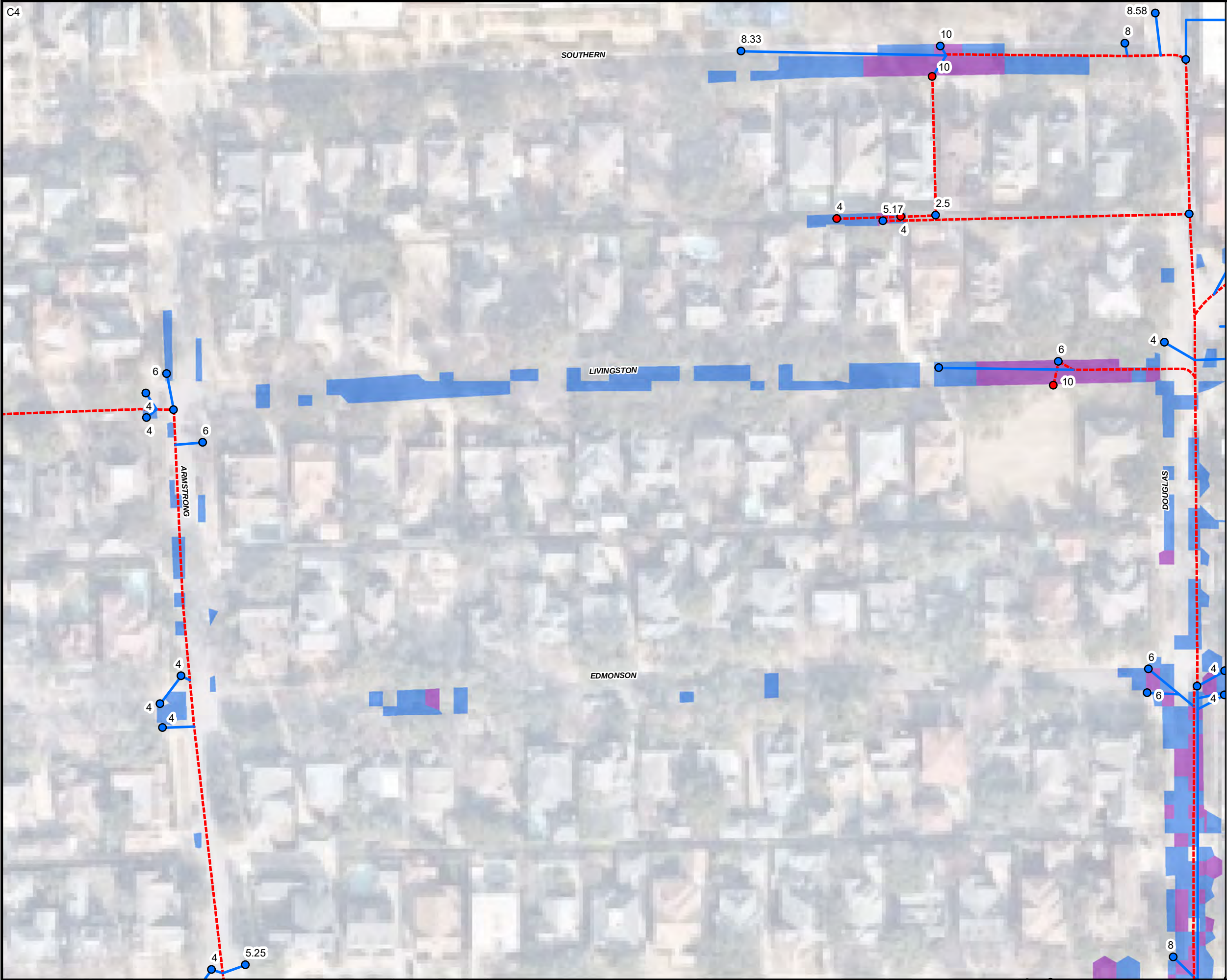
- New
- Existing
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Storm System

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Maximum Depth (ft)

- 0.00-0.25
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Legend

Town Limits

Turtle Creek Centerline

Inlets

New

Existing

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Maximum Depth (ft)

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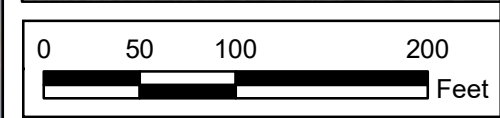
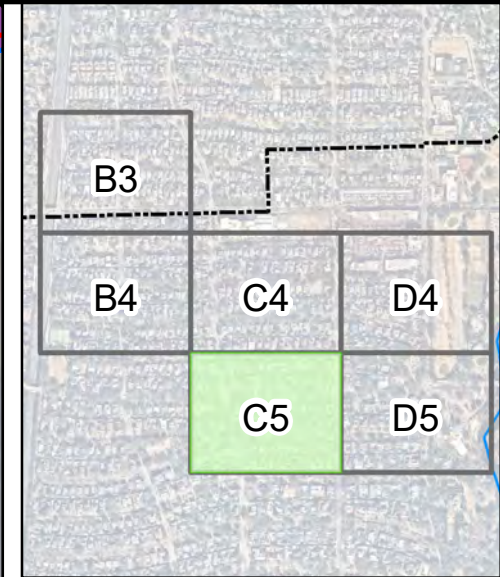
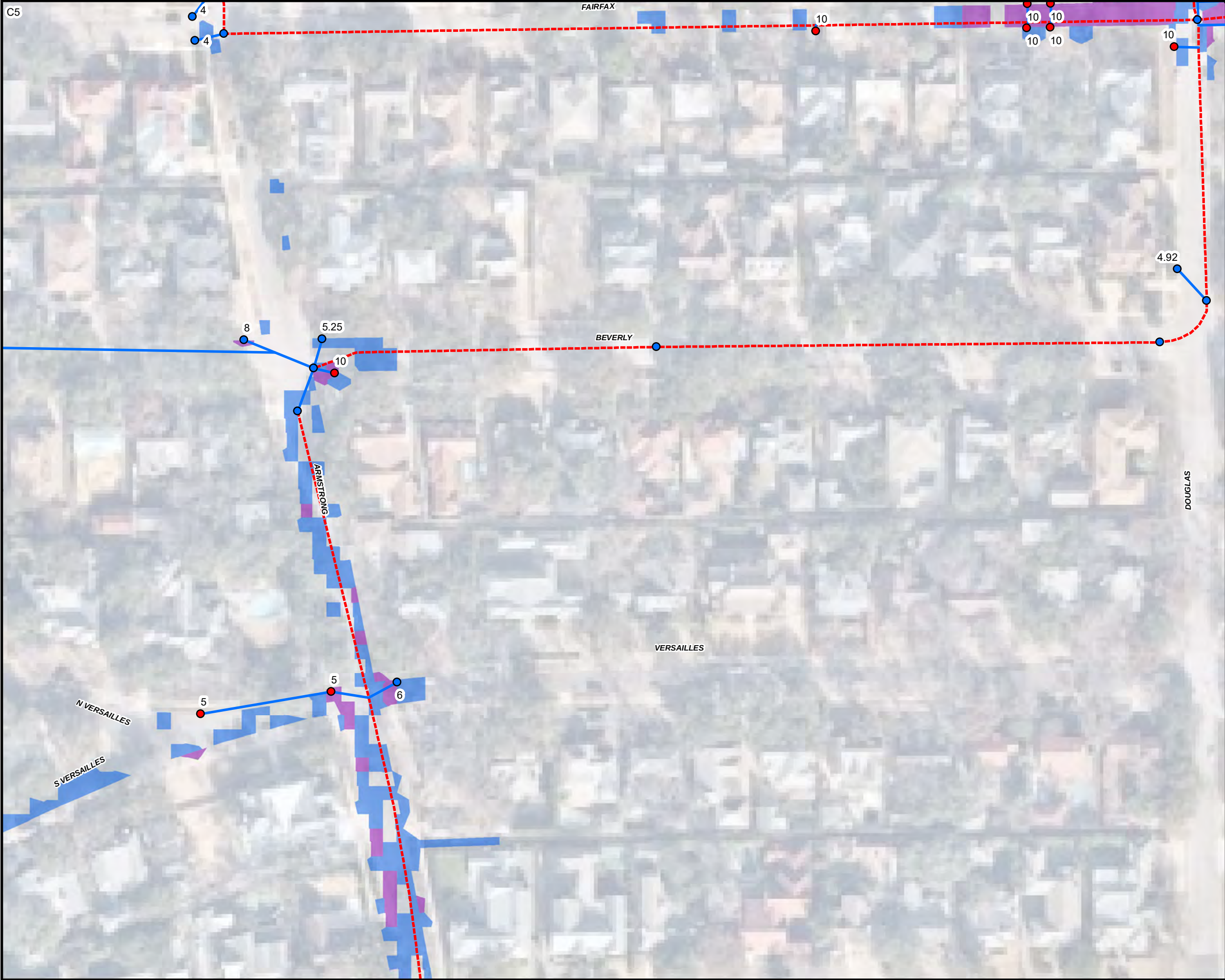
Town of Highland Park, Texas
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Master Drainage Plan**

Douglas and Beverly
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Legend

 Town Limits

 Turtle Creek Centerline

Inlets

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-  Existing
-  Upsized

Storm System

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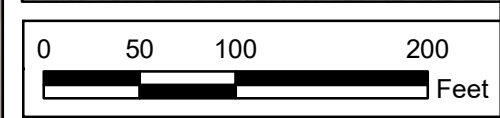
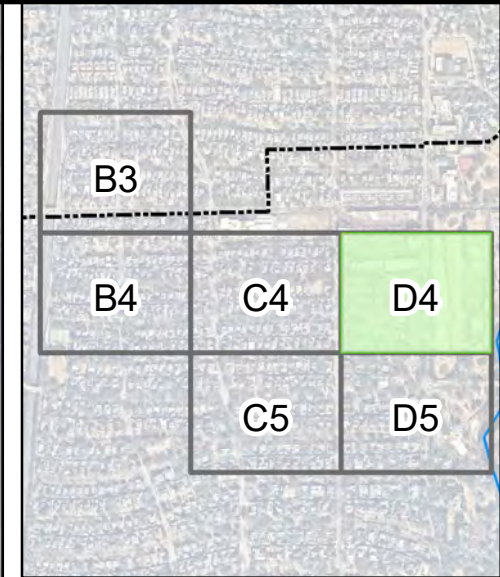
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Legend

-  Town Limits
-  Turtle Creek Centerline
- Inlets**
 -  New
 -  Existing
 -  Upsized
- Storm System**
 -  New
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Town of Highland Park, Texas
**Highland Park
Master Drainage Plan**

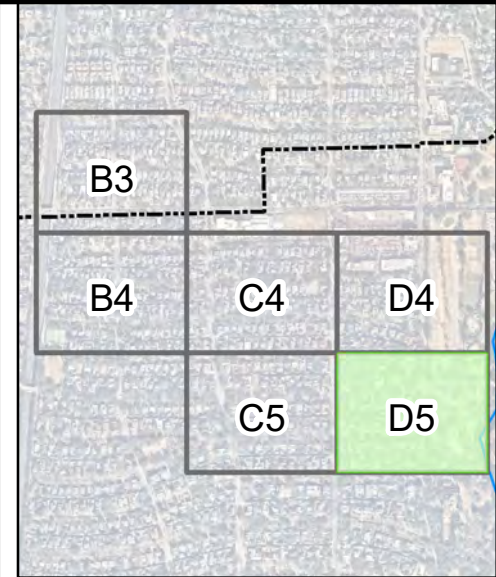


Douglas and Beverly
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Legend

Town Limits

Turtle Creek Centerline

Inlets

New

Existing

Upsized

Storm System

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Maximum Depth (ft)

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**Douglas and Beverly
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Wycliffe Transportation Project

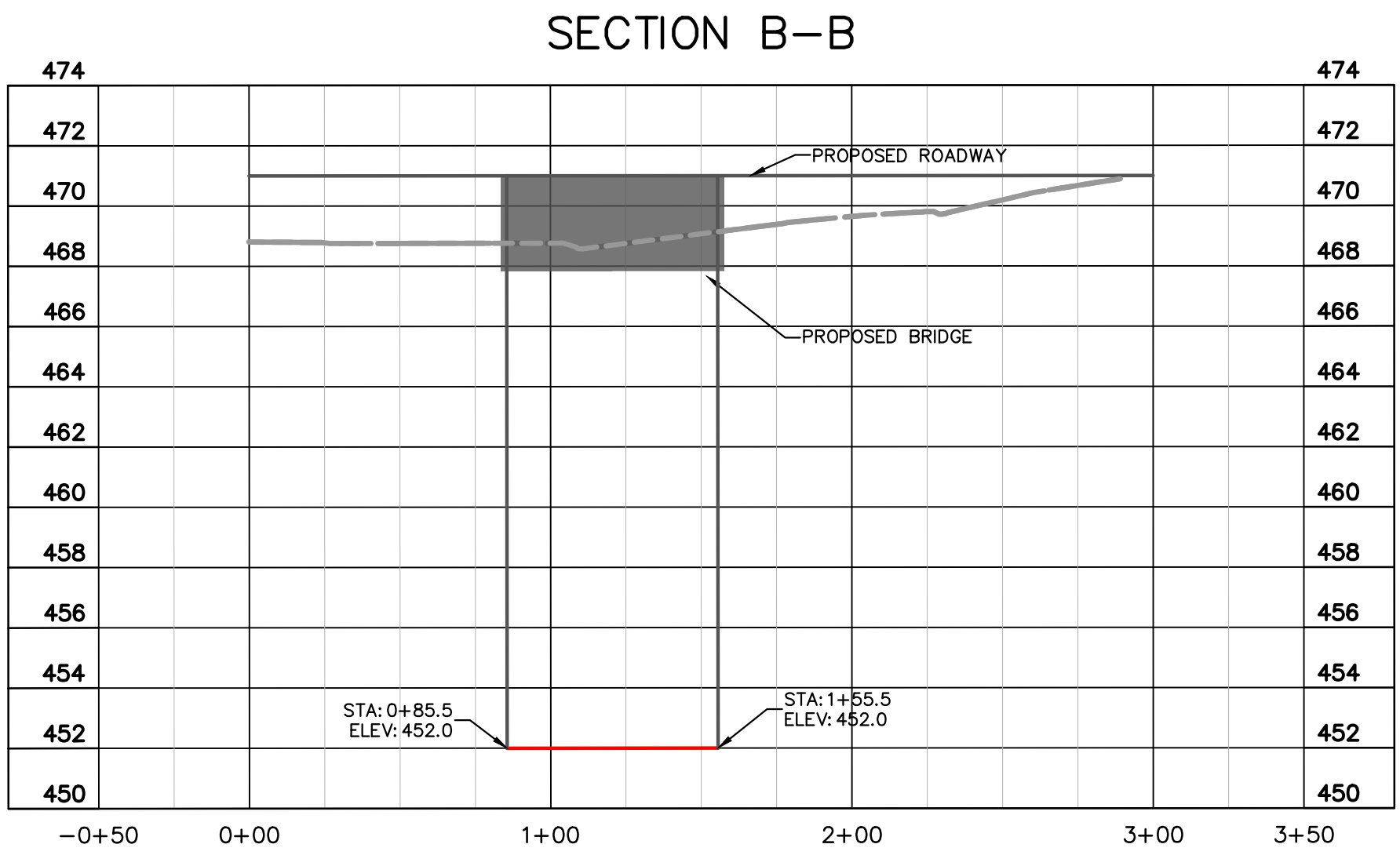
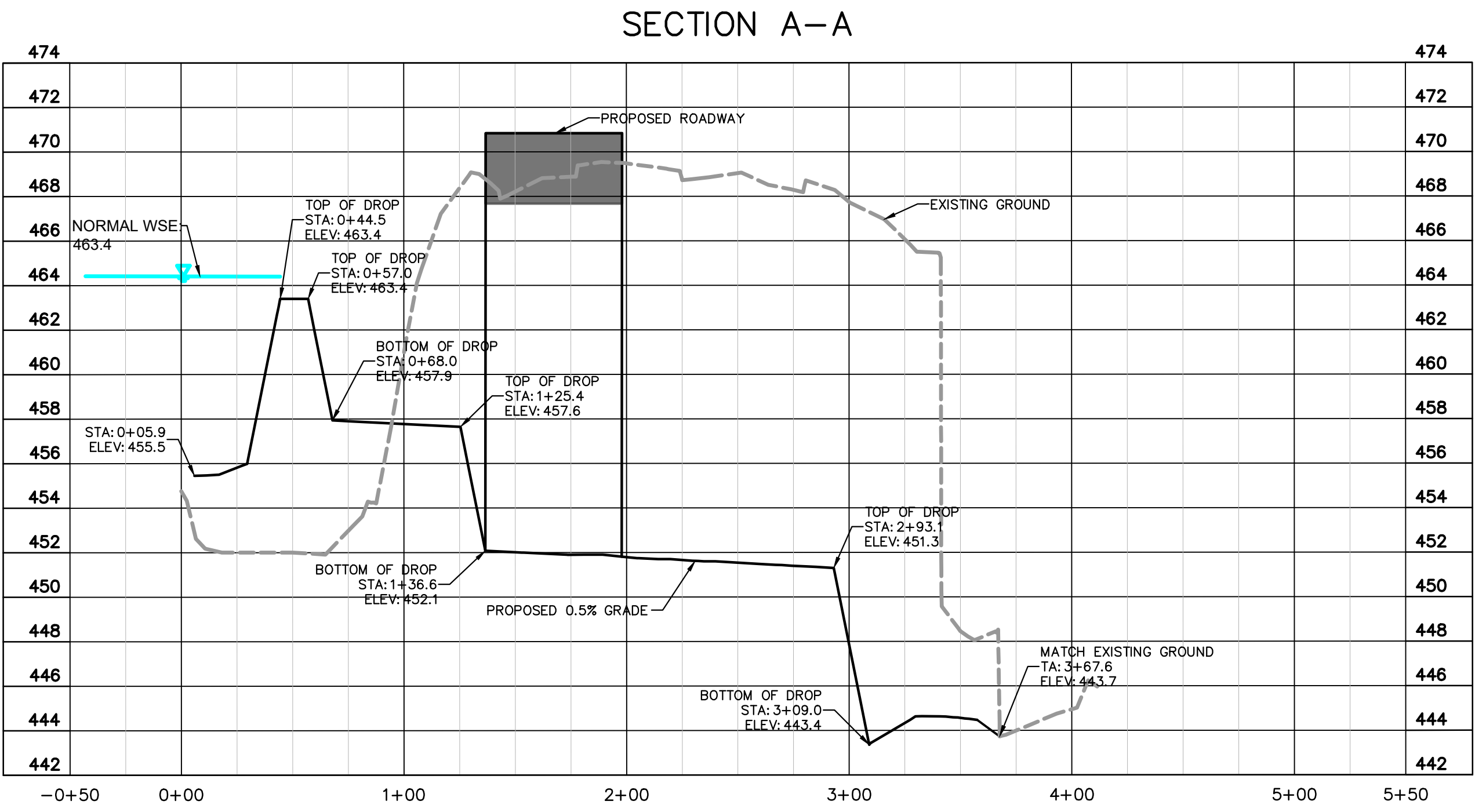
The proposed FMP is the reconstruction of Wycliffe Avenue and the construction of a new dam structure. The improvements were evaluated to meet the Texas Water Development Board's (TWDB) no negative impact criteria. The current outfall structure associated with Wycliffe Avenue consists of a 40-foot morning glory spillway and two receiving horseshoe culverts. Adjacent to the Turtle Creek crossing is a Tributary to Turtle Creek crossing that consists of 2-reinforced concrete pipes. The culverts and spillway are undersized and the roadway overtops in the 2-year event. This results in blocked access from east to west along Wycliffe Avenue as well as dangerous conditions at the crossing with the potential to endanger motorists and pedestrians. The FMP proposes to replace the existing structure with a 121-foot arch weir. The effective crest of the weir is designed to remain consistent with the elevation of the existing spillway. The roadway crossing is replaced with a 70-foot single span bridge. The Tributary crossing is replaced with an 8x8 box culvert. The project removes Wycliffe Avenue from the floodplain and removes one residential structure from the floodplain. It also reduces the hazard of the dam structure from high hazard to low hazard.

The proposed HEC-RAS 2D model shows no adverse impacts downstream due to the change in storage and the change in timing that can be caused by the addition of structural alternatives.

Probable construction costs were determined for the design and construction of the alternative. Unit cost rates were obtained from similar projects in the region. Alternative probable construction costs include mobilization, paving, drainage items, utility relocation, landscaping, and contingencies. The complete OPCC is attached to this submittal.

The USACE regulates the discharge of dredge or fill material into the waters of the United States, which includes any part of the surface water tributary system down to the smallest of streams, lakes, ponds or other water body on those streams and adjacent wetlands. The scope of this project has been evaluated and we anticipate a Nationwide Permit (NWP) 14 can be used.

A Benefit-Cost Ratio (BCR) was conducted to determine which project provides the best benefit considering probable construction cost and the value of properties all or partially removed from the high-risk flood areas. The 2024 TWDB BCA Input Workbook was used to quantify the project's economic impact. The average annual costs and benefits were calculated for a 50-year period of analysis. The primary benefit of the FMP includes removing 1,950 feet of road from flood risk and removing 1 structure from flood risk. The proposed project results in a BCR less than 0.1.

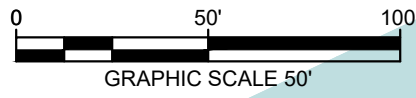
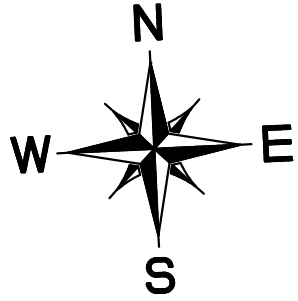


Wycliff Dam Improvements

Bridge/Bridge Class Culverts

Town of Highland Park, Texas
Dallas County

DWG NAME: K:\DAL_HYDRO\084474683 - WYCLIFF TRANSPO\DWG\EXHIBITS\WYCLIFF CONCEPT PLAN.DWG
LAST SAVED: 9/4/2024 2:46 PM



Kimley»Horn
13455 Noel Road, Two Galleria Office Tower
Suite 700
Dallas, Texas 75240
972-770-1300
State of Texas Registration No. F-928
NOTE: THIS PLAN IS CONCEPTUAL IN NATURE AND HAS BEEN PRODUCED WITHOUT THE BENEFIT OF A SURVEY OR CONTACT WITH THE CITY OF HIGHLAND PARK.

Hackberry Creek Phase 1

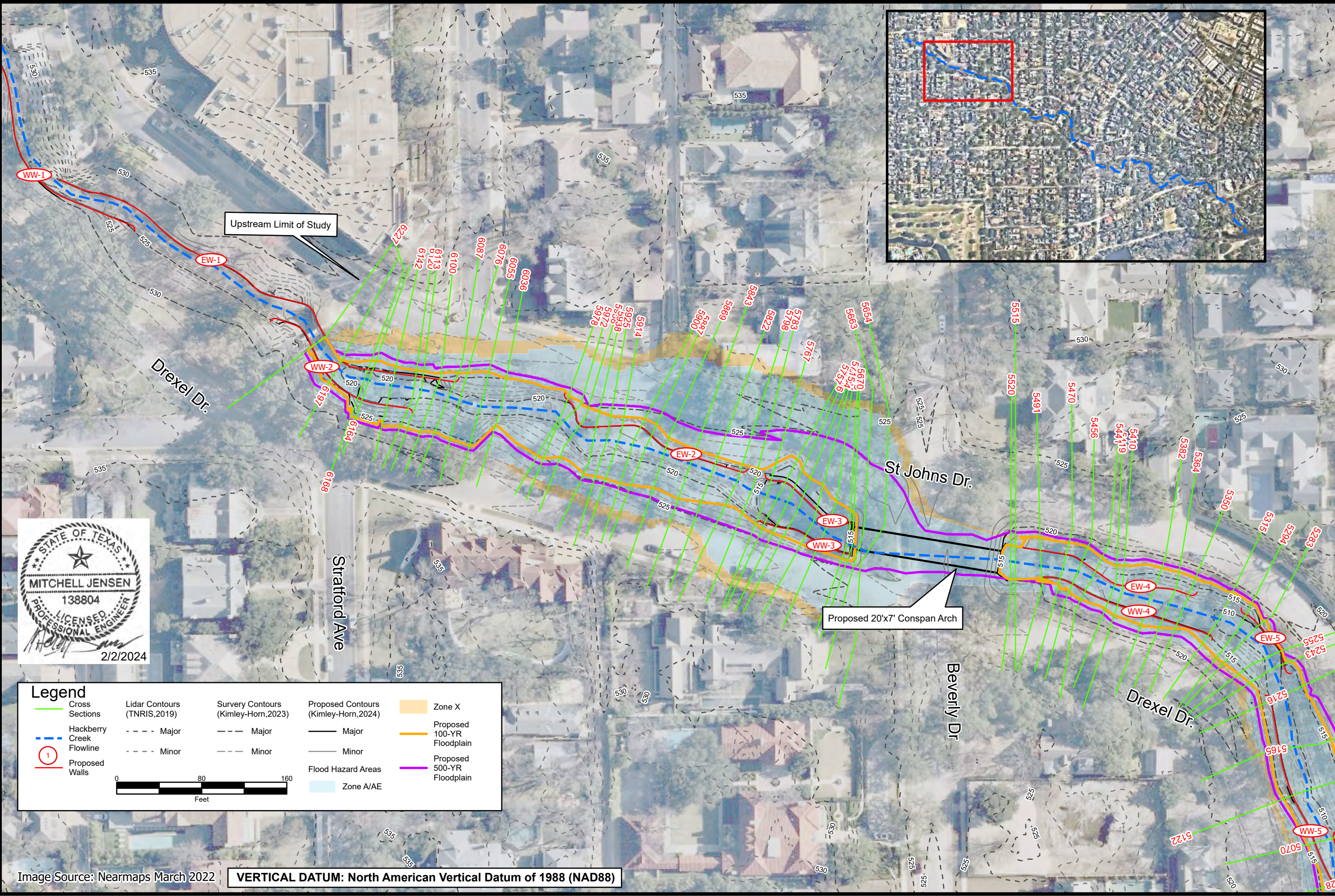
The proposed FMP is the reconstruction of the Beverly Drive crossing. The improvements were evaluated to meet the Texas Water Development Board's (TWDB) no negative impact criteria. The current Beverly Drive crossing consists of a single 6.5'x8.25' culvert. The culvert is undersized and the roadway overtops in the 10-year event. This results in blocked access from east to west along Beverly Drive as well as dangerous conditions at the crossing with the potential to endanger motorists and pedestrians. The FMP proposes to replace the existing structure with a 20'x7' Conspan Arch. The project removes Beverly Drive from the floodplain.

The proposed HEC-RAS model shows no adverse impacts downstream.

Probable construction costs were determined for the design and construction of the alternative. Unit cost rates were obtained from similar projects in the region. Alternative probable construction costs include mobilization, paving, drainage items, utility relocation, landscaping, and contingencies. The complete OPCC is attached to this submittal.

The USACE regulates the discharge of dredge or fill material into the waters of the United States, which includes any part of the surface water tributary system down to the smallest of streams, lakes, ponds or other water body on those streams and adjacent wetlands. The scope of this project has been evaluated and we anticipate a Nationwide Permit (NWP) 14 can be used.

A Benefit-Cost Ratio (BCR) was conducted to determine which project provides the best benefit considering probable construction cost and the value of properties all or partially removed from the high-risk flood areas. The 2024 TWDB BCA Input Workbook was used to quantify the project's economic impact. The average annual costs and benefits were calculated for a 50-year period of analysis. The primary benefit of the FMP includes removing 2,071 feet of road from flood risk. The proposed project results in a BCR less than 0.1.



Legend

Cross Sections

Hackberry Creek Flowline

1

Proposed Walls

Lidar Contours (TNRIS, 2019)

Major

Minor

Survey Contours (Kimley-Horn, 2023)

Major

Minor

Proposed Contours (Kimley-Horn, 2024)

Major

Minor

Flood Hazard Areas

Zone A/AE

Zone X

Proposed 100-YR Floodplain

Proposed 500-YR Floodplain

0

80

160

Feet

Image Source: Nearmaps March 2022

VERTICAL DATUM: North American Vertical Datum of 1988 (NAD88)

Kimley-Horn

13455 Noel Road, Suite 700
Dallas, TX 75240
(972) 770-1300 Phone
(972) 235-3820 Fax
Engineering Firm Registration No. F-928

N

Stream 6A
(Hackberry Creek)
Town of Highland Park, Texas

Post-Project
Hydraulic Work Map

DATE: February 2024

DESIGN: MRG

DRAWN: MFG

CHECKED: MDJ

KHA NO.: 064474598

SHEET
3

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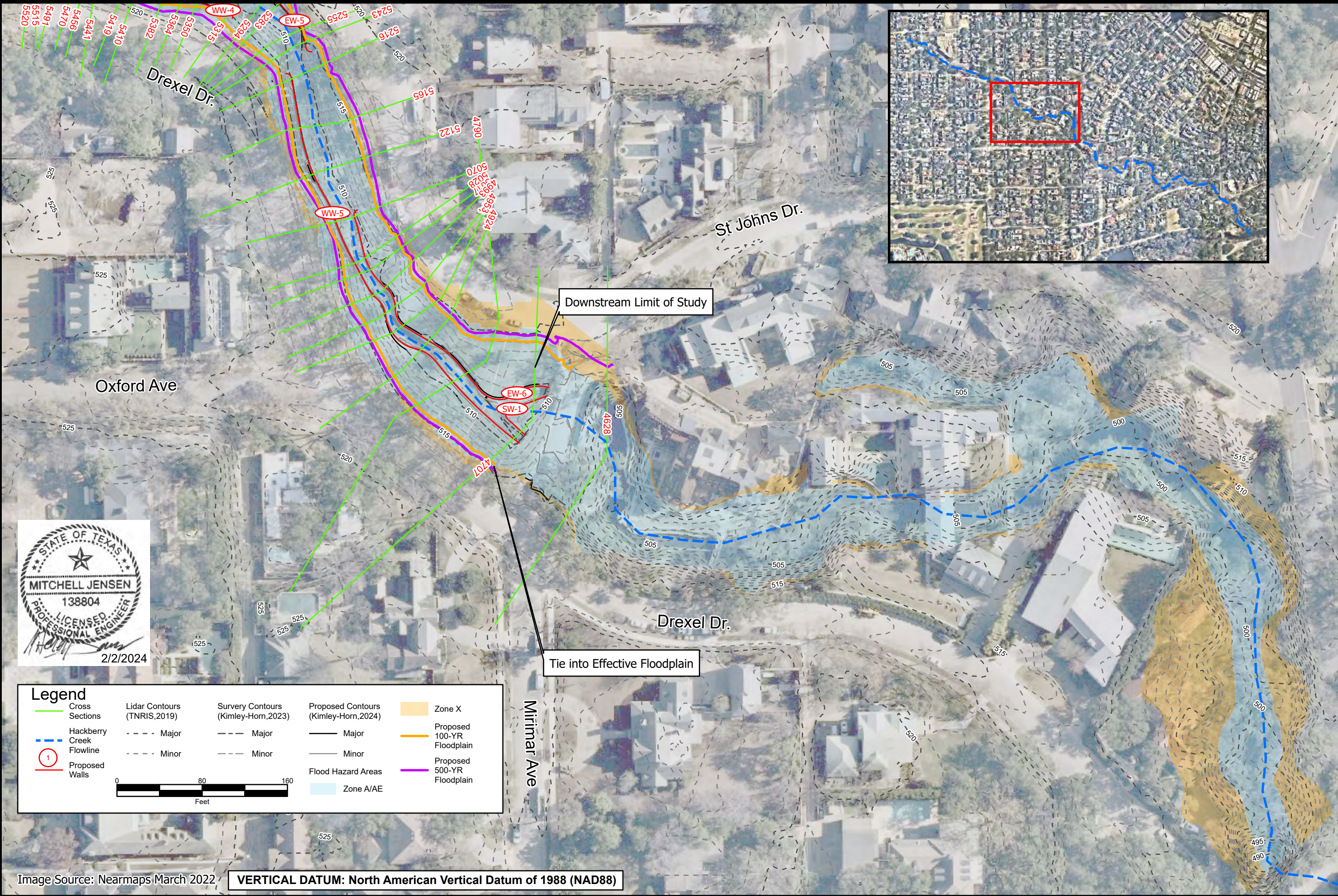


Image Source: Nearmaps March 2022

VERTICAL DATUM: North American Vertical Datum of 1988 (NAD88)

Kimley-Horn
13455 Noel Road, Suite 700
Dallas, TX 75240
(972) 770-1300 Phone
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**Stream 6A
(Hackberry Creek)**
Town of Highland Park, Texas

**Post-Project
Hydraulic Work Map**

DATE:	February 2024
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CHECKED:	MDJ
KHA NO.:	064474598

**SHEET
4**

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CITY OF FOREST HILL
REGIONAL DETENTION (FMP)
PROJECT SUMMARY

The City of Forest Hill is located on the south side of Fort Worth along the IH20 corridor. A neighborhood on the east side of Forest Hill was experiencing significant flooding in fairly frequent storm events. The Marshall Street/Melinda Drive Area Drainage Study was completed in September 2024. The results showed that 157 homes were potentially flooding in events as frequent as the 2-year storm with 274 homes potentially flooding during a 100-year event. The neighborhood was developed in the 1950s and 60s with almost no drainage infrastructure. There is a downstream restriction at the railroad, so it was determined that stormwater detention was the only solution that provided significant relief without reconstruction of the railroad bridge which would lead to downstream impacts.

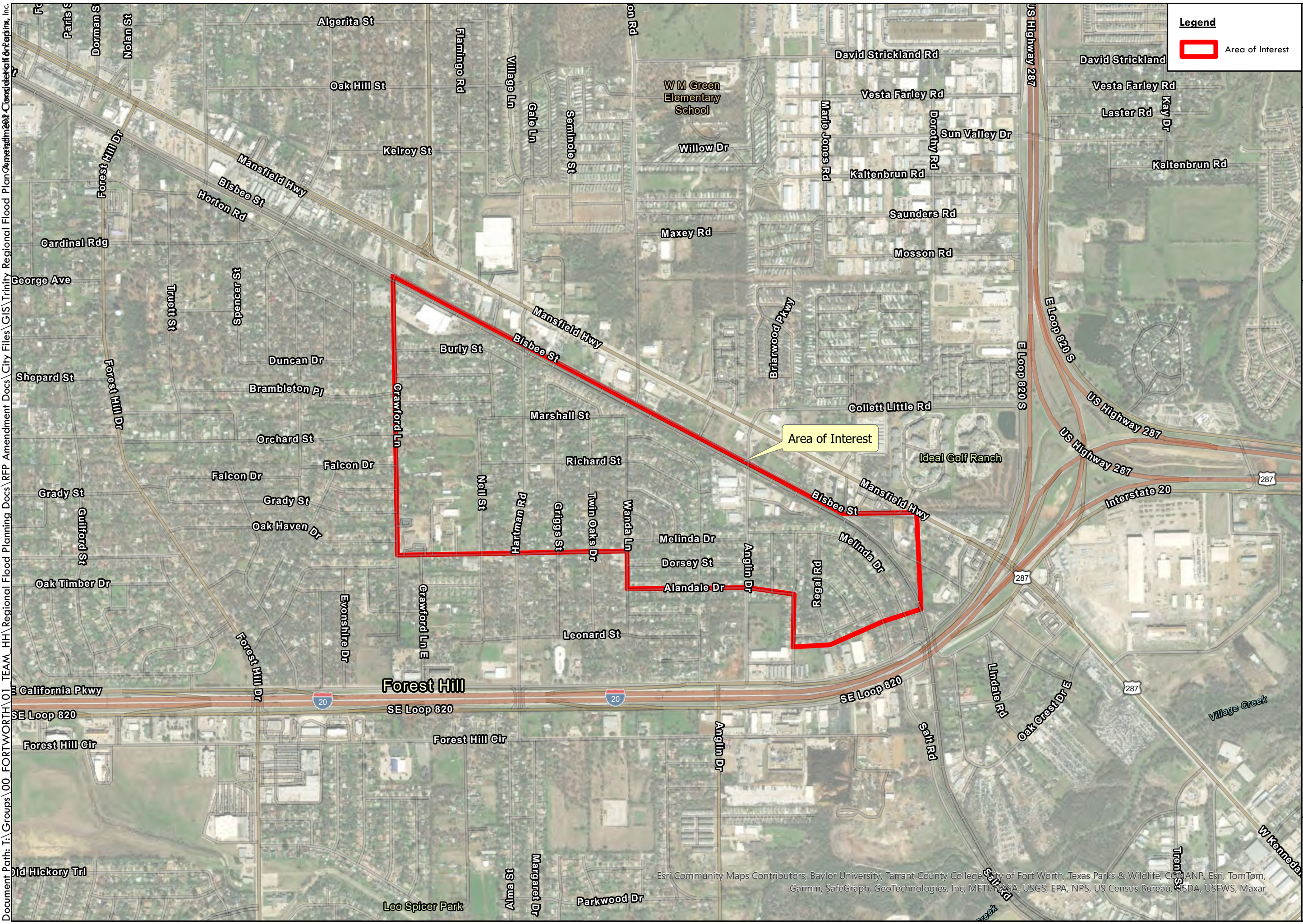
This Flood Mitigation Project request will include design and construction of regional stormwater detention and installation, extension, and enlargement of existing storm drain pipes. The cost of the entire project is included in the submittal, but the project will likely need to be phased. Conceptual/Preliminary project design will be needed to determine an appropriate phasing plan. Application for funding will likely be based on developing plans and phasing construction.

Forest Hill, Texas Trinity Region Flood Plan Amendment Consideration

EXHIBIT #01
Forest Hill
November, 2024



Date Saved: 11/27/2024



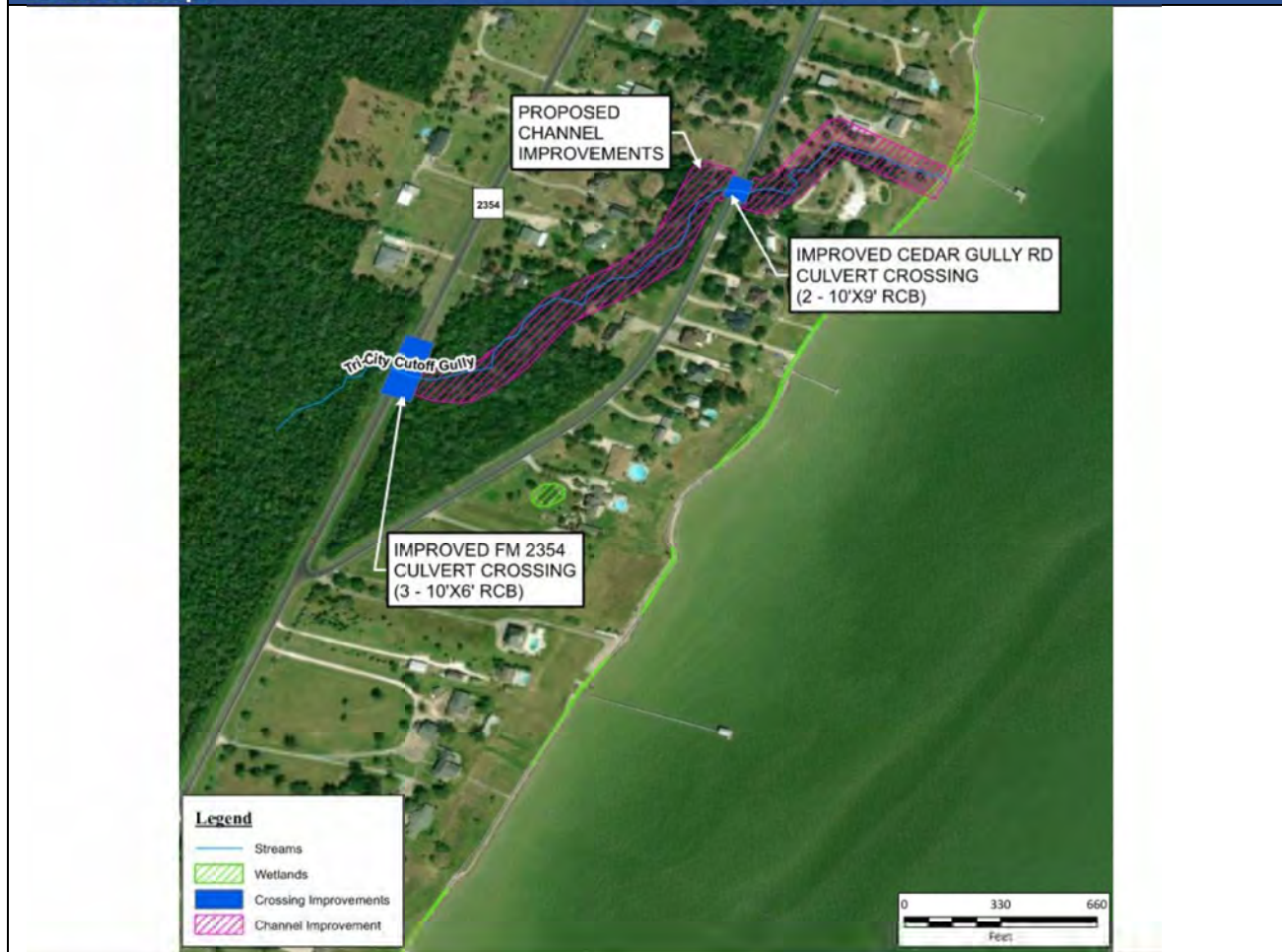
Tri-City Cutoff Culvert Improvements

Alt ID:	City:	Project Type:
BC_03	Beach City	Channel & Crossing Improvement

Project Description:

- Deepening and widening Tri-City Cutoff Gully downstream of FM 2354.
- Improved culvert crossings under FM 2354 and Cedar Gully Road on the Tri-City Cutoff Gully. The FM 2354 crossing was upsized from one 10-foot by 6-foot RCBs to three 10-foot by 6-foot RCBs. The Cedar Gully Road crossing was upsized from one 72-inch RCP to two 10-foot by 9-foot RCBs.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$1,681,000
Contingency (35%):	\$589,000
Engineering: (15%):	\$341,000
CM & Construction	\$284,000
Materials Testing (12.5%)	
Total:	\$2,895,000

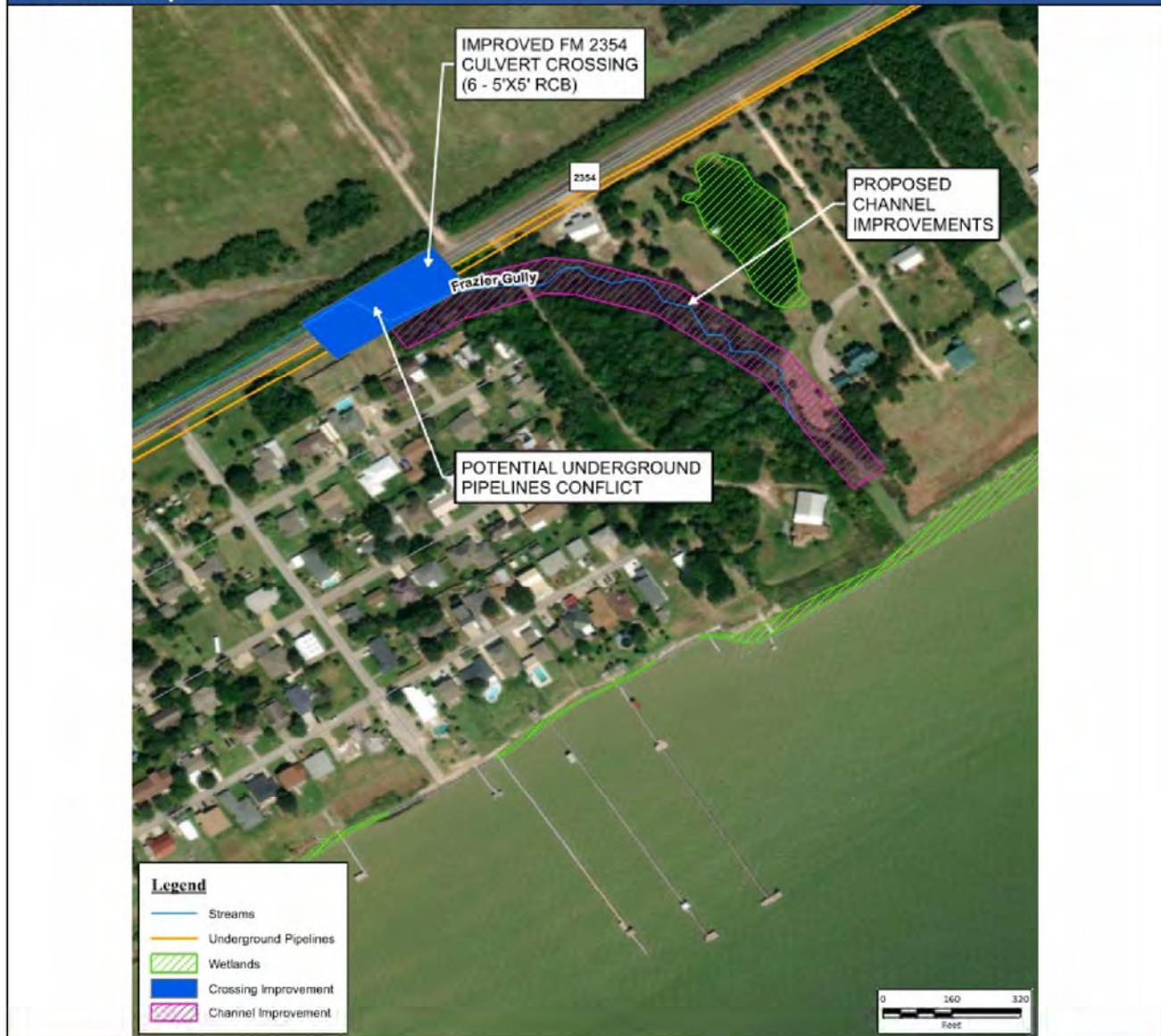
Frazier Gully Culvert Improvements

Alt ID:	City:	Project Type:
BC_04	Beach City	Channel & Crossing Improvement

Project Description:

- Deepening and widening Frazier Gully downstream of FM 2354.
- Improved culvert crossing under FM 2354 on Frazier Gully. The FM 2354 crossing was upsized from one 36-inch RCP to six 5-foot by 5-foot RCBs.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$3,623,000
Contingency (35%):	\$1,269,000
Engineering: (15%):	\$734,000
CM & Construction	\$612,000
Materials Testing (12.5%)	
Total:	\$6,238,000

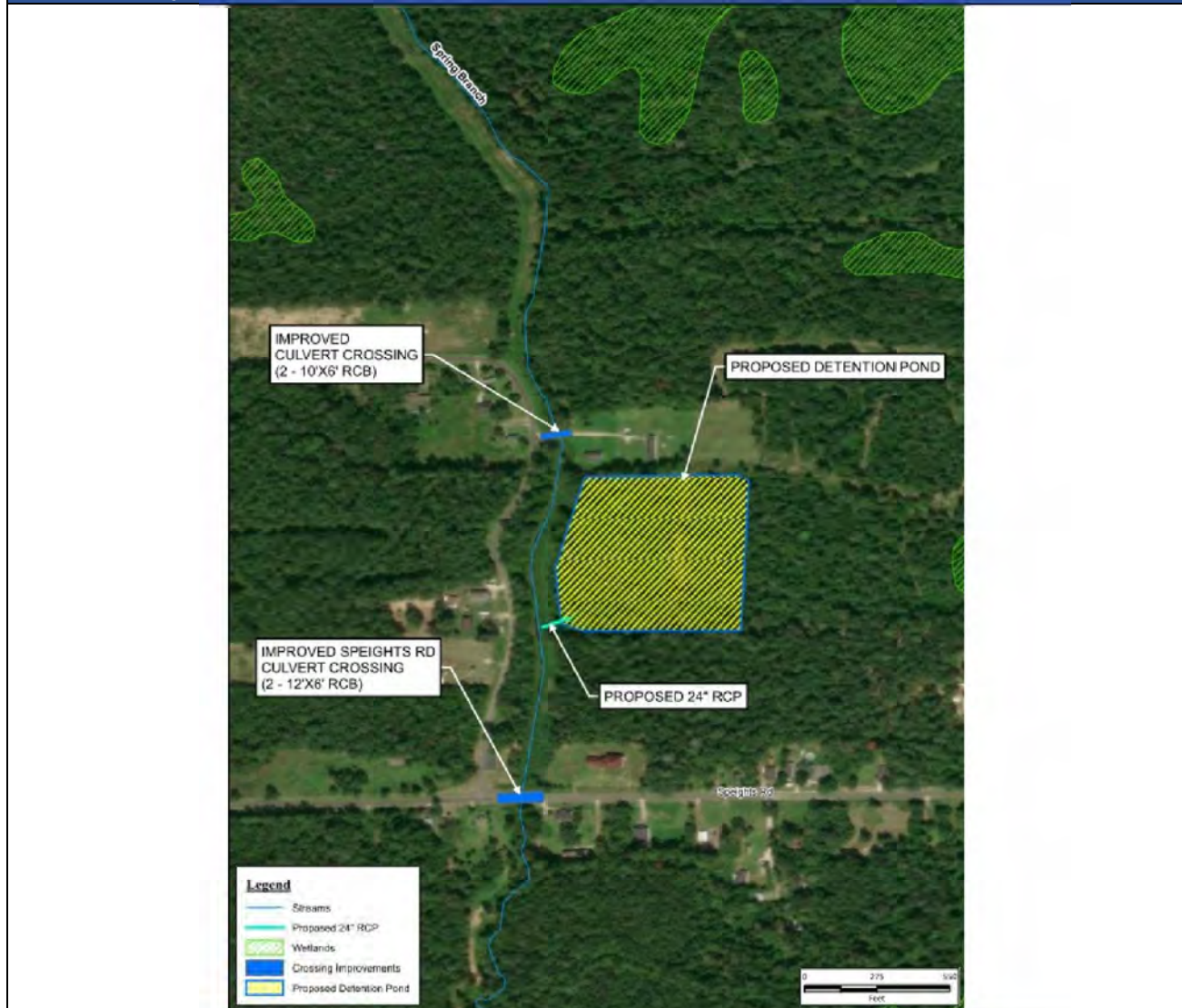
Spring Branch Drainage Improvements

Alt ID:	City:	Project Type:
TW_05	Hankamer	Detention & Crossing Improvement

Project Description:

- A 7.5-acre proposed detention pond, with a 24-inch RCP outfall to Spring Branch.
- Improved culvert crossings at Speights Road and an unnamed driveway. The Speights Road crossing was upsized from two 72-inch RCPs to 2-12'x6' RCBs. The unnamed driveway crossing was upsized from two 48-inch RCPs to 2-10'x6' RCBs.
- The proposed improvements require property acquisition.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$10,234,000
Contingency (35%):	\$3,582,000
Engineering: (15%):	\$2,073,000
CM & Construction	\$1,727,000
Materials Testing (12.5%):	
Total:	\$17,616,000

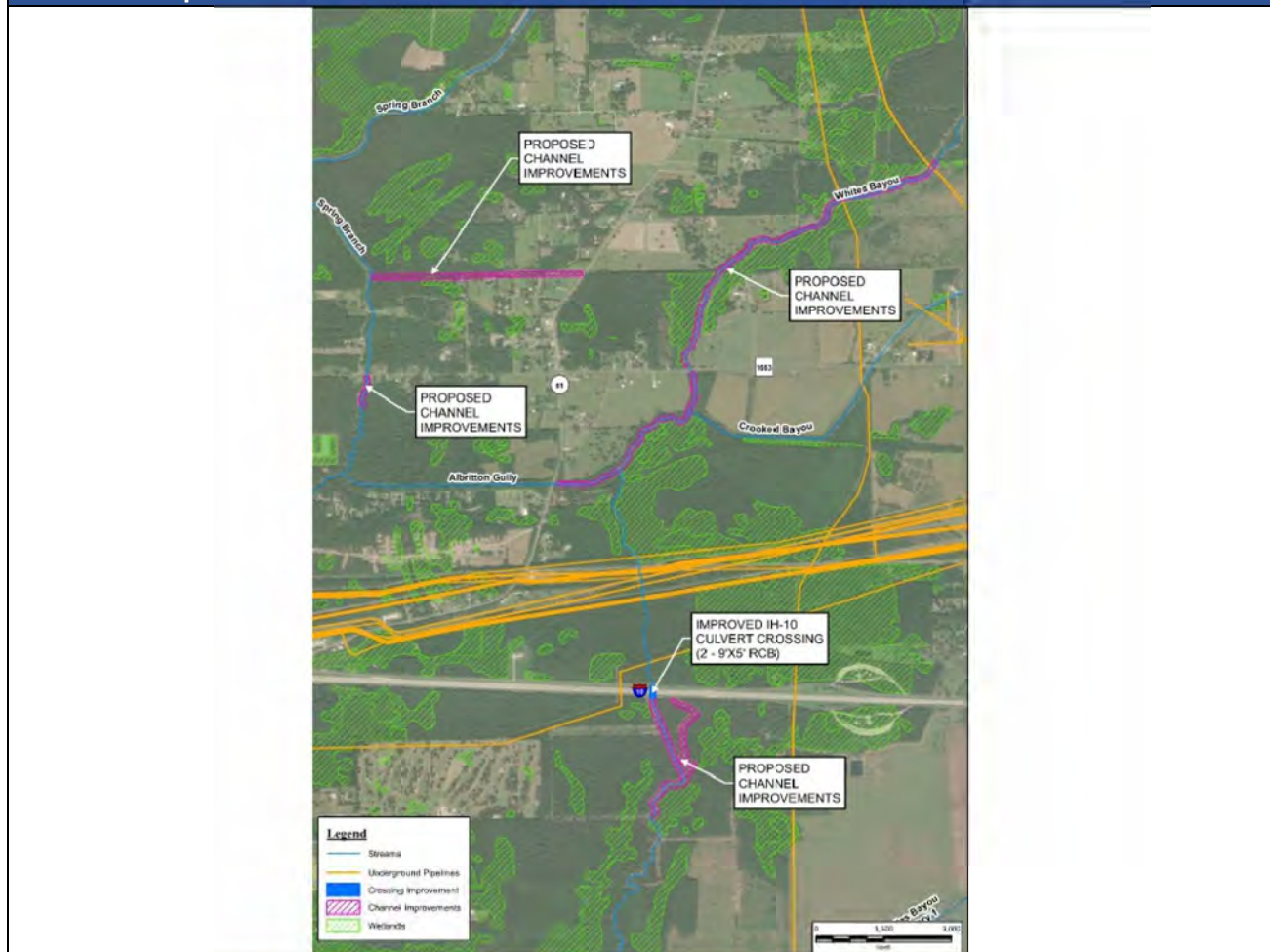
Hankamer Drainage Improvements

Alt ID:	City:	Project Type:
TW_Hankamer	Hankamer	Channel & Crossing Improvement

Project Description:

- Improved culvert crossing under IH-10 to 2-9'x5' RCBs.
- Channel improvements present downstream of IH-10 and extend 3,100 linear feet.
- 12,000 linear feet of channel improvements proposed along Whites Bayou.
- Channel improvements proposed along the channel starting at Hwy 61 have a bottom width of 20 feet and 4:1 side slopes.
- Small section of improvements added downstream of Speights Road along Spring Branch to remove impacts from the floodplain.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$17,370,000
Contingency (35%):	\$6,080,000
Engineering: (15%):	\$3,518,000
CM & Construction	\$2,932,000
Materials Testing (12.5%):	
Total:	<u>\$29,900,000</u>

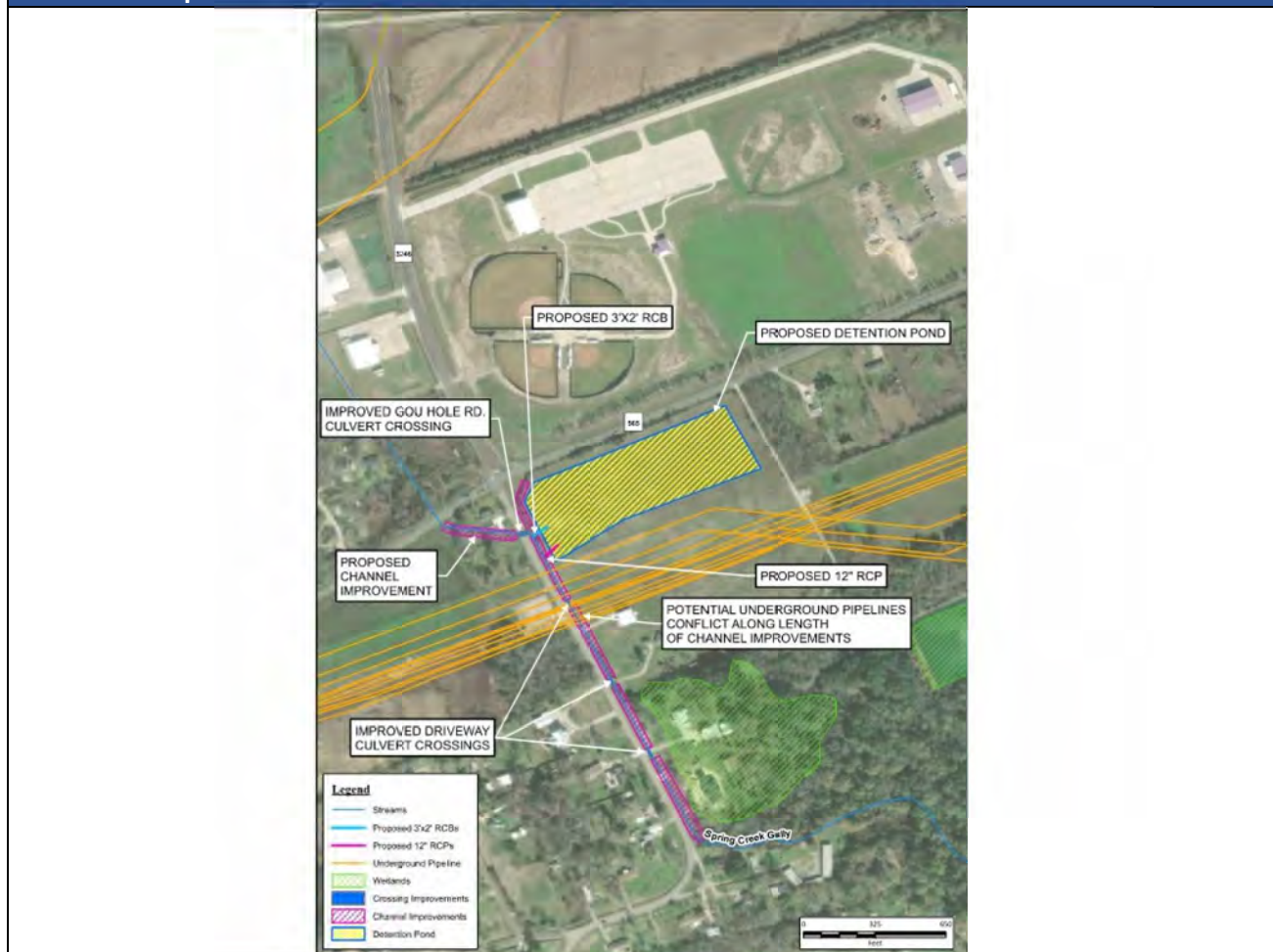
Spring Creek Gully Detention

Alt ID:	City:	Project Type:
HC_01	Cove	Detention & Channel Improvement

Project Description:

- Deepening and widening of existing channel to the south of FM 565 and west of Gou Hole Road.
- A 6.6-acre proposed detention pond along Gou Hole Road, south of FM 565, with a 24" RCP inlet and a 4'x2' RCB outfall.
- Culvert crossing across Gou Hole Rd to have both culverts widened by 2 feet. The existing driveway culverts along the channel downstream of the pond's outfall are scheduled to have their width doubled to convey flows.
- The proposed improvements require property acquisition.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$3,758,000
Contingency (35%):	\$1,316,000
Engineering: (15%):	\$762,000
CM & Construction	\$635,000
Materials Testing (12.5%):	
Total:	\$6,471,000

Hackberry Gully Channel Improvements

Alt ID:	City:	Project Type:
HC_02	Baytown, Cove	Channel Improvement

Project Description:

- Deepening and benching of channel along Hackberry Gully and Cotton Bayou beginning to the south of IH-10 and ending US of Cotton Bayou's outfall to Dutton Lake.
- The crossings at FM 565 and FM 3180 will need to be replaced to allocate for the expanded channel cross section.
- The proposed improvements require property acquisition.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$17,251,000
Contingency (35%):	\$6,038,000
Engineering: (15%):	\$3,494,000
CM & Construction	\$2,912,000
Materials Testing (12.5%):	
Total:	\$29,695,000

FM 3180 Improvements

Alt ID:	City:	Project Type:
HC_03	Baytown	Channel & Crossing Improvement

Project Description:

- Improved culvert crossing under FM 3180 on McAdams Ditch. The crossing was upsized from 2 – 7'x5' RCBs to 2 – 8'x8' RCBs.
- Deepening and widening of McAdams Ditch from downstream of its crossing under FM 3180 to its outfall to Cotton Bayou.
- Improved culvert crossing under Camp Creed Rd on McAdams Ditch. The crossing was upsized from 3 – 8'x8' RCBs to 3 – 10'x9' RCBs.
- The proposed improvements require property acquisition.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$10,303,000
Contingency (35%):	\$3,607,000
Engineering: (15%):	\$2,087,000
CM & Construction	\$1,739,000
Materials Testing (12.5%):	
Total:	\$17,736,000

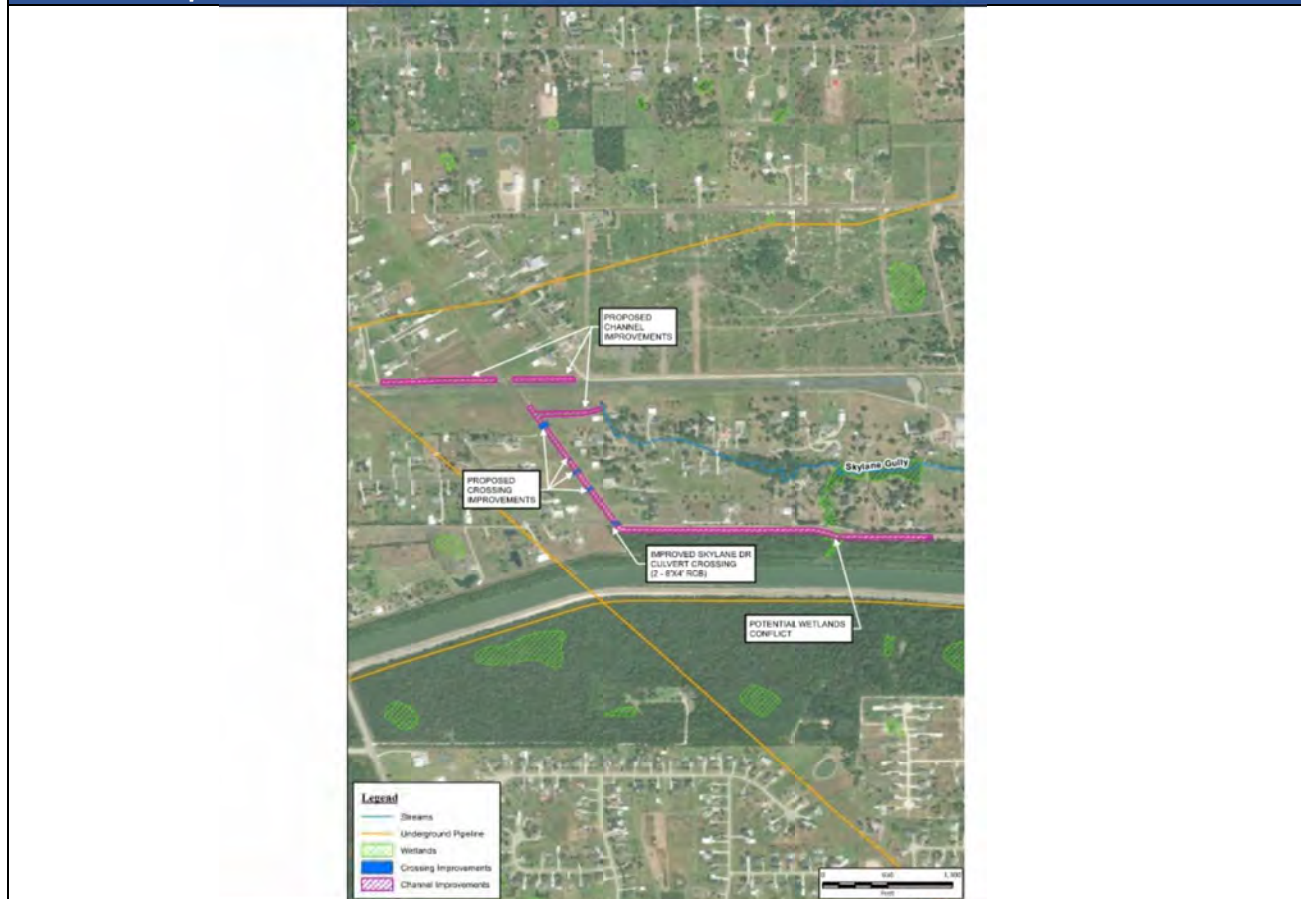
Skylane Gully Improvements

Alt ID:	City:	Project Type:
HC_04	Baytown	Channel & Crossing Improvement

Project Description:

- Deepening and widening of roadside ditches located west of Lakeview Dr.
- Proposed channel diversion from Skylan Gully to adjacent ditch located to the west. The diversion uses 4:1 side slopes, a bottom width of 5 ft, and an average depth of 2 ft.
- Deepening and widening of western ditch from the outfall of the diversion to south of the inline detention pond along Skylan Gully.
- Various improved culvert crossings along the ditch – the crossings upstream of the western ditch's intersection with Skylan Dr. are upsized from 2- 5'x3' RCBs to 2 - 8'x3' RCBs.
- Improved culvert crossing under Skylan Dr. on the western ditch. The crossing was upsized from 2 – 7'x4' RCBs to 2 – 8'x4' RCBs.
- The proposed improvements require property acquisition.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$2,304,000
Contingency (35%):	\$807,000
Engineering (15%):	\$467,000
CM & Construction	\$389,000
Materials Testing (12.5%):	
Total:	\$3,967,000

Old River/Cove Channel Improvements

Alt ID:	City:	Project Type:
HC_05	Cove	Detention & Channel Improvement

Project Description:

- Deepening and widening of Tributary to Old River Lake downstream of I-10 and upstream of FM 3246.
- A 7-acre proposed detention pond along Tributary to Old River Lake, south of I-10 and west of FM 3246, with a 36-inch RCP outfall.
- The proposed improvements require property acquisition.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$4,290,000
Contingency (35%):	\$1,502,000
Engineering: (15%):	\$869,000
CM & Construction	\$724,000
Materials Testing (12.5%):	
Total:	\$7,385,000

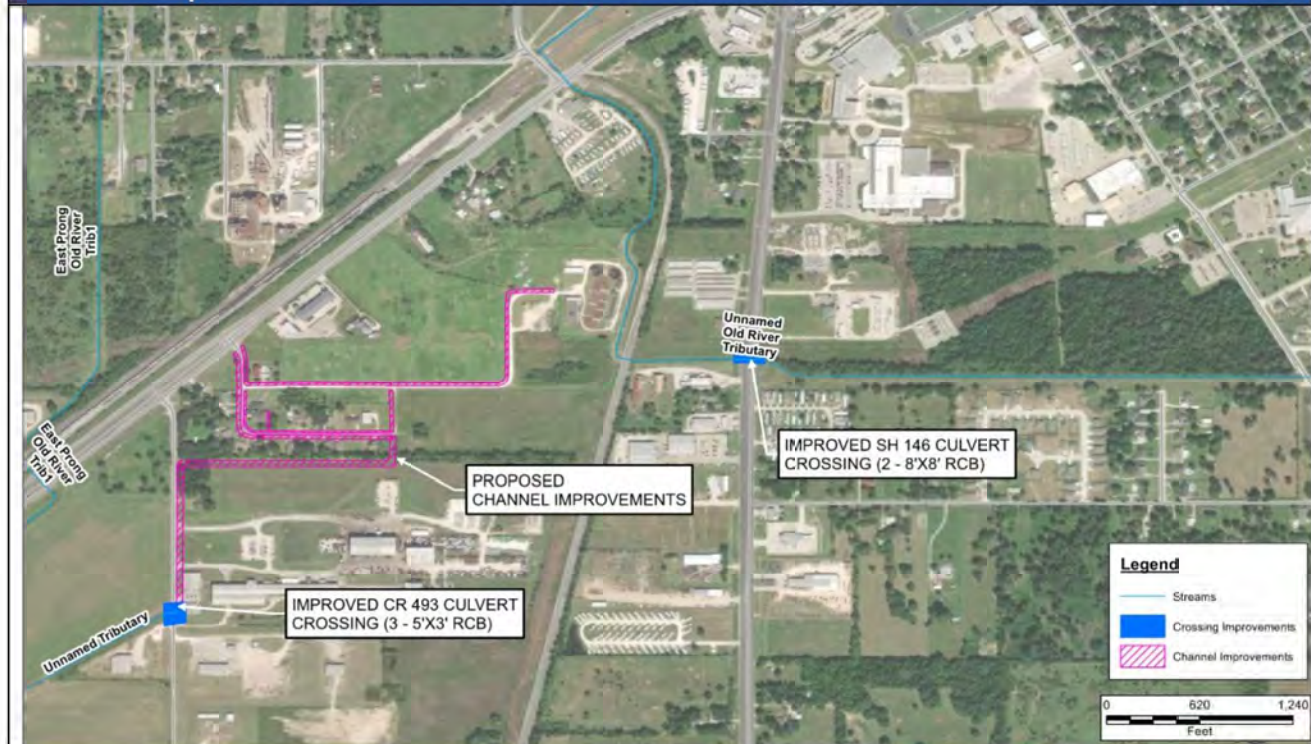
Sunset Heights Neighborhood and Downtown Dayton Improvements

Alt ID:	City:	Project Type:
DD_04_06	Dayton	Channel & Crossing Improvement

Project Description:

- Proposed channel improvements immediately adjacent to the neighborhood located on Sunset Heights Avenue in Dayton, TX. These improvements extend from the neighborhood to the crossing at CR 493 and feature 3:1 side slopes.
- The crossing at CR 493 is proposed to be upgraded to with two additional 5'x3' RCBs with the crossing at SH 146 being upsized to 2-8'x8' RCBs.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$3,103,000
Contingency (35%):	\$1,087,000
Engineering: (15%):	\$629,000
CM & Construction	\$524,000
Materials Testing (12.5%):	
Total:	\$5,343,000

Lawrence Street Improvements

Alt ID:	City:	Project Type:
DD_05	Dayton	Trunkline Improvement

Project Description:

- The proposed underground storm is split into two systems. The first, a 10'x5' RCB trunkline extends downstream of the crossing at N. Winfree St. The second system, an 8'x4' RCB trunkline with 36-inch laterals, directs flow to the northeast. The intent of this project is to reduce inundation for the adjacent Lawrence Street, a major thoroughfare for school bus traffic.
- An unnamed culvert crossing at the most downstream end of the 8'x4' RCB improvement is scheduled to be removed.

Location Map:



Estimated Project Costs (2024\$):

Construction:	\$4,018,000
Contingency (35%):	\$1,407,000
Engineering: (15%):	\$814,000
CM & Construction	
Materials Testing (12.5%):	\$679,000
Total:	\$6,918,000

Arlington Johnson Creek – JC-12 Buyouts

The City of Arlington completed a watershed study for Johnson Creek in 2017¹. The 2017 study identified a potential buyout opportunity along JC-12, a tributary of Johnson Creek. The current configuration of structures are built in close proximity to the FEMA Effective 100-year floodplain (Zone AE, no floodway). Several structures in the area have reported flooding and drainage complaints to the City.

Negative impacts from flooding are caused by JC-12 being undersized for the runoff from the surrounding watershed, which is nearly fully developed. Redevelopment within the watershed has also become a subject of interest. To expand the channel of JC-12 would require significant disturbance of Waters of the United States and subsequent coordination with the Army Corps of Engineers. Benching of the stream would require significant right-of-way acquisition and would become a less cost-effective solution than purchasing affected properties along the creek. The proposed solution is to buyout the four most at-risk structures, demolish and clear the sites, and allow a natural but maintained condition within the purchased parcels.

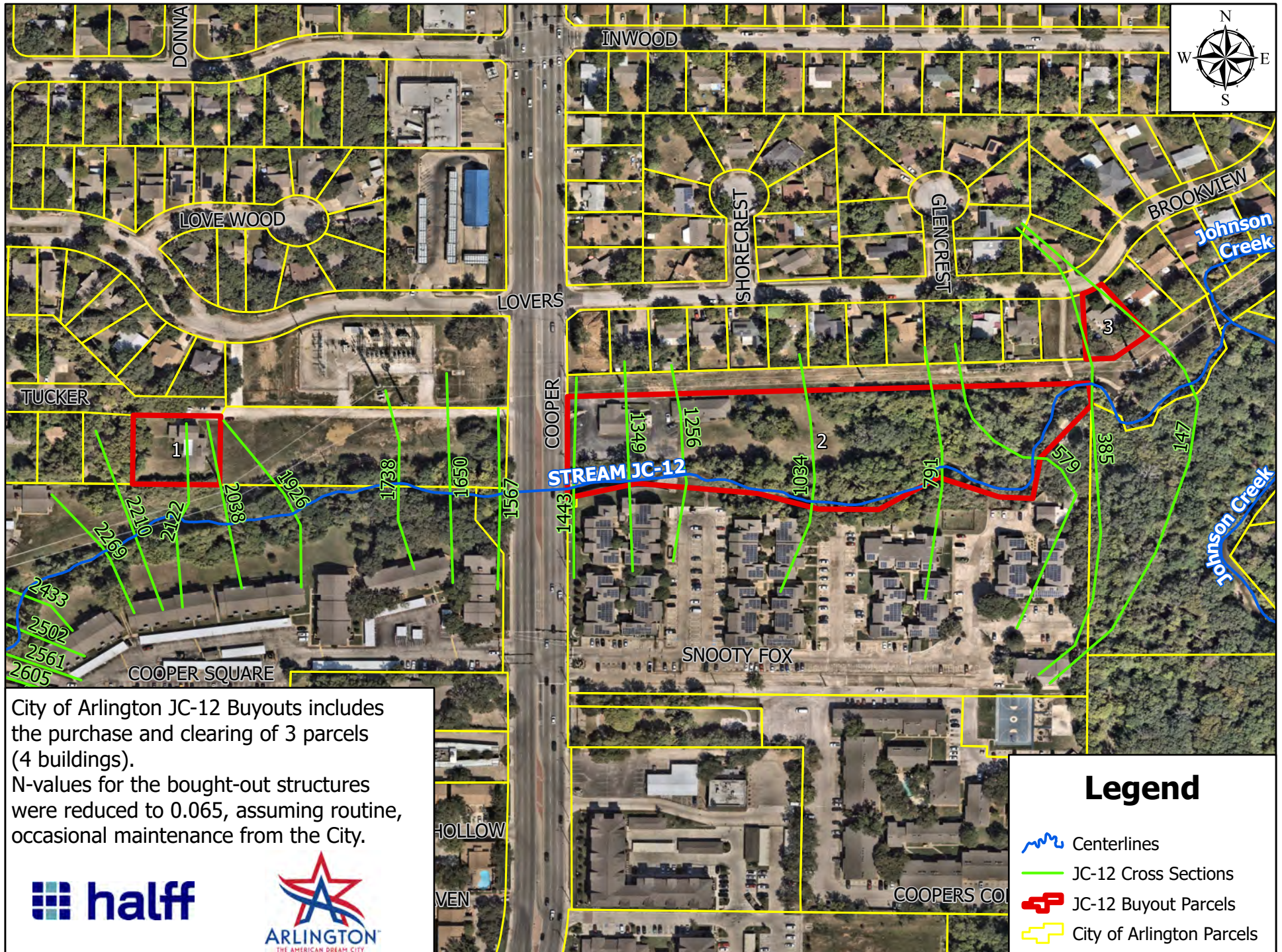
The buyout consists of purchasing three parcels, containing a total of four structures, near the downstream end of JC-12. These parcels would support a riparian buffer of JC-12, providing a more continuous barrier against riverine flooding in the area. Two of the four structures are residential, resulting in an estimated 6 people removed from the floodplain. The other two structures consist of a utility building and a church.

The cost estimate for this solution includes the property values for the intended buyout properties from the Tarrant County Appraisal District website. The property values are noted as approved for the 2024 appraisal year. The cost also includes demolition and clearing of the existing structures. The total estimated cost for the JC-12 Buyouts project is \$2,824,839.

Based on the modeling analysis performed to support the JC-12 Buyout project, the proposed solution meets all no negative impact requires as established in the *TWDB Technical Guidance (Exhibit C, Section 3.6.A)*. Please see the provided TWDB-Required NNI Table with this submittal package.

This FMP would replace impervious area with pervious terrain, so a reduction in runoff to JC-12 is possible, though this was not included in the modeling effort. The City acquisition of these properties can also support future improvements in the area, such as benching or park amenities.

¹ Johnson Creek Watershed Study, Jacobs, February 2017



Arlington Johnson Creek – JC-10 Buyouts

The City of Arlington completed a watershed study for Johnson Creek in 2017¹. The 2017 study identified a potential buyout opportunity along JC-10, a tributary of Johnson Creek. The current configuration of structures are built in close proximity to the FEMA Effective 100-year floodplain (Zone AE, no floodway). Several structures in the area have reported flooding and drainage complaints to the City.

Negative impacts from flooding are caused by JC-10 being undersized for the runoff from the surrounding watershed, which is nearly fully developed with predominantly residential land use. To expand the channel of JC-10 would require significant disturbance the surrounding area, as the JC-10 channel is trapezoidal and concrete-lined with the property lines located in very close proximity to the channel bank. The proposed solution is to buyout at-risk structures, demolish and clear the sites, and allow a natural but maintained condition within the purchased parcels.

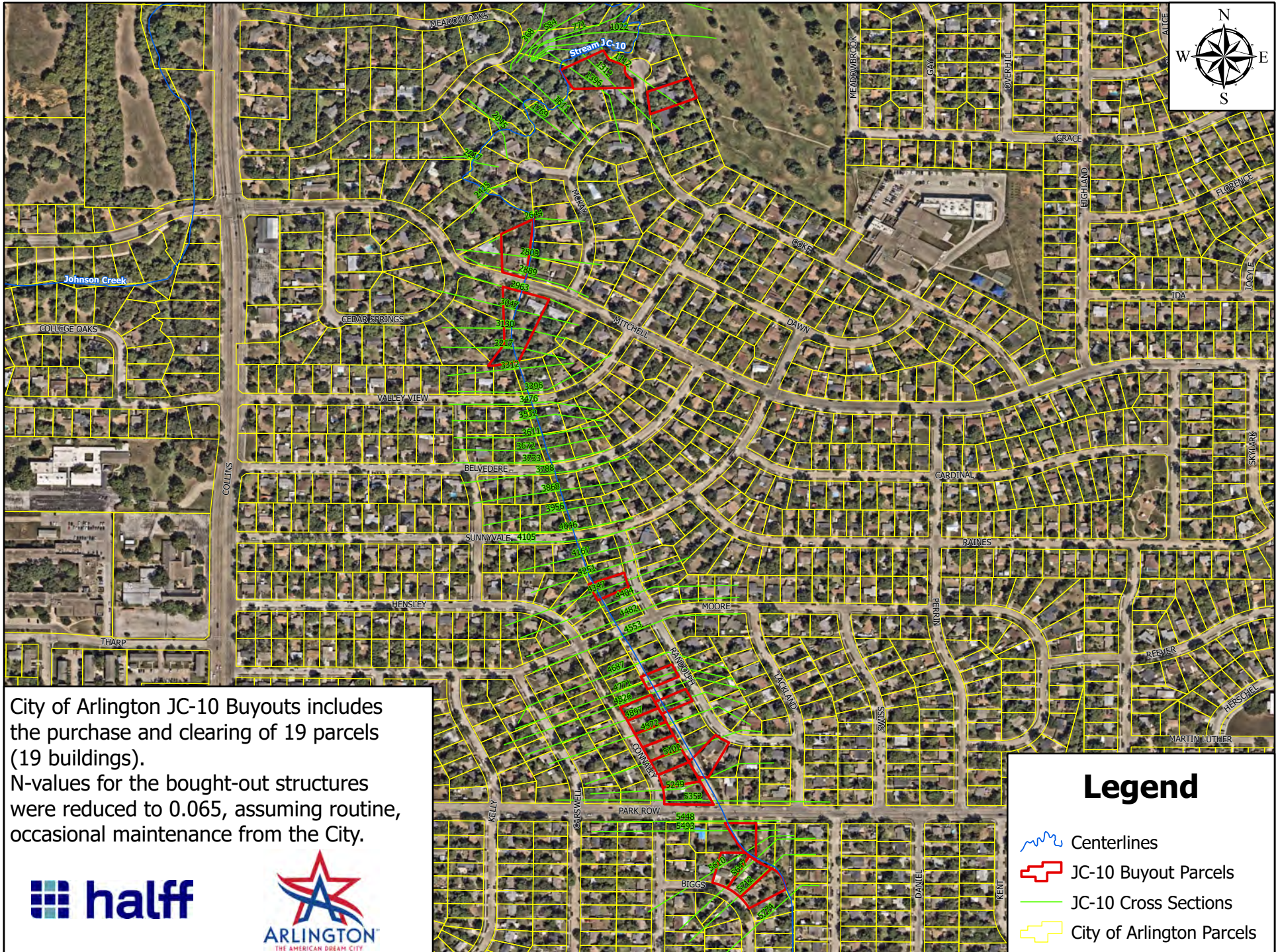
The buyout consists of purchasing 19 parcels along JC-10. These parcels would support a riparian buffer of JC-10, providing a more continuous barrier against riverine flooding in the area. All 19 structures are residential, resulting in an estimated 57 people removed from the floodplain.

The cost estimate for this solution includes the property values for the intended buyout properties from the Tarrant County Appraisal District website. The property values are noted as approved for the 2024 appraisal year. The cost also includes demolition and clearing of the existing structures. The total estimated cost for the JC-10 Buyouts project is \$2,258,100 in September 2020 US Dollars

Based on the modeling analysis performed to support the JC-10 Buyout project, the proposed solution meets all no negative impact requires as established in the *TWDB Technical Guidance (Exhibit C, Section 3.6.A)* as all negative impacts are restricted to lower-frequency events which are contained in the concrete-lined channel. Please see the provided TWDB-Required NNI Table with this submittal package.

This FMP would replace impervious area with pervious terrain, so a reduction in runoff to JC-10 is possible, though this was not included in the modeling effort. The City acquisition of these properties can also support future improvements in the area, such as benching or park amenities.

¹ Johnson Creek Watershed Study, Jacobs, February 2017



City of Arlington JC-10 Buyouts includes the purchase and clearing of 19 parcels (19 buildings).
N-values for the bought-out structures were reduced to 0.065, assuming routine, occasional maintenance from the City.



Legend

- Centerlines
- JC-10 Buyout Parcels
- JC-10 Cross Sections
- City of Arlington Parcels

FMP 03-52-0000000138 - Snider Bridge and Approach Reconstruction

The Snider Bridge and Approach Reconstruction project was generated from a Technical Memorandum¹ prepared for the City of Lucas in 2021. The proposed project aims to reduce roadway flooding along Snider Lane at its' intersection with White Rock Creek where three 9-ft by 8-ft box culverts are overtopped in the 100-yr storm event. This area experiences riverine flooding due to undersized culverts.

A 1D corrected effective HEC-RAS (v6.0) model was refined by adding cross-sections and updating topographic data. The proposed improvement consists of replacing the three existing 9-ft by 8-ft box culverts with a bridge that is, at a minimum, 81-ft wide and 17-ft tall. Doing so will require raising the roadway profile of Snider Lane by approximately 9 feet to accommodate the newly proposed bridge opening. Additionally, erosion protection measures, like riprap, are proposed under the bridge to minimize velocity increases to approximately 0.07 feet per second. The project cost is \$7,589,000.

Following the implementation of the proposed improvements, an estimated 0.14 miles of roadway and 0.02 acres of farm and ranch land will be removed from 1% annual flood risk. Based on the comparative assessment performed for this FMP, the proposed project does meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A).

¹ *Technical Memorandum, Re: Snider Lane Bridge FEMA Floodway No-Rise/No-Impact Certification*, BCC Engineering, LLC., September 2021

Snider Bridge and Approach Reconstruction – Project Components (FMP 03-52-0000000138)



FMP 03-52-0000000149 - Brookhaven Golf Course Flood Mitigation - Scenario 3

The Brookhaven Golf Course Flood Mitigation FMP was generated from the Brookhaven Golf Course Flood Study² prepared for the City of Farmers Branch in 2022. In this study, Rawhide Creek was evaluated from Garden Brook Dr to Webb Chapel Rd, and four (4) areas of interest (AOI) were selected. In AOI 1, flooding in the 100-yr event is caused by limited storage and erosion near an in-line pond. In AOI 2, overtopping of the undersized Pebble Beach Dr crossing cuts off evacuation routes in the 2-yr event. In AOI 3, backwater in the 100-yr event floods homes by an in-line pond. Lastly, AOI 4, overtopping at Brookhaven Club Dr inundates up to 10 homes during the 100-yr event.

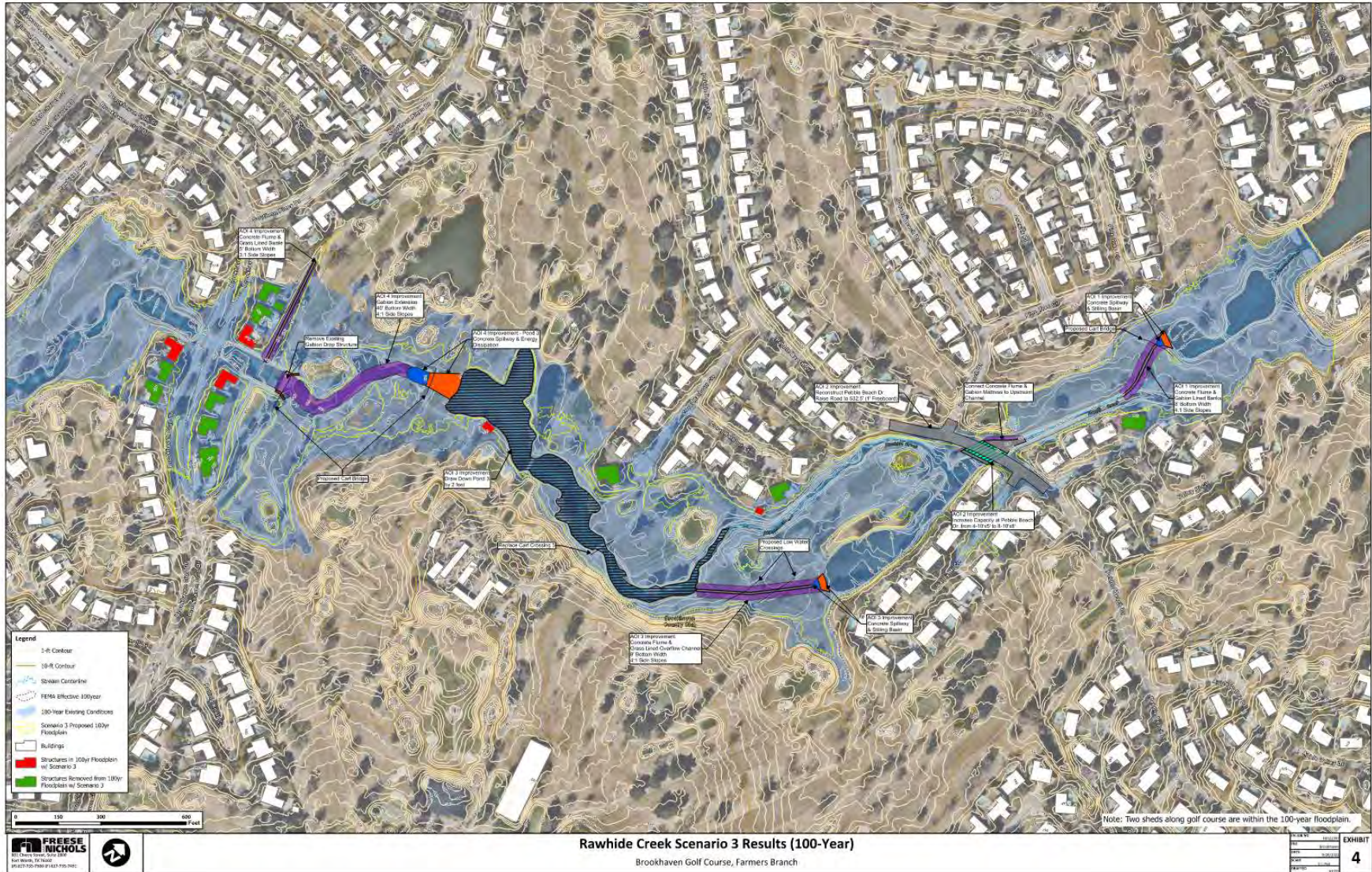
HEC-HMS (v4.2) and HEC-RAS 2D (v6.2) models were created to analyze existing flooding conditions for the 2-, 5-, 10-, 25-, 50-, and 100-yr design storms and model the proposed improvements. A 40-ft wide concrete spillway, stilling basin, and overflow channel are proposed downstream of Pond 1 (AOI 1) and Pond 2 (AOI 3). Three cart bridges (45 - 80 ft), one cart crossing replacement (40 ft), and two (2) low water crossings are proposed throughout the AOIs. In AOI 2, the existing culvert at Pebble Beach Dr is proposed to be replaced with eight (8) 10-ft by 8-ft box culverts, and the roadway will be raised by approximately 4 feet to provide a 100-yr LOS. In AOI 3, Pond 3 will be drawn down and dredged by approximately 2 feet, and the outlet riser structure will be adjusted for the new normal pool elevation (517.56 ft). In AOI 4, a channel extending through Pond 6 and to the outlet of Pond 3 is proposed. A concrete spillway and plunge pool downstream from Pond 3 are proposed to bridge an approximately 5-ft change in vertical elevation and address erosion concerns. A 450-ft swale is proposed to the northeast of Brookhaven Club Dr. The project cost is \$10,183,000.

Rawhide Creek and its impoundments within the proposed project area would potentially be considered Waters of the United States (WOTUS) by the United States Army Corps of Engineers (USACE), and any activity which would result in the discharge of dredged or fill material into these features would require USACE authorization under Section 404. A site visit is recommended to verify the presence of potential WOTUS or federally listed threatened or endangered species, and to document existing conditions within the proposed project area. The proposed improvements may require authorization by Nationwide Permit (NWP) 16 and/or an Individual Permit (IP).

The estimated flood risk reduction benefits following the implementation of the Brookhaven Golf Course FMP include the removal of an estimated 0.09 miles of roadway and 7 structures from the 100-yr floodplain – which correlates to an estimated 18 individuals removed from the 100-yr flood risk. Hydraulic modeling results show a 0.1-foot rise in water surface elevation for approximately 850 feet upstream of Webb Chapel Road; however, this rise does not add any insurable structures to the 100-year floodplain and is likely to be mitigated during final design with refined data and improvements. Based on the comparative assessment performed for this FMP, the proposed project does meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A).

² *Brookhaven Golf Course Flood Study*, Freese and Nichols, Inc., October 2022

Brookhaven Golf Course Flood Mitigation – Project Components (FMP 03-52-0000000149)



FMP 03-52-0000000151 - Mallon Park Creek Reconfiguration - Alternative 1, Option 2

The Mallon Park Creek Reconfiguration project was generated from a Technical Memorandum⁴ prepared for the City of Farmers Branch in 2025. The proposed project aims to address sedimentation issues along Farmers Branch and aging pedestrian bridges within Mallon Park. The pedestrian bridges frequently overtop and contribute to sedimentation, which also creates maintenance challenges. Scour pools and erosion undermining concrete structures have also been observed.

The existing conditions 1D unsteady-state HEC-RAS (v5.07) model from the Farmers Branch Watershed Study³ was revised to incorporate topographic survey data and the pedestrian bridges to model proposed conditions for the 100-yr event. The technical memorandum recommends two potential improvement scenarios, and City Staff selected Alternative 1 with bridge Option 2.

Alternative 1 consists of removing the northern island and filling the southern braided channel to create a single, more stable channel. Bridge Option 2 proposes a 120-ft pedestrian bridge connecting to the existing trail system and provides a 10-yr LOS. The objective of this alternative is to improve the LOS for the pedestrian bridges by reducing the frequency of maintenance required to remove sediment and debris deposited during higher-frequency storm events. Consolidating flow into a single-thread channel is also intended to address erosion issues observed around the islands, simplify long-term channel maintenance, and potentially reduce localized sediment deposition. However, the primary driver of sediment deposition at this site is the limited conveyance capacity – which is largely governed by an existing check dam. Unless this structure is modified or removed, sediment accumulation within Mallon Park is expected to continue. The project cost is \$1,764,000.

Farmers Branch is classified as jurisdictional Waters of the U.S. (WOTUS), so the proposed project is subject to Section 404 of the Clean Water Act permitting regulations and may potentially be authorized under Nationwide Permit (NWP) 14 – Linear Transportation Projects. The project may require a Pre-Construction Notification (PCN) if there is presence of a critical habitat being affected or if the losses to WOTUS are greater than 0.1 acre. If the proposed project is authorized under NWP 14 and results in losses to streams greater than 0.03 acre, it may require mitigation to offset these losses to WOTUS.

The estimated flood risk reduction benefits following the implementation of Mallon Park Creek Reconfiguration FMP include the removal of approximately 0.2 acres of land from the 100-yr floodplain. Based on the comparative assessment performed for this FMP, the proposed project does meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A).

⁴ *Alternatives Analysis Technical Memorandum, Mallon Park Channel Improvements*, Freese and Nichols, Inc., August 2025

Desired Project Extents



FMP 03-52-0000000155 - Gatewood - Greenbrook Drainage Improvements

For this FMP the City of Garland proposes to construct culvert improvements at Beaver Creek Drive. The project consists of upsizing the Broadway culvert crossing and constructing additional inlets along Broadway, upsizing the channel between Gatewood and Broadway, upsizing the Gatewood Road culvert, and upsizing the channel upstream of Gatewood Road culvert by approximately 400 feet. This project will prevent overtopping of the roadway crossings and flooding of eight homes during the 100-year event.

The modeling includes HEC-RAS version 6.3.1, HEC-HMS version 4.10, and Innovyze XPSWMM 2019.



Walter P Moore and Associates, Inc.
500N. Akard St. Suite 2300
Dallas, Texas 75201

214.740.6200
walterpmoore.com

PROJECT NAME

Garland Gatewood Drainage Study

LEGEND

- Node
- Link
- Flow_Boundary
- Outfall Channel
- Storm Sewer Inlet Drainage Area
- Index Contour (10-ft)
- Intermediate Contour (2-ft)
- DCAD Parcels

Data Sources

Contours: 2019 Lidar
Parcels: Dallas Central Appraisal District
Aerial Photograph: City of Garland, 2021



0 150 300
Feet

Coordinate System

Projection: State Plane NAD83 (Grid)
Zone: Texas North Central
Units: Feet

PREPARED BY	MWH
REVIEWED BY	MM
DATE	28-06-2024
PROJECT NUMBER	HQ4-23001-00

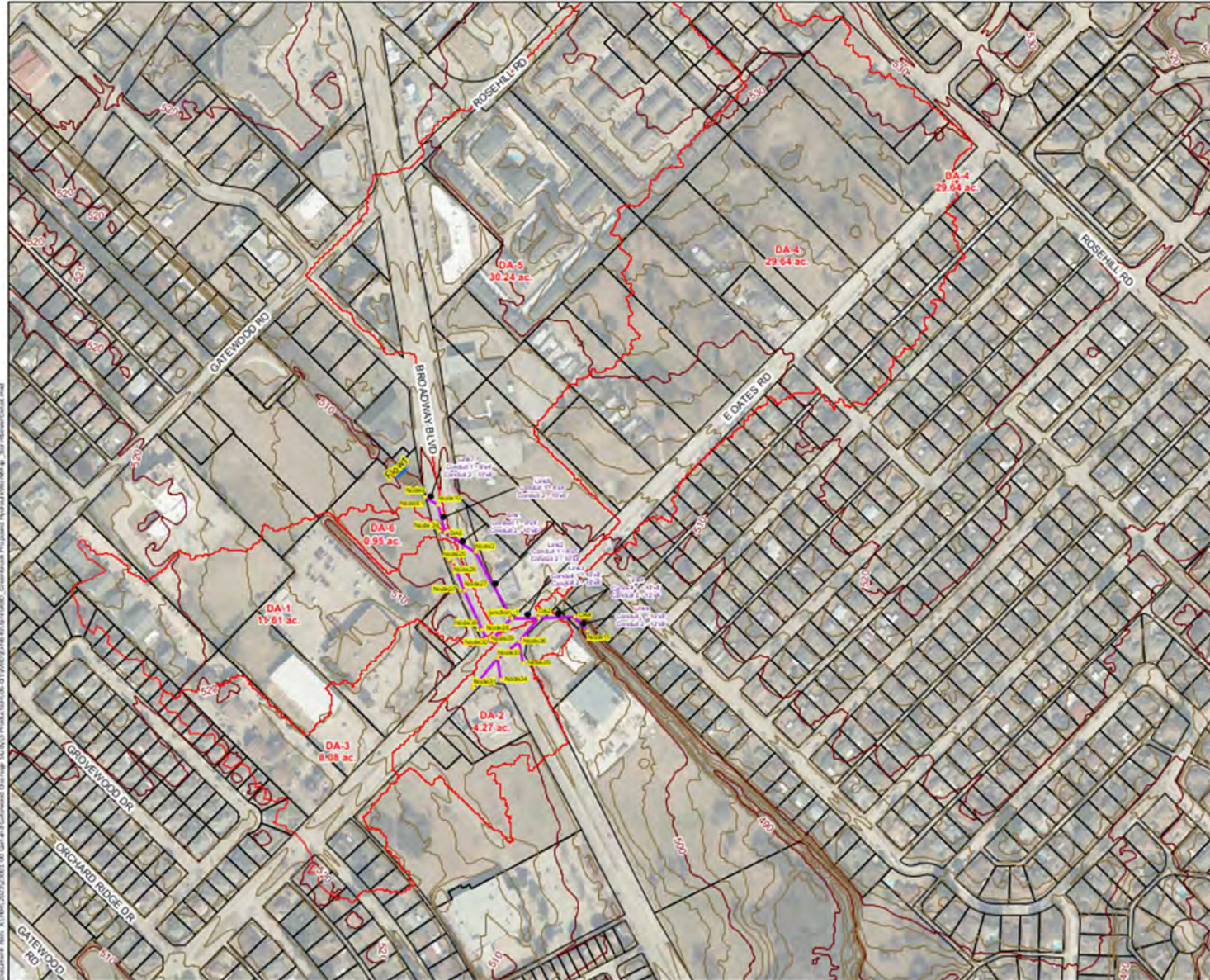
EXHIBIT TITLE

Greenbrook Proposed Hydraulic Work Map Storm Sewer Detail

EXHIBIT NUMBER

8D

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FMP 03-52-0000000156 - Gatewood - Gatewood Drainage Improvements

For this FMP the City of Garland proposes to construct culvert improvements at Beaver Creek Drive. The project consists of replacing the existing Collingwood Drive culvert with 2-8'x5' RCBs and improving the storm drain system in the Gatewood subdivision. The storm drain improvements will include upsizing the existing line A to 36" RCPs from Grovewood to the private drive before Collingwood and 48" RCPs from Collingwood to the outfall into Rollingwood Commons, extending line A from Oakwood Drive to Grovewood Drive to replace the existing bar ditch system, replace an existing Type 1 Y-inlet with a 20-foot curb inlet, and adding new curb inlets at street intersections. The storm drain improvements also include replacing an existing 10-foot curb inlet with a 20-foot one on line B, and replace existing RCP with 36" and 46" RCP on line C then extend the line 280 LF to connect to a proposed 48" storm sewer that discharges into Rollingwood Commons. This project will prevent overtopping of the roads and flooding of 40 homes during the 100-year event. The modeling includes HEC-RAS version 6.3.1, HEC-HMS version 4.10, and Innovyze XPSWMM 2019.



Walter P Moore and Associates, Inc.
500N. Akard St. Suite 2300
Dallas, Texas 75201

214.740.6200
walterpmoore.com

PROJECT NAME

Garland Gatewood Drainage Study

LEGEND

Link

- A
- B
- C

Node

Outfall Channel

Storm Sewer Inlet Drainage Area

Drainage Area Boundary

Index Contour (10-ft)

Intermediate Contour (2-ft)

DCAD Parcels

Data Sources

Contours: 2019 Lidar

Parcels: Dallas Central Appraisal District

Aerial Photograph: City of Garland, 2021



0 125 250
Feet

Coordinate System

Projection: State Plane NAD83 (Grid)

Zone: Texas North Central

Units: Feet

PREPARED BY	MWH
REVIEWED BY	MM
DATE	6/28/2024
PROJECT NUMBER	H04-23001-00

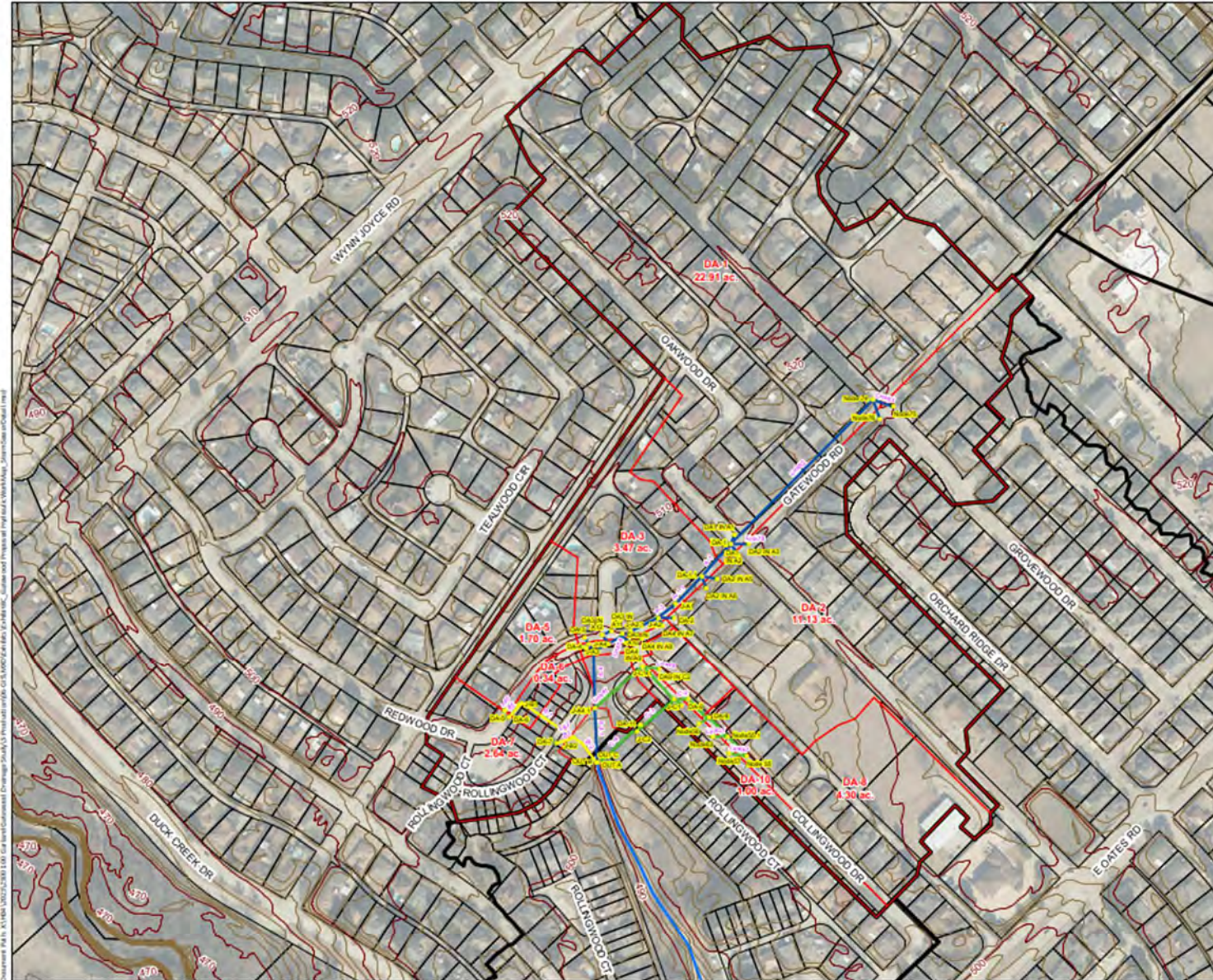
EXHIBIT TITLE

Gatewood Proposed Hydraulic Work MapStorm Sewer Detail

EXHIBIT NUMBER

8C

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FMP 03-52-0000000157 - Garvon West Industrial Drainage Improvements

For this FMP the City of Garland proposes to construct channel improvements within the Garvon West Industrial development. The project consists of decreasing the flowline elevation by flattening the center channel slope for Channels A and B while making steeper the concrete lined side slopes. A new storm drainage system with regularly placed curb inlets will also be added along Marquis Drive, Cavalier Drive and Dividend Drive. A proposed natural swale with a pilot channel will be graded north of Marquis Drive to better convey flow to the existing channels. The improved system will drain to a 1:1 side-slope, 8-foot deep, concrete lined flood control pond at the southeast corner of the site. A restrictor plate will be installed to reduce the size of the existing 10'X6' RCB site outfall pipe to a 9'X6' pond outfall. The proposed pond will require a purchase of 6 existing businesses. This project will prevent overtopping of the roads and flooding of adjacent properties during the 25-year event. Currently the system floods from the 100-year to the 2-year storm event at different locations, with the 2-year storm inundating structures in the Garvon West Improvement area. The modeling includes HEC-HMS version 4.2.1 and XPSTORM version 2018.

This aerial map displays a proposed water and sewer line project. The map includes the following features and labels:

- Streets:** Forest Ln, Marquis Dr, Cavalier Dr, Dividend Dr, Security St, Asset St, Reserve St, Miller Rd, Jupiter Rd, Herman Dr, Merritt Dr, Miller Park Rd, and Garland.
- Proposed Infrastructure:**
 - Water lines (green lines) and Sanitary Sewer lines (red lines).
 - Bottom widths: 6' BOTTOM WIDTH, 10' BOTTOM WIDTH, and 12' BOTTOM WIDTH.
 - Proposed 25.12 ac-ft 1:1 Side-Slope 8-Foot Depth Concrete-Lined Pond.
 - Restrictor Plate: Existing 10' X 6' RCB to 9' X 6' Opening.
- Conflicts:** Possible Water Line and Sanitary Sewer Conflict, Possible Water Line Conflict, and Possible Water Line Conflict.
- Other Features:** Stream 2C3, Dallas, and a dashed line indicating a boundary or easement.

August 4, 2021
Pacheco Koch

FMP 03-52-0000000158 - Garland Freeman Heights Drainage Improvements

For this FMP the City of Garland proposes to construct separate phases in a series. Phase 1 involves construction of a reinforced concrete alley between Hillcrest Dr and Sylvan Dr to capture runoff and convey it in the existing inlets and storm sewer. Phase 2 includes:

- 1,438 LF of 12-ft x 5-ft RCB that parallels the 9-ft x 5-ft RCB in Glenbrook Dr from Walnut St to Mimosa Dr.
- Additional inlets along Mimosa Dr, Maple Dr, Magnolia Dr, and Woodland Dr.
- 309 LF of 8-ft x 4-ft RCB parallel to the existing RCB from Glenbrook Dr
- 170 LF of 10-ft x 5-ft RCB from east of the ex. parallel 8-ft x 4-ft RCB to Mills Branch.
- 100 LF of 10-ft x 5-ft RCB by other than open cut crossing the DART Railroad.
- The 8-ft x 4-ft and 10-ft x 5-ft RCB sections connect to an ex. parallel 8-ft x 4-ft RCB.
- Open the 60" RCP from the box in Walnut St that flows to south of the DART.
- Replace the existing headwall for the 8-ft x 4-ft RCB and add the 10-ft x 5-ft RCB.

Phase 3 improvements include:

- 330 LF of parallel 10-ft x 5-ft box culverts
- 955 LF of parallel 7-ft x 5-ft box culverts
- 776 LF of 6-ft x 5-ft box culvert
- 129 LF of 5-ft x 5-ft box culvert
- 134 LF of 48" RCP
- 678 LF of 36" RCP
- 90 LF of 30" RCP
- 2,466 LF of 24" RCP and inlets on Nash St, Dent St, Holly Dr, Travis St, and Bowie St.

Phase 4 improvements include:

- 275 LF of 48" RCP
- 67 LF of 36" RCP
- 27 LF of 30" RCP
- 102 LF of 24" RCP
- Replace 1,635 LF of 42" RCP with 8-ft x 4-ft RCB and connect with 6-ft x 4-ft RCB.
- Replace 216 LF 48" RCP on Walnut St with 8-ft x 4-ft RCB.
- Replace 315 LF 36" RCP with 6-ft x 4-ft RCB on Glenbrook Dr

This project (phases 1-4) when completed together will decrease the flooding of the roads and adjacent homes during the 100-year event. The modeling includes XPSWMM.



Garland
Exhibit B-1

KEY TO FEATURES • Existing Nodes — Existing Links - - - Out of Service	DATUM NAD 1983 TEXAS STATE PLANE NORTH CENTRAL ZONE FIPS 4202 0 150 300 Feet 1 inch = 300 feet	FREEMAN HEIGHTS IMPROVEMENTS PHASE 1 IMPROVEMENTS GARLAND, TEXAS December 5, 2024 Westwood
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Phase 2 Improvements

- 24" RCP
- 36" RCP
- Parallel - 8' X 4' RCB
- Parallel- 10' X 5' RCB
- Parallel- 12' X 5' RCB
- Re-Open 60" RCP
- Proposed Inlets

SIZE	LENGTH (FT)
24" RCP	2176
36" RCP	338
8' X 4' RCB	309
10' X 5' RCB	270
12' X 5' RCB	1438
TOTAL	4531

KEY TO FEATURES

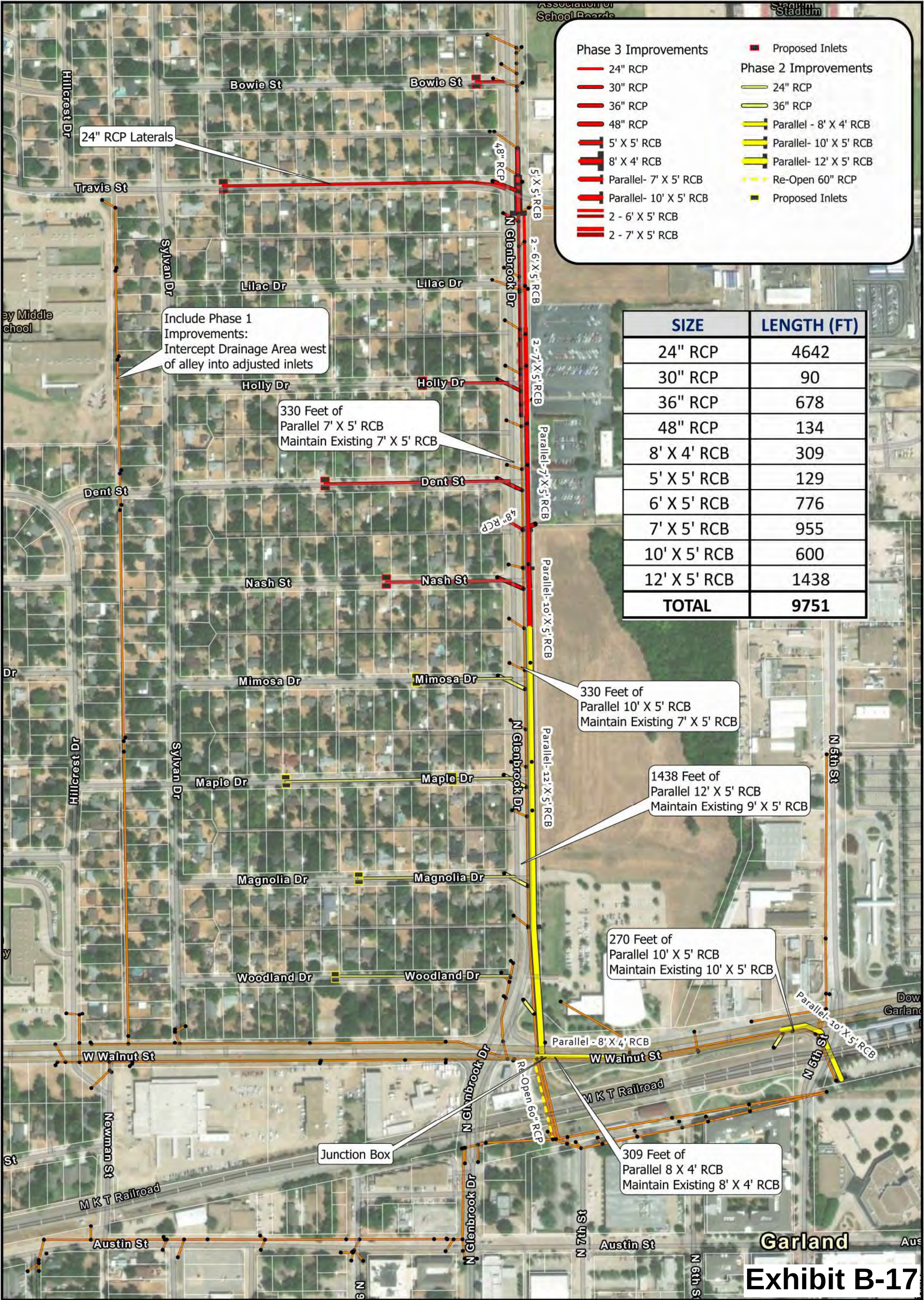
- Existing Nodes
- Existing Links

DATUM
NAD 1983 TEXAS STATE PLANE
NORTH CENTRAL ZONE FIPS 4202

0 150 300 Feet
1 inch = 300 feet

FREEMAN HEIGHTS IMPROVEMENTS
PHASE 2 IMPROVEMENTS
GARLAND, TEXAS
August 28, 2024

Westwood



Phase 3 Improvements

- 24" RCP
- 30" RCP
- 36" RCP
- 48" RCP
- 5' X 5' RCB
- 8' X 4' RCB
- Parallel- 7' X 5' RCB
- Parallel- 10' X 5' RCB
- 2 - 6' X 5' RCB
- 2 - 7' X 5' RCB

Proposed Inlets

- Phase 2 Improvements
- 24" RCP
- 36" RCP
- Parallel - 8' X 4' RCB
- Parallel- 10' X 5' RCB
- Parallel- 12' X 5' RCB
- Re-Open 60" RCP
- Proposed Inlets

SIZE	LENGTH (FT)
24" RCP	4642
30" RCP	90
36" RCP	678
48" RCP	134
8' X 4' RCB	309
5' X 5' RCB	129
6' X 5' RCB	776
7' X 5' RCB	955
10' X 5' RCB	600
12' X 5' RCB	1438
TOTAL	9751

KEY TO FEATURES

- Existing Nodes
- Existing Links

DATUM

NAD 1983 TEXAS STATE PLANE
NORTH CENTRAL ZONE FIPS 4202

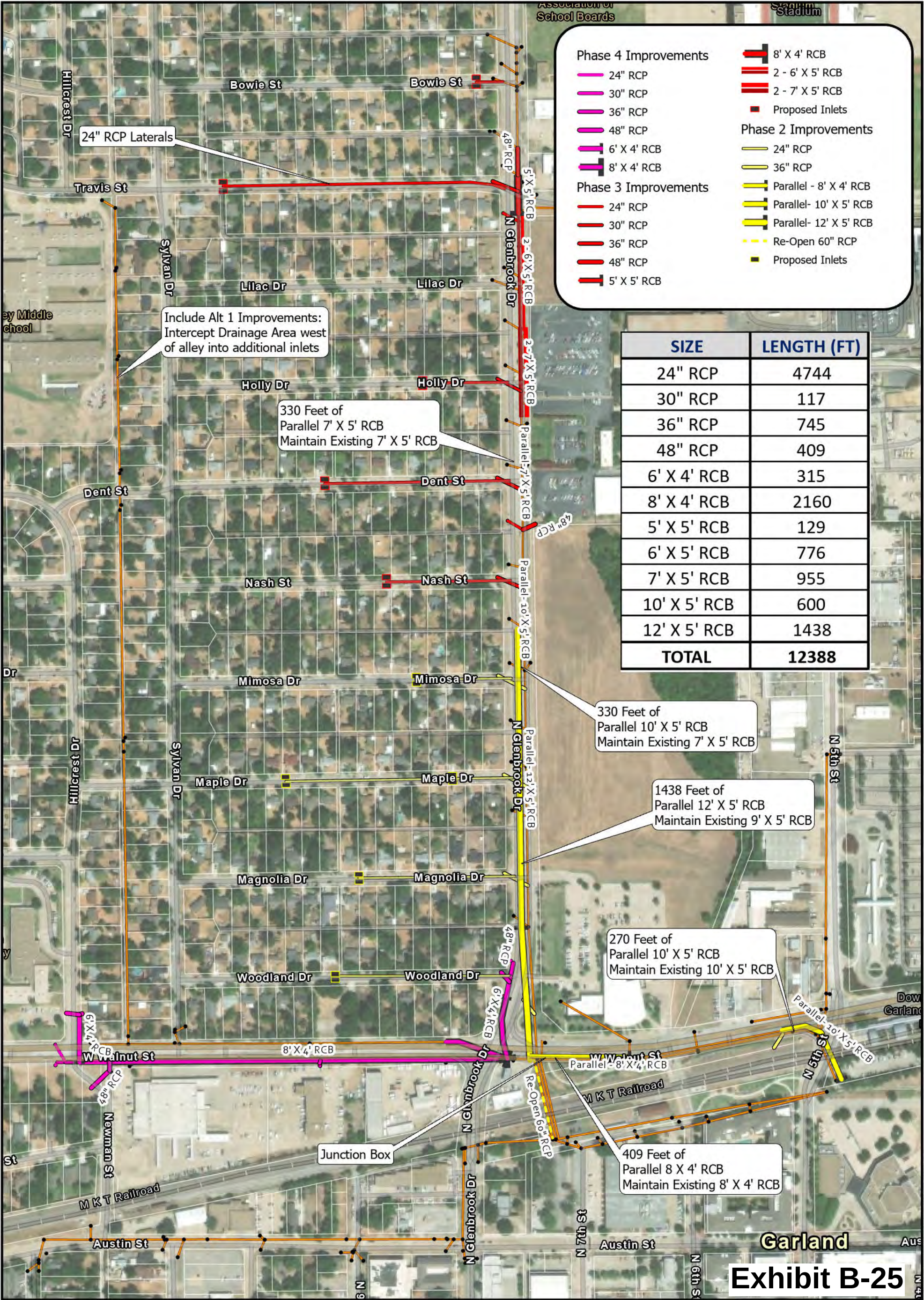


0 150 300
Feet
1 inch = 300 feet

FREEMAN HEIGHTS
IMPROVEMENTS
PHASE 3 IMPROVEMENTS
GARLAND, TEXAS

December 5, 2024

Westwood



Phase 4 Improvements

- 24" RCP
- 30" RCP
- 36" RCP
- 48" RCP
- 6' X 4' RCB
- 8' X 4' RCB

Phase 3 Improvements

- 24" RCP
- 30" RCP
- 36" RCP
- 48" RCP
- 5' X 5' RCB

- 8' X 4' RCB
- 2 - 6' X 5' RCB
- 2 - 7' X 5' RCB
- Proposed Inlets

Phase 2 Improvements

- 24" RCP
- 36" RCP
- Parallel - 8' X 4' RCB
- Parallel- 10' X 5' RCB
- Parallel- 12' X 5' RCB
- Re-Open 60" RCP
- Proposed Inlets

SIZE	LENGTH (FT)
24" RCP	4744
30" RCP	117
36" RCP	745
48" RCP	409
6' X 4' RCB	315
8' X 4' RCB	2160
5' X 5' RCB	129
6' X 5' RCB	776
7' X 5' RCB	955
10' X 5' RCB	600
12' X 5' RCB	1438
TOTAL	12388

KEY TO FEATURES

- Existing Nodes
- Existing Links

DATUM

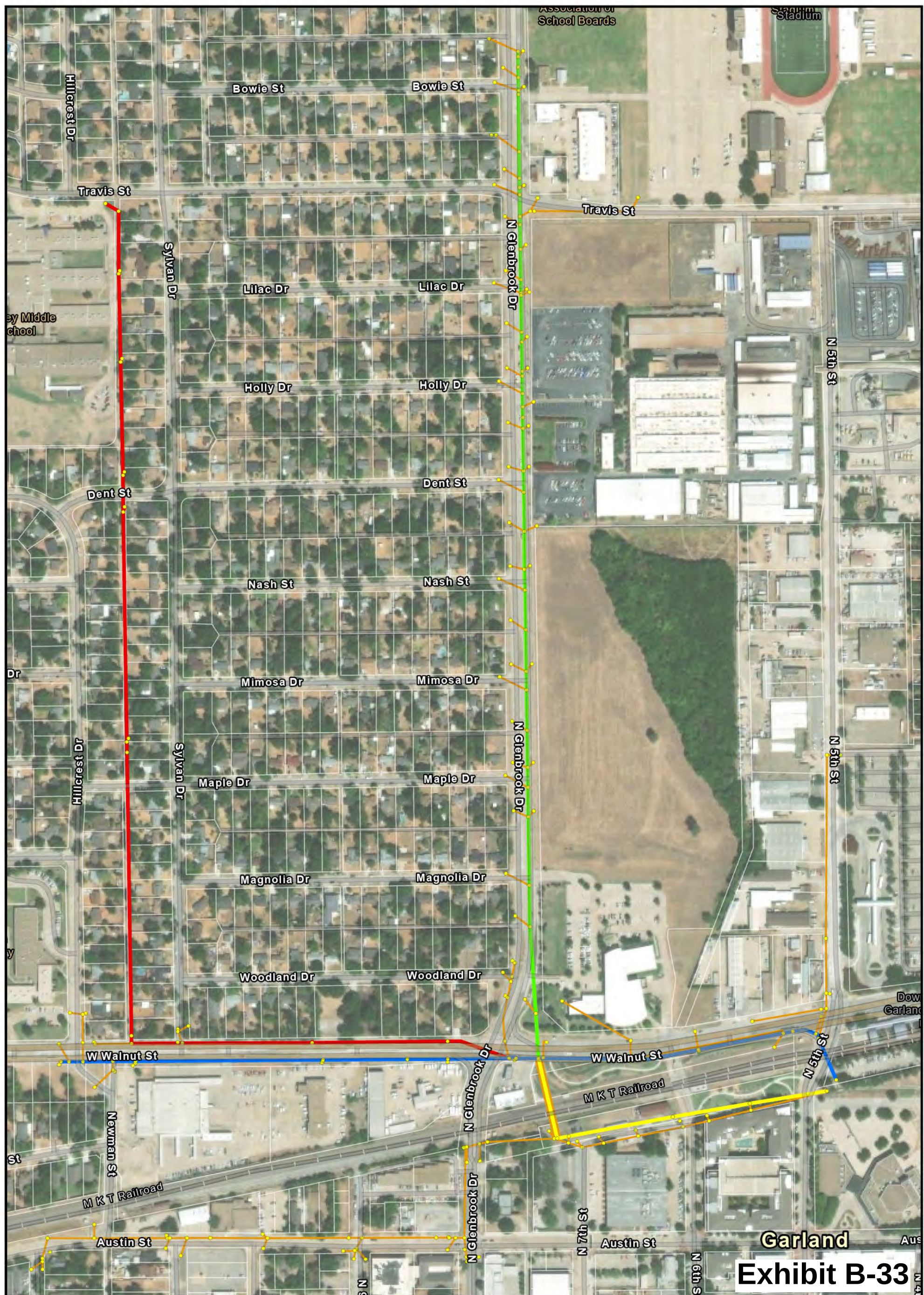
NAD 1983 TEXAS STATE PLANE
NORTH CENTRAL ZONE FIPS 4202



0 150 300
Feet
1 inch = 300 feet

**FREEMAN HEIGHTS
IMPROVEMENTS
PHASE 4 IMPROVEMENTS (ULTIMATE)**
GARLAND, TEXAS
August 28, 2024

Westwood



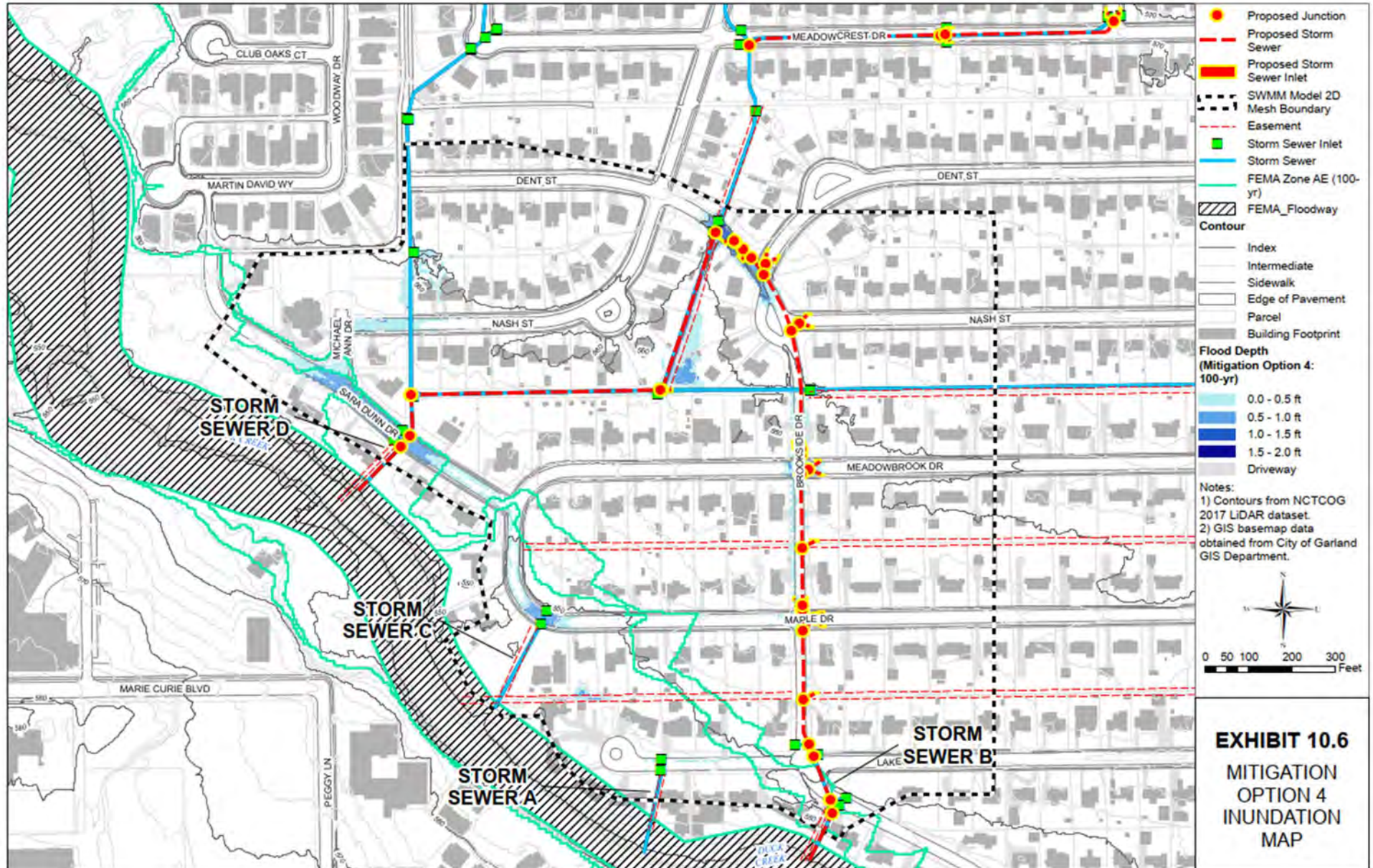
KEY TO FEATURES ● Existing Nodes — Existing Links — Existing Links — Existing Links — Existing Links	Profile Key Alley and Northern Walnut Walnut Street to Outfall Glenbrook Drive DS of 3-60" RCP	DATUM NAD 1983 TEXAS STATE PLANE NORTH CENTRAL ZONE FIPS 4202  0 150 300 — Feet 1 inch = 300 feet	FREEMAN HEIGHTS PROFILE KEY MAP STORM DRAIN PROFILES <i>GARLAND, TEXAS</i> August 28, 2024 Westwood
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FMP 03-52-0000000160 - Lakewood Drainage Improvements

For this FMP the City of Garland proposes to construct drainage improvements at multiple street locations before discharging into Duck Creek. The project consists of the following:

- Add six, 20 ft curb inlets in Dent Street
- Upgrade segment D-6 by replacing 5-ft and 10-ft inlets in Meadowcrest Dr and Larchfield Dr with 20-foot inlets and connect to segment D-2 via a 36" RCP
- Upgrade segment D-1 from the outlet in Duck Creek to Dent Street with 8-ft x 5-ft RCB for a total length of approximately 1,230 feet
- Add two, 15 ft curb inlets in Nash Street near the intersection with Brookside Drive at the existing Nash Street grade
- Connect the existing Storm Sewer D-1 in the drainage easement between Nash Street and Meadowbrook Drive to the new Brookside Drive Storm Sewer system
- Remove approximately 350 feet of the existing Storm Sewer D-1 north of Meadowbrook Dr between Brookside Dr and the drainage easement to the west
- Add two, 20 ft inlets in Brookside Dr north of the intersection with Meadowbrook Dr
- Add two, 15 ft curb inlets in Meadowbrook Dr, east of intersection with Brookside Dr
- Add 20 ft curb inlet in the drainage easement between Meadowbrook Dr and Maple Dr east of the intersection with Brookside Dr. Extend gutter and pavement in Brookside to proposed inlet using typical alley pavement widths
- Add two, 10 ft curb inlets in Brookside Dr north of the intersection with Maple Dr
- Add two, 15 ft curb inlets in Maple Dr east of the intersection with Brookside Dr
- Add 20 ft curb inlet in the drainage easement between Lakeside Dr and Maple Dr east of the intersection with Brookside Dr. Extend gutter and pavement in Brookside to proposed inlet using typical alley pavement widths, extending the gutter from Brookside and grading towards the curb inlets.
- Add 4-foot Y-inlet in drainage easement south of Dent Street and connect to segment D-1 via a 36" RCP
- Improve the existing Storm Sewer B from the outlet into Duck Creek to Dent Street with a 4-ft x 4-ft RCB for a total distance of approximately 1,525 feet
- Replace the existing headwall at the outlet of Duck Creek in Storm Sewer Segment D-1 and B

This project will prevent overtopping of the roads at Brookside Dr, Maple Dr, Lakeside Dr, and Meadowbrook Dr and remove 26 homes from the 100-year event. The modeling includes PCSWMM version 2020.



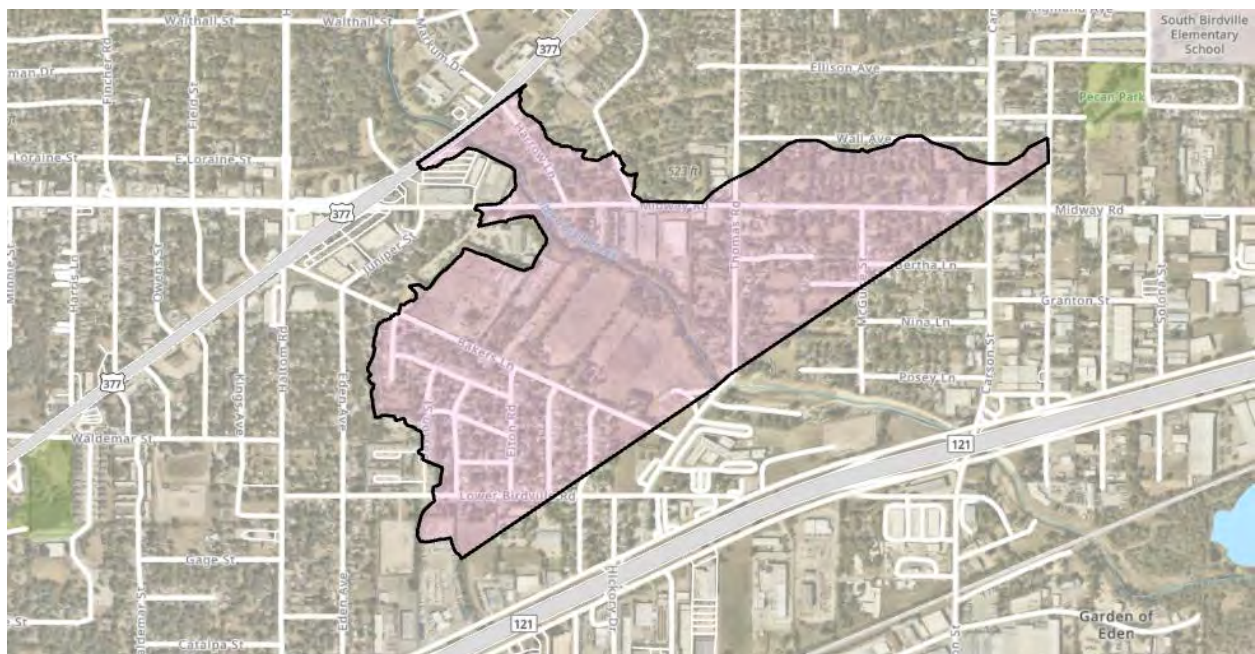
FMP 03-52-0000000165– Little Fossil Creek Haltom Improvements

Haltom City had previously designed improvements for Little Fossil Creek. A portion of the project had been constructed, leaving the segment from East Belknap Street going downstream to Thomas Road to be constructed in a later project. That remaining portion is what will be addressed in this FMP.

A CLOMR had previously been approved in 2010 that fully encapsulated the project extents, both the complete and the incomplete portions of the project in terms of construction. The model does not reflect the current state by showing the effects of only the completed part of the improvements. The model does illustrate the effects of the entire project upon its completion, merging the results of the previously completed project with this FMP. In addition to the CLOMR, there was additional modelling done in 2021 to assess what had been accomplished to date and its resulting impact on the floodplain. The combination of the 2010 model (HEC-RAS 3.1.3) and the 2021 model, an accurate picture of the FMP's impacts are shown. The project results in removing approximately 600 homes structures from the FEMA-designated Special Flood Hazard Area (SFHA).

The completion of this FMP will work to contain the floodplain within the channel as proposed in the 2010 CLOMR.

The cost estimate of the project is \$12,012,000 in 2025 US Dollars.



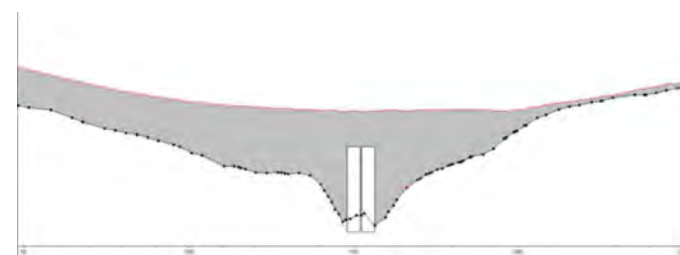
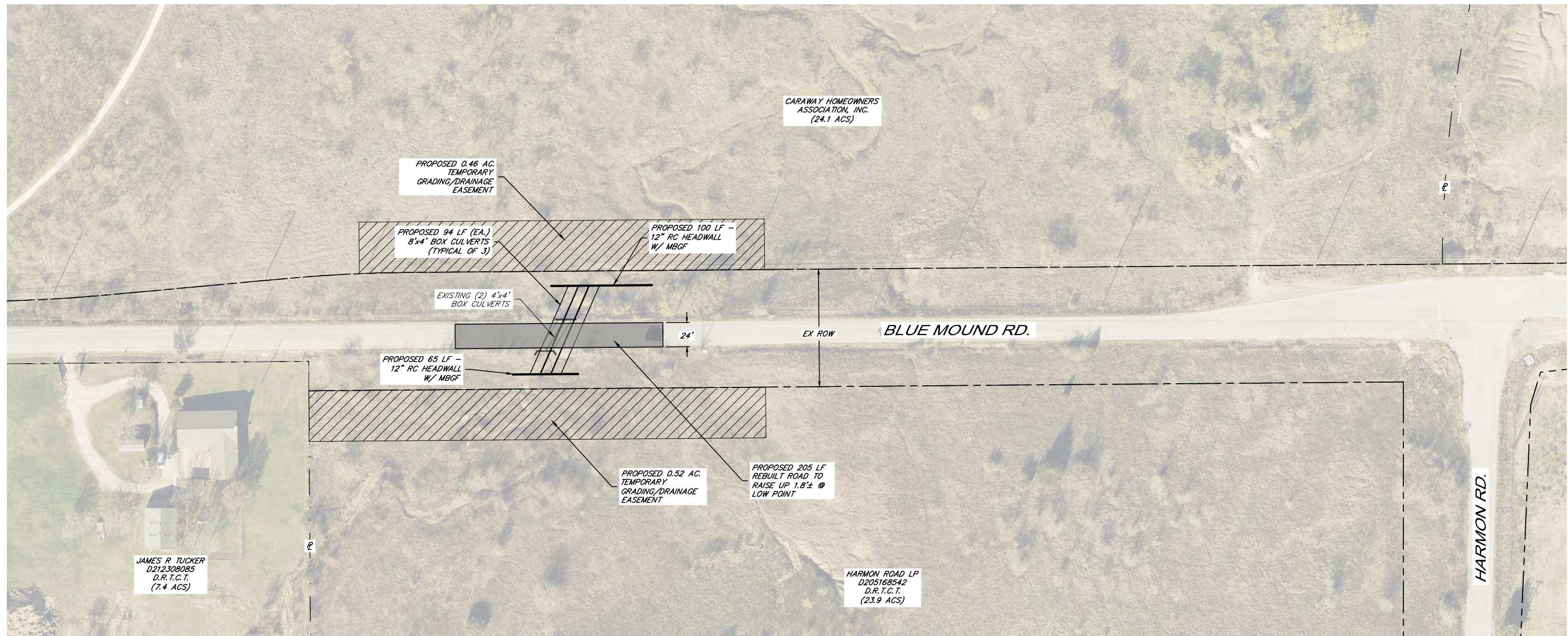
03-52-0000000167 Haslet Park Drainage Improvements

For this FMP the City of Haslet proposes to construct culvert and bridge improvements at the Blue Mound Road crossing with Tributary BC-1. The project consists of replacing the existing two, 4-ft x 4-ft box culverts with three, 8-ft x 4-ft box culverts. There are also proposed bridge improvements to regrade approximately 205 LF the road and set the lowest deck elevation to 705.0 ft.

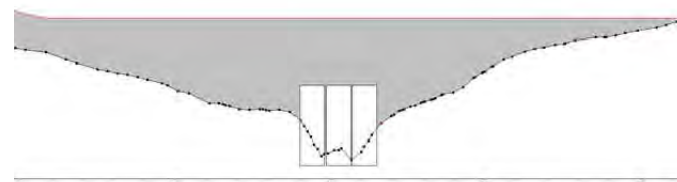
Just under 1.0 acre of regrading total is proposed on either side of the roadway to alleviate impacts from the increased conveyance.

Currently the road is being overtopped by the 100 year storm by 1 (one) foot. This project will prevent the road from overtopping during the 100-year event storm. The modeling includes an HEC-RAS version 6.6 model.

P:\HASLET\ROADS\BlueMoundRd\DWG\Exhibit\BlueMound Drainage Exhibit.dwg LAST SAVED BY: Aaron PLOT DATE: 9/30/25 © BELCHEFF AND ASSOCIATES, INC. 2025



EXISTING CONDITION



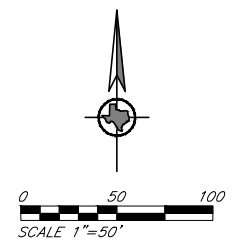
PROPOSED CONDITION

- LIMITS OF ROAD RECONSTRUCTION
- GRADING & DRAINAGE EASEMENT

NOTE: THIS PRELIMINARY EXHIBIT WAS PREPARED WITHOUT THE BENEFIT OF TOPO/BOUNDARY SURVEY AND WAS CREATED USING BEST AVAILABLE BAI/CITY INFORMATION

CITY OF HASLET
BLUE MOUND ROAD
ROAD & DRAINAGE IMPROVEMENTS

09/30/2025



Belcheff & Associates, Inc.
Municipal Engineering and Program Management

3575 Lone Star Cir. Ste 124
Fort Worth, Texas 76177

Phone: 817.431.1800
Fax: 817.431.1800
TSP# Reg. No. F-368

03-52-0000000168 Haslet Park Drainage Improvements

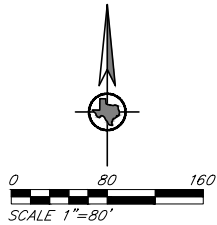
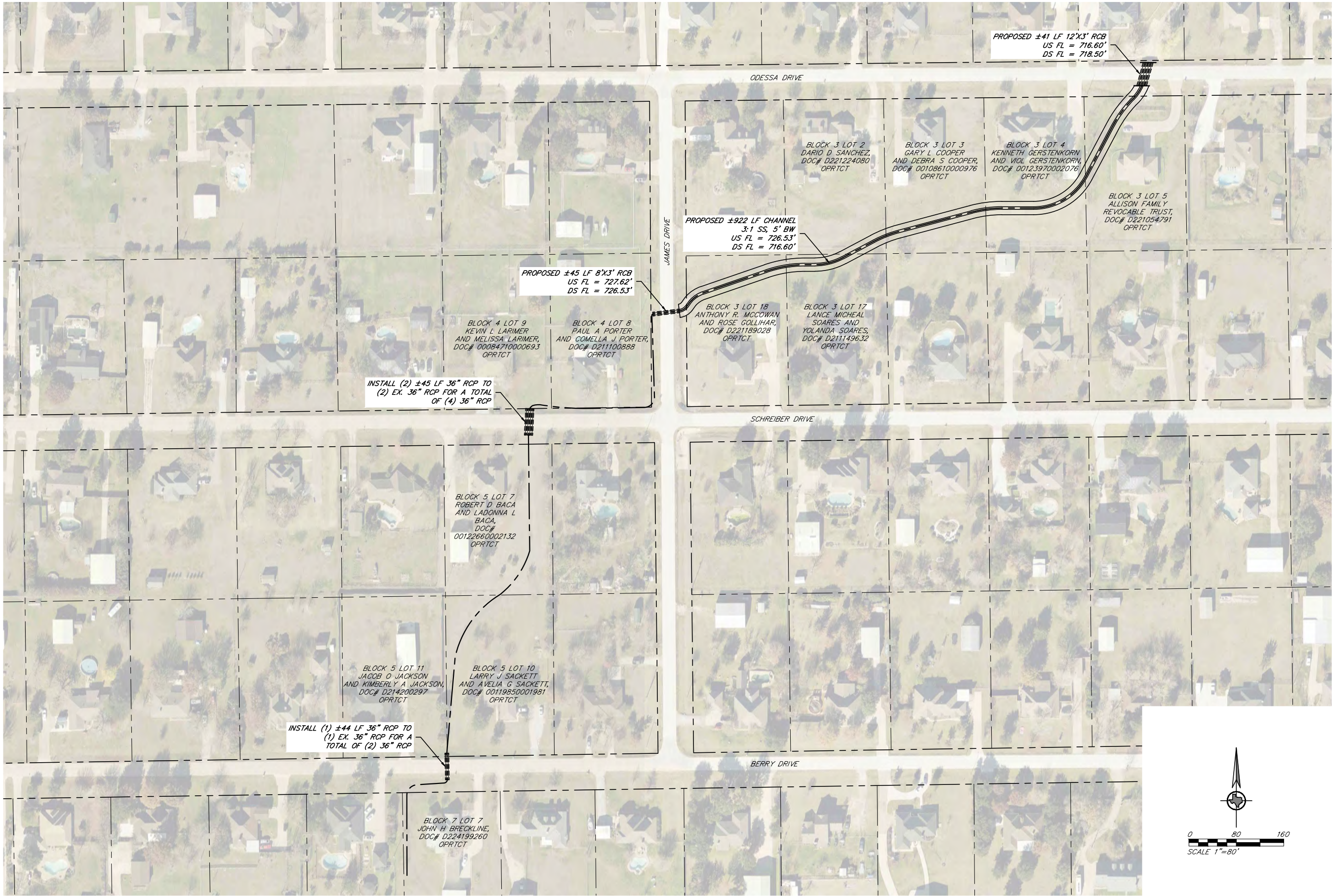
For this FMP, the City of Haslet proposes to construct culvert and channel improvements in the Haslet Park Area.

The project consists of adding two, 36-inch RCPs under Schreiber Drive, one, 36-inch RCP under Berry Drive, one, 1-ft x 3-ft RCB under James Drive, and one, 12-ft x 3-ft RCB under Odessa Drive. There are also proposed channel improvements from James Drive to Odessa Drive, totalling a channel length of 950 LF. The channel will feature a five-foot bottom width, 3H:1V side slopes, and a 3.5-foot depth. There will be approximately 55,000 cubic feet of excavation. The proposed, improved channel will be concrete lined as well.

This project will reduce 100-year water surface elevations between James Drive and Odessa Drive by more than a foot. The estimated FMP construction cost is \$2 million in 2025 dollars.

The modeling includes HEC-RAS version 7.0 and HEC-HMS version 4.12.

P:\HASLET\DRAINAGE\HASLET\PARKING\DWG\HASLET\PA\BRAINAGE.DWG - JEL 30 SEPT 2025 © BELCHEFF & ASSOCIATES, INC 2025



REVISIONS	DESCRIPTION	DATE
1		
2		
3		
4		
5		

B

Belcheff & Associates, Inc.
Municipal Engineering and Program Management
3576 Lone Star Circle
Fort Worth, Texas 76177
Phone: 817.313.1800
Fax: 817.313.1800
TEPE Reg. No. 1-368

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MICHAEL L. ANDERSON, P.E.
SERIAL NO. 005852
DATE: 09/30/2025

CITY OF HASLET

HASLET PARK DRAINAGE IMPROVEMENTS

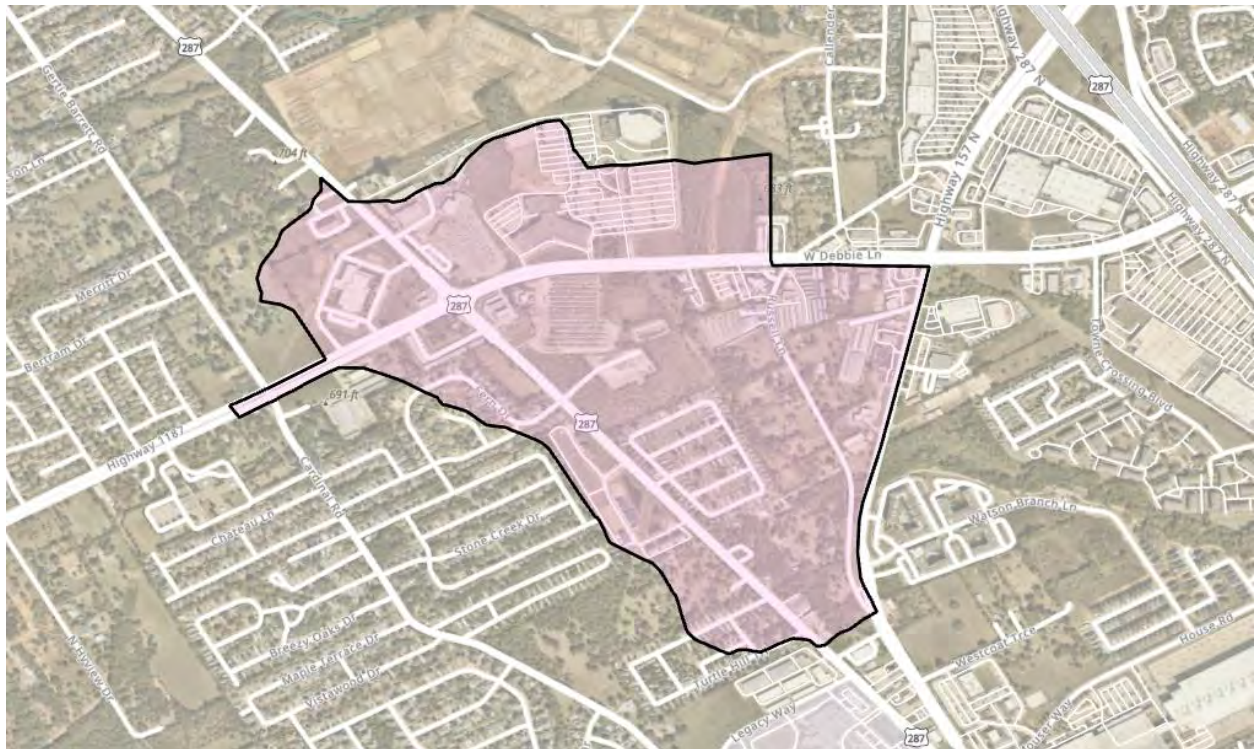
OPEN CHANNEL OPTION

DATE: 30 SEPT 2025
SCALE: AS SHOWN
PROJECT: ---
DRAWN BY: JEL
APPROV. BY: MLA

FMP 03-52-0000000174 – Mansfield Improvements

The City of Mansfield employed Halff to perform hydrologic and hydraulic studies on the area along Main Street (Business 287) and east towards FM 157. The current capacity of the infrastructure falls short of the necessary conveyance and needs adjustment.

From the study it was recommended that a new diversion channel and culvert be constructed to alleviate the current drainage infrastructure as it moves stormwater runoff from the surrounding area, beginning at the northwest corner of Silver Leaf mobile home park and intersecting Watson Branch, before the residential structures west of Russell Lane. In the HEC-RAS 5.0.7 model, the diversion channel varies in width between 17 – 20 ft, would be responsible for the interception of stormwater runoff from just under 84 acres, though the affected watershed encompasses a much larger area - approximately 300 acres. The culvert (three, 6f tx 3ft RCBs) allows for an existing gas line to remain without conflict. Results from the study suggest no adverse impacts (less than 0.1 feet) for proposed conditions downstream or upstream of the proposed project. The cost estimate of the project is \$4,855,000 in 2025 US Dollars.



FMP 03-52-0000000177 - East Walcott Street Drainage Improvements

The East Walcott Street Drainage Improvements FMP was generated from a Memorandum⁵ prepared for the City of Pilot Point in 2025. This Memorandum evaluated key locations in the downtown area that experience reoccurring flooding. The flow in the downtown area primarily travels overland into roadside ditches with driveway culverts, and there are isolated curb-and-gutter storm drain systems associated with recent development. At the intersection of E. Main St and Harrison St, there are roadway culverts that drain into roadside ditches along both sides of Harrison St and E. Walcott St which overflow and flood adjacent lots in the area. The proposed improvements aim to provide flooding relief in the area.

A 1D/2D model was developed in XPSWMM (v2024.1) to analyze the existing roadside ditches and storm drain system in the 100-yr event. The proposed improvement consists of a multiple-box diversion system extending from the intersection of E. Main St and Harrison St northeast along E. Walcott St. This relief line would start as a 4-ft by 4-ft box culvert, transition to two (2) 4-ft by 4-ft boxes and expand to two (2) 5-ft by 5-ft boxes before discharging into an existing channel east of 730 E. Walcott Street. The project cost is \$4,353,000.

The estimated flood risk reduction benefits following the implementation of E. Walcott Street Drainage Improvements FMP include the reduction of flooding depths to less than 6 inches for over half a mile of roadway and 24 structures from the 100-yr floodplain, 21 of which are residential structures. The diversion system results in a minor increase of 10 cfs during the 100-year storm event at the SH377 culverts, corresponding to a 0.02 to 0.03-foot rise in water surface elevation. However, this increase is considered insignificant and does not cause adverse impacts to the culverts, the downstream channel or the nearby properties. Based on the comparative assessment performed for this FMP, the proposed project does meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A).

⁵ Memorandum, Flood Mitigation Project – Pilot Point, Problem Area #2, LJA Engineering, Inc., September 2025

East Walcott Street Drainage Improvement – Project Components Map (FMP 03-52-0000000177)

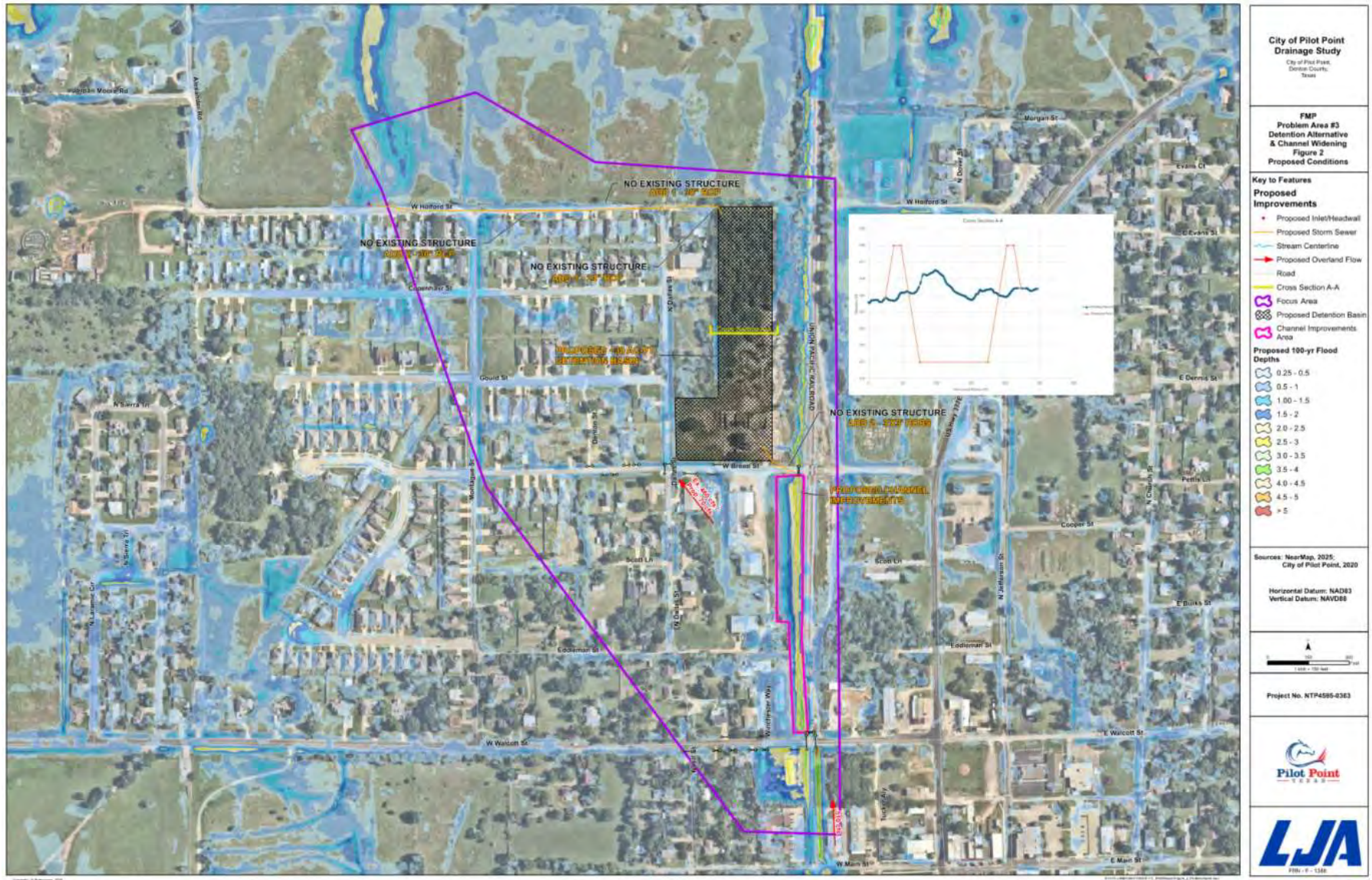
FMP 03-52-0000000178 - West Holford Street Drainage Improvements

The West Holford Street Drainage Improvements FMP was generated from a Memorandum⁶ prepared for the City of Pilot Point in 2025. This Memorandum evaluated key locations in the downtown area that experience reoccurring flooding. The flow in the downtown area primarily travels overland into roadside ditches with driveway culverts, and there are isolated curb-and-gutter storm drain systems associated with recent development. Near the intersection with W. Walcott St, stormwater flows in the Union Pacific Railroad western ditch overflow to the west and impact properties along N. Dallas St. The overland flow continues northwest towards Montague St, Gould Street, Copenhavr St, and W. Holford St, which are in neighborhoods that lack storm drainage infrastructure. The proposed improvements aim to mitigate flooding in this area for the 25- and 100-yr events.

A 1D/2D model was developed in XPSWMM (v2024.1) to analyze the existing roadside ditches, culverts, and storm drain system. The proposed project consists of channel improvements along the railroad's western ditch between W. Walcott St and W. Broad St, which will outfall to a (2) 3-ft by 3-ft box culvert that directs flow to a 30-ac-ft detention basin. The basin will require property acquisition but will provide recreational benefits such as a multi-sue sport facility or park. The detention basin's outflow will be released to a proposed 24-in storm sewer line traveling west on W. Holford Street, and the sewer line will expand to a 30-in RCP and eventually to two (2) 30-in RCP. The project cost is \$2,588,000.

The estimated flood risk reduction benefits following the implementation of W. Holford Street Drainage Improvements FMP include reduction in flood depth for an estimated 37 structures within the 100-yr floodplain, 31 of which are residential structures. The proposed project has an estimated benefit-cost ratio (BCR) of 1.3, which increases to 2.0 when recreational benefits are included. Based on the comparative assessment performed for this FMP, the proposed project does meet the no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A).

⁶ *Memorandum, Flood Mitigation Project – Pilot Point, Problem Area #3 – Channel Improvements and Detention*, LJA Engineering, Inc., September 2025

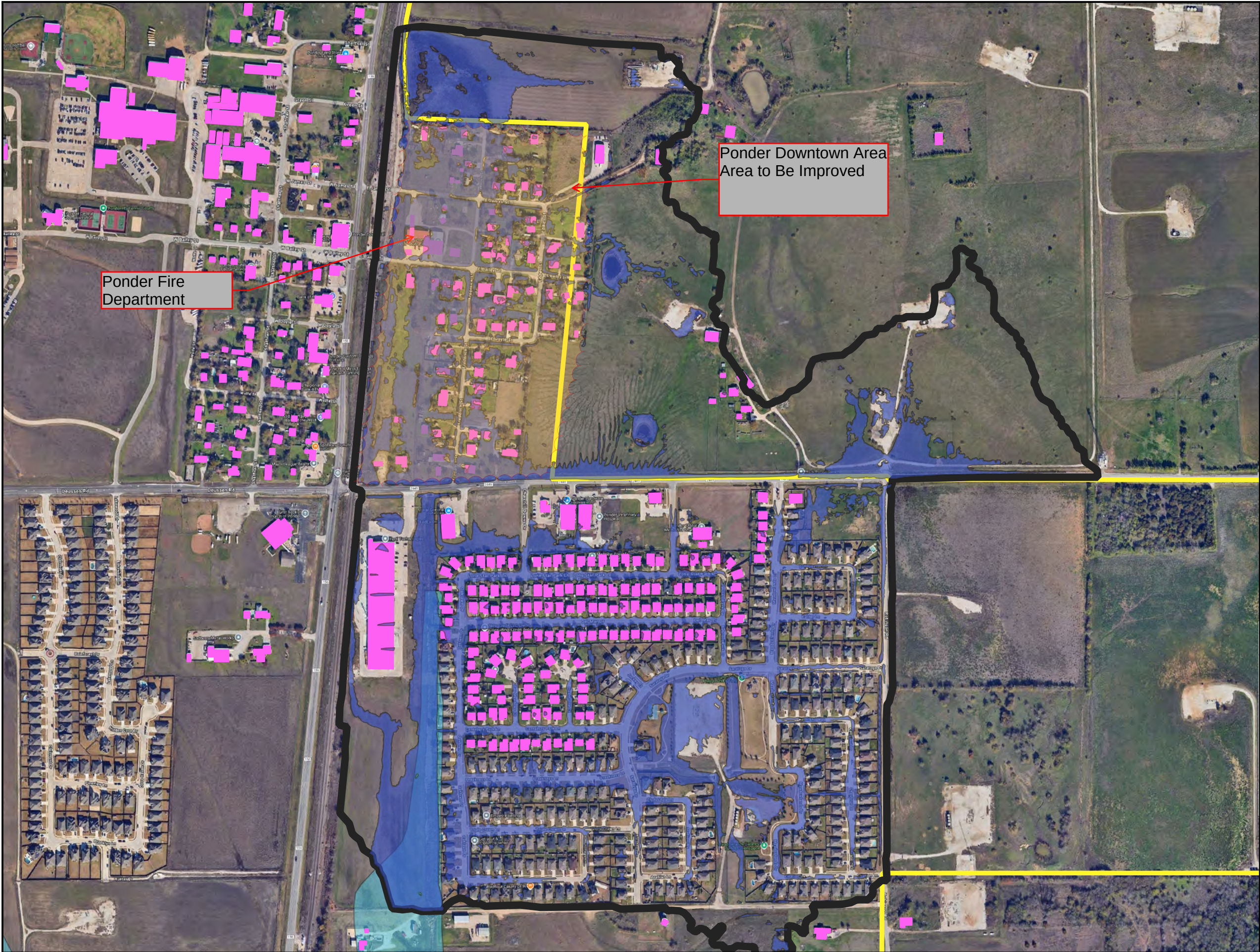


FMP ID 03-52-0000000179 – Ponder Downtown Drainage Ditch Improvements

The City of Ponder has experienced flooding of businesses and residences, specifically in the Downtown area with some regularity, including the Ponder Fire Department building. Flooding occurs because of poor grading to existing ditches which would be overwhelmed were the flooding to be routed to them more efficiently. Culverts, especially those under Bailey and James Street, are constructed to the west of the natural sag in the topography, leading to flooding crossing the road before the culverts are fully engaged. 60% plans have been developed;

For this FMP, the City of Ponder proposes to construct culvert and ditch improvements in the downtown Ponder area. This project consist of replacing the existing the one, 4-ft RCP culvert crossing under Bailey Street with two, 4-ft RCP culverts, replacing the existing the one, 4-ft RCP culvert crossing at James Street with two, 3-ft RCP culverts, and regrading the channel from James Street to FM 2449.

Channel improvements include widening the channel and regarding the side to have a 4:1 side slope. The project will reduce the 100-year water surface elevation along the creek and road crossings. The modeling includes HEC-RAS version 6.6.

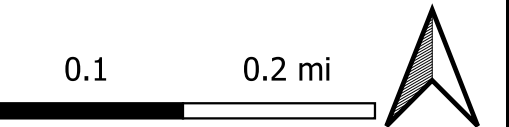


PONDER DOWNTOWN DITCH EXISTING 1% FLOODING

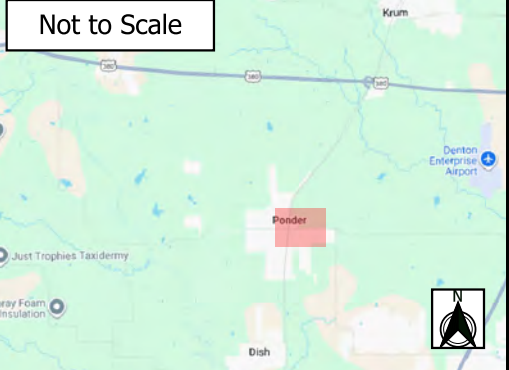
LEGEND

- Existing Inundation
- Model Limits
- Building Footprints
- City Boundary
- 1 PCT ANNUAL CHANCE FLOOD HAZARD

Existing Inundation modeled in
HEC-RAS 2D.



VICINITY MAP



Date: 09/30/2025 Map 1 of 1

BolsterEngineering.com
Texas Engineering Firm F-24171



FMP 03-52-0000000180 - Panther Island Canals

The Panther Island Canals FMP was generated from the Trinity River Vision Storm Drain Master Plan⁷ prepared for the City of Fort Worth in 2014 and subsequent memorandums^{8, 9, 10, 11} to the Tarrant Regional Water District (TRWD) in 2024. This masterplan studied Panther Island, which is north of downtown Fort Worth, located at the confluence of the Clear Fork and West Fork Trinity River. This area is currently protected from flooding from the Trinity River by a levee system but still faces flood risk from an undersized storm drain system and stormwater runoff interior to the levees. The existing flooding hinders business and development in the area. The ultimate vision for Panther Island is for it to be a premier economic and recreational hub for Fort Worth. The proposed improvements consist of a canal system through this developing area that will provide waterfront experiences supporting this vision.

The existing conditions InfoWorks SD model previously developed by FNI for the Trinity River Vision Storm Drain Master Plan was used as a basis for the Panther Island Canals modeling. The model was updated to InfoWorks ICM Ultimate (2024.5) and reviewed for accuracy. The existing 100-yr flood conditions were evaluated using the approved coincident tailwater for the West Fork Trinity River from the master plan. The proposed Panther Island FMP includes design and construction for the four proposed canals (over 10,000 LF in length) and parallel pedestrian walkways, called Paseos. The canals and Paseos will provide the detention capacity required to contain the 100-yr storm event below the finished floor elevations of future surrounding developments. The project cost is \$582,151,000.

The Panther Island Canals FMP will work in conjunction with the USACE Central City Bypass Channel project, which is also being submitted as an FMP in the Trinity Regional Flood Plan. The bypass channel will provide the flood protection needed to remove the levees surrounding Panther Island. After the levees are removed, the canal system will connect directly to the Trinity River. The construction of the canals will begin before the Central City project is completed and will provide the flood protection needed to begin the planned economic and recreational development with the levees intact.

The estimated flood risk reduction benefits following the implementation of Panther Island Canals FMP include the removal of an estimated 1.49 miles of roadway and 36 structures from the 100-yr floodplain, 12 of which are residential structures. This correlates to an estimated 337 individuals removed from the 100-yr flood risk. Additionally, 1 critical facility and 4 acres of farm and ranch land would also be removed from the 100-yr floodplain. Based on the comparative assessment performed for this FMP, the proposed project does meet all no negative impacts requirements as established in the TWDB Technical Guidance (Exhibit C Section 3.6.A).

⁷ *Trinity River Vision Storm Drain Master Plan*, Freese and Nichols, Inc., October 2014

⁸ *Panther Island Canal Value Engineering and Technical Evaluation Project Completion Report*, Freese and Nichols, Inc., October 2024

⁹ *Panther Island Canals Project Summary*, Freese and Nichols, Inc., December 2024

¹⁰ *Panther Island Canals FMP Modeling Update and No Negative Impacts*, Freese and Nichols, Inc., December 2024

¹¹ *Panther Island Canals FMP Submission*, Freese and Nichols, Inc., December 2024





Recommended FMSs

Cycle Year	Potentially Feasible FMSs	Recommended FMSs
2023	151	144
2028	177+	118+

- 5 of new communities involved with pending recommendation
- 46 of FMSs requiring follow-up
 - Approval in early 2027 Technical Subcommittee Meeting
- Several FMSs are being reevaluated for potentially serving as Chapter 8 recommendations. (Nominal effort that can be replaced with TWDB templates.)
- Several FMSs are being questioned for FIF eligibility.

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000001	Lavon Warning System	Expand the Early Warning Sirens and Local Warning System to notify new populations of impending severe weather or imminent hazards to reduce the loss of life and mitigate the effects of the hazards	Collin	Flood Measurement and Warning	Lavon	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000002	Lindsay Flood Warning and Public Safety Improvements	Citywide “reverse 911” to enable local emergency officials to notify emergency information pertaining to flood advisories, flood warnings, and flood evacuations.	Cooke	Flood Measurement and Warning	Lindsay	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000003	Addition of Low Water Crossing Signs and Gates - City of Irving	Identify and add low water crossing signs and gates to low water crossing areas as described in The Road to The	Dallas	Flood Measurement	Irving	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000004	Richardson Flood Warning and Public Safety Improvements	Monitor streams and waterways for potential flooding problems including installation of gauges, sensors, and precipitation measuring sites.	Dallas	Flood Measurement and Warning	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000005	Timber Creek Flood Warning System Installation	Purchase and Install Flood Warning Systems in Key Areas Along Timber Creek	Denton	Flood Measurement and Warning	Lewisville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000006	Houston County Stream and Rain Gauge Installation	Install stream and rain gauges in flood prone areas and waterways as part of new alert notification system	Houston	Flood Measurement and Warning	Houston County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000007	Hunt County Flood Warning and Public Safety	Adopt and Promote the program of “Turn Around Don’t Drown Campaign.” Implement early warning program.	Hunt	Flood Measurement and Warning	Hunt County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000008	City of Kemp Siren Notification System	Install siren notification system for disasters, including dam failure of Kemp Lake Dam	Kaufman	Flood Measurement and Warning	Kemp	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000009	Leon County Local Flood Warning System	This action proposes a local flood warning system to reduce the potential impacts of future flood events	Leon	Flood Measurement and Warning	Leon County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000010	Rockwall County Warning Signs and Flood Control Gates	Install automatic flood warning gates to prevent access into flooded areas. Install warning signs and flood control	Rockwall	Flood Measurement and Warning	Rockwall County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000011	Chambers Creek Stream Flow Monitoring System	Implement a Stream Flow Monitoring system that will allow for historical tracking and constant monitoring of water levels to assist with early warnings to residents	Tarrant	Flood Measurement and Warning	Everman	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000012	Creek Level Monitoring Systems and Weather Stations Installation	Install creek level monitoring systems and weather stations	Tarrant	Flood Measurement and Warning	Mansfield	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000013	Dalworthington Flood Warning System	Purchase and install a technological based high water detection system for low water crossings to mitigate the hazards when the location floods	Tarrant	Flood Measurement and Warning	Dalworthington	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000014	Colleyville Flood Warning System	Enhance high water warning system by adding automatic gates on the streets that normally flood	Tarrant	Flood Measurement and Warning	Colleyville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000015	Haslet Flood Warning System	Install flood warning devices to low water crossing.	Tarrant	Flood Measurement and Warning	Haslet	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000016	Additional Rain/Stream Gauges for 13 locations	West Fork Trinity River at MacArthur Blvd, Bowman Creek at Mirabella Blvd, Cottonwood Creek at Robinson Road, Johnson Creek at Duncan Perry Road, Foster Branch at Seeton Road, Mountain Creek at county road FM 661, Carrier Parkway underneath I-20, Robinson	Dallas	Flood Measurement and Warning	Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000017	Additional Low Water Crossing Flashing Lights and Automated Gates	Duncan Perry Road between Ave K and Sherwood Drive, Riverside Pkwy LWC (lights already in place need gates added), SW 3rd from Phillips Ct to Dickey Road (gates being added in September 2021)	Dallas	Flood Measurement and Warning	Grand Prairie	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000018	Grayson County Flood Warning and Public Safety Improvements	Create improved gauge notification system. Increased Public Awareness prior to occurrences and during flooding.	Grayson	Flood Measurement and Warning	Grayson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000019	Dallas County Floodplain Management	Manage the Floodplain beyond the minimum requirements. This action will include developing an incentive program for building above the required freeboard minimum	Dallas	Regulatory and Guidance	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000020	Anderson County Structure Permitting Requirement Update	Increase freeboard requirements for permitting structures in the SFHA; Adopt a “no-rise” in BFE in the 100-year floodplain; Update local flood ordinance to prohibit granting of variance in SFHA	Anderson	Regulatory and Guidance	Anderson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000022	Flood Protection Ordinance Updates	Develop and Implement a City and Town flood protection ordinance	Denton	Regulatory and Guidance	Corinth, Hickory Creek, Lake Dallas, Little Elm, Shady Shores, The Colony	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000023	Hill County Flooding Regulations Update	Catalog, evaluate, and update any floodplain regulations within the City to comply with the latest FEMA regulations.	Hill	Regulatory and Guidance	Hill County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000024	Freestone County Flood Damage Prevention Ordinance	Develop and Implement a Flood Damage Prevention Ordinance	Freestone	Regulatory and Guidance	Freestone County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000025	Caney City Floodproofing Ordinances	Implement ordinances to ensure new housing developments meet current floodproofing, as well as ensure that critical facilities owned by jurisdiction are protected from flood.	Henderson	Regulatory and Guidance	Caney City	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000026	Leon County Floodplain Construction Restrictions Re-Evaluation	This action proposes a re-evaluation of all existing floodplain construction restrictions to identify strengths and weaknesses in order to reduce future damages during flood events	Leon	Regulatory and Guidance	Leon County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000027	Rockwall County Flood Prevention Ordinance	Update Flood Prevention ordinance, adopting a “no-rise” in Base Flood Elevation in the 100-year floodplain	Rockwall	Regulatory and Guidance	Rockwall County	Y		X		This is an example of a very nominal effort. Try to contact Sponsor to see if that is all they need or if they need a larger study to support their policy updates. Consider adding as a Ch 8 recommendation for development of "template" ordinances. Remove FMSs?	Part of 2023 Regional / 2024 State Flood Plan
032000028	San Jacinto County Ordinance to Control Location of Development	Strengthen ordinance(s)/code(s) to control location of development, especially in low lying flood hazard areas	San Jacinto	Regulatory and Guidance	San Jacinto County, Shepherd, Coldspring, Point Blank	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000029	Montague County Floodplain Policy Update	Increase freeboard requirements for permitting structures in the SFHA; Update local flood ordinance to prohibit granting of variance in SFHA	Montague	Regulatory and Guidance	Montague County	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000030	Town of Westlake's Floodplain Mitigation Ordinances Review	Review and enhance the Town of Westlake’s floodplain mitigation ordinances and policies as needed	Tarrant	Regulatory and Guidance	Westlake	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000031	Wills Point Structure Permitting Requirement Update	Increase freeboard requirements for permitting structures in the SFHA; Adopt a “no-rise” in BFE in the 100-year floodplain; Update local flood ordinance	Van Zandt	Regulatory and Guidance	Wills Point	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000033	Valley View Floodplain Regulation Updates	Update local ordinances to include regulation of floodplain so that the community may participate in NFIP program.	Cooke	Regulatory and Guidance	Valley View	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000034	City of Sachse Parks Construction Along Low Lying Areas	Establish city parks along low-lying areas	Dallas	Other	Sachse	Y/?	no mention of flood control; outreach to sponsor ongoing. Will be included in 2027 TC Rec Mtg.	2027	2027	TC to follow up with City - flood control benefit?	Part of 2023 Regional / 2024 State Flood Plan Was not recommended in last cycle, made it onto the list anyway
032000035	Carrollton Targeted Flood Remediation	Plan for and establish City-owned stand-by contracts for targeted flood remediation of private homes if authorized by City Administration.	Dallas	Property Acquisition and Structural Elevation	Carrollton	N	cannot use public money for a private improvement; does not resolve a flood issue; maintenance activity		X		Part of 2023 Regional / 2024 State Flood Plan Was not recommended in last cycle, made it onto the list anyway
032000036	Sunnyvale Floodplain Preservation Program	Restrict future development in high risk areas.	Dallas	Regulatory and Guidance	Sunnyvale	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000037	Itasca Zoning Regulations and Land Use Planning Mechanisms	Establish zoning regulations to prohibit residential construction in flood prone areas. Implement strategic land-use planning mechanisms to ensure flood-resistant development occurs in flood-prone areas	Hill	Regulatory and Guidance	Itasca	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000038	Kaufman County Regulation Standards to Protect Open Space Flood-Prone Areas	Conduct program in conjunction with local communities to incorporate regulatory standards to protect open space flood-prone areas	Kaufman	Regulatory and Guidance	Kaufman County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000039	Tarrant County Promotion of Open Space and LID	Promote the inclusion of low impact development requirements in local and regional ordinances	Tarrant	Regulatory and Guidance	North Central Texas Council of Govt	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000041	Dallas County Land Use Program	Continue to develop and maintain special use parks and green belt areas as flooding mitigation strategies & further prohibiting development in the floodplain.	Dallas	Regulatory and Guidance	Richardson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000042	Houston County Maintenance Program	Develop a maintenance program to clear debris from bridges, box culverts, and drainage systems throughout. Implement program to clear debris from flood-prone areas, bridges, drains and culverts to prevent overtopping and backup during flash floods	Houston	Other	Houston County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000043	Kaufman County Agreement to Monitor High Hazard Dams	Develop a mutual aid agreement with the City of Terrell, City of Kemp, City of Kaufman to monitor High hazard dams with automated monitor to minimize potential dam failure of the structure	Kaufman	Other	Kaufman County, Terrell, Kemp, Kaufman	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000044	Rowlett Creek Tributary Maintenance Program	Develop a maintenance program including routine channel maintenance and erosion control for Rowlett Creek Tributary (Stream 2D13). Keep creek and inlets clear of debris and overgrown vegetation.	Dallas	Other	Sachse	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000045	Addison-Carrollton Debris Cleaning Program	Develop and implement a program for clearing debris from bridges, drains and culverts.	Dallas	Other	Addison, Carrollton	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000046	Navarro County Waterways Clearing	Develop a maintenance program to clear waterways of debris and prevent further collection of debris in waterways	Navarro	Other	Corsicana	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000047	Weatherford Biannual Dam Inspection Program	Create and implement a biannual inspection program to inspect the city-owned dams to help prevent dam failure	Parker	Other	Weatherford	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000048	Richland Hills Semi-Annual Levee Inspections	Prepare an inspection program of the levee to look for any maintenance problems or levee failure issues	Tarrant	Other	Richland Hills	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000050	Hazard Hardening Retrofit for Polk County Facilities	Flood-proofing, impact resistant windows, storm shutters, roof straps, structural bracing, low-flow plumbing fixtures, roll-up door reinforcement, grounding systems, surge-protection, data back-up systems, plumbing reinforcement and insulation, heat resilie	Polk	Property Acquisition and Structural Elevation	Polk County, Corrigan, Goodrich, Livingston, Onalaska, Seven Oaks	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000051	Acquire and Protect Red Oak Creek, Bentle Branch Creek, and Balcones Escarpment	Acquire areas in the floodplain and protect environmentally sensitive areas and convert them into open space land	Dallas	Property Acquisition and Structural Elevation	Cedar Hill	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000052	Ten Mile Creek Comprehensive Loss Reduction Program	Develop a comprehensive loss reduction program, involving buy outs and relocation in areas along Ten Mile Creek to reduce losses and repetitive damages. Buyout structures that are in the floodplain. Land Acquisition for repetitive loss structures	Dallas	Property Acquisition and Structural Elevation	Lancaster	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000053	Midway Property Acquisition and Elevation Program	Acquire existing homes located in the identified special flood hazard area (the 100-year floodplain).	Madison	Property Acquisition and Structural Elevation	Midway	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000054	Montague County Property Acquisition and Land Preservation Program	Acquire and preserve open space adjacent to floodplain areas.	Montague	Property Acquisition and Structural Elevation	Montague County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000055	Montague County Sewage Treatment Plants and Sewage Lift Stations Flood-Proofing Program	Flood-proof sewage treatment plants in flood hazard / low-lying areas within Region 3. Raise electrical components of sewage lift stations above the Base Flood Elevation (BFE)	Montague	Infrastructure Projects	Montague County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000056	San Jacinto County Voluntary Property Acquisition & Elevation Program	Pursue voluntary acquisition projects for flood prone properties. Elevate homes in low lying or flood prone areas.	San Jacinto	Property Acquisition and Structural Elevation	Shepherd, San Jacinto County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000057	Johnson County Acquisition of Flood Prone Structures	Acquire, relocate, and/or elevate flood prone structures	Johnson	Property Acquisition and Structural Elevation	Johnson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000058	Acquisition of Repetitive Loss Properties in the Deep River Plantation Subdivision	Acquire repetitive flood loss properties and properties prone to flooding in the Deep River Plantation Subdivision	Walker	Property Acquisition and Structural Elevation	Walker County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000059	Anderson County Floodplain Acquisition and Preservation Program	Acquire and preserve open spaces adjacent to floodplain areas.	Anderson	Property Acquisition and Structural Elevation	Anderson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000060	Collin County Property and Structures Buyout Program	Develop and implement a buyout program for personal properties and structures located in the floodplain	Collin	Property Acquisition and Structural Elevation	Collin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000061	Cooke County Acquisition of Repetitive Loss and Damaged Properties	Purchase and removal of damaged homes that are located in the floodplain. Buyout of repetitive flood loss properties in the Wilson Court area.	Cooke	Property Acquisition and Structural Elevation	Cooke County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000062	Dallas County Acquisition of Flood-Prone and Repetitive Loss Properties	Acquisition / demolition of 46 flood-prone and repetitive loss properties.	Dallas	Property Acquisition and Structural Elevation	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000063	Grayson County Buyout of Repetitive Flood Properties	Buyout of repetitive flood properties, which includes any structures found to be located in flood areas that aren't incorporated in NFIP areas.	Grayson	Property Acquisition and Structural Elevation	Grayson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000064	Terrell Property Acquisition Program	Acquire high risk and repetitive flood-prone structures	Kaufman	Property Acquisition and Structural Elevation	Terrell	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000065	Leon County Property Acquisition Program	Acquire any repetitive loss structures located below the high hazard dams and homes located in the floodplain.	Leon	Property Acquisition and Structural Elevation	Leon County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000066	City of Fate Floodplain Acquisition and Preservation Program	Acquire, reuse, and preserve open spaces adjacent to floodplain areas to reduce the impacts of flooding	Rockwall	Property Acquisition and Structural Elevation	Fate	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000067	City of Kennedale Property Acquisition Program - Village Creek	Acquire all private property located within the Village Creek 100-year floodplain in the City of Kennedale	Tarrant	Property Acquisition and Structural Elevation	Kennedale	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000068	City of Mansfield Property Acquisition Program	Acquire properties at risk of flooding and permanently remove them from special flood hazard areas.	Tarrant	Property Acquisition and Structural Elevation	Mansfield	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000069	Tarrant County Property Acquisition Program	Create a Buyout Program for Repetitive Loss Properties	Tarrant	Property Acquisition and Structural Elevation	Tarrant	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000070	Walker County Voluntary Buyout Program	The county and partnering jurisdictions will begin a voluntary buyout program for insured severe repetitive loss properties that are in the floodplain	Walker	Property Acquisition and Structural Elevation	Walker County, New Waverly, Riverside	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000071	Wise County Repetitive Flood Loss Buyout Program	Develop a buyout program for repetitive flood loss areas within the county	Wise	Property Acquisition and Structural Elevation	Wise County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000072	City of Chico Property Acquisition Program	City will acquire property and structures in the flood zone along Dry Creek and its tributaries and remove structures to prevent loss of life and property during flooding events.	Wise	Property Acquisition and Structural Elevation	Chico	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000073	Town Creek Warren Park Extension (Property Acquisition Program)	Create a buyout program	Tarrant	Property Acquisition and Structural Elevation	Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000074	City of Hurst Buyout Program	107 total structures across the Lorean, Valley View, and Walker watersheds	Tarrant	Property Acquisition and Structural Elevation	Hurst	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000075	Anderson County Flood Education Program	Coordinate and implement a natural hazards public awareness campaign. Educate community on the dangers of low water crossings through the installation of warning signs and promotion of “Turn Around, Don’t Drown” Program.	Anderson	Education and Outreach	Anderson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000077	Cooke County Flood Education and Flood Insurance Public Awareness Program	Education of the public on the importance of Flood Insurance. “Turn Around Don’t Drown” campaign.	Cooke	Education and Outreach	Cooke County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000078	Glenn Heights-Seagoville-Wilmer Flood Safety Improvements and Education	Educate community on the dangers of low water crossings through the installation of warning signs and promotion of "Turn Around, Don't Drown" Program	Dallas	Education and Outreach	Glenn Heights, Seagoville, Wilmer	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000079	Krum "Turn Around, Don't Drown" Campaign	Implement "Turn Around, Don't Drown" campaign.	Denton	Education and Outreach	Krum	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000080	Fannin County Flood Safety Education	Education programs such as “Turn around Don’t Drown.” Work with local newspaper to run flood safety information. Public education via water bills, social media, and webpage to promote flood safety.	Fannin	Education and Outreach	Fannin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000081	Fannin County Flood Insurance Education	Develop and distribute information about the availability and need for flood insurance. Public awareness of NFIP.	Fannin	Education and Outreach	Fannin County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000082	Grayson County Flood Insurance and Flood Safety Education Program	Educate residents on NFIP program and importance of purchasing flood insurance. Turn Around Don’t Drown Campaign. Educate property owners near high hazard dams of potential dam failure. Better inform residents of mitigation activities to implement in home	Grayson	Education and Outreach	Grayson County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000084	Hill County Flooding Education and Outreach Program	Develop a coordinated education, outreach, and training program to inform and educate the public about the dangers of flooding and how to prevent flood damages to property.	Hill	Education and Outreach	Hill County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000085	Houston County Flood Insurance and Dam Education Program	Develop and implement NFIP public education program for residents affected by high flood risk areas. Educate the Public on mitigation activities that can help protect their properties in the event of structural failures and extreme flooding.	Houston	Education and Outreach	Houston County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000087	Jack County Flood Education	Implement a flood awareness program by providing FEMA / NFIP materials to mortgage lenders, real estate agents and insurance agents	Jack	Education and Outreach	Jack County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000088	Kaufman County Flood Education Program	Conduct countywide outreach to educate residents on flood hazards, mitigation techniques and promote availability of NFIP flood insurance.	Kaufman	Education and Outreach	Kaufman County	Y		X			Part of 2023 Regional / 2024 State Flood Plan

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000089	Montague County Flood Education	Implement a flood awareness program by providing FEMA / NFIP materials to mortgage lenders, real estate agents and insurance agents and place them in local libraries.	Montague	Education and Outreach	Montague County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000090	Parker County Flood and Dam Education	Create and implement a community-wide educational campaign to educate residents about the NFIP and dam safety	Parker	Education and Outreach	Weatherford, Hudson Oaks, Aledo, Parker County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000091	Livingston Flood Damage Mitigation Educational Program	Establish an educational program to teach citizens how to mitigate flood damage to their property	Polk	Education and Outreach	Livingston	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000092	Tarrant County Flood Education	Provide flood risk and mitigation risk mapping materials for property owners in floodplains. Include mitigation techniques	Tarrant	Education and Outreach	River Oaks	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000093	Tarrant County Flood Education Program	Conduct NFIP community workshops to provide information and incentives for property owners to acquire flood insurance.	Tarrant	Education and Outreach	Tarrant	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000094	Van Zandt County Flood Safety Improvements and Education	Educate community on the dangers of low water crossings	Van Zandt	Education and Outreach	Van Zandt	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000095	Walker County Floodplain Regulatory Awareness Public Information Campaign	Rewrite, improve, and implement new local floodplain regulations, to include a public information campaign on regulatory awareness	Walker	Education and Outreach	Walker	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000096	City of Chico NFIP Education Program	Distribute information to downstream property owners educating homeowners about the National Flood Insurance Program.	Wise	Education and Outreach	Chico	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000097	Dallas County Open Space System Program and Dallas Trails Program	Adopt and implement Dallas County Open Space System Program and Dallas Trails Program.	Dallas	Other	Dallas County	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000098	Parker County Nature-Based Practices for Flood Control	Implement the use of green infrastructure	Parker	Other	Parker County, Hudson Oaks	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000099	Krugerville waterways stabilization program	Develop waterways stabilization program	Denton	Other	Krugerville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000100	City of Euless Stream Bank Protection Program	Develop a plan to reduce stream bank erosion impacts due to flooding along specific creeks	Tarrant	Other	Euless	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000101	Lewisville Storm Water Utility Fee	Conduct a study to evaluate the implementation of levying a storm water fee for developers to fund developments to the storm water drainage systems	Denton	Regulatory and Guidance	Lewisville	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000102	City of Retreat NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Navarro	Regulatory and Guidance	Retreat	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000103	City of Streetman NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Freestone, Navarro	Regulatory and Guidance	Streetman	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000104	City of Alma NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Ellis	Regulatory and Guidance	Alma	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000105	City of Alvord NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Wise	Regulatory and Guidance	Alvord	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000106	City of Angus NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Navarro	Regulatory and Guidance	Angus	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000107	City of Bedia NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Grimes	Regulatory and Guidance	Bedia	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000108	City of Bynum NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Hill	Regulatory and Guidance	Bynum	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000109	Carl's Corner NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Hill	Regulatory and Guidance	Carl's Corner	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000110	City of Combine NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Dallas, Kaufman	Regulatory and Guidance	Combine	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.

Region 3 - Potential FMS						Rec 118 3 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000111	Cayote Flats NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Johnson	Regulatory and Guidance	Coyote Flats	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000112	City of Dorchester NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Grayson	Regulatory and Guidance	Dorchester	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000113	Draper NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Denton	Regulatory and Guidance	Draper	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000114	City of Emhouse NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Navarro	Regulatory and Guidance	Emhouse	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000115	City of Eureka NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Navarro	Regulatory and Guidance	Eureka	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000116	City of Goodlow NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Navarro	Regulatory and Guidance	Goodlow	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000117	Grays Prairie NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Kaufman	Regulatory and Guidance	Grays Prairie	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.

Region 3 - Potential FMS						Rec 1183 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000118	City of Hebron NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Denton	Regulatory and Guidance	Hebron	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000119	City of Iola NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Grimes	Regulatory and Guidance	Iola	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000120	City of Kirvin NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Freestone	Regulatory and Guidance	Kirvin	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000121	City of Latexo NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Houston	Regulatory and Guidance	Latexo	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000122	City of Leona NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Leon	Regulatory and Guidance	Leona	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000123	City of Midway NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Madison	Regulatory and Guidance	Midway	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000124	City of Mustang NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Navarro	Regulatory and Guidance	Mustang	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.

Region 3 - Potential FMS						Rec 118 3 Not Rec 49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000125	City of Nevada NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Collin	Regulatory and Guidance	Nevada	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000126	Oak Grove NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Kaufman	Regulatory and Guidance	Oak Grove	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000127	Oak Valley NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Navarro	Regulatory and Guidance	Oak Valley	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000128	City of Penelope NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Hill	Regulatory and Guidance	Penelope	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000129	Post Oak Bend NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Kaufman	Regulatory and Guidance	Post Oak Bend	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000130	Providence Village NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Denton	Regulatory and Guidance	Providence Village	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000131	Town of Road Runner NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Cooke	Regulatory and Guidance	Town of Road Runner	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.

Region 3 - Potential FMS						Rec1183 Not Rec49					
						Tech. Cons.		Subcommittee			
FMS ID	FMS Name	Description	Counties	Project Type	Sponsor	Recommends? (Y/N)	Reason for Rec. Decision	Rec	NOT Rec	Meeting Notes	Internal Notes
032000132	City of Rosser NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Kaufman	Regulatory and Guidance	Rosser	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000133	City of Tehuacana NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Limestone	Regulatory and Guidance	Tehuacana	Y/?		2027	2027	Andrew prefers that TWDB develop an example that includes a list of items (a buffet) that a community could select as they develop their ordinance/order Ch 8 recommendation?	Consider 1 region wide FMS for helping communities adopt this ordinance. We would need to ID a logical sponsor.
032000134	City of Dallas Buyout of Repetitive Loss Properties	Develop a buyout program for repetitive loss properties within the city.	Dallas	Property Acquisition and Structural Elevation	Dallas	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000135	City of Fort Worth HROM Program	Implement a Hazardous Roadway Overtopping Mitigation (HROM) Program to prioritize hazardous roadway overtopping and identify acceptable, affordable, and effective solutions for construction to maximize impact of available funding and reduce risks.	Tarrant	Infrastructure Projects	Fort Worth	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000136	City of Lindsay Flood Monitoring System	Install flood monitoring equipment throughout the City of Lindsay.	Cooke	Flood Measurement and Warning	Lindsay	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000137	Mobile City NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	Rockwall	Regulatory and Guidance	Mobile City	Y		X			Part of 2023 Regional / 2024 State Flood Plan
032000138	City of Fort Worth Open Space Conservation	Acquire open space to preserve floodplains and upland watershed areas.	Tarrant	Property Acquisition and Structural Elevation	Fort Worth	Y	Repeat of FMS 174	X			Part of 2023 Regional / 2024 State Flood Plan
032000139	City of Burleson Flood Warning and Safety Improvements	Safety improvements at SE Tarrant Ave, N Warren St, SW Johnson Ave, and SE Newton Dr. Safety improvements may include, but are not limited to, high-water warning flashers, staff gauges, flood hazard signs, and additional light fixtures.	Johnson	Flood Measurement and Warning	City of Burleson	Y		X			Part of 2023 Regional / 2024 State Flood Plan

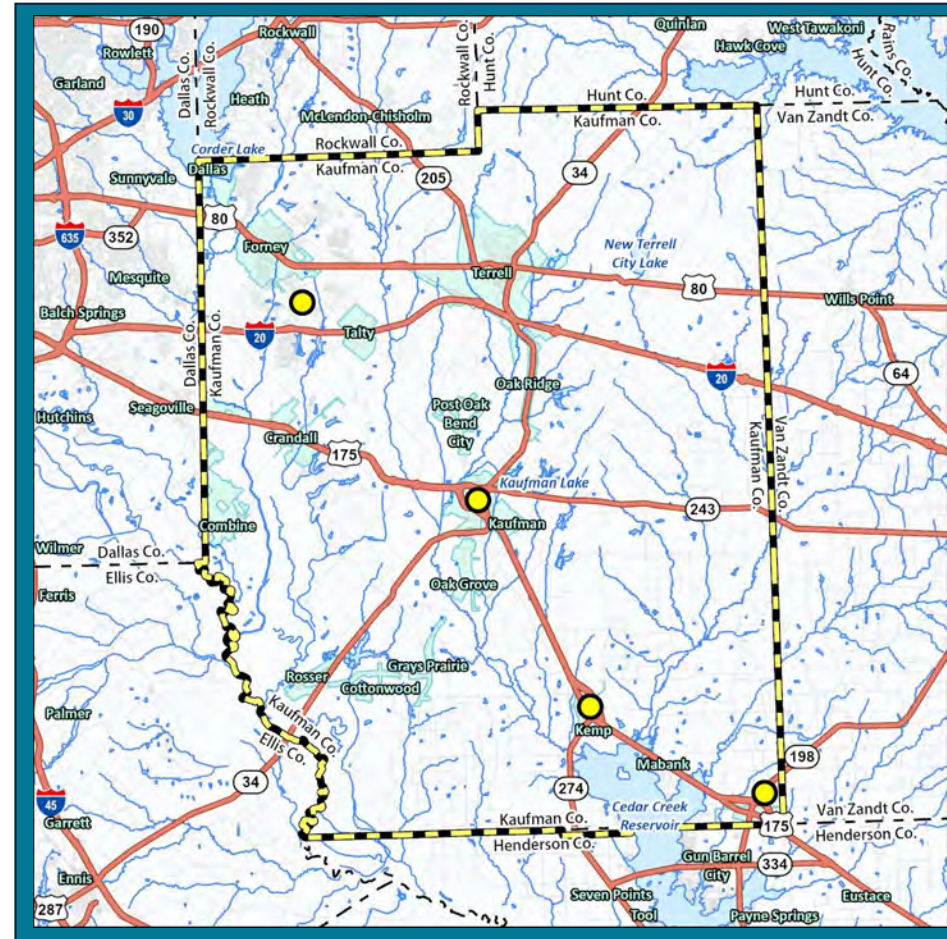
A hand is shown from the palm side, holding a variety of white, hand-drawn digital icons. These icons include a smartphone, a camera, a lightbulb, an '@' symbol, a question mark, a clock, a padlock, a mail envelope, a coffee cup, a pair of glasses, and a laptop. The background is a soft, out-of-focus blue-grey.

**Consider approval of
lists of FMEs, FMPs and
FMSs as recommend
FMXs**

Task 5B Update - FMEs by TWDB Consultant

Kaufman County

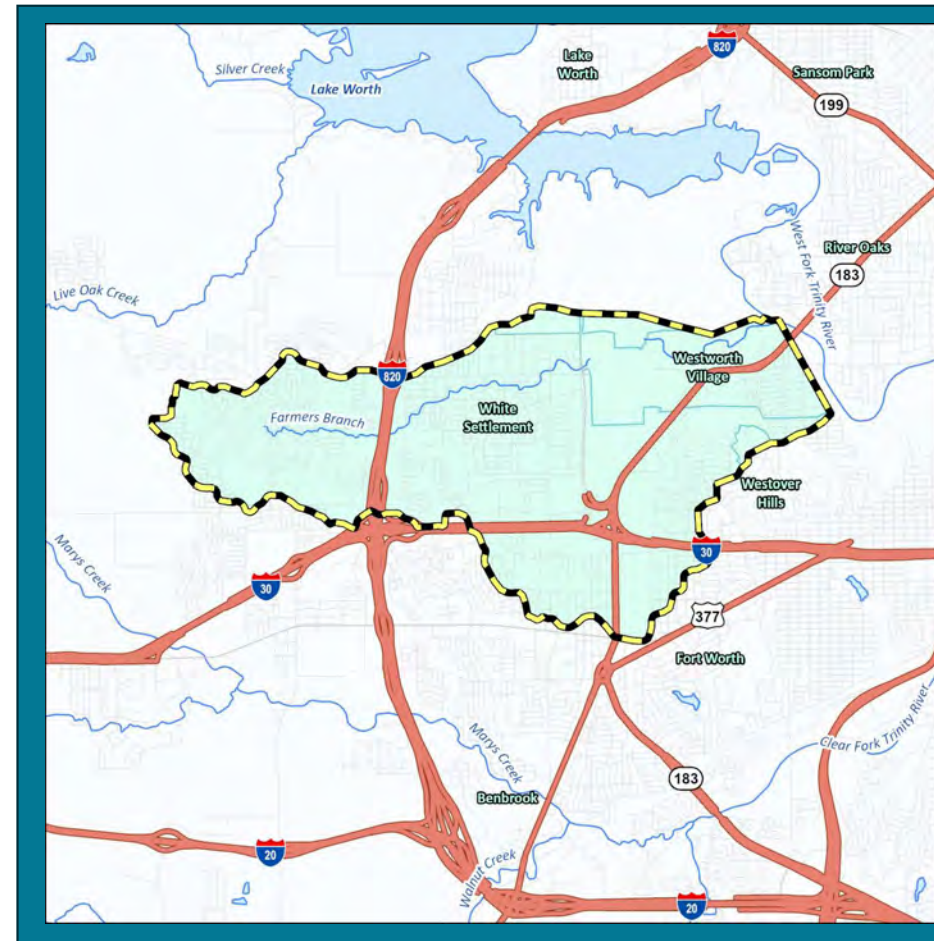
- Updated existing conditions from previous FIF models
- **4** areas of interest confirmed with Commissioners Court (CC) - July 21
 - Additional locations may be considered to submit as FMEs in the RFP
- Field data collection of significant structures started after CC approval
- Public Meeting expected in October 2026

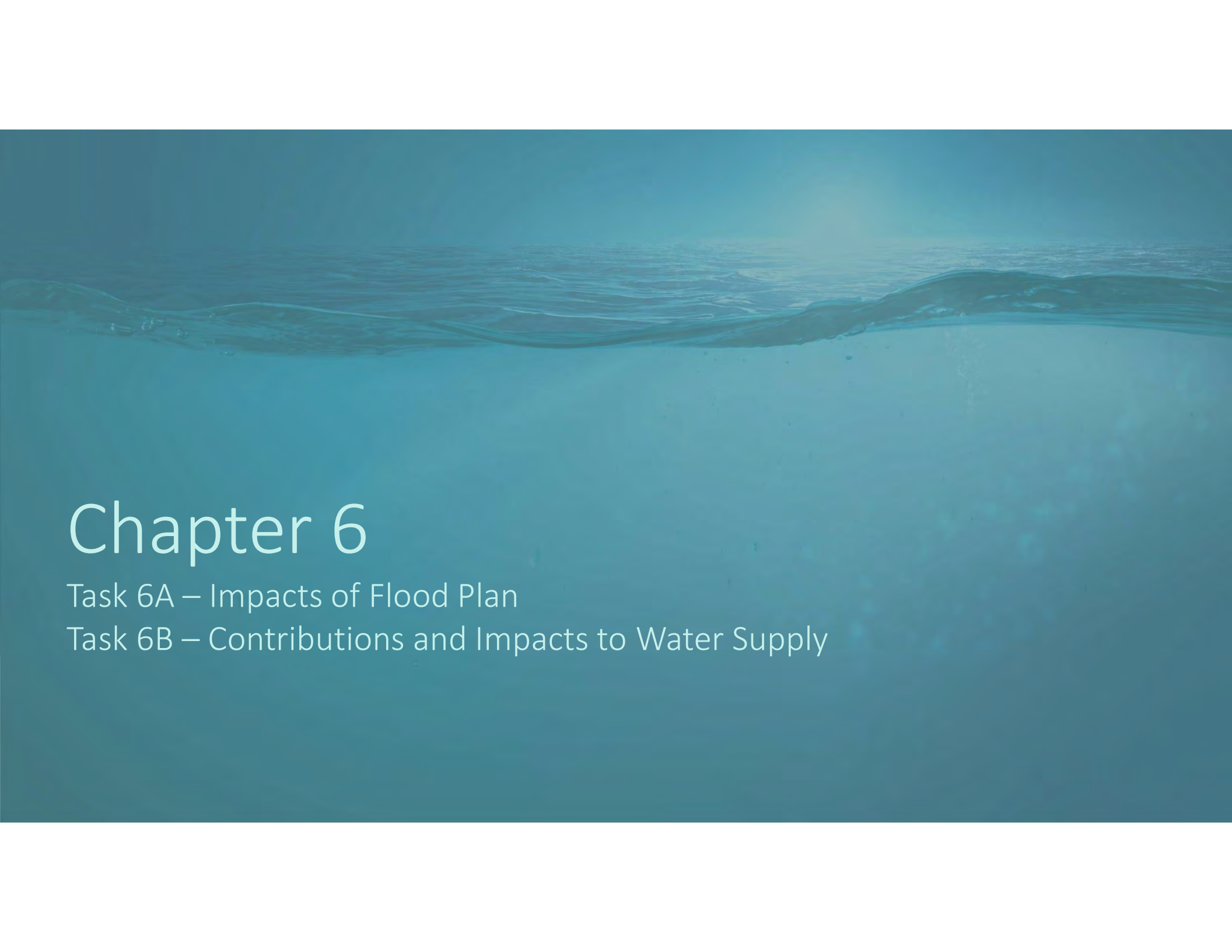


Task 5B Update - FMEs by TWDB Consultant

Westworth Village

- Coordinated with City, RFPG, and other data sources for best available modeling data
- Updating BLE H&H modeling:
 - truncation, land use, breaklines, structural data, and hydrologic parameters
- Completed field collection of significant structures
- **2** areas of interest for detailed analysis will be selected with the City in August
- Public Meeting expected in October 2026



The background of the slide is a deep teal color with a wavy, horizontal line across the middle, resembling the surface of water. Below this line, the water is slightly more transparent, showing some light rays and bubbles, while above the line, the water is a darker, more uniform teal.

Chapter 6

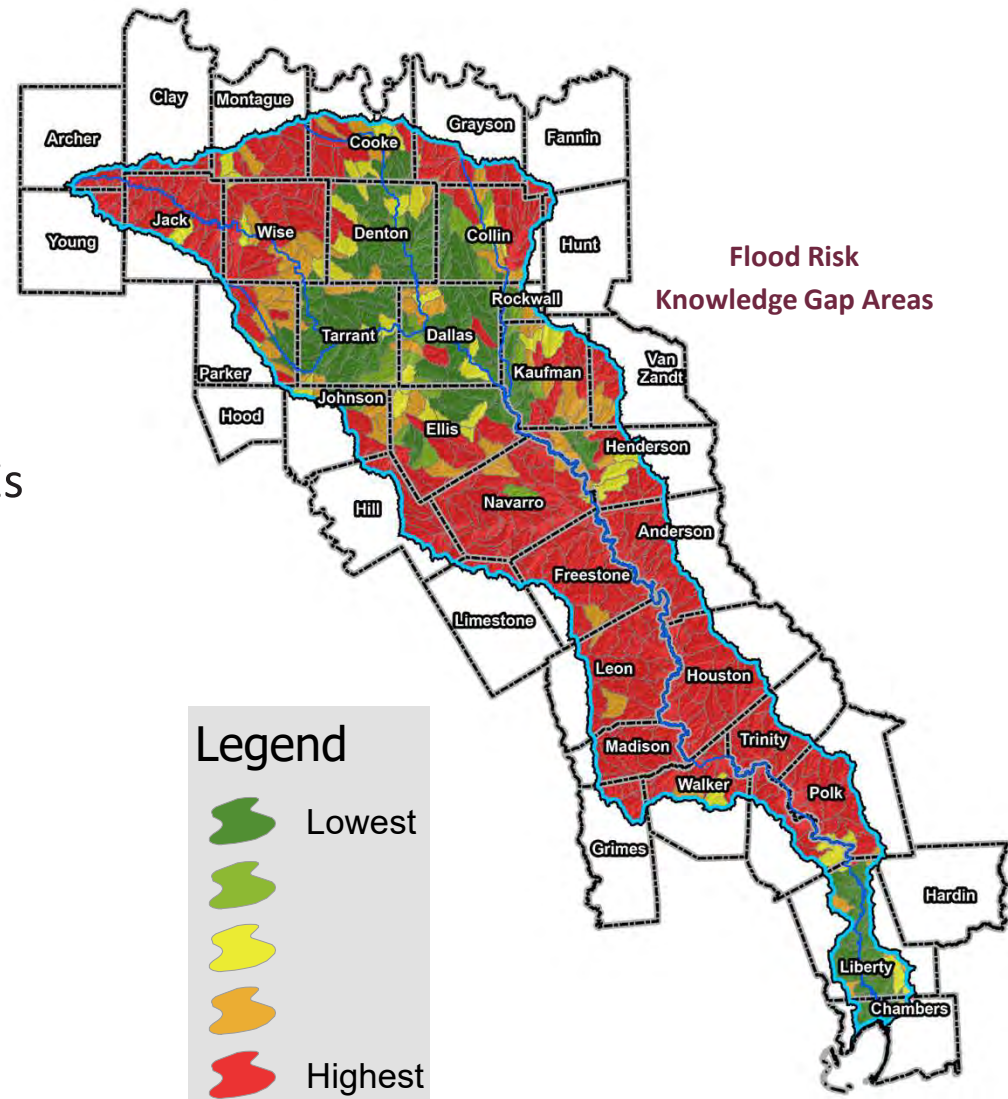
Task 6A – Impacts of Flood Plan

Task 6B – Contributions and Impacts to Water Supply

Task 6A – Impacts of Regional Flood Plan

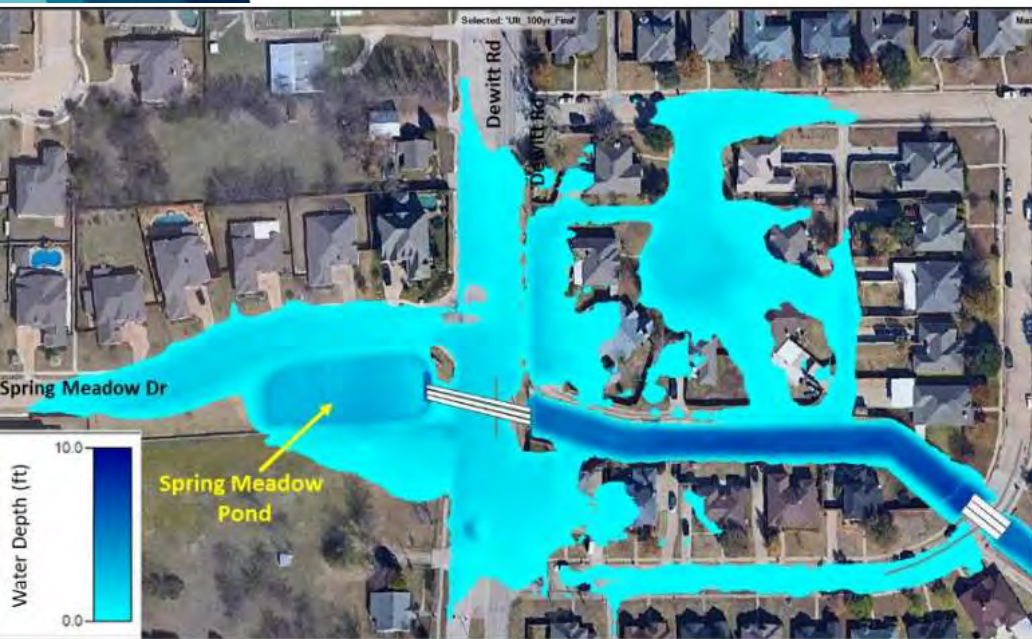
- Total area in need of flood risk identification vs total area to be evaluated by recommended FMEs
- Impacts to
 - Structures & Population
 - Low Water Crossings
 - Environment
 - Water Supply

Note: Map is from the 2023 Flood Plan.



Task 6A – Impacts of Regional Flood Plan

- Show impacts of implementing entirety of Trinity RFP in terms of the relative reduction in flood risk for the 100-yr and 500-yr storm events



Existing Conditions 100-yr Floodplain



100-yr Floodplain after FMP implementation
(new detention pond)

Note: Example is from the 2023 Flood Plan.



Task 6A – Impacts of Regional Flood Plan

Flood Exposure	Existing Conditions	After FMP Implementation	Exposure Reduction from FMPs
Exposed structures	8,125	5,577	2,548
Exposed population	56,022	31,735	24,287
Exposed LWCs	149	95	54
Number of road closure occurrences	1,005	633	372
Road length (mile)	247	165	82

Counts shown are from the 2023 Regional Flood Plan. Counts will be updated during the 2028 Regional Flood Planning process.

Task 6B Overview

Purpose

- Evaluate whether recommended FMPs & FMSs:
 - Contribute to water supply development
 - Affect water availability
 - Impact projects included in the State Water Plan



Task 6B – Contributions/Impacts on State Water Plan

Analyze impacts of State Flood Plan on State Water Plan

- RFP contribution to water supply development
- Positive or negative impacts to:
 - Water supply
 - Water availability
- RWPA
 - Region B
 - Region C
 - Region H
 - Region I
 - Region G
 - Region D

Key to Features



Trinity Regional Flood Planning Basin

Regional Water Planning Areas



B - Region B



C - Region C



D - North East Texas



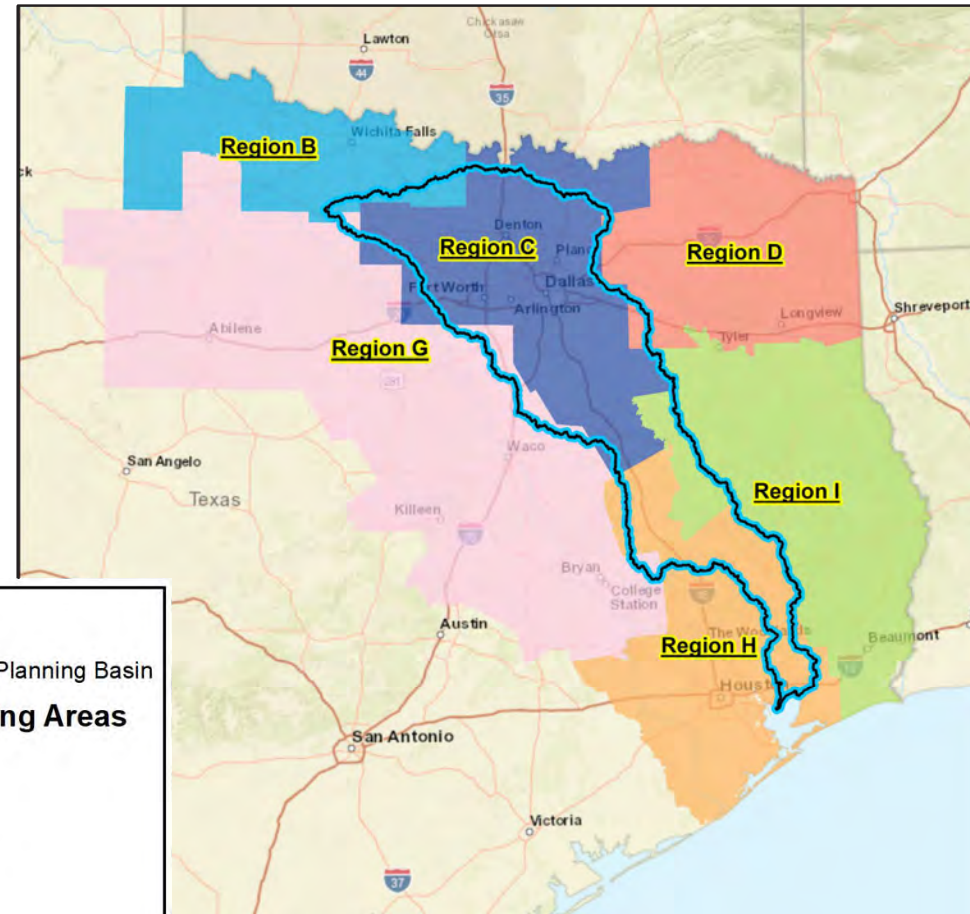
G - Brazos G

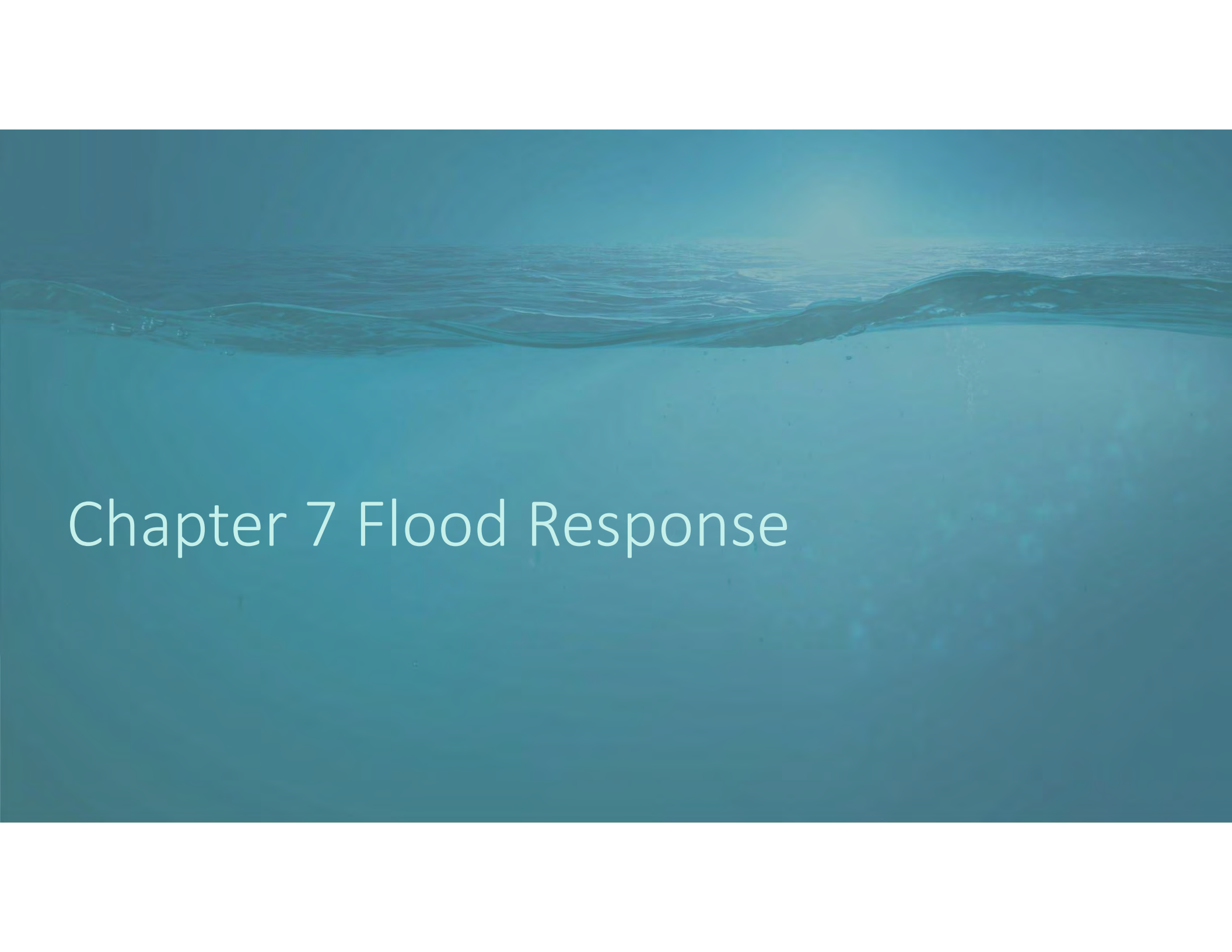


H - Region H



I - East Texas



An underwater photograph showing a wavy, translucent surface line, possibly a piece of plastic or a layer of water, with light filtering through from above. The scene is dimly lit with a blue-green tint.

Chapter 7 Flood Response

Overview of Chapter 7

- Types of Flooding
 - Coastal
 - Flash
 - Pluvial
 - Riverine/Fluvial
 - Urban
- Four Phases of Emergency Management
- Flood Preparedness Response, and Recovery
 - Mitigation actions





Overview of Chapter 7

- Relevant Entities (Local, Regional, State, and Federal)
- Entities in Preparation of a Flood Event
 - Emergency Information Dissemination
- Plans to be Considered (Local and Regional/State)
- Potential Regulatory Recommendations

The background of the slide is a deep blue, monochromatic image of an underwater scene. A horizontal line of ripples and waves separates the upper and lower portions of the image, creating a sense of depth and movement. The text is overlaid on the lower, more uniform part of the image.

Chapter 8 Administrative, Regulatory & Legislative Discussion



Potential Ideas for Future Cycles



Administrative &
Regulatory



Funding
Opportunities



Legislative

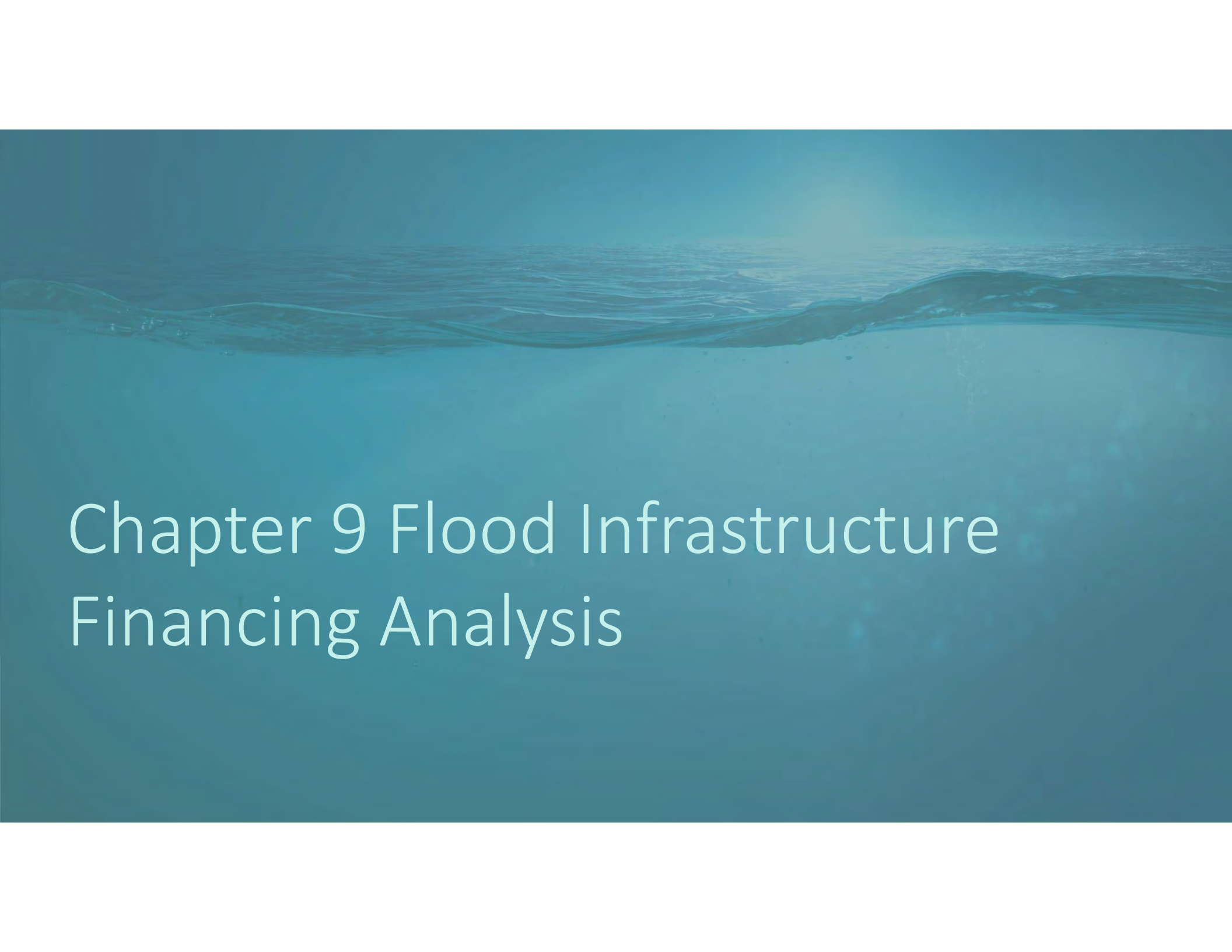


Other



Administrative Ideas to Date

- Budget allocation formula review should consider amount of available data, region size (acreage), population of region.
- Exhibits C and D should be provided with scopes of work.
- Clarification that floodplain management practices does not have to be “all or nothing”.
- Acknowledgment of FMXs accomplished outside the regional flood plan and/or Flood Infrastructure Fund
- Additional ordinance templates & draft language for communities through TWDB.

The background of the slide is a deep blue, monochromatic image. It features a horizontal line that separates the upper portion, which shows the surface of water with gentle ripples, from the lower portion, which is a clear, calm underwater view. The overall effect is serene and aquatic.

Chapter 9 Flood Infrastructure Financing Analysis



Task 9 – Flood Infrastructure Financing Analysis

Purpose

1. Assess how recommended FMXs are expected to be financed
2. Estimate the anticipated need for local, state, and federal funding
3. Document available funding sources

Task 9 – Flood Infrastructure Financing Analysis

Scope

1. Same overall scope and methodology as the 2023 RFP
2. Update available funding programs
3. Conduct sponsor financing survey
4. Estimate funding needs for recommended action

From 2023 RFP

Table 19: FMS, FMP, FME Funding Survey

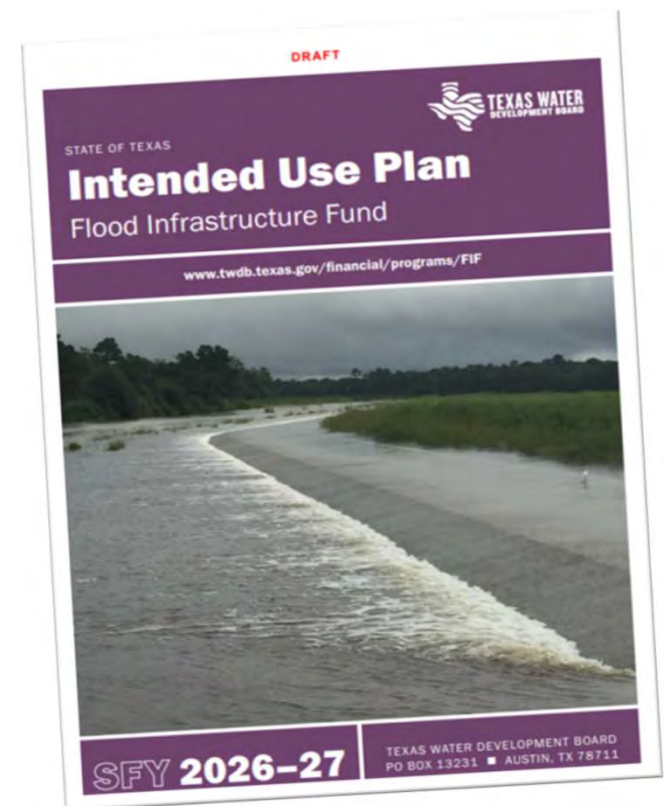
RFPG Number	Sponsor Entity Name	FMS or FMP or FME	FMS FMP FME - Name	Regional Plan's Unique FMS/FMP/FME Identification Number	Target Year of Full Implementation	Estimated Costs in Plan			Sponsor Funding			TOTAL
						Non-construction Costs	Construction Related Costs	Total Estimated Cost	ANTICIPATED SOURCE OF SPONSOR FUNDING (e.g., taxes; general revenue; dedicated revenue incl. fees) ²	FUNDING TO BE FINANCED BY SPONSOR (including local, county, or regional mechanisms available but not yet fully utilized)	Other Funding Needed (including state, federal and/or other funding)	
03	Chambers County	FME	Rhonda Rosa Lane Bridge	031000121	2034	\$500,000	\$0	\$500,000	General Revenue	10%	90%	100%
03	Colleyville	FME	City of Colleyville DMP	031000063	2034	\$500,000	\$0	\$500,000	General Revenue	90%	10%	100%
03	Copper Canyon	FMP	Estates Drive Bridge Replacement	033000096	2034	\$0	\$1,410,000	\$1,410,000	Bonds/Other Financing	100%	0%	100%
03	Decatur	FME	City of Decatur DMP	031000072	2034	\$250,000	\$0	\$250,000	General Revenue	10%	90%	100%
03	Fort Worth	FMP	Zoo Creek Storm Drain Flood Mitigation (Sandage)	033000032	2034	\$0	\$35,353,000	\$35,353,000	Dedicated Revenue Including Fees	10%	90%	100%
03	Fort Worth	FMP	Lebow Flood Mitigation Project	033000074	2034	\$0	\$79,000,000	\$79,000,000	Dedicated Revenue Including Fees	10%	90%	100%
03	Garland	FME	Western Heights Drainage Improvements	031000363	2034	\$250,000	\$0	\$250,000	Bonds/Other Financing	20%	80%	100%

Task 9 – Flood Infrastructure Financing Analysis

Flood Infrastructure Fund – Draft Intended Use Plan (IUP) 2026-27

Why it Matters?

- ✓ Projects included in the RFP are the only ones eligible for FIF funding.
- ✓ FIF remains TWDB's primary state funding program for flood planning and implementation.
- ✓ TWDB made **\$375 million** available in the last round (FY2024-25)
- ✓ TWDB making **\$312 million** available in the upcoming round (FY2026-27)

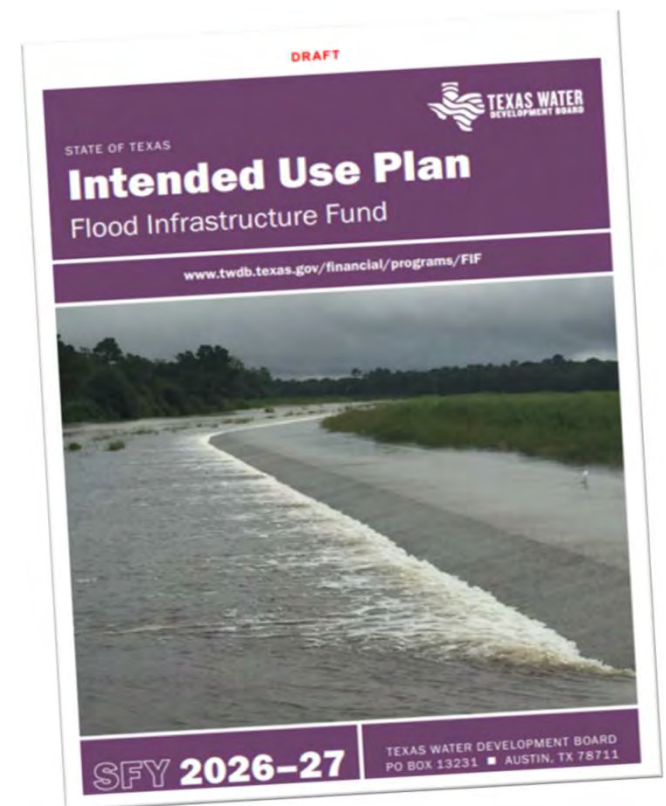


Task 9 – Flood Infrastructure Financing Analysis

Flood Infrastructure Fund – Draft Intended Use Plan (IUP) 2026-27

Major Updates

1. Sponsors limited to two (2) abridged applications per FMX category *“to ensure that financial assistance is distributed more broadly.”*
 - **Exception #1** – federal match projects
 - **Exception #2** – funds remain after all other priority projects have been invited to submit full application
2. TWDB will initially *“bypass ranked projects in order to invite at least one project or study from each regional flood planning group within each category, as funding permits.”*

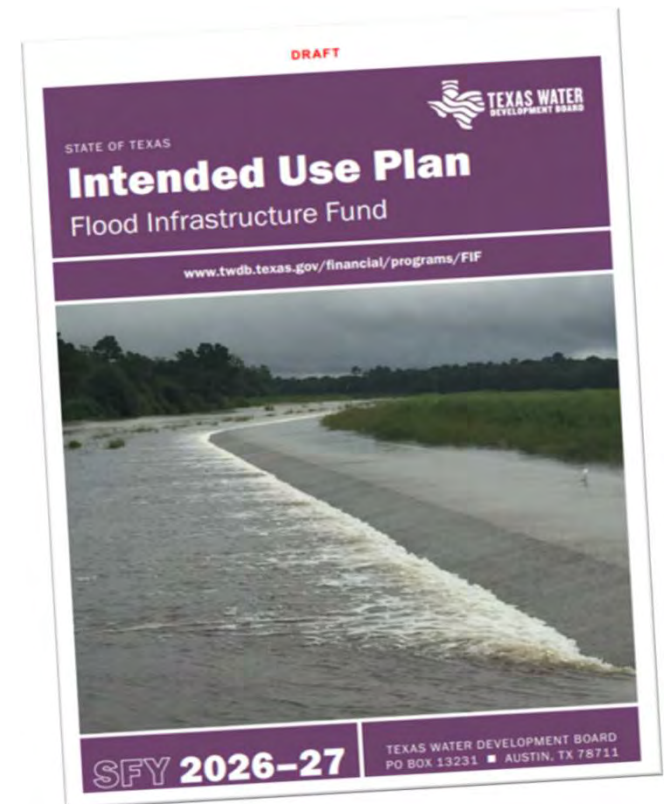


Task 9 – Flood Infrastructure Financing Analysis

Flood Infrastructure Fund – Draft Intended Use Plan (IUP) 2026-27

Major Updates

3. FMPs are **no longer required to submit BCA** with abridged application.
4. Predetermined funding goals per category are removed. Funds will be evaluated after the abridged application period and allocated based on need per prioritized category.
5. Funding caps apply to grants, loans, and in-kind services per category.
6. Grant qualifiers and percentage offerings changed.



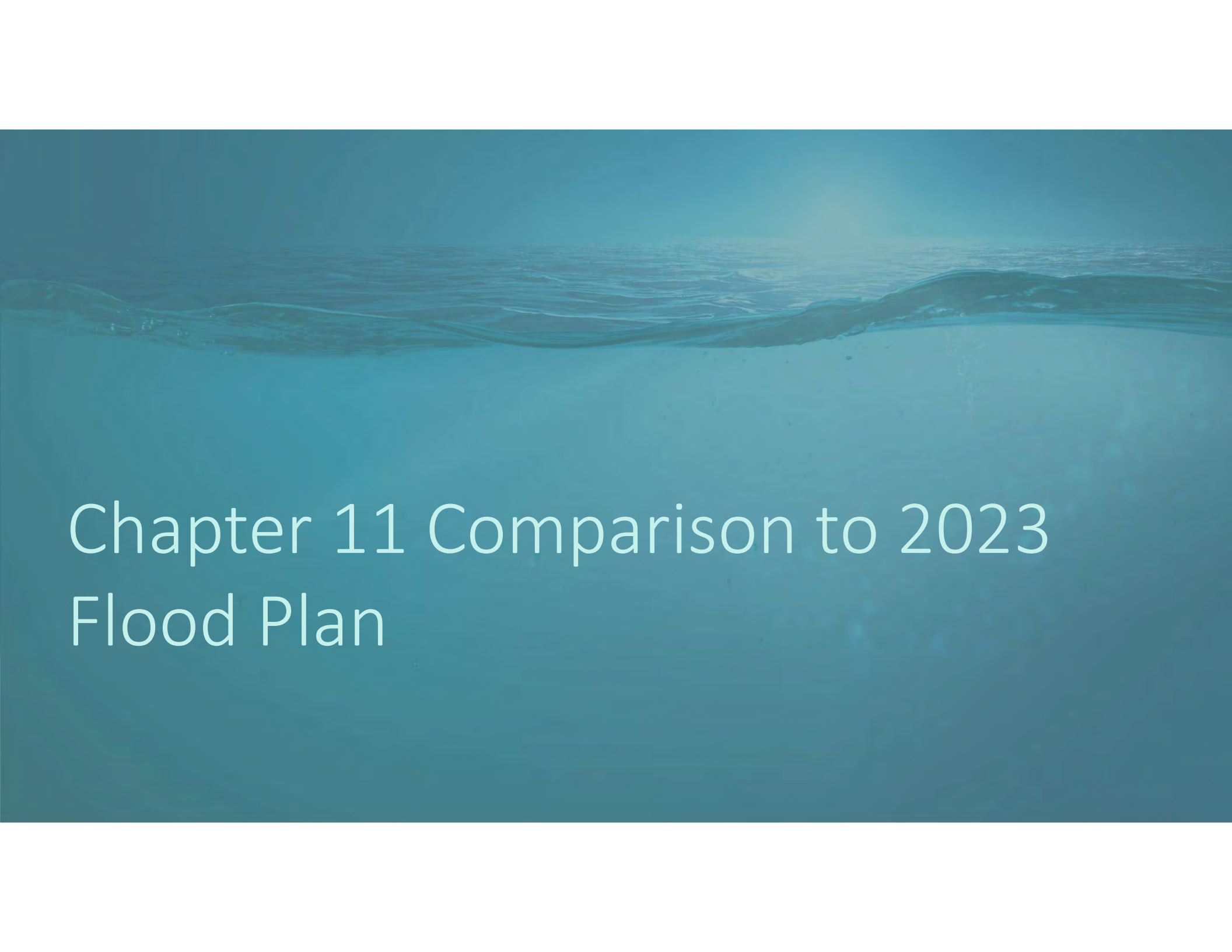
Task 9 – Flood Infrastructure Financing Analysis

Flood Infrastructure Fund – Draft Intended Use Plan (IUP) 2026-27

Total Available for SFY2026-27 FIF

\$312,474,540

Funding Caps			
Category	Grant	Loan	In-Kind
FME	\$5,000,000	\$5,000,000	\$100,000
FMP	\$15,000,000	\$30,000,000	None
FMS	\$5,000,000	\$5,000,000	None

The background of the slide is a deep teal color with a wavy, horizontal line across the middle, resembling the surface of water. Below this line, the water is slightly darker and more textured, with some small, faint bubbles or particles visible. The overall effect is a calm, aquatic atmosphere.

Chapter 11 Comparison to 2023 Flood Plan

Comparison to 2023 Flood Plan

Chapter 11 aims to succinctly document progress identified in other chapters.

1

Status of existing infrastructure



2

Flood mitigation achieved



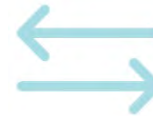
3

Progress towards achieving goals



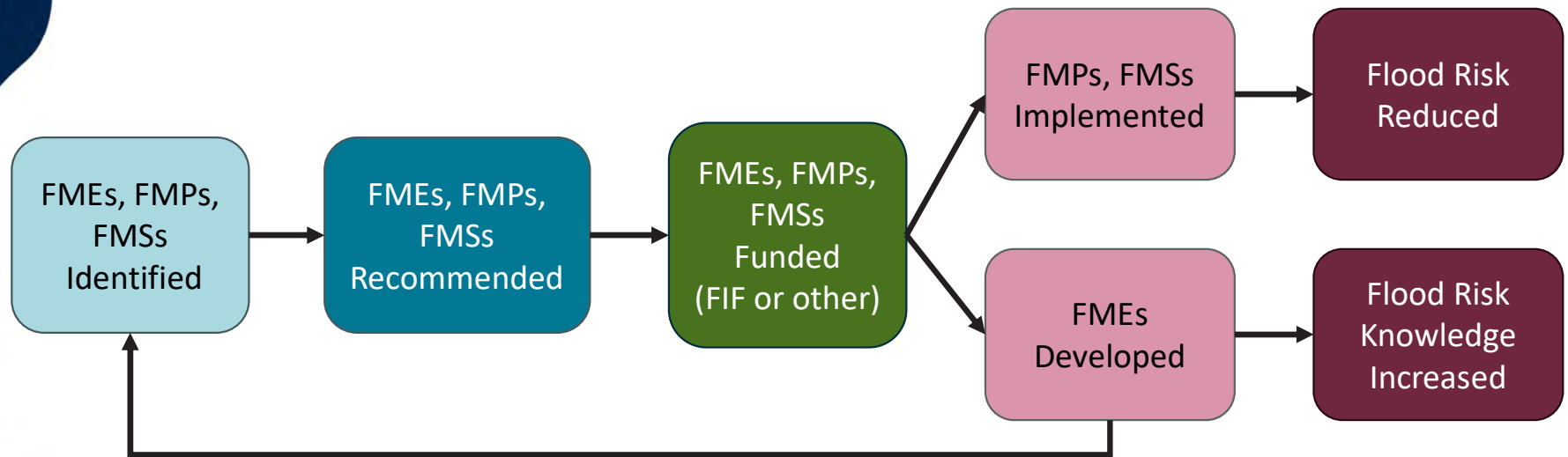
4

Updates/changes to recommended FMXs



Implementation of previously recommended FMEs, FMPs and FMSs

How are the Region's previous recommendations moving through the planning cycle? Are other funding sources or factors affecting the number of actions or their speed in moving through the process?



Implementation of previously recommended FMEs, FMPs and FMSs

How are the Region's previous recommendations moving through the planning cycle? Are other funding sources or factors affecting the number of actions or their speed in moving through the process?

Table 22 Summary of changes to previously recommended FMEs, FMPs, and FMSs

FMX ID	FMX Type	Sponsor	Estimated Cost (\$)	Received New Funding (Y/N)	New Funding Source	New Funding Amount (\$)	Status	RFP Cycle Recommended

^A FMX Types: FME (Flood Management Evaluation), FMP (Flood Mitigation Project), and FMS (Flood Management Solution)

The background of the slide is a deep teal or blue color, representing an underwater scene. A horizontal line across the upper third of the image depicts the water's surface, with gentle ripples and a slight wave. Below this line, the water is clear but has a soft, hazy quality, with some faint, out-of-focus light spots that could be bubbles or distant light sources. The overall mood is calm and serene.

Chapter 10 Outreach Update



Public Outreach & Engagement

- Stakeholder Outreach

- Updated stakeholder contact list
- Sent stakeholder e-blast reopening FMX submission on May 26, with reminder sent on July 1. Additional reminder planned for Aug. 12.
- Sent stakeholder notifications for the following:
 - Posting of meeting agenda and meeting materials to the Trinity RFGP website
 - Ahead of June 29 Technical Subcommittee Meeting
 - Ahead of July 23 Technical Subcommittee Meeting
 - Ahead of Aug. 10 RFGP meeting
- Presentation to July ASCE DFW Joint Branch Chapter Meeting by Stephanie Griffin and Lissa Shepard



Public Outreach & Engagement

- Website and Social Media

- Updated meeting information on website, LinkedIn and X for Technical Subcommittee meetings on June 29 and July 23
- Updated meeting information on website, LinkedIn and X for Aug. 10 RFPG meeting
- Add FMX submission announcement to website, LinkedIn and X

- Media Outreach

- Updated media list of more than 100 key media contacts throughout the Upper, Middle and Lower Trinity
- Reached out to media contacts to invite coverage of regional flood planning process ahead of upcoming Draft Regional Flood Plan deadline (May 26, 2027)

LOOK-AHEAD

October 30, 2026: FMX solicitation ends

November 2026

- Approve Chapter 7 Emergency Response
- Update on outstanding tasks

January 2027

- **Technical Subcommittee** to review additional FMXs received

Late February 2027

- Approve Draft Chapter 4 Potentially Feasible FMXs
- Approve Draft Chapter 5 Recommended FMXs
- Approve Draft Chapter 9 Financing Analysis
- Update on outstanding tasks

April 2027

- Approve Draft Chapter 6 Impacts of the Plan
- Update on outstanding tasks

Early May 2027

- Approve Draft Chapter 8 Admin Recommendations
- Approve Draft Chapter 10 Public Participation
- Approve Draft Chapter 11 Plan Implementation

May 26, 2027: Draft Plan due to TWDB

Notes:  indicates target date.

Yellow highlight indicates hard deadline.



8. Updates from adjoining coastal regions



9. Updates from Planning Group Sponsor

Bylaws Review



10. Receive registered general public comments

Limit 3 minutes per person



11. Announcements



12. Consider meeting date for next meeting

Determined during Look-Ahead discussion.



13. Adjourn