



**AGENDA
PLANNING & ZONING COMMISSION MEETING
CITY OF LEANDER, TEXAS**

Pat Bryson Municipal Hall
201 North Brushy Street - Leander, Texas
Thursday, August 13, 2026
Regular Meeting at 6:00 PM



Place 1 – Donnie Mahan, Chair
Place 2 – Joseph Morales
Place 3 – Karen Lewis
Place 4 – Jay Coats

Place 5 – James Oliver
Place 6 – Laura Lantrip, Vice-Chair
Place 7 – Tyler Bray
Staff Liaison – Robin Griffin

The meeting will also be live-streamed at the following link: <https://www.leandertx.gov/video>.

REGULAR MEETING

1. Call to Order.
2. Roll Call.
3. Director's report to the Planning & Zoning Commission on action taken by City Council on the August 6, 2026 meeting.
4. Review of meeting protocol.
5. Public comments on items not listed in the agenda.

Public comments on items listed in the agenda will be heard at the time each item is discussed.

[All comments are limited to no more than 3 minutes (6 minutes if translation is needed) per individual.]

CONSENT AGENDA: ACTION

6. Approval of the minutes for the Joint Workshop meeting held on May 21, 2026 and the meeting held on July 23, 2026.

PUBLIC HEARING: ACTION

7. Conduct a Public Hearing and consider action regarding Comprehensive Plan Case CPA-26-0020 to adopt the Stormwater Master Plan to be included in the Comprehensive Plan, Leander, Williamson and Travis Counties, Texas.
 - Discuss and consider action regarding Comprehensive Plan Case CPA-24-0020 as described above.
8. Conduct a Public Hearing and consider action regarding Zoning Case Z-26-0246 to amend the current zoning of Interim SFR-1-B (Single-Family Rural) to LC-2-A (Local Commercial) on one (1) parcel of

land 3.85 acres ± in size, more particularly described by Williamson Central Appraisal District Parcel R549068; and generally located southeast of the intersection of Kauffman Loop and CR 267, Leander, Williamson County, Texas.

- Discuss and consider action regarding Zoning Case Z-26-0246 as described above.

REGULAR AGENDA

9. Discuss and consider action on the Planning & Zoning Commission Progress Report for September 2025 to August 2026.
 - a. Staff Presentation
 - b. Applicant Presentation
 - c. Discussion
 - d. Consider Action
10. Adjournment

CERTIFICATION

The City of Leander is committed to compliance with the American with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Please call the City Secretary at (512) 528-2743 for information. Hearing impaired or speech disabled persons equipped with telecommunication devices for the deaf may call (512) 528-2800. I certify that the above agenda for this meeting of the Planning and Zoning Commission of the City of Leander, Texas, was posted on the bulletin board at City Hall in Leander, Texas, on the 6th day of August 2026 by 5:00 p.m. pursuant to Chapter 551 of the Texas Government Code.



Veronica Tovar, Secretary



EXECUTIVE SUMMARY
8/13/2026

AGENDA SUBJECT:

Approval of the minutes for the Joint Workshop meeting held on May 21, 2026 and the meeting held on July 23, 2026.

BACKGROUND:

HISTORY/TIMELINE:

APPLICANT/AGENT:

RECOMMENDATION:

Staff recommends approval of minutes.

Staff recommends approval of the May 21, 2026 Joint Workshop minutes.

PRESENTER:

Attachments:

1. 5-21-2026 Joint Workshop Minutes
2. 7-23-2026 P & Z minutes



**MINUTES
PLANNING & ZONING COMMISSION MEETING
CITY OF LEANDER, TEXAS**

Pat Bryson Municipal Hall
201 North Brushy Street - Leander, Texas
Thursday, May 21, 2026
Joint Meeting at 6:00 PM



Place 1 – Donnie Mahan, Chair

Place 2 – Joseph Morales

Place 3 – Karen Lewis

Place 4 – Jay Coats

Place 5 – James Oliver

Place 6 – Laura Lantrip, Vice-Chair

Place 7 – Tyler Bray

Staff Liaison – Robin Griffin

JOINT MEETING - CONVENE AT 6:00 PM

1. Open meeting and confirm a quorum is present.
Meeting was called to order at 6:02 p.m. All commissioners were present.
2. Joint workshop of the Planning and Zoning Commission and the City Council to receive a presentation from Kendig Keast Collaborative, Inc., regarding updates to the City of Leander Comprehensive Plan and Transportation Master Plan.
3. Adjournment
Meeting adjourned at 6:47 p.m.

APPROVED

CHAIR

ATTEST:

STAFF LIAISON



**MINUTES
PLANNING & ZONING COMMISSION MEETING
CITY OF LEANDER, TEXAS**

Pat Bryson Municipal Hall
201 North Brushy Street - Leander, Texas
Thursday, July 23, 2026
Regular Meeting at 6:00 PM



Place 1 – Donnie Mahan, Chair
Place 2 – Joseph Morales
Place 3 – Karen Lewis
Place 4 – Jay Coats

Place 5 – James Oliver
Place 6 – Laura Lantrip, Vice-Chair
Place 7 – Tyler Bray
Staff Liaison – Robin Griffin

REGULAR MEETING

1. Call to Order.
Meeting was called to order at 6:00 p.m.
2. Roll Call.
All commissioners present except Commissioner Donnie Mahan and Commissioner Tyler Bray.
3. Director's report to the Planning & Zoning Commission on action taken by City Council on the July 16, 2026 meeting.
4. Review of meeting protocol.
5. Public comments on items not listed in the agenda.

Public comments on items listed in the agenda will be heard at the time each item is discussed.

[All comments are limited to no more than 3 minutes (6 minutes if translation is needed) per individual.]

No one wished to speak.

CONSENT AGENDA: ACTION

Motion to approve consent agenda items 6-8.

By: Board Member Oliver
Seconded: Board Member Lewis

Vote: 5 - 0

6. Approval of the minutes for meeting held on July 9, 2026.
7. Approval of the extension of the application expiration for Subdivision Case PP-25-0066 Travisso Phase 5, Sections 7 and 9 Preliminary Plat; on one (1) parcel of land 66.645 acres $\pm$ in size; more particularly described by Travis Central Appraisal District Parcel 844741, generally located northwest of the intersection of FM 1431 and Buck Run, Leander, Travis County, Texas.

8. Approval of the extension of the application expiration for Subdivision Case PICP-25-0193 Gilpin Construction Plan; on two (2) parcels of land 2.296 acres $\pm$ in size; more particularly described by Williamson Central Appraisal District Parcels R682099 and R432899, generally located southeast of the intersection of Lakeline Boulevard and Hero Way, Leander, Williamson County, Texas.

PUBLIC HEARING: ACTION

9. Conduct a Public Hearing regarding Zoning Case Z-26-0235 to amend the current zoning of Interim SFR-1-B (Single-Family Rural) to adopt the EMI (PUD) Addition Minor Planned Unit Development with the base zoning of GC-3-A (General Commercial) on one (1) parcel of land 5.35 acres $\pm$ in size, more particularly described by Travis Central Appraisal District Parcel 513805; and generally located approximately 800 feet north of the intersection of FM 1431 and Vista Rock Drive, Leander, Travis County, Texas.

- Discuss and consider action regarding Zoning Case Z-26-0235 as described above.

Public Hearing opened at 6:06 p.m.; Public Hearing closed at 6:06 p.m.

No one wished to speak in favor or opposition of the request.

Motion to approved Zoning Case Z-26-0235.

By: Board Member Oliver
Seconded: Board Member Coats

Vote: 5 - 0

10. Conduct a Public Hearing regarding Zoning Case Z-25-0197 to amend the current zoning of Interim SFS-2-B (Single-Family Suburban) to GC-3-A (General Commercial) and conduct a Public Hearing regarding Special Use Case Z-26-0239 to consider action on a Special Use Permit to allow for one (1) food truck on one (1) parcel of land 1.67 acres $\pm$ in size, more particularly described by Williamson Central Appraisal District Parcel R031577; and generally located northeast of the intersection of Ronald W. Reagan Boulevard and CR 177, Leander, Williamson County, Texas.

- Discuss and consider action regarding Zoning Case Z-25-0197 as described above.
- Discuss and consider action regarding Zoning Case Z-26-0239 as described above.

Public Hearing opened at 6:13 p.m.; Public Hearing closed at 6:13 p.m.

No one wished to speak in favor or opposition of the request.

Motion to approve Zoning Case Z-25-0197 with the modification to the Site and Architectural Components being GC-2-A (General Commercial).

By: Board Member Oliver
Seconded: Board Member Lewis

Vote: 5 - 0

Motion to Deny Special Use Case Z-26-0239.

By: Board Member Oliver
Seconded: Board Member Coats

Vote: 5 - 0

REGULAR AGENDA

- 11. Adjournment
Meeting adjourned at 6:15 p.m.

APPROVED

CHAIR

ATTEST:

STAFF LIAISON



EXECUTIVE SUMMARY

8/13/2026

AGENDA SUBJECT:

Conduct a Public Hearing and consider action regarding Comprehensive Plan Case CPA-26-0020 to adopt the Stormwater Master Plan to be included in the Comprehensive Plan, Leander, Williamson and Travis Counties, Texas.

- Discuss and consider action regarding Comprehensive Plan Case CPA-24-0020 as described above.

BACKGROUND:

As part of the development of the City's inaugural Stormwater Master Plan, Edge Engineering was authorized in August 2024 to evaluate the City's stormwater system. Their scope of work included system-wide data collection, development of a citywide stormwater hydraulic model, identification of stormwater improvement needs, prioritization of recommended projects based on flood risk and public engagement, and preparation of a comprehensive list of drainage improvement projects to be included in Capital Improvements Project (CIP) program. These professional engineering services were completed under Task No. DRAIN-EEP-CIP23-019-01 through Solicitation S20-052.

The Stormwater Master Plan is proposed for inclusion in the City's Comprehensive Plan as a long-term infrastructure planning document and is intended for formal adoption by the City Council. Consistent with the City's practice for infrastructure master planning, the Stormwater Master Plan will be updated on a five (5) year cycle.

The study incorporates results from a detailed two (2) dimensional hydraulic model as well as findings from existing floodplain studies referenced in the final report. The analysis identified 76 areas of interest within the city limits with potential drainage concerns. These areas were initially prioritized based on modeled flood risk, citizen feedback, and known historical drainage issues. From these, 45 areas were further evaluated using additional criteria including project feasibility, flood risk reduction, and cost effectiveness. Ultimately, 16 projects were recommended as the highest-priority drainage improvements suitable for inclusion in the City's CIP program as funding becomes available. Where feasible, the report recommends incorporating certain drainage improvements into existing capital projects. The total estimated cost for the top 16 recommended projects is approximately \$14 million.

HISTORY/TIMELINE:

APPLICANT/AGENT:

City of Leander

RECOMMENDATION:

As part of the evaluation of this request, the Planning and Zoning Commission has the following options:

1. Approve the proposed Stormwater Master Plan;
2. Deny the proposed Stormwater Master Plan; or
3. Approve the proposed Stormwater Master Plan with edits.

Staff recommends Option 1 listed above – approve the Stormwater Master Plan.

PRESENTER:

Sarvesh Dhakal, PE, CFM, Assistant City Engineer, Floodplain Administrator

Attachments:

1. 2026 Leander Stormwater Master Plan

CITY OF LEANDER

2026 STORMWATER MASTER PLAN

MASTER PLAN REPORT

PREPARED FOR:
CITY OF LEANDER
105 N BRUSHY STREET
LEANDER, TEXAS 78641



PREPARED BY:
EDGE ENGINEERING



CITY OF LEANDER STORMWATER MASTER PLAN

Prepared For:

City of Leander
105 N Brushy Street
Leander, Texas 78641

—

Prepared By:

EDGE Engineering, PLLC
7000 N Mopac Expy. Suite 325
Austin, TX 78731
TBPE Firm No. 20690



 6/19/2026

CONTENTS

GLOSSARY AND ACRONYMS	1
1 INTRODUCTION	2
2 DATA COLLECTION.....	2
2.1 OBTAIN AND REVIEW AVAILABLE DATA	2
2.2 PUBLIC INVOLVEMENT	3
2.2.1 PUBLIC SURVEY	3
2.2.2 PUBLIC MEETINGS	3
2.3 CITY COORDINATION	4
3 EXISTING CONDITIONS MODELING.....	4
3.1 STORMWATER GEODATABASE DEVELOPMENT	4
3.2 2D HYDRAULIC MODELING FOR LOCAL STORMWATER.....	4
3.2.1 Hydrology	4
3.2.2 Model development	5
3.2.3 2D Zones.....	6
3.2.4 Terrain	6
3.2.5 Manning's Roughness	6
3.2.6 Buildings.....	6
3.2.7 Model results	6
3.3 ATLAS-14 RIVERINE MODELS	7
4 AREAS OF INTEREST IDENTIFICATION.....	7
5 AREAS OF INTEREST PRIORITIZATION	7
5.1 Property Flooding Risk	8
5.2 Roadway Flooding Risk.....	9
5.3 Citizen Reported and Historical Flooding Concerns.....	9
6 DRAINAGE CIP DEVELOPMENT	10
6.1 PROJECT DEVELOPMENT	10
6.2 FINAL CIP PRIORITIZATION.....	11
6.2.1 Cost Effectiveness	11
6.2.2 Operations and Maintenance	12
6.2.3 Project Impact.....	12
6.2.4 External Coordination	13
6.2.5 External Funding Opportunities.....	13
7 POTENTIAL REGIONAL DETENTION	14

8	DRAINAGE POLICY & FUNDING RECOMMENDATIONS	16
8.1	DRAINAGE CRITERIA ASSESSMENT	16
8.1.1	Code of Ordinances, Chapter 3 – Building Regulations	16
8.1.2	Code of Ordinances, Chapter 10 – Subdivision Regulation.....	16
8.1.3	COA DCM Criteria and Technical Memorandum 1, 6/17/2020	17
8.2	FUNDING OPPORTUNITIES	18
8.2.1	State and Federal Grant Programs	18
8.2.2	Local Funding Opportunities	21
8.3	MAINTENANCE PLAN	22
8.4	WEATHER GAUGE STATIONS.....	24
8.4.1	Rain Gages.....	24
8.4.2	Weather Stations	25
8.4.3	Stream Flow Gages	26
9	APPENDICES	28

FIGURES

Figure 1: Area of Interest Flood Risk Category Weights.....	8
Figure 2: Category Weights for Composite Priority Ranking.....	14
Figure 3: Low-to-Moderate Income Population Percentages within Leander	20
Figure 4: Existing Weather Stations, Rain Gages, and Stream Gages near Leander, TX.....	24

TABLES

Table 1: Data Collection Sources	2
Table 2: Williamson County Brushy Creek Zone Atlas 14 Rainfall Depths.....	5
Table 3: City of Austin Zone 2 (North) Atlas 14 Rainfall Depths	5
Table 4: Property Flooding Risk Score Values	8
Table 5: Roadway Infrastructure Flooding Risk Score Values	9
Table 6: Citizen Reported and Historical Flooding Input Score Values.....	9
Table 7: Cost Category Score Ranges.....	11
Table 8: Operations and Maintenance Category Score Values	12
Table 9: Project Impact Category Score Ranges.....	12
Table 10: Outside Coordination Category Score Ranges	13
Table 11: External Funding Opportunity Category Score Ranges	13
Table 12: Recommended Inspection and Maintenance Schedule	23

APPENDICES

Appendix A: Overall Project Area Map
Appendix B: City of Leander Stormwater Master Plan Webpage and Public Online Survey
Appendix C: Areas of Interest (AOIs)
Appendix D: Project Summary Sheets
Appendix E: Opinions of Probable Construction Cost (OPCCs)
Appendix F: City-wide Inundation Maps (2D Modeling Results)
Appendix G: External Funding Opportunities
Appendix H: Stormwater Maintenance Report Template
Appendix I: Weather Station and Stream Gage Locations
Appendix J: Digital Data

GLOSSARY AND ACRONYMS

Low Water Crossing, LWC – A structure conveying flow across a roadway or railroad, not including driveway culverts

TxGIO – Texas Geographic Information Office, formerly Texas Natural Resources Information System (TNRIS)

LiDAR – Light Detection and Ranging, radar-based technology used to generate topographic and other three-dimensional terrain data

LOMR – Letter of Map Revision, actual physical flood map changes administered and published by FEMA on FIRMs for studied reaches of flooding sources.

HEC – Hydrologic Engineering Center, a division of the US Army Corps of Engineers (USACE) for water resources management

HEC-HMS – Hydrologic Modeling System, software promulgated by the USACE for hydrologic modeling

HEC-RAS – River Analysis System, software promulgated by USACE for hydraulic riverine modeling

Infoworks ICM – Integrated Catchment Modeling, software created by Autodesk InfoWorks that uses 1D and 2D components to model surface runoff and underground hydraulic networks

AOI – Area(s) of Interest

CIP – Capital Improvement Program

City – City of Leander

ETJ – Extraterritorial Jurisdiction

SWMP – Stormwater Master Plan

NOAA – National Oceanic and Atmospheric Administration

FIRM – Flood Insurance Rate Map

FEMA – Federal Emergency Management Program

USGS – United States Geological Survey

GIS – Geographic Information System

EDGE – Edge Engineering, PLLC

1 INTRODUCTION

The City of Leander (City) contracted Edge Engineering, LLC (EDGE) to perform a comprehensive city-wide drainage study to identify current drainage problems and provide short- and long-term solutions for addressing drainage concerns throughout the City limits. The Stormwater Master Plan was developed by gathering best available data, collecting public surveys, and engaging with the community in the form of public meetings and other outreach events. The limits of the study include Leander city limits and extraterritorial jurisdiction (ETJ), as reflected in **Appendix A**.

The objective of the Stormwater Master Plan is to develop a broad and all-inclusive understanding of the city-wide drainage concerns in terms of locations, causes, and risks with the purpose of facilitating the development of a drainage Capital Improvement Program (CIP). In addition to developing a Stormwater CIP, this Stormwater Master Plan will include recommendations regarding the City's current stormwater criteria, maintenance, policies, funding opportunities, and other future stormwater management considerations.

2 DATA COLLECTION

2.1 OBTAIN AND REVIEW AVAILABLE DATA

EDGE gathered and reviewed available drainage related data including existing studies, as-builts from private and municipal construction projects, hydrologic and hydraulic modeling, and GIS mapping data. **Table 1** summarizes the data sources used in this study effort.

Table 1: Data Collection Sources

Data	Year	Source
Storm Drain As-builts	Varies	City of Leander
Travis County Atlas 14 County-wide Study: Report, HEC-HMS v4.11, HEC-RAS v6.4.1, Mapping Terrain year: 2021	Study completed – May 2025	Travis County
Williamson County Atlas 14 County-wide Study: Report, HEC-HMS v4.9, HEC-RAS v6.3, Mapping Terrain year: 2015 & 2017	Study completed – April 2024	Williamson County
GIS Storm Drain Database	Varies	City of Leander
Draft Leander City-wide LOMR Study: Report, HEC-HMS v4.12, HEC-RAS v6.6, Mapping Terrain year: 2017 & 2021	Study is ongoing	City of Leander
Effective Floodplain Shapefiles	Varies	FEMA
Bexar & Travis Counties Stratmap Project	2021	TNRIS
Hays & Williamson Counties Stratmap Project	2024	TxGIO
Williamson County Atlas 14 Rainfall	2018	Williamson County Atlas 14
Travis County Master Flood Plan Atlas 14 Rainfall	2018	Travis County Atlas 14
Other hydrologic data for ICM (land use, soils, CN, Mannings)	Varies	Varies

In addition to desktop reviews of best available data, EDGE solicited and reviewed public input regarding known drainage issues throughout the City. This data collection effort is discussed in the following section.

2.2 PUBLIC INVOLVEMENT

Leander residents and business owners often have valuable firsthand experience with flooding and drainage issues that may add further context to flood risk assessments. Their input helps the development of the Master Drainage Plan with the identification of problem areas, consideration of historical drainage issues, and prioritization of solutions based on community impact.

Public engagement for this study consisted of online solicitation for public comment and in-person public meetings between 2024 and 2025.

2.2.1 PUBLIC SURVEY

Links to an online survey were made available to the public via the City's website, on City's social media accounts, and via QR Code provided in pamphlet handouts. The online Survey went live starting November 2024 with the purpose of gathering data regarding drainage concerns in and around the home or business of the participants, as well as collecting additional context and data to inform any city-wide concerns. The survey questions were designed to retrieve objective data and to solicit qualitative comments from the participants. The purpose of the survey is provided on the Stormwater Master Plan webpage, reflected in **Appendix B** with a copy of the public online survey questions and responses.

The online public survey collected 35 georeferenced data from citizens regarding the nature and extent of flooding between November 2024 and June 30th, 2025. Immediately following the collection period, central Texas experienced flash flooding events near the limits of the City of Leander in July 2025. The online public survey was reopened to capture valuable and timely data from citizens who experienced flooding impacts, resulting in seven additional responses.

A total of 42 public survey responses were received, providing firsthand accounts of properties affected by various drainage issues throughout the City. Each public survey response was incorporated into a GIS database and map to generate Areas of Interest (AOIs) based on the nature of the issue observed in the response at its given spatial location. Since this Stormwater Master Plan is focused on the City of Leander, comments associated with locations outside of the City limits were not included.

The Areas of Interest (AOI) maps derived from survey responses included in **Appendix C** present all seventy-six (76) AOIs identified, the top forty-five (45) AOIs investigated for mitigation concepts, and the top sixteen (16) priority AOIs recommended for Capital Improvements Program (CIP) projects. All survey responses received were cross-referenced with modelling results to confirm potential problem areas and inform proposed improvement strategies.

2.2.2 PUBLIC MEETINGS

Public meetings were held on a quarterly basis to involve the public throughout all phases of the Stormwater Master Plan. In November 2024, the first public meeting was held to show the planning process and to solicit information from the public concerning known flooding issues. In June 2025, the second public meeting was held at the Old Town Festival where preliminary areas of interest were identified and presented to the public. During this direct engagement opportunity, the project team promoted awareness for the Stormwater Master Plan and encouraged active

engagement in the online survey. The project team met on November 18th, 2025 to review proposed mitigation concepts and determine risk categories including each category's scoring criteria. Preliminary drafts of this Stormwater Master Plan were presented to City Council on March 9th, 2026 and again on April 27th, 2026 to solicit comments prior to finalization.

2.3 CITY COORDINATION

As a part of data collection, meetings were held with City staff on a bi-weekly basis to incorporate their knowledge and latest records throughout the Stormwater Master Plan study phase. The knowledge and experience of City staff contributed valuable context and insight, helping to more effectively understand and document drainage issues—such as their severity, how often they recur, and the impact on maintenance efforts. Coordination with City departments such as the Engineering Department, Parks Department, Emergency Management, and Public Works Department informed key contributing factors for prioritization of areas of interest and proposed improvement strategies. Additionally, City staff discussed regional improvement concepts and opportunities for funding assistance to optimize allocated City budgets.

3 EXISTING CONDITIONS MODELING

3.1 STORMWATER GEODATABASE DEVELOPMENT

A GIS geodatabase was created to house all gathered spatial storm drain infrastructure throughout the City. The geodatabase included pertinent modeling information such as inlets, manholes, and pipes. Where available, lengths, sizes, materials, flowlines, and slopes were also included in the geodatabase. The City provided hundreds of Record Drawings for development projects from 2007 through 2024, which EDGE then georeferenced with digitized features to provide additional context regarding stormwater and water quality infrastructure. Approximately 5,400 culverts, 4,000 inlet nodes and 1,300 discharge points were added to the geodatabase. Where data gaps were identified, sizes and flowlines of drainage infrastructure were assumed using aerial imagery, LiDAR topography, and a calculated average of invert depths to ensure the geodatabase presented all available information as accurately as possible. This citywide storm drain geodatabase was used for 2D Modeling efforts to support this Master Drainage Plan.

3.2 2D HYDRAULIC MODELING FOR LOCAL STORMWATER

A 2D Hydraulic Analysis Model was developed for the entire City limits using Autodesk InfoWorks ICM, version 2025.3.0. Modeling in 2D ICM is advantageous for complex urban areas because it can represent 1D networks like storm drain, with 2D overland flow from runoff. The results of this modeling effort demonstrated potential for localized flooding in urban areas throughout the City of Leander.

3.2.1 Hydrology

EDGE investigated hydrology for all study areas for the 2-year, 10-year, 25-year, and 100-year design storm events utilizing National Oceanic and Atmospheric Administration (NOAA) Atlas 14 rainfall data. The City of Leander occupies portions of Williamson and Travis Counties, each of which provides unique Atlas 14 precipitation depth tables. **Travis County** has adopted the City of Austin Drainage Criteria Manual (DCM), which divides design rainfall into two zones north and south of the Colorado River. The City of Leander is north of the Colorado River and utilizes rainfall data for Zone 2 per DCM Section 2.3.0, Figure 2-2.

Williamson County Atlas 14 rainfall depths are subdivided into four major watersheds across the County: Salado Creek, San Gabriel River, Brushy Creek, and Lake Creek basins. The portion of Leander city limits within Williamson County includes two of these four basins; the San Gabriel River basin at the extreme northern city limits and the Brushy Creek basin for most of the city limits. To simplify analysis for this high-level study, rainfall depths for the Brushy Creek watershed were used in all hydrology since these figures were slightly more conservative than the San Gabriel Basin. Rainfall depths for both Williamson and Travis counties are reflected in **Table 2** and **Table 3** below.

Table 2: Williamson County Brushy Creek Zone Atlas 14 Rainfall Depths

Duration	50% AEP	10% AEP	4% AEP	1% AEP
	2-year	10-year	25-year	100-year
15-min	1.04	1.52	1.83	2.35
60-min	1.91	2.80	3.39	4.35
2-hr	2.35	3.57	4.41	5.87
3-hr	2.60	4.05	5.08	6.91
6-hr	3.05	4.86	6.18	8.61
12-hr	3.49	5.60	7.17	10.1
24-hr	3.96	6.37	8.16	11.5

Table 3: City of Austin Zone 2 (North) Atlas 14 Rainfall Depths

Duration	50% AEP	10% AEP	4% AEP	1% AEP
	2-year	10-year	25-year	100-year
15-min	1.05	1.57	1.92	2.51
60-min	1.94	2.91	3.58	4.70
2-hr	2.39	3.72	4.68	6.40
3-hr	2.65	4.23	5.40	7.56
6-hr	3.11	5.08	6.57	9.41
12-hr	3.57	5.86	7.60	10.90
24-hr	4.06	6.65	8.59	12.23

Effective hydrology models were received from Williamson and Travis County for their recent Atlas-14 flood study updates. These models were used solely to develop excess rainfall hyetographs for ICM, no changes were made to model input. Software used for the models included HEC-HMS versions 4.9 and 4.11. The excess rainfall from HEC-HMS was converted to inches per hour, and CSV files with a profile for each subbasin were created for each rain event and imported spatially into ICM. For each rain event, rain gauge boundaries were applied at all subbasin boundaries.

3.2.2 Model Development

An ICM model was developed for all three watersheds within the City limits, they are: Upper Brushy Creek (UBC), South San Gabriel (SSG) and the Travis County watershed (TRACO). Additionally, the Upper Brushy Creek model was subdivided into 5 zones, labeled 1-5 to improve processing capabilities and modeling efficiency. Digital copies of existing conditions ICM modeling are included in **Appendix J**.

3.2.3 2D Zones

The 2D zone in InfoWorks ICM is used to assign a two-dimensional mesh surface which consists of a series of contiguous triangles and mesh elements. The maximum mesh triangle area was defined to be 1000 ft² and minimum mesh element size set to be 250 ft². The elevation of each vertex on each triangle is derived from a ground model.

3.2.4 Terrain

The terrain in InfoWorks ICM is represented as a ground model comprised of topography within Williamson and Travis Counties. The Williamson County terrains used for the ground model utilize LiDAR topography from the Hays and Williamson County Stratmap Project by TxGIO published in 2024. The horizontal datum is the NAD 83 Texas State Plane Coordinates in US feet (2011), and the vertical datum is NAVD88. The Travis County terrains used for the ground model utilize LiDAR topography from the Bexar and Travis Counties Stratmap Project by TNRIS published in 2021. The horizontal datum also uses the NAD 83 Texas State Plane Coordinates in US feet (2011), and the vertical datum is NAVD88.

3.2.5 Manning's Roughness

Roughness zones are used to specify varying Manning's roughness coefficients (Manning's n-values) in areas of overland flow within the 2D zone. The roughness coefficients used in the ICM model were 0.02 for pavement and 0.06 for all unpaved areas in the 2D Zone.

3.2.6 Buildings

Building footprints were incorporated in the 2D mesh as mesh zones. The mesh zones were used to modify the ground elevations to imitate a slab structure. Building finish floor elevations were estimated to be approximately a foot higher than the roadway elevation at each structure.

3.2.7 Model Results

Inundation depths for the 2-, 10-, 25-, and 100-year events are reflected on city-wide maps, included with this report in **Appendix F**. Mapping indicates the degree of inundation along major creeks, rivers, and tributaries in addition to highlighting localized rights of way (ROW) and residential flooding.

While the drainage parameters used in 2D modeling were relatively conservative, these model results help identify “hot spots”, or areas where substantial flooding occurs frequently. This data was analyzed along with survey responses and citizen feedback to help prioritize known flooding issues city-wide.

Model results were checked for reasonableness and compared to documented drainage complaints, photos of flooding, and high-water marks. Modeling also indicated several residential developments which were constructed prior to the publication of Atlas 14 precipitation data whose pipe networks may not have adequate capacity to meet current drainage criteria. Since the lower pre-Atlas 14 rainfall depths were the basis of design level of service at the time they were completed, flooding caused by these undersized storm networks may result in additional maintenance burden for the City or potential flood risk for residents.

3.3 ATLAS-14 RIVERINE MODELS

Effective hydraulic models were received from Williamson and Travis County for their Atlas-14 flood study update. Floodplain mapping results of these studies were used as best available data for riverine flooding throughout the City of Leander and serve as the basis from which the conceptual improvement projects have been compared to reduce flood risk. Digital copies of existing HEC-RAS modeling used in the Areas of Interest analysis are included in **Appendix J**.

4 AREAS OF INTEREST IDENTIFICATION

The data gathered during the process, detailed in **Section 2**, and the existing conditions modeling, detailed in **Section 3**, was reviewed to assess the source and extent of each drainage concern. All georeferenced public input from the online survey were compared to model results to validate concerns and determine if it could be considered an area of interest.

Most public input concerns were validated by the results of the models. Eight (8) public comments cited stormwater complaints that were not reflected in modeling results, six (6) of which were located in a privately maintained gated neighborhood and, therefore, could not be confirmed as areas of interest (AOI).

Historical input from City staff was also used to identify potential AOIs. Email correspondence, drone footage, and road closure logs of areas that had experienced repetitive flooding were incorporated into the overall data set to assist with AOI identification. Overtopping of roadways, flooded buildings, and homes impacted by flooding were identified by using the 25- and 100-year floodplain results of the ICM models and Atlas-14 Riverine models.

A GIS database of the AOIs was created to serve as an inventory and tracking tool for drainage problems to develop a comprehensive view of the stormwater issues facing the City. A total of seventy-six (76) AOIs were identified. More than half of the AOIs identified, 62%, were related to drainage in single-family subdivisions, individual homes, or multifamily buildings. Twenty-four percent (24%) of the AOIs were related to roadway drainage issues. The remaining AOIs were related to drainage of commercial buildings, mixed use development, parks, and yards.

The 76 AOIs reflect various degrees of flood risk, causes of flooding, and frequency of inundation. To address the source of these flooding concerns in order of severity and need, the City determined that preference should be given to the AOIs with the highest flood risk before considering any other factors associated with mitigation actions.

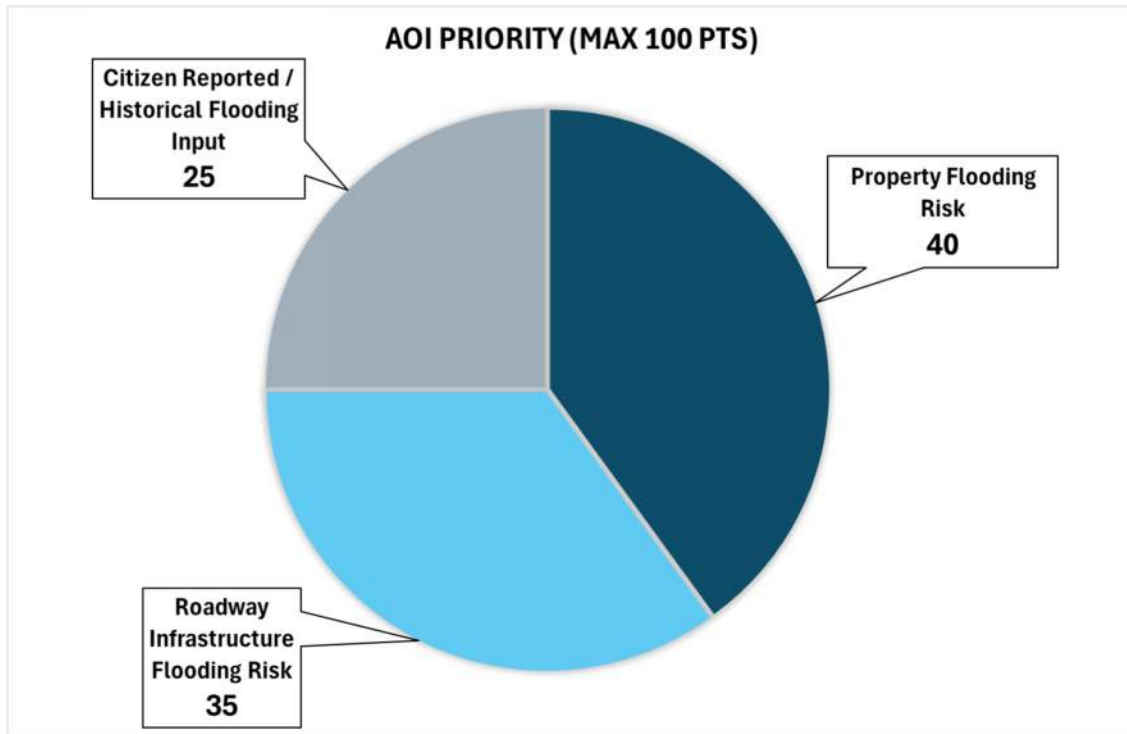
5 AREAS OF INTEREST PRIORITIZATION

One of the City's goals for the Stormwater Master Development Plan was to address current flooding issues for private property owners based on citizen feedback as well as mitigate known flooding issues within public ROW, open spaces, and easements. Meetings were held with City staff to discuss criteria and methodology for the ranking assessment. A City-specific scoring method was developed to systematically compare the AOIs and objectively prioritize them based on their degree of flood risk.

Three (3) categories were identified based on discussions of community risks, benefits and frequency of flooding: Property Flooding Risk, Citizen Reported/Historical Flooding Input, and

Roadway Infrastructure Flooding Risk. The criteria used for these categories focuses solely on flooding impacts to identify the City's major and repetitive flood risk areas and ensure that AOIs were prioritized corresponding to their degree of risk. A weight for each criterion was developed where the maximum score would be 100 points, as reflected below in **Figure 1**.

Figure 1: Area of Interest Flood Risk Category Weights



5.1 PROPERTY FLOODING RISK

Property Flooding and Roadway Infrastructure Flooding Risk were considered the two most impactful categories of flooding to all citizens. Therefore, these criteria were assigned higher scores, with a slightly higher score for private property impacts over roadway flooding risk.

Scoring for Property Flooding Risk was assigned based on quantity of insurable structures at risk of flooding and structure type. Insurable structures may be residential (habitable), commercial, municipal, or other auxiliary uses that would likely be covered by flood insurance. Critical structures providing public or essential services such as schools, hospitals, fire stations and police stations were also quantified and assigned the highest scoring value, shown below in **Table 4**.

Table 4: Property Flooding Risk Score Values

Value (max. 25)	Description
0	No developed property at risk
5	Yard flooding only
10	At least 5 habitable structures at risk
20	Between 6-15 habitable structures at risk
30	Between 16-30 habitable structures at risk
40	30+ habitable structures at risk OR critical structures

5.2 ROADWAY FLOODING RISK

Scoring for Roadway Infrastructure Flooding Risk was based on roadway classifications, as determined by the City of Leander Master Thoroughfare plan, and the event of frequency overtopped. Flooding due to roadway overtopping was only quantified for areas where overtopping occurred in the 2-year, 10-year, and 25-year events in accordance with the current City of Leander drainage criteria.

Higher scores were given to roadways that exhibited a higher frequency of overtopping. Roadways identified as the only means of ingress and egress to properties or neighborhoods were given the highest range of scoring values to ensure appropriate assessment of risk to life and property. Please note that scores on **Table 5** are non-cumulative.

Table 5: Roadway Infrastructure Flooding Risk Score Values

Roadway Infrastructure Flooding Risk			
	2-YR	10-YR	25-YR
LOCAL	20	15	10
COLLECTOR	25	20	15
ARTERIAL	30	25	20
ONLY ACCESS	35	30	25

5.3 CITIZEN REPORTED AND HISTORICAL FLOODING CONCERNS

Citizen Reported and/or Historical Flooding was designated as the third category to assess flooding risk by acknowledging known flooding issues and concerns expressed by the public that may not be apparent in modeling. While the criteria used to assign scores in the Property and Roadway Flooding Risk categories utilize quantitative assessments of the structures and roadway classifications impacted by flooding, the Citizen Reported and/or Historical Flooding category represents qualitative information based on direct observations by property owners as well as known challenges experienced by City staff.

This category directly incorporates feedback from public involvement efforts detailed in Section 3.2 of this report. The scores reflected in **Table 6** below were assigned based on quantity of citizen input and whether the AOI involves a previous or ongoing City-known flooding issue.

Table 6: Citizen Reported and Historical Flooding Input Score Values

Value (max. 25)	Description
0	No input was received
5	1 citizen provided input
10	2 citizens provided input
15	Known historical flooding issue
25	3+ citizens provided input, also indicating a known flooding issue

All 76 AOIs were scored based on the above criteria, and the resulting prioritized list can be found in **Appendix C**. A factor was applied to the scores based on the model source of the floodplain results. ICM 2D modeling is not as reliable for riverine flood results, being better suited for local urban storm system flooding analysis. Riverine flooding is better represented in HEC-RAS 1D models. For this reason, a model source factor of 0.7 was assigned to flood results obtained from

2D ICM modeling and a factor of 1 was used for flooding results obtained from HEC-RAS 1D riverine modeling. This would allow AOIs that experienced riverine flooding to have a slightly higher score.

The top 45 AOIs have a mix of Single Family (SF) Subdivision areas as well as Roadway and some Commercial uses. AOIs that received a score of zero were located within privately maintained gated communities, areas whose drainage issues were resolved by recent construction projects for new residential or commercial developments, and roadways that are permanently closed.

6 DRAINAGE CIP DEVELOPMENT

All communities face the challenge of prioritizing demand for improvements to make the best use of their finite resources. The prioritization process identifies the projects which maximize benefit to the community according to the value criteria established but the community. One purpose of the stormwater master plan is to identify and recommend projects for further evaluation and planning as part of the City's Capital Improvement Plan (CIP). The proposed improvements included in each drainage CIP project are based on preliminary level engineering and high-level topographic information; these are not detailed engineering analysis or design. The following sections discuss the drainage CIP development process and prioritization.

6.1 PROJECT DEVELOPMENT

The top 45 AOIs were assessed based on known flooding issues, citizen feedback, and apparent flood risk indicated by modeling city-wide. ICM modeling was used to develop improvement concepts that would reduce flooding issues within storm drain infrastructure networks. Preliminary design of proposed solutions was performed using the flows from ICM modeling and iterative design alternatives using HEC-RAS, HY-8, Launch Express tools, and other culvert modeling software to quantify and estimate costs for proposed improvements.

Proposed mitigation improvements were developed for the top 16 AOIs (originally ranked based on flooding risk) to optimize post-project flood risk reduction, project feasibility, and anticipated benefits for surrounding private properties and public ROW. These mitigation concepts reflect planning-level modifications to existing storm drainage infrastructure based on existing conditions modeling and available as-built construction plans. Further refinement of proposed improvement concepts will be required during project design development prior to construction to optimize performance and project scope.

Examples of flood risk mitigation concepts include:

- Replacing undersized storm drain conduit with larger pipes for increased capacity
- Clearing overgrown vegetation in major stream flow paths to improve conveyance
- Augmenting or replacing existing low water crossings to reduce the depth and frequency of roadway overtopping in flooding events. In some cases, existing culvert crossings are proposed to be replaced by single-span bridges to maximize conveyance.

AOIs ranked 17 through 45 were then reviewed and evaluated to develop high-level solution concepts. Since the flood risk associated with these AOIs is significantly lower than the top 16

AOIs, the proposed mitigation strategies for AOIs 17 through 45 are less detailed and may therefore require additional feasibility assessment prior to design and execution.

6.2 FINAL CIP PRIORITIZATION

In addition to the three flood-risk-based categories used to identify AOIs, five (5) additional categories were introduced to evaluate proposed mitigation project costs, potential synergy with other planned projects, and the level of coordination with outside agencies that would be needed. Improvement projects were prioritized and ranked using the following additional categories:

- Cost Effectiveness
- Operations & Maintenance
- Project Impact
- External Coordination
- External Funding Opportunity

6.2.1 Cost Effectiveness

Planning level cost estimates have been provided in **Appendix E** and are considered a significant contributing factor for AOI priority ranking. Opinions of Probable Construction Cost (OPCCs) broadly estimate major construction line items like storm drain conduit, headwall and outfall structures, channel earthwork, pavement replacement, and erosion control items. For comparison purposes, projects were scored based on ranges of cost rather than specific dollar values to provide reasonable contingency and standardize ranking considerations across various types of improvement concepts.

The Cost Effectiveness category evaluates the overall project cost anticipated with each proposed improvement project. In addition to cost of construction, engineering and survey costs were estimated as roughly 10-15% of construction costs. Though project duration does not directly impact the scoring for this category, estimated durations in months are also included in the project description exhibits in **Appendix D** and OPCCs in **Appendix E** for planning purposes.

For projects that may require land or easement acquisition, additional cost was estimated on a pro-rata basis at approximately \$50,000 per acre. Projects whose cost was minimized earned higher priority scoring (near the maximum of 40 points), reflecting a favorable balance of project cost to address flooding concerns. Conversely, projects with high estimated costs earned a lower score. See **Table 7** below reflecting Cost category scores based on estimated project cost ranges.

Table 7: Cost Category Score Ranges

Points (max. 40)	Lower Limit	Upper Limit
4	\$2,000,000	-
8	\$1,500,000	\$1,999,999
12	\$1,000,000	\$1,499,999
16	\$750,000	\$999,999
20	\$500,000	\$749,999
24	\$250,000	\$499,999
28	\$200,000	\$249,999
32	\$150,000	\$199,999
36	\$100,000	\$149,999
40	-	\$99,999

6.2.2 Operations and Maintenance

This category evaluates the degree of difficulty, ease of access, and special equipment required for City crews to maintain and operate the proposed improvements for each area of interest. Projects with lower operation and maintenance challenges generally employ passive systems to reduce flood risk, requiring little to no direct interaction for adequate operations and minimal maintenance activities such as mowing, minor repairs, removal of debris and vegetation, and occasional structural reinforcement.

Projects with minor operation and maintenance challenges received higher priority scoring, reflecting solutions that require minimal ongoing effort to continue reducing flood risks. Conversely, projects which require more hands-on maintenance activities or require coordination with outside parties for vehicle, equipment, and/or crew access received lower scores. **Table 8** below reflects Operations and Maintenance category scoring values.

Table 8: Operations and Maintenance Category Score Values

Points (max. 20)	Description of Evaluation Criteria
0	Levee inspections or repairs likely
5	Regular maintenance required including special equipment (vacuum truck, etc.)
10	Regular mowing and clearing required with limited access
15	Regular mowing and debris removal with easy access
20	Maintained by others

6.2.3 Project Impact

This category evaluates if any proposed improvement projects may benefit from concurrent construction or planning with CIP projects previously identified in the City's FY 2024 CIP plan. Additionally, if more than one Area of Interest evaluated in this study is near to or overlaps the proposed improvement project, the combination of these two improvement efforts may be of benefit to City staff and consultants.

EDGE reviewed planned projects produced by several City departments such as Transportation, Municipal facilities, Parks and Recreation, Water, and Wastewater to determine if their proximity to the AOIs in this study could potentially offer efficiency in the planning and/or construction phases. Projects within close proximity to one or more planned FY24 CIP projects or other Stormwater Master Plan CIP projects were scored favorably depending on the number of coincident project footprints. Several proposed improvement projects did not overlap with any planned CIP projects and were thus given a score of zero (0). Proposed improvement projects with one or more CIP projects nearby were scored according to **Table 9** below.

Table 9: Project Impact Category Score Ranges

Points (max. 10)	Description of Evaluation Criteria
0	Does not overlap with CIP project footprint
3	Overlaps with at least 1 CIP project or other Area of Interest
6	Overlaps with at least 2 CIP projects or other Areas of Interest
10	Overlaps with 3 or more CIP projects or other Areas of Interest

6.2.4 External Coordination

This category accounts for projects whose footprint falls within the jurisdiction of entities other than the City of Leander. Drainage improvements often lie within or across roadways, rail networks, and other transportation systems. Coordination with the ROW owner includes additional effort to ensure design standards align with their regulations, regular progress meetings with the ROW owner, and possible impacts to cost or schedule. Scoring for this category indicates preference for minimal or non-existent coordination constraints while projects that require coordination with County or State jurisdictions receive lower scores. See **Table 10** below reflecting consideration criteria and scoring.

Table 10: Outside Coordination Category Score Ranges

Points (max. 5)	Description of Evaluation Criteria
0	Coordination with railroad
1	Coordination with TxDOT and/or Williamson, Travis County
3	Coordination with School District
5	No coordination necessary

6.2.5 External Funding Opportunities

The last category contributing to aggregate prioritization ranking considers opportunities for external funding. Some proposed improvement projects may be good candidates to apply for local, state, or federal grant programs or funding assistance based on factors such as the nature of the flood risk, impacts to adjacent property owners, and the type of drainage improvement proposed. External funding programs and recommendations are discussed further in **Section 8.2** of this report.

Scoring for this category favors projects that may qualify for local, state, or federal grant consideration. Other projects that will likely be the financial responsibility of the City of Leander were given lower scores. See **Table 11** below reflecting consideration criteria and scoring.

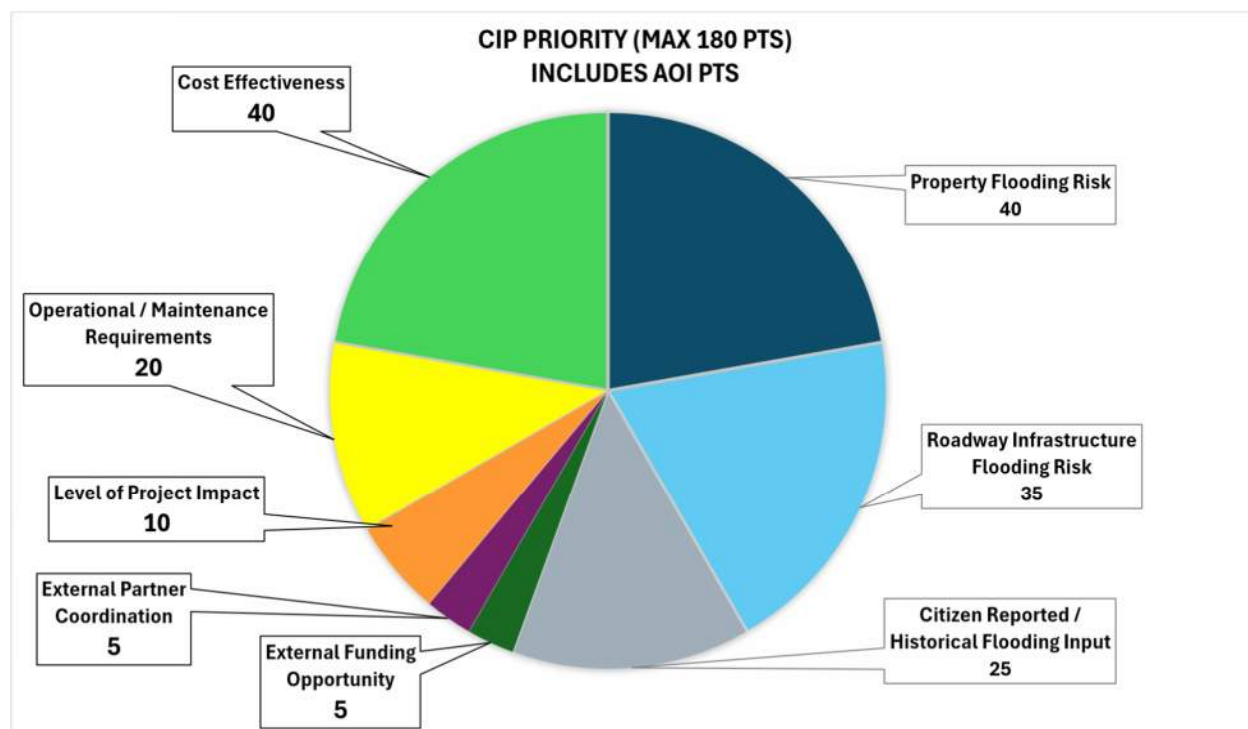
Table 11: External Funding Opportunity Category Score Ranges

Points (max. 5)	Description of Evaluation Criteria
0	No potential external funding
3	Potential funding from ISD, TxDOT, or Wilco/Travis County
5	Potential funding from State or Federal grant program

These categories further refined the ranking associated with the top 16 priority sites as well as qualitatively prioritizing the remaining sites 17 through 45. Where project ranking yielded identical composite scores, projects were qualitatively compared and re-scored to prioritize those with higher flood risks and/or lower project costs. AOIs ranked 46 through 76 were not evaluated for proposed mitigation actions at this time, and thus the scoring shown in **Appendix C** reflects only the flood risk values associated with the lowest priority sites.

The three risk-based evaluation categories combined with the five mitigation-based categories present a diverse set of criteria with which AOIs were prioritized. See **Figure 2** below illustrating each category's contribution to the overall score assigned to each AOI. Please note that the three original risk-based categories are more heavily weighted to ensure that AOIs with the most significant flooding issues are prioritized for future mitigation actions.

Figure 2: Category Weights for Composite Priority Ranking



7 POTENTIAL REGIONAL DETENTION

Regional detention benefits the City and its residents by helping to reduce increased runoff resulting from new impervious cover. Additionally, regional ponds ease the burden on individual developers and property owners to mitigate increases in discharge that ultimately reduces their developable land. This can lead to better opportunities for economic development when adjacent properties are able to avoid dedicating portions of their private property to on-site detention.

Maintenance and operation costs for stormwater infrastructure are typically lower for watersheds with fewer large detention ponds as opposed to a higher number of smaller ponds. Smaller ponds typically require more frequent maintenance and repair efforts to ensure outlet features are not clogged, to remove debris and sediment, and to remove nuisance vegetation that impairs the designed operation of the ponds. With larger regional ponds, the acquired properties may serve more than just a functional purpose by incorporating recreation or park features into open spaces that are not regularly inundated.

However, finding available land for regional detention ponds can be difficult due to high demand and rising real estate values. Candidate detention locations along creeks and streams are also

highly desirable areas to build new residential and commercial development to support the City's steadily growing population. If real estate is available for a regional pond, initial costs for parcel acquisition and construction of detention improvements are significant. Additionally, parcels upstream of the pond location need to evaluate new tailwater constraints associated with the pond's water surface elevations to ensure conveyance is preserved.

The existing Soil Conservation Service Reservoirs and Dams throughout the City of Leander offer passive regional stormwater detention. These include Site 1 on North Fork Brushy Creek (also called Devine Lake), Site 2 on Mason Creek (also called Horizon Lake), and Site 3 on Block House Creek (also called Lake Lakewood).

To evaluate the possibility for future regional ponds, analysis was conducted concerning the feasibility and effectiveness of potential regional detention locations. Generally, economic feasibility is optimized for watersheds comprised of 64 acres or more and strategically located downstream of areas with high percentages of new impervious cover. Rough sizing and locations where detention could give the most effective flood mitigation benefit were:

- **South Fork Brushy Creek** – In conjunction with proposed improvement project ranked 39. The apparent available pond footprint is approximately 10 acres to provide regional detention for approximately 825 acres of upstream contributing area. The prospective pond would generally encompass one or more undeveloped parcels adjacent to South Fork Brushy Creek, southeast of the intersection of Hero Way W and S Bagdad Rd.
- **Block House Creek Tributary 2** – In conjunction with proposed improvement projects ranked 3 and 13. The apparent available pond footprint is approximately 12 acres to provide regional detention for approximately 467 acres of upstream contributing drainage area. The prospective pond would be located on one or more undeveloped parcels east of Emerald Island Drive and west of South US Highway 83.

Further evaluation of proposed regional detention locations must quantify capital cost for acquisition and construction, determine detention capacity, mitigate potential impacts upstream and downstream, and make best use of site-specific topographic features to minimize construction cost. Additionally, the City must consider and plan for ongoing costs and effort required to maintain and operate the new pond facilities.

Appendix B, section B11.1.1 of the Williamson County Subdivision Regulations discusses detention exempt stream reaches throughout the county. This section reflects a peak discharge timing analysis commissioned by the County that identifies portions of major streams and rivers which are exempt from providing new stormwater detention. Depending on the location within a given watershed, peak discharges and timing should be thoroughly evaluated in the context of the overall basin to ensure developments do not generate adverse impacts.

Studies suggest that allowing un-detained runoff for a smaller subbasin to peak and recede prior to the arrival of the overall watershed's higher peak discharge yields lower potential for impacts downstream. Those who request detention waivers citing this section of the regulations should analyze the specific drainage scenarios applicable to their proposed development prior to approval of the detention waiver request. If detention requirements are not entirely waived in some cases, detention of a more frequent event (i.e. 2-year storm or 1-2" rainfall event) may suffice to mitigate potential impacts on neighboring properties.

In the vicinity of Leander, the list of detention exempt stream reaches includes portions of South Fork San Gabriel River. Other detention exempt stream reaches in Williamson County lie outside the boundaries of Leander city limits and ETJ. Watersheds for many of the major creeks that traverse Leander (Mason Creek, North & South Fork Brushy Creek, Block House Creek, etc.) originate within or just outside of city limits, resulting in much smaller upstream contributing drainage area discharging through each creek. Therefore, the potential for coincident peak timing is not as high as with South Fork San Gabriel River, Berry Creek, and others exempted by the County, each of which drain dozens of square miles.

8 DRAINAGE POLICY & FUNDING RECOMMENDATIONS

8.1 DRAINAGE CRITERIA ASSESSMENT

While this drainage master plan primarily serves to identify and plan for fixing existing drainage issues throughout the City, it is also important to review the City's current drainage policies and provide recommendations for areas where modifications could be warranted in the future. The current City drainage policy primarily follows the City of Austin Drainage Criteria Manual.

One overarching recommendation is the preparation of a simple and concise summary of drainage policy document that references all ordinances, policies, and criteria in one document. This could live independently or within the recently developed "Development Guide" document.

Based on a review of the modeling and results from this stormwater master plan, the following enhancements to the City drainage policy should be considered.

8.1.1 Code of Ordinances, Chapter 3 – Building Regulations

Article 3.10 – Flood Damage Prevention

Much of this chapter is boilerplate language, common to all cities to be in compliance with the National Flood Insurance Program (NFIP). The ordinance already has high standards such as 2 feet of freeboard required for any structure above the regulatory base flood elevation. No major revisions are recommended to this chapter. One minor recommendation is modifying Sec. 3.10.007 to reference the updated City Floodplain Study and any future Letter of Map Revision (LOMR) models and maps when they are completed and FEMA effective.

8.1.2 Code of Ordinances, Chapter 10 – Subdivision Regulation

Exhibit A, Article III, Section 41. – Drainage Improvements

The subdivision regulations regarding drainage improvements primarily refer to the City of Austin (COA) Drainage Criteria Manual (DCM) with multiple exceptions noted to appropriately reflect concerns specific to the City of Leander. More detailed recommendations are outlined in the subsequent section specific to the COA DCM and Technical Memorandum 1. However, the City should consider a complete rewrite of its own drainage policy rather than relying on updates and caveats to the COA DCM, which itself is periodically updated.

With the growth, geographic location, development trends, and drainage problems identified within this report, it is warranted to strongly consider a drainage policy that can be more applicable to the City of Leander. The COA DCM can be difficult to follow, interpret, and enforce. Additionally,

many local developers do not have experience with the COA DCM and may not interpret or follow the guidelines and policies appropriately.

Many cities of similar size to Leander have written drainage criteria manuals specific to their cities, including the City of Round Rock and City of Taylor. Additionally, the adjacent cities of Cedar Park and Liberty Hill are currently exploring revisions to their individual drainage policies. It would potentially benefit the City of Leander, and surrounding communities along US 183 to work together and collaborate to produce a regionally specific drainage policy for smaller central Texas cities.

Exhibit A, Article III, Section 49. – Buffer Zones

The current policy of buffer zones isn't clear and appears to be similar to what the City of Austin has. It's recommended that the City of Leander take a fresh look at how to define, regulate, and protect buffer zones due to proposed development. Regulating buffer zones to the updated Atlas 14 floodplains could be overly restrictive due to the floodplain widths.

Additionally, the City should consider if any ponds should or should not be allowed in the buffer zone limits. The current policy allows detention ponds within a buffer zone but not water quality ponds. This limits the ability to do stacked detention, potentially, and is unclear on how it should be regulated. Clarification should also be given as to where and how ponds should discharge within the buffer zones.

Finally, various terms and definitions should be cleared up to avoid confusion. Terms such as "averaging", "low impact park", and "regional water quality facility" create confusion and seem to apply more to the City of Austin. A much more concise and City specific policy on Buffer Zone regulation is recommended.

8.1.3 COA DCM Criteria and Technical Memorandum 1, 6/17/2020

If a completely new drainage criteria manual is not possible for the City to undertake, the following items should be strongly considered for specific policy to develop in a similar fashion to Technical Memorandum 1.

Adverse Impacts. The City should consider a concise Technical Memorandum that clearly identifies what is considered an adverse impact, including upstream and downstream increases to water surface elevation and peak flow. Adverse impacts can be created due to obstructions in the floodplain, changes to natural flow patterns, increases to impervious cover, and modifications to drainage infrastructure (storm drains, ditches, culverts, creeks, etc.). A clear definition of what is considered an adverse impact, how it should be assessed from a technical standpoint, and what documentation is required to demonstrate no adverse impacts exist is recommended.

Pre-Atlas 14 infrastructure. With the increases to predicted rainfall runoff due to Atlas 14, some of the City's infrastructure is undersized, as identified in this Stormwater Master Plan Report. It is recommended that the city consider producing a guidance document for how development should tie-into drainage infrastructure that is undersized including storm drains, culverts, ponds, etc.

TCEQ Water Quality Compliance & Best Practices. Much of the City of Leander is within the TCEQ regulated Edwards Aquifer Contributing and Recharge Zones that necessitates permanent water quality BMPs (i.e., ponds, vegetative filter strips, grassy swales, etc.). While the developers are required to permit these BMPs through TCEQ, the City should consider a guidance document for pond preferences and maintenance considerations.

8.2 FUNDING OPPORTUNITIES

Sources of funding for capital improvements and maintenance programs range from local taxes, bonds, and other municipal utility fees as well as state and federal assistance programs. Non-governmental entities partner with local, state, and federal administrators to oversee the review, selection, and implementation of plans and projects proposed by communities to identify, plan for, and mitigate flood risk.

8.2.1 State and Federal Grant Programs

Multiple state and federal funding programs are available to offset the cost of drainage infrastructure improvements depending on a variety of factors such as cost of improvements needed, severity of flooding, impact to residents, and other benefit-cost criteria. Each program has its own application and verification process, but all require preliminary engineering efforts to quantify project costs as well as potential post-project benefits.

The proposed improvement projects developed in this study are not intended to provide complete application-ready materials for grants or other funding applications, but many of the considerations evaluated for each project in this study may help the City identify candidate projects that could qualify for external funding and support.

Generally, grant program committees select projects for funding by evaluating applications and supporting documentation that reflects the number of residents affected, the severity and frequency of flooding, past flood damage claims, and benefit-to-cost ratios (BCRs). Other factors may significantly impact a project's selection such as social vulnerability index of adjacent neighborhoods, impacts on low to moderate income populations, and reliance on evacuation routes that would be adversely affected by flooding events.

Application packages will consolidate schematics and calculations produced during preliminary engineering, forecasted total project cost estimates, historical flooding documentation including photos, a narrative discussing how the proposed improvements would address the known flooding risks, and BCR calculators like FEMA's BCA v6.0 Toolkit to demonstrate the project's ability to efficiently and effectively reduce flooding impacts to the community.

EDGE researched available state and federal financial assistance opportunities published by the Texas Flood Information Clearinghouse (TFIC), a repository of funding opportunity information organized by the Texas Water Development Board (TWDB), Texas General Land Office (GLO), and the Texas Division of Emergency Management (TDEM). Grants and assistance programs are administered by various agencies including TDEM, TWDB, GLO, and the Texas Commission on Environmental Quality (TCEQ). See **Appendix G** for a matrix of available funding programs organized by project type.

The Flood Infrastructure Fund (FIF) administered by the TWDB provides financial assistance in the form of grants or loans funded by the state of Texas for flood mitigation plans and projects. Abridged applications are solicited and reviewed for prioritization within the given cycle's allocated budget, then the selected applications are invited to submit full financial assistance applications with more detailed information and engineering background.

TWDB publishes an Intended Use Plan that details how available state funding will be prioritized across several distinct categories through which applicants seek assistance with flood mitigation

projects and plans. Generally, scoring for FIF projects favors areas where a significant flood risk is present and/or a large percentage of the population is affected in the 100-year storm.

Only Flood Management Evaluations (FME), Flood Mitigation Projects (FMP), and Flood Management Strategies (FMS) that are approved by the TWDB in an amended regional flood plan are eligible to submit for financial assistance through the FIF program. Each type of application is reviewed and ranked based on various criteria that quantify risk, need, benefits, and costs associated with the submitted project or plan.

- **FMEs** primarily consist of studies that assess and quantify current flood risk and recommend potential solutions to reduce that risk. Ranking criteria for FMEs focus on evaluating existing flooding risk in a community by quantifying the number of structures, population, critical facilities, public ROW, and agricultural properties that are impacted in the 100-year flooding event.
- **FMP** ranking categories consider the same elements as FME but focus on the degree to which proposed mitigation project improvements will reduce flood risk for the 100-year event. FMP ranking also considers the ratio of benefit to cost associated with the improvements, the project's synergy with nature-based solutions and water supply, and socioeconomic factors that contribute to the overall need for the improvements.
- **FMS** applications propose flood risk reduction activities that do not belong in the FME or FMP categories. These typically include warning systems, low water crossing barriers, flood depth gages, or other improvement projects that may be implemented quickly with immediate results. FMS applications may also include activities that do not propose new construction such as public education and/or outreach campaigns, enhancements to current flood-related regulations, or property buyout programs. Scoring categories are similar to FME criteria, with additional points assigned based on the nature of the strategy.

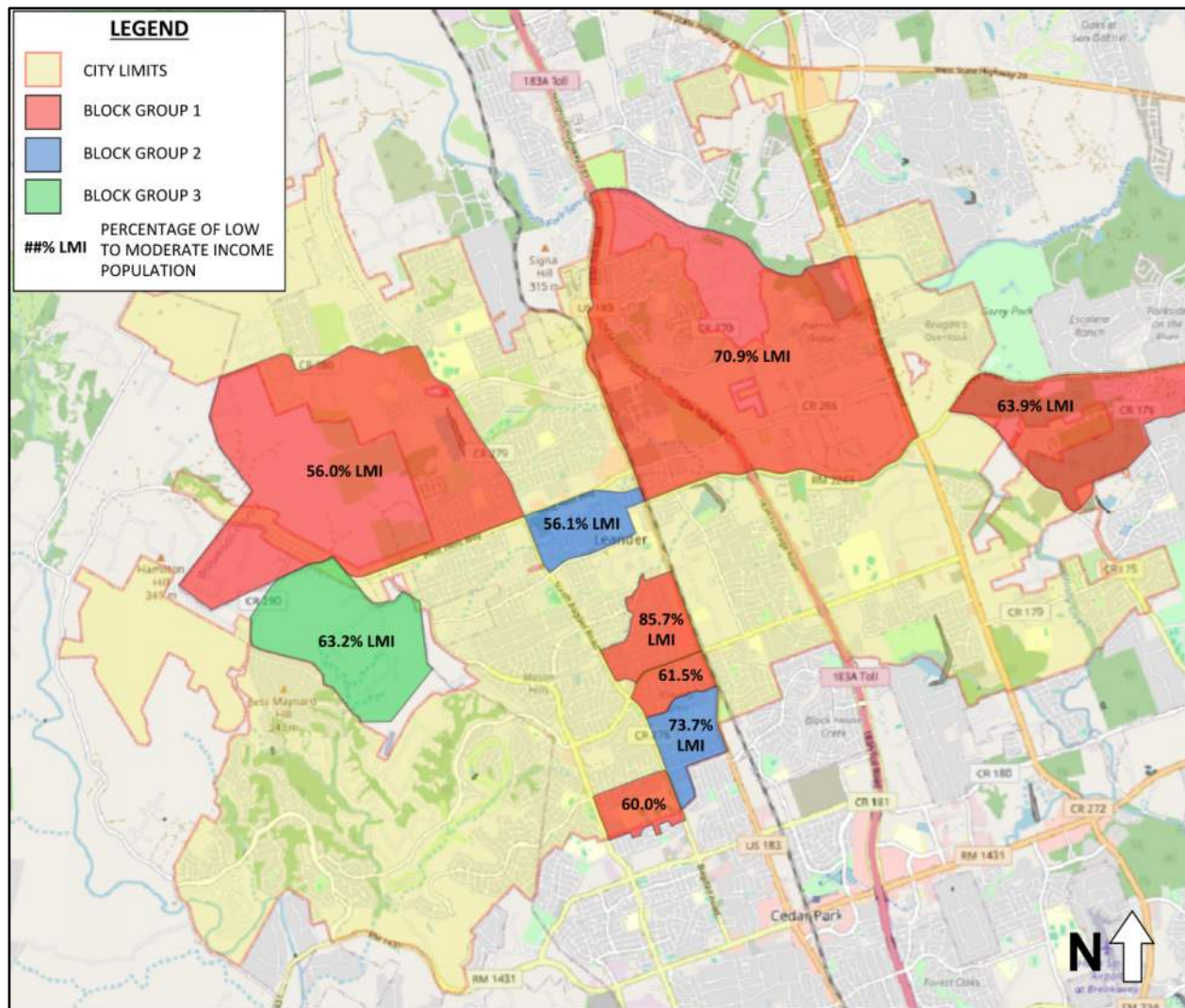
Other factors like Social Vulnerability Index (SVI) and Low-to-Moderate Income (LMI) populations further inform the project scoring to prioritize impacted areas that may be disproportionately affected by flood risk. When applying for the appropriate FIF application avenue, it may be advisable to combine two or more stormwater projects into a single FME that represents the overall elevated flood risk borne by a community. A comprehensive matrix of FIF ranking criteria and weight (as published in the 2024-2025 IUP) is included in **Appendix G**.

The Community Block Development Grant (CDBG) program is administered by the U.S. Department of Housing and Urban Development (HUD) with state oversight by the Texas GLO. The CDBG program is intended to provide financial assistance for projects that improve infrastructure, housing, planning, and flood mitigation projects that result in more resilient communities.

Categories within the CDBG program consider various elements that build resilience in communities, but the two categories that focus on flood risk are Mitigation (denoted by "MIT") and Disaster Relief (denoted by "DR"). Generally, MIT projects address flooding issues or sub-standard drainage infrastructure to mitigate the potential for future disasters or losses. Conversely, DR projects focus on helping communities recover from Presidentially declared disasters that have already taken place.

Like FIF scoring, the CDBG program places emphasis on serving LMI or socially vulnerable populations within the community. **Figure 3** below reflects the percentage of LMI population within Leander's Census Block Groups 1, 2, and 3.

Figure 3: Low-to-Moderate Income Population Percentages within Leander



Using the CIP project prioritization matrix, proposed improvement descriptions, and estimated impacts to residents, EDGE identified several projects within the top 16 AOIs that may be good candidates for various funding application programs:

- TWDB's Flood Infrastructure Fund (FIF) – Due to the locations of the proposed improvements and adjacent property owners potentially impacted by elevated flood risk, the following projects may be good candidates to combine into an FME application:
 - #2 SFB-1 at Hwy 183 & W Broade St: Bridge improvements, general earthwork and stream restoration
 - #4 MC-7 at Still Meadow Dr & S Bagdad Rd: Levee certification, pond and channel improvements (excluding storm drainage replacement phase)

- GLO's CDBG-MIT – Based on conceptual project costs, anticipated beneficiaries, and impacts to evacuation routes, the following projects may be good candidates for GLO's CDBG-MIT program:
 - #5 BC-6 at RR 2243: Replacement of culvert with bridge
 - #7 NFB-6 at Hero Way West: Culvert replacement
 - #13 BLC-10 at Hwy 183: Culvert improvements and channel/floodplain storage

Please note, these projects should be coordinated with TxDOT and/or Williamson County, who may have identified roadway improvements for one or more of the project areas.

The Hazard Mitigation Grant Program (HMGP) administered by FEMA is another potential source of federal funding that may be used for flood risk mitigation efforts. Similar to the CDBG-DR program, this funding is made available following Presidentially declared disasters. Communities are only eligible for funding through the HMGP if they have developed and adopted a Hazard Mitigation Plan (HMP). The following communities in the vicinity and ETJ of Leander have adopted HMPs:

- Travis County updated their adopted HMP in 2023.
- Williamson County adopted their HMP in 2025.
- The City has adopted the FEMA-approved 2024 HMP.

Applications for state and federal financial assistance require substantial planning, preparation and review time, and preliminary engineering efforts before projects are selected by grant administration entities. It is common for the project selection and funding process to take 1-2 years, followed by another 1-3 years for bid, award, construction, and final acceptance, depending on the project scope and complexity. The City must consider the nature and degree of flood risk associated with the proposed CIP projects to determine the best use of available budgets, flood risk, and timing for project implementation.

To advance any projects to the grant application phase, EDGE recommends the City designate a Grants Administrator or retain a grant administration consultant to facilitate preliminary engineering studies and application assembly. AOIs with high scores in the three flood risk categories but low priority ranking due to high project cost are good examples of projects that may be considered for outside funding assistance. In this way, higher priority projects with lower estimated costs may be implemented sooner through City or other local budgets sooner than projects that may rely on state or federal funding allocation.

8.2.2 Local Funding Opportunities

Aside from State and Federal funding opportunities, another method to finance stormwater improvement projects would be the implementation of a stormwater utility fee to City of Leander residents. Similarly, stormwater impact fees are also typically used to augment construction budgets for municipalities with limited resources, or to mitigate rapidly increasing impervious cover due to development.

Based on the anticipated costs for repair, maintenance, and replacement of critical stormwater infrastructure, the City would determine a fee to be assessed by each property owner on a pro-rata basis related to impervious cover or as a flat fee based on land use categories. Stormwater utility fees are typically assessed using Equivalent Residential Units (ERUs), defined as the impervious cover associated with the average residential lot. A detailed study is necessary to

quantify the value of ERUs specific to the City of Leander to ensure equitable considerations for residential, commercial, and other land uses throughout the City.

Implementation of a stormwater utility fee will likely be established by ordinance and may require one or more public hearings to ensure legal and equitable establishment of the program. Public hearings are important to solicit citizen feedback, identify responsible parties, outline methodology for calculating and administering utility fees, and plan for regular reporting on fees collected and distributed for construction activities. Provisions within the Texas Local Government Code, Chapter 552 govern the establishment and administration of utility fees for municipalities. Additionally, Texas Government Code, Chapter 1502.070 provides further legal basis for management and control of utility systems including stormwater utilities.

Since the City has identified improvement projects for multiple departments through its FY 2026 Capital Improvements Program, stormwater utility fees should be considered as well as other traditional municipal budget funding allocations like improvement bonds to determine which would be more appropriate and effective with regards to specific stormwater infrastructure improvement projects. Texas Local Government Code, Chapter 395 provides guidance for financing capital improvements for Texas municipalities.

8.3 MAINTENANCE PLAN

In addition to the proposed CIP projects to mitigate known flooding issues, periodic inspection and maintenance of stormwater assets and natural creeks is essential to prevent future flooding issues. With the implementation of a stormwater utility fee, a portion of the funds generated could be designated for ongoing maintenance efforts and periodic conditions assessments.

Anticipated maintenance activities include regular mowing of dry detention pond areas and drainage easements as well as removal of debris and overgrown vegetation in major creeks. Maintenance personnel must be careful not to damage riparian vegetation or other environmentally sensitive features during mowing and clearing activities. Periodic inspections or conditions assessments should be performed for bridges, culverts, and other stormwater infrastructure assets within ROW or easements. Logs and photos from these inspections can be recorded and georeferenced using GIS to actively monitor any elements that have exceeded their design life and ensure they are earmarked for possible replacement.

Successful maintenance operations rely on complete and timely documentation of all inspection, maintenance, and repair activities. Documentation also provides transparent oversight of funds used in maintenance related efforts. It is recommended that the City develop and adhere to a regular inspection and maintenance schedule for critical flooding sources and stormwater infrastructure.

At a minimum, the following fields are recommended for inclusion in inspection reports:

- Date(s) of inspection – if inspections take more than one day, consider listing a start date and end date.
- Location – street address, subdivision, cross street, latitude and longitude, and/or County tax parcel ID are all useful entries that can allow for georeferencing of inspection reports.
- Inspector – name, role, and/or employee ID. If combining inspection reports with maintenance logs, include spaces for all maintenance personnel engaged.

- Weather conditions – inspection and maintenance activities may be hampered by inclement weather, but these are often good opportunities to observe the stormwater asset in action and determine appropriate corrective actions or adjustments.
- Stormwater Infrastructure Element Inspected – describe in a few words what specific type of infrastructure is being inspected.
 - E.g. storm conduit, detention pond, channel, low water crossing, etc.
- Corrective Actions Required – Describe what actions are necessary to maintain the stormwater asset(s)
 - E.g. remove silt or debris from pond, clear overgrown vegetation from flowpath, remove litter and large debris from pond outfall structures, etc.
 - If combining inspection reports with maintenance logs, provide a separate log or report document to record the actual materials, personnel, and equipment used each day to ensure transparency of maintenance costs.
- GIS Processing Block – Allow space at the top or bottom of each form for GIS personnel to log, track, and mark completion of georeferencing inspection and maintenance reports.

In addition to the elements listed above, other useful fields include any additional notes the inspector wishes to record like interactions with neighboring property owners, whether the stormwater asset is located within a drainage easement or ROW, potential for erosion or other damage, vandalism, and next scheduled maintenance date. City staff should consult with GIS personnel to determine if any additional fields or different types of input should be included in reports before adopting these reports as part of the overall Stormwater Maintenance Plan. A sample stormwater asset inspection report is included as **Appendix H. Table 12** below reflects recommended intervals for various types of inspection and maintenance activities.

Table 12: Recommended Inspection and Maintenance Schedule

Stormwater Feature	Inspection Frequency	Maintenance Activity	Maintenance Frequency
Natural Streams, Creeks, & Rivers	6 months	Vegetation clearing, mowing, debris removal	12 months
Storm Sewer Networks	6 months	Sediment Removal, CCTV inspection of older assets	12 months
Low Water Crossings	6 months	Sediment removal, minor pavement repairs	12 months
Ponds, Levees, & Reservoirs	3 months	Mowing, minor outfall repairs, erosion abatement	3 months

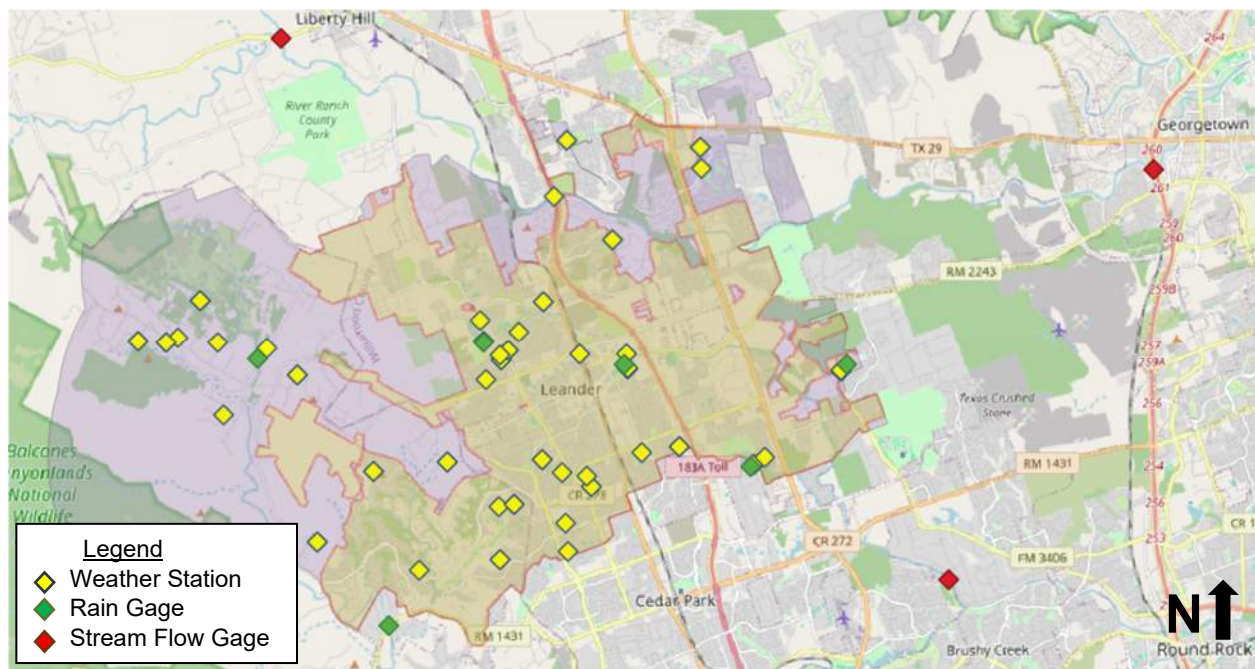
8.4 WEATHER GAUGE STATIONS

Existing weather stations and gage locations were identified from multiple sources throughout Leander city limits including the Water Data for the Nation program administered by USGS, NOAA's Global Historical Climatology Network (GHCN), the Hydrometeorological Automated Data System (HADS) also operated by NOAA, and a non-profit volunteer-run program called Community Collaborative Rain, Hail & Snow Network (CoCoRaHS).

Based on modeling results and known flooding issues, EDGE identified additional locations where improved monitoring and data collection would benefit the City. These recommended locations are intended to provide a more complete picture of flood risk for City staff and emergency personnel during future flooding events. The recommendations in the following sections for new weather stations and gage locations are not exhaustive, but the proposed locations are intended to provide additional data points for areas of the city and ETJ where apparent gaps in current data collection networks exist.

Three types of gage stations are considered in this analysis: Rain Gages, Weather Stations, and Stream Flow Gages. See **Figure 4** below reflecting existing weather stations, rain gages, and stream flow gages in and around Leander. Existing and proposed locations of weather and gage stations are reflected in **Appendix I**.

Figure 4: Existing Weather Stations, Rain Gages, and Stream Gages near Leander, TX



8.4.1 Rain Gages

Rain gages provide official measurements of recorded rainfall that may be used to calibrate flooding events and determine potential flood risk with existing modeling. A total of five (5) USGS Rain Gages lie within Leander city limits and ETJ. One of the five gages is located near Bingham Creek at Round Mountain Road in the west ETJ of Leander. The four remaining stations are located at Soil Conservation Services (SCS) reservoir Sites 1, 2, 3, and 5.

While the type of data collected by these gages is relevant to reservoir operations, additional precipitation gages near the upper reaches of major creek watersheds may help provide more robust flood risk data. Adding rain gages near the outskirts of city limits would also be beneficial since new development is more likely in these areas and existing coverage may be sparse.

Weather stations typically include rain gage measurements in their suite of meteorological tools. Rather than proposing new rain gage locations distinct from weather stations or stream flow gages, EDGE recommends that any new weather station locations discussed in the next section include precipitation measurement apparatus to make efficient use of funding spent on data collection improvements.

8.4.2 Weather Stations

In addition to accumulated precipitation, weather stations gather different sets of meteorological measurements like wind speed and direction, humidity, temperature, hail size, and other weather data. The level of detail and scope of measurements varies by location and operating organization, but all stations work in concert to provide a robust network of weather-related data.

Many of these weather stations report at regular intervals to central data processing administrators who analyze and publish the data online through various tools like TexMesoNet operated by the TWDB, ATX Floods operated by the City of Austin, Weather Underground, and various NOAA and USGS web viewer sites.

A total of sixty-five (65) weather stations span Leander and its ETJ, operated and monitored by various agencies:

- 34 CoCoRaHS stations
- 4 HADS stations
- 19 GHCN stations
- 8 USGS stations

Though this quantity of weather stations may appear substantial, there are a few gaps in their distribution across city limits and ETJ that may be remedied by installing additional stations at strategic locations. Generally, the northwest, northeast, and far east portions of Leander city limits appear to be underrepresented, with the nearest weather stations or gauge locations over 1 mile away. Notably, several public survey respondents in these areas reported flooding issues that this study designated as AOIs.

Where prior studies or detailed modeling are not available, new weather stations can help fill in data gaps using flood depth gauges, depth and timing of precipitation to estimate intensity, and flow rates that may be used to better understand flood risk. Rainfall data and other measurements can be used to estimate recurrence intervals for storm events, allowing the City to accurately assess levels of service for major creek crossings and infrastructure in low-lying areas.

Localized flooding events like microbursts or other high-intensity storm events may not be adequately recorded by the current weather station coverage. In these areas, new weather stations can provide residents with additional tools to monitor their own flood risk. Weather stations are also valuable sources of data that can corroborate reports of flood damage and support benefit-cost analysis for external funding requests.

To minimize cost of installation as well as ensure ease of access and operation, EDGE recommends adding weather gages within City ROW or at existing Leander municipal facilities or properties. EDGE recommends establishing additional weather stations near the following areas:

- **Leander Fire Station 4** (10964 E Crystal Falls Pkwy) benefits the eastern portion of city limits.
- **Leander Fire Station 5** (2800 Travisso Pkwy) benefits a significant portion of the City within Travis County. This facility is near the confluence of Bloody Hollow, Bee Cave Hollow, and Big Sandy Creek.
- **Proposed Fire Station 6** (FY24 CIP ID No. M.9 to be located near Ronald Regan Blvd) would serve the northeastern limits of Leander near new development.
- **North Bagdad Rd** (CR 279) north of CR 280 would benefit the northwestern portion of city limits. No city facilities are apparent in this area, but Leander ISD campuses for Stacy K Nanielson Middle School and Glenn High School are within the vicinity.
- **West Hero Way** (old FM 2243) near CR 290 at North Fork Brushy Creek benefits a stretch of ROW that extends generally west northwest near the Williamson -Travis County line.

8.4.3 Stream Flow Gages

No stream flow gages exist within Leander city limits or ETJ. Two of the three nearest gages monitor flow for the South Fork San Gabriel River near Liberty Hill and again in Georgetown north of Leander. The third flow gage monitors Brushy Creek along the boundary between Cedar Park and Round Rock roughly three miles southeast of Leander.

Many of the major streams throughout Leander are ephemeral, meaning they are not spring-fed and/or may be dry between rain events. However, stream flow gages provide meaningful flood stage information during heavy rain events that emergency service personnel can use to determine if closures, evacuations, or other actions must be taken to prevent loss of life or property.

Stormwater management staff can also use flood gage data to calibrate modeling, support flood damage records used in grant funding applications, or identify the need for future infrastructure improvements to decrease the frequency and depth of roadway overtopping. Flow rates recorded by stream flow gages can also alert City staff to blockages or decreased conveyance that may be caused by sedimentation, debris, or infrastructure damage. These data points can help prioritize inspections and conditions assessment schedules to address more acute concerns in a timely manner.

EDGE reviewed flood inundation modeling, citizen flooding complaints, and known drainage issues to identify areas within city limits with significant risk of flooding impacts due to roadway overtopping at creek crossings. At many major intersections throughout the city, the railroad running parallel to US 183 appears to be a limiting factor in creek conveyance, creating a higher potential for flood risk immediately upstream.

Many of the creeks with high flood risk potential cross both Bagdad Rd and US 183. For these creeks, cost of new gages may be reduced by placing new gages at either the upstream location (Bagdad Rd) or downstream location (US 183).

EDGE recommends adding stream flow gages at the following major creek crossings due to their impact on major city streets and arterial roadways:

- **South Fork San Gabriel River at Ronald Reagan Blvd**
- **North Fork Brushy Creek at US 183 near San Gabriel Pkwy**
- **Brushy Creek at Ronald Reagan Blvd**
- **South Fork Brushy Creek at US 183 near W Broade Street**
- **South Fork Brushy Creek at South Bagdad Rd**
- **Mason Creek at South Bagdad Rd**
- **Mason Creek at South US 183 near Leander Middle School**
- **Block House Creek Tributary 2 at South US 183 near Knight Fields**
- **Block House Creek Tributary 3 at East Crystal Falls Pkwy**
- **Block House Creek at Ronald Reagan Blvd near city limits boundary with Cedar Park**

Costs to install new rain, weather, and stream gage locations throughout the city depend on the type of station, precision and scope of measurements to be recorded, and physical space constraints specific to the proposed site. Coordination with NOAA, USGS, and other weather-related agencies is encouraged to ensure new stations are seamlessly integrated into existing, well-established monitoring networks. If residents wish to participate in the CoCoRaHS network by training and volunteering to host weather stations in their back yard, the City may consider education campaigns or facilitating training workshops.

9 APPENDICES

Appendix A – Overall Project Area Map

Appendix B – City of Leander Stormwater Master Plan Webpage and Public Online Survey

Appendix C – Areas of Interest (AOIs)

Appendix D – Project Summary Sheets (Top 45 AOIs)

Appendix E – Opinions of Probable Construction Cost (Top 16 AOIs)

Appendix F – City-wide Inundation Maps (2D Modeling Results)

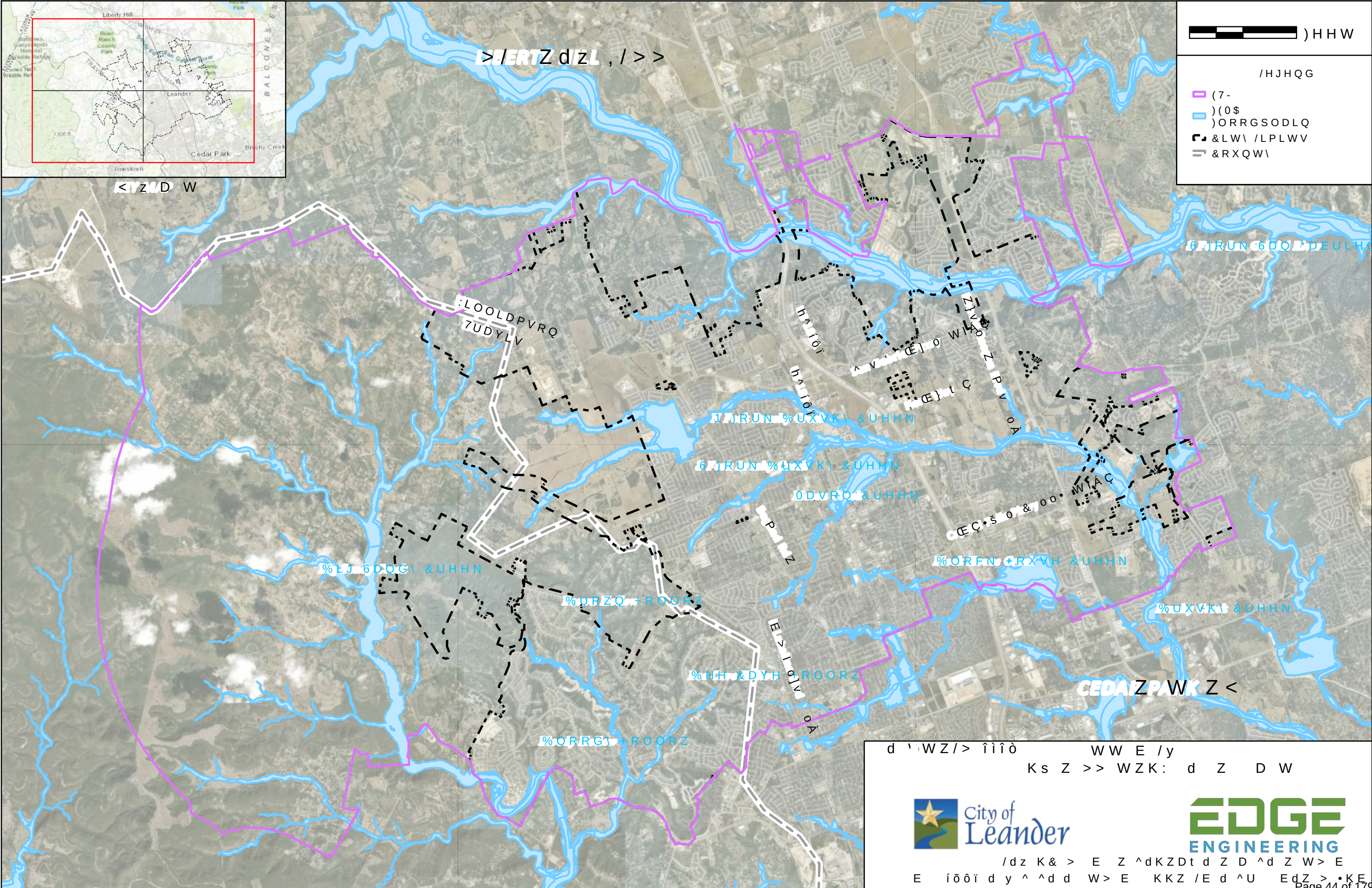
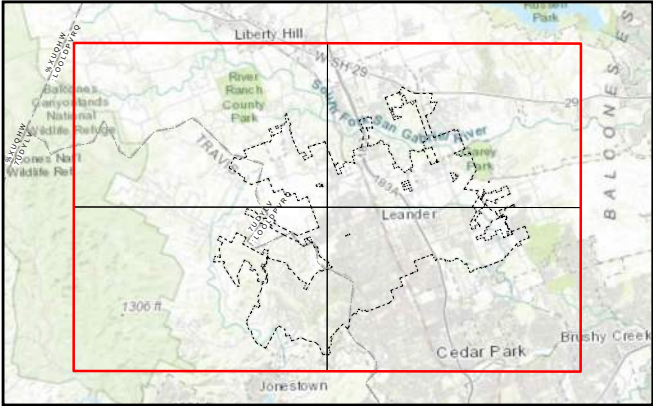
Appendix G – External Funding Opportunities and Resources

Appendix H – Stormwater Maintenance Report Templates

Appendix I – Weather Station and Stream Gage Locations

Appendix J – Digital Data

Appendix A: Overall Project Area Map



d \ WZ/> îîîð WW E /y
Ks Z >> WZK: d Z D W



/dz K& > E Z ^dKZDt d Z D ^d Z W> E
E îôôî d y ^ ^d d W> E KKZ /E d ^U EdZ > •KE U I

Appendix B: City of Leander Stormwater Master Plan Webpage and Public Online Survey

- Public Online Survey Questions
- Survey Responses
- Map of Survey Respondents



Leander Stormwater Master Plan

City of Leander is developing a Stormwater Master Plan, which will identify, prioritize, and guide implementation of stormwater-related Capital Improvement Projects (CIPs) in the city. An important part of the process is gathering citizen feedback through public meetings and an online survey. The plan will be completed in late 2025.

Citizen Survey

The online citizen survey allows residents to provide input to the City of Leander about flood or draining problem areas in the city.

**CLICK HERE
FOR THE
CITIZEN SURVEY**

Public Input

City of Leander will hold three opportunities for residents to provide feedback on stormwater issues in the city. The City held a public meeting on Wednesday, Nov. 13, 2024, from 5 p.m. to 7 p.m. at the Leander City Council Chambers. The next opportunity for public input will be at a booth during the Old Town Street Festival on June 7, 2025.

PLEASE VISIT US FROM 11 AM TO 7 PM AT THE OLD TOWN FESTIVAL ON JUNE 7, 2025.

The City also will hold another public hearing at a later date.

Stormwater Master Plan: An introduction



Stormwater Master Plan: An Introduction

Why do we need one?

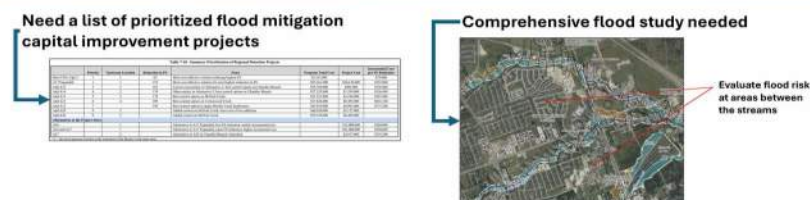
Funding agencies require a plan



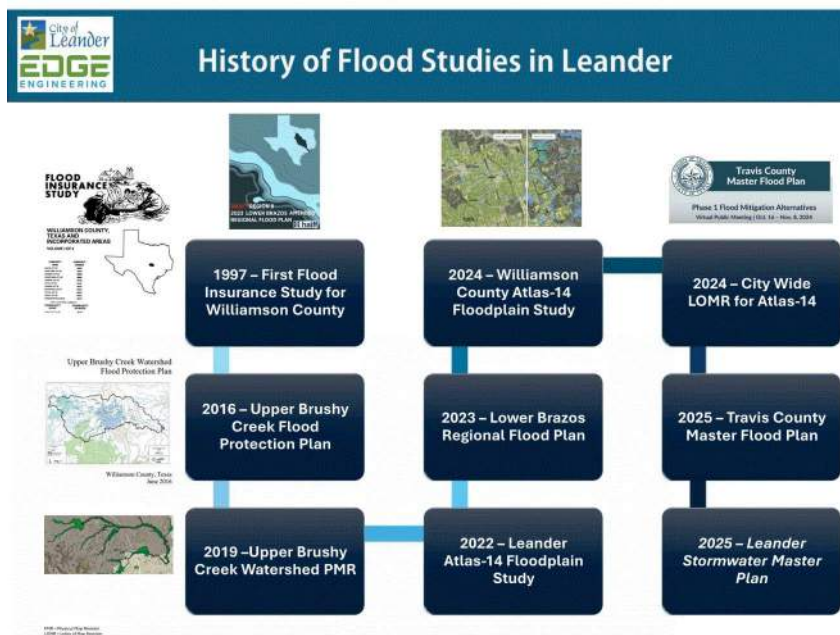
A major flood can happen any year, and Central Texas is susceptible to flash floods



What does it entail?



► History of Flood Studies in Leander



► Historic Flooding in Leander



Historic Flooding in Leander

Tropical Storm Hermine
September 8, 2010

Over 12" of rain fell in a 24-hour span across Leander. For large rivers, creeks, and dams, this is around the 1% annual chance event!





Local Flood
October 16, 2018

A Leander school bus crosses barricades and is swept downstream.

Colorado River Flood
April 24, 2019

Over 1" of rain fell in a 5-minute span along Bagdad Rd. For small neighborhoods and local roads, this is around the 2% annual chance event!



► Flood Mitigation Alternatives



Flood Mitigation Alternatives

Crossing Structure Upgrades

- Bridges
- Culverts
- Warning Systems

Storm Drain Improvements

- New Systems
- Pipe Sizing

Diversions

- Creek Diversions
- Off-Channel Detention

Buyouts

- Inundated Structures
- Acquisition Costs

Regional Detention

- Ponds
- Dams

Grading Improvements

- Overland Drainage

BEFORE

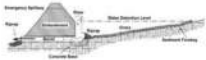


AFTER

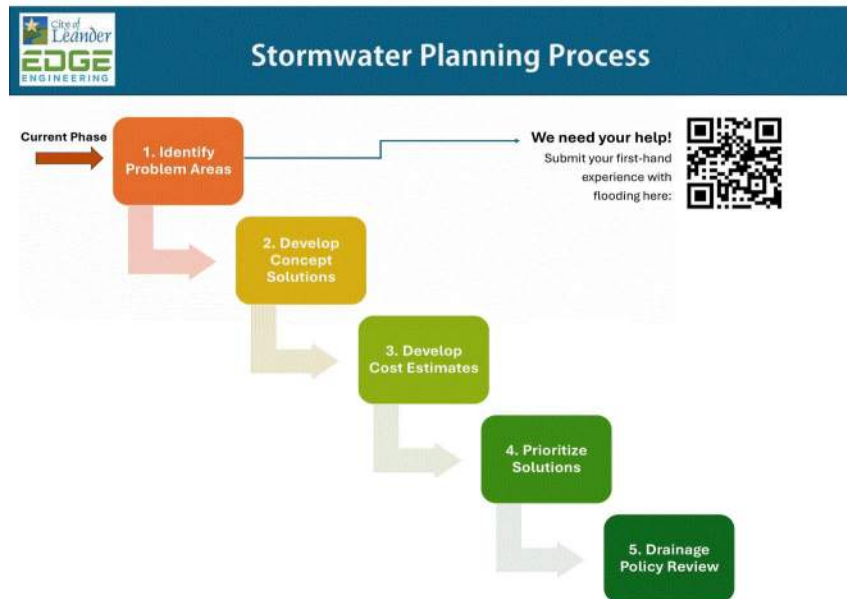




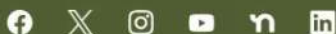




► Stormwater Planning Process



► Timeline and Future Schedule



Contact Us

City Hall
105 N Brushy Street
Leander, Texas 78641

Mailing Address
PO Box 319
Leander, TX 78646

Phone: 512-528-2700

Get answers and assistance

Quick Links

City Council
Contact Us
Open Records Request
Public Comments Request
Staff Directory

Site Links

Home
Accessibility
Copyright Notices
Privacy Policy
Site Map

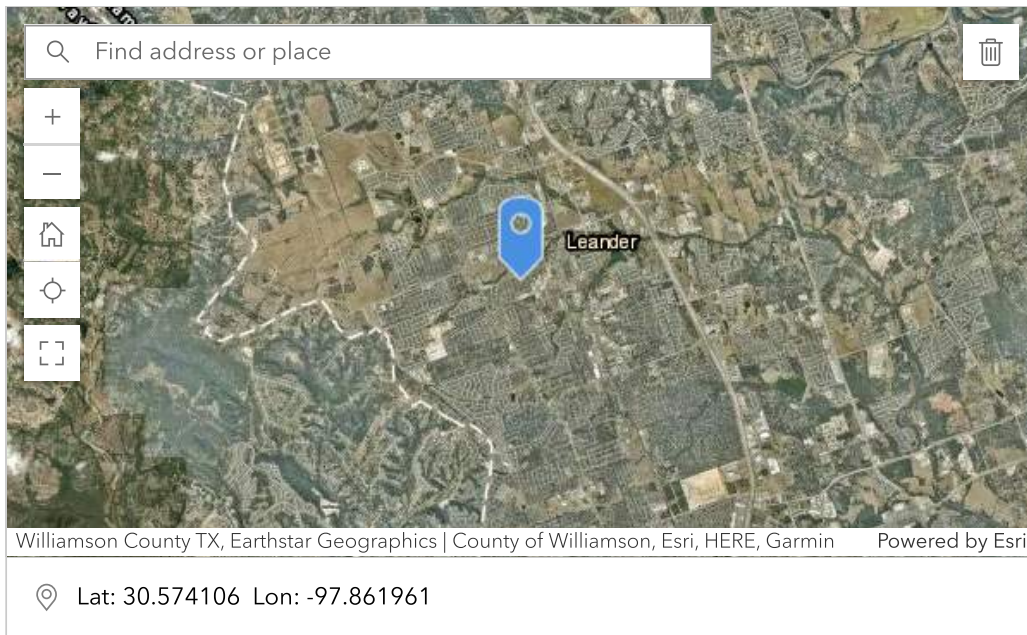
City of Leander Stormwater Master Plan - Citizen Survey

Please complete this survey one time for each known flood or drainage problem area. If you wish to describe multiple problem areas, please complete and submit this survey once for each area.

For technical assistance, please contact Colin Slagle at cslagle@civil-edge.com.

1) Where have you experienced a flood or drainage issue within the City of Leander?

(Add a single point for known flood problem. Use address search bar, if needed. For general flood issues, please add description in Item 4 below)



2) How frequently do you experience flooding issues at this location?

(select one)

☐ Every rainfall event	☐ Multiple times per year	
☐ Every 1-5 years	☐ Every 5-10 years	☐ Extreme events only
☐ Other/Unknown		

3) What are typical flood depths at this location?

(select one)



1-3 inches



3-6 inches



6-12 inches



1-3 feet



More than 3 feet



Other/Unknown

4) What are the typical flood impacts at this location?

(select multiple as appropriate)



Roadway Flooding



Property/Yard Flooding



Flooding in Homes/Businesses



Erosion



Sedimentation/Debris



Other

5) Please provide additional details on this flooding or drainage problem area.

(nature of flooding, dates of past flood events, impacts to local residents and businesses, closed roadways, known or estimated damages, environmental impacts, concerns, etc.)

1000

6) Upload Relevant Photos

(please upload images of past flood events)

1

Drop image here or select image (maximum number of files allowed: 15)



7) How would you rate the City of Leander's stormwater management performance and capabilities?

(1 - Poor, 5- Satisfactory, 10-Excellent)

1

10

Reset

8) Additional Feedback

(please add any other relevant input on the City's stormwater management program)

1000

Your Name

Your Email

(optional)



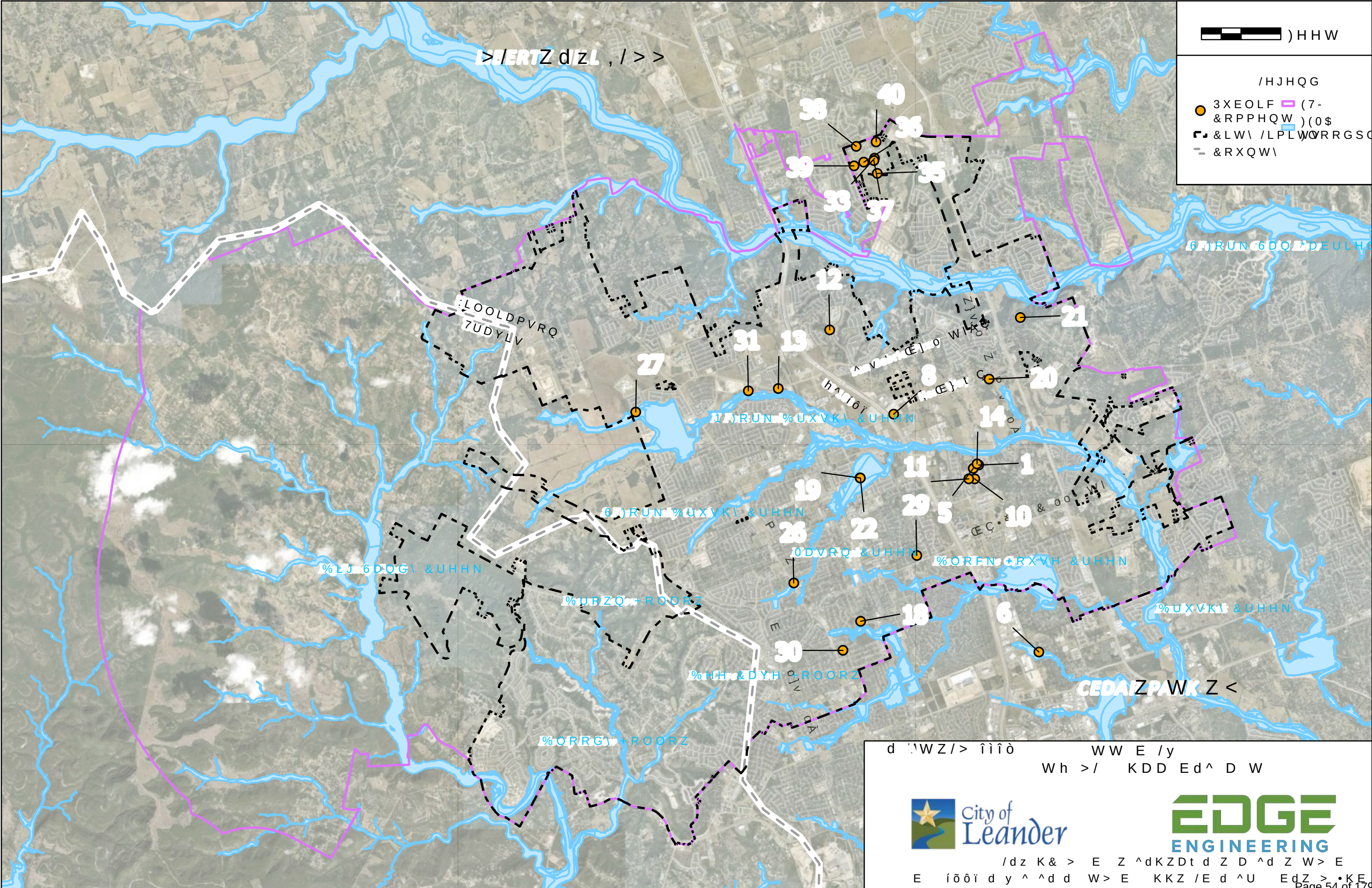
Submit (repeat for additional problem areas)

[Powered by ArcGIS Survey123](#)

Response # of 42	GlobalID	CreationDate	LAT	LON	2) How frequently do you experience flooding issues at this location?	3) What are typical flood depths at this location?	4) What are the typical flood impacts at this location?	5) Please provide additional details on this flooding or drainage problem area.	6) Upload Relevant Photos	7) How would you rate the City of Leander's stormwater management performance and	8) Additional Feedback
1	f4c02729-6568-4f36-889d-efb242b63ede	11/13/2024 23:12:30.729	-97.8209	30.5785	Every rainfall event	1-3 inches	Property/Yard_Flooding,Erosion,other, Slow drainage along the length of the culdesac that collects algae for months.			6	
2	4adfc1fb-97e4-41e9-840f-3b4ca09ad5ab	11/24/2024 20:31:21.324	-	-	Multiple times per year	1-3 inches	Property/Yard_Flooding,Flooding_in_Homes/Businesses,Erosion, Sedimentation/Debris			4	
3	f68dc3fb-6390-4f0e-811b-d94a404bc984	11/24/2024 20:33:21.172	-	-	Every rainfall event	1-3 inches	Property/Yard_Flooding			1	
4	3b014d88-35ae-4f7f-819f-3696fcc0aaae	11/24/2024 21:16:10.395	-	-	Every rainfall event	1-3 inches	Roadway_Flooding,Property/Yard_Flooding			1	
5	36d18ef8-a5ac-4910-8bc0-def77407fdc8	11/24/2024 21:46:03.180	-97.8220	30.5779	Multiple times per year	3-6 inches	Property/Yard_Flooding			1	
6	729d5c77-151a-4e25-89a4-02fe394bd54f	11/26/2024 18:28:56.499	-97.8092	30.5446	Every 1-5 years	1-3 feet	Roadway_Flooding,Property/Yard_Flooding, Flooding_in_Homes/Businesses,Sedimentation/Debris			3	
7	4c39e698-3a6c-4597-8a99-ef87ce009e11	11/27/2024 00:12:53.901	-	-	Every rainfall event	3-6 inches	Property/Yard_Flooding				
8	3ecb0457-1921-46c9-8e72-241a83a424c7	12/17/2024 01:42:00.746	-97.8383	30.5880	Every rainfall event	6-12 inches	Roadway_Flooding			7	
9	d297d226-a750-4b1e-83c8-a37d777404a5	01/16/2025 17:09:59.766	-	-							
10	d6108e8b-1708-4e2f-83a3-09252ee68cd4	01/16/2025 18:22:44.622	-97.8217	30.5760	Every rainfall event	3-6 inches	Roadway_Flooding,Property/Yard_Flooding				
11	8d9a6b14-f649-41a7-89d3-fb84118f34bc	01/16/2025 18:27:41.202	-	-	Every rainfall event	3-6 inches	Property/Yard_Flooding,Erosion,Sedimentation/Debris			6	
12	c70b8bf4-b904-445b-8370-3db9cc5af306	01/17/2025 21:15:42.719	-97.8512	30.6034	Every rainfall event	3-6 inches	Property/Yard_Flooding			4	
13	2f3f1696-a034-41a2-8d5a-5065e4326f2c	01/18/2025 00:08:51.680	-97.8622	30.5931	Multiple times per year	1-3 feet	Roadway_Flooding,Property/Yard_Flooding,Erosion, Sedimentation/Debris			2	
14	3ed073e7-62e1-4117-86b3-a92a96b29204	01/22/2025 01:26:41.740	-97.8212	30.5787	Every rainfall event	1-3 inches	Property/Yard_Flooding			3	
15	8ef4b0ec-a591-4ca0-849f-80386f1b542a	01/22/2025 05:20:04.673	-	-	Every rainfall event	1-3 inches	Property/Yard_Flooding,Erosion,Sedimentation/Debris			3	
16	6894f44e-bb37-4b49-88ea-fcf6c0954ba6	01/24/2025 23:57:56.991	-	-	other	other	other				
17	ab03c260-8b42-4a46-8028-07200e19566a	01/29/2025 03:54:01.389	-97.8209	30.5786	Multiple times per year	1-3 inches	Property/Yard_Flooding,other,Ponding near retaining wall and street outlet of French drain in cul-de-sac.			7	
18	4cabecb4-134d-49f2-8449-4637b061e9ce	02/04/2025 22:49:09.163	-97.8461	30.5509	Every rainfall event	3-6 inches	Roadway_Flooding,Property/Yard_Flooding,Erosion			3	
19	299f632d-b0ec-42b1-83a1-17ce58fdde78	02/17/2025 13:31:12.733	-97.8456	30.5767	Every 1-5 years	1-3 inches	Roadway_Flooding			5	
20	c763ab3f-f2c5-4dae-8b93-11fc76f95e9f	02/19/2025 19:05:52.306	-97.8183	30.5939	Extreme events only	3-6 inches	Roadway_Flooding,Property/Yard_Flooding,Erosion			4	
21	e6fe3a7c-776f-44dd-800f-bec3caae209b	02/28/2025 18:43:52.413	-97.8115	30.6048	Every 1-5 years	1-3 inches	Roadway_Flooding,Property/Yard_Flooding,Flooding_in_Homes/Busi nesses			6	
22	56fa27fb-c7ec-475d-854a-cb2fd7e0ac1f	03/05/2025 20:04:18.812	-97.8455	30.5766	Extreme events only	1-3 feet	Roadway_Flooding			9	
23	9b8099d3-43cb-4c89-8b06-d386e707617f	05/16/2025 22:03:15.942	-	-	other	other	Roadway_Flooding			2	
24	864c41ec-0680-46c3-80c1-c3260ee98015	05/24/2025 20:56:03.574	-	-	other	None				9	
25	122e80e8-5e01-4f55-8915-d06b0d3e1fb0	05/25/2025 22:11:48.340	-	-	Multiple times per year	1-3 inches	Property/Yard_Flooding,Erosion			7	
26	a87966d8-cf06-473d-809e-57ef073d96b1	05/30/2025 08:20:16.795	-97.8599	30.5580	Every 1-5 years	1-3 feet	Sedimentation/Debris,other,Walkway around soccer fields.			6	
27	88458854-658b-43dc-8c52-dcca38957152	06/09/2025 09:41:54.289	-97.8919	30.5894	Every rainfall event	3-6 inches	Erosion,other,Bridge sank			4	
28	578c5fdf-bc3f-42a6-876a-24199cf6b58f	06/09/2025 10:01:25.630	-	-	Every rainfall event	1-3 inches	Roadway_Flooding			4	
29	7cd4a7b4-521a-47fe-88e0-baac9569577f	06/10/2025 03:24:52.775	-97.8341	30.5625	Extreme events only	other	Property/Yard_Flooding,other, Standing water, insects, overgrowth, vermin			4	
30	e3638966-99ec-478b-807e-a6cea0d6fac7	06/10/2025 14:14:58.385	-97.8500	30.5457	Every rainfall event	6-12 inches	Property/Yard_Flooding,Erosion,Sedimentation/Debris			3	
31	c5f841fe-bd6c-452d-8890-3b40799afa38	06/10/2025 17:44:10.898	-97.8684	30.5928	Every rainfall event	1-3 inches	Roadway_Flooding,Property/Yard_Flooding, Flooding_in_Homes/Businesses,Erosion,Sedimentation/Debris,other			3	
32	128e9ead-fcf1-4ec0-8a5b-750013ca7a0a	06/18/2025 22:39:03.599	-	-	other	Have not had any	other, none			10	
33	37eb86c4-5d6f-4db9-8dbf-146e1c07d039	06/26/2025 18:42:59.865	-97.8411	30.6341	Every rainfall event	3-6 inches	Roadway_Flooding,Property/Yard_Flooding, Flooding_in_Homes/Businesses,Erosion,Sedimentation/Debris,other			1	
34	fbcb4720-203d-46d4-8b53-7f4acce93e0a	06/27/2025 02:32:50.956	-	-	Every rainfall event	3-6 inches	Roadway_Flooding,Erosion,Sedimentation/Debris			9	
35	0118c6a2-a256-48d0-81a7-dd896987afeb	06/27/2025 15:51:01.186	-97.8406	30.6313	Multiple times per year	1-3 inches	Property/Yard_Flooding,Erosion,Sedimentation/Debris			6	
36	7450d526-952e-4e45-86d3-8a6f795a7e75	07/01/2025 02:56:06.428	-97.8434	30.6334	Multiple times per year	1-3 feet	Property/Yard_Flooding,Erosion,Sedimentation/Debris			4	
37	9bdad206-7b5e-4ff8-8e1c-56a29cfcea30	07/04/2025 13:40:26.655	-97.8412	30.6337	Every rainfall event	other	Property/Yard_Flooding,Erosion,Sedimentation/Debris			5	
38	bb789a76-30d0-4981-8f15-0e2438657ab4	07/05/2025 01:06:09.002	-97.8449	30.6363	Every rainfall event	3-6 inches	Roadway_Flooding,Erosion,Sedimentation/Debris			9	
39	d69722c7-025a-4dae-81e1-3c6ad1bfe264	07/05/2025 13:47:14.761	-97.8454	30.6328	other	3-6 inches, During extend heavy rainfall	Property/Yard_Flooding,Erosion			8	
40	22493fb5-6f34-4fb3-8872-528b80aeba71	07/05/2025 14:12:58.448	-97.8407	30.6370	Every rainfall event	6-12 inches	Property/Yard_Flooding,Erosion,Sedimentation/Debris			4	
41	b78a0276-dae1-4199-8664-75f6e225e35d	07/05/2025 14:30:19.491	-	-	Multiple times per year	3-6 inches	Roadway_Flooding,Property/Yard_Flooding,Erosion			8	
42	4b5bc840-3e29-41f4-80ee-edec9f89db3d	07/05/2025 15:20:27.266	-	-	Every rainfall event	3-6 inches	Property/Yard_Flooding,Erosion,Sedimentation/Debris			1	

PLEASE NOTE:

Responses to survey questions 5, 6, and 8 have been removed to protect the privacy of the respondents. Names, contact information, and any other identifying information has been redacted to the degree possible while still maintaining the integrity of the flood-related data collected and presented in the Leander Stormwater Master Plan.



HHW

HJHQG

3XEOLF (7- &RPPHQW) (0\$

LPLWRRGSODL

&RXQW\

d WZ/> îîîð WW E /y Wh >/ KDD Ed^ D W

City of Leander

EDGE ENGINEERING

/dz K& > E Z ^dKZDt d Z D ^d Z W> E E îðî d y ^ ^d d W> E KKZ /E d ^U EdZ > •KE U

Page 54 of 179

Appendix C: Areas of Interest (AOIs)

- Summary of All 76 AOIs
- C.1 - All 76 AOIs
- C.2 - Top 45 AOIs
- C.3 - Top 16 AOIs

Area of Interest Prioritization - All 76

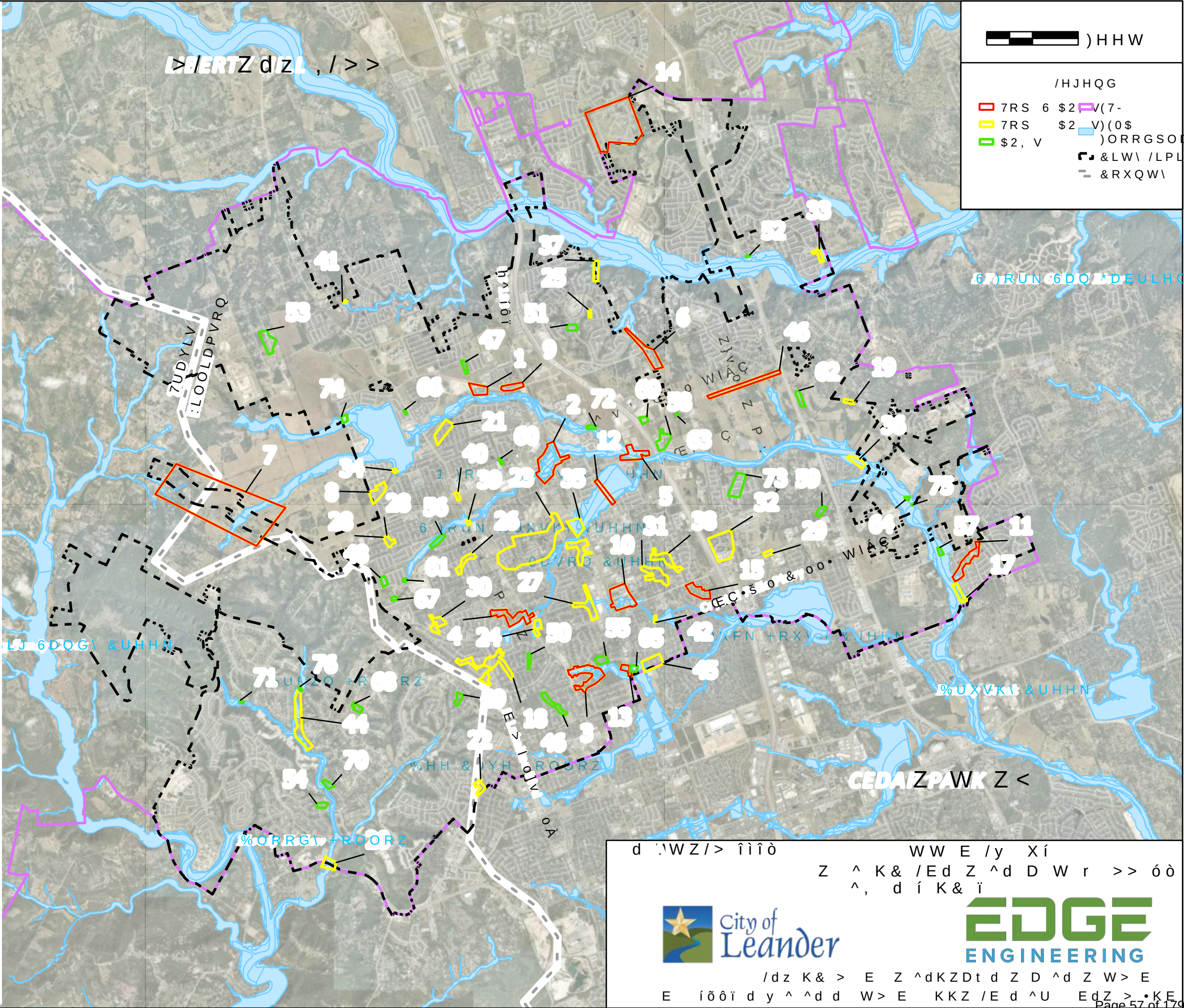
Rank	Problem Area ID	Type	Project Area Location	Proposed Benefits	Priority Score (180 max)	Project Cost
1	NFB-2	SF Subdivision	Near Fire Station 1, Mistflower Springs	2 phases, reduce overtopping & ponding, improve conveyance	121	\$ 770,000
2	SFB-1	Commercial + Rdwy	Highway 183 near W Broade St	Reduce roadway and neighborhood flooding, clear vegetation	106	\$ 1,320,000
3	BLC-11	SF Subdivision	County Glen Dr & Emerald Island Dr	Reduce roadway flooding, improve conveyance east	101	\$ 1,020,000
4	MC-7	SF Sub + Rdwy	Still Meadow Dr at Bagdad	3 Phases, Levee cert removes homes from FP, storm & channel imp.	97	\$ 1,876,000
5	BC-6	Commercial + Rdwy	Ranch Road 2243 near 1st Baptist Church	Reduces flooding on church, increases developable land	96	\$ 790,000
6	SFSG-T25-1	Roadway	CR-270 near CENTEX	Reduces frequency of overtopping & roadway maintenance/repair	84	\$ 322,000
7	NFB-6	Roadway	Hero Way West near CR 290	Increased culvert capacity reduces overtopping for major evac route	82	\$ 552,000
8	NFB-5	SF Subdivision	Near Waterfall Ave & Sunny Ridge Dr	Remove vegetation & improve conveyance to Devine Lake	80	\$ 260,000
9	NFB-1	Roadway	San Gabriel Pkwy near US 183	Reduce overtopping and flooding either side of SGPKwy	79	\$ 1,005,000
10	BLC-7	Commercial + Rdwy	Highway 183 and E Crystal Falls Pkwy	Improve conveyance across 183 & through warehouses	78	\$ 1,265,000
11	BC-2	SF Subdivision	Near Echo Park Dr & Pecan Creek Dr	Reduce flooding impacts to neighborhood park, improve FP storage	74	\$ 447,000
12	MC-1	Roadway	Horizon Park Blvd near Horizon Lake	Raise roadway & bridge crossing	72	\$ 610,000
13	BLC-10	Roadway	S Hwy 183 near Rush Automotive	Improve FP storage, reduce overtopping of US 183	71	\$ 1,446,000
14	SFSG-T28.01-1	SF Subdivision	Twinspur St in Bonnett subdivision	Improve conveyance and reduce neighborhood road overtopping	70	\$ 760,000
15	BLC-3A	SF Subdivision	Rutherford Dr in Ridgewood subdivision	Ph 1 of 2 - Improve culvert crossings and channel grading along tributary	70	\$ 557,000
16	BLC-3B	SF Subdivision	Ridgewood Dr in Ridgewood subdivision	Ph 2 of 2 - Replace and add storm infrastructure in public ROW	70	\$ 867,000
17	BC-1A	SF Subdivision	Steece Way	Steece Way	70	\$ 385,000
18	MC-9	SF Subdivision	N Lakeline Blvd	N Lakeline Blvd	70	\$ 480,000
19	BC-4	Roadway	CR-175	CR-175	69	\$ 675,000
20	BLH-1	Roadway	FM1431	FM1431	68	\$ 1,380,000
21	NFB-3	SF Subdivision	Henderson Dr	Henderson Dr	67	\$ 760,000
22	BCH-1	SF Subdivision	Granite Hill Cv	Granite Hill Cv	66	\$ 395,000
23	MC-4	Mixed use	Near Horseshoe Dr	Near Horseshoe Dr	65	\$ 1,500,000
24	MC-6	SF Sub + Rdwy	S Bagdad Rd	S Bagdad Rd	66	\$ 610,000
25	SFSG-T27-2	SF Subdivision	Mollie McBride Ln	Mollie McBride Ln	64	\$ 365,000
26	MC-5	SF Subdivision	Cerezo Dr	Cerezo Dr	62	\$ 850,000
27	BLC-8	SF Subdivision	S West Dr	S West Dr	62	\$ 525,000
28	SFB-4	SF Subdivision	Ran Rd	Ran Rd	61	\$ 530,000
29	BC-1B	Roadway	E Crystal Falls Pkwy	E Crystal Falls Pkwy	61	\$ 740,000
30	MC-8	SF Subdivision	Stinnett Ln	Stinnett Ln	60	\$ 1,050,000
31	BLC-5	SF Subdivision	Birch Brook Ln	Birch Brook Ln	59	\$ 770,000
32	BLC-2	Commercial	NE of TX-183A Toll S and E Crystal Falls Pkwy	NE of TX-183A Toll S and E Crystal Falls Pkwy	59	\$ 365,000
33	SFSG-1	SF Subdivision	Mongolian Dr	Mongolian Dr	59	\$ 695,000
34	NFB-4	Roadway	Maple Creek Dr	Maple Creek Dr	59	\$ 765,000
35	MC-2B	Roadway	S Hwy 183	S Hwy 183	58	\$ 1,120,000
36	BC-3	SF Subdivision	Rabbits Tail Dr	Rabbits Tail Dr	57	\$ 410,000
37	SFSG-T27-1	Roadway	CR-270	CR-270	56	\$ 1,010,000
38	BLC-4	SF Subdivision	Willow Creek Dr	Willow Creek Dr	55	\$ 950,000
39	SFB-3	Roadway	N Bagdad Rd	N Bagdad Rd	54	\$ 1,660,000
40	SFB-2	Roadway	N Bagdad Rd	N Bagdad Rd	53	\$ 1,025,000
41	SFSG-T34-1	Roadway	Mockingbird HI	Mockingbird HI	52	\$ 730,000
42	BLC-6	Roadway	Horizon Park Blvd	Horizon Park Blvd	51	\$ 930,000
43	MC-2A	Mixed use	Sonny Dr	Sonny Dr	50	\$ 1,350,000
44	BLH-2	SF Subdivision	High Lonesome	High Lonesome	49	\$ 835,000
45	BLC-9	SF Subdivision	Washington Square Dr	Washington Square Dr	45	\$ 1,030,000
46	BHC_060	SF Subdivision	Oro Belle Way to Oak Hollow Drive	Not Evaluated; See Note 3	14	\$ -
47	NFB_110	SF Subdivision	Brimhurst near Heritage Grove	Not Evaluated; See Note 3	14	\$ -
48	SFB_010	SF Subdivision	Tinto St near Vista Ridge Dr	Not Evaluated; See Note 3	14	\$ -
49	BCH_010	SF Subdivision	Buffalo Gap & Arroyo	Not Evaluated; See Note 3	14	\$ -
50	MAS_040	SF Subdivision	Laurel Ln at Deepwoods Trail	Not Evaluated; See Note 3	14	\$ -
51	SSG_3790	SF Subdivision	Indian Apple Way, Pleasant Hill Rd, & Brueggerh	Not Evaluated; See Note 3	14	\$ -
52	SSG_3920	SF Subdivision	Wind River Trail near Lakota	Not Evaluated; See Note 3	14	\$ -
53	NFB_060	SF Subdivision	Greatwood Trail	Not Evaluated; See Note 3	14	\$ -
54	BLH_090	SF Subdivision	Venezia View to Parisio Court	Not Evaluated; See Note 3	14	\$ -
55	BHC_110	SF Subdivision	Hernandos Loop	Not Evaluated; See Note 3	12	\$ -
56	SFB_010	SF Subdivision	Pinot Noir Street	Not Evaluated; See Note 3	10	\$ -
57	UBC_200	Homes	Journey Pkwy at Brushy Creek	Not Evaluated; See Note 3	10	\$ -
58	UBC_020	Commercial	CR 269 near RM 2243	Not Evaluated; See Note 3	10	\$ -
59	UBC_110	SF Subdivision	Fair Oaks St	Not Evaluated; See Note 3	10	\$ -
60	SFB_040	Multifamily	Leander Senior Village	Not Evaluated; See Note 3	10	\$ -
61	SFB_010	SF Subdivision	Mountain Sky Bend	Not Evaluated; See Note 3	10	\$ -
62	UBC_080	Homes	Ronald Reagan Pkwy near RM 2243	Not Evaluated; See Note 3	10	\$ -
63	UBC_020	Homes	E Hero Way near CR 270	Not Evaluated; See Note 3	10	\$ -
64	UBC_130	Homes	Trail near CR 176 and Brushy Creek	Not Evaluated; See Note 3	10	\$ -
65	BHC_120	Commercial	Knight Fields at US 183	Not Evaluated; See Note 3	10	\$ -
66	NFB_100	SF Subdivision	Weatherford Lane	Not Evaluated; See Note 3	7	\$ -
67	SFB_010	SF Subdivision	Deerpath St and Gordon Parker Ct	Not Evaluated; See Note 3	7	\$ -
68	BCH_060	SF Subdivision	Spyglass Hill & Palos Verdes	Not Evaluated; See Note 3	7	\$ -
69	UBC_020	Roadway	Hero Way at US 183A NBFR	Not Evaluated; See Note 3	5	\$ -
70	BLH_070	Yards	Bloody Hollow at Roaring Fork	Not Evaluated; See Note 3	5	\$ -
71	BLH_020	Yards	Bloody Hollow at Laughing Dog	Not Evaluated; See Note 3	5	\$ -
72	NFB_120	Parks	North Fork Brushy Creek at The Standard	Not Evaluated; See Note 3	5	\$ -
73	UBC_030	Private/ Gated	Ibiza Dr to Balearic Dr	Not Evaluated; See Note 3	0	\$ -
74	NFB_050	Developer Construction	Devine Lake Bend	Not Evaluated; See Note 3	0	\$ -
75	UBC_150	Closed Road	CR 176 at Brushy Creek	Not Evaluated; See Note 3	0	\$ -
76	BRH_040	Private/ Gated	High Lonesome LWC at Brown Hollow	Not Evaluated; See Note 3	0	\$ -

Notes:

- 1) A model source factor of 0.7 was assigned to flood results obtained from 2D ICM modeling. A factor of 1 was used for flooding results obtained from HEC-RAS 1D model.
- 2) Roadways were flagged as areas of interest if they did not meet 25 yr Level of Service.
- 3) AOIs ranked 46-74 were scored based solely on flood risk categories (Property, ROW, Historic Flooding). These AOIs were not evaluated for proposed improvement mitigation concepts. IDs reflect model subbasins.

Area of Interest Prioritization - All 76				
Rank	Problem Area ID	Project Area Location	Priority Score (180 max)	Project Cost
1	NFB-2	Near Fire Station 1, Mistflower Springs	121	\$ 770,000
2	SFB-1	Highway 183 near W Broade St	106	\$ 1,320,000
3	BLC-11	County Glen Dr & Emerald Island Dr	101	\$ 1,020,000
4	MC-7	Still Meadow Dr at Bagdad	97	\$ 1,876,000
5	BC-6	Ranch Road 2243 near 1st Baptist Church	96	\$ 790,000
6	SFSG-T25-1	CR-270 near CENTEX	84	\$ 322,000
7	NFB-6	Hero Way West near CR 290	82	\$ 552,000
8	NFB-5	Near Waterfall Ave & Sunny Ridge Dr	80	\$ 260,000
9	NFB-1	San Gabriel Pkwy near US 183	79	\$ 1,005,000
10	BLC-7	Highway 183 and E Crystal Falls Pkwy	78	\$ 1,265,000
11	BC-2	Near Echo Park Dr & Pecan Creek Dr	74	\$ 447,000
12	MC-1	Horizon Park Blvd near Horizon Lake	72	\$ 610,000
13	BLC-10	S Hwy 183 near Rush Automotive	71	\$ 1,446,000
14	SFSG-T28.01-1	Twinspur St in Bonnett subdivision	70	\$ 760,000
15	BLC-3A	Rutherford Dr in Ridgewood subdivision	70	\$ 557,000
16	BLC-3B	Ridgewood Dr in Ridgewood subdivision	70	\$ 867,000
17	BC-1A	Steece Way	70	\$ 385,000
18	MC-9	N Lakeline Blvd	70	\$ 480,000
19	BC-4	CR-175	69	\$ 675,000
20	BLH-1	FM1431	68	\$ 1,380,000
21	NFB-3	Henderson Dr	67	\$ 760,000
22	BCH-1	Granite Hill Cv	66	\$ 395,000
23	MC-4	Near Horseshoe Dr	65	\$ 1,500,000
24	MC-6	S Bagdad Rd	66	\$ 610,000
25	SFSG-T27-2	Mollie McBride Ln	64	\$ 365,000
26	MC-5	Cerezo Dr	62	\$ 850,000
27	BLC-8	S West Dr	62	\$ 525,000
28	SFB-4	Ran Rd	61	\$ 530,000
29	BC-1B	E Crystal Falls Pkwy	61	\$ 740,000
30	MC-8	Stinnett Ln	60	\$ 1,050,000
31	BLC-5	Birch Brook Ln	59	\$ 770,000
32	BLC-2	NE of TX-183A Toll S and E Crystal Falls Pkwy	59	\$ 365,000
33	SFSG-1	Mongolian Dr	59	\$ 695,000
34	NFB-4	Maple Creek Dr	59	\$ 765,000
35	MC-2B	S Hwy 183	58	\$ 1,120,000
36	BC-3	Rabbits Tail Dr	57	\$ 410,000
37	SFSG-T27-1	CR-270	56	\$ 1,010,000
38	BLC-4	Willow Creek Dr	55	\$ 950,000
39	SFB-3	N Bagdad Rd	54	\$ 1,660,000
40	SFB-2	N Bagdad Rd	53	\$ 1,025,000
41	SFSG-T34-1	Mockingbird HI	52	\$ 730,000
42	BLC-6	Horizon Park Blvd	51	\$ 930,000
43	MC-2A	Sonny Dr	50	\$ 1,350,000
44	BLH-2	High Lonesome	49	\$ 835,000
45	BLC-9	Washington Square Dr	45	\$ 1,030,000
46	BHC_060	Oro Belle Way to Oak Hollow Drive	14	\$ -
47	NFB_110	Brimhurst near Heritage Grove	14	\$ -
48	SFB_010	Tinto St near Vista Ridge Dr	14	\$ -
49	BCH_010	Buffalo Gap & Arroyo	14	\$ -
50	MAS_040	Laurel Ln at Deepwoods Trail	14	\$ -
51	SSG_3790	Indian Apple Way, Pleasant Hill Rd, & Bruegge	14	\$ -
52	SSG_3920	Wind River Trail near Lakota	14	\$ -
53	NFB_060	Greatwood Trail	14	\$ -
54	BLH_090	Venezia View to Parisio Court	14	\$ -
55	BHC_110	Hernandos Loop	12	\$ -
56	SFB_010	Pinot Noir Street	10	\$ -
57	UBC_200	Journey Pkwy at Brushy Creek	10	\$ -
58	UBC_020	CR 269 near RM 2243	10	\$ -
59	UBC_110	Fair Oaks St	10	\$ -
60	SFB_040	Leander Senior Village	10	\$ -
61	SFB_010	Mountain Sky Bend	10	\$ -
62	UBC_080	Ronald Reagan Pkwy near RM 2243	10	\$ -
63	UBC_020	E Hero Way near CR 270	10	\$ -
64	UBC_130	Trail near CR 176 and Brushy Creek	10	\$ -
65	BHC_120	Knight Fields at US 183	10	\$ -
66	NFB_100	Weatherford Lane	7	\$ -
67	SFB_010	Deerpath St and Gordon Parker Ct	7	\$ -
68	BCH_060	Spyglass Hill & Palos Verdes	7	\$ -
69	UBC_020	Hero Way at US 183A NBFR	5	\$ -
70	BLH_070	Bloody Hollow at Roaring Fork	5	\$ -
71	BLH_020	Bloody Hollow at Laughing Dog	5	\$ -
72	NFB_120	North Fork Brushy Creek at The Standard	5	\$ -
73	UBC_030	Ibiza Dr to Balearic Dr	0	\$ -
74	NFB_050	Devine Lake Bend	0	\$ -
75	UBC_150	CR 176 at Brushy Creek	0	\$ -
76	BRH_040	High Lonesome LWC at Brown Hollow	0	\$ -

Notes:
1) A model source factor of 0.7 was assigned to flood results obtained from 2D local stormdrain ICM modeling. A factor of 1 was used for flooding results obtained from HEC-RAS 1D model.
2) Roadways were flagged as areas of interest if they did not meet the COL standards (25 yr storm event).
3) AOIs ranked 46-74 were scored based solely on flood risk categories (Property, ROW, Historic Flooding). These AOIs were not evaluated for proposed improvement mitigation concepts. IDs reflect model subbasins.



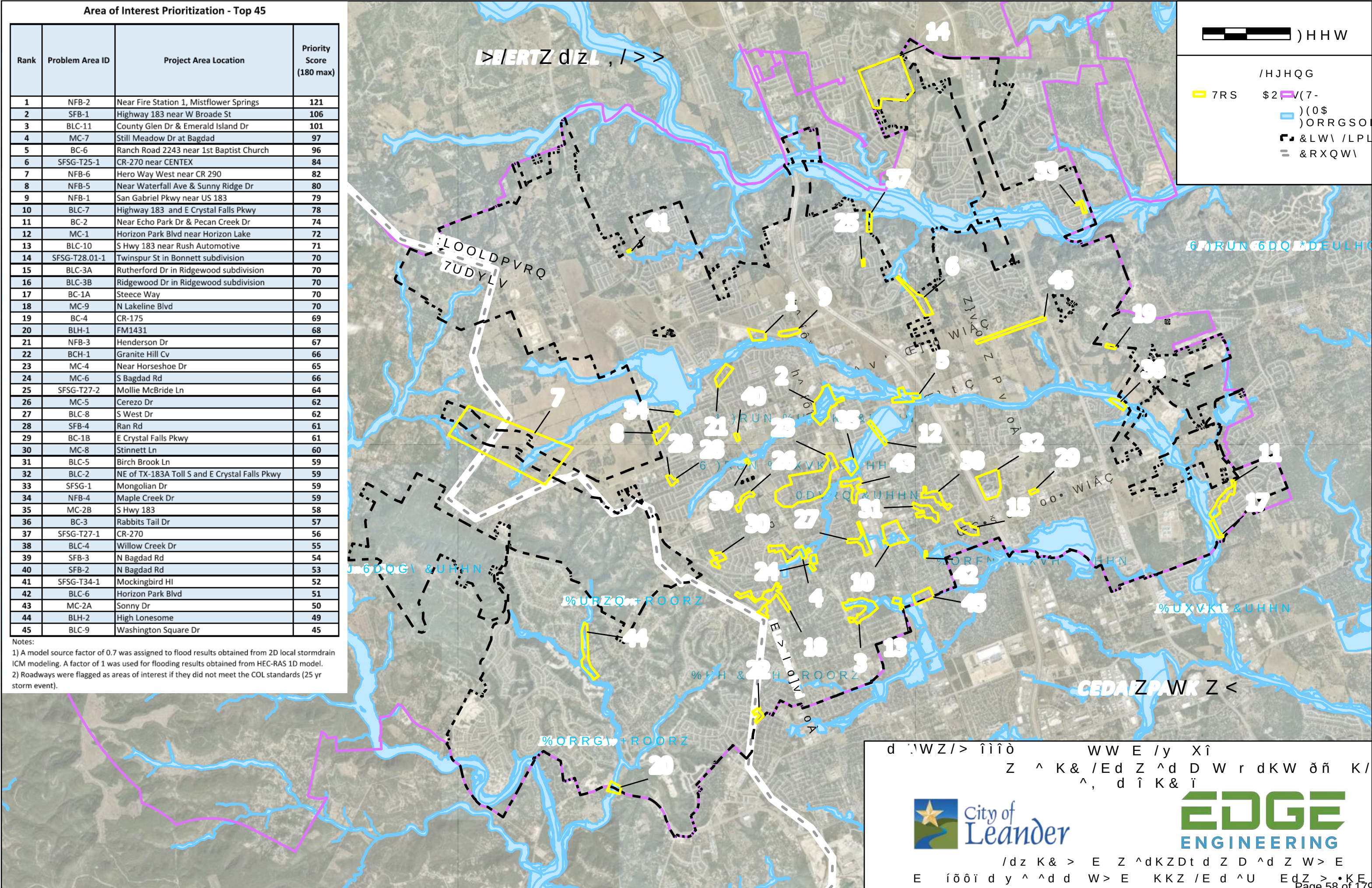
Area of Interest Prioritization - Top 45

Rank	Problem Area ID	Project Area Location	Priority Score (180 max)
1	NFB-2	Near Fire Station 1, Mistflower Springs	121
2	SFB-1	Highway 183 near W Broade St	106
3	BLC-11	County Glen Dr & Emerald Island Dr	101
4	MC-7	Still Meadow Dr at Bagdad	97
5	BC-6	Ranch Road 2243 near 1st Baptist Church	96
6	SFSG-T25-1	CR-270 near CENTEX	84
7	NFB-6	Hero Way West near CR 290	82
8	NFB-5	Near Waterfall Ave & Sunny Ridge Dr	80
9	NFB-1	San Gabriel Pkwy near US 183	79
10	BLC-7	Highway 183 and E Crystal Falls Pkwy	78
11	BC-2	Near Echo Park Dr & Pecan Creek Dr	74
12	MC-1	Horizon Park Blvd near Horizon Lake	72
13	BLC-10	S Hwy 183 near Rush Automotive	71
14	SFSG-T28.01-1	Twinspur St in Bonnett subdivision	70
15	BLC-3A	Rutherford Dr in Ridgewood subdivision	70
16	BLC-3B	Ridgewood Dr in Ridgewood subdivision	70
17	BC-1A	Steece Way	70
18	MC-9	N Lakeline Blvd	70
19	BC-4	CR-175	69
20	BLH-1	FM1431	68
21	NFB-3	Henderson Dr	67
22	BCH-1	Granite Hill Cv	66
23	MC-4	Near Horseshoe Dr	65
24	MC-6	S Bagdad Rd	66
25	SFSG-T27-2	Mollie McBride Ln	64
26	MC-5	Cerezo Dr	62
27	BLC-8	S West Dr	62
28	SFB-4	Ran Rd	61
29	BC-1B	E Crystal Falls Pkwy	61
30	MC-8	Stinnett Ln	60
31	BLC-5	Birch Brook Ln	59
32	BLC-2	NE of TX-183A Toll S and E Crystal Falls Pkwy	59
33	SFSG-1	Mongolian Dr	59
34	NFB-4	Maple Creek Dr	59
35	MC-2B	S Hwy 183	58
36	BC-3	Rabbits Tail Dr	57
37	SFSG-T27-1	CR-270	56
38	BLC-4	Willow Creek Dr	55
39	SFB-3	N Bagdad Rd	54
40	SFB-2	N Bagdad Rd	53
41	SFSG-T34-1	Mockingbird HI	52
42	BLC-6	Horizon Park Blvd	51
43	MC-2A	Sonny Dr	50
44	BLH-2	High Lonesome	49
45	BLC-9	Washington Square Dr	45

Notes:

1) A model source factor of 0.7 was assigned to flood results obtained from 2D local stormdrain ICM modeling. A factor of 1 was used for flooding results obtained from HEC-RAS 1D model.

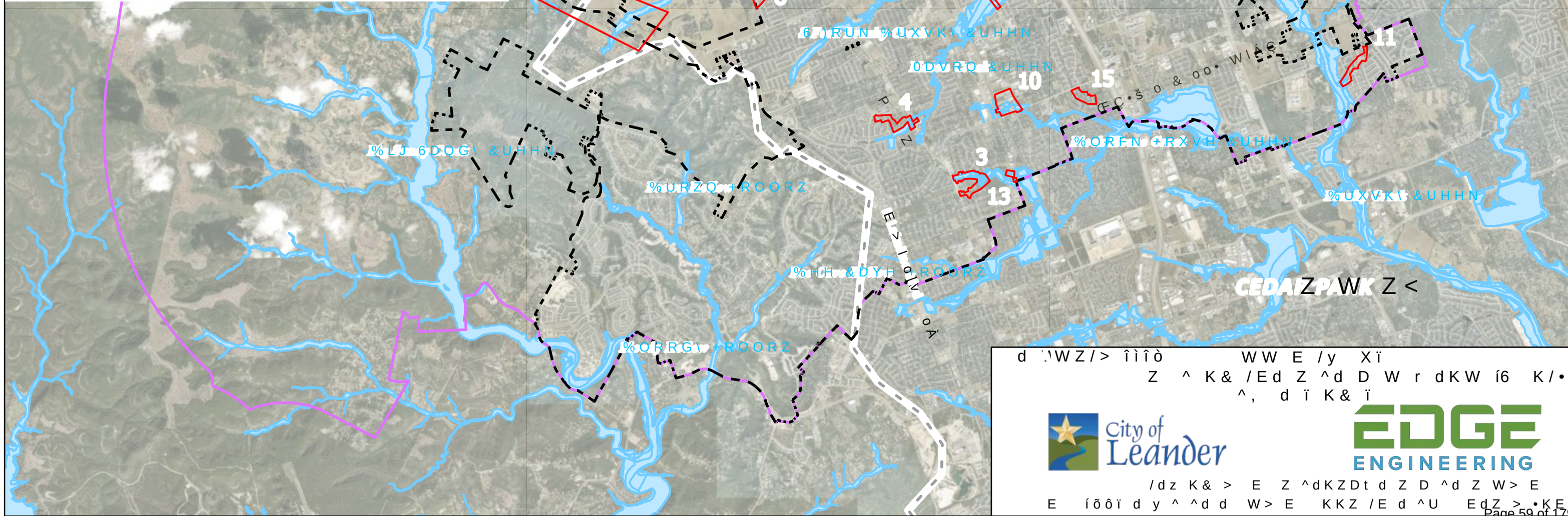
2) Roadways were flagged as areas of interest if they did not meet the COL standards (25 yr storm event).



Rank	Problem Area ID	Project Area Location	Priority Score (180 max)
1	NFB-2	Near Fire Station 1, Mistflower Springs	121
2	SFB-1	Highway 183 near W Broade St	106
3	BLC-11	County Glen Dr & Emerald Island Dr	101
4	MC-7	Still Meadow Dr at Bagdad	97
5	BC-6	Ranch Road 2243 near 1st Baptist Church	96
6	SFSG-T25-1	CR-270 near CENTEX	84
7	NFB-6	Hero Way West near CR 290	82
8	NFB-5	Near Waterfall Ave & Sunny Ridge Dr	80
9	NFB-1	San Gabriel Pkwy near US 183	79
10	BLC-7	Highway 183 and E Crystal Falls Pkwy	78
11	BC-2	Near Echo Park Dr & Pecan Creek Dr	74
12	MC-1	Horizon Park Blvd near Horizon Lake	72
13	BLC-10	S Hwy 183 near Rush Automotive	71
14	SFSG-T28.01-1	Twinspur St in Bonnett subdivision	70
15	BLC-3A	Rutherford Dr in Ridgewood subdivision	70
16	BLC-3B	Ridgewood Dr in Ridgewood subdivision	70

Notes:

- 1) A model source factor of 0.7 was assigned to flood results obtained from 2D local stormdrain ICM modeling. A factor of 1 was used for flooding results obtained from HEC-RAS 1D riverine model.
- 2) Roadways were flagged as areas of interest if they did not meet the COL standards (25 yr storm event).



Appendix D: Project Summary Sheets

- Top 16 AOI Project Summary Sheets
- AOIs 17-45 Project Summary Sheets

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: NFB-2 (Rank #1)
Project Name: Mistflower Springs Dr Culvert & Channel Improvements
Drainage Basin: NFB_110

Problem Description

Existing earthen channels west and through the SF subdivision appear to be undersized and several homes are inundated in the 100-yr event. The culverts under Mistflower Spring Dr appear to be undersized and the channel's right bank does not contain which causes a low area to flood in the right overbank. The low area flooding extends through several residential structures and overflows onto Mistflower Springs Dr overwhelming the storm drain system.

Proposed Improvements

- Ph 1 - Fire Station No. 1 Improvements, Phase 2 project described below:
- 230 linear feet of concrete channel improvements.
 - 700 linear feet of earthen channel improvement
 - Replacement of 100 linear feet of 8x3 RCB at crossing along Mistflower Springs Drive
 - 190 linear feet of concrete berm.
 - Addition of 90 linear feet of 30" RCP at open space area with low elevation for yard drainage.

CIP Ranking Criteria

	Score
Property Flooding	42
Roadway Flooding Risk	0
Citizen Input/Historical	40
Cost Effectiveness	16
O&M Requirements	15
Level of Project Impact	3
External Partner Coord	5
External Funding Opp	0
Total	121

Project Costs

Engineering & Survey:	\$ 100,000
Construction:	\$ 666,900
Other:	
Total:	\$ 766,900
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	4-6 Months

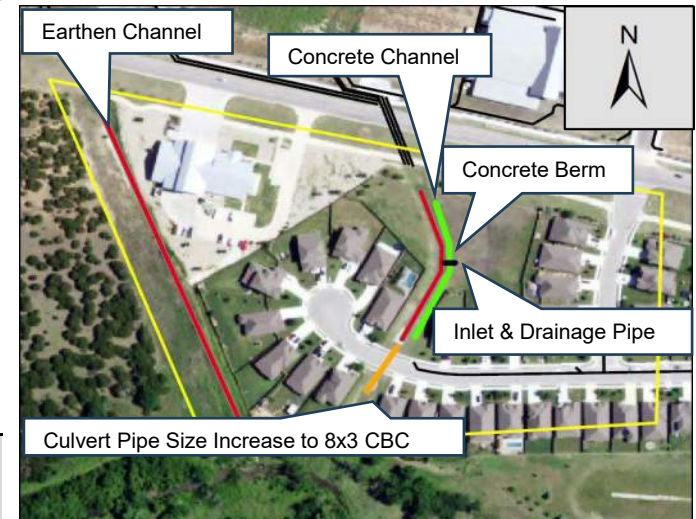
Assumptions

- ICM 100-year overtopping is conservative and should be evaluated during detailed design us more detailed H&H methods.

Project Photos



100-yr Existing Floodplain ICM



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: SFB-1 (Rank #2)
Project Name: W Broade St at Mason Creek Conveyance Improvements
Drainage Basin: SFB_030

Problem Description

The two culvert crossings at South Fork Brushy and its tributary at W Broade St and N Highway 183 are undersized which leads to inundation of residential homes in the 25-yr storm event.

Proposed Improvements

- Culvert to bridge at W Broade Street and raise the roadway elevation by 3.5' with upstream and downstream channel modifications
- 1,208 feet of channel improvements along South Fork Brushy Creek from W Broade St to N Highway 183.

CIP Ranking Criteria

	Score
Property Flooding	30
Roadway Flooding Risk	30
Citizen Input/Historical	5
Cost Effectiveness	12
O&M Requirements	15
Level of Project Impact	10
External Partner Coord	1
External Funding Opp	3
Total	106

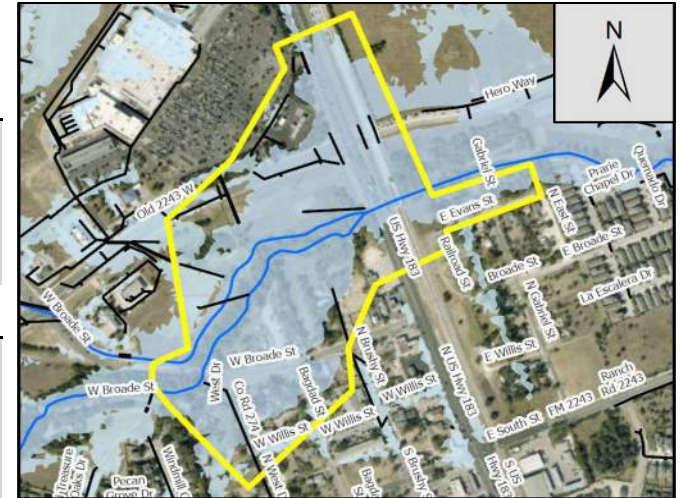
Project Costs

Engineering & Survey:	\$ 172,000
Construction:	\$ 1,147,900
Other:	
Total:	\$ 1,319,900
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	3 Months

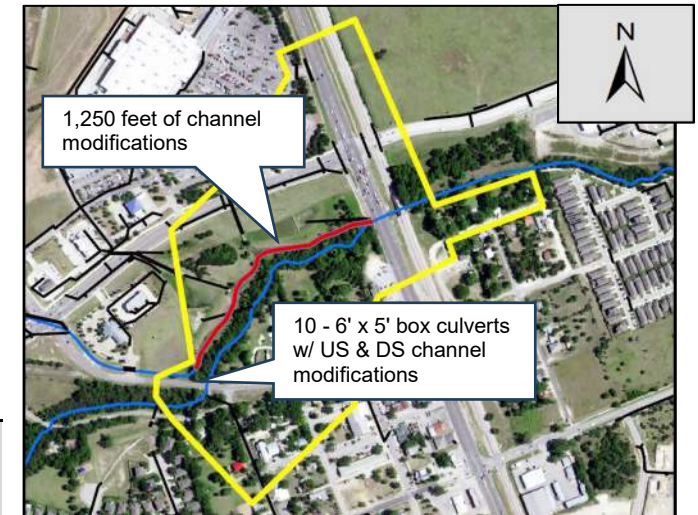
Assumptions

Inundation in the South Fork Brushy Creek HEC-RAS model is more accurate than the model for South Fork Brushy Tributary A for the area of interest.

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed Improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: BLC-11 (Rank #3)
Project Name: County Glen St & Emerald Isle Dr Storm Improvements
Drainage Basin: BLC_110

Problem Description

The existing drainage for this subdivision primarily consists of roadside ditches and driveway culverts. The ditches and driveway culverts are undersized and localized modeling shows a high probability to residential flooding.

Proposed Improvements

- 650 LF of 36" storm sewer to convey flow along County Glen Drive and into Wicklow Drive.
- 265 LF of 4'x3' box culvert from Wicklow Dr to trib outfall.
- Replace 2-24" CMP low water crossing at Emerald Isle Dr with 2 - 4' x 3' box culverts
- 250 linear feet of channel widening downstream to east property line.

CIP Ranking Criteria

	Score
Property Flooding	30
Roadway Flooding Risk	0
Citizen Input/Historical	40
Cost Effectiveness	16
O&M Requirements	10
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	101

Project Costs

Engineering & Survey:	\$ 133,000
Construction:	\$ 886,275
Other:	
Total:	\$ 1,019,275
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	9-12 Months

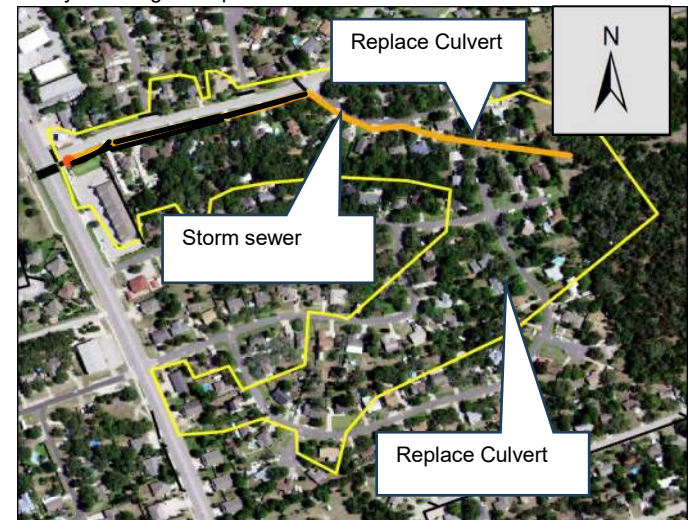
Assumptions

- Storm drain & box culverts add capacity to existing ditch system which will remain.
- Cross culverts discharge downstream to tributary.

Project Photos



100-yr Existing Floodplain ICM

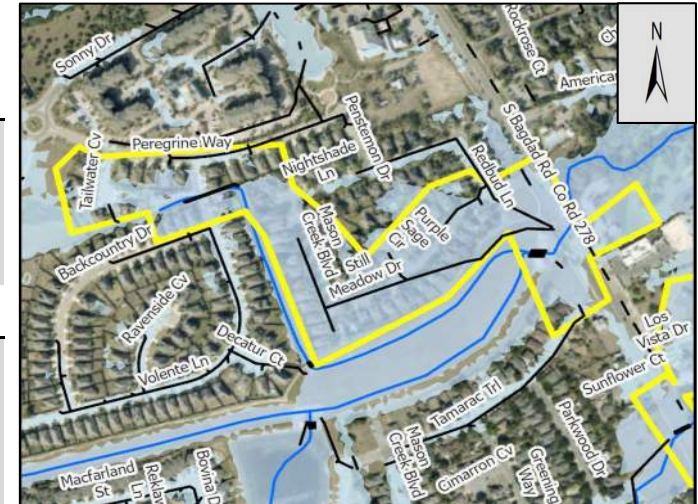


Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

Project ID: MC-7 (Rank #4)
Project Name: Mason Ranch Storm & Conveyance Improvements
Drainage Basin: MAS_030

Problem Description

A tributary of Mason Creek flows through an initial culvert system at Volente St (2 - 36" RCP) and south through the residential neighborhood in an open ditch. Flow from the ditch goes through a second culvert system (2 - 8' x 4' box culverts) and into a detention pond flowing east and out of a third culvert system (1 - 42" and 3 - 60" circular culverts) underneath S Bagdad Road. The first two culvert systems and the open ditch are undersized which potentially causes residential flooding.

Proposed Improvements

- **Recommend 3 Phases: Ph 1 - Levee Certification (no construction); Ph 2 - clearing & channel s downstream improvements; Ph 3 - Neighborhood Storm Improvements**
- 874 feet of channel improvements
- Replace the 2 - 36" culverts with 6 - 3' x 3' box culverts and upstream channel modifications
- Replace and upsize 2,270 linear feet of storm sewer. Sizes range from 24" to 60" pipes

CIP Ranking Criteria

	Score
Property Flooding	40
Roadway Flooding Risk	30
Citizen Input/Historical	0
Cost Effectiveness	8
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	3
Total	97

Project Costs

Engineering & Survey:	\$ 313,000
Construction:	\$ 1,562,678
Other:	
Total:	\$ 1,875,678
Conceptual Cost Range:	\$1.5M - \$2M
Estimated Construction Duration:	18-24 Months

Assumptions

- Levee certification removes homes from floodplain without construction
- Storm improvements conveys drainage offsite more efficiently

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: BC-6 (Rank #5)
Project Name: RR 2243 at Brushy Creek Low Water Crossing
Drainage Basin: UBC_010

Problem Description

Brushy Creek crosses RR 2243 through 2 - 8' x 4' box culvert and 5 - 7' x 4' box culverts. The culvert system is undersized which causes significant inundation and structural flooding north of RR 2243 in the 25 year storm event.

Proposed Improvements

- Raise RR 2243 roadway elevation by approximately 4-ft
- Replace culvert system with a 90-ft span bridge

CIP Ranking Criteria

	Score
Property Flooding	10
Roadway Flooding Risk	35
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	20
Level of Project Impact	6
External Partner Coord	1
External Funding Opp	4
Total	96

Project Costs

Engineering & Survey:	\$ 103,000
Construction:	\$ 687,063
Other:	
Total:	\$ 790,063
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	12-18 Months

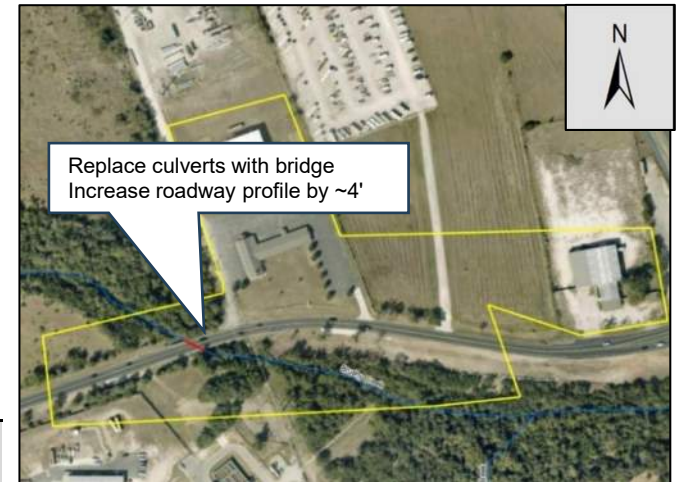
Assumptions

- Extended project duration due to traffic phasing
- Investigate potential downstream impacts during detailed design phase.

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: SFSG-T25-1 (Rank #6)
Project Name: CR 270 Low Water Crossing
Drainage Basin: BHC_110

Problem Description

A tributary of South Fork San Gabriel crosses CR 270 adjacent to a residential neighborhood and the recently built Wildflower RV Park. The culvert crossing at CR 270 is undersized and does not adequately convey the 25 year storm event and cause inundation of the adjacent residential area.

Proposed Improvements

- Replace existing 24" CMP with 4 - 36" RCP
- Channel grading & riprap along CR 270 and through CENTEX and gas tank pad site

CIP Ranking Criteria

	Score
Property Flooding	0
Roadway Flooding Risk	25
Citizen Input/Historical	15
Cost Effectiveness	24
O&M Requirements	15
Level of Project Impact	3
External Partner Coord	1
External Funding Opp	1
Total	84

Project Costs

Engineering & Survey:	\$ 54,000
Construction:	\$ 268,054
Other:	
Total:	\$ 322,054
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	6 Months

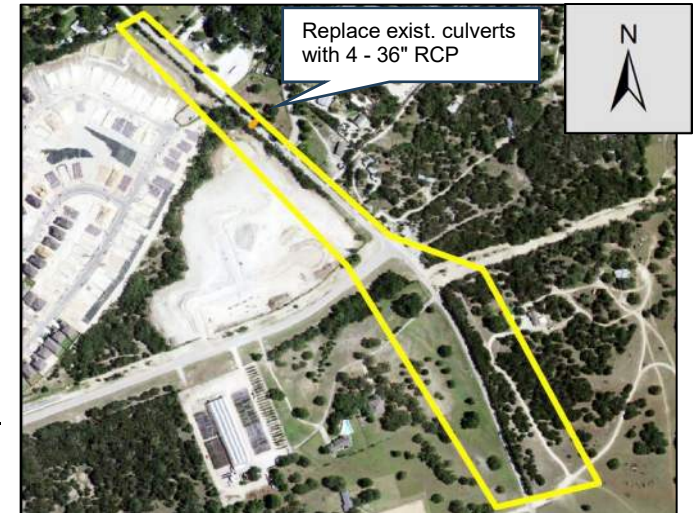
Assumptions

Development downstream of the culvert crossing CR 270 has been constructed after the creation of the best available HEC-RAS models. If proposed improvements do not significantly reduce overtopping, may need to replace second low water crossing as well.

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: NFB-6 (Rank #7)
Project Name: Hero Way West Culvert Improvements
Drainage Basin: NFB_010

Problem Description

North Fork Brushy Creek crosses Hero Way West (RM 2243) through 2 - 5' x 5' box culverts. The culverts are undersized and do not adequately convey the 25 year storm event which causes the roadway to overtop and pose a safety risk.

Proposed Improvements

- Add two additional 5' x 5' box culverts for a total of 4 - 5' x 5' box culverts
- Channel improvements at the upstream and downstream ends of the culverts

CIP Ranking Criteria

	Score
Property Flooding	0
Roadway Flooding Risk	35
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	20
Level of Project Impact	3
External Partner Coord	1
External Funding Opp	3
Total	82

Project Costs

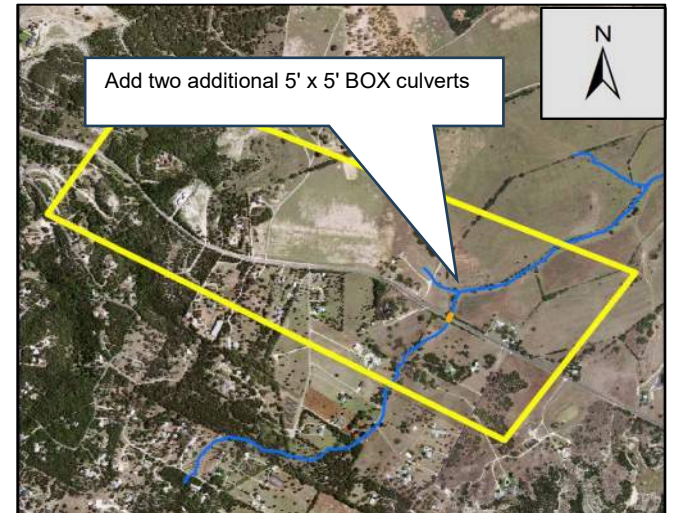
Engineering & Survey:	\$ 72,000
Construction:	\$ 479,986
Other:	
Total:	\$ 551,986
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	12 Months

Assumptions

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**

Project ID: NFB-5 (Rank #8)
Project Name: Conveyance Improvements Near Waterfall Ave
Drainage Basin: NFB_090

Problem Description

Apparent flooding of large earthen channel through development, culvert crossings at Landing Ln and Sunny Ridge Dr. Poorly defined flowline of creek upstream of development must turn and find relatively small channel section at Landing Ln culvert crossing. Vegetation downstream of Sunny Ridge Dr may prevent efficient conveyance. May be related to Area of Interest 34.

Proposed Improvements

- Earthwork improvements upstream of Landing Ln
- Vegetation removal downstream of Sunny Ridge Dr
- Flowline armoring (rock riprap) at western property line and existing culverts

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	30
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	24
O&M Requirements	20
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	79

Project Costs

Engineering & Survey:	\$ 50,000
Construction:	\$ 209,950
Other:	
Total:	\$ 259,950
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	2-3 Months

Assumptions



Project Photos



100-yr Existing Floodplain ICM



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: NFB-1 (Rank #9)
Project Name: E San Gabriel Pkwy Culvert Improvements
Drainage Basin: NFB_110

Problem Description

A tributary of North Fork Brushy Creek crosses the E San Gabriel Parkway through 3 - 5' x 3' box culverts. The existing crossing is undersized and does not adequately convey the 25 year storm even. This leads to backwater inundating several residential structures upstream and flooding W Broade Street and Akumal Street.

Proposed Improvements

- Upgrade the E San Gabriel Parkway culvert system to 6 - 5' x 3' box culverts.
- Upstream and downstream modifications on the channel.

CIP Ranking Criteria

	Score
Property Flooding	0
Roadway Flooding Risk	25
Citizen Input/Historical	20
Cost Effectiveness	12
O&M Requirements	15
Level of Project Impact	3
External Partner Coord	5
External Funding Opp	0
Total	80

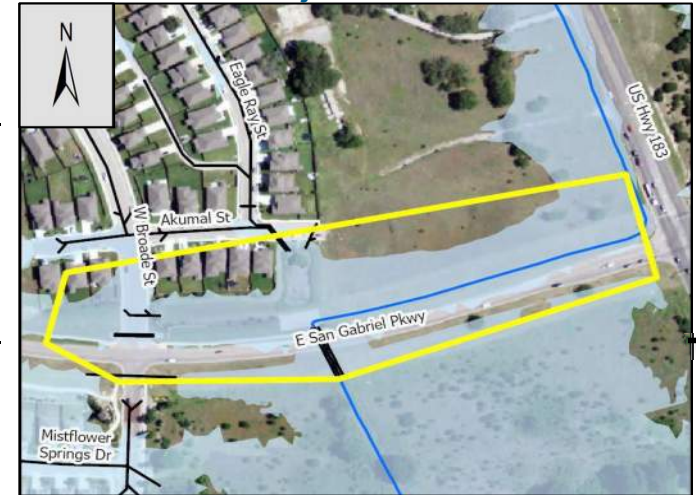
Project Costs

Engineering & Survey:	\$ 135,000
Construction:	\$ 870,000
Other:	
Total:	\$ 1,005,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	6-8 Months

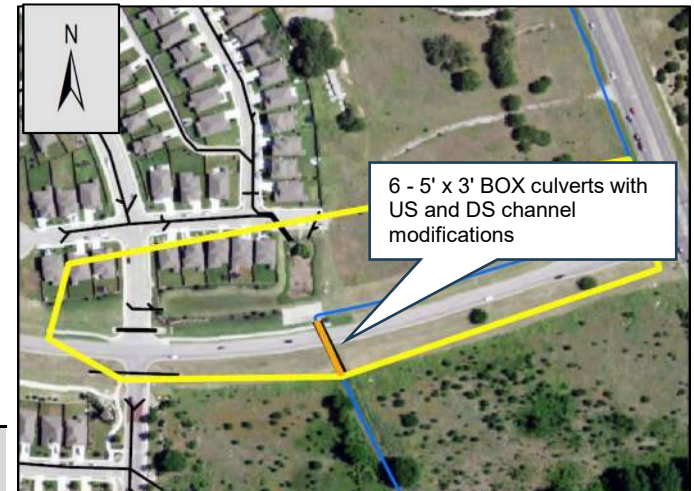
Assumptions

May be accomplished through currently planned CIP expansion of San Gabriel Pkwy.

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: BLC-7 (Rank #10)
Project Name: E Crystal Falls Parkway at North Branch Block House Creek
Drainage Basin: BHC_160

Problem Description

A tributary of Blockhouse Creek crosses SH 183, a railroad, and W Crystal Falls Pkwy through culvert systems and flows a commercial area via storm drain system and open ditch. The culverts at SH 183 are undersized and overtop in the 25-yr event. Overtopping flow inundates the commercial structures and causes significant flooding.

Proposed Improvements

- SH 183 - Upgrade 2 - 54" circular culvert to 2 - 5' x 5' box culverts.
- Upsize 1,140 linear feet of storm sewer

CIP Ranking Criteria

	Score
Property Flooding	30
Roadway Flooding Risk	25
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	10
Level of Project Impact	0
External Partner Coord	0
External Funding Opp	1
Total	78

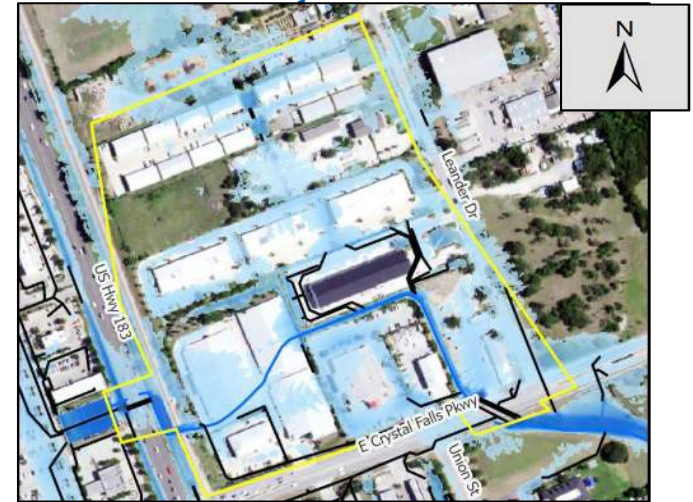
Project Costs

Engineering & Survey:	\$ 165,000
Construction:	\$ 1,099,670
Other:	
Total:	\$ 1,264,670
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	9-12 Months

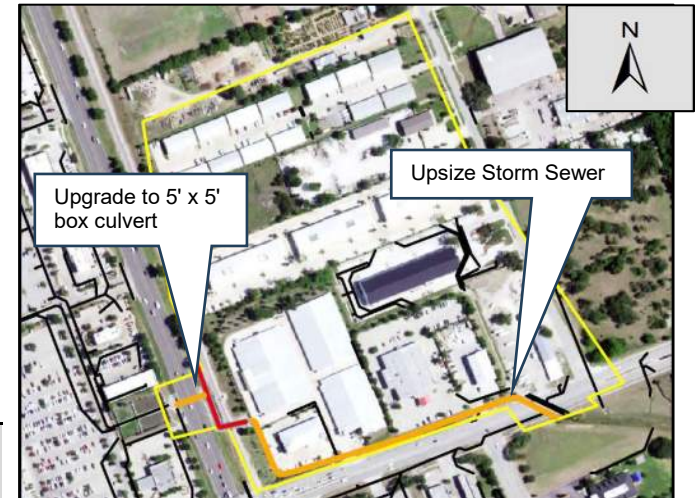
Assumptions

Some options for private box culverts through warehouse/industrial site, potentially complex coordination with TxDOT and railroad

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: BC-2 (Rank #11)
Project Name: Brushy Creek Tributary at Pecan Creek
Drainage Basin: UBC_210

Problem Description

A tributary of Brushy Creek flows through a residential neighborhood and adjacent to four ponds. It crosses Echo Park Dr via 5 - 9' x 5' box culverts and Pecan Creek Dr. via 7 - 8' x 4' box culverts. The channel and culvert crossings are undersized and cause overtopping of Echo Park Drive and Pecan Creek Dr along with residential flooding.

Proposed Improvements

- Excavation within the park downstream of Pecan Creek Dr to increase floodplain storage.
- Clearing of brush in the creek: 1ac downstream of Pecan Creek Dr and 2ac near Journey Park and Julian Ln.
- Replace existing pedestrian creek crossing near Moody Park, earthen berm at perimeter of playground (south bank)

CIP Ranking Criteria

	Score
Property Flooding	30
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	24
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	74

Project Costs

Engineering & Survey:	\$ 58,000
Construction:	\$ 389,025
Other:	
Total:	\$ 447,025
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	4-6 Months

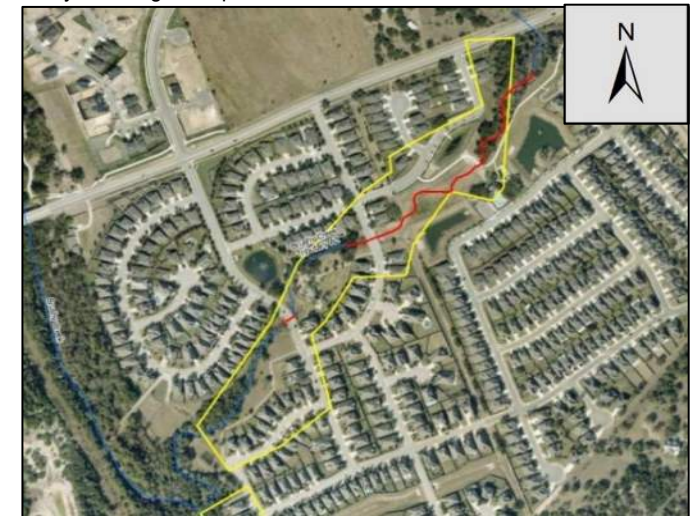
Assumptions

Zone AE backwater at Pecan Creek culvert is approx. 836', as-built d/s flowline is 836.51'. Listed 100yr tailwater for culvert crossing is 841.50. At Echo Creek, culvert flowline is 843.68, listed 100yr tailwater is 851.08 (Look at as-builts for Lost Woods)

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: MC-1 (Rank #12)
Project Name: Horizon Park Bridge Improvements
Drainage Basin: MAS_070

Problem Description

Mason Creek crosses the Horizon Park Blvd bridge and flows north towards the UBCWCID dam. The roadway is overtopped in the 25-yr event and does not meet City criteria posing a safety risk.

Proposed Improvements

- Raise roadway profile and bridge low chord elevation by approximately 6' to reduce overtopping of the roadway and increase the level of service.

CIP Ranking Criteria

	Score
Property Flooding	0
Roadway Flooding Risk	25
Citizen Input/Historical	10
Cost Effectiveness	20
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	1
Total	72

Project Costs

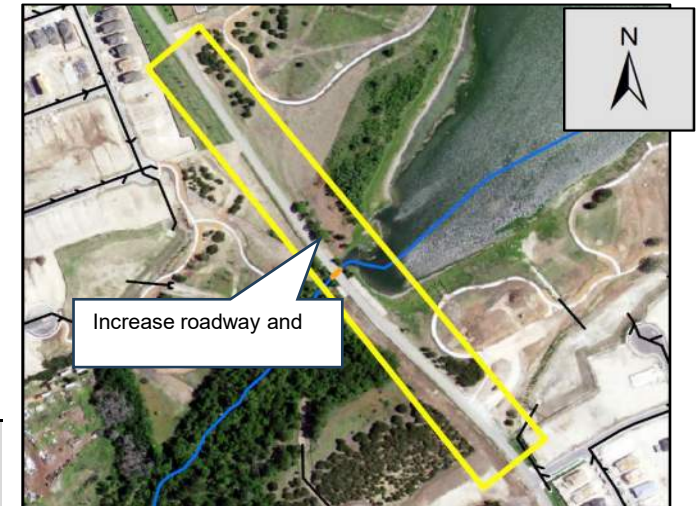
Engineering & Survey:	\$ 80,000
Construction:	\$ 530,062
Other:	
Total:	\$ 610,062
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	6-8 Months

Assumptions

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: BLC-10 (Rank #13)
Project Name: US 183 Culvert Crossing at Houghton Creek
Drainage Basin: BHC_110

Problem Description

A tributary of Blockhouse Creek crosses S Hwy 183 through 6 - 4' x 4' box culverts. The box culverts are undersized for the 25-yr event which causes significant roadway overtopping and inundation of two adjacent commercial properties.

Proposed Improvements

- Add 6 additional culvert barrels to the existing Hwy 183 culverts for a total of 12 - 4' x 4' box culverts
- Channel improvements at the upstream and downstream ends of the culverts.

CIP Ranking Criteria

	Score
Property Flooding	15
Roadway Flooding Risk	25
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	3
Total	71

Project Costs

Engineering & Survey:	\$ 189,000
Construction:	\$ 1,257,640
Other:	
Total:	\$ 1,446,640
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	9-12 Months

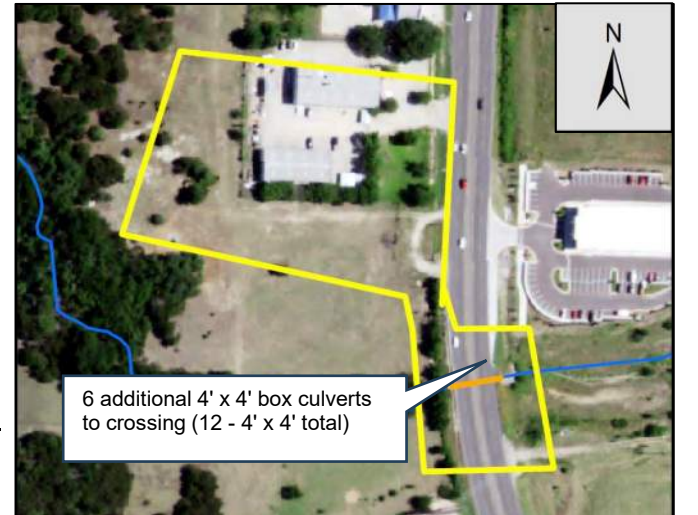
Assumptions

Inline/offline pond for floodplain storage.

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: SFSG-T28.01-1 (Rank #14)
Project Name: Bonnet Culvert and Channel Improvements
Drainage Basin: SSG_3730

Problem Description

The existing drainage for the subdivision primarily consists of roadside ditches along with roadway and driveway culverts and is undersized. Localized modeling shows that the primary drainage channels are undersized and there's potential risk for residential structures.

Proposed Improvements

- Improve capacity of downstream channels at boundary of Bonnet and Larkspur
- Replace culvert crossing at Trigger Trail (7'x3' RCB) with 2-5'x4' RBC
- Improve upstream and downstream channels at Trigger Trail to increase capacity

CIP Ranking Criteria

	Score
Property Flooding	14
Roadway Flooding Risk	0
Citizen Input/Historical	25
Cost Effectiveness	16
O&M Requirements	10
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	70

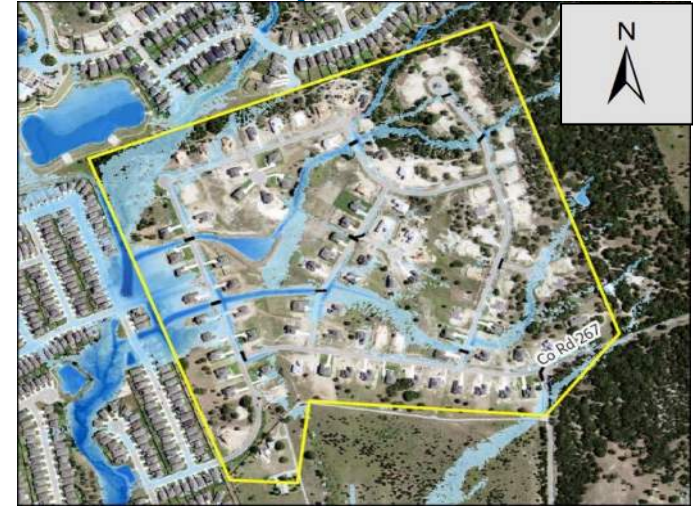
Project Costs

Engineering & Survey:	\$ 99,000
Construction:	\$ 660,400
Other:	
Total:	\$ 759,400
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	6 Months

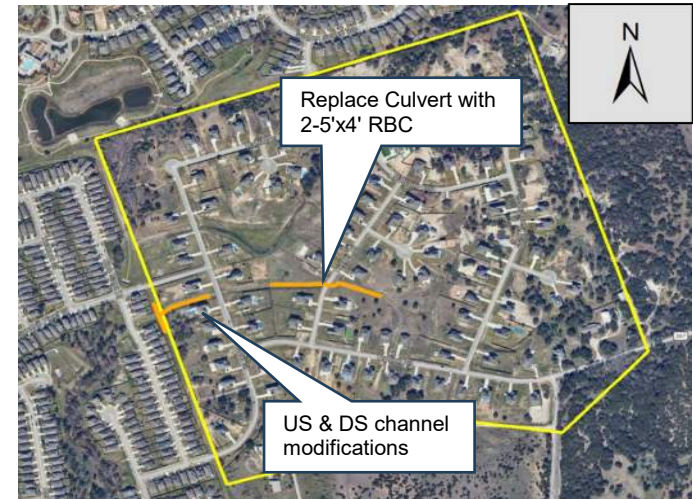
Assumptions

Proposed improvements do not substantially reduce overtopping at complaint sites - grading of channels & ponds, downstream low water crossings aid in conveyance

Project Photos



100-yr Inundation from ICM



Proposed improvements

CITY OF LEANDER DRAINAGE MASTER PLAN PROJECT SUMMARY



Project ID: BLC-3A (Rank #15)
Project Name: Ridgewood South Pond & Channel Improvements
Drainage Basin: BHC_190

Problem Description

Blockhouse Creek south of E Crystal Falls Pkwy flows through a residential neighborhood via a manmade channel and crosses Vintage Drive twice through two culvert systems. Additionally, there are two detention ponds on the north side of the creek. Both Vintage Drive culvert systems and the manmade channel are undersized which causes severe roadway inundation and potential flooding of residential structures.

Proposed Improvements

Phase 1/Rank 15:

- Improve channels, ponds, & flowlines along 1570 linear feet of Blockhouse Creek

Phase 2/Rank 16:

- Upgrade upstream and downstream Vintage Dr culvert system to 4 - 8' x 4' box culverts
- Replace and upsize 870 linear feet of storm sewer along Rutherford Dr, ranging from 36" to 48" RCP.

CIP Ranking Criteria

	Score
Property Flooding	40
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	16
O&M Requirements	10
Level of Project Impact	3
External Partner Coord	1
External Funding Opp	0
Total	70

Project Costs

Engineering & Survey:	\$ 73,000
Construction:	\$ 483,925
Other:	
Total:	\$ 556,925
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	8-12 Months

Assumptions

- Extensive work within ROW and creek/conveyance channels

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BC-3B (Rank #16)
Project Name: Ridgewood South Storm Drain & Culvert Improvements
Drainage Basin: BHC_190

Problem Description

Blockhouse Creek south of E Crystal Falls Pkwy flows through a residential neighborhood via a manmade channel and crosses Vintage Drive twice through two culvert systems. Additionally, there are two detention ponds on the north side of the creek. Both Vintage Drive culvert systems and the manmade channel are undersized which causes severe roadway inundation and potential flooding of residential

Proposed Improvements

(Phase 1/Rank 15: Improve channels, ponds, & flowlines along 1570 linear feet of Blockhouse Creek)

Phase 2/Rank 16:

- Upgrade upstream and downstream Vintage Dr culvert system to 4 - 8' x 4' box culverts
- Replace and upsize 870 linear feet of storm sewer. The sizes ranges from 36" to 48" RCP.

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	40
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	16
O&M Requirements	10
Level of Project Impact	3
External Partner Coord	1
External Funding Opp	0
Total	70

Project Costs

Engineering & Survey:	\$ 113,000
Construction:	\$ 754,130
Other:	
Total:	\$ 867,130
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	12 Months

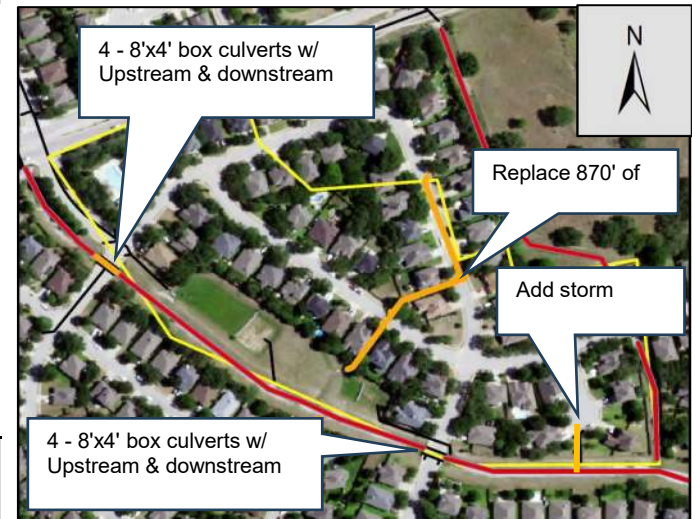
Assumptions

(Phase 2 of 2; See AOI #15) Box Culvert Replacement upstream of Vintage Dr, add and replace storm drain within Vintage Dr and Rutherford Dr, add storm drain and inlets near Oakville Cir

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BC-1A (Rank #17)
Project Name: Storm Drain Improvements Along Steece Way
Drainage Basin: UBC_220

Problem Description

Brushy creek abuts the rear of multiple residences along Steece Way. Additionally, drainage channels and pond within Hudson-Steece-Mineral loop may have under-sized culvert crossings. Brushy Creek is in its natural vegetated condition along this reach and may be backing water into the development due to high dense vegetation.

Proposed Improvements

- Replace existing (4-36" RCP?) culvert crossing at Steece Way with 4-5'x3' box culverts
- Vegetation overgrowth clearing in Brushy Creek to promote conveyance efficiency
- 1,100 linear feet of Earthen berm along rear property line of Steece Way residences

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	30
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	24
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	5
Total	75

Project Costs

Engineering & Survey:	\$ 85,000
Construction:	\$ 300,000
Other:	
Total:	\$ 385,000
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	6-8 Months

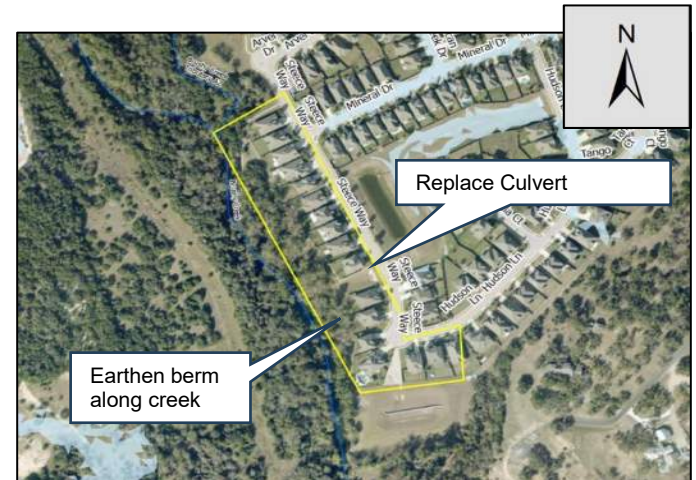
Assumptions

May require a FEMA conditional letter of map revision/leter of map revision for floodplain fringe berm and clearing

Project Photos



Existing Project Location



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: MC-9 (Rank #18)
Project Name: The Bluffs Conveyance Improvements
Drainage Basin: MAS_020

Problem Description

Storm drain inefficiency along N Lakeline Blvd, Uhland Dr, and Greening Way are attributed to Mason Creek tributary 9 north of Crystal Falls Pkwy.

Proposed Improvements

- Clear vegetation near Uhland Drive creek culvert crossing and install rock or concrete riprap to prevent re-vegetation
- Improve concrete channel between Greening Way and Uhland Dr

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	28
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	24
O&M Requirements	10
Level of Project Impact	3
External Partner Coord	5
External Funding Opp	0
Total	70

Project Costs

Engineering & Survey:	\$ 80,000
Construction:	\$ 400,000
Other:	
Total:	\$ 480,000
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	12 Months

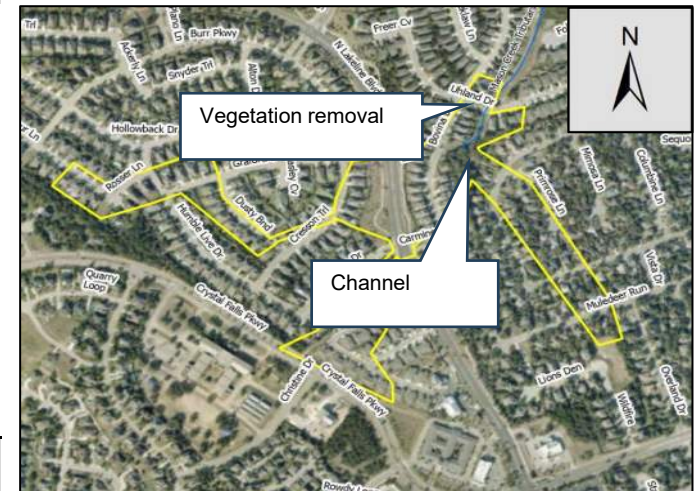
Assumptions

Concrete channel improvements may require widening channel and possible easement acquisition (0.5 acres). May require multi-phase construction for traffic control.

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BC-4 (Rank #19)
Project Name: CR-175 Low Water Crossing
Drainage Basin: UBC_090

Problem Description

A tributary to Brushy Creek crosses CR175 near Leander Rd via a low water crossing comprised of 2-18" CMPs. Natural vegetation upstream and downstream may impede flow of runoff, but culvert crossing appears significantly undersized and overtops frequently.

Proposed Improvements

- Vegetation clearing including tree removal
- Replace ex. 2-18" CMP with 2-4'x2' box culverts, pavement repair & guardrail

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	30
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	3
Total	69

Project Costs

Engineering & Survey:	\$ 75,000
Construction:	\$ 600,000
Other:	
Total:	\$ 675,000
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	6-8 Months

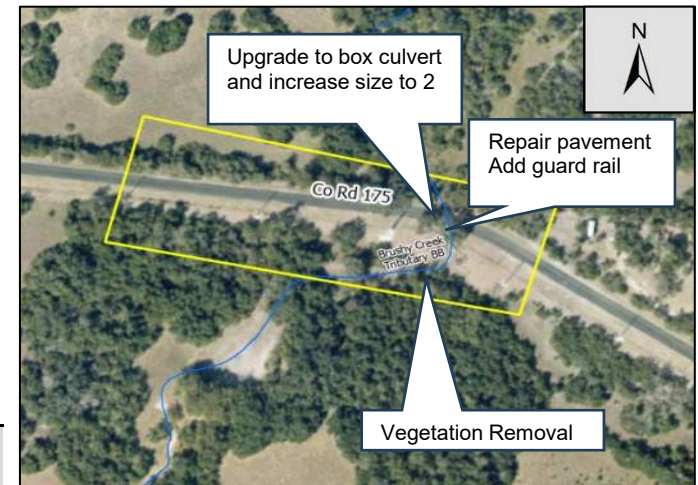
Assumptions

May require easements and/or coordination with overhead electric transmission owner, large "heritage" tree may require removal with impact fee or mitigation cost, possibility of WilCo partnership on county road

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BLH-1 (Rank #20)
Project Name: FM 1431 Bridge Improvements
Drainage Basin: Bloody Hollow

Problem Description

Bloody Hollow creek crosses FM 1431 via a bridge-class culvert (unknown composition) near the southwest limits of City, Travis County Unincorporated Areas south of crossing. Significant elevation difference between creek flowline and roadway. Creek is Zone A floodplain, but studied upstream and downstream.

Proposed Improvements

- Replace existing culverts with single 60-foot span bridge

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	30
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	20
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	5
Total	68

Project Costs

Engineering & Survey:	\$ 180,000
Construction:	\$ 1,200,000
Other:	
Total:	\$ 1,380,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	12-18 Months

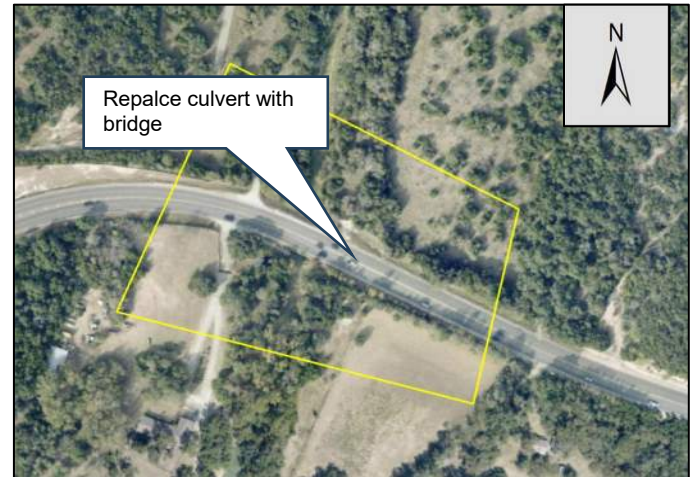
Assumptions

Extended project duration due to traffic phasing, FEMA conditional letter of map revision/letter of map revision likely required, possibility of TxDOT partnership on FM 1431

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: NFB-3 (Rank #21)
Project Name: Benbrook Ranch Storm Drain Improvements
Drainage Basin: NFB_100

Problem Description

Flooding across Barclay Dr, Henderson Dr, Burgess Dr, Whitley Dr, and Middle Brook Dr

Proposed Improvements

- Upsize inlets and approximately 2000 linear feet of underground storm drain

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	28
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	16
O&M Requirements	15
Level of Project Impact	3
External Partner Coord	5
External Funding Opp	0
Total	67

Project Costs

Engineering & Survey:	\$ 110,000
Construction:	\$ 700,000
Other:	
Total:	\$ 810,000
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	8 Months

Assumptions

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BCH-1 (Rank #22)
Project Name: Granite Hill Cove Storm Improvements
Drainage Basin: Bee Cave Hollow

Problem Description

Inadequate drainage through cul-de-sac on Granite Hill Cove

Proposed Improvements

- Add 1,000 linear feet of storm drain and inlets along Granite Hill Dr and Granite Hill Cove

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	21
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	24
O&M Requirements	15
Level of Project Impact	3
External Partner Coord	3
External Funding Opp	0
Total	66

Project Costs

Engineering & Survey:	\$ 95,000
Construction:	\$ 300,000
Other:	
Total:	\$ 395,000
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	8-12 Months

Assumptions

Some easement acquisition may be required, lengthy construction due to traffic control plan complexity

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: MC-4 (Rank #23)
Project Name: Storm & Channel Improvements near Horseshoe Dr
Drainage Basin: MAS_050

Problem Description

An unnamed tributary to Mason Creek appears to cause flooding through multiple residential areas including the Horseshoe Apartments. The tributary and Mason Creek are naturally vegetated and may be hindering conveyance of flows. An existing CMP culvert crossing at Horseshoe Dr may be undersized. Additionally, South West Drive appears to overtop near the Leander Middle School athletics field.

Proposed Improvements

- Replace existing 3-30" CMP culvert crossing at Northern Trail with 3-5'x3' box culverts, roadway repair, vegetation removal and channel improvements downstream
- Replace culvert crossing at South West Dr with 2-5'x3' box culverts, reconfigure ditch downstream of South West Dr

CIP Ranking Criteria

	Score
Property Flooding	28
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	8
O&M Requirements	13
Level of Project Impact	10
External Partner Coord	3
External Funding Opp	3
Total	65

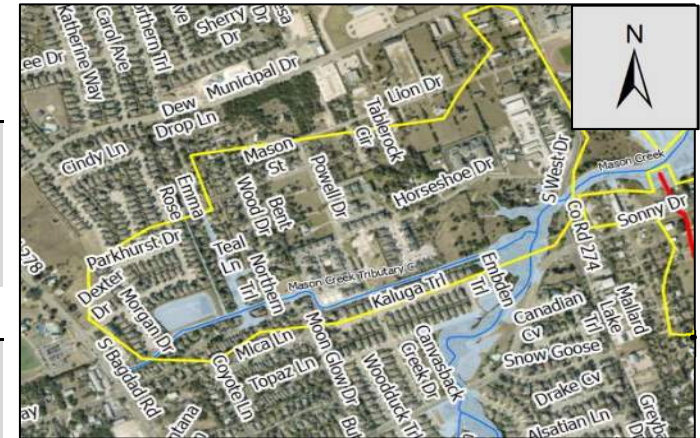
Project Costs

Engineering & Survey:	\$ 100,000
Construction:	\$ 1,400,000
Other:	
Total:	\$ 1,500,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	8-12 Months

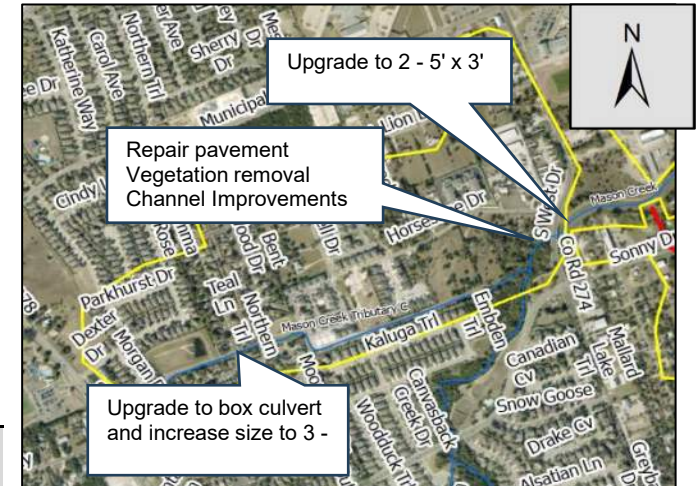
Assumptions

May require coordination with property owners and overhead utility owners for access easements and fence removal/replacement, coordination with school district at South West Dr. May need to be split into 2 separate projects

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**

Project ID: MC-6 (Rank #24)
Project Name: Storm & Culvert Improvements Near Los Vista Dr
Drainage Basin: MAS_030

Problem Description

A tributary to Mason Creek causes flooding upstream (east) of S Bagdad Rd between Los Vista Drive and Bonita Verde Dr. All storm drainage is surface runoff with no underground stormwater network. The tributary is overgrown and poorly defined east of S Bagdad Rd.

Proposed Improvements

- Acquire minimum a 50' wide easement on parcels east of S Bagdad between Los Vista and Bonita Verde Dr
- Clear vegetation within creek area and excavate channel to approximately 10' bottom width to improve capacity and provide additional floodplain storage outside of residential footprints

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	10
Roadway Flooding Risk	20
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	0
Total	66

Project Costs

Engineering & Survey:	\$ 85,000
Construction:	\$ 525,000
Other:	
Total:	\$ 610,000
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	8-12 Months

Assumptions

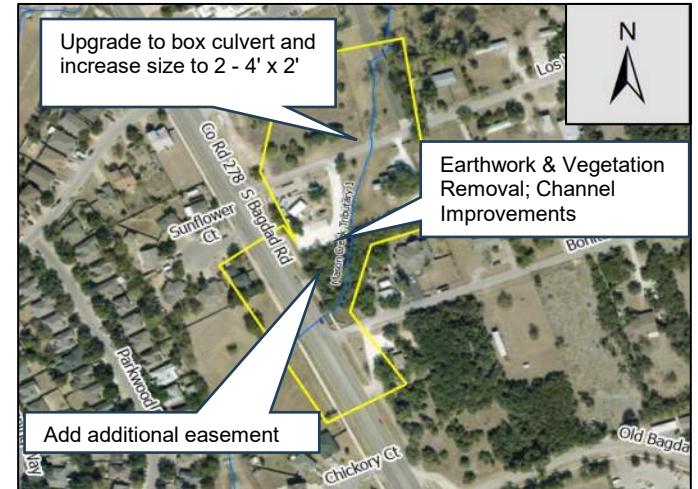
Improvements may require property acquisition or up to 1 acre easement, reflected in construction cost.



Project Photos



100-yr Existing Floodplain ICM



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: SFSG-T27-2 (Rank #25)
Project Name: Mollie McBride Ln Conveyance Improvements
Drainage Basin: SSG_3790

Problem Description

Homes along Mollie McBride Ln appear to be impacted from flooding along adjacent tributary, vegetation is overgrown up to Bryson Ridge Trl

Proposed Improvements

- Clear tributary flowpath of overgrown vegetation, construct berm to protect from inundation

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	20
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	24
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	64

Project Costs

Engineering & Survey:	\$ 65,000
Construction:	\$ 300,000
Other:	
Total:	\$ 365,000
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	6-8 Months

Assumptions

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: MC-5 (Rank #26)
Project Name: Vista Ridge Earthwork & Storm Drain Improvements
Drainage Basin: MAS_060

Problem Description

Roadway overtopping in neighborhood caused backwater from detention pond at Robin Bledsoe Park

Proposed Improvements

- Replace 800 linear feet of storm drain and inlets in Cerezo Dr, Loma Cedro Blvd, Rancho Verde Dr, and Gaviota Lane, Detention pond capacity improvements in Robin Bledsoe Park

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	21
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	16
O&M Requirements	20
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	62

Project Costs

Engineering & Survey:	\$ 100,000
Construction:	\$ 750,000
Other:	
Total:	\$ 850,000
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	8-12 Months

Assumptions

- Upsize internal storm drain through Vintage Dr and Rutherford Dr
- Add storm drain at cul-de-sac and grade to capture/convey north channel offsite through cul-de-sac

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BLC-8 (Rank #27)
Project Name: Glass Dr Storm & Detention Improvements
Drainage Basin: BHC_150

Problem Description

Runoff backs up from Lowes/Goodwill/Petco commercial center into neighborhood to the west

Proposed Improvements

- Detention pond capacity improvements
- 500 LF storm drain replacement along South West Drive and High Chaparral Dr, related to conflict rank 10 site (183 & Crystal Falls Pkwy)

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	21
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	16
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	62

Project Costs

Engineering & Survey:	\$ 75,000
Construction:	\$ 450,000
Other:	
Total:	\$ 525,000
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	6-8 Months

Assumptions

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: SFB-4 (Rank #28)
Project Name: Ran Rd and Briarwood Dr Storm Improvements
Drainage Basin: SFB_020

Problem Description

Ponding along Ran Rd and Briarwood Dr, flat slope of storm drain to detention pond near Deercreek and Candlelight

Proposed Improvements

- Replace & upsize approximately 1000 linear feet of storm drain on the upstream end of the system

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	21
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	61

Project Costs

Engineering & Survey:	\$ 80,000
Construction:	\$ 450,000
Other:	
Total:	\$ 530,000
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	12-18 Months

Assumptions

May require easements and/or coordination with overhead electric transmission owner, large "heritage" tree may require removal with impact fee or mitigation cost, possibility of WilCo partnership on county road

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BC-1 (Rank #29)
Project Name: E Crystal Falls Pkwy Culvert Improvements
Drainage Basin: BHC_210

Problem Description

Existing large box culvert crossing between Wiley Middle School property and area south of E Crystal Falls Pkwy appears to be overtopping

Proposed Improvements

- Install additional runs of 2-8'x4' box culverts for crossing conveyance

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	20
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	3
External Funding Opp	3
Total	61

Project Costs

Engineering & Survey:	\$ 90,000
Construction:	\$ 650,000
Other:	
Total:	\$ 740,000
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	8-12 Months

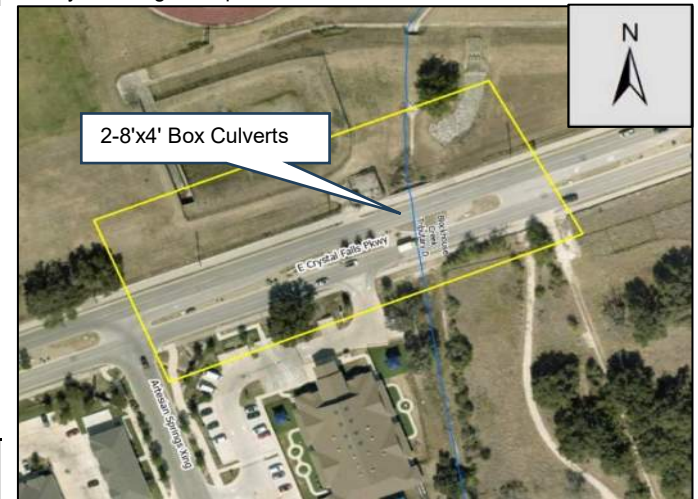
Assumptions

May consider trenchless installation to avoid damage/patch repairs to Crystal Falls Pkwy

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: MC-8 (Rank #30)
Project Name: Earthwork & Storm Drain Improvements near Stinnett Ln
Drainage Basin: MAS_010

Problem Description

Flooding along Stinnett Dr, Arbor Acres Loop, Bogata Blvd, along N Lakeline Blvd

Proposed Improvements

- Replace approximately 1800 linear feet of storm drain in Arbor Acres Loop, Bogata Ln, Stinnett Drive
- Channel improvements along Falcon Oaks properties
- Earthwork/detention pond at N Lakeline Blvd and Stinnett

CIP Ranking Criteria

	Score
Property Flooding	28
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	60

Project Costs

Engineering & Survey:	\$ 150,000
Construction:	\$ 900,000
Other:	
Total:	\$ 1,050,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	12-18 Months

Assumptions

Project Photos



100-yr Inundation from ICM



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BLC-5 (Rank #31)
Project Name: Laurel Glen Blvd Storm Drain Improvements
Drainage Basin: BHC_190

Problem Description

Tributary 5 to Blockhouse Creek near Oak Ridge Park includes neighborhood drainage from an older development with likely undersized underground storm drain infrastructure. Resident complaints cite Oak Ridge Park detention improvements and local flooding during heavy storm events

Proposed Improvements

- Reconstruct detention outfall and overflow structure in Oak Ridge Park
- Install 1,500 linear feet of underground storm drain replacements throughout Moss Creek Dr, Birch Brook Dr, Spring Hollow Dr, and River Oak Dr

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	28
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	16
O&M Requirements	10
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	59

Project Costs

Engineering & Survey:	\$ 120,000
Construction:	\$ 650,000
Other:	
Total:	\$ 770,000
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	12-18 Months

Assumptions

Review pond upgrades previously constructed at Oak Ridge Park will be required, extended duration due to complex TCP

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BLC-2 (Rank #32)
Project Name: Crystal Falls Apartments Detention Improvements
Drainage Basin: BHC_190A

Problem Description

Ponds on the apartment site and off-site to the southeast of the are backing up through parking and northern portions of complex

Proposed Improvements

- Pond regrading off-site, additional storm drain on-site

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	21
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	24
O&M Requirements	10
Level of Project Impact	3
External Partner Coord	1
External Funding Opp	0
Total	59

Project Costs

Engineering & Survey:	\$ 65,000
Construction:	\$ 300,000
Other:	
Total:	\$ 365,000
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	6-8 Months

Assumptions

Improvements may require property acquisition or easements, reflected in construction cost.

Project Photos



100-yr Existing Floodplain ICM



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**

Project ID: SFSG-1 (Rank #33)
Project Name: Mongolian Dr Culvert & Storm Drain Improvements
Drainage Basin: SSG_3960

Problem Description

Flooding along Mongolian Dr and Hinterwald St from large detention pond and tributary flow through neighborhood, close proximity to South Fork San Gabriel River

Proposed Improvements

◦ Clearing & storage grading for tributary area through neighborhood open spaces, culvert replacement, approximately 700 linear feet of storm drain improvements along Mongolian Dr

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	20
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	3
Total	59

Project Costs

Engineering & Survey:	\$ 95,000
Construction:	\$ 600,000
Other:	
Total:	\$ 695,000
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	12 Months

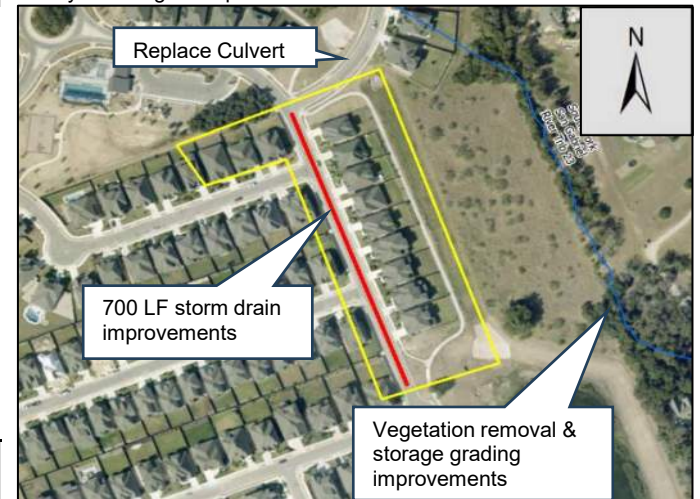
Assumptions



Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: NFB-4 (Rank #34)
Project Name: Maple Creek Dr Low Water Crossing
Drainage Basin: NFB_090

Problem Description

Low water crossing at Maple Creek Dr in Devine Lake Park overtops frequently

Proposed Improvements

- Replace existing culvert crossing with multiple large 10'x5' box culverts

CIP Ranking Criteria

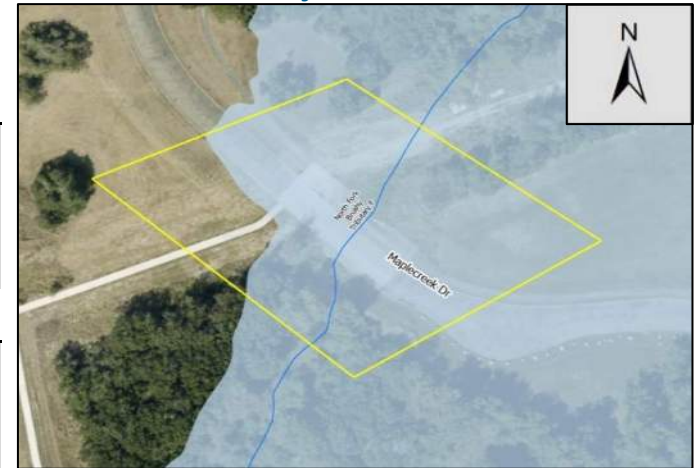
	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	20
Citizen Input/Historical	0
Cost Effectiveness	16
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	3
Total	59

Project Costs

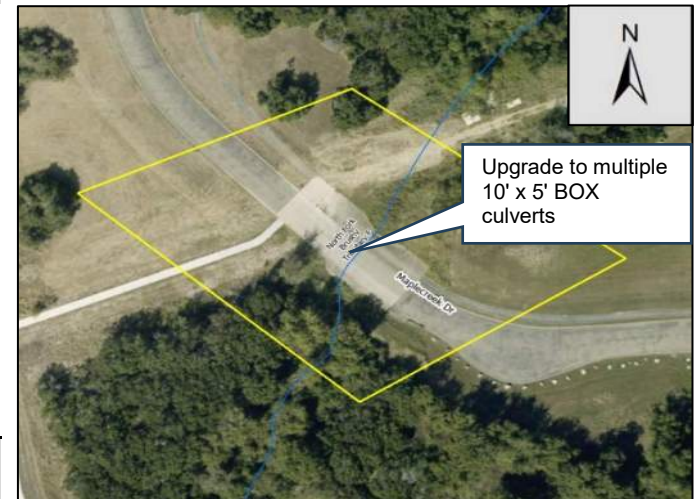
Engineering & Survey:	\$ 85,000
Construction:	\$ 680,000
Other:	
Total:	\$ 765,000
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	6-8 Months

Assumptions

Project Photos



100-yr Inundation from ICM



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: MC-2B (Rank #35)
Project Name: Business 183 at Mason Creek
Drainage Basin: MAS_060

Problem Description

Backwater from Mason Creek at US HWY 183 and railroad inundates approximately 10 acres between creek and Leander MS

Proposed Improvements

- Clear vegetation upstream and downstream of the US HWY 183 bridge, elevate US HWY 183 bridge by approximately 2'

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	20
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	15
Level of Project Impact	10
External Partner Coord	1
External Funding Opp	0
Total	58

Project Costs

Engineering & Survey:	\$ 120,000
Construction:	\$ 1,000,000
Other:	
Total:	\$ 1,120,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	18-24 Months

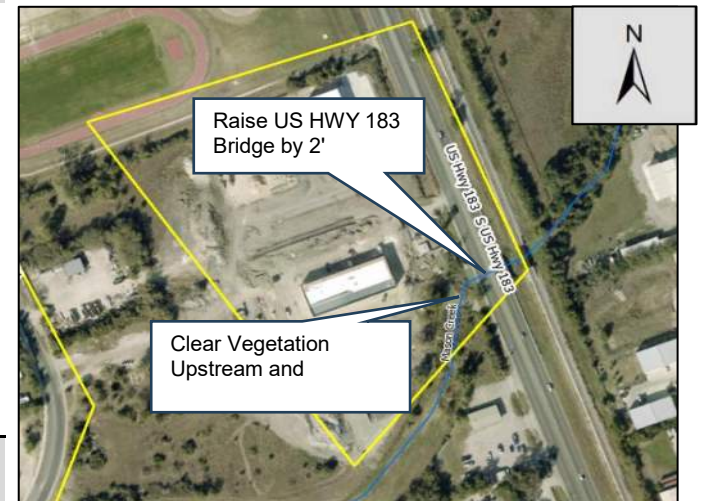
Assumptions

No replacement of railroad crossings proposed, may require property and/or easement acquisition

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BC-3 (Rank #36)
Project Name: Sarita Valley Conveyance Improvements
Drainage Basin: UBC_100

Problem Description

Ponding in rear cul-de-sacs along Brushy Creek - Lyme Ridge Cove, Rabbits Tail Drive, Wedgescale Pass

Proposed Improvements

- Add overflow drainage swales directly to Brushy Creek at cul-de-sac curb inlets for Lyme Ridge Cove, Rabbits Tail Drive, and Wedgescale Pass

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	20
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	24
O&M Requirements	10
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	2
Total	57

Project Costs

Engineering & Survey:	\$ 60,000
Construction:	\$ 350,000
Other:	
Total:	\$ 410,000
Conceptual Cost Range:	\$250k - \$500k
Estimated Construction Duration:	8 Months

Assumptions

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: SFSG-T27-1 (Rank #37)
Project Name: Two Low Water Crossings along CR270
Drainage Basin: SSG_3780

Problem Description

Two tributaries overtop CR 270 near North Elementary, backwater of San Gabriel River, severely undersized CMP culverts

Proposed Improvements

- Replace two low water crossings with 3-5'X2' box culverts

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	25
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	3
Total	56

Project Costs

Engineering & Survey:	\$ 110,000
Construction:	\$ 900,000
Other:	
Total:	\$ 1,010,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	12-18 Months

Assumptions

Coordination with Williamson County (CR270) will be required.

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BLC-4 (Rank #38)
Project Name: Willow Creek Dr Storm Drain Improvements
Drainage Basin: BHC_190

Problem Description

Tributary 4 to Blockhouse Creek includes neighborhood drainage through Ridgewood Dr, Meadow View Dr, and Willow Creek Drive. Underground storm drain infrastructure may be undersized. Drainage appears to follow utility/drainage easement along rear of lots along Willow Creek Dr

Proposed Improvements

- Replace 2000 linear feet underground storm drain through Ridgewood Dr, Willow Creek Dr, and Meadow View Drive
- Surface or channelized runoff may need to be captured by underground storm drain system to be conveyed through
- Ridgewood North Park and ultimately Crystal Falls Parkway

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	28
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	16
O&M Requirements	10
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	0
Total	55

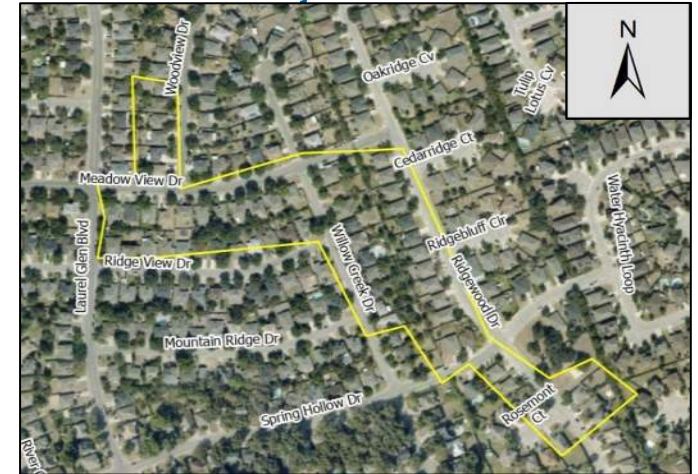
Project Costs

Engineering & Survey:	\$ 150,000
Construction:	\$ 800,000
Other:	
Total:	\$ 950,000
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	12-18 Months

Assumptions

May be related to Area of Interest 24, may require coordination with overhead electric owner for easement access & construction

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: SFB-3 (Rank #39)
Project Name: S Fork Brushy at S Bagdad Bridge Improvements
Drainage Basin: SFB_030

Problem Description

South Fork Brushy Overtops S Bagdad Rd near industrial and residential developments

Proposed Improvements

- Raise S Bagdad Rd approximately 2', replace S Bagdad Rd bridge, conveyance improvements east of roadway for floodplain storage, clear vegetation

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	25
Citizen Input/Historical	0
Cost Effectiveness	8
O&M Requirements	14
Level of Project Impact	3
External Partner Coord	1
External Funding Opp	3
Total	54

Project Costs

Engineering & Survey:	\$ 160,000
Construction:	\$ 1,500,000
Other:	
Total:	\$ 1,660,000
Conceptual Cost Range:	\$1.5M - \$2M
Estimated Construction Duration:	18-24 Months

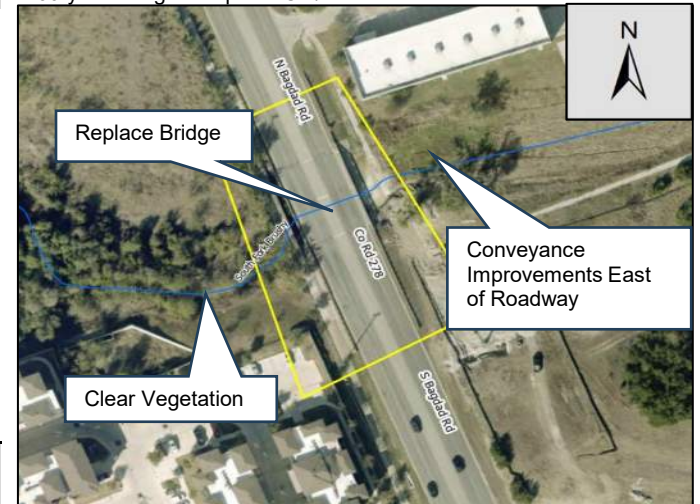
Assumptions

Phasing recommended due to lengthy traffic control, coordination with Williamson county (CR 279) will be required.

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**

Project ID: SFB-2 (Rank #40)
Project Name: Storm Drain Routing Improvements at Hero Way & Bagdad Rd
Drainage Basin: SFB_030

Problem Description

Underground storm drain at intersection may be undersized. Apparent Hero Way UG drainage discharges to South Fork Brushy Tributary 2 approximately 3,200 feet to the east.

Proposed Improvements

- Diversion south along N Bagdad Road to Brushy Creek for all runoff west of N Bagdad Rd to alleviate flooding at intersection and along channels & area drains on north side of W Hero Way ROW
- Earthwork, driveway and pavement replacement, approximately 1,000 linear feet of underground storm drain, 500 linear feet of new drainage channel along west side of N Bagdad Rd

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	30
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	10
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	0
Total	53

Project Costs

Engineering & Survey:	\$ 125,000
Construction:	\$ 900,000
Other:	
Total:	\$ 1,025,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	18-24 Months

Assumptions

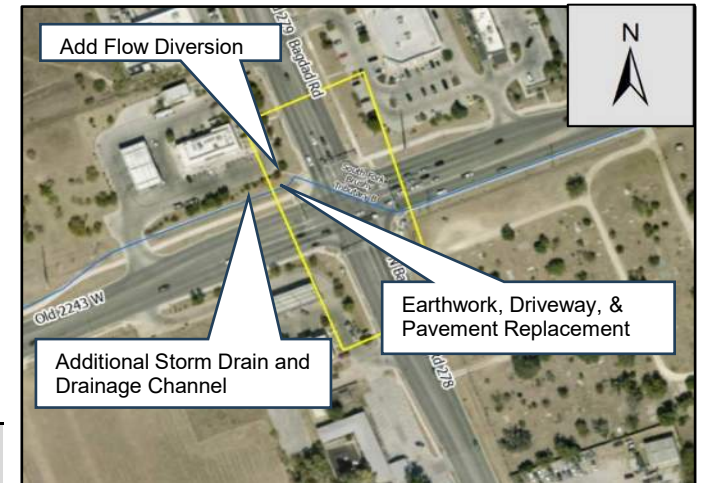
Some easement acquisition along N Bagdad Rd (approximately 0.5 acres) may be required, lengthy construction due to traffic control plan complexity



Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: SFSG-T34-1(Rank #41)
Project Name: Mockingbird Hill Low Water Crossing
Drainage Basin: SSG_3340

Problem Description

Existing low water crossing at Mockingbird Hill overtops frequently

Proposed Improvements

- Replace existing low water crossing with 3-8'x4' box culverts

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	20
Citizen Input/Historical	0
Cost Effectiveness	20
O&M Requirements	11
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	0
Total	52

Project Costs

Engineering & Survey:	\$ 80,000
Construction:	\$ 650,000
Other:	
Total:	\$ 730,000
Conceptual Cost Range:	\$500k - \$750k
Estimated Construction Duration:	6-8 Months

Assumptions

May require coordination with City of Liberty Hill, individual property owners

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BLC-6 (Rank #42)
Project Name: Horizon Park Blvd Culvert Improvements
Drainage Basin: BHC_170

Problem Description

Existing low water crossing overtops Horizon Park Blvd frequently

Proposed Improvements

- Add 2-10'x3' box culverts to improve conveyance across Horizon Park Blvd, elevate roadway by 2 feet

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	0
Roadway Flooding Risk	15
Citizen Input/Historical	0
Cost Effectiveness	16
O&M Requirements	15
Level of Project Impact	0
External Partner Coord	5
External Funding Opp	0
Total	51

Project Costs

Engineering & Survey:	\$ 80,000
Construction:	\$ 850,000
Other:	
Total:	\$ 930,000
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	12 Months

Assumptions

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: MC-2 (Rank #43)
Project Name: Storm & Channel Improvements near Sonny Dr
Drainage Basin: MAS_060

Problem Description

Backwater from Mason creek is inundating the adjacent residences to the south and Sonny Dr

Proposed Improvements

- Replace ditches and culverts with approximately 1000 linear feet of underground storm drain and outfall to Mason Creek

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	21
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	10
Level of Project Impact	3
External Partner Coord	1
External Funding Opp	3
Total	50

Project Costs

Engineering & Survey:	\$ 150,000
Construction:	\$ 1,200,000
Other:	
Total:	\$ 1,350,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	12-18 Months

Assumptions

Project Photos



100-yr Existing Floodplain ICM



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BLH-2 (Rank #44)
Project Name: High Lonesome Channel & Culvert Improvements
Drainage Basin: Brown Hollow

Problem Description

Brown Hollow/Blockhouse Creek Trib 2 flooding encroaches on properties along High Lonesome. Creek vegetation is overgrown. High Lonesome has multiple sub-tributary culvert crossings.

Proposed Improvements

- Conveyance improvements along main channel, replace up to 3 culvert crossings along High Lonesome

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	15
Roadway Flooding Risk	0
Citizen Input/Historical	5
Cost Effectiveness	16
O&M Requirements	9
Level of Project Impact	0
External Partner Coord	1
External Funding Opp	3
Total	49

Project Costs

Engineering & Survey:	\$ 85,000
Construction:	\$ 750,000
Other:	
Total:	\$ 835,000
Conceptual Cost Range:	\$750k - \$1M
Estimated Construction Duration:	12 Months

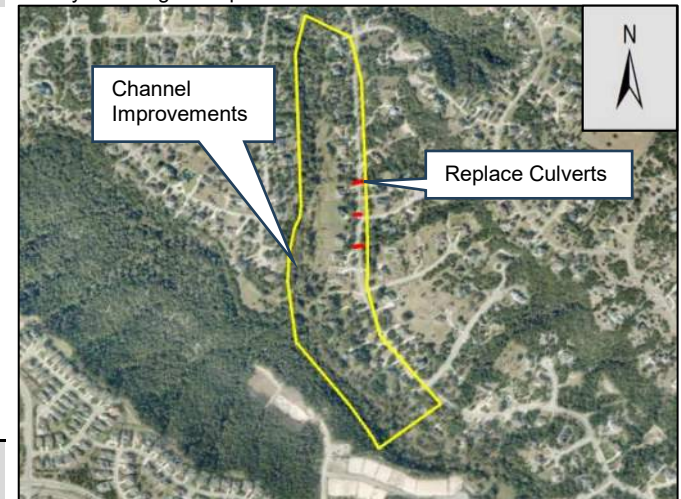
Assumptions

Construction access may require easements & club member/HOA coordination

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

**CITY OF LEANDER
DRAINAGE MASTER PLAN
PROJECT:
PROJECT SUMMARY**



Project ID: BLC-9 (Rank #45)
Project Name: Washington Square Dr Storm Improvements
Drainage Basin: BHC_130

Problem Description

Flooding along Cannery Cove and Washington Square Drive from Knight Fields west of RR tracks, drainage easement overgrown

Proposed Improvements

- Earthwork/detention improvements, Culvert improvements, channel improvements

CIP Ranking Criteria

	<u>Score</u>
Property Flooding	20
Roadway Flooding Risk	0
Citizen Input/Historical	0
Cost Effectiveness	12
O&M Requirements	10
Level of Project Impact	0
External Partner Coord	0
External Funding Opp	3
Total	45

Project Costs

Engineering & Survey:	\$ 180,000
Construction:	\$ 850,000
Other:	
Total:	\$ 1,030,000
Conceptual Cost Range:	\$1M - \$1.5M
Estimated Construction Duration:	12-18 Months

Assumptions

RR Coordination required, longer construction duration and higher cost reflected

Project Photos



100-yr Existing Floodplain ICM/RAS



Proposed improvements

Appendix E: Opinions of Probable Construction Cost (OPCCs)

- Top 16 Priority AOIs OPCCs

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE
OWNER	CITY OF LEANDER	
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN	
LOCATION	OAK CREEK PHASE 5 - MISTFLOWER SPRINGS DR	
RANK	1	
CIP PROJ. LABEL	NFB-2	

ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1	432-7003	RIPRAP (CONC)(6 IN)	350	CY	\$ 600	\$ 210,000
2	110-7002	EXCAV (CHANNEL)	2500	CY	\$ 25	\$ 62,500
3	462-70XX	CONC BOX CULV (8 FT X 3 FT)	100	LF	\$ 850	\$ 85,000
4	132-7001	EMBANKMENT (FNL)(OC)(TY A)	600	CY	\$ 25	\$ 15,000
5		CONC PIPE CL III 30"	90	LF	\$ 150	\$ 13,500
6	466-71XX	WINGWALL (FW - 0) (HW=5 FT)	2	EA	\$ 30,000	\$ 60,000
7		PSET 4:1 30"	1	EA	\$ 5,000	\$ 5,000
8		EROSION CONTROL & REVEG	1	LS	\$ 15,000	\$ 15,000
9	500-7001	MOBILIZATION (10%)	1	LS	\$ 47,000	\$ 47,000

SUBTOTAL: \$ 513,000

DESCRIPTION: CHANNEL AND CULVERT MODIFICATIONS TO REDUCE OVERTOPPING AND CONVEY FLOW TO NORTH FORK BRUSHY CREEK

30% CONTINGENCY: \$ 153,900

15% PS&E: \$ 100,000

PROPERTY ACQUISITION: \$ -

TOTAL: \$ 766,900

ESTIMATED CONSTRUCTION DURATION: 4-6 MONTHS

PROJECT NAME		LEANDER STORMWATER MASTER PLAN		CONCEPTUAL COST ESTIMATE			
OWNER		CITY OF LEANDER					
EDGE PROJ. NO.		COL_001_STORMWATER_MASTER_PLAN					
LOCATION		W BROADE ST AND BUS 183 AT HERO WAY					
RANK		2					
CIP PROJ. LABEL		SFB-1					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST	
1		CLEAR & GRUB	4	AC	\$ 7,000	\$ 28,000	
2	432-7003	RIPRAP (CONC)(6 IN)	100	CY	\$ 600	\$ 60,000	
3	110-7002	EXCAV (CHANNEL)	5000	CY	\$ 25	\$ 125,000	
4	132-7001	EMBANKMENT (FNL)(OC)(TY A)	1600	CY	\$ 25	\$ 40,000	
5		CONC BOX CULV (# FT X # FT)	600	LF	\$ 700	\$ 420,000	
6	466-71XX	WINGWALL (FW - 0) (HW=5 FT)	2	EA	\$ 50,000	\$ 100,000	
7		EROSION CONTROL & REVEG	1	LS	\$ 30,000	\$ 30,000	
8	500-7001	MOBILIZATION (10%)	1	LS	\$ 80,000	\$ 80,000	
SUBTOTAL:						\$ 883,000	
DESCRIPTION: REPLACE CULVERT CROSSING AT W BROADE ST, CLEAR & REGRADE CHANNEL BETWEEN BROADE & BUS 183, CONSTRUCT BERM ALONG SOUTHWEST CREEK BOUNDARY						30% CONTINGENCY:	\$ 264,900
						15% PS&E:	\$ 172,000
						PROPERTY ACQUISITION:	\$ -
						TOTAL:	\$ 1,319,900

ESTIMATED CONSTRUCTION DURATION: 12-18 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	COUNTY CORK LN AND EMERALD ISLE DR					
RANK	3					
CIP PROJ. LABEL	BLC-11					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1	432-7003	RIPRAP (CONC)(6 IN)	80	CY	\$ 600	\$ 48,000
2	110-7002	EXCAV (CHANNEL)	350	CY	\$ 25	\$ 8,750
3	132-7001	EMBANKMENT (FNL)(OC)(TY A)	100	CY	\$ 25	\$ 2,500
4		CONC PIPE CL III 36"	650	LF	\$ 220	\$ 143,000
5		CONC BOX CULV (4 FT X 3 FT)	300	LF	\$ 450	\$ 135,000
6	466-71XX	WINGWALL (FW - 0) (HW=5 FT)	4	EA	\$ 30,000	\$ 120,000
7		HEADWALL CH-FW-0 36"	5	EA	\$ 12,000	\$ 60,000
8		ROADWAY REPAIR	1500	SY	\$ 45	\$ 67,500
9		EROSION CONTROL & REVEG	1	LS	\$ 35,000	\$ 35,000
10	500-7001	MOBILIZATION (10%)	1	LS	\$ 62,000	\$ 62,000

SUBTOTAL: \$ 681,750

DESCRIPTION: 950LF STORM SEWER (PIPE & BOX) ALONG COUNTY GLEN ST & WICKLOW DR, TWO LWC UPGRADES AT EMERALD ISLE DR

30% CONTINGENCY: \$ 204,525
15% PS&E: \$ 133,000
PROPERTY ACQUISITION: \$ -
TOTAL: \$ 1,019,275

ESTIMATED CONSTRUCTION DURATION: 9-12 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	MASON RANCH PH1 SECTION1 AT BAGDAD RD					
RANK	4					
CIP PROJ. LABEL	MC-7					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1	432-7003	RIPRAP (CONC)(6 IN)	400	CY	\$ 600	\$ 240,000
2		REMOVE PIPE	2400	LF	\$ 20	\$ 48,000
3	110-7002	EXCAV (CHANNEL)	2500	CY	\$ 25	\$ 62,500
4	132-7001	EMBANKMENT (FNL)(OC)(TY A)	2000	CY	\$ 25	\$ 50,000
5		CONC PIPE CL III 24"	1136	LF	\$ 120	\$ 136,320
6		CONC PIPE CL III 36"	567	LF	\$ 160	\$ 90,720
7		CONC PIPE CL III 48"	454	LF	\$ 200	\$ 90,800
8		CONC PIPE CL III 60"	113	LF	\$ 240	\$ 27,120
9		CONC BOX CULV (3 FT X 3 FT)	120	LF	\$ 380	\$ 45,600
10		CONC BOX CULV (8 FT X 4 FT)	50	LF	\$ 800	\$ 40,000
11	466-71XX	WINGWALL (FW - 0) (HW=5 FT)	4	EA	\$ 30,000	\$ 120,000
12		HEADWALL CH-FW-0 (VARIOUS SIZES)	4	EA	\$ 4,500	\$ 18,000
13		ROADWAY REPAIR	2600	SY	\$ 40	\$ 104,000
14		EROSION CONTROL & REVEG	1	LS	\$ 20,000	\$ 20,000
15	500-7001	MOBILIZATION (10%)	1	LS	\$ 109,000	\$ 109,000

SUBTOTAL: \$ 1,202,060

DESCRIPTION: PROPOSE WORK IN 3 PHASES: 1. CERTIFY LEVEE (ENGINEERING ONLY), 2. CLEARING, CHANNEL AND CULVERT IMPROVEMENTS WITH DOWNSTREAM EMBANKMENT & STABILIZATION, 3. STORM DRAIN & INLET REPLACEMENT IN NEIGHBORHOOD

30% CONTINGENCY: \$ 360,618
15% PS&E PLUS 5% LEVEE CERT.: \$ 313,000
PROPERTY ACQUISITION: \$ -
TOTAL: \$ 1,875,678

ESTIMATED CONSTRUCTION DURATION: 18-24 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	MASON CREEK AT FM 2243					
RANK	5					
CIP PROJ. LABEL	BC-6					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1		REMOVE ROADWAY	630	SY	\$ 50	\$ 31,500
2		REMOVE CULVERTS	350	LF	\$ 100	\$ 35,000
3	420-7012	CL C CONC (ABUT)	30	CY	\$ 1,500	\$ 45,000
4	425-7005	PRESTR CONC GIRDER (TX54)	420	LF	\$ 250	\$ 105,000
5	422-7001	REINF CONC SLAB	450	SY	\$ 200	\$ 90,000
6		APPROACH SLAB	101	CY	\$ 810	\$ 81,810
7	454-7004	SEALED EXPANSION JOINT (4 IN) (SEJ - M)	108	LF	\$ 250	\$ 27,000
8	540-7001	MTL W-BEAM GD FEN (TIM POST)	500	LF	\$ 50	\$ 25,000
9	432-7003	RIPRAP (CONC)(6 IN)	42	CY	\$ 600	\$ 25,200
10		EROSION CONTROL & REVEG	1	LS	\$ 15,000	\$ 15,000
11		MOBILIZATION (10%)	1	LS	\$ 48,000	\$ 48,000

SUBTOTAL: \$ 528,510

DESCRIPTION: REPLACE CULVERTS WITH SINGLE SPAN BRIDGE, RAISE ROADWAY ELEV. APPROX. 4'

30% CONTINGENCY: \$ 158,553
15% PS&E: \$ 103,000
PROPERTY ACQUISITION: \$ -
TOTAL: \$ 790,063

ESTIMATED CONSTRUCTION DURATION: 12-18 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	SOUTH FORK SAN GABRIEL TRIB AT CR 270					
RANK	6					
CIP PROJ. LABEL	SFSG-T25-1					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1		REMOVE ROADWAY	250	SY	\$ 50	\$ 12,500
2		REMOVE CULVERTS	50	LF	\$ 100	\$ 5,000
3	432-7003	RIPRAP (CONC)(6 IN)	20	CY	\$ 600	\$ 12,000
4	110-7002	EXCAV (CHANNEL)	1900	CY	\$ 25	\$ 47,500
5	132-7001	EMBANKMENT (FNL)(OC)(TY A)	475	CY	\$ 25	\$ 11,875
6		CONC PIPE CL III 36"	100	LF	\$ 160	\$ 16,000
7		PSET 4:1 36"	8	EA	\$ 3,500	\$ 28,000
8	247-7179	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	28	CY	\$ 65	\$ 1,820
9		ASPHALT PAVEMENT	250	SY	\$ 150	\$ 37,500
10		EROSION CONTROL & REVEG	1	LS	\$ 15,000	\$ 15,000
11		MOBILIZATION (10%)	1	LS	\$ 19,000	\$ 19,000

SUBTOTAL: \$ 206,195

DESCRIPTION: REPLACE LOW WATER CROSSING WITH 4 - 36" RCP AND PSETS, DITCH CLEARING & RIPRAP ARMORING, CHANNEL GRADING & RIPRAP THROUGH CENTEX AND GAS PAD SITES
--

30% CONTINGENCY: \$ 61,859

20% PS&E: \$ 54,000

PROPERTY ACQUISITION: \$ -

TOTAL: \$ 322,054

ESTIMATED CONSTRUCTION DURATION: 6 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	HERO WAY W NEAR NORTH FORK BRUSHY CREEK					
RANK	7					
CIP PROJ. LABEL	NFB-6					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1		REMOVE ROADWAY	250	SY	\$ 50	\$ 12,500
2		REMOVE CULVERTS	90	LF	\$ 100	\$ 9,000
3	432-7003	RIPRAP (CONC)(6 IN)	30	CY	\$ 600	\$ 18,000
4	110-7002	EXCAV (CHANNEL)	200	CY	\$ 25	\$ 5,000
5	132-7001	EMBANKMENT (FNL)(OC)(TY A)	1000	CY	\$ 25	\$ 25,000
6		CONC BOX CULV (5 FT X 5 FT)	180	LF	\$ 730	\$ 131,400
7		WINGWALL (FW - 0) (HW=7 FT)	2	EA	\$ 30,000	\$ 60,000
8	540-7001	MTL W-BEAM GD FEN (TIM POST)	300	LF	\$ 50	\$ 15,000
9	247-7179	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	28	CY	\$ 65	\$ 1,820
10		ASPHALT PAVEMENT	250	SY	\$ 150	\$ 37,500
11		EROSION CONTROL & REVEG	1	LS	\$ 20,000	\$ 20,000
12		MOBILIZATION (10%)	1	LS	\$ 34,000	\$ 34,000

SUBTOTAL: \$ 369,220

DESCRIPTION: REPLACE LWC WITH BOX CULVERTS, CHANNEL GRADING
U/S & D/S

30% CONTINGENCY: \$ 110,766

15% PS&E: \$ 72,000

PROPERTY ACQUISITION: \$ -

TOTAL: \$ 551,986

ESTIMATED CONSTRUCTION DURATION: 12 MO

PROJECT NAME		LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE			
OWNER		CITY OF LEANDER				
EDGE PROJ. NO.		COL_001_STORMWATER_MASTER_PLAN				
LOCATION		NEAR WATERFALL AVE & SUNNY RIDGE DR				
RANK		8				
CIP PROJ. LABEL		NFB-5				
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1	110-7002	EXCAV (CHANNEL)	560	CY	\$ 25	\$ 14,000
2	132-7001	EMBANKMENT (FNL)(OC)(TY A)	60	CY	\$ 25	\$ 1,500
3	432-7003	RIPRAP (CONC)(6 IN)	185	CY	\$ 600	\$ 111,000
4		EROSION CONTROL & REVEG	1	LS	\$ 20,000	\$ 20,000
5		MOBILIZATION (10%)	1	LS	\$ 15,000	\$ 15,000
6						\$ -

SUBTOTAL: \$ 161,500

DESCRIPTION: EARTHWORK UPSTREAM OF LANDING LN, VEG. REMOVAL
DOWNSTREAM OF SUNNY RIDGE, ARMOR FLOWLINE AT DOWNSTREAM
BOUNDARY & CULVERT CROSSINGS

30% CONTINGENCY: \$ 48,450
15% PS&E: \$ 50,000
PROPERTY ACQUISITION: \$ -
TOTAL: \$ 259,950

ESTIMATED CONSTRUCTION DURATION: 2-3 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	SAN GABRIEL PKWY WEST OF BUS 183					
RANK	9					
CIP PROJ. LABEL	NFB-1					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1		REMOVE ROADWAY	196	SY	\$ 50	\$ 9,801
2		REMOVE CULVERTS	360	LF	\$ 100	\$ 36,000
3	462-7007	CONC BOX CULV (5 FT X 3 FT)	720	LF	\$ 620	\$ 446,400
4	466-7147	WINGWALL (FW - 0) (HW=5 FT)	2	EA	\$ 30,000	\$ 60,000
5	432-7003	RIPRAP (CONC)(6 IN)	16	CY	\$ 600	\$ 9,600
6	247-7179	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	22	CY	\$ 65	\$ 1,430
7		ASPHALT PAVEMENT	200	SY	\$ 150	\$ 30,000
8		EROSION CONTROL & REVEG	1	LS	\$ 15,000	\$ 15,000
9		MOBILIZATION (10%)	1	LS	\$ 61,000	\$ 61,000

SUBTOTAL: \$ 669,231

DESCRIPTION: REPLACE EX. CULVERT CROSSING WITH BOX CULVERTS,
CHANNEL MODIFICATIONS U/S AND D/S

30% CONTINGENCY: \$ 200,769

15% PS&E: \$ 135,000

PROPERTY ACQUISITION: \$ -

TOTAL: \$ 1,005,000

ESTIMATED CONSTRUCTION DURATION: 6-8 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	BUS 183 AT E CRYSTAL FALLS PKWY					
RANK	10					
CIP PROJ. LABEL	BLC-7					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1	432-7003	RIPRAP (CONC)(6 IN)	200	CY	\$ 600	\$ 120,000
2	110-7002	EXCAV (CHANNEL)	2500	CY	\$ 25	\$ 62,500
3	132-7001	EMBANKMENT (FNL)(OC)(TY A)	1000	CY	\$ 25	\$ 25,000
4		CONC PIPE CL III 36"	415	LF	\$ 160	\$ 66,400
5		CONC BOX CULV (# FT X # FT)	1100	LF	\$ 400	\$ 440,000
6	466-71XX	WINGWALL (FW - 0) (HW=5 FT)	2	EA	\$ 20,000	\$ 40,000
7		EROSION CONTROL & REVEG	1	LS	\$ 15,000	\$ 15,000
8	500-7001	MOBILIZATION (10%)	1	LS	\$ 77,000	\$ 77,000

SUBTOTAL: \$ 845,900

DESCRIPTION: EXCAVATE OVERFLOW BASIN EAST OF RR, UPGRADE EX. BOX CULVERT CROSSING OF BUS 183, REROUTE STORM BOX ALONG ROW

30% CONTINGENCY: \$ 253,770

15% PS&E: \$ 165,000

PROPERTY ACQUISITION: \$ -

TOTAL: \$ 1,264,670

ESTIMATED CONSTRUCTION DURATION: 9-12 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	BRUSHY CREEK TRIB AT PECAN CREEK COMM					
RANK	11					
CIP PROJ. LABEL	BC-2					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1		REMOVE PEDESTRIAN CREEK CROSSING	1	LS	\$ 15,000	\$ 15,000
2	110-7002	EXCAV (CHANNEL)	4000	CY	\$ 25	\$ 100,000
3	132-7001	EMBANKMENT (FNL)(OC)(TY A)	650	CY	\$ 25	\$ 16,250
4		PEDESTRIAN BRIDGE	1	LS	\$ 100,000	\$ 100,000
5		CREEK VEGETATION CLEARING	3	AC	\$ 7,000	\$ 21,000
6		EROSION CONTROL & REVEG	1	LS	\$ 20,000	\$ 20,000
7		MOBILIZATION (10%)	1	LS	\$ 27,000	\$ 27,000

SUBTOTAL: \$ 299,250

DESCRIPTION: POND MAINTENANCE, VEGETATION REMOVAL, CHANNEL & FLOODPLAIN STORAGE EXCAVATION, PEDESTRIAN BRIDGE CROSSING REPLACEMENT, EARTHEN BERM

30% CONTINGENCY: \$ 89,775

15% PS&E: \$ 58,000

PROPERTY ACQUISITION: \$ -

TOTAL: \$ 447,025

ESTIMATED CONSTRUCTION DURATION: 4 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	MASON CK RESERVOIR AT HORIZON PARK BLVD					
RANK	12					
CIP PROJ. LABEL	MC-1					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1		REMOVE BRIDGE STRUCTURE	260	SY	\$ 300	\$ 78,000
2		REMOVE RIPRAP	600	SY	\$ 40	\$ 24,000
3	420-7012	CL C CONC (ABUT)	15	CY	\$ 1,500	\$ 22,500
4	425-7005	PRESTR CONC GIRDER (TX54)	225	LF	\$ 250	\$ 56,250
5	422-7001	REINF CONC SLAB	250	SY	\$ 200	\$ 50,000
6		APPROACH SLAB	79	CY	\$ 810	\$ 63,990
7	454-7004	SEALED EXPANSION JOINT (4 IN) (SEJ - M)	60	LF	\$ 250	\$ 15,000
8	540-7001	MTL W-BEAM GD FEN (TIM POST)	400	LF	\$ 50	\$ 20,000
9	432-7003	RIPRAP (CONC)(6 IN)	35	CY	\$ 600	\$ 21,000
10		EROSION CONTROL & REVEG	1	LS	\$ 20,000	\$ 20,000
11		MOBILIZATION (10%)	1	LS	\$ 37,000	\$ 37,000

SUBTOTAL: \$ 407,740

DESCRIPTION: RAISE ROADWAY PROFILE BY 6', REPLACE CROSSING WITH SINGLE SPAN BRIDGE

30% CONTINGENCY: \$ 122,322

15% PS&E: \$ 80,000

PROPERTY ACQUISITION: \$ -

TOTAL: \$ 610,062

ESTIMATED CONSTRUCTION DURATION: 6-8 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	BLOCKHOUSE CREEK NEAR RUSH AUTOMOTIVE					
RANK	13					
CIP PROJ. LABEL	BLC-10					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1		REMOVE ROADWAY	550	SY	\$ 50	\$ 27,500
2		REMOVE CULVERTS	480	LF	\$ 100	\$ 48,000
3	432-7003	RIPRAP (CONC)(6 IN)	40	CY	\$ 600	\$ 24,000
4	110-7002	EXCAV (CHANNEL)	1000	CY	\$ 25	\$ 25,000
5	132-7001	EMBANKMENT (FNL)(OC)(TY A)	250	CY	\$ 25	\$ 6,250
6		CONC BOX CULV (4 FT X 4 FT)	960	LF	\$ 570	\$ 547,200
7	466-71XX	WINGWALL (FW - 0) (HW=6 FT)	2	EA	\$ 50,000	\$ 100,000
8	247-7179	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	61	CY	\$ 65	\$ 3,965
9		ASPHALT PAVEMENT	550	SY	\$ 150	\$ 82,500
10		EROSION CONTROL & REVEG	1	LS	\$ 15,000	\$ 15,000
11	500-7001	MOBILIZATION (10%)	1	LS	\$ 88,000	\$ 88,000

SUBTOTAL: \$ 967,415

DESCRIPTION: FLOODPLAIN STORAGE & CHANNEL EXCAVATION, CULVERT REPLACEMENT AT BUS 183

30% CONTINGENCY: \$ 290,225
15% PS&E: \$ 189,000
PROPERTY ACQUISITION: \$ -
TOTAL: \$ 1,446,640

ESTIMATED CONSTRUCTION DURATION: 9-12 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	SOUTH FORK SAN GABRIEL TRIB AT BONNET					
RANK	14					
CIP PROJ. LABEL	SFSG-T28.01-1					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1		REMOVE ROADWAY	160	SY	\$ 50	\$ 8,000
2		REMOVE CULVERTS	55	LF	\$ 100	\$ 5,500
3	432-7003	RIPRAP (CONC)(6 IN)	20	CY	\$ 600	\$ 12,000
4	110-7002	EXCAV (CHANNEL)	8917	CY	\$ 25	\$ 222,925
5	132-7001	EMBANKMENT (FNL)(OC)(TY A)	1783	CY	\$ 25	\$ 44,575
6		CONC BOX CULV (5 FT X 4 FT)	110	LF	\$ 670	\$ 73,700
7		WINGWALL (FW - 0) (HW=6 FT)	2	EA	\$ 25,000	\$ 50,000
8	247-7179	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	20	CY	\$ 65	\$ 1,300
9		ASPHALT PAVEMENT	160	SY	\$ 150	\$ 24,000
10		EROSION CONTROL & REVEG	1	LS	\$ 20,000	\$ 20,000
11		MOBILIZATION (10%)	1	LS	\$ 46,000	\$ 46,000

SUBTOTAL: \$ 508,000

DESCRIPTION: EROSION PREVENTION MEASURES, CHANNEL EXCAVATION,
REPLACE EXISTING CULVERT CROSSING AT TRIGGER LN

30% CONTINGENCY: \$ 152,400
15% PS&E: \$ 99,000
PROPERTY ACQUISITION: \$ -
TOTAL: \$ 759,400

ESTIMATED CONSTRUCTION DURATION: 6 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	BLOCKHOUSE CREEK THRU RIDGEWOOD					
RANK	15					
CIP PROJ. LABEL	BLC-3A					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1	432-7003	RIPRAP (CONC)(6 IN)	20	CY	\$ 600	\$ 12,000
2	110-7002	EXCAV (CHANNEL)	9750	CY	\$ 25	\$ 243,750
3	132-7001	EMBANKMENT (FNL)(OC)(TY A)	2700	CY	\$ 25	\$ 67,500
4		EROSION CONTROL & REVEG	1	LS	\$ 15,000	\$ 15,000
5		MOBILIZATION (10%)	1	EA	\$ 34,000	\$ 34,000

SUBTOTAL: \$ 372,250

DESCRIPTION: (PHASE 1 OF 2, SEE AOI #16) CHANNEL & POND GRADING IMPROVEMENTS THRU RIDGEWOOD

30% CONTINGENCY: \$ 111,675
 15% PS&E: \$ 73,000
 PROPERTY ACQUISITION: \$ -
TOTAL: \$ 556,925

ESTIMATED CONSTRUCTION DURATION: 8-12 MO

PROJECT NAME	LEANDER STORMWATER MASTER PLAN	CONCEPTUAL COST ESTIMATE				
OWNER	CITY OF LEANDER					
EDGE PROJ. NO.	COL_001_STORMWATER_MASTER_PLAN					
LOCATION	VINTAGE DR & RUTHERFORD DR					
RANK	16					
CIP PROJ. LABEL	BLC-3B					
ITEM NO	SPEC NO	DESCRIPTION	QTY	UNIT	\$/UNIT	COST
1	432-7003	RIPRAP (CONC)(6 IN)	20	CY	\$ 600	\$ 12,000
2		REMOVE PIPE	870	LF	\$ 70	\$ 60,900
3		CONC PIPE CL III 24"	175	LF	\$ 120	\$ 21,000
4		CONC PIPE CL III 36"	520	LF	\$ 160	\$ 83,200
5		CONC PIPE CL III 48"	175	LF	\$ 200	\$ 35,000
6		CONC BOX CULV (8 FT X 4 FT)	200	LF	\$ 1,200	\$ 240,000
7	466-7147	WINGWALL (FW - 0) (HW=6 FT)	2	EA	\$ 30,000	\$ 60,000
8		EROSION CONTROL & REVEG	1	LS	\$ 15,000	\$ 15,000
9		MOBILIZATION (10%)	1	EA	\$ 53,000	\$ 53,000

SUBTOTAL: \$ 580,100

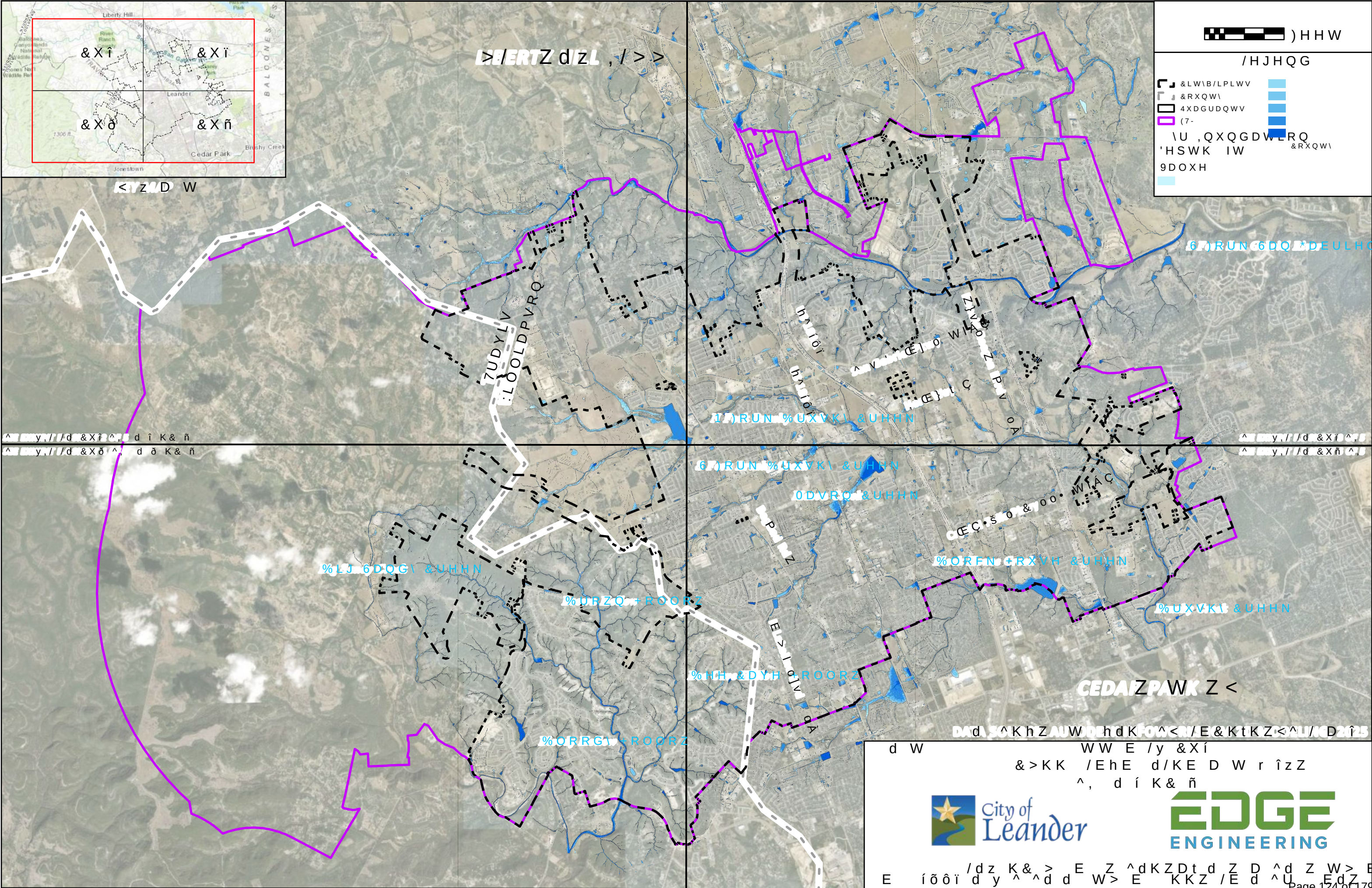
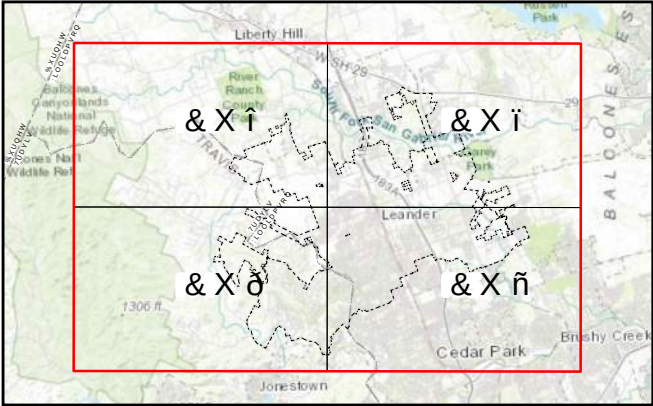
DESCRIPTION: (PHASE 2 OF 2, SEE AOI #15) BOX CULVERT REPLACEMENT
U/S OF VINTAGE DR, ADD STORM DRAIN & INLETS NEAR OAKVILLE CIR

30% CONTINGENCY: \$ 174,030
15% PS&E: \$ 113,000
PROPERTY ACQUISITION: \$ -
TOTAL: \$ 867,130

ESTIMATED CONSTRUCTION DURATION: 12 MO

Appendix F: City-wide Inundation Maps (2D Modeling Results)

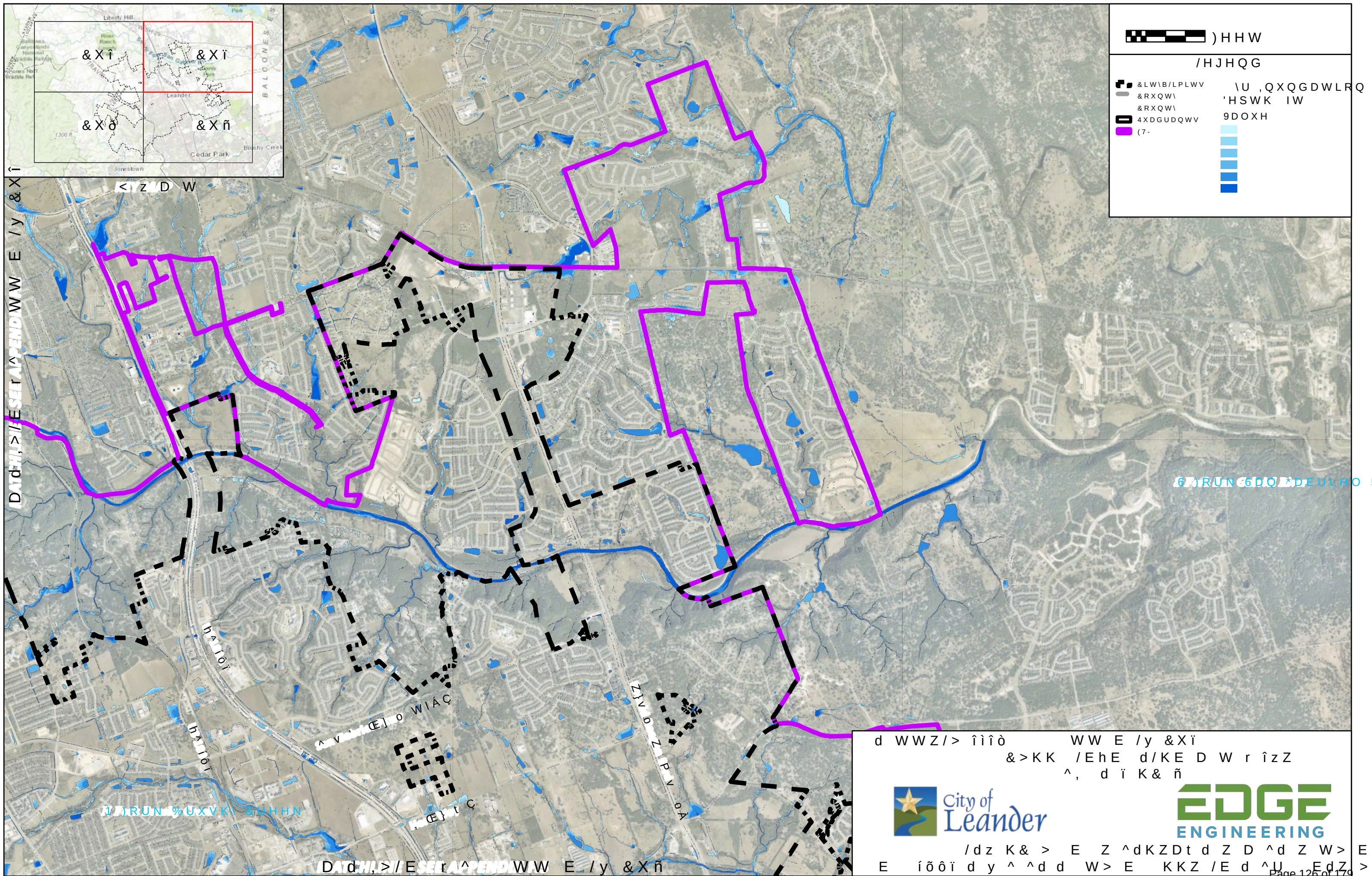
- 2-year Inundation Maps
- 10-year Inundation Maps
- 25-year Inundation Maps
- 100-year Inundation Maps

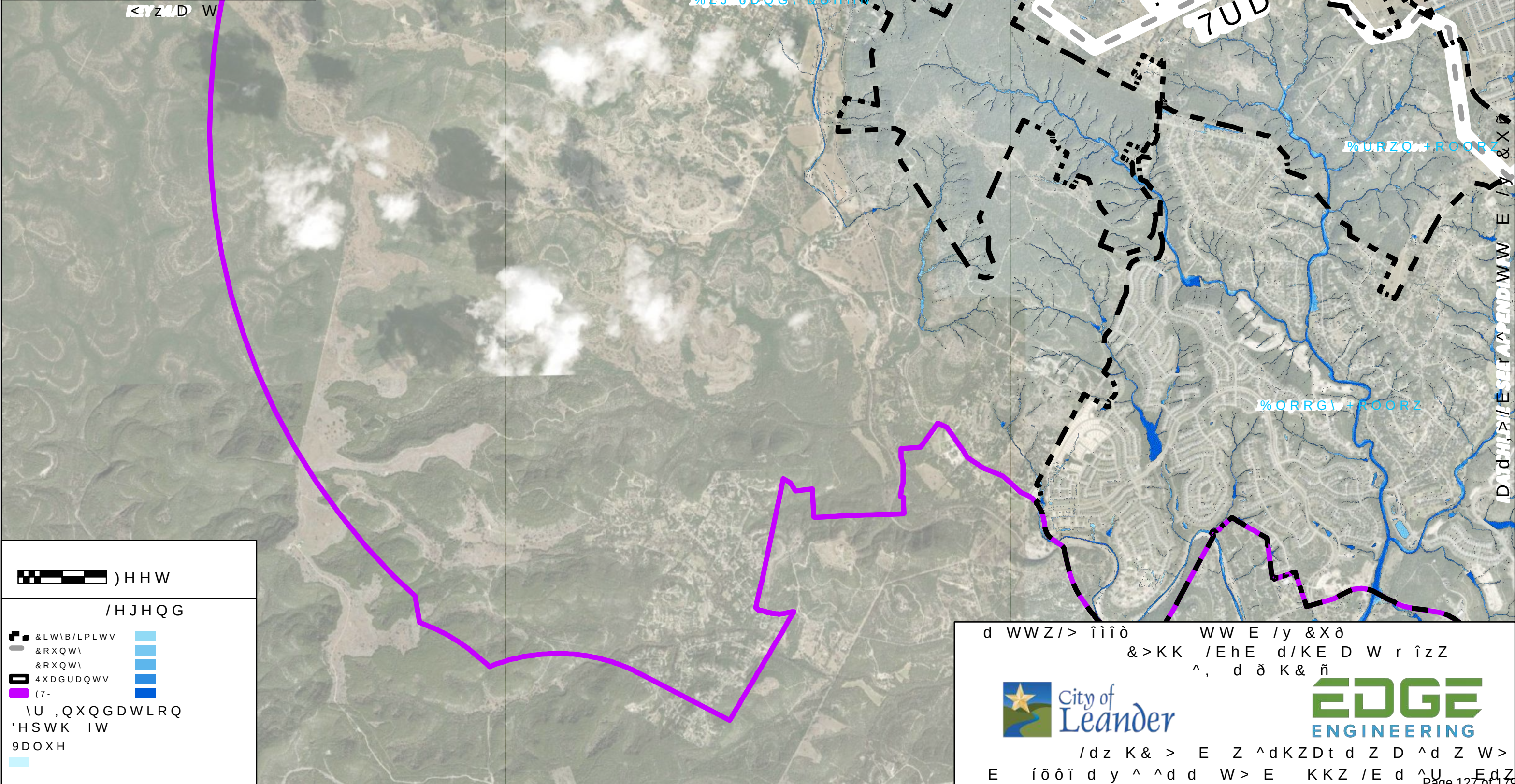
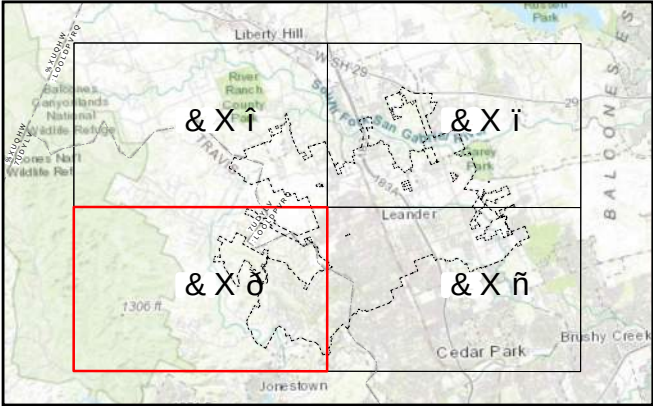


City of Leander

EDGE ENGINEERING

Page 124 of 179





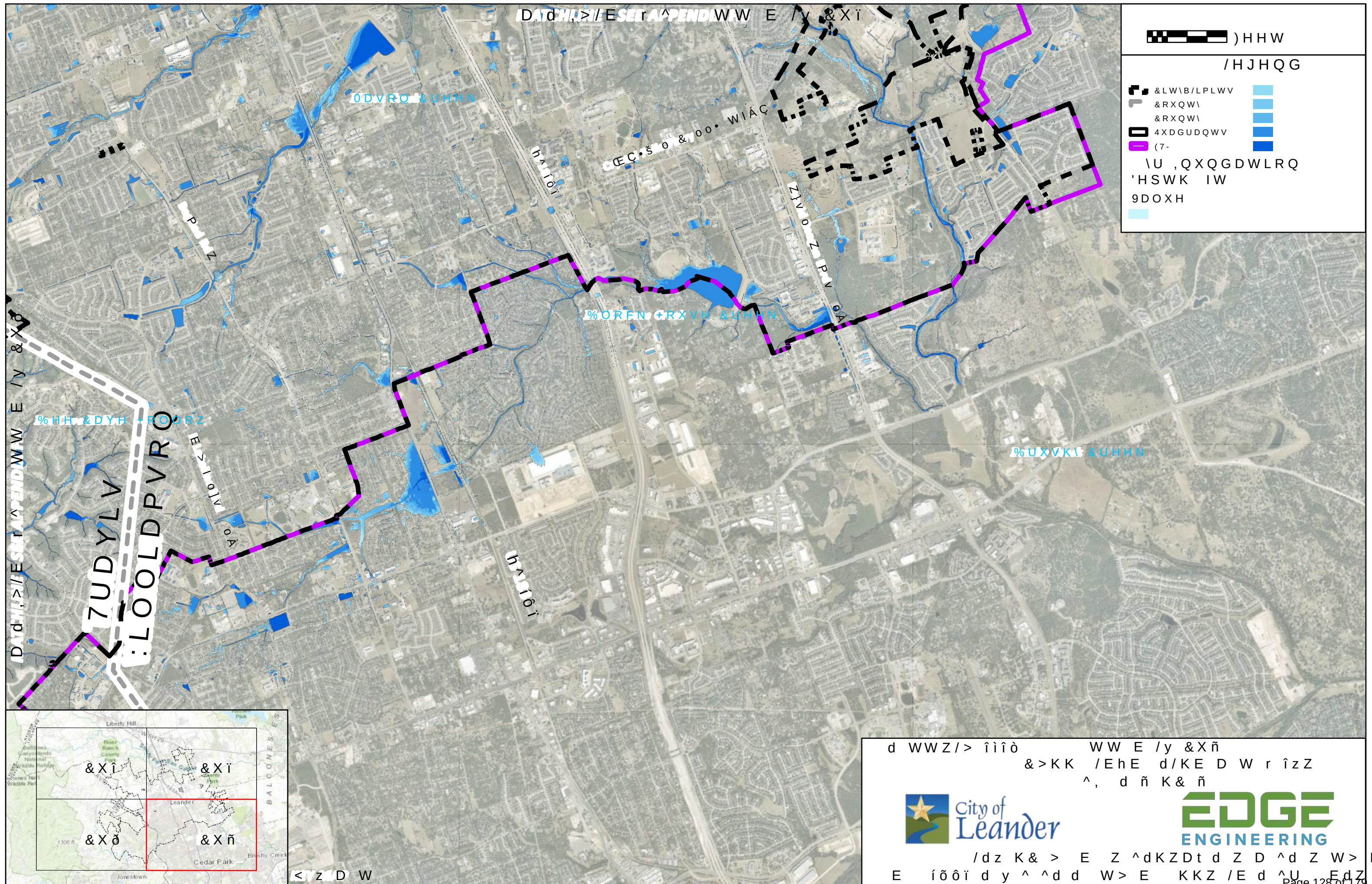
d WWZ/> îîò WW E /y &Xð

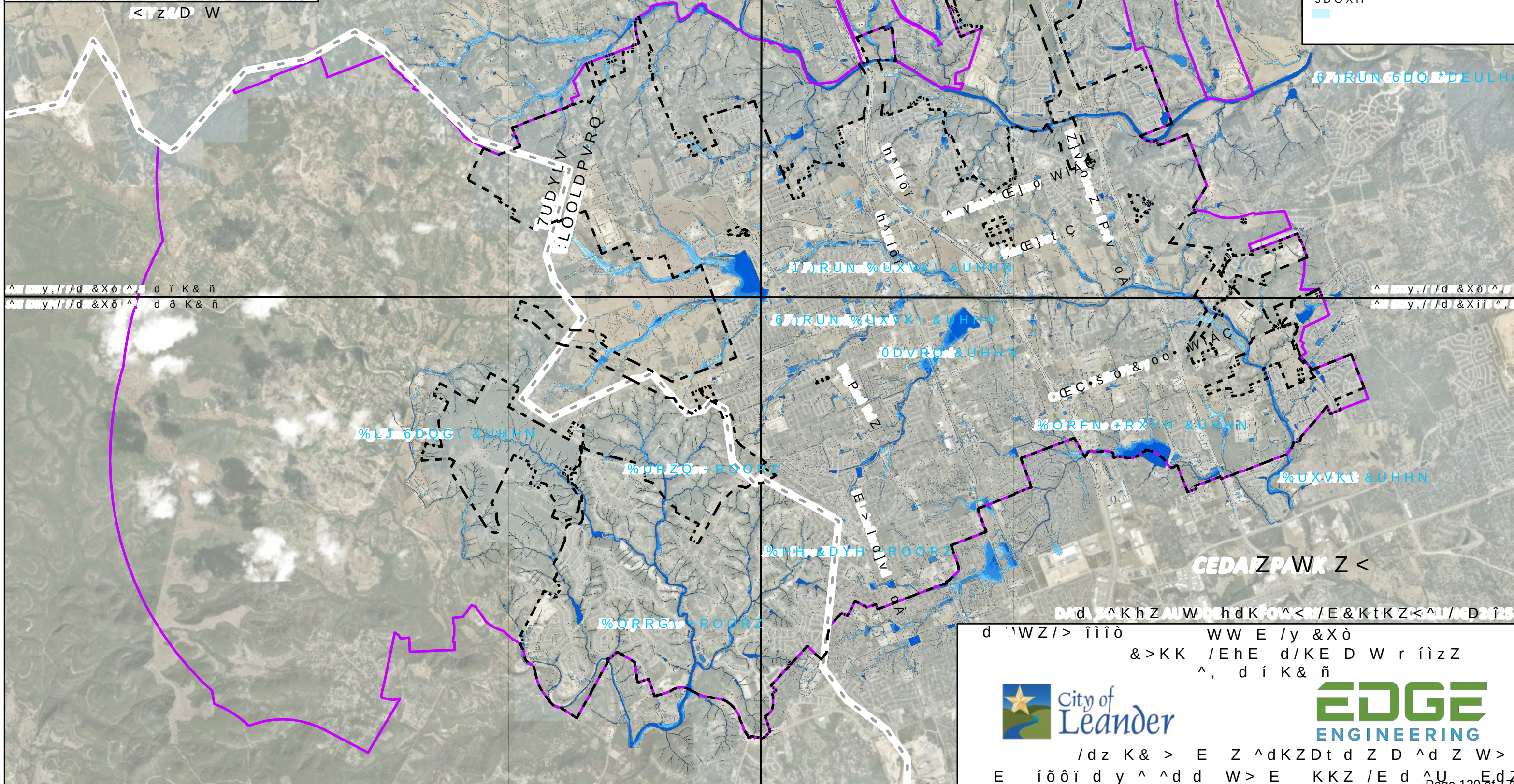
&>KK /EhE d/KE D W r îzZ

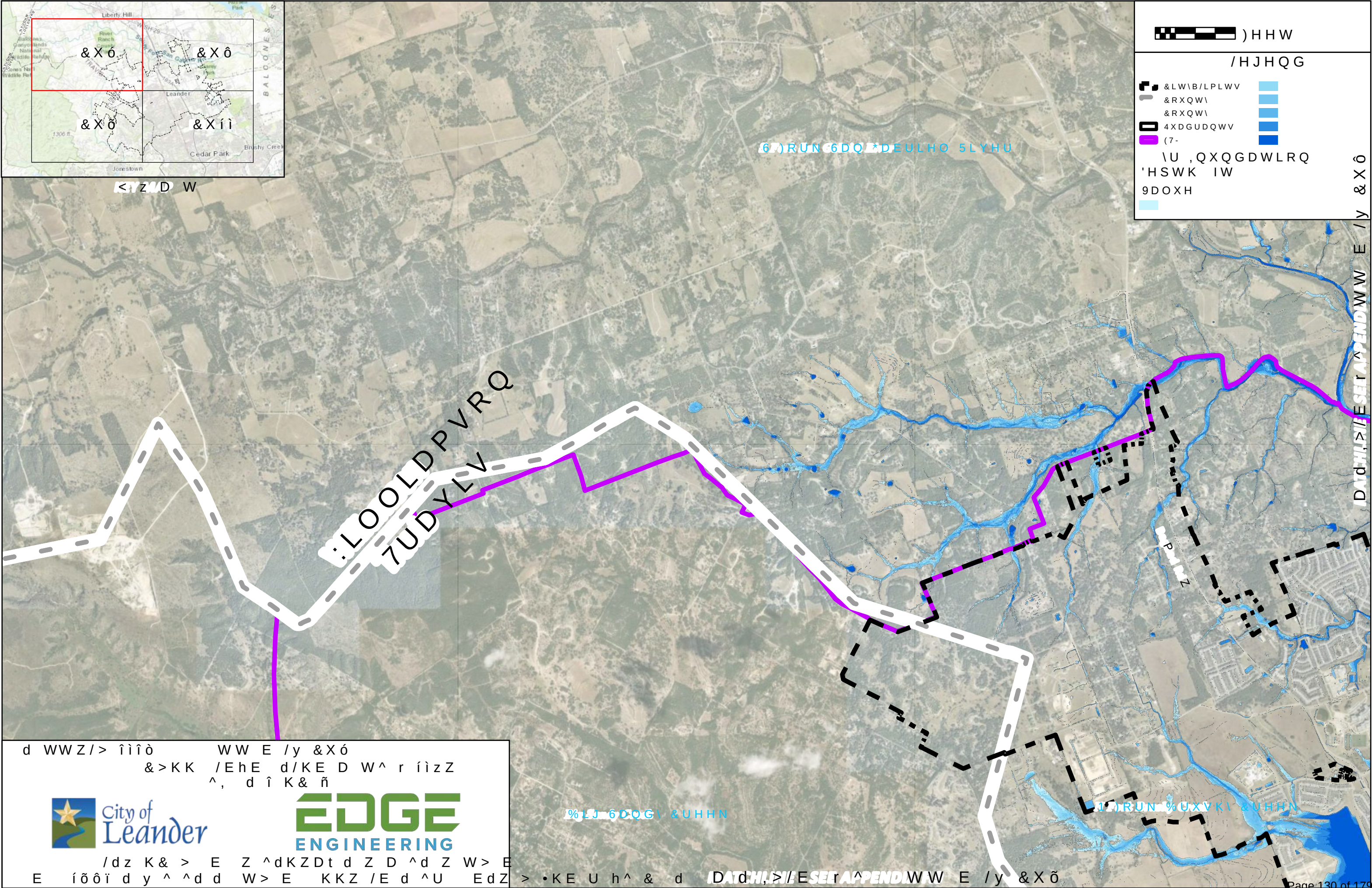
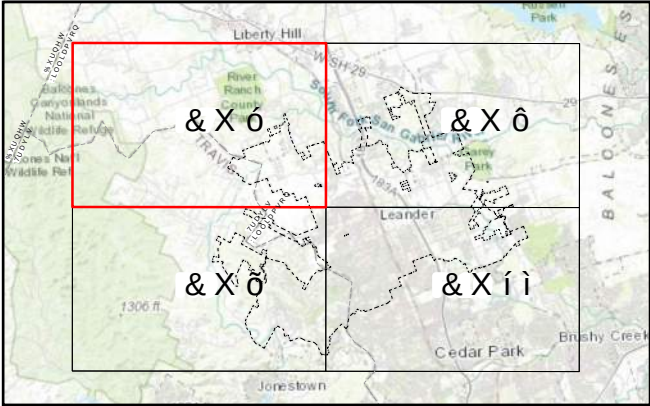
^, d ð K& ñ

/dz K& > E Z ^dKZDt d Z D ^d Z W> E

E íðôî d y ^ ^d d W> E KKZ /E d ^U EdZ >







)HHW

/HJHQG

 &LWIB/LPLWV

 &RXQW\

 &RXQW\

 4XDGUDQWV

 (7-











\U ,QXQGDLRQ

'HSWK IW

9DOXH



d WWZ/> îîîð

WW E /y &Xó

&>KK /EhE d/KE D W^ r îîzz

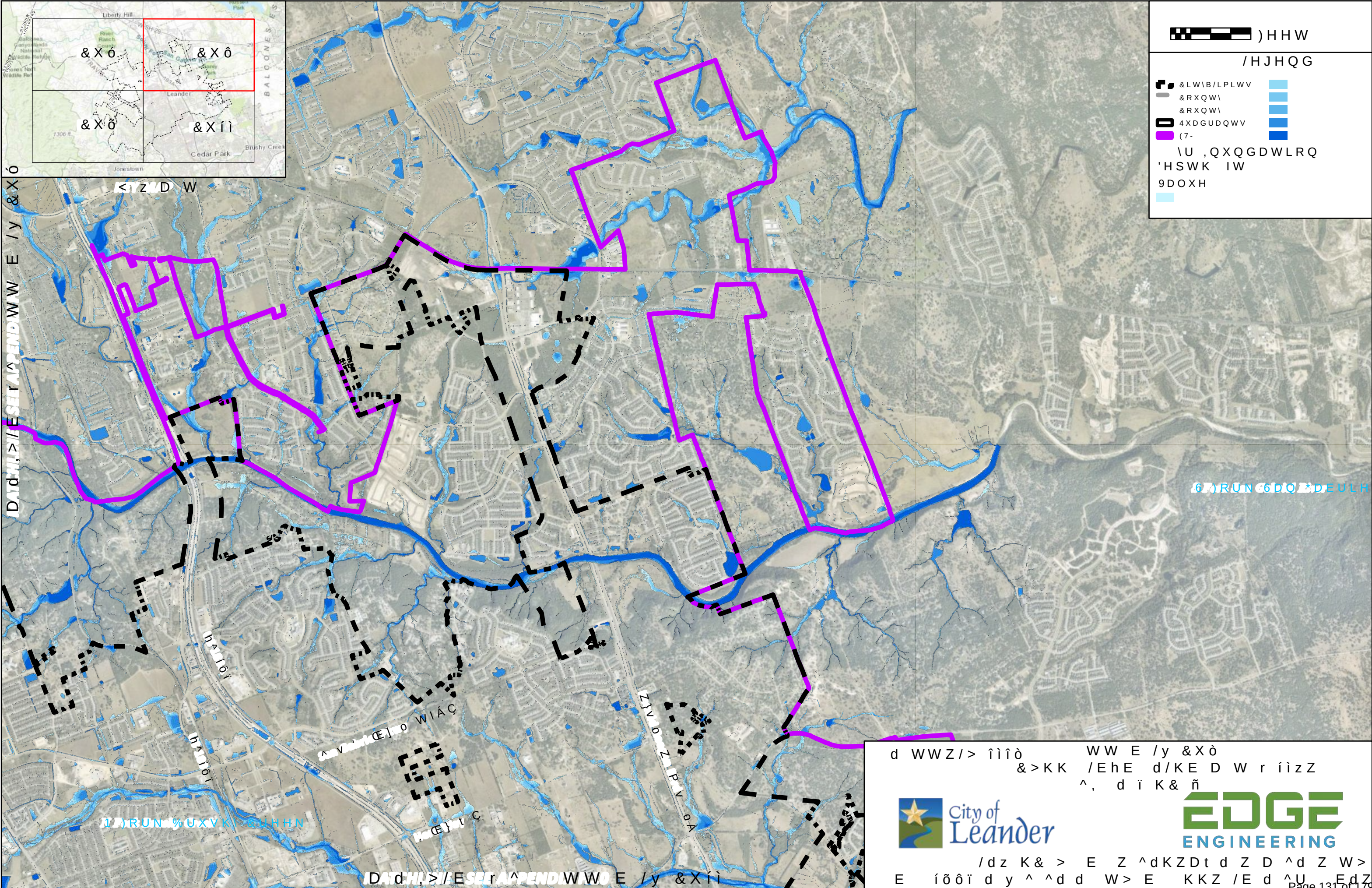
^, d î K& ñ





/dz K& > E Z ^dKZDt d Z D ^d Z W> E

E íõõï d y ^ ^d d W> E KKZ /E d ^U EdZ > •KE U h^ & d



)HHW

/HJHQG

 &LWIB/LPLWV

 &RXQWl

 &RXQWl

 4XDGDQWV

 (7-



\U ,QXQGDWLRQ
'HSWK IW
9DOXH

d WWZ/> îîîð WW E /y &Xð
&>KK /EhE d/KE D W r íîzz
^, d ĩ K& ñ



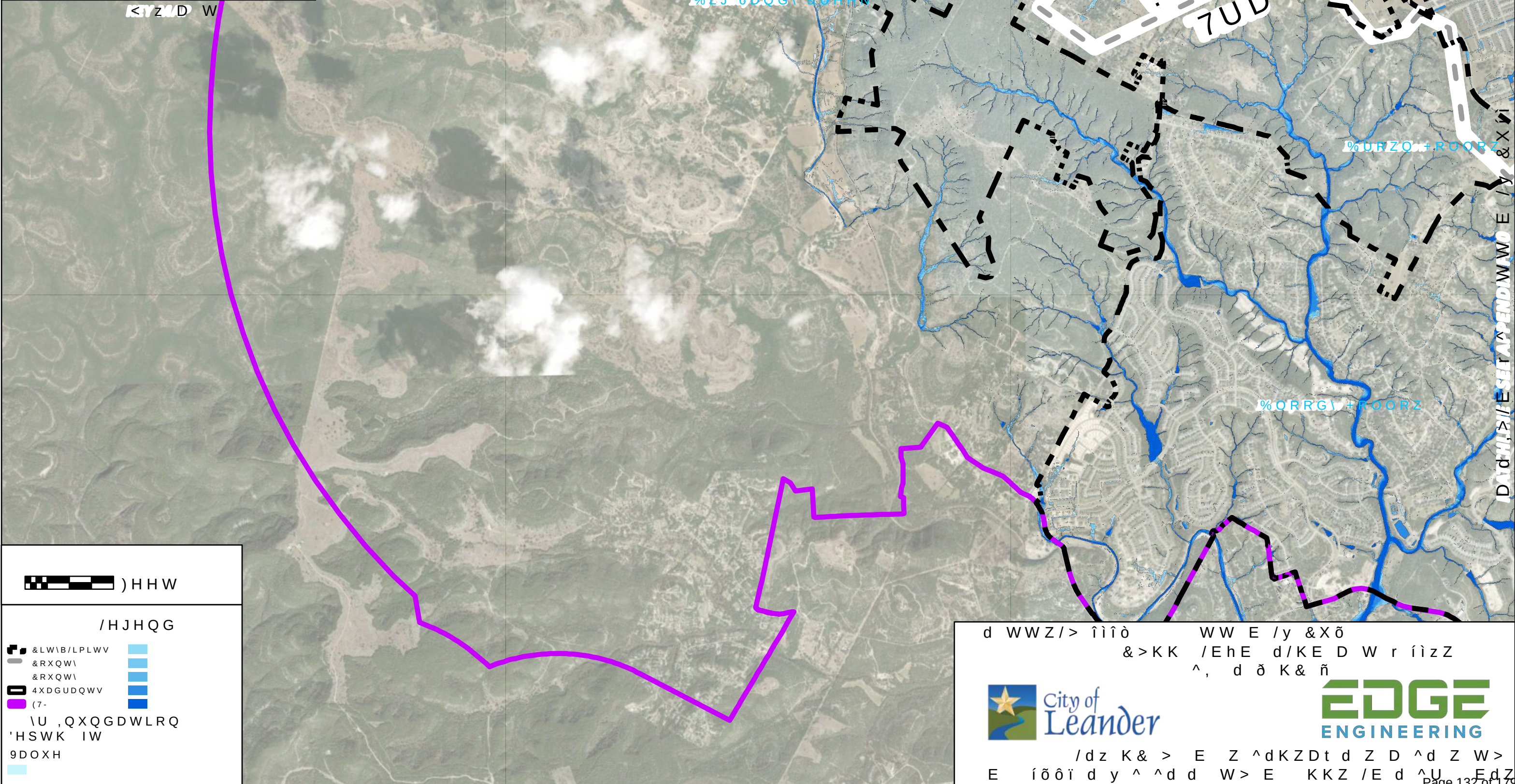
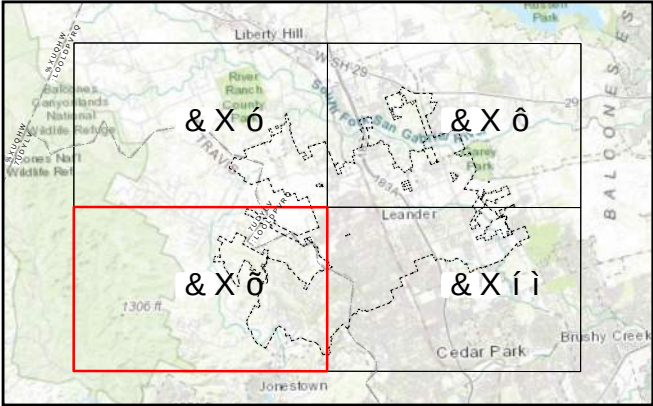
City of
Leander



EDGE
ENGINEERING

/dz K& > E Z ^dKZDt d Z D ^d Z W> E
E íðôĩ d y ^ ^d d W> E KKZ /E d ^U EdZ >

Page 131 of 179



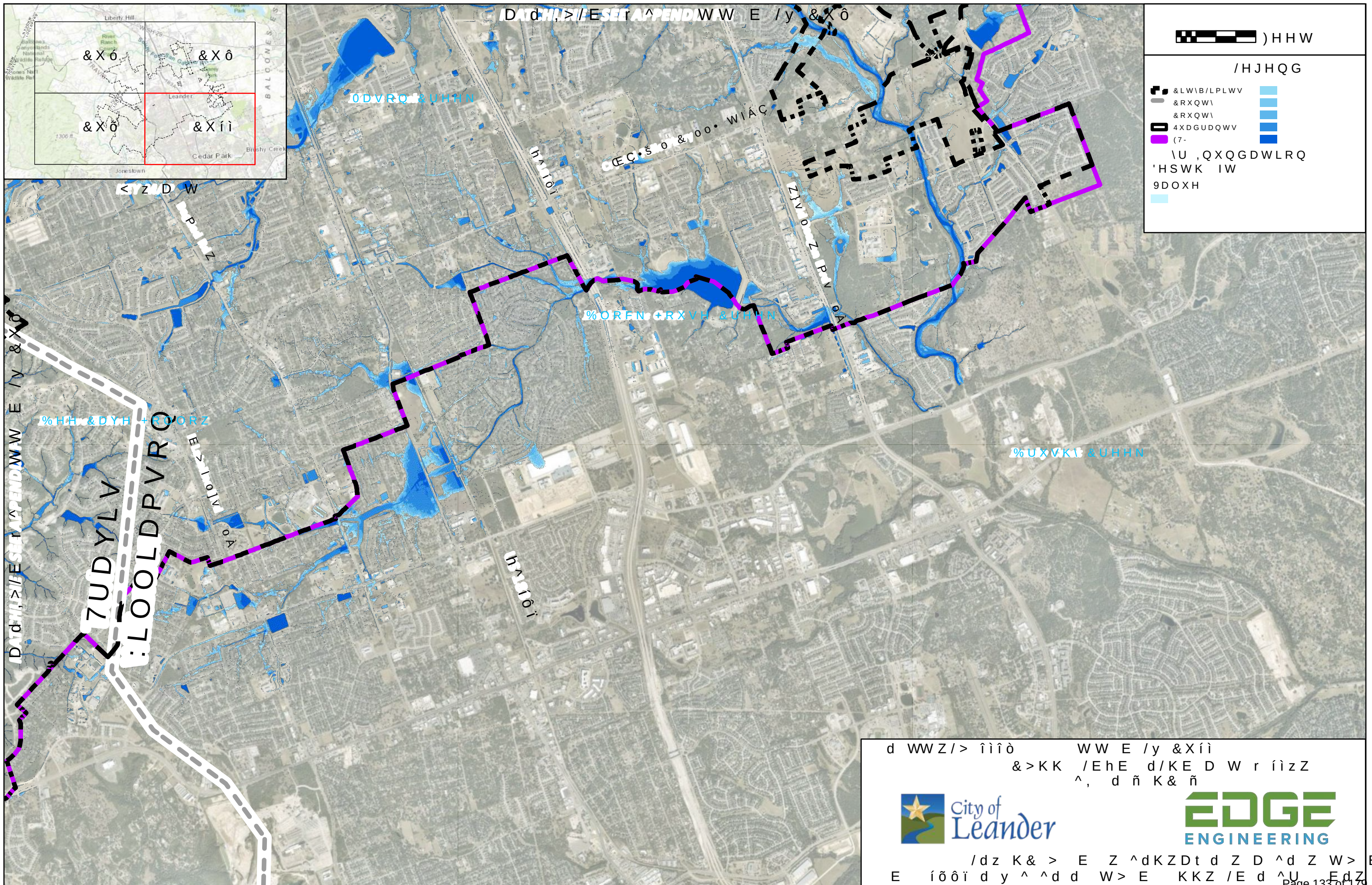
Legend:

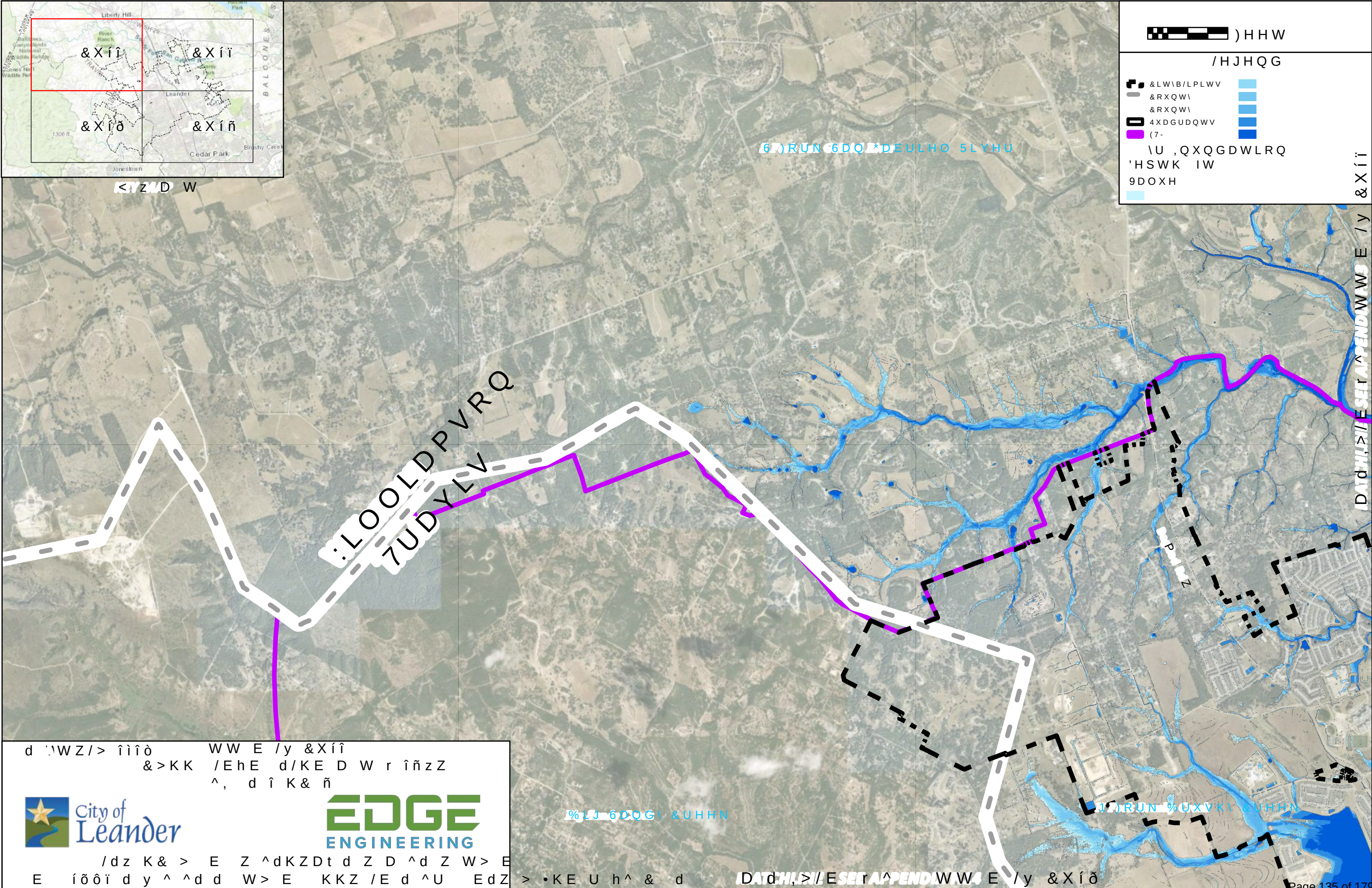
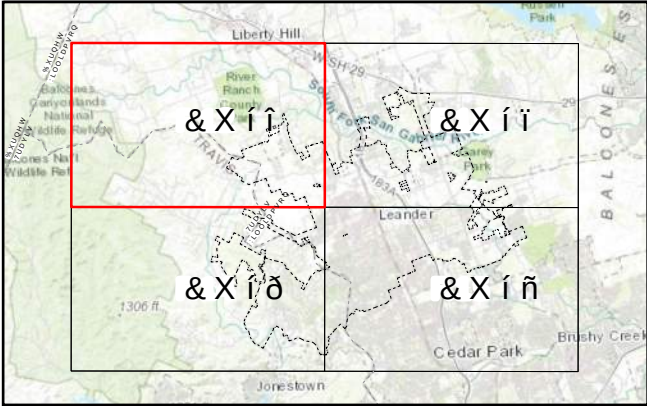
- Scale bar: 0 to 100 feet
- Legend items:
 - Black dashed line: &LW\B\LPLWV
 - Black solid line: &RXQW\
 - Black solid line: &RXQW\
 - Black solid line: 4XDGDQWV
 - Purple line: (7-
 - Blue line: \U ,QXQGDLRQ
 - Blue line: 'HSWK IW
 - Blue line: 9DOXH

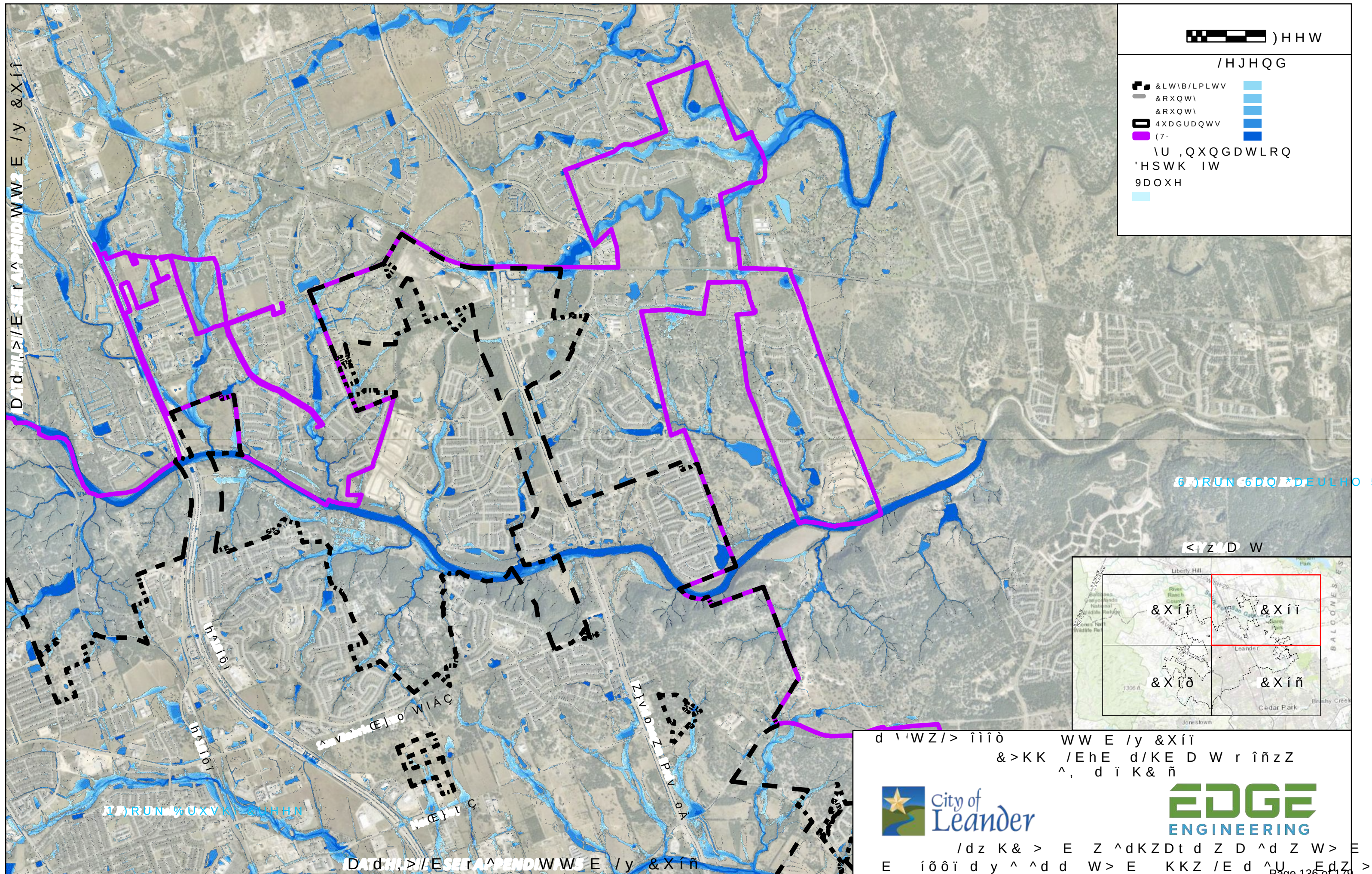
City of Leander

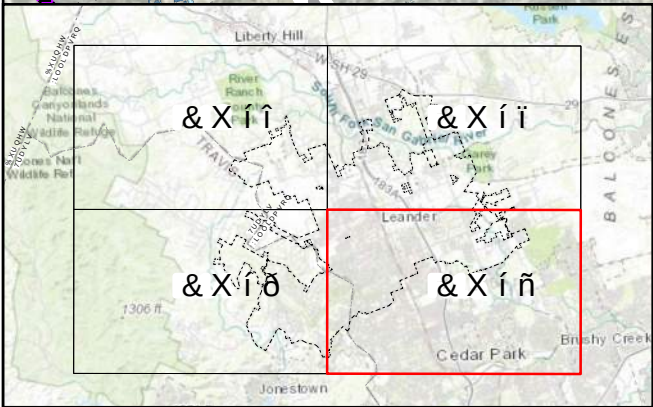
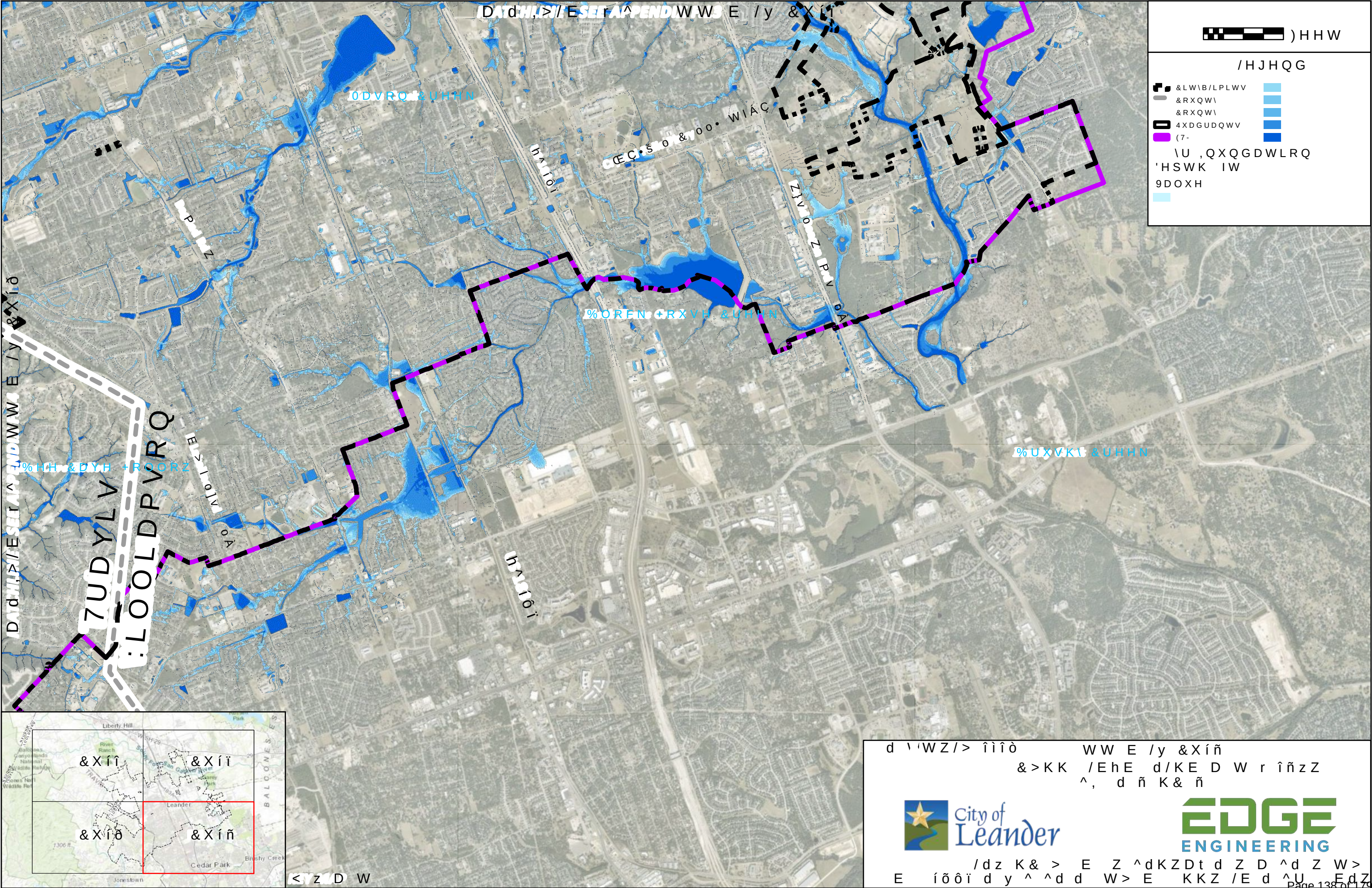
EDGE ENGINEERING

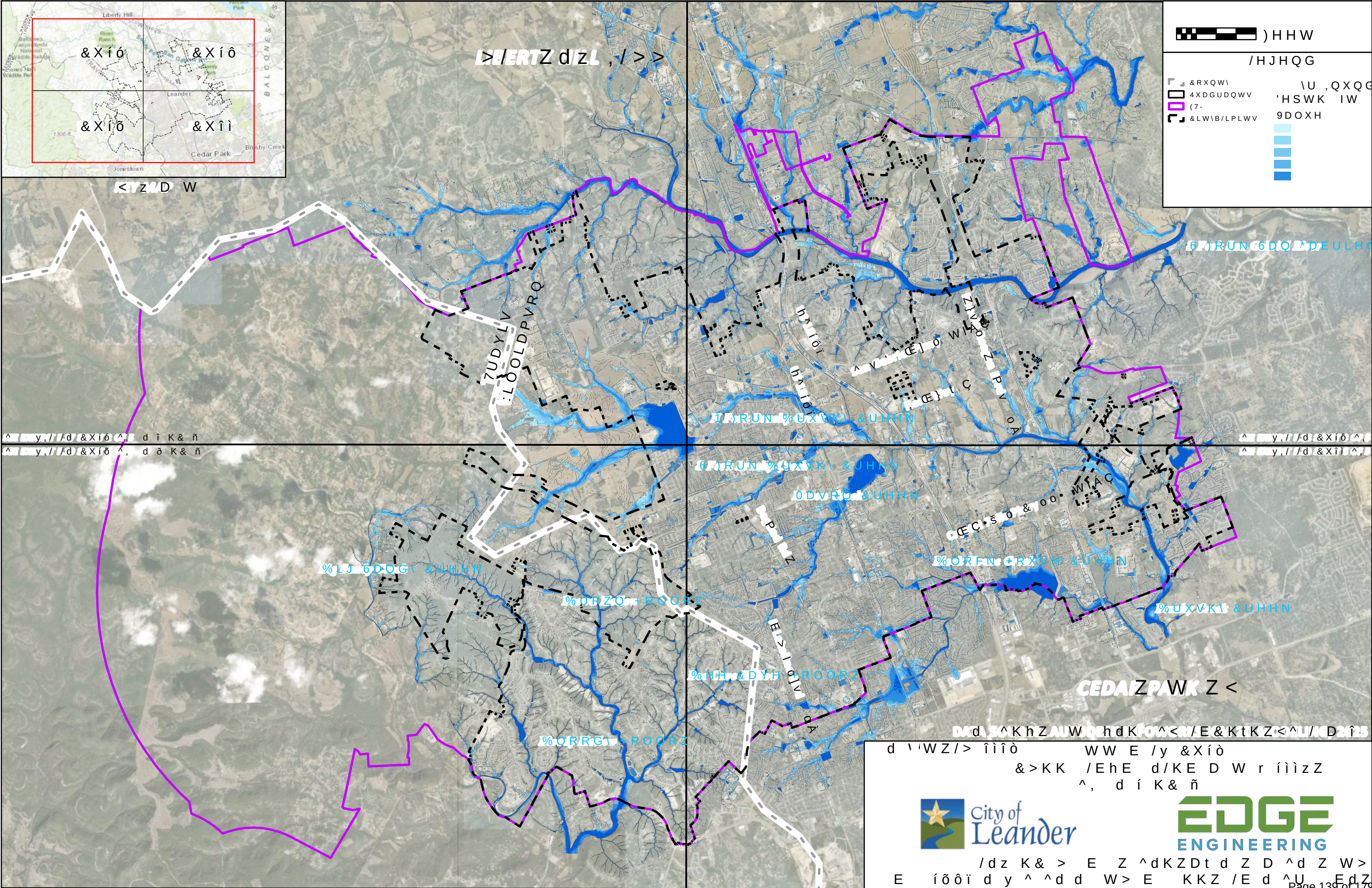
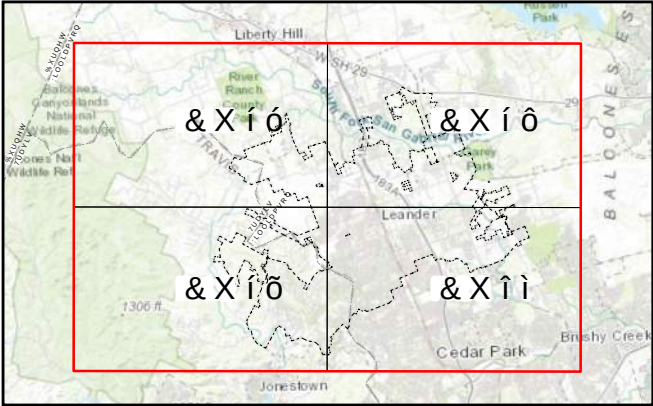
Page 132 of 179

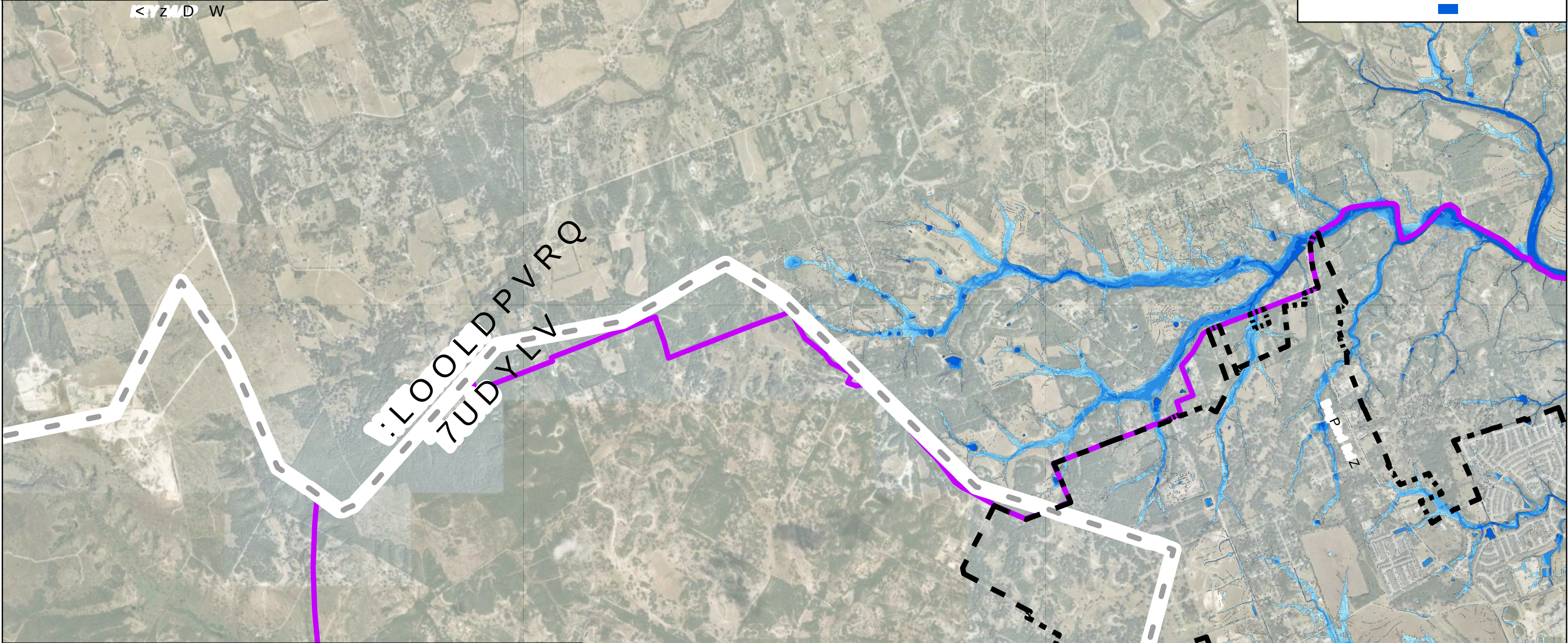
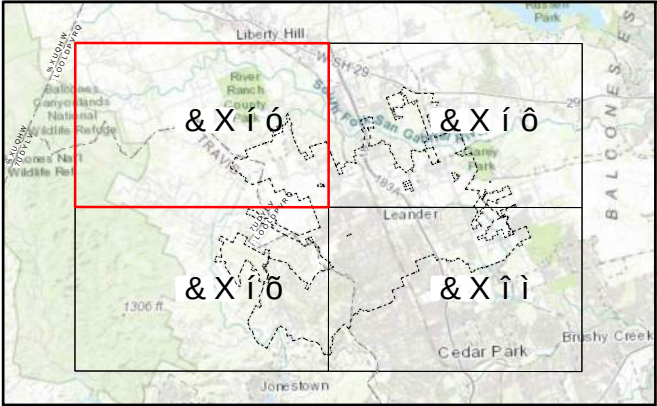








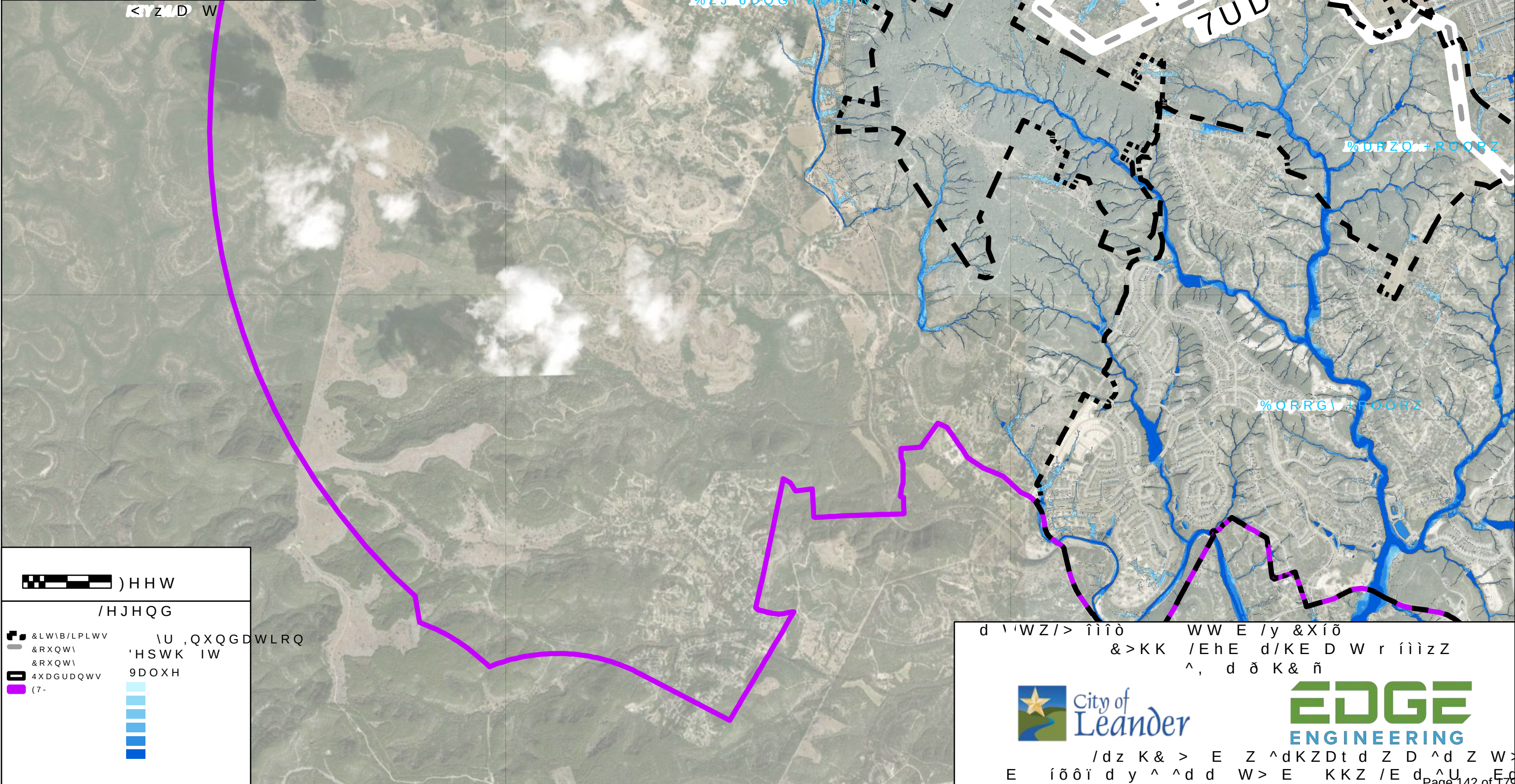
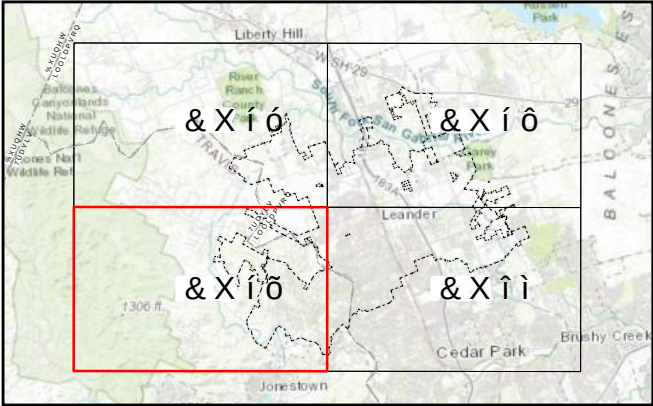




d \WZ/> îîîð WW E /y &Xíó
&>KK /EhE d/KE D W r íîîzZ
^, d î K& ñ

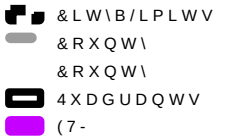


/dz K& > E Z ^dKZDt d Z D ^d Z W> E
E íððï d y ^ ^d d W> E KKZ /E d ^U EdZ



)HHW

/HJHQG



- &LW\B/LPLWV
- &RXQW\
- &RXQW\
- 4XDGUDQWV
- (7-

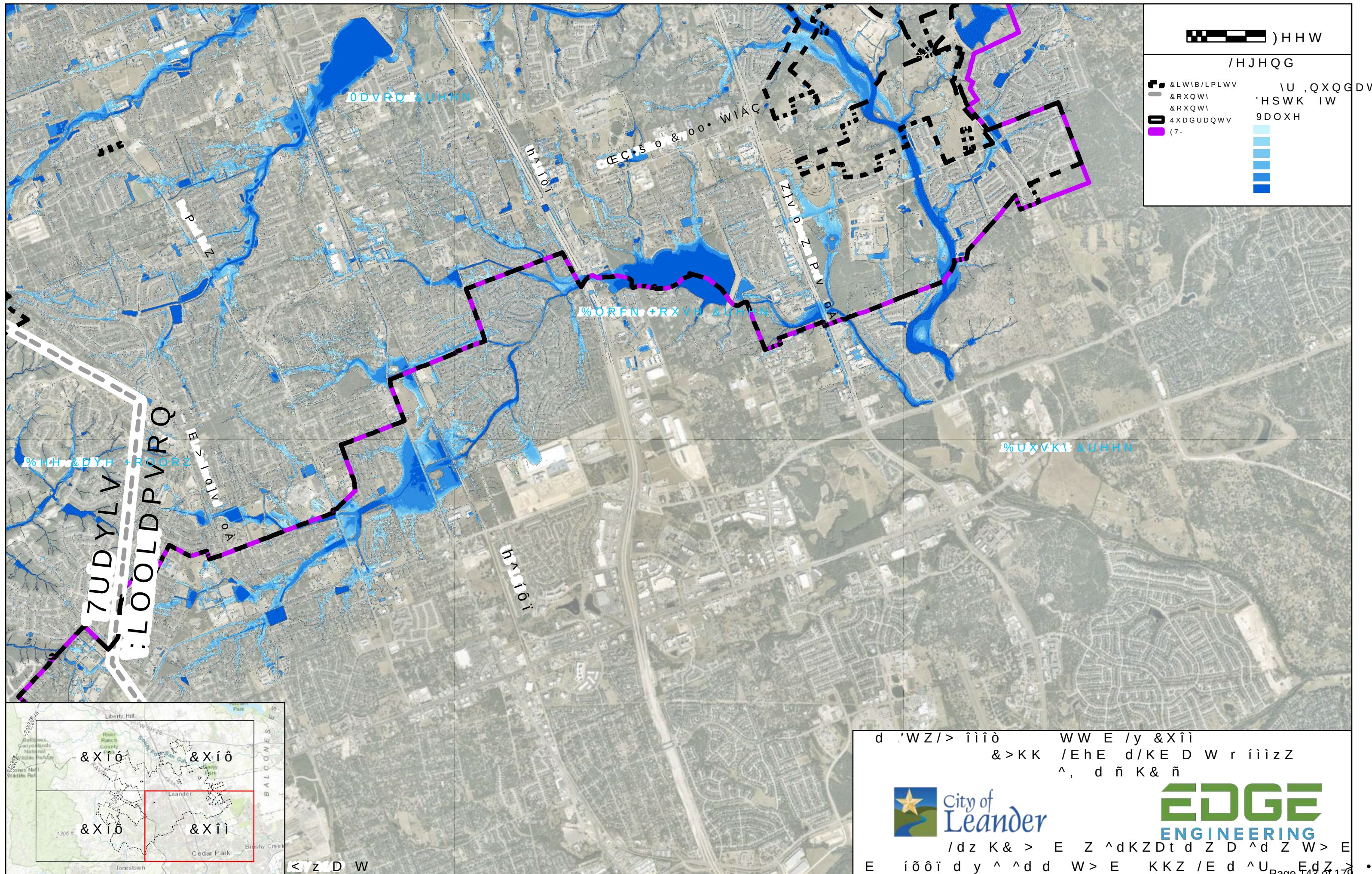
- \U ,QXQG DWLRQ
- 'HSWK IW
- 9DOXH



d \ 'WZ/> îîîð WW E /y &Xíð
&>KK /EhE d/KE D W r îîîzZ
^, d ð K& ñ



/dz K& > E Z ^dKZDt d Z D ^d Z W> E
E íðôî d y ^ ^d d W> E KKZ /E d ^U Ed Z



Appendix G: External Funding Opportunities

- Flood Information Clearinghouse – Funding Matrix by Project Type

Source: <https://texasfloodclearinghouse.org/>

- 2024-2025 Intended Use Plan - FIF Criteria Scoring and Weight

Source: <http://www.twdb.texas.gov/financial/programs/fif/doc/SFY2024-2025-FIF-IUP.pdf>

Regional Flood Planning Groups | Texas Water Development Board

Region 8 - Lower Brazos ([website](#))

Planning Group Sponsor Contact:

Brazos River Authority

Pamela Hannemann

Email: pamela.hannemann@Brazos.org

Phone: (254) 761-3135

Planning Group Chair:

Alysha Girard

Email: alysha.girard@ubcdams.org

Phone: (512) 652-3536

TWDB Contact:

Alexis Morganroth, EIT

Email: alexis.morganroth@twdb.texas.gov

Region 10 - Lower Colorado-Lavaca ([website](#))

Planning Group Sponsor Contact:

Lower Colorado River Authority

Lauren Graber

Email: lauren.graber@lcra.org

Phone: (512) 578-7085

Planning Group Chair:

Phillip Spenrath

Email: judge.spenrath@co.wharton.tx.us

Phone: (979) 532-4612

TWDB Contact:

Belle Gonzalez

Email: belle.gonzalez@twdb.texas.gov

Working 2024 State Flood Plan Flood Management Evaluation (FME), Flood Mitigation Project (FMP) and Flood Management Strategy (FMS) Ranking Criteria and Weight

Texas Water Code Sec. 16.061, “(b) The state flood plan must include: ... (2) a statewide, ranked list of ongoing and proposed flood control and mitigation projects and strategies necessary to protect against the loss of life and property from flooding...”

TWDB rules state that the state flood plan shall incorporate “a statewide, ranked list of recommended FMEs, FMSs, and FMPs that have associated one-time capital costs derived from the Board-approved RFPs (31 TAC § 362.4 (c)(5)).

All flood risk and risk reduction information are for 1% annual chance storm.

**Select reported data were normalized on the curve (ArcSinh), scoring 0-10.*

		Criteria Name	Criteria Type	Criteria Grouping	FME Ranking Criteria	FME Ranking Weight	FME Grouping Weight	FMP Ranking Criteria	FMP Ranking Percent Weight	FMP Grouping Weight	FMS Ranking Criteria	FMS Ranking Percent Weight	FMS Grouping Weight	Max Score
REPORTED DATA FROM FME, FMP and FMS FEATURE CLASSES	1	Estimated number of structures at 100yr flood risk*	Flood Risk	Life, Safety and Structures	Yes	15.0%	75.0%	No	0.0%	0.0%	Yes	10.0%	40.0%	10
	2	Estimated Population at 100-year flood risk*	Flood Risk		Yes	15.0%		No	0.0%		Yes	10.0%		10
	3	Critical facilities at 100-year flood risk (#)*	Flood Risk		Yes	25.0%		No	0.0%		Yes	10.0%		10
	4	Number of low water crossings at flood risk (#)*	Flood Risk		Yes	20.0%		No	0.0%		Yes	10.0%		10
	5	Estimated number of road closures (#)*	Flood Risk	Mobility	Yes	5.0%	15.0%	No	0.0%	0.0%	Yes	5.0%	15.0%	10
	6	Estimated length of roads at 100-year flood risk (Miles)*	Flood Risk		Yes	10.0%		No	0.0%		Yes	10.0%		10
	7	Estimated farm & ranch land at 100-year flood risk (acres)*	Flood Risk	Agriculture	Yes	10.0%	10.0%	No	0.0%	0.0%	Yes	5.0%	5.0%	10
	8	Number of structures removed from 100yr (1% annual chance) Floodplain*	Flood Risk Reduction	Life, Safety and Structures				Yes	5.0%	45.0%	Yes	10.0%	25.0%	10
	9	Percent of structures removed from 100yr (1% annual chance) Floodplain (Calculated by TWDB from reported data)	Flood Risk Reduction					Yes	10.0%					10
	10	Residential structures removed from 100yr (1% annual chance) Floodplain*	Flood Risk Reduction					Yes	2.5%		Yes	5.0%		10
	11	Estimated Population removed from 100yr (1% annual chance) Floodplain*	Flood Risk Reduction					Yes	10.0%		Yes	10.0%		10
	12	Critical facilities removed from 100yr (1% annual chance) Floodplain (#)*	Flood Risk Reduction					Yes	10.0%		No	0.0%		10
	13	Number of low water crossings removed from 100yr (1% annual chance) Floodplain (#)*	Flood Risk Reduction					Yes	7.5%		No	0.0%		10
	14	Estimated length of roads removed from 100yr floodplain (Miles)*	Flood Risk Reduction	Mobility				Yes	5.0%	5.0%	No	0.0%	0.0%	10
	15	Estimated farm & ranch land removed from 100yr floodplain (acres)*	Flood Risk Reduction	Agriculture				Yes	5.0%	5.0%	No	0.0%	0.0%	10
	16	Percent Nature-based Solution (by cost)	Other					Yes	5.0%		Yes	7.5%		10
	17	Benefit-Cost Ratio	Other					Yes	2.5%					10
	18	Water Supply Benefit (Y/N)	Other					Yes	5.0%		Yes	5.0%		10
	19	FMP Project Type (10 points) Low water crossing (4 points) Preparedness	Other					Yes	2.5%		No			
	20	FMS Project Type (10 points) Flood Measurement and Warning (8 points) Regulatory and Guidance (6 points) Education and Outreach (4 points) Property Acquisition and Structural Elevation (4 points) Infrastructure Projects (2 points) Other	Other					No	0.0%		Yes	2.5%		10
	Subtotal					100.0%			70.0%			100.0%		
FMP PROJECT DETAILS SCORING (COMPUTED BY RFPGs)	21	Score 1: Severity - Pre-Project Average Depth of Flooding (100-year)	Flood Risk					Yes	5.0%					10
	22	Score 2: Severity - Community Need (% Population)	Flood Risk					Yes	5.0%					10
	23	Score 6: Life and Safety	Flood Risk Reduction					Yes	5.0%					10
	24	Score 8: Social Vulnerability	Other					Yes	5.0%					10
	25	Score 10: Multiple Benefits	Other Benefits					Yes	2.5%					10
	26	Score 13: Environmental Benefit	Other Benefits					Yes	2.5%					10
	27	Score 15: Mobility	Other Benefits					Yes	5.0%					10
	Subtotal					0.0%			30.0%			0.0%		
Total (Must add up to 100%)					100.0%			100.0%			100.0%			

Please refer to RFP Exhibit C (pages 114 - 135) for definition of Project Details Scoring:

[Exhibit C: Technical Guidelines for Regional Flood Planning](#)

- Severity Ranking - Pre-Project Average Depth of Flooding (100-year): Ranking of severity based on the baseline/pre-project average 100-year flood depth.
- Severity Ranking - Community Need (% Population): Ranking of severity based on a community's need by percentage of project community affected by population.
- Life and Safety Ranking (Injury/Loss of life): Ranking project based on life/injury risk percentage using estimates of area hazard rating, area vulnerability rating, and historical loss of life injury data for project.
- Social Vulnerability Ranking: A ranking based on the Center for Disease Control SVI data for Texas, by calculating an average project SVI by census tract and classifying the vulnerability level.
- Multiple Benefit Ranking: Ranking a project based on the reporting of significant, measurable, expected benefits to: recreation, transportation, social and quality of life, local economic impacts, meeting sustainability goals, and/or project resilience goals.
- Environmental Benefit Ranking: Ranking of expected level of environmental benefits to be delivered by project to water quality, cultural heritage, habitat, air quality, natural resources, agricultural resources, and soils/erosion and sedimentation.
- Mobility Ranking: Ranking project improvement and protection of mobility during flood events, with particular emphasis on emergency service access and major access routes.

Texas Flood Information Clearinghouse

General Eligibility by Project Type

	Administered by TDEM		Administered by TWDB				Administered by GLO		Administered by TCEQ
Eligible Activities	Hazard Mitigation Grant Program	Pre-Disaster Mitigation	Flood Mitigation Assistance	Flood Infrastructure Fund	Clean Water State Revolving Fund	Texas Water Development Fund	Community Development Block Grants-Mitigation	Development Block Grants - Disaster Recovery	High Hazard Potential Dams Grant Program
5 Percent Initiative Projects*	√								
Advance assistance	√								
Aquifer and storage recovery**	√	√	√		√				
Conservation easements/land acquisition					√	√	√	√	
Dam repair, removal, or rehabilitation of a high hazard dam				√	√****	√	√ (not beyond original footprint)	√ (not beyond original footprint)	
Drainage and local-scale stormwater infrastructure	√	√		√	√	√	√	√	
Dry floodproofing of historic residential structures	√	√	√				√	√	
Dry floodproofing of non-residential structures	√	√	√				√	√	
Early warning systems	√			√		√	√	√	
Educational and outreach campaigns	√			√			√	√	
Emergency action plans	√			√			√		
Flood diversion and storage**	√	√	√	√	√****	√	√	√	
Floodplain and stream restoration**	√	√	√	√	√****		√	√	
Gages, flood or stream	√			√			√		
Generators	√	√					√	√	
Green infrastructure**	√	√	√	√	√	√	√	√	
Infrastructure retrofit	√	√	√	√	√	√	√	√	
Levees, flood walls, related infrastructure	√	√		√	√****	√	√	√	
Local match for federally funded projects				√			√	√	
Localized flood risk reduction projects	√	√	√	√	√	√	√	√	
Miscellaneous/Other**	√	√	√	√			√	√	
Mitigation reconstruction	√	√	√	√	√	√	√	√	
Nature-based solutions, including natural erosion control	√	√		√	√		√	√	
Non-localized flood risk reduction projects	√	√		√	√****	√	√	√	
Non-structural retrofitting of existing buildings and facilities	√	√	√		√***		√	√	
Permeable pavement	√			√	√	√	√	√	
Post-disaster code enforcement	√						√	√	
Property acquisition and structure demolition	√	√	√	√			√	√	
Property acquisition and structure relocation	√	√	√	√		√	√	√	
Rehabilitation of existing infrastructure, not including costs associated with current or future operations and maintenance activities				√	√***	√	√	√	
Reservoirs (new) with flood control function	√	√		√	√****	√	√		

Texas Flood Information Clearinghouse

General Eligibility by Project Type

Eligible Activities	Hazard Mitigation Grant Program	Pre-Disaster Mitigation	Flood Mitigation Assistance	Flood Infrastructure Fund	Clean Water State Revolving Fund	Texas Water Development Fund	Community Development Block Grants-Mitigation	Development Block Grants - Disaster Recovery	High Hazard Potential Dams Grant Program
Restoration of riparian corridors				✓	✓		✓	✓	
Retention/detention basins	✓	✓		✓	✓	✓	✓	✓	
Reverse 911 systems	✓			✓			✓	✓	
Road crossing barriers	✓			✓			✓	✓	
Safe room construction	✓	✓					✓ (HMGP supplemental)	✓ (HMGP supplemental)	
Soil stabilization	✓	✓	✓		✓	✓	✓	✓	
Structural retrofitting of existing buildings	✓	✓	✓		✓***		✓	✓	
Structure elevation	✓	✓	✓				✓	✓	
Watershed planning and mapping	✓			✓			✓	✓	
Wildfire mitigation	✓	✓							
Wind retrofit for one- and two-family residences	✓	✓					✓	✓	
Hazard mitigation planning	✓	✓	✓	✓			✓		
Management costs	✓	✓	✓				✓	✓	
Dam risk and consequence assessments									✓
Feasibility studies, preliminary engineering studies, alternatives analysis, mapping, surveys, and inundation modeling									✓
Engineering design and specifications									✓
Development of floodplain management plans or operations and maintenance plans									✓

*FEMA allows increasing the 5% Initiative amount up to 10% for a Presidential major disaster declaration under HMGP. The additional 5% Initiative funding can be used for activities that promote disaster-resistant codes for all hazards. As a condition of the award, either a disaster-resistant building code must be adopted or an improved Building Code Effectiveness Grading Schedule is required.

**Indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.

***Of wastewater infrastructure ("treatment works").

**** If project is considered measures to manage, reduce, treat, or recapture stormwater or subsurface drainage water.

Appendix H: Stormwater Maintenance Report Template



STORMWATER ASSET INSPECTION REPORT

START DATE: _____
 END DATE: _____
 LOCATION: _____
 GIS ID: _____

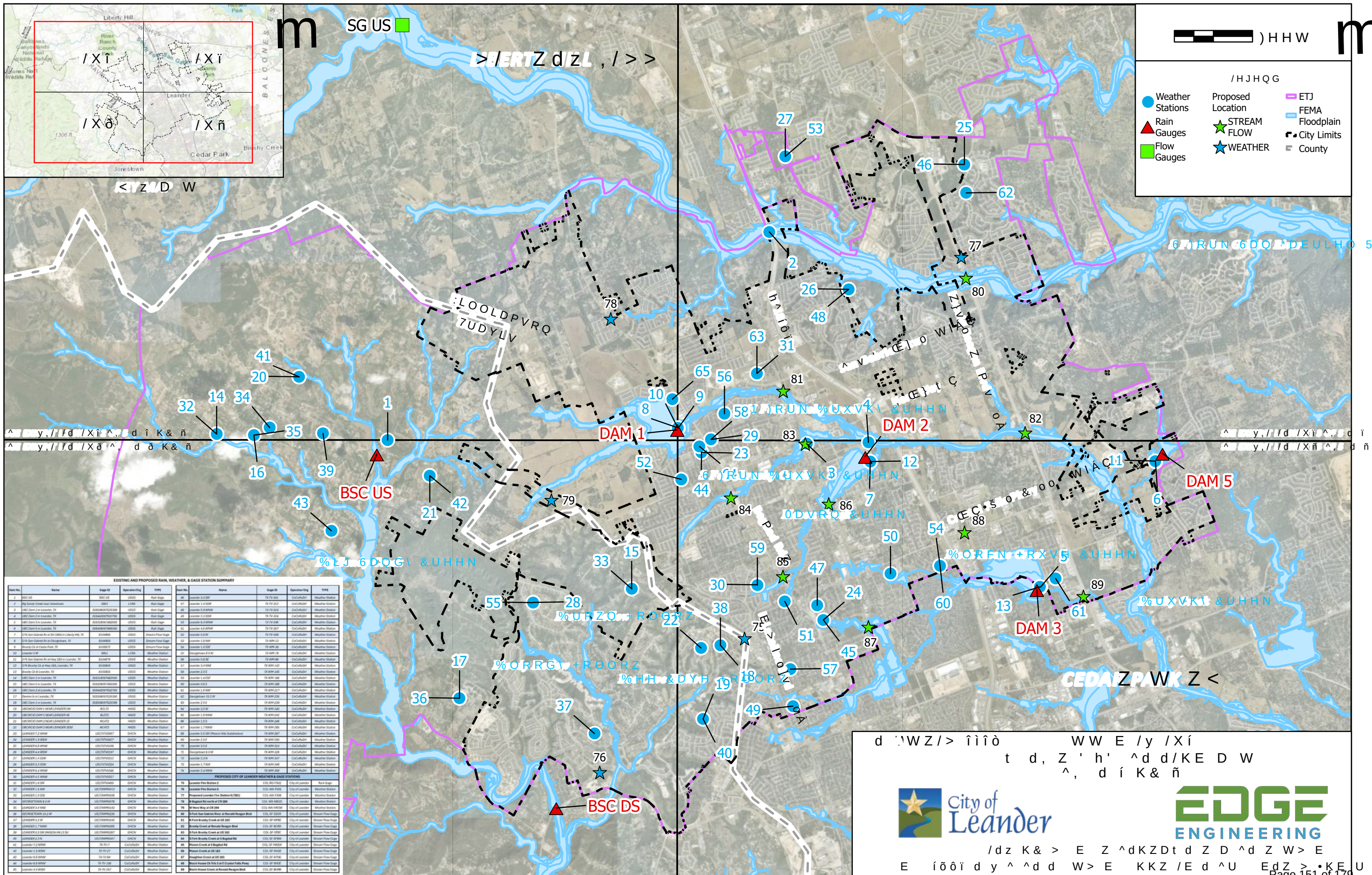
INSPECTOR NAME: _____
 WEATHER CONDITIONS: _____
 START TIME: _____
 END TIME: _____

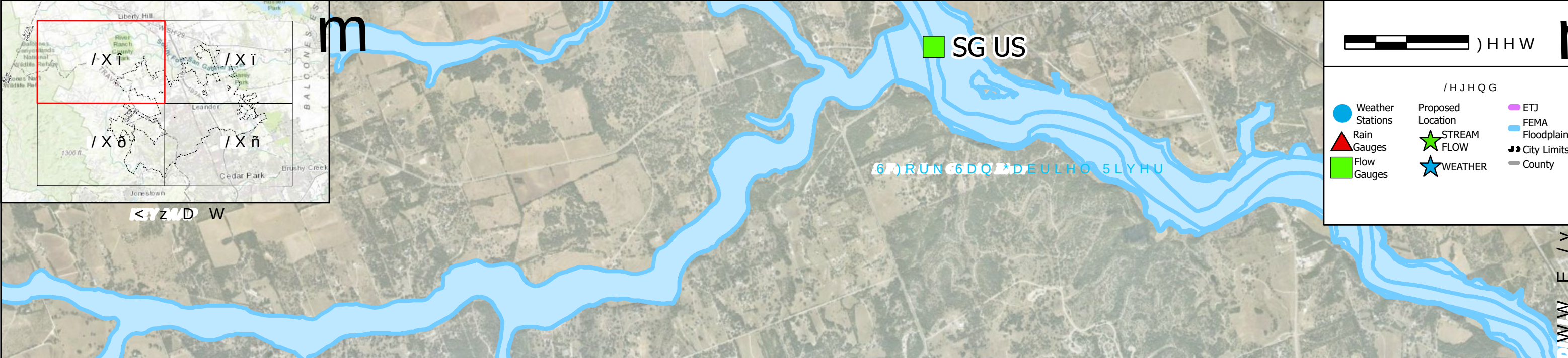
ASSET NAME	CONDITION	CORRECTIVE ACTIONS REQUIRED	CORRECTIVE ACTIONS TAKEN
NOTES:			
ASSET NAME	CONDITION	CORRECTIVE ACTIONS REQUIRED	CORRECTIVE ACTIONS TAKEN
NOTES:			
ASSET NAME	CONDITION	CORRECTIVE ACTIONS REQUIRED	CORRECTIVE ACTIONS TAKEN
NOTES:			
ASSET NAME	CONDITION	CORRECTIVE ACTIONS REQUIRED	CORRECTIVE ACTIONS TAKEN
NOTES:			

NEXT INSPECTION: _____
 DATE

GIS PROCESSING - LEAVE BLANK	
RECEIVED BY:	_____
	NAME DATE
ENTERED:	_____
	NAME DATE
ACCEPTED BY:	_____
	SIGNATURE DATE

Appendix I: Weather Station and Stream Gage Locations





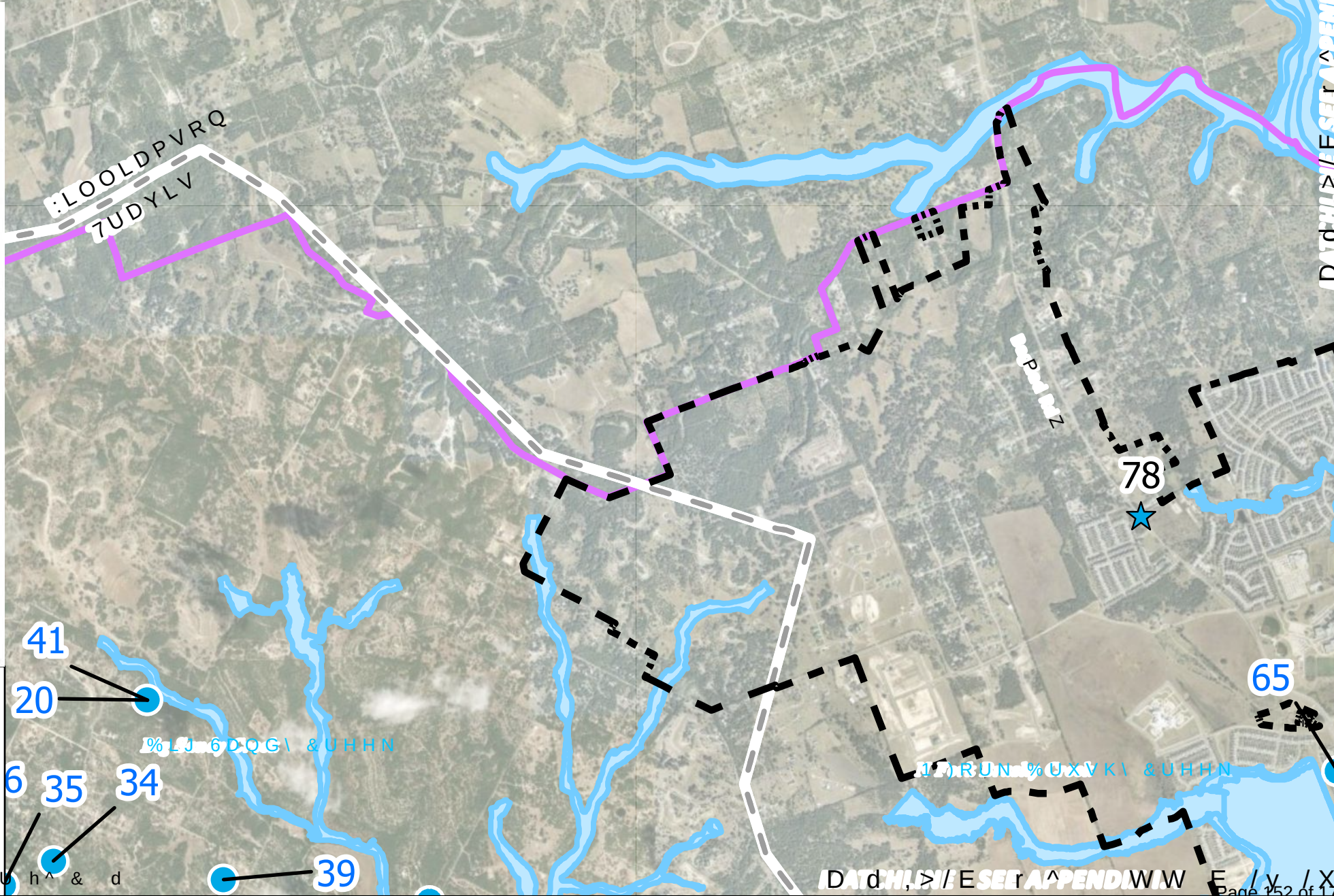
EXISTING AND PROPOSED RAIN, WEATHER, & GAGE STATION SUMMARY				
Item No.	Name	Gage ID	Operator/Org	TYPE
1	BSC US	85C US	USGS	Rain Gage
2	Big Sandy Creek near Jonestown	3953	LCRA	Rain Gage
3	UBC Dam 1 nr Leander, TX	303508097525399	USGS	Rain Gage
4	UBC Dam 2 nr Leander, TX	303443097502700	USGS	Rain Gage
5	UBC Dam 3 nr Leander, TX	303318097482000	USGS	Rain Gage
6	UBC Dam 5 nr Leander, TX	303439097465000	USGS	Rain Gage
7	S Ft San Gabriel Rv at SH 1809 nr Liberty Hill, TX	8104866	USGS	Stream Flow Gage
8	S Ft San Gabriel Rv at Georgetown, TX	8104900	USGS	Stream Flow Gage
9	Brushy Ck at Cedar Park, TX	8105872	USGS	Stream Flow Gage
10	Leander 5 W	3951	LCRA	Weather Station
11	S Ft San Gabriel Rv at Hwy 183 nr Leander, TX	8104870	USGS	Weather Station
12	S Ft Brushy Ck at Hwy 183, Leander, TX	8105850	USGS	Weather Station
13	Brushy Ck bl Leander, TX	8105855	USGS	Weather Station
14	UBC Dam 3 nr Leander, TX	303318097482000	USGS	Weather Station
15	UBC Dam 5 nr Leander, TX	303439097465000	USGS	Weather Station
16	UBC Dam 2 at Leander, TX	303443097502700	USGS	Weather Station
17	Devine Lk nr Leander, TX	303508097525300	USGS	Weather Station
18	UBC Dam 1 nr Leander, TX	303508097525399	USGS	Weather Station
19	UBCWICD DAM 1 NEAR LEANDER 2W	BCLT2	HADS	Weather Station
20	UBCWICD DAM 5 NEAR LEANDER 4E	BLDT2	HADS	Weather Station
21	UBCWICD DAM 2 NEAR LEANDER 1E	WLAT2	HADS	Weather Station
22	UBCWICD DAM 3 NEAR LEANDER SESE	WLNT2	HADS	Weather Station
23	LEANDER 7.2 WNW	US1TXTV0007	GHCN	Weather Station
24	LEANDER 1.9 WSW	US1TXTV0027	GHCN	Weather Station
25	LEANDER 6.8 WNW	US1TXTV0108	GHCN	Weather Station
26	LEANDER 4.4 WSW	US1TXTV0197	GHCN	Weather Station
27	LEANDER 1.4 SSW	US1TXTV0312	GHCN	Weather Station
28	LEANDER 2.3 SSW	US1TXTV0324	GHCN	Weather Station
29	LEANDER 6.4 WNW	US1TXTV0346	GHCN	Weather Station
30	LEANDER 4.5 WNW	US1TXTV0357	GHCN	Weather Station
31	LEANDER 1.6 SW	US1TXTV0459	GHCN	Weather Station
32	LEANDER 1.6 NW	US1TXWM0013	GHCN	Weather Station
33	LEANDER 1.0 SSE	US1TXWM0036	GHCN	Weather Station
34	GEORGETOWN 8.0 W	US1TXWM0078	GHCN	Weather Station
35	LEANDER 3.4 NNE	US1TXWM0142	GHCN	Weather Station
36	GEORGETOWN 10.2 W	US1TXWM0235	GHCN	Weather Station
37	LEANDER 3.2 W	US1TXWM0240	GHCN	Weather Station
38	LEANDER 1.7 WNW	US1TXWM0285	GHCN	Weather Station
39	LEANDER 0.5 SW (MASON HILLS SU	US1TXWM0287	GHCN	Weather Station
40	LEANDER 2.3 N	US1TXWM0347	GHCN	Weather Station
41	Leander 7.2 WNW	TX-TV-78	CoCoRaSH	Weather Station
42	Leander 1.9 WSW	TX-TV-27	CoCoRaSH	Weather Station
43	Leander 6.6 WNW	TX-TV-84	CoCoRaSH	Weather Station
44	Leander 6.8 WNW	TX-TV-108	CoCoRaSH	Weather Station
45	Leander 4.4 WSW	TX-TV-197	CoCoRaSH	Weather Station

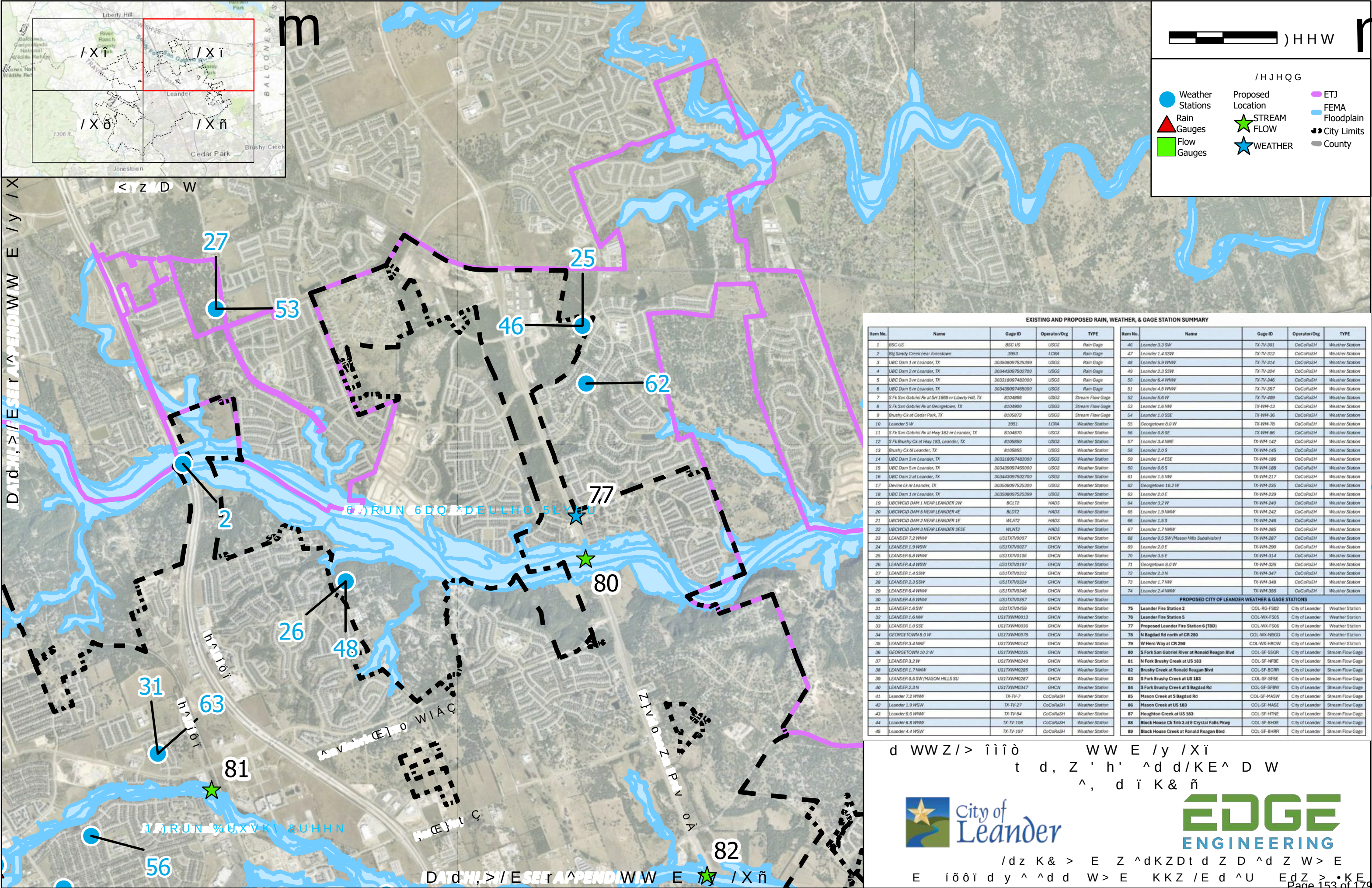
Item No.	Name	Gage ID	Operator/Org	TYPE
46	Leander 3.3 SW	TX-TV-301	CoCoRaSH	Weather Station
47	Leander 1.4 SSW	TX-TV-312	CoCoRaSH	Weather Station
48	Leander 5.9 WNW	TX-TV-314	CoCoRaSH	Weather Station
49	Leander 2.3 SSW	TX-TV-324	CoCoRaSH	Weather Station
50	Leander 6.4 WNW	TX-TV-346	CoCoRaSH	Weather Station
51	Leander 4.5 WNW	TX-TV-357	CoCoRaSH	Weather Station
52	Leander 5.6 W	TX-TV-409	CoCoRaSH	Weather Station
53	Leander 1.6 NW	TX-WM-13	CoCoRaSH	Weather Station
54	Leander 1.0 SSE	TX-WM-36	CoCoRaSH	Weather Station
55	Georgetown 8.0 W	TX-WM-78	CoCoRaSH	Weather Station
56	Leander 0.8 SE	TX-WM-86	CoCoRaSH	Weather Station
57	Leander 3.4 NNE	TX-WM-142	CoCoRaSH	Weather Station
58	Leander 2.0 S	TX-WM-145	CoCoRaSH	Weather Station
59	Leander 1.4 ESE	TX-WM-186	CoCoRaSH	Weather Station
60	Leander 0.6 S	TX-WM-188	CoCoRaSH	Weather Station
61	Leander 1.5 NW	TX-WM-217	CoCoRaSH	Weather Station
62	Georgetown 10.2 W	TX-WM-235	CoCoRaSH	Weather Station
63	Leander 2.0 E	TX-WM-239	CoCoRaSH	Weather Station
64	Leander 3.2 W	TX-WM-240	CoCoRaSH	Weather Station
65	Leander 1.9 WNW	TX-WM-242	CoCoRaSH	Weather Station
66	Leander 1.5 S	TX-WM-246	CoCoRaSH	Weather Station
67	Leander 1.7 WNW	TX-WM-285	CoCoRaSH	Weather Station
68	Leander 0.5 SW (Mason Hills Subdivision)	TX-WM-287	CoCoRaSH	Weather Station
69	Leander 2.0 E	TX-WM-290	CoCoRaSH	Weather Station
70	Leander 3.5 E	TX-WM-314	CoCoRaSH	Weather Station
71	Georgetown 8.0 W	TX-WM-326	CoCoRaSH	Weather Station
72	Leander 2.3 N	TX-WM-347	CoCoRaSH	Weather Station
73	Leander 1.7 NW	TX-WM-348	CoCoRaSH	Weather Station
74	Leander 2.4 NINW	TX-WM-356	CoCoRaSH	Weather Station
PROPOSED CITY OF LEANDER WEATHER & GAGE STATIONS				
75	Leander Fire Station 2	COL-RG-FS02	City of Leander	Weather Station
76	Leander Fire Station 5	COL-WX-FS05	City of Leander	Weather Station
77	Proposed Leander Fire Station 6 (TBD)	COL-WX-FS06	City of Leander	Weather Station
78	N Bagdad Rd north of CR 280	COL-WX-NBGD	City of Leander	Weather Station
79	W Hero Way at CR 290	COL-WX-HROW	City of Leander	Weather Station
80	S Fork San Gabriel River at Ronald Reagan Blvd	COL-SF-SSGR	City of Leander	Stream Flow Gage
81	N Fork Brushy Creek at US 183	COL-SF-NFBE	City of Leander	Stream Flow Gage
82	Brushy Creek at Ronald Reagan Blvd	COL-SF-BCRR	City of Leander	Stream Flow Gage
83	S Fork Brushy Creek at US 183	COL-SF-SFBE	City of Leander	Stream Flow Gage
84	S Fork Brushy Creek at S Bagdad Rd	COL-SF-SFBW	City of Leander	Stream Flow Gage
85	Mason Creek at S Bagdad Rd	COL-SF-MA5W	City of Leander	Stream Flow Gage
86	Mason Creek at US 183	COL-SF-MA5E	City of Leander	Stream Flow Gage
87	Houghton Creek at US 183	COL-SF-HTNE	City of Leander	Stream Flow Gage
88	Block House Ck Trib 3 at E Crystal Falls Pkwy	COL-SF-BH3E	City of Leander	Stream Flow Gage
89	Block House Creek at Ronald Reagan Blvd	COL-SF-BHRR	City of Leander	Stream Flow Gage

d WW Z / > î ï ò t d, Z ' h ' ^ d d / KE ^ D W ^, d î K & ñ



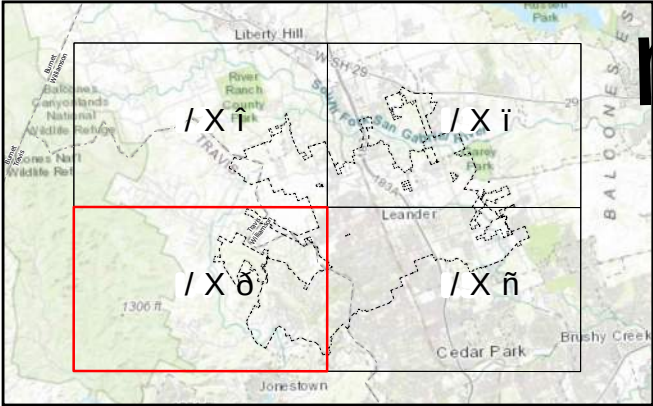
/ dz K & > E Z ^ d K Z D t d Z D ^ d Z W > E E í ò ò ï d y ^ ^ d d W > E K K Z / E d ^ U E d Z > • K E





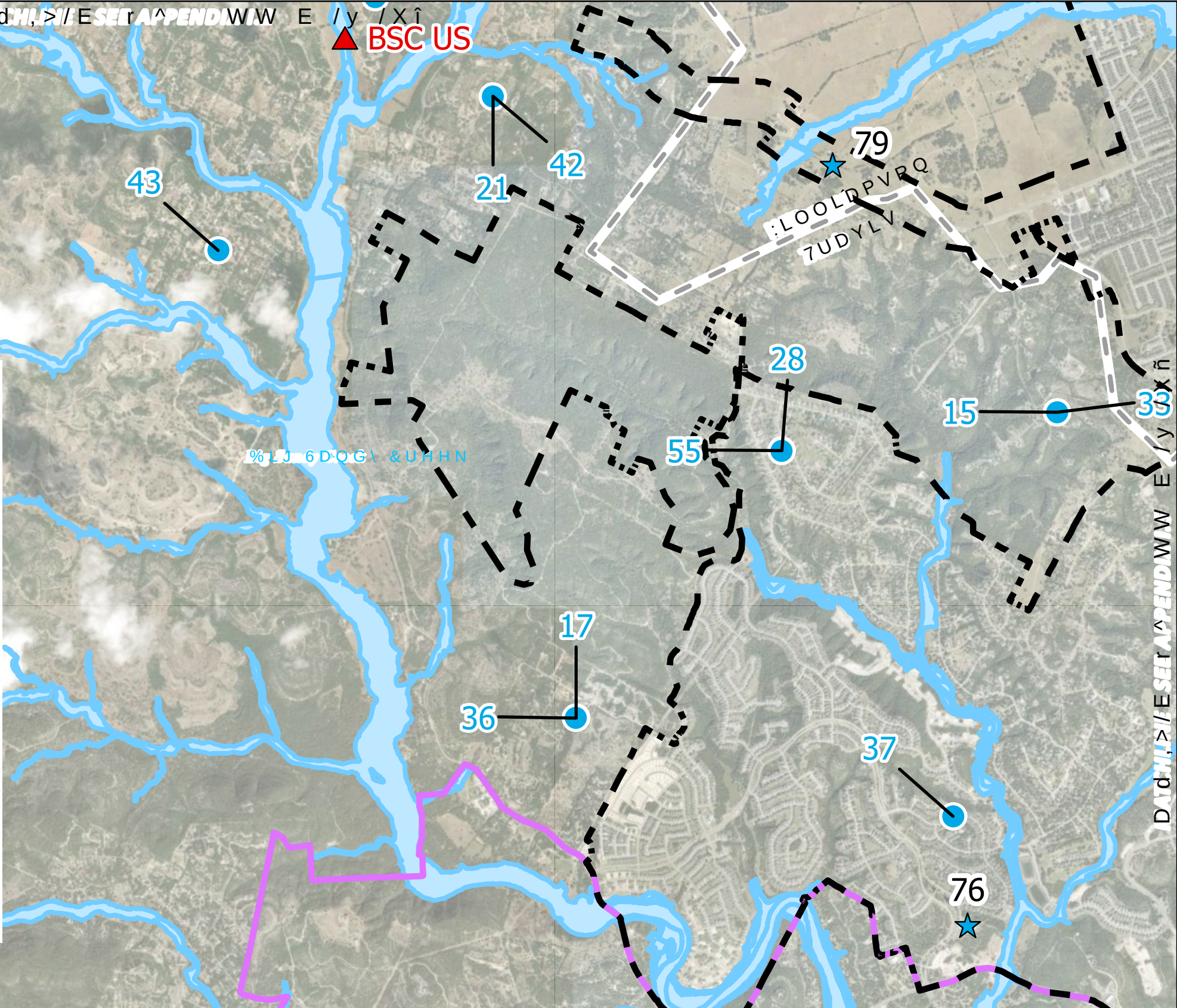
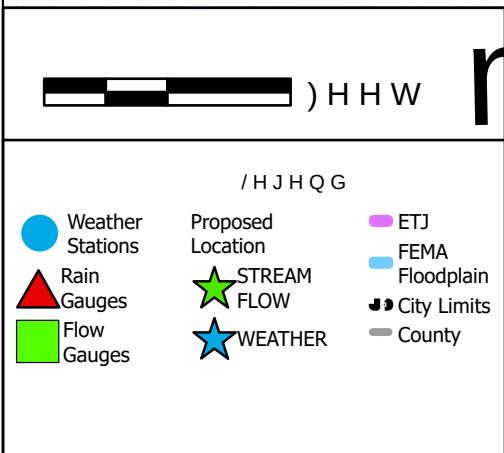
EXISTING AND PROPOSED RAIN, WEATHER, & GAGE STATION SUMMARY									
Item No.	Name	Gage ID	Operator/Org	TYPE	Item No.	Name	Gage ID	Operator/Org	TYPE
1	BSC US	85C US	USGS	Rain Gage	46	Leander 3.3 SW	TX-TV-301	CoCoRaSH	Weather Station
2	Big Sandy Creek near Jonestown	3953	LCRA	Rain Gage	47	Leander 1.4 SSW	TX-TV-312	CoCoRaSH	Weather Station
3	UBC Dam 1 nr Leander, TX	303508097525399	USGS	Rain Gage	48	Leander 5.9 WNW	TX-TV-314	CoCoRaSH	Weather Station
4	UBC Dam 2 nr Leander, TX	303443097502700	USGS	Rain Gage	49	Leander 2.3 SSW	TX-TV-324	CoCoRaSH	Weather Station
5	UBC Dam 3 nr Leander, TX	303318097482000	USGS	Rain Gage	50	Leander 6.4 WNW	TX-TV-346	CoCoRaSH	Weather Station
6	UBC Dam 5 nr Leander, TX	303439097465000	USGS	Rain Gage	51	Leander 4.5 WNW	TX-TV-357	CoCoRaSH	Weather Station
7	S Fr San Gabriel Rv at SH 1809 nr Liberty Hill, TX	8104966	USGS	Stream Flow Gage	52	Leander 5.6 W	TX-TV-409	CoCoRaSH	Weather Station
8	S Fr San Gabriel Rv at Georgetown, TX	8104900	USGS	Stream Flow Gage	53	Leander 1.6 NW	TX-WM-13	CoCoRaSH	Weather Station
9	Brushy Ck at Cedar Park, TX	8105872	USGS	Stream Flow Gage	54	Leander 1.0 SSE	TX-WM-36	CoCoRaSH	Weather Station
10	Leander 5 W	3951	LCRA	Weather Station	55	Georgetown 8.0 W	TX-WM-78	CoCoRaSH	Weather Station
11	S Fr San Gabriel Rv at Hwy 183 nr Leander, TX	8104870	USGS	Weather Station	56	Leander 0.8 SE	TX-WM-86	CoCoRaSH	Weather Station
12	S Fr Brushy Ck at Hwy 183, Leander, TX	8105850	USGS	Weather Station	57	Leander 3.4 NNE	TX-WM-142	CoCoRaSH	Weather Station
13	Brushy Ck bl Leander, TX	8105855	USGS	Weather Station	58	Leander 2.0 S	TX-WM-145	CoCoRaSH	Weather Station
14	UBC Dam 3 nr Leander, TX	303318097482000	USGS	Weather Station	59	Leander 1.4 ESE	TX-WM-186	CoCoRaSH	Weather Station
15	UBC Dam 5 nr Leander, TX	303439097465000	USGS	Weather Station	60	Leander 0.6 S	TX-WM-188	CoCoRaSH	Weather Station
16	UBC Dam 2 at Leander, TX	303443097502700	USGS	Weather Station	61	Leander 1.5 NW	TX-WM-217	CoCoRaSH	Weather Station
17	Devine Lk nr Leander, TX	303508097525300	USGS	Weather Station	62	Georgetown 10.2 W	TX-WM-235	CoCoRaSH	Weather Station
18	UBC Dam 1 nr Leander, TX	303508097525399	USGS	Weather Station	63	Leander 2.0 E	TX-WM-239	CoCoRaSH	Weather Station
19	UBCWCD DAM 1 NEAR LEANDER 2W	BCLT2	HADS	Weather Station	64	Leander 3.2 W	TX-WM-240	CoCoRaSH	Weather Station
20	UBCWCD DAM 5 NEAR LEANDER 4E	BLDT2	HADS	Weather Station	65	Leander 1.9 NNW	TX-WM-242	CoCoRaSH	Weather Station
21	UBCWCD DAM 2 NEAR LEANDER 1E	WLAT2	HADS	Weather Station	66	Leander 1.5 S	TX-WM-246	CoCoRaSH	Weather Station
22	UBCWCD DAM 3 NEAR LEANDER 3ESE	WLNT2	HADS	Weather Station	67	Leander 1.7 WNW	TX-WM-285	CoCoRaSH	Weather Station
23	LEANDER 7.2 WNW	US1TXV0007	GHCN	Weather Station	68	Leander 0.5 SW (Mason Hills Subdivision)	TX-WM-287	CoCoRaSH	Weather Station
24	LEANDER 1.9 WSW	US1TXV0027	GHCN	Weather Station	69	Leander 2.0 E	TX-WM-290	CoCoRaSH	Weather Station
25	LEANDER 6.8 WNW	US1TXV0108	GHCN	Weather Station	70	Leander 3.5 E	TX-WM-314	CoCoRaSH	Weather Station
26	LEANDER 4.4 WSW	US1TXV0197	GHCN	Weather Station	71	Georgetown 8.0 W	TX-WM-326	CoCoRaSH	Weather Station
27	LEANDER 1.4 SSW	US1TXV0312	GHCN	Weather Station	72	Leander 2.3 N	TX-WM-347	CoCoRaSH	Weather Station
28	LEANDER 2.3 SSW	US1TXV0324	GHCN	Weather Station	73	Leander 1.7 NW	TX-WM-348	CoCoRaSH	Weather Station
29	LEANDER 6.4 WNW	US1TXV0346	GHCN	Weather Station	74	Leander 2.4 NWW	TX-WM-356	CoCoRaSH	Weather Station
30	LEANDER 4.5 WNW	US1TXV0357	GHCN	Weather Station	PROPOSED CITY OF LEANDER WEATHER & GAGE STATIONS				
31	LEANDER 1.6 SW	US1TXV0459	GHCN	Weather Station	75	Leander Fire Station 2	COL-RG-F502	City of Leander	Weather Station
32	LEANDER 1.6 NW	US1TXWM0013	GHCN	Weather Station	76	Leander Fire Station 5	COL-WX-F505	City of Leander	Weather Station
33	LEANDER 1.0 SSE	US1TXWM0036	GHCN	Weather Station	77	Proposed Leander Fire Station 6 (TBD)	COL-WX-F506	City of Leander	Weather Station
34	GEORGETOWN 8.0 W	US1TXWM0078	GHCN	Weather Station	78	N Bagdad Rd north of CR 280	COL-WX-NBGD	City of Leander	Weather Station
35	LEANDER 3.4 NNE	US1TXWM0142	GHCN	Weather Station	79	W Hero Way at CR 290	COL-WX-HROW	City of Leander	Weather Station
36	GEORGETOWN 10.2 W	US1TXWM0235	GHCN	Weather Station	80	S Fork San Gabriel River at Ronald Reagan Blvd	COL-SF-SSGR	City of Leander	Stream Flow Gage
37	LEANDER 3.2 W	US1TXWM0240	GHCN	Weather Station	81	N Fork Brushy Creek at US 183	COL-SF-NFBE	City of Leander	Stream Flow Gage
38	LEANDER 1.7 NWW	US1TXWM0285	GHCN	Weather Station	82	Brushy Creek at Ronald Reagan Blvd	COL-SF-BCCR	City of Leander	Stream Flow Gage
39	LEANDER 0.5 SW (MASON HILLS SU	US1TXWM0287	GHCN	Weather Station	83	S Fork Brushy Creek at US 183	COL-SF-SFBE	City of Leander	Stream Flow Gage
40	LEANDER 2.3 N	US1TXWM0347	GHCN	Weather Station	84	S Fork Brushy Creek at S Bagdad Rd	COL-SF-SFBW	City of Leander	Stream Flow Gage
41	Leander 7.2 WNW	TX-TV-7	CoCoRaSH	Weather Station	85	Mason Creek at S Bagdad Rd	COL-SF-MASW	City of Leander	Stream Flow Gage
42	Leander 1.9 WSW	TX-TV-27	CoCoRaSH	Weather Station	86	Mason Creek at US 183	COL-SF-MASE	City of Leander	Stream Flow Gage
43	Leander 6.6 WNW	TX-TV-84	CoCoRaSH	Weather Station	87	Houghton Creek at US 183	COL-SF-HTNE	City of Leander	Stream Flow Gage
44	Leander 6.8 WNW	TX-TV-106	CoCoRaSH	Weather Station	88	Block House Ck Trib 3 at E Crystal Falls Pkwy	COL-SF-BH3E	City of Leander	Stream Flow Gage
45	Leander 4.4 WSW	TX-TV-197	CoCoRaSH	Weather Station	89	Block House Creek at Ronald Reagan Blvd	COL-SF-BHBR	City of Leander	Stream Flow Gage





EXISTING AND PROPOSED RAIN, WEATHER, & GAGE STATION SUMMARY				
Item No.	Name	Gage ID	Operator/Org	TYPE
1	BSC US	BSC US	USGS	Rain Gage
2	Big Sandy Creek near Jonestown	3953	LCRA	Rain Gage
3	UBC Dam 1 nr Leander, TX	303508097525399	USGS	Rain Gage
4	UBC Dam 2 nr Leander, TX	303443097502700	USGS	Rain Gage
5	UBC Dam 3 nr Leander, TX	303318097482000	USGS	Rain Gage
6	UBC Dam 5 nr Leander, TX	303439097465000	USGS	Rain Gage
7	S Fk San Gabriel Rv at SH 1869 nr Liberty Hill, TX	8104866	USGS	Stream Flow Gage
8	S Fk San Gabriel Rv at Georgetown, TX	8104900	USGS	Stream Flow Gage
9	Brushy Ck at Cedar Park, TX	8105872	USGS	Stream Flow Gage
10	Leander 5 W	3951	LCRA	Weather Station
11	S Fk San Gabriel Rv at Hwy 183 nr Leander, TX	8104870	USGS	Weather Station
12	S Fk Brushy Ck at Hwy 183, Leander, TX	8105850	USGS	Weather Station
13	Brushy Ck bl Leander, TX	8105855	USGS	Weather Station
14	UBC Dam 3 nr Leander, TX	303318097482000	USGS	Weather Station
15	UBC Dam 5 nr Leander, TX	303439097465000	USGS	Weather Station
16	UBC Dam 2 at Leander, TX	303443097502700	USGS	Weather Station
17	Devine Lk nr Leander, TX	303508097525300	USGS	Weather Station
18	UBC Dam 1 nr Leander, TX	303508097525399	USGS	Weather Station
19	UBCWCID DAM 1 NEAR LEANDER 2W	BLT2	HADS	Weather Station
20	UBCWCID DAM 5 NEAR LEANDER 4E	BLD2	HADS	Weather Station
21	UBCWCID DAM 2 NEAR LEANDER 1E	WLT2	HADS	Weather Station
22	UBCWCID DAM 3 NEAR LEANDER 3SE	WLT2	HADS	Weather Station
23	LEANDER 7.2 WNW	US1TXTV0007	GHCN	Weather Station
24	LEANDER 1.9 WSW	US1TXTV0027	GHCN	Weather Station
25	LEANDER 6.8 WNW	US1TXTV0108	GHCN	Weather Station
26	LEANDER 4.4 WSW	US1TXTV0197	GHCN	Weather Station
27	LEANDER 1.4 SSW	US1TXTV0312	GHCN	Weather Station
28	LEANDER 2.3 SSW	US1TXTV0324	GHCN	Weather Station
29	LEANDER 6.4 WNW	US1TXTV0346	GHCN	Weather Station
30	LEANDER 4.5 WNW	US1TXTV0357	GHCN	Weather Station
31	LEANDER 1.6 SW	US1TXTV0459	GHCN	Weather Station
32	LEANDER 1.6 NW	US1TXWM0013	GHCN	Weather Station
33	LEANDER 1.0 SSE	US1TXWM0036	GHCN	Weather Station
34	GEORGETOWN 8.0 W	US1TXWM0078	GHCN	Weather Station
35	LEANDER 3.4 NNE	US1TXWM0142	GHCN	Weather Station
36	GEORGETOWN 10.2 W	US1TXWM0235	GHCN	Weather Station
37	LEANDER 3.2 W	US1TXWM0240	GHCN	Weather Station
38	LEANDER 1.7 NNW	US1TXWM0285	GHCN	Weather Station
39	LEANDER 0.5 SW (MASON HILLS SU	US1TXWM0287	GHCN	Weather Station
40	LEANDER 2.3 N	US1TXWM0347	GHCN	Weather Station
41	Leander 7.2 WNW	TX-TV-7	CoCoRaSH	Weather Station
42	Leander 1.9 WSW	TX-TV-27	CoCoRaSH	Weather Station
43	Leander 6.8 WNW	TX-TV-84	CoCoRaSH	Weather Station
44	Leander 6.8 WNW	TX-TV-108	CoCoRaSH	Weather Station
45	Leander 4.4 WSW	TX-TV-197	CoCoRaSH	Weather Station

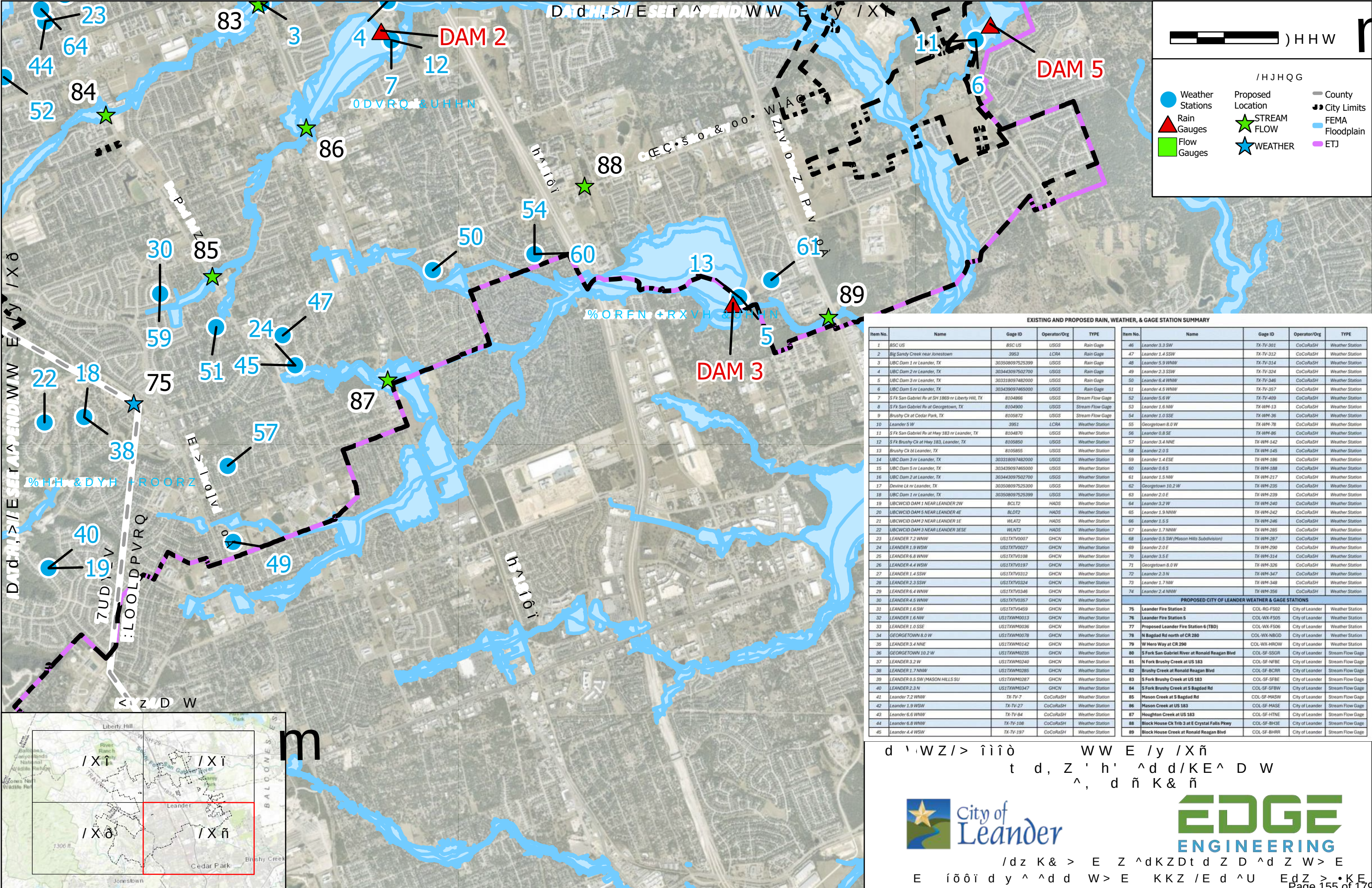
PROPOSED CITY OF LEANDER WEATHER & GAGE STATIONS				
46	Leander 3.3 SW	TX-TV-301	CoCoRaSH	Weather Station
47	Leander 1.4 SSW	TX-TV-312	CoCoRaSH	Weather Station
48	Leander 5.9 WNW	TX-TV-314	CoCoRaSH	Weather Station
49	Leander 2.3 SSW	TX-TV-324	CoCoRaSH	Weather Station
50	Leander 6.4 WNW	TX-TV-346	CoCoRaSH	Weather Station
51	Leander 4.5 WNW	TX-TV-357	CoCoRaSH	Weather Station
52	Leander 5.6 W	TX-TV-409	CoCoRaSH	Weather Station
53	Leander 1.6 NW	TX-WM-13	CoCoRaSH	Weather Station
54	Leander 1.0 SSE	TX-WM-36	CoCoRaSH	Weather Station
55	Georgetown 8.0 W	TX-WM-78	CoCoRaSH	Weather Station
56	Leander 0.8 SE	TX-WM-86	CoCoRaSH	Weather Station
57	Leander 3.4 NNE	TX-WM-142	CoCoRaSH	Weather Station
58	Leander 2.0 S	TX-WM-145	CoCoRaSH	Weather Station
59	Leander 1.4 ESE	TX-WM-186	CoCoRaSH	Weather Station
60	Leander 0.6 S	TX-WM-188	CoCoRaSH	Weather Station
61	Leander 1.5 NW	TX-WM-217	CoCoRaSH	Weather Station
62	Georgetown 10.2 W	TX-WM-235	CoCoRaSH	Weather Station
63	Leander 2.0 E	TX-WM-239	CoCoRaSH	Weather Station
64	Leander 3.2 W	TX-WM-240	CoCoRaSH	Weather Station
65	Leander 1.9 NNW	TX-WM-242	CoCoRaSH	Weather Station
66	Leander 1.5 S	TX-WM-246	CoCoRaSH	Weather Station
67	Leander 1.7 NNW	TX-WM-285	CoCoRaSH	Weather Station
68	Leander 0.5 SW (Mason Hills Subdivision)	TX-WM-287	CoCoRaSH	Weather Station
69	Leander 2.0 E	TX-WM-290	CoCoRaSH	Weather Station
70	Leander 3.5 E	TX-WM-314	CoCoRaSH	Weather Station
71	Georgetown 8.0 W	TX-WM-326	CoCoRaSH	Weather Station
72	Leander 2.3 N	TX-WM-347	CoCoRaSH	Weather Station
73	Leander 1.7 NW	TX-WM-348	CoCoRaSH	Weather Station
74	Leander 2.4 NNW	TX-WM-356	CoCoRaSH	Weather Station
75	Leander Fire Station 2	COL-RG-FS02	City of Leander	Weather Station
76	Leander Fire Station 5	COL-WX-FS05	City of Leander	Weather Station
77	Proposed Leander Fire Station 6 (TBD)	COL-WX-FS06	City of Leander	Weather Station
78	N Bagdad Rd north of CR 280	COL-WX-NBGD	City of Leander	Weather Station
79	W Hero Way at CR 290	COL-WX-HROW	City of Leander	Weather Station
80	S Fork San Gabriel River at Ronald Reagan Blvd	COL-SF-SSGR	City of Leander	Stream Flow Gage
81	N Fork Brushy Creek at US 183	COL-SF-NFBE	City of Leander	Stream Flow Gage
82	Brushy Creek at Ronald Reagan Blvd	COL-SF-BCRR	City of Leander	Stream Flow Gage
83	S Fork Brushy Creek at US 183	COL-SF-SFBE	City of Leander	Stream Flow Gage
84	S Fork Brushy Creek at S Bagdad Rd	COL-SF-SFBW	City of Leander	Stream Flow Gage
85	Mason Creek at S Bagdad Rd	COL-SF-MASW	City of Leander	Stream Flow Gage
86	Mason Creek at US 183	COL-SF-MASE	City of Leander	Stream Flow Gage
87	Houghton Creek at US 183	COL-SF-HTNE	City of Leander	Stream Flow Gage
88	Block House Ck Trib 3 at E Crystal Falls Plwy	COL-SF-BH3E	City of Leander	Stream Flow Gage
89	Block House Creek at Ronald Reagan Blvd	COL-SF-BHRR	City of Leander	Stream Flow Gage



City of Leander

EDGE ENGINEERING

Page 154 of 179



EXISTING AND PROPOSED RAIN, WEATHER, & GAGE STATION SUMMARY					EXISTING AND PROPOSED RAIN, WEATHER, & GAGE STATION SUMMARY				
Item No.	Name	Gage ID	Operator/Org	TYPE	Item No.	Name	Gage ID	Operator/Org	TYPE
1	BSC US	BSC US	USGS	Rain Gage	46	Leander 3.3 SW	TX-TV-301	CoCoRaSH	Weather Station
2	Big Sandy Creek near Jonestown	3953	LCRA	Rain Gage	47	Leander 1.4 SSW	TX-TV-312	CoCoRaSH	Weather Station
3	UBC Dam 1 nr Leander, TX	303508097525399	USGS	Rain Gage	48	Leander 5.9 WNW	TX-TV-314	CoCoRaSH	Weather Station
4	UBC Dam 2 nr Leander, TX	303443097502700	USGS	Rain Gage	49	Leander 2.3 SSW	TX-TV-324	CoCoRaSH	Weather Station
5	UBC Dam 3 nr Leander, TX	303318097482000	USGS	Rain Gage	50	Leander 6.4 WNW	TX-TV-346	CoCoRaSH	Weather Station
6	UBC Dam 5 nr Leander, TX	303439097465000	USGS	Rain Gage	51	Leander 4.5 WNW	TX-TV-357	CoCoRaSH	Weather Station
7	S Fr San Gabriel Rv at SH 1809 nr Liberty Hill, TX	8104966	USGS	Stream Flow Gage	52	Leander 5.6 W	TX-TV-409	CoCoRaSH	Weather Station
8	S Fr San Gabriel Rv at Georgetown, TX	8104900	USGS	Stream Flow Gage	53	Leander 1.6 NW	TX-WM-13	CoCoRaSH	Weather Station
9	Brushy Ck at Cedar Park, TX	8105872	USGS	Stream Flow Gage	54	Leander 1.0 SSE	TX-WM-36	CoCoRaSH	Weather Station
10	Leander 5 W	3951	LCRA	Weather Station	55	Georgetown 8.0 W	TX-WM-78	CoCoRaSH	Weather Station
11	S Fr San Gabriel Rv at Hwy 183 nr Leander, TX	8104870	USGS	Weather Station	56	Leander 0.8 SE	TX-WM-86	CoCoRaSH	Weather Station
12	S Fr Brushy Ck at Hwy 183, Leander, TX	8105850	USGS	Weather Station	57	Leander 3.4 NNE	TX-WM-142	CoCoRaSH	Weather Station
13	Brushy Ck bl Leander, TX	8105855	USGS	Weather Station	58	Leander 2.0 S	TX-WM-145	CoCoRaSH	Weather Station
14	UBC Dam 3 nr Leander, TX	303318097482000	USGS	Weather Station	59	Leander 1.4 ESE	TX-WM-186	CoCoRaSH	Weather Station
15	UBC Dam 5 nr Leander, TX	303439097465000	USGS	Weather Station	60	Leander 0.6 S	TX-WM-188	CoCoRaSH	Weather Station
16	UBC Dam 2 at Leander, TX	303443097502700	USGS	Weather Station	61	Leander 1.5 NW	TX-WM-217	CoCoRaSH	Weather Station
17	Devine Lk nr Leander, TX	303508097525300	USGS	Weather Station	62	Georgetown 10.2 W	TX-WM-235	CoCoRaSH	Weather Station
18	UBC Dam 1 nr Leander, TX	303508097525399	USGS	Weather Station	63	Leander 2.0 E	TX-WM-239	CoCoRaSH	Weather Station
19	UBCWICD DAM 1 NEAR LEANDER 2W	BCLT2	HADS	Weather Station	64	Leander 3.2 W	TX-WM-240	CoCoRaSH	Weather Station
20	UBCWICD DAM 5 NEAR LEANDER 4E	BLDT2	HADS	Weather Station	65	Leander 1.9 NNW	TX-WM-242	CoCoRaSH	Weather Station
21	UBCWICD DAM 2 NEAR LEANDER 1E	WLAT2	HADS	Weather Station	66	Leander 1.5 S	TX-WM-246	CoCoRaSH	Weather Station
22	UBCWICD DAM 3 NEAR LEANDER 3ESE	WLNT2	HADS	Weather Station	67	Leander 1.7 WNW	TX-WM-285	CoCoRaSH	Weather Station
23	LEANDER 7.2 WNW	US1TXV0007	GHCN	Weather Station	68	Leander 0.5 SW (Mason Hills Subdivision)	TX-WM-287	CoCoRaSH	Weather Station
24	LEANDER 1.9 WSW	US1TXV0027	GHCN	Weather Station	69	Leander 2.0 E	TX-WM-290	CoCoRaSH	Weather Station
25	LEANDER 6.8 WNW	US1TXV0108	GHCN	Weather Station	70	Leander 3.5 E	TX-WM-314	CoCoRaSH	Weather Station
26	LEANDER 4.4 WSW	US1TXV0197	GHCN	Weather Station	71	Georgetown 8.0 W	TX-WM-326	CoCoRaSH	Weather Station
27	LEANDER 1.4 SSW	US1TXV0312	GHCN	Weather Station	72	Leander 2.3 N	TX-WM-347	CoCoRaSH	Weather Station
28	LEANDER 2.3 SSW	US1TXV0324	GHCN	Weather Station	73	Leander 1.7 NW	TX-WM-348	CoCoRaSH	Weather Station
29	LEANDER 6.4 WNW	US1TXV0346	GHCN	Weather Station	74	Leander 2.4 NNW	TX-WM-356	CoCoRaSH	Weather Station
30	LEANDER 4.5 WNW	US1TXV0357	GHCN	Weather Station	PROPOSED CITY OF LEANDER WEATHER & GAGE STATIONS				
31	LEANDER 1.6 SW	US1TXV0459	GHCN	Weather Station	75	Leander Fire Station 2	COL-RG-F502	City of Leander	Weather Station
32	LEANDER 1.6 NW	US1TXWM0013	GHCN	Weather Station	76	Leander Fire Station 5	COL-WX-F505	City of Leander	Weather Station
33	LEANDER 1.0 SSE	US1TXWM0036	GHCN	Weather Station	77	Proposed Leander Fire Station 6 (TBD)	COL-WX-F506	City of Leander	Weather Station
34	GEORGETOWN 8.0 W	US1TXWM0078	GHCN	Weather Station	78	N Bagdad Rd north of CR 280	COL-WX-NBGD	City of Leander	Weather Station
35	LEANDER 3.4 NNE	US1TXWM0142	GHCN	Weather Station	79	W Hero Way at CR 290	COL-WX-HROW	City of Leander	Weather Station
36	GEORGETOWN 10.2 W	US1TXWM0235	GHCN	Weather Station	80	S Fork San Gabriel River at Ronald Reagan Blvd	COL-SF-SSGR	City of Leander	Stream Flow Gage
37	LEANDER 3.2 W	US1TXWM0240	GHCN	Weather Station	81	N Fork Brushy Creek at US 183	COL-SF-NFBE	City of Leander	Stream Flow Gage
38	LEANDER 1.7 NWW	US1TXWM0285	GHCN	Weather Station	82	Brushy Creek at Ronald Reagan Blvd	COL-SF-BCRR	City of Leander	Stream Flow Gage
39	LEANDER 0.5 SW (MASON HILLS SU	US1TXWM0287	GHCN	Weather Station	83	S Fork Brushy Creek at US 183	COL-SF-SFBE	City of Leander	Stream Flow Gage
40	LEANDER 2.3 N	US1TXWM0347	GHCN	Weather Station	84	S Fork Brushy Creek at S Bagdad Rd	COL-SF-SFBW	City of Leander	Stream Flow Gage
41	Leander 7.2 WNW	TX-TV-7	CoCoRaSH	Weather Station	85	Mason Creek at S Bagdad Rd	COL-SF-MASW	City of Leander	Stream Flow Gage
42	Leander 1.9 WSW	TX-TV-27	CoCoRaSH	Weather Station	86	Mason Creek at US 183	COL-SF-MASE	City of Leander	Stream Flow Gage
43	Leander 6.6 WNW	TX-TV-84	CoCoRaSH	Weather Station	87	Houghton Creek at US 183	COL-SF-HTNE	City of Leander	Stream Flow Gage
44	Leander 6.8 WNW	TX-TV-106	CoCoRaSH	Weather Station	88	Block House Ck Trib 3 at E Crystal Falls Pkwy	COL-SF-BH3E	City of Leander	Stream Flow Gage
45	Leander 4.4 WSW	TX-TV-197	CoCoRaSH	Weather Station	89	Block House Creek at Ronald Reagan Blvd	COL-SF-BHBR	City of Leander	Stream Flow Gage



Appendix J: Digital Data

- GIS Stormwater Asset Inventory
- Inundation Mapping Rasters
- AOI Shapefiles
- Public Survey Responses



EXECUTIVE SUMMARY

8/13/2026

AGENDA SUBJECT:

Conduct a Public Hearing and consider action regarding Zoning Case Z-26-0246 to amend the current zoning of Interim SFR-1-B (Single-Family Rural) to LC-2-A (Local Commercial) on one (1) parcel of land 3.85 acres ± in size, more particularly described by Williamson Central Appraisal District Parcel R549068; and generally located southeast of the intersection of Kauffman Loop and CR 267, Leander, Williamson County, Texas.

- Discuss and consider action regarding Zoning Case Z-26-0246 as described above.

BACKGROUND:

This request is the first step in the zoning process. The City initiated a request to change the designated zoning district of the property to allow the use of a wireless communication facility. The proposal does comply with the Comprehensive Plan and is appropriate for properties located in an Activity Center identified by the Comprehensive Plan.

To meet the Comprehensive Plan goal of expanding communication utility infrastructure, the City executed a lease agreement with Branch Communications. This agreement with a franchise utility provider states that specified city properties may be used for Wireless Communication Facilities (WCF).

This zoning request would allow a WCF up to 120 feet in height. A Special Use Permit will be required if the WCF is proposed to be higher than 120' and over 150' if proposed as a stealth tower.

Stealth means a telecommunications tower or antenna that is effectively camouflaged or concealed from view, i.e.: a man made tree; clock tower; church steeple; bell tower; utility pole; light standard; identification pylon; flagpole; or similar structure, designed to support and camouflage or conceal the presence of telecommunications antennas.

GENERAL INFORMATION:

Current Zoning: Interim SFR-1-B (Single-Family Rural)

Proposed Zoning: LC-2-A (Local Commercial)

Size and Location: The property is located northeast of the intersection of CR 267 and Kauffman Loop, including approximately 3.85 acres.

Surrounding Area: This property currently has a city of Leander water tower on site. The surrounding area is a mix of developed and undeveloped land. To the north is the Gateway 29 commercial development, to the east is the HEB Ronald Reagan development, to the south is the Bar W Ranch Subdivision and the west is the Bonnet Subdivision and Valor Leander School.

PROPOSED ZONING DISTRICT: **USE COMPONENT**

LC – Local Commercial:

Features: Any use in LO (Local Office) plus retail sales and services, restaurants, banks, nursery or greenhouse, grocery sales, pharmacies, fitness centers, dance and music academies, artist studio, colleges and universities, bed and breakfast, funeral homes and vape shops with distance restrictions. Hours of operation: 5:00 a.m. to 10:00 p.m. Sun.-Thurs., 5:00 a.m. to 11:00 p.m. Fri. and Sat.

Intent: Development of small scale, limited impact commercial, retail, personal services and office uses located in close proximity to their primary customers, which cater to the everyday needs of the nearby residents, and which may be located near residential neighborhoods. Access should be provided by a collector or higher classification street.

SITE COMPONENT

TYPE 2:

Features: Accessory buildings greater of 20% of primary building or 120 square feet; drive-thru service lanes; uses not to exceed 40,000 square feet;

Intent:

- (1) The Type 2 site component may be utilized with non-residential developments that are adjacent to a residential district or other more restrictive district to help reduce potential negative impacts to the more restrictive district and to provide for an orderly transition of development intensity.
- (2) This component is intended to be utilized with the majority of LO (Local Office) and LC (Local Commercial) use components except those that meet the intent of the Type 1 or Type 3 site component or with any use requiring drive-through service lanes.
- (3) This component is intended to be utilized with LO (Local Office), LC (Local Commercial), GC (General Commercial), HC (Heavy Commercial), and HI (Heavy Industrial) use components when adjacent to residential districts and additional compatibility standards are warranted.
- (4) This component is generally not intended to be utilized with HC (Heavy Commercial), and HI (Heavy Industrial) use components except where such component is adjacent to, and not adequately buffered from, residential districts or other more restricted districts, and except as requested by the land owner.
- (5) Compliance with Type 1 standards shall also be deemed as compliance with this component.

ARCHITECTURAL COMPONENT

TYPE A:

Features: Five (5) or more architectural features.

Intent:

- (1) The Type A architectural component is intended to be utilized for high quality developments or to provide variety as an additional option for portions of a residential development and may be utilized in or adjacent to single-family uses.
- (2) Combined with appropriate use and site components, this component is intended to help provide for harmonious land use transitions by applying this component to a less restrictive use or site component adjacent to a more restrictive use or site component. This standard may be utilized to help ensure compatibility for non-residential uses, multi-family, two-family, townhouse or small lot residential development with adjacent property that is more restricted.
- (3) This component is intended to be utilized for buildings requiring heights greater than those provided in other architectural components.
- (4) This component may be utilized for any high-profile development, for any property in a prominent location or at an important gateway to the community.

COMPREHENSIVE PLAN:

Applicable Comprehensive Plan goal statements

- Continue to plan ahead of growth through integrated utility infrastructure planning.
 - Work with telecommunication providers to facilitate enhanced broadband and 5G wireless service
 - Continue to partner with franchise utility providers to plan ahead for critical infrastructure

Applicable Future Land Use categories

ACTIVITY CENTER

Activity Center areas are the major strategic commercial centers within the community. They are intended to provide opportunity for diverse retail, employment and mixed-use destinations at critical intersections to create dense, value-intense development. These centers are regional in nature and serve a population beyond Leander, and are found on major highways and arterials. Managing access and traffic in these high-volume areas will require planning and coordination.

In a changing retail environment, Activity Centers are designed to become community destinations with activities, amenities, shopping, restaurants and places to gather, live and work. These mixed-use centers complement neighborhood centers and the urban development around Leander Station. Individually, these centers are expected to have a differing balance of land use, design, and atmosphere based on their location and context. High-density apartments and lofts are appropriate if designed and connected to the larger mixed-use center.

The Activity Center land use is intended to be implemented using a strategically planned framework, typically a PUD. When multiple landowners exist without a unified development scheme, proposed projects should plan for future integration to balance the activity center area as much as possible.

Desired Mix: 70-100% Non-Residential, 0-30% Residential

PUBLIC NOTIFICATION:

In addition to the notice mailed on behalf of the City to all property owners within 200', the applicant is required to reach out to all property owners of property zoned as single-family or any properties used as single-family uses within 500' as per Article X, Section 3 (d) of the Composite Zoning Ordinance. Any Homeowner's Association located within 500' are also required to be contacted.

Notices were mailed on behalf of the City to all property owners within 500'. A total of four (4) property owners are within this boundary. No objections noted, only some clarification questions from Brazos Electric.

Please see the full report from the applicant attached as Exhibit 8.

HISTORY/TIMELINE:

10/01/2020 – Annexation and Zoning

APPLICANT/AGENT:

City of Leander

RECOMMENDATION:

As part of the evaluation of this request, the City Council has the following options:

1. Approve the proposed zoning change;
2. Deny the proposed zoning change.

Staff recommends Option 1 listed above – approve the proposed zoning change. Staff made this recommendation based on the lot currently being used for city services as a water tower. The wireless communication facility would be a compatible utility service use and aligns with the Comprehensive Plan goals.

PRESENTER:

Michael Chenausky, AICP, Senior Planner

Attachments:

1. Z-26-0246 Att 1 Letter of Intent
2. Z-26-0246 Att 2 Current Zoning - Kauffman Loop WCF
3. Z-26-0246 Att 3 FLU Map - Kauffman Loop WCF
4. Z-26-0246 Att 4 Public Notification - Kauffman Loop WCF
5. Z-26-0246 Att 5 Proposed Zoning - Kauffman Loop WCF
6. Z-26-0246 Att 6 Aerial Map - Kauffman Loop WCF
7. Z-26-0246 Att 7 Utilities Map - Kauffman Loop WCF
8. Z-26-0246 Att 8 Neighborhood Outreach - Kauffman Loop WCF

Planning & Zoning Commission
City of Leander
PO Box 319
Leander, Texas 78646

Re: City Initiated Zoning Case – 209 Kauffman Loop

Dear Commissioners,

The purpose of this letter is to formally request a zoning change for City-owned property located at 209 Kauffman Loop. The City seeks to initiate a rezoning of the site from Interim SFR-1-B (Single-Family Rural) to LC-2-A (Local Commercial) to allow for the development and operation of a Wireless Communication Facility.

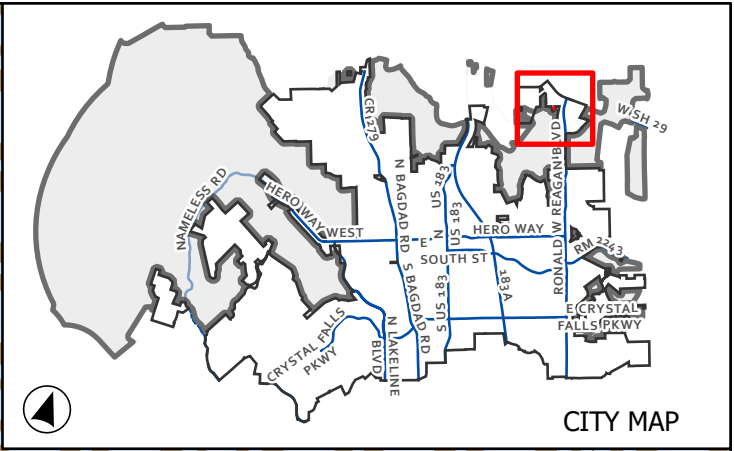
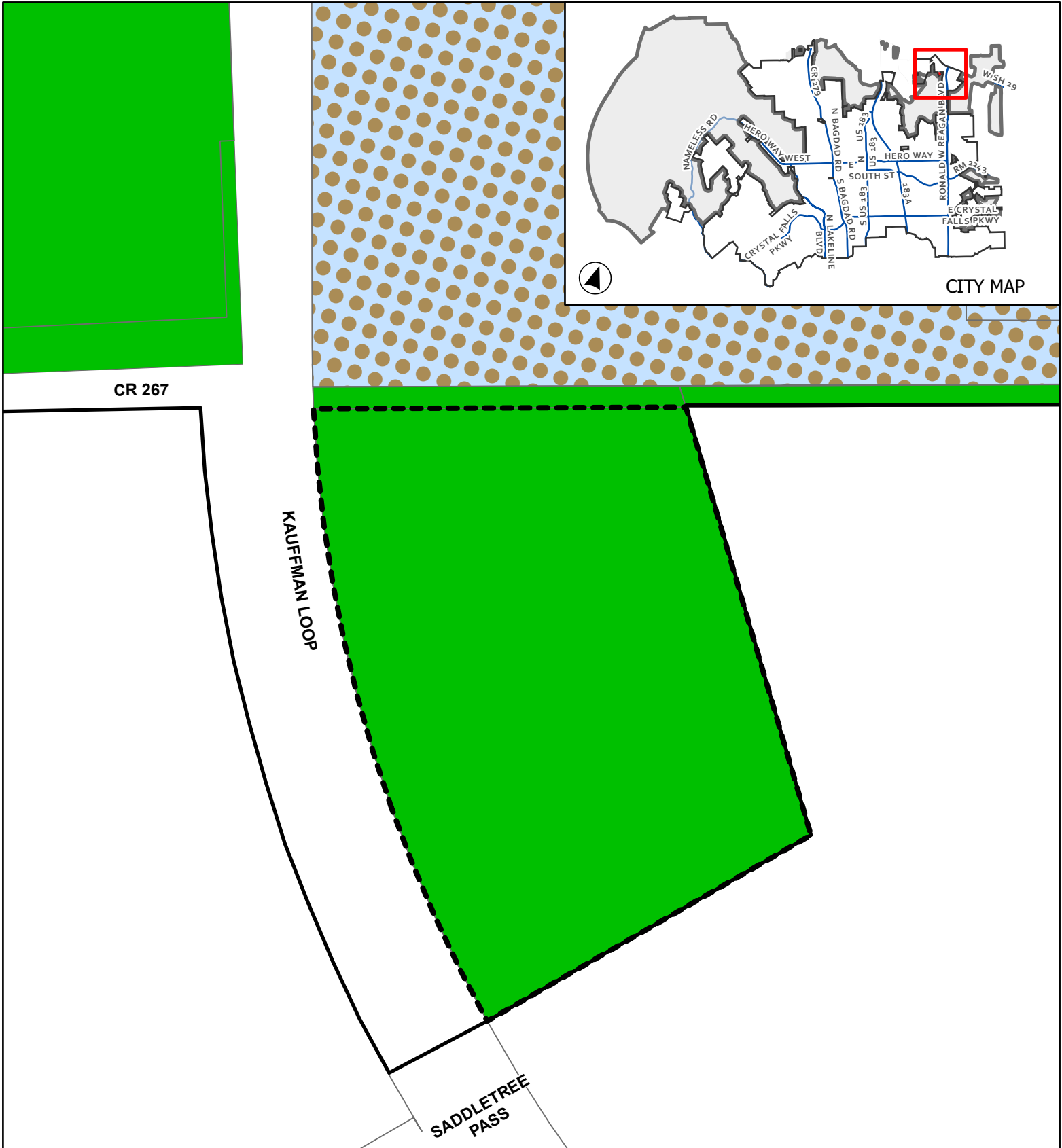
A portion of the subject property is currently improved with an existing municipal water tower. The remainder of the parcel is undeveloped and is accessible solely from Kauffman Loop. Rezoning to LC-2-A will enable the City to support communications infrastructure while ensuring the site remains compatible with surrounding land uses and consistent with long-term planning objectives.

This zoning request is submitted to facilitate the addition of a wireless communication facility that will enhance wireless service coverage and reliability for residents, businesses, and public safety users. The proposed use will operate within all applicable development standards, permitting requirements, and industry regulations.

Thank you for your consideration of this zoning change request. The City is prepared to provide any additional documentation, site information, or technical details needed to support the review process.

Sincerely,

Michael Chenausky, AICP
Senior Planner



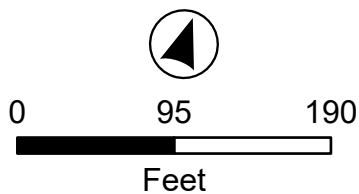
CASE: Z-26-0246

ATTACHMENT 2

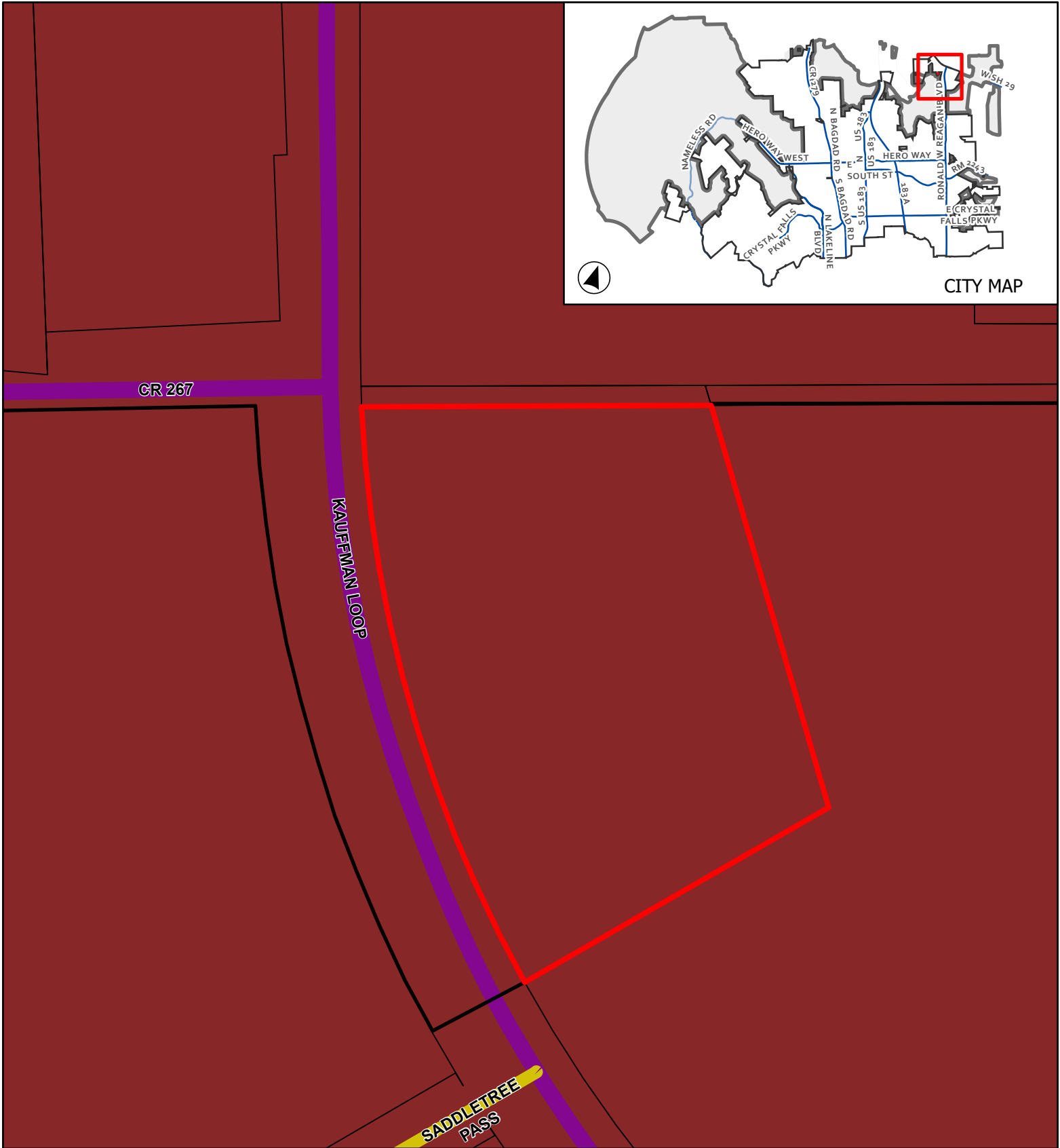
KAUFFMAN LOOP WCF

Current Zoning

This map has been produced by the City of Leander for informational purposes only. No warranty is made by the City regarding completeness or accuracy. This data should not be construed as a legal description or survey instrument. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, completeness, use or misuse of the information herein provided.



- City Limits
- ETJ
- Subject Boundary
- SFR - Single-Family
- Rural
- PUD - Multi-Family



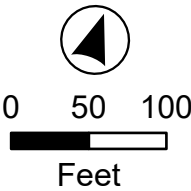
CASE: Z-26-0246

ATTACHMENT 3

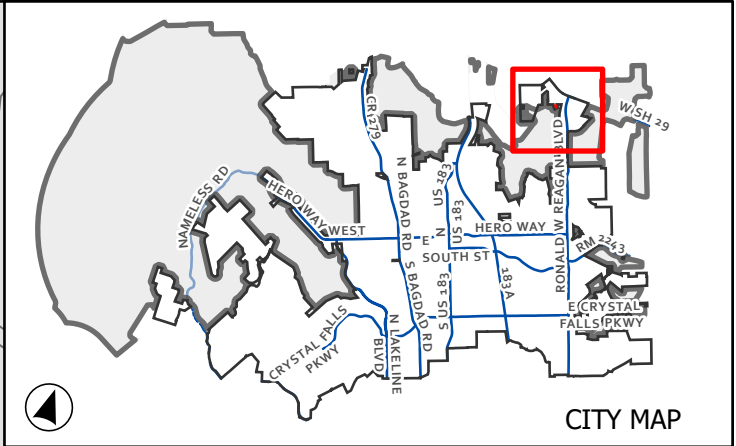
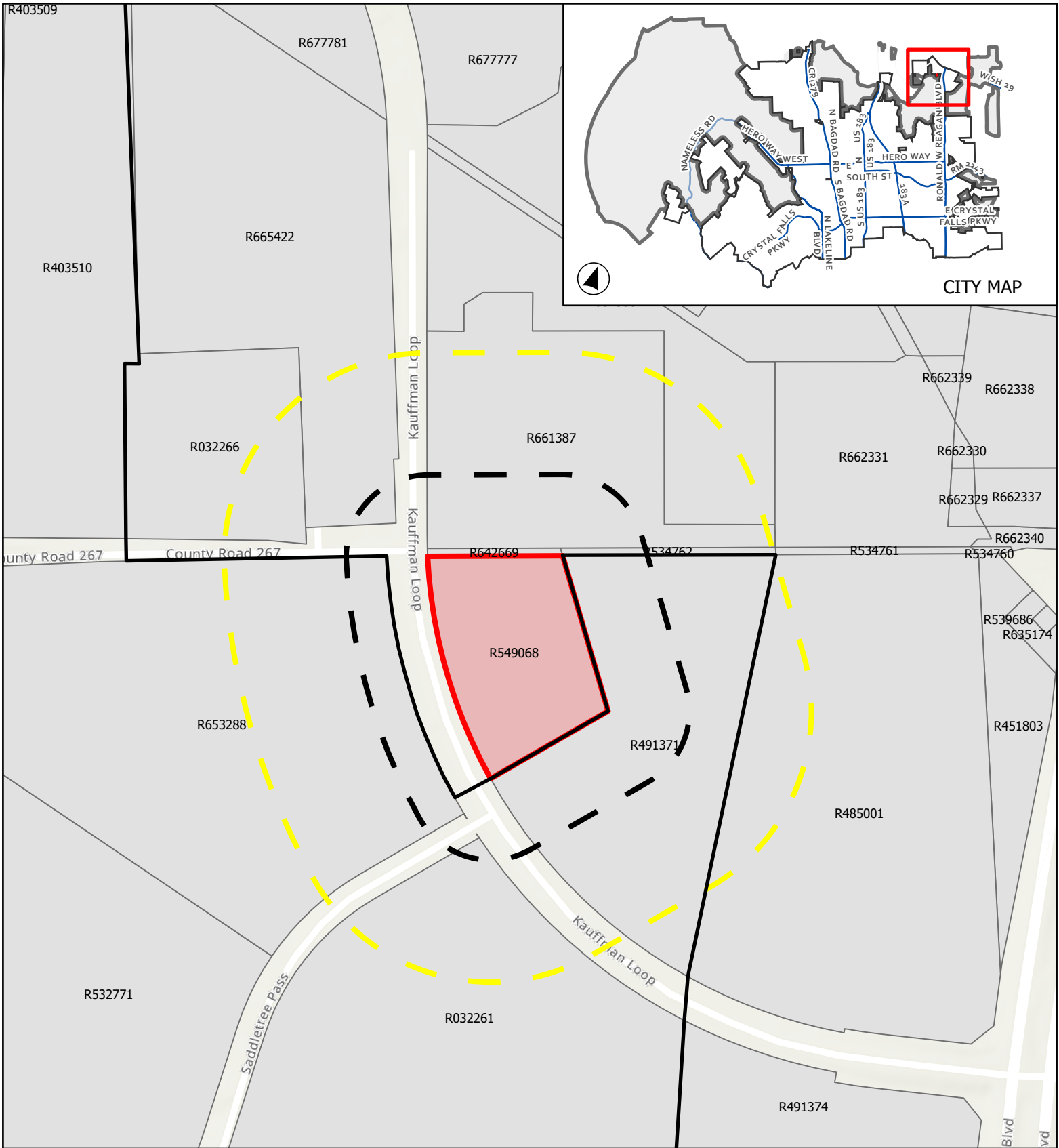
KAUFFMAN LOOP WCF

Future Land Use Map

This map has been produced by the City of Leander for informational purposes only. No warranty is made by the City regarding completeness or accuracy. This data should not be construed as a legal description or survey instrument. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, completeness, use or misuse of the information herein provided.



- Arterial 4 Lane, Existing █
- Collector, Existing █
- Activity Center █
- ETJ Boundary
- Leander City Limits
- Subject Boundary



CASE: Z-26-0246 ATTACHMENT 4 KAUFFMAN LOOP WCF

Public Notification

This map has been produced by the City of Leander for informational purposes only. No warranty is made by the City regarding completeness or accuracy. This data should not be construed as a legal description or survey instrument. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, completeness, use or misuse of the information herein provided.

0 150 300
Feet

City Limits

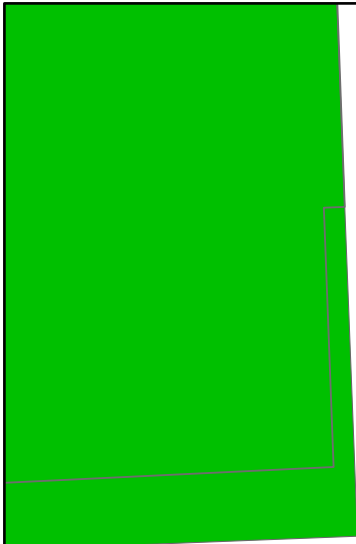
ETJ

Subject Boundary

200'

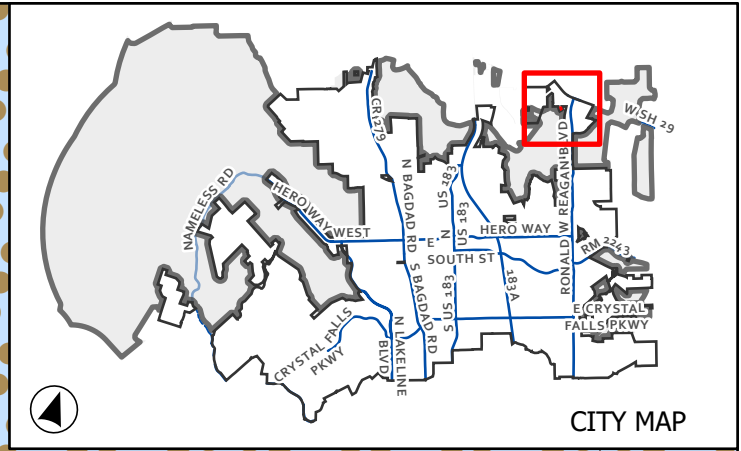
500'

Page 164 of 179



CR 267

KAUFFMAN LOOP



CITY MAP

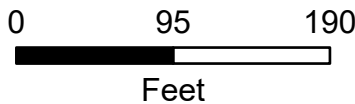
CASE: Z-26-0246

ATTACHMENT 5

KAUFFMAN LOOP WCF

Proposed Zoning

This map has been produced by the City of Leander for informational purposes only. No warranty is made by the City regarding completeness or accuracy. This data should not be construed as a legal description or survey instrument. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, completeness, use or misuse of the information herein provided.



City Limits

ETJ

Subject Boundary

Proposed Zoning

RESIDENTIAL

SFR - Single-Family

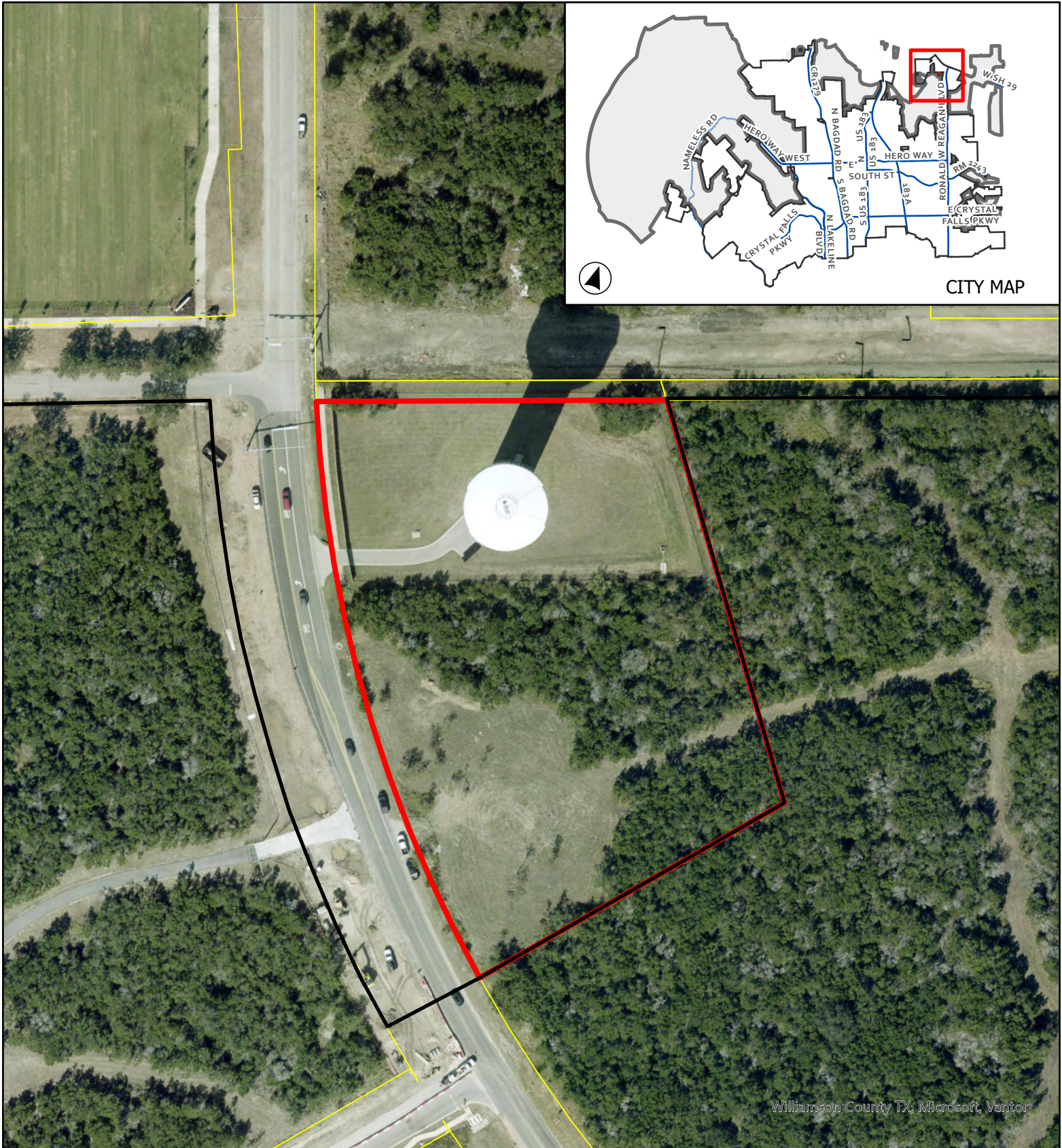
Rural

PUD LAND USE

PUD - Multi-Family

PUD - Local Commercial

PUD - General Commercial



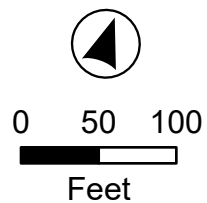
CASE: Z-26-0246

ATTACHMENT 6

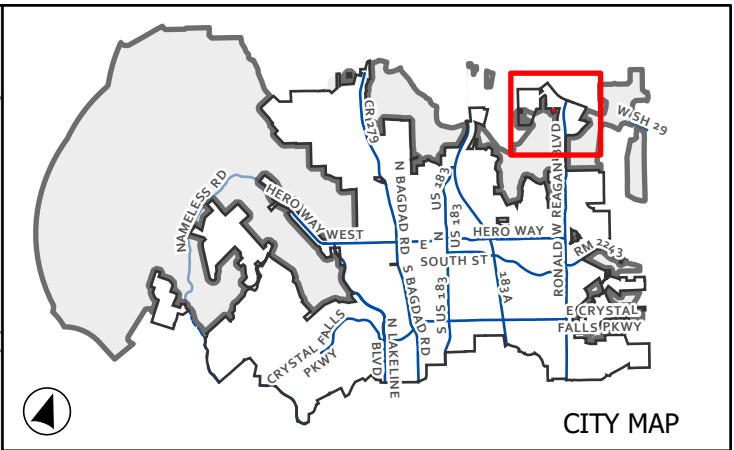
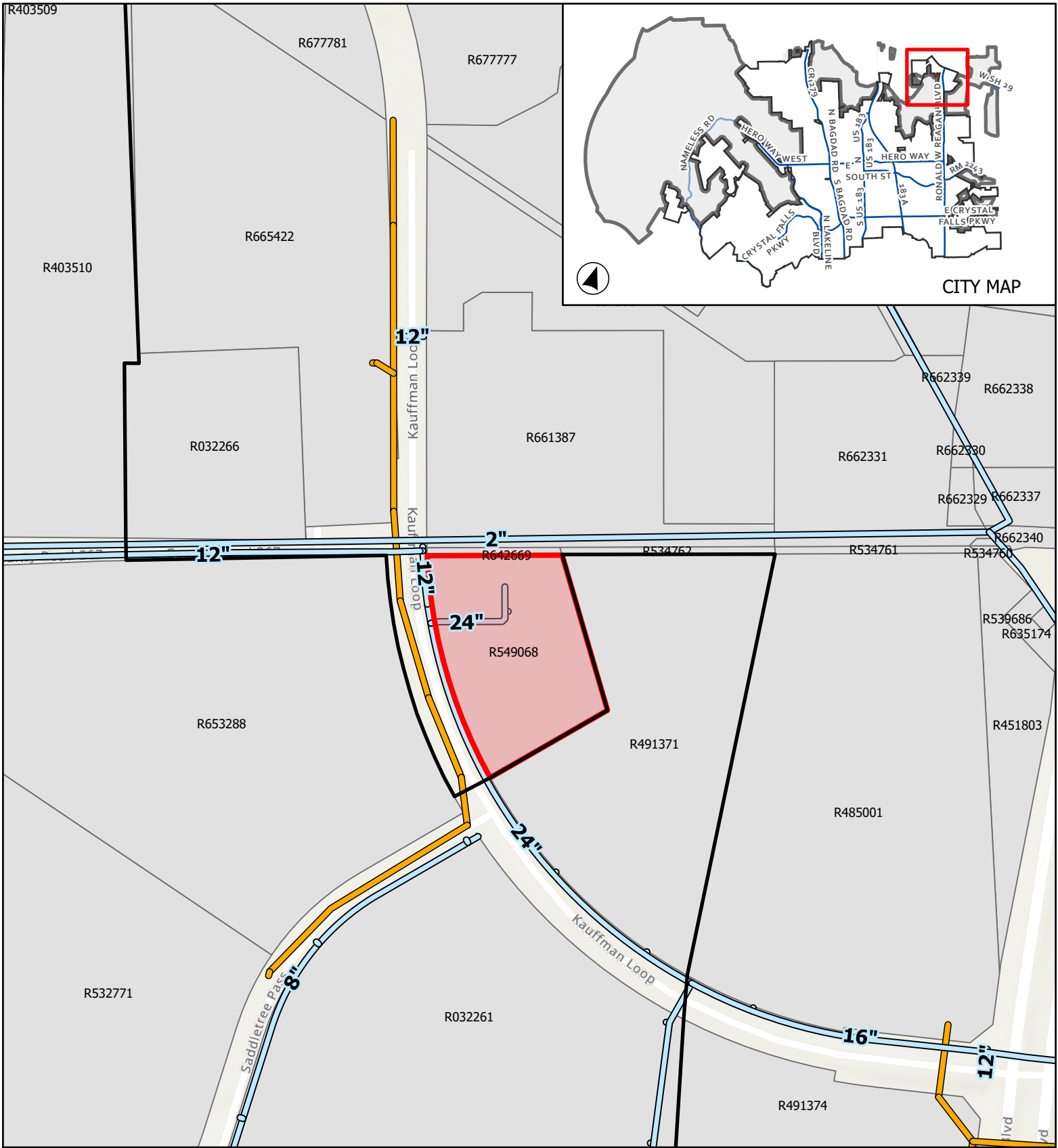
KAUFFMAN LOOP WCF

Aerial Map

This map has been produced by the City of Leander for informational purposes only. No warranty is made by the City regarding completeness or accuracy. This data should not be construed as a legal description or survey instrument. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, completeness, use or misuse of the information herein provided.



Leander City Limits 
Williamson County Parcels 
Subject Boundary 



CASE: Z-26-0246 ATTACHMENT 8 KAUFFMAN LOOP WCF

Utilities Map

This map has been produced by the City of Leander for informational purposes only. No warranty is made by the City regarding completeness or accuracy. This data should not be construed as a legal description or survey instrument. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, completeness, use or misuse of the information herein provided.

0 150 300 Feet

City Limits

ETJ

Subject Boundary

Waste Water Line

Water Main Line

Page 167 of 179

APPLICANT'S SUMMARY OF NEIGHBORHOOD COMMUNICATIONS

1. How and when were the surrounding neighborhood and residential property owners within 500' notified, how was information shared, and who was directly involved in the communication process? Please provide the address of the properties notified and the name and contact information of the residents directly involved in the communication process. Attach any materials that were distributed.

The neighboring properties were sent notification letters July 22nd.

2. Who was notified (i.e. property owners, HOA, etc)? The HOA and/or a representative if there is no organized HOA must be contacted, if applicable. Provide a separate sheet listing the contact information used including the names and addresses of the individuals.

Howard Barkley Wedemeyer, Valor Texas, Zekelman Property, Brazos Electric Power Co Op.

3. What concerns were raised during these communications?

Brazos Electric had questions related to tower location, height, with more potentially to follow once a Site Plan is submitted.

4. What specific conditions were added to or modified within the zoning request in response to the concerns raised at the meeting?

No changes to the zoning request.

The above information is deemed to be true to the best of my knowledge.

Signature:  Date 08/04/2026

July 22, 2026

Hello Neighbors!

We are writing to inform you of a proposed zoning change for the property located at 209 Kauffman Loop and to invite you to participate in the public review process.

An application has been submitted requesting to rezone the property from SFR-1-B (Single-Family Rural) to LC-2-A (Local Commercial) to allow the development of a Wireless Communication Facility.

A portion of the property is currently occupied by an existing water tower, while the remainder of the site is undeveloped and accessed from Kauffman Loop. The proposed zoning change would allow the property to accommodate a wireless communication facility that would help support wireless service in the area.

As a nearby property owner, you are invited to provide comments during the public hearing.

Public Hearing Information:

Planning and Zoning Commission

August 13, 2026

6:00 p.m.

Pat Bryson Municipal Hall

201 N. Brushy Street.

City Council

September 3, 2026

7:00 p.m.

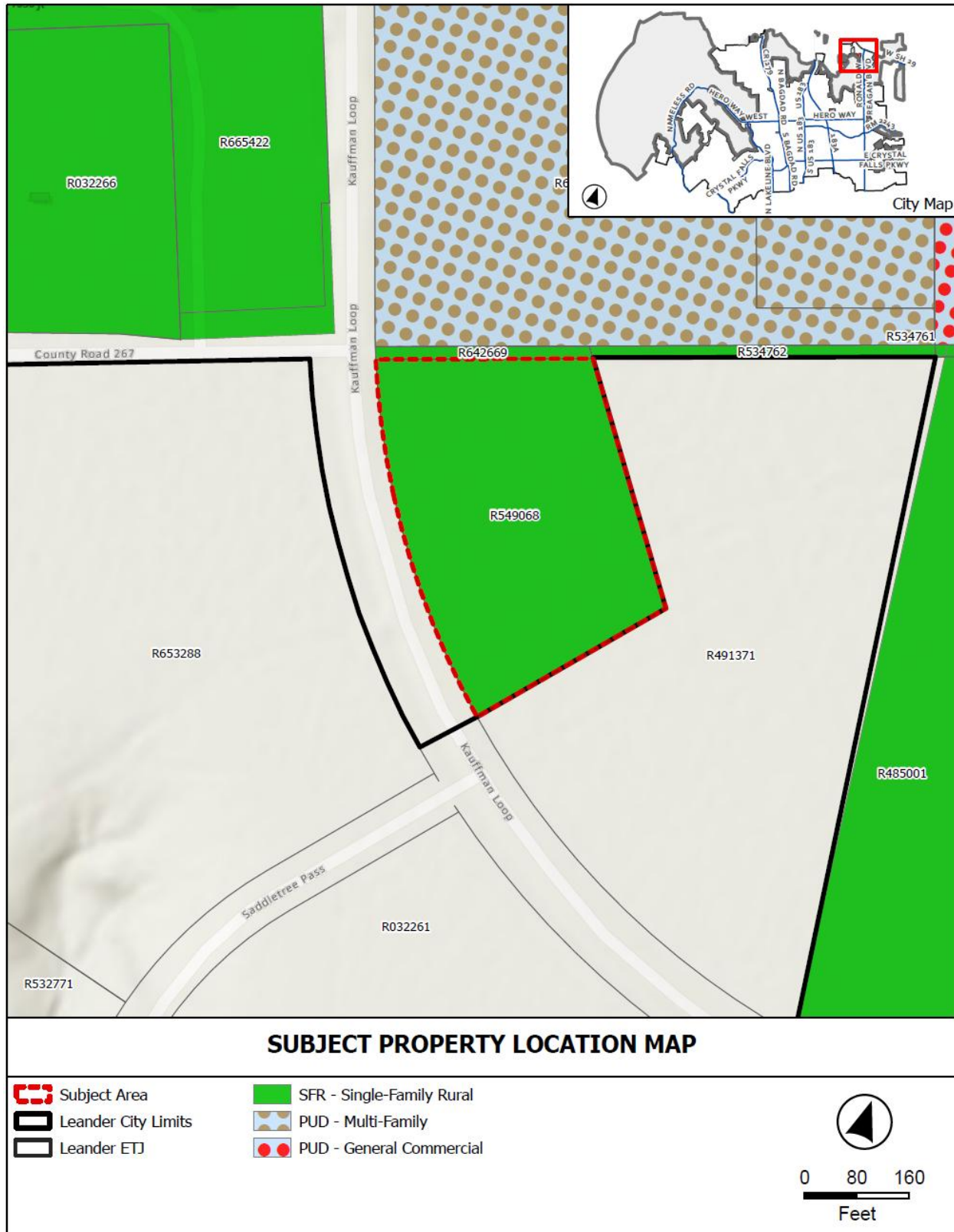
Pat Bryson Municipal Hall

201 N. Brushy Street.

If you have any questions or concerns regarding this zoning case, please call the City of Leander Planning Department at (512) 528-2733 to speak with Michael Chenausky.

Thank you,

Michael Chenausky AICP,
Senior Planner





EXECUTIVE SUMMARY
8/13/2026

AGENDA SUBJECT:

Discuss and consider action on the Planning & Zoning Commission Progress Report for September 2025 to August 2026.

BACKGROUND:

The Planning & Zoning Commission Progress Report is required to be submitted to the City Council on an annual basis. The purpose of this report is to provide an update to the Council regarding the activities conducted by the Planning & Zoning Commission. The report is provided as Attachment 1 and Attachment 2 includes the report from the previous year.

HISTORY/TIMELINE:

APPLICANT/AGENT:

City of Leander Planning and Zoning Commission

RECOMMENDATION:

As part of the evaluation of this request, the City Council has the following options:

1. Approve the Planning & Zoning Commission Progress Report;
2. Amend the Planning & Zoning Commission Progress Report.

Staff recommends Option 1 listed above – Approve the Planning & Zoning Commission Progress Report.

PRESENTER:

Karina Castillo, AICP, Planning Manager

Attachments:

1. Att 1 P&Z Commission Progress Report 2025-2026
2. Att 2 P&Z Commission Progress Report 2024-2025



PLANNING & ZONING COMMISSION ANNUAL PROGRESS REPORT

SEPTEMBER 2025 – AUGUST 2026

GENERAL INFORMATION

The Planning and Zoning Commission is assigned the duties and powers by Section 1.04.038 of the Leander City Code to “*Submit each September a progress report to the City Council summarizing its activities, major accomplishments for the past year and a proposed work program for the coming year. The report shall contain for the year the attendance record of all members and the identity of commission officers.*”

SPECIAL MEETINGS / TRAINING

01/29/2026	Comprehensive Plan and Transportation Master Plan updates officially kicked off.
03/05/2026	Planning and Zoning Commissioner Morales was appointed as a member of the Comprehensive Plan Advisory Committee (CPAC).
03/19/2026	Joint workshop with City Council to introduce the team, project process and timeline, and brief on the expectations and roles.
04/21/2026	CPAC Meeting #1 was held to discuss the process and timeline, vision and identity, opportunities and challenges, and Leander’s future.
05/20/2026	CPAC Meeting #2 was held to discuss Leander’s vision and identity, community goals, and needed transportation connections.
05/21/2026	Joint workshop with City Council to discuss community goals, vision and identity, and transportation needs and opportunities.
08/04/2026	CPAC Meeting #3 was held to discuss Future Land Use categories and updates on the Transportation Master Plan.

ORDINANCE AMENDMENTS

- Composite Zoning Ordinance
 1. Dry Utilities – Micro-trenching standards were adopted by the City Council in September of 2025 and took effect late 2025. Since the adoption took effect, 18 projects have been reviewed and five (5) permits have been issued.

2. In-Home Daycare standards were updated to update the number of children allowed to match what is approved by the State of Texas, with additional standards when over six (6) children.
- Comprehensive Plan Updates
 1. The Comprehensive Plan and Transportation Master Plan updates were initiated in January of 2026 with a target adoption in early 2027.
 2. The City's first Stormwater Master Plan was drafted and will be heard for adoption in August and September.

RECEIVED ACTIVITY - SEPTEMBER 2025 THROUGH AUGUST 2026

The Planning and Zoning Commission previously reviewed the approval of Subdivision cases such as Concept Plans, Preliminary Plats, and Final Plats. The 88th Legislative Session passed House Bill 3699 in 2023 which expands the authority of the governing body to delegate the approval of subdivision cases to Staff. The Council adopted the changes to the approval process in June of 2024 resulting in less cases reviewed by the Commission. The final plats reviewed by the Commission include those that require a public hearing.

In 2025, the Council approved updates to the Subdivision Ordinance and Composite Zoning Ordinance to allow for the Commission to grant extensions to the applications of subdivision cases and site development cases.

The Planning & Zoning Commission reviewed the following:

Final Plats: 1	Plat Vacate: 1
Zoning Cases: 14	Special Use Permits: 5
Tree Removal: 12	Ordinance Amendments: 1
Subdivision Extensions: 38	Site Development Extensions: 21

CASES WHERE CITY COUNCIL ACTION DIFFERED FROM P&Z
--

1. ZONING CASE: Z-25-0184 KETTAS SUP

- **Location** – 107 N. US 183
- **Request** – to allow for a social club and game room
- **P&Z Action 8/14/2025** – Approved
A vote to approve was cast 6 for and 0 against.
- **City Council Action 09/18/2025:** Denied.
A vote was cast 5 for and 2 against.

2. ZONING CASE: Z-25-0179 CROSSROADS PUD

- **Location** – south of Hero Way West, approximately 400 feet west of Bagdad Road
- **Request** – amend the current zoning of GC-3-C (General Commercial) to adopt the Crossroads PUD (Planned Unit Development) with the base zoning of GC-3-C (General Commercial)
- **P&Z Action 11/13/2025** – No Action
A vote to approve was cast 3 for and 4 against.
- **City Council Action 12/18/2025:** Approved.
A vote was cast 6 for and 0 against.

3. ZONING CASE: Z-25-0205 675 KAUFFMAN LOOP PUD AMENDMENT #2

- **Location** – 1,500 feet to the east of the intersection of SH 29 and Ronald W. Reagan Boulevard on the south side of SH 29
- **Request** – amend the current zoning of 675 Kauffman Loop Planned Unit Development (PUD) with base zoning districts of SFT-2-A (Single-Family Townhouse) and GC-2-A (General Commercial) to remove the prohibition of automotive uses on Lot 3, Block B of the 675 Kauffman Loop Subdivision and allow for a car wash on Lot 4, Block B of the 675 Kauffman Loop Subdivision
- **P&Z Action 03/12/2026** – No action.
A vote was cast 3 for and 3 against.
- **City Council Action 04/02/2026:** Approved.
A vote was cast 7 for and 0 against.

PROPOSED WORK PROGRAM

The proposed work program for 2027-2028 includes implementing the Comprehensive Plan through updates to the ordinances and continuing to participate in the five-year update. The Commission will oversee the annual update of the zoning and subdivision ordinances to address issues identified by staff, applicants, and citizens during the normal course of applying the ordinances.

The Commission will also continue to hold joint work sessions with City Council. The Commission will have the opportunity to attend the APA conference this year being held in Irving.

ATTENDANCE RECORD

The Planning & Zoning Commission held a total of 15 regular meetings and two (2) workshops between September 2025 and August 2026. This past year, we have had one (1) Commissioner resign, three (3) Commissioners reappointed, and two (2) Commissioners appointed.

- October of 2025, Commissioner Calame resigned from Place 7.
- October of 2025, Commissioner Mahan was reappointed for Place 1.
- October of 2025, Commissioner Lewis was reappointed for Place 3.
- October of 2025, Commissioner Coats was appointed for Place 4.
- October of 2025, Commissioner Oliver was reappointed for Place 5.
- October of 2025, Commissioner Bray was appointed for Place 7.

Below, please find the attendance record.

Name/Position	Number of Absences	Absence Percentage
September 2025– August 2026 - 17 Total Meetings		
Donnie Mahan, Place 1: (current term began Oct. 2025 – expires Oct. 2028)	2	12%
Joseph Morales, Place 2 (current term began Oct. 2024 – expires Oct. 2027)	1	6%
Karen Lewis, Place 3 (current term began Oct. 2025 – expires Oct. 2028)	2	12%
Jay Coats, Place 4 (current term began Oct. 2025 – expires Oct. 2028)	3	18%
James Oliver, Place 5: (current term began Oct. 2025 – expires Oct. 2028)	2	12%
Laura Lantrip, Place 6: (current term began Oct. 2024 - expires Oct. 2027)	2	12%
Scott Calame, Place 7: (current term began Oct. 2023 – resigned Oct. 2025)	0	0%
Tyler Bray, Place 7: (current term began Oct. 2025 - expires Oct. 2028)	3	18%



PLANNING & ZONING COMMISSION ANNUAL PROGRESS REPORT

SEPTEMBER 2024 – AUGUST 2025

GENERAL INFORMATION

The Planning and Zoning Commission is assigned the duties and powers by Section 1.04.038 of the Leander City Code to “*Submit each September a progress report to the City Council summarizing its activities, major accomplishments for the past year and a proposed work program for the coming year. The report shall contain for the year the attendance record of all members and the identity of commission officers.*”

SPECIAL MEETINGS / TRAINING

- | | |
|------------|---|
| 09/05/2025 | Discussion regarding updates to the Comprehensive Plan, Capital Improvement Program, development standards, and approval process in a joint workshop with the City Council. |
| 01/23/2025 | Discussion regarding the Comprehensive Plan Implementation Schedule. |
| 07/24/2025 | Receive a presentation regarding the Commission’s responsibility in the process of the Capital Improvement Program. |
| 07/24/2025 | Consider action on recommendations from the Planning & Zoning Commission for the FY 2024/2025 City Budget and CIP Plan. |

ORDINANCE AMENDMENTS

- Composite Zoning Ordinance
 1. The Type 2 Site Component regulations were updated to adjust the building size maximum when not adjacent to residential uses.
 2. Updated to include new standards for Dry Utilities, added the option for an early grading phase with Site Developments, and updated the application extension process.
 3. Adopted updates to Article IV regarding Wireless Communications Facilities to address new technologies.
 4. The Micro-Trenching ordinance was recommended approval and will include updated regulations that accommodate new technologies.

- Subdivision Ordinance
 1. The Parkland Dedication, Park Improvement, and Parkland Fee-in-Lieu regulations and requirements were amended to adjust the calculation for fee in lieu of parkland and adopt new park improvement fees.
 2. Updated the criteria for Short Form Final Plats and updated the application extension process.
- Comprehensive Plan Updates
 1. The Thoroughfare Master Plan was updated to include realignment of proposed roads, the removal of proposed roads, and the addition of new proposed roads.
 2. The Wastewater Master Plan was updated to consider the most recent growth projections and recommend Capital Improvement Projects.
 3. The Employment Center was updated to include additional standards and the Leander Central category was updated to include additional compatible districts.

RECEIVED ACTIVITY - SEPTEMBER 2024 THROUGH AUGUST 2025

The Planning and Zoning Commission previously reviewed the approval of Subdivision cases such as Concept Plans, Preliminary Plats, and Final Plats. The 88th Legislative Session passed House Bill 3699 in 2023 which expands the authority of the governing body to delegate the approval of subdivision cases to Staff. The Council adopted the changes to the approval process in June of 2024 resulting in less cases reviewed by the Commission.

In 2025, the Council approved updates to the Subdivision Ordinance and Composite Zoning Ordinance to allow for the Commission to grant extensions to the applications of subdivision cases and site development cases.

The Planning & Zoning Commission reviewed the following:

Short Form Plats: 2	Plat Vacate: 1
Comprehensive Plan Amendments: 6	Zoning Cases: 14
TOD Zoning Cases: 5	Special Use Permits: 1
Variances: 2	Ordinance Amendments: 6
Subdivision Extensions: 14	Site Development Extensions: 14
Tree Removal: 6	

CASES WHERE CITY COUNCIL ACTION DIFFERED FROM P&Z

1. COMPREHENSIVE PLAN AMENDMENT CASE: CPA-24-0014 NORTHLINE

- **Location** – southwest of the intersection of E. San Gabriel Parkway and 183A Toll Road
- **Request** – to amend the Comprehensive Plan land use category from Leander Central to Activity Center
- **P&Z Action 10/10/2024** – motion to approve failed.
- **City Council Action 10/17/2024:** Approval.
A vote was cast 7 for and 0 against.

2. ZONING CASE: Z-25-0166 BARKSDALE PHASE 3

- **Location** – northwest of the intersection of Journey Parkway and CR 175
- **Request** – to amend the current zoning from Interim SFR-1-B (Single-Family Rural) to SFC-2-A (Single-Family Compact), SFU-2-A (Single-Family Urban), and SFS-2-A (Single-Family Suburban)
- **P&Z Action 05/22/2025** – No Action
- **City Council Action 06/17/2025:** Approval.
A vote was cast 5 for and 2 against.

3. ZONING CASE: OR-24-0030 MICROTRENCHING

- **Request** – amend the Composite Zoning Ordinance to adopt standards and a permitting process associated with micro-trenching.
- **P&Z Action 05/08/2025** – Approval.
A vote was cast 6 for and 0 against.
- **City Council Action 06/05/2025:** Approval with amendments.
A vote was cast 7 for and 0 against.

PROPOSED WORK PROGRAM

The proposed work program for 2025-2026 includes implementing the Comprehensive Plan through updates to the ordinances and participating in the five-year update. The Commission will oversee the annual update the zoning, subdivision, and sign ordinances to address issues identified by staff, applicants, and citizens during the normal course of applying the ordinances.

The Commission will also continue to hold joint work sessions with City Council. The Commission will have the opportunity to attend the APA conference this year.

ATTENDANCE RECORD

The Planning & Zoning Commission held a total of 20 regular meetings and 2 workshops between September 2024 and August 2025. This past year, we have had 3 Commissioners be appointed and one resigned.

- November of 2024, Commissioner Morales was appointed for Place 2.
- November of 2024, Commissioner LaDey was appointed for Place 4.
- January of 2025, Commissioner May resigned.
- May of 2025, Commissioner Lewis filled in the vacancy for Place 3.
- July of 2025, Commissioner LaDey resigned and has not been replaced.

Below, please find the attendance record.

Name/Position	Number of Absences	Absence Percentage
September 2024 – August 2025 - 21 Total Meetings		
Donnie Mahan, Place 1: (current term began Oct. 2019 - expires Oct. 2025)	6	29%
Joseph Morales, Place 2 (current term began Nov. 2024 – expires Oct. 2027)	2	13%
Karen Lewis, Place 3 (current term began May 2025 – expires Oct. 2025)	0	0%
James Oliver, Place 5: (current term began Oct. 2022 - expires Oct. 2025)	1	5%
Laura Lantrip, Place 6: (current term began Oct. 2021 - expires Oct. 2027)	2	10%
Scott Calame, Place 7: (current term began Oct. 2023 - expires Oct. 2027)	1	5%