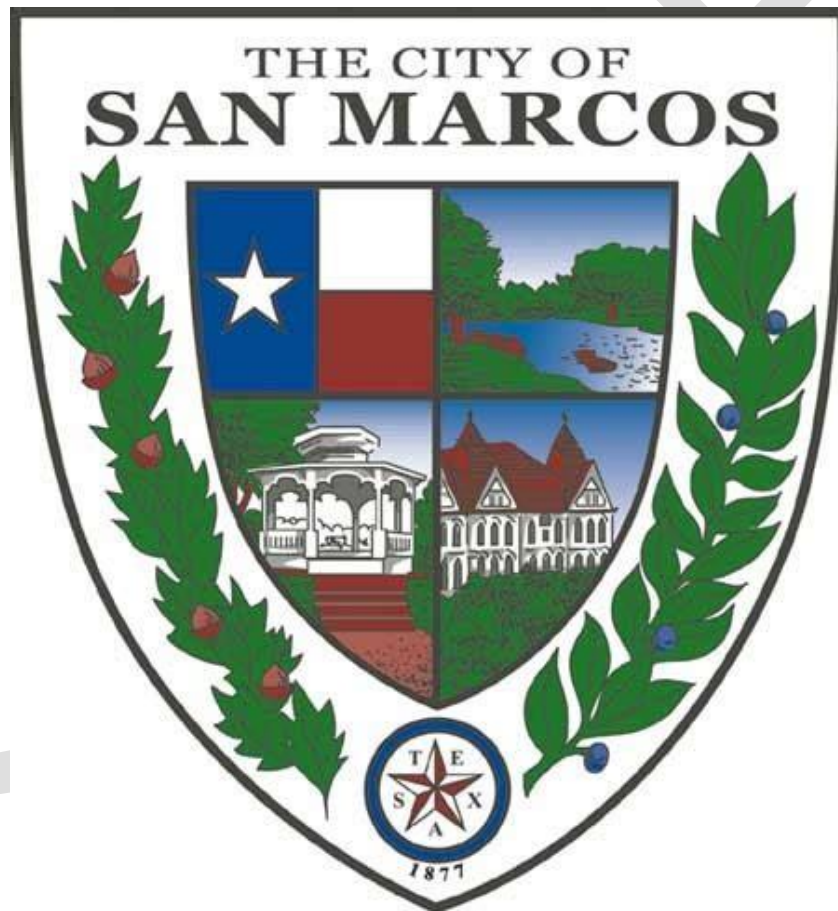


Name: GIS Intern

City of San Marcos GIS/IT Team

SAN MARCOS



GEO4380 Geography Internship

January 26, 2022 to April 29, 2022

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SAMPLE

Internship Assessment Report

I. Description of Agency: City of San Marcos GIS (Geographic Information Science)/IT Team

The City of San Marcos (CoSM) GIS/IT Team is a division within the Information Technology (IT) department at CoSM. Together they work to provide solutions and support both city employees and the public through technological means. They also collaborate closely with GIS professionals employed in other departments, such as utilities, public works, and transportation.

Some of their contributions include processing public information requests, creating geospatial solutions and other support for departments without GIS professionals, providing geographic data to the public in the form of interactive maps, PDFs, and downloadable shapefiles, and maintaining an open GIS data portal. GIS solutions and support can take many forms. Most commonly, they create dashboards, web apps, web maps, pdf maps, and perform data entry. As part of the IT department, this team also provides the majority of the backend software support and the computer science aspect of GIS to enable other users to have a smooth experience.

II. Coworkers/Other Staff

Jessica (Jess) Neuner – GIS Manager

512.393.8127

JNeuner@sanmarcostx.gov

Austin Bodin – GIS Administrator

ABodin@sanmarcostx.gov

Jesse Garza – GIS Technician

JGarza@sanmarcostx.gov

III. Description of My Position

Throughout the 2022 spring semester, my internship consisted of a variety of tasks with the primary focus being to support the other members of the team.

IV. Summary of Duties and Responsibilities

In order to accomplish my objective to support the team, I had a few main duties. The first was to complete requests, either assigned to me or that I could assist with, that came through the city's ticket request system. The second was to contribute to and/or complete a few long-term projects. The last was to perform other tasks as necessary.

V. Overview of Assigned Tasks

At the beginning of my internship, GIS Manager Jess Neuner met with me to discuss workload and project goals for the internship. Originally, we discussed my assisting with four major projects and completing tickets as needed. As the internship progressed, tickets became more pressing and most of my time was spent there as opposed to the main projects although progress was still made in each. Jess was kind enough to invite me to stay through the summer, so I will be continuing to work in all of the areas discussed.

1. Tickets – over the course of my internship I was assigned 13 tickets and was able to complete all of them except for a non-priority one. However, it is in the final drafting stages.
 - a. Completed: Update city boundaries
 - b. Completed: Digitize a parcel from historic documents for the real estate division
 - c. Completed: Digitize a set of parcels from historic documents for the real estate division to provide visualization
 - d. Completed: Add datasets to the online open GIS data portal
 - e. Completed: Move dispatch's commonly used web maps from the external web service to the internal web service
 - f. Incomplete: Update city facilities map for IT
 - g. Completed: Enter new Capital Improvement Projects (CIP) into the database
 - h. Completed: Add another dataset to the online open GIS data portal
 - i. Completed: Gather data and create a file geodatabase to send to a consulting company working on a project for the city
 - j. Completed: Updated addresses for city facilities in the database
 - k. Completed: Create a map visualization of at-risk trees in Blanco Gardens
 - l. Completed: Update CIP maps, work area locations, and the map series layouts
 - m. Completed: Enter new CIP projects into the database

2. Provide support to the GIS workgroup as they implement a new dispatch system, Tyler NewWorld. The main component of this project that I was tasked with was reviewing and comparing the road centerline datasets provided by the city and the county to determine which was more complete. This part of the project has been completed and was put on hold to allow me to focus on more urgent tickets and projects.
3. Provide support to Jesse with his data entry. This was to include testing documentation, job aids and automation, and Tasks created in ArcGIS Pro. Unfortunately, this project was postponed until the summer, so I have not yet gotten to assist him.
4. Provide support to the neighborhood enhancement department on a project to create a single destination for Community Resource maps. They want a hub that has thematic maps that city residents can reference for such things as trash/recycle pick up, city facilities, and opportunities for community engagement. This project was started but not yet completed. I reviewed some data gathered previously and added what I could, however there is still much to be done. I hope to continue work on this in the summer as well.
5. Prepare map templates to be used in a disaster management situation. The templates have been rebranded and linked to what data we have. More data could be gathered and added to the project to provide better resources.

VI. Overall Assessment

This internship provided me the opportunity to get first-hand GIS experience in the field I plan to enter after graduating at the end of this year. One aspect of this internship that I had eagerly looked forward to was gaining exposure in many different facets of GIS and most of the tasks I was required to do were things I had never done before or learned in school. I also learned ways to apply the concepts I have learned in my college career so far to real-world problems and projects. This was my first time working in a professional environment and it was a great introduction to the professional environment and expectations. The other members of the team were supportive, encouraging, and overall wonderful to work with. For the above reasons and many others, this internship has been very beneficial to me in many ways.

VII. Differences between Job Description Compared with Actual Experience

The differences between the job description and the work I did this semester were few but noticeable. Possible assignments listed in the job description included participating in the GIS and CAD data submission review process, entry of plats, as-builts, planning case files, and public safety data in the geodatabase, and

collecting GPS points. As stated previously, one planned project was to assist Jesse with his data entry process but that has not been accomplished at this time. Assignments I did from the job description were assisting with the creation and maintenance of data, supporting the GIS/IT Team with fulfilling the needs of various departments, preparing maps and other representations of spatial data, and research to find new data and help with utility requests. Examples of my work can be found later in this document.

VIII. College Education

My interest in GIS and time spent working to obtain my undergraduate degree prepared me to do well in this internship. While I learned many new things throughout my time with CoSM the past few months, the base concepts and familiarity with the software came from my education. My college experiences have honed my skills in research, hard work, focus, and dedication, all of which helped me succeed in this internship.

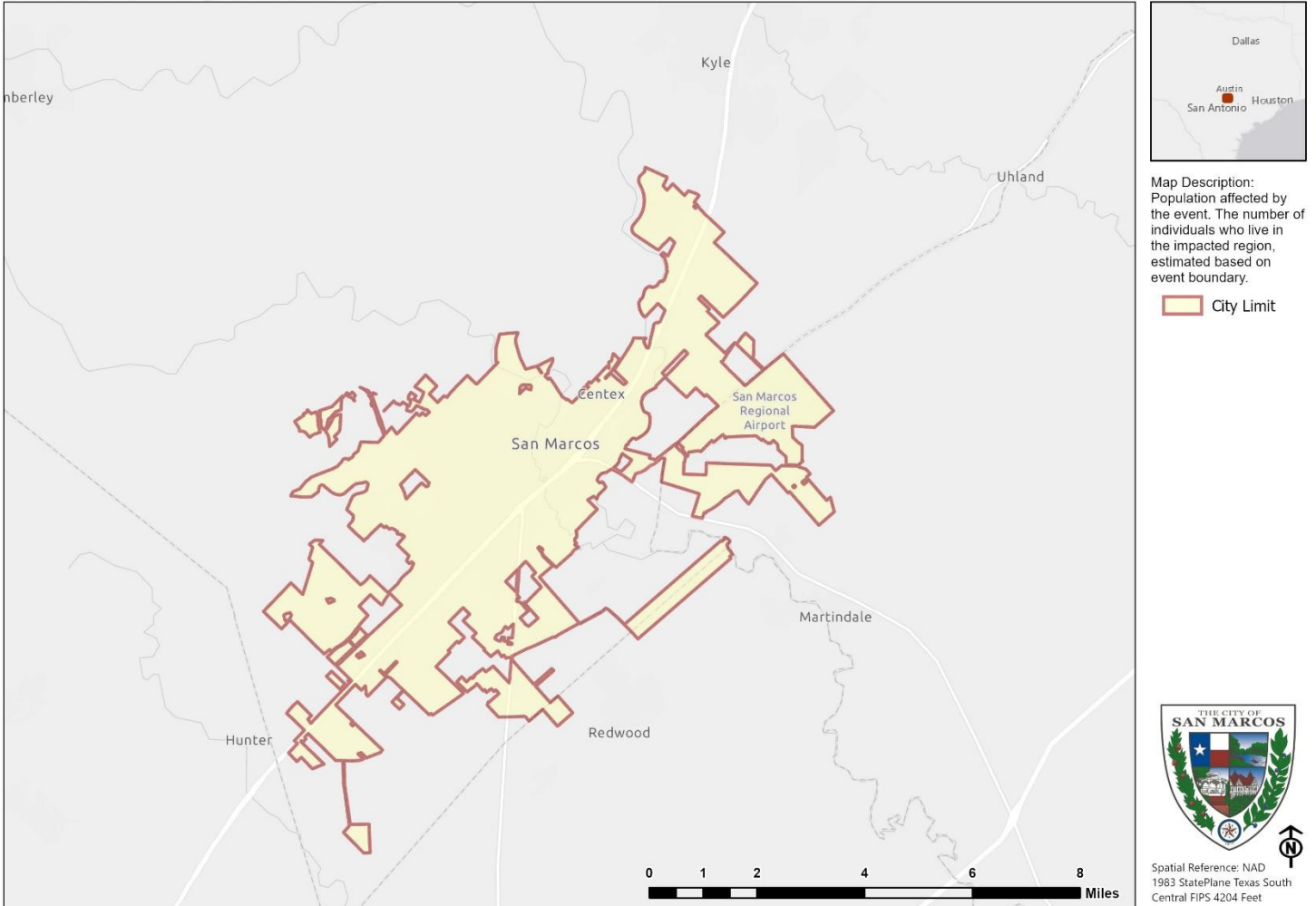
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Key Work Products

1. Below is a template prepared for the Disaster Management project, rebranded and ready for use in San Marcos.

Population Map: 30 Apr 2022 22:51

Incident #345 Flooding in San Marcos

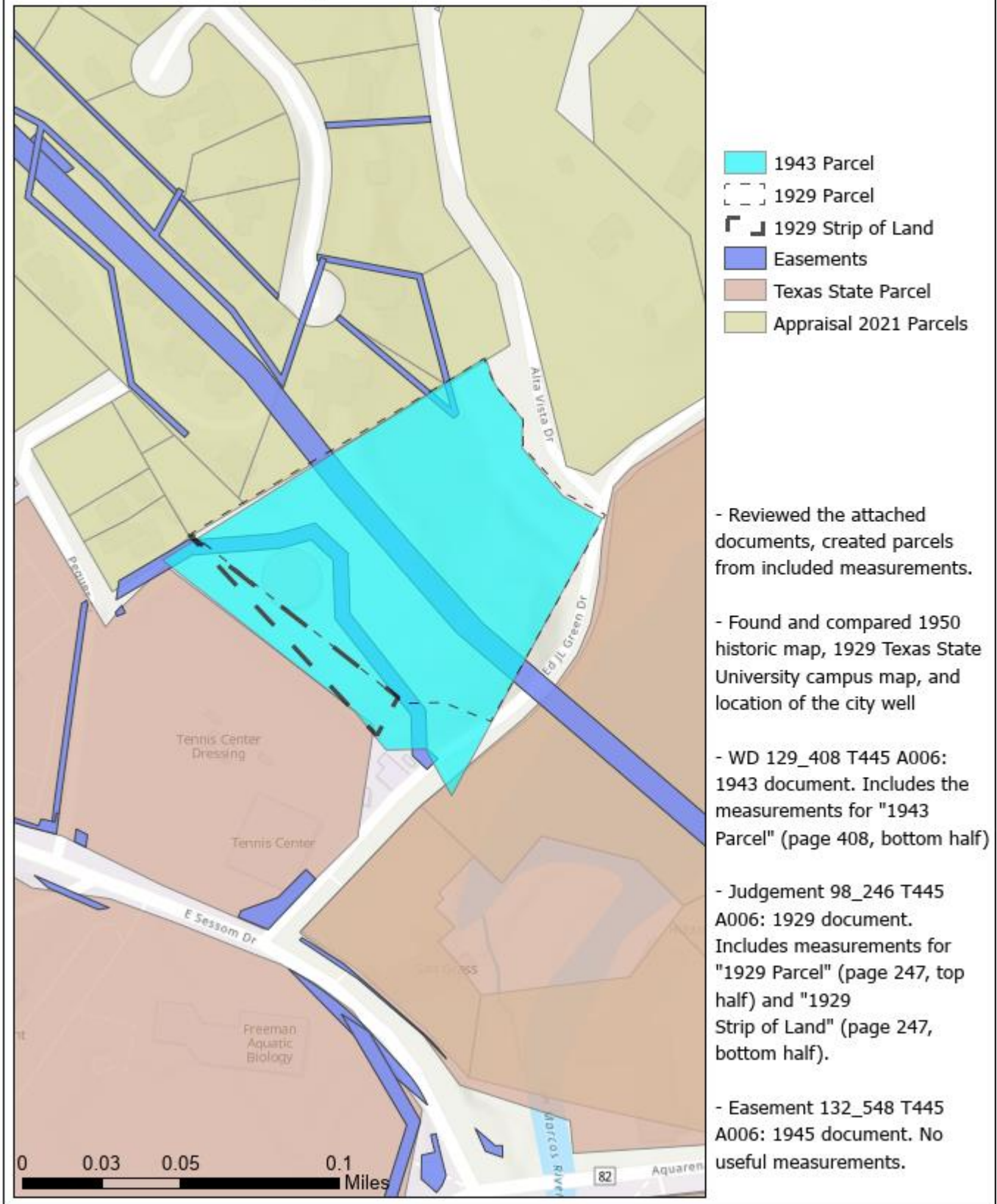


Credits: Esri, HERE, Esri, HERE, Garmin, USGS, EPA, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

2. Below is a visualization of a parcel created for the real estate division.

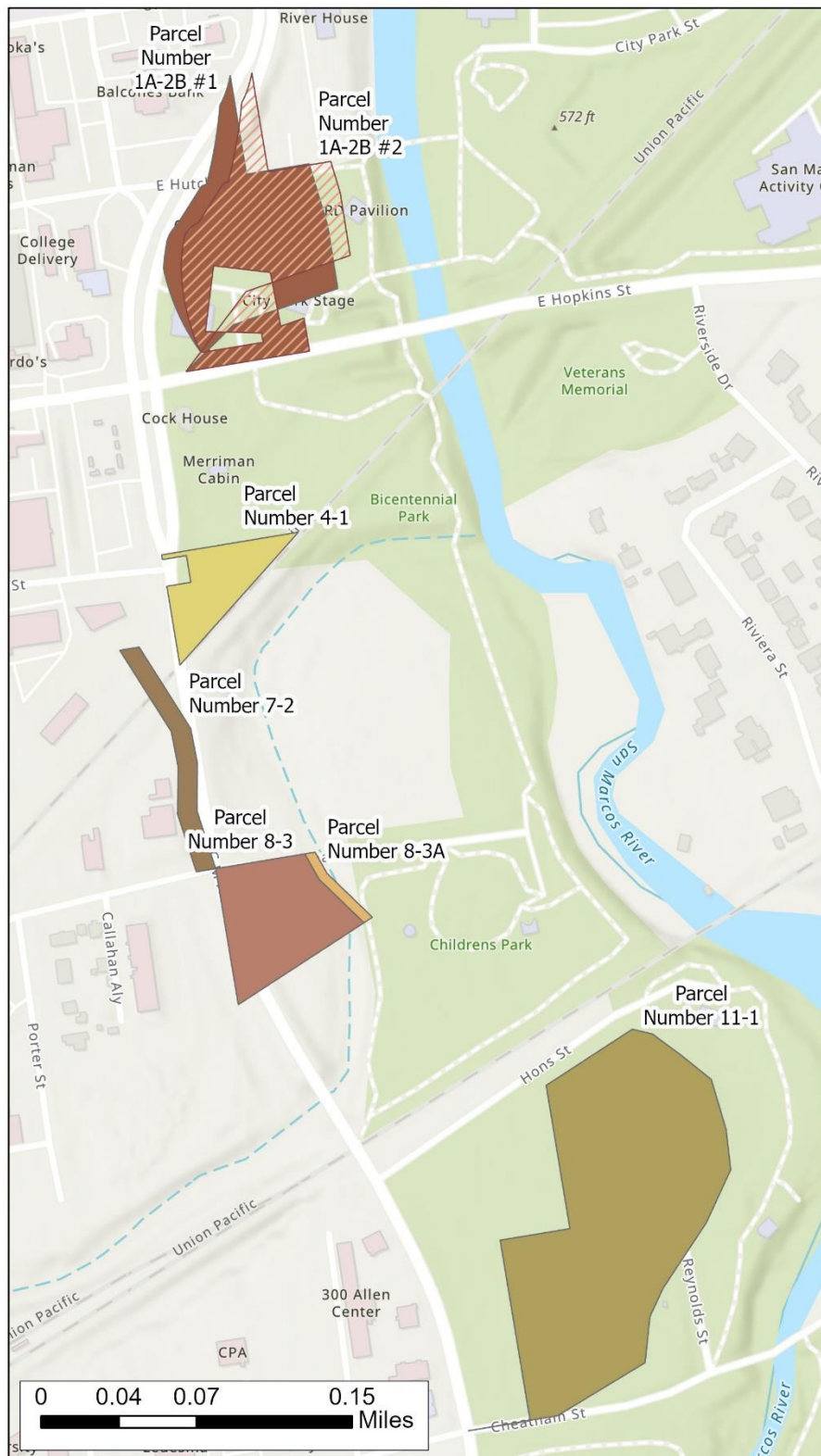
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LCRA Utility Easements/ROW Doc Review



3. Below is a second parcel visualization for the real estate division.

Exhibit of Metes & Bounds Descriptions



-  Parcel Number 11-1
-  Parcel Number 1A-2B #1
-  Parcel Number 1A-2B #2
-  Parcel Number 4-1
-  Parcel Number 7-2
-  Parcel Number 8-3
-  Parcel Number 8-3A

- Reviewed the attached documents, created parcels from included measurements.

- Parcel 1A-2B has a point that is unclear so two polygons were created to show either interpretation.

- Used historical maps to find accurate locations to the best of our ability.

- Some instructions were not clear as far the starting points but the polygons should be in the right general area.

4. Below is the CIP layout I revised.



10 Year CIP Projects

MULTIPLE SYSTEM IMPROVEMENTS

Bishop Street Improvements

Project ID: 183

Stormwater (DMP #35 & creek improvements next to Veramendi), Water (per master plan) and Wastewater improvements along Belvin & S. Bishop to improve Stormwater issues downstream along San Antonio Street. Includes a sidewalk and full depth construction.

Department Responsible for project:

Estimated Project Cost: 11350000

Strategic Initiative: Stormwater, Multi-Modal Transportation

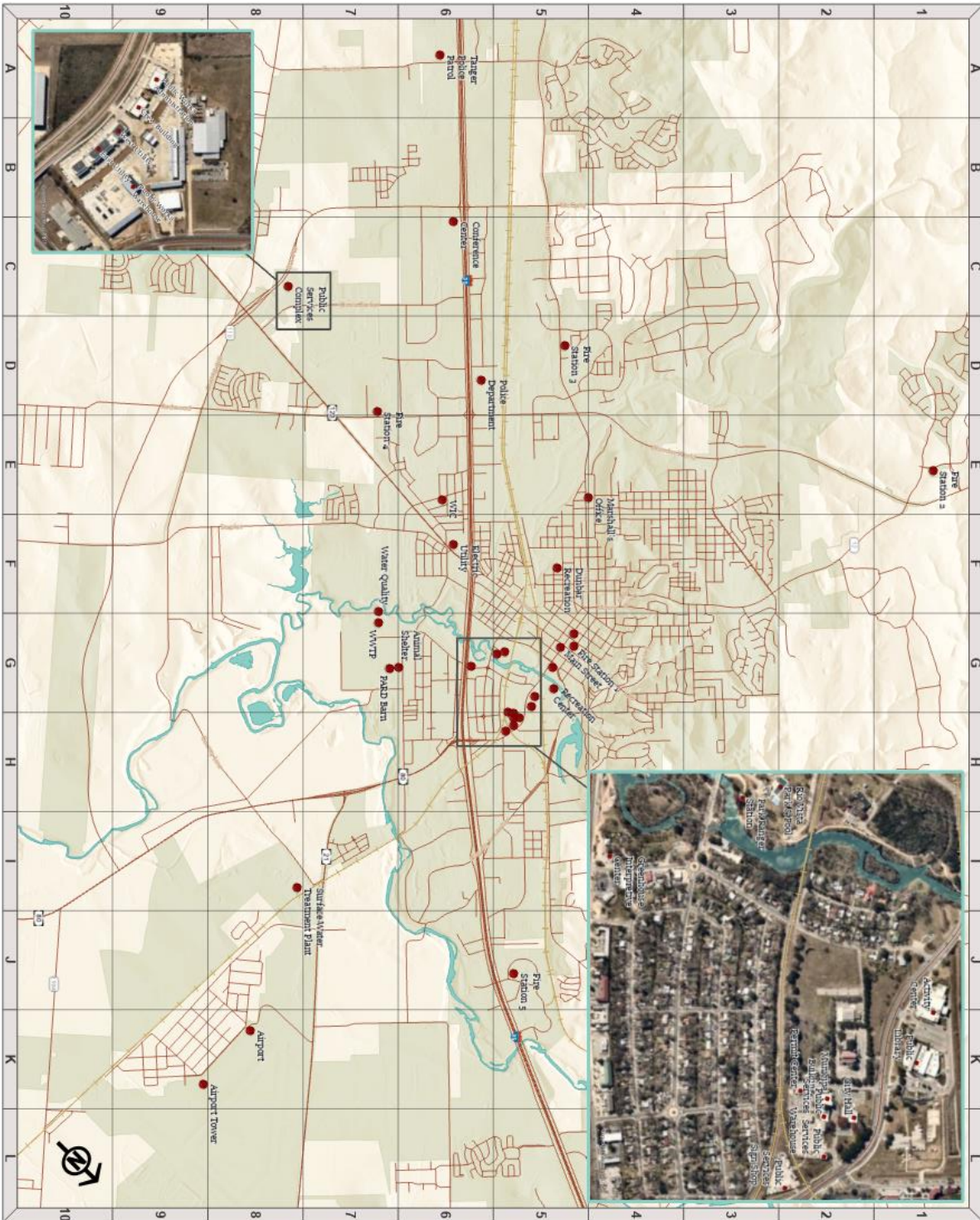
Year	Funds	General TIRZ	Water	Wastewater	Stormwater	Electric	Total For FY
2019	\$200,000.00		\$20,000.00	\$40,000.00	\$420,000.00		\$680,000.00
2020						\$400,000.00	\$400,000.00
2022	\$50,000.00				\$200,000.00		\$250,000.00



Project Prioritization Rank

Federal/State Mandate:	<input type="text" value="None"/>
External Funding:	<input type="text" value="No"/>
Public Health & Safety:	<input type="text" value="No Risk"/>
Project Underway/Prev. Approved:	<input type="text" value="Yes"/>
Multi Fund:	<input type="text" value="Yes with General"/>
Operational Necessity:	<input type="text" value="Need in 0-5yrs"/>
Total Rank:	<input type="text" value="40"/>

5. Below is the updated IT facilities map that is still in the final drafting stage.



City Facilities

NAME	ADDRESS	GRID
Activity Center	501 E Hopkins St	K7
Airport	1807 Airport Dr	P12
Airport Tower		Q13
Animal Shelter	750 River Rd	K10
City Hall	630 E Hopkins St	L8
Conference Center	300 S IH 35	E8
Downtown Police Patrol	124 W Hopkins St	K7
Dunbar Recreation	801 MLX Dr	L7
Electric Utility	1040 Hwy 123	J8
Fire Station 1	114 E Hutchinson St	K7
Fire Station 2	205 Flint Ridge Rd	I2
Fire Station 3	4420 Hunter Rd	G7
Fire Station 4	1404 Wonder World Dr	H9
Fire Station 5	100 Carlen Cir	P8
Fire Station 6	5716 S Old Bastrop Hwy	A9
Grant Harris - Parks & Recreation	401 E Hopkins St	K7
Greenhouse Interpretive Center	430 Riverside Dr	K8
Main Street	202 E Hopkins St	K7
Marshall's Office	1402 W Hopkins	L7
Municipal Building	630 E Hopkins St	L8
PAHD Barn	750 River Rd	K9
Park Ranger Station	555 Cheatham St	K8
Permit Center	630 E Hopkins St	L8
Police Department	2300 S IH 35	G8
Public Library	624 E Hopkins St	L7
Public Services	620 E Hopkins St	L8
Public Services Complex	2207 E McCarty	C8
Public Services Sign Shop	630 E Hopkins St	L8
Public Services Warehouse	630 E Hopkins St	L8
Recreation Center	170 Charles Austin Dr	L7
Rio Vista Park and Pool	205 CM Allen Pkwy	K8
Surface Water Treatment Plant	91 Old Bastrop Hwy	N11
Tanager Police Patrol	4015 S IH 35	C9
Water Quality	720 River Rd	K9
WWTP	401-C Broadway St	I9
WTC - Cibola	641 N Walnut Ave	-
WTC - Kyle	150 W Lockhart St	-
WTC - Lockhart	901 Bois Drive St	-
WTC - New Braunfels	641 N Walnut Ave	-
WTC - Seguin	550 N Hwy 123 Bypass	-
WWTP	720 River Rd	K9

- City Buildings
- Railroads
- Roads
- County Boundaries
- City Limits



SAMPLE