



CAPITAL IMPROVEMENT ADVISORY COMMITTEE MEETING AGENDA

Municipal Complex, 516 Ranch House Rd, Willow Park, TX 76087

Tuesday, August 16, 2022 at 6:00 PM

CALL TO ORDER

DETERMINATION OF QUORUM

ITEMS TO BE CONSIDERED AND ACTED UPON:

1. Consider and act on the Capital Improvements Plan (CIP) Plan, Land Use Assumptions, and the Water and Wastewater Impact Fees.

ADJOURNMENT

As authorized by Section 551.127, of the Texas Government Code, one or more Council Members or employees may attend this meeting remotely using video conferencing technology.

CERTIFICATION I, the undersigned authority, does hereby certify that this Notice of a Meeting was posted on the bulletin board at City Hall, 516 Ranch House Road, a place convenient and readily accessible to the general public at all times, and said Notice was posted on/before the following date and time: August 12, 2055, at 5:00 p.m. and remained so posted continuously for at least 72 hours before said meeting is to convene.

Toni Fisher

Planning and Development Director

The City Hall is wheelchair accessible and accessible parking spaces are available. Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, or large print, are requested to contact the City Secretary's Office at 817-441-7108, or by email at cdozier@willowpark.org. Requests should be made at least 48 hours prior to the meeting. This agenda is posted on the city's web site at www.willowpark.org



CAPITAL IMPROVEMENTS ADVISORY COMMITTEE

AGENDA ITEM STAFF REPORT

Meeting Date: July 19, 2022	Department: Planning & Development And Administration	Presented By: Bryan Grimes Bill Funderburk Betty Chew
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AGENDA ITEM:

Consideration and Action: City of Willow Park Capital Improvements Plan (CIP), Land Use Assumptions, and Water and Wastewater Impact Fees.

BACKGROUND:

The Planning & Zoning Commission and an E.T.J. Representative have been appointed by the City Council to serve as the “Capital Improvements Advisory Committee”. Its purpose is to advise the City Council on matters related to the Water and Wastewater Impact Fees and, at this time, assist in adopting the Land Use Assumptions, Capital Improvements Plan, and proposed Impact Fees.

Land Use Assumptions (LUA) are a description of the Service Area and projections of changes in land use, densities, and population in the Service Area over at least a 10-year period.

The Capital Improvements Plan (CIP) is based on the projections contained in the Land Use Assumptions. The CIP details the capital improvements that will be made over the term of the plan. The CIP and LUA form the basis for calculating allowable impact fees.

Impact Fees are charges and/or assessments imposed by a political subdivision on new development to generate revenue for funding or recouping the costs of capital improvements or facility expansion necessitated by and attributable to new development. An impact fee allows a city to recoup, from property developers, some of the costs new development places on city infrastructure. Tex. Loc. Gov’t. Code 395.004(4). Impact Fees may only be used to pay certain costs for: 1) Constructing capital improvements on facility expansions for water supply, treatment, and distribution facilities; 2) Wastewater collection and treatment facilities; 3) Stormwater drainage; and 4) Roadways. Tex. Loc. Gov’t. Code 395.001(1). The CIP Committee will also review the proposed Impact Fees and file comments with the Council.

Derek Turner, City Engineer, will present the Committee with the Willow Park Capital Improvements Plan, discuss the Land Use Assumptions, and proposed water and wastewater Impact Fees.

A public hearing on this matter is scheduled to be held at the City Council Meeting on September 13, 2022.

STAFF/BOARD/COMMISSION RECOMMENDATION:

N/A.

EXHIBITS:

- Resolution 2022-01
- Capital Improvement Plan
- Land Use Assumptions
- Water and Wastewater Impact Fees

RESOLUTION NO. 2022-01

A RESOLUTION OF THE CITY OF WILLOW PARK, TEXAS, CREATING THE CAPITAL IMPROVEMENT ADVISORY COMMITTEE AND APPOINTING ITS MEMBERS, ESTABLISHING AND ADOPTING THE PROCEDURAL RULES FOR AND DUTIES ASSOCIATED THEREWITH IN ACCORDANCE WITH CHAPTER 395 OF THE TEXAS LOCAL GOVERNMENT CODE REGARDING WATER AND WASTEWATER IMPACT FEES; MAKING VARIOUS FINDINGS AND PROVISIONS RELATED TO THE SUBJECT OF WATER AND WASTEWATER IMPACT FEES; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Texas Local Government Code Chapter 395 (the "Impact Fee Statute") authorizes political subdivisions, including the City of Willow Park, Texas ("City"), to enact and impose impact fees on land within their corporate boundaries or extraterritorial jurisdictions to finance capital improvements associated with new development; and

WHEREAS, the Impact Fee Statute prescribes a process and methodology by which the City must conduct public hearings concerning the consideration, approval and updating of the Land Use Assumptions ("LUAs") and Capital Improvement Plan ("CIP"), the adoption or modification of impact fees, and the ongoing periodic review and reporting requirements associated with the impact fees once adopted; and

WHEREAS, the Impact Fee Statute requires the City's governing body (the "City Council") to appoint a Capital Improvement Advisory Committee (the "Committee") to advise the City Council on certain matters related to the impact fee consideration and adoption procedures required by the Impact Fee Statute; and

WHEREAS, the Impact Fee Statute also requires the City Council to adopt procedural rules for the Committee to follow in the execution of its duties; and

WHEREAS, the City Council deems it to be in the public's best interest to create the Capital Improvement Advisory Committee in conjunction with the City's consideration of impact fees to finance capital improvements for water and wastewater facilities associated with new development in the City.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WILLOW PARK, TEXAS:

Section 1. Findings.

The findings and recitations set out in the preamble to this Resolution are found to be true and correct and are hereby adopted by the City Council and made a part hereof for all purposes.

Section 2. Capital Improvement Advisory Committee

The City Council hereby establishes the Capital Improvement Advisory Committee as follows:

- a. *Establishment.* The City of Willow Park Capital Improvement Advisory Committee ("Committee") is an advisory board whose purpose shall be to advise and make recommendations to the City Council regarding the study, consideration, development, adoption and/or modification of impact fees pursuant to the Impact Fee Statute.
- b. *Membership, Compliance & Appointment.*
 - i. The City Council hereby appoints the City's Planning and Zoning Commission to serve as the Committee, to wit: Jared Fowler, Rodney Wilkins, Billy Weikert, Sharon Brutron, and Scott Smith. The City Council also hereby appoints the following person to the Committee who resides in the extraterritorial jurisdiction of the City since the impact fees apply to the extraterritorial jurisdiction: Randy L. Pack.
 - ii. The City Council finds that one member of the City's Planning and Zoning Commission is from the real estate, development or building industry and further finds that this member is not either an employee or official who serves a political subdivision or governmental entity.
 - iii. The City Council reserves the right to appoint additional members to the Committee if required to replace a member due to a resignation or for any other purpose as may be required to comply with the Impact Fee Statute.
- c. *Committee Functions and Duties.*
 - i. The Committee shall serve in an advisory capacity;
 - ii. The Committee shall advise and assist the City in adopting LUAs;
 - iii. The Committee shall review the CIP and file written comments for the benefit of the City Council;
 - iv. The Committee shall monitor and evaluate the implementation of the CIP;
 - v. The Committee shall file semi-annual reports with

respect to the progress of the CIP and report to the City Council any inequities, actual or perceived, in implementing the CIP or imposing the impact fees;

- vii. The Committee shall advise the City Council of the need to update or revise the LUAs, CIP, or impact fees; and
- viii. The Committee shall fulfill any other duties or obligations that may be required of it in accordance with the Impact Fee Statute.

d. *Committee Conduct.*

- i. The Committee shall appoint one member as its Chairperson and one member as its Vice-Chairperson at its first meeting following the approval this Resolution.
 - ii. The Chairperson shall preside over all meetings of the Committee and in the absence of the Chairperson, the Vice-Chairperson shall preside.
 - iii. The Committee shall appoint a Secretary who shall be responsible for recording the minutes of the Committee's meetings and posting notice of meetings in accordance with City ordinances and state law.
 - iv. The Committee shall conduct Committee business only when a quorum of members is present. A quorum is defined as a majority of the membership of the Committee. A majority vote of the quorum shall be required for any action to be taken by the Committee. The Committee shall follow the Texas Open Meetings Act.
 - v. The Committee shall meet at sufficient intervals so as to fulfill its functions and duties in a reasonably timely manner.
 - vi. The Committee shall meet as directed by the City Council to conduct business.
 - vii. The Chairperson or any two (2) Committee members may call a meeting as necessary to conduct business. Meetings shall be held at Willow Park City Hall.
 - viii. The Committee shall provide Committee Reports to the City Council that include comments and recommendations regarding the LUAs, CIP and impact fees.
- e. *Committee Reports.* The Committee shall provide Committee Reports to the City Council that include comments and recommendations regarding the LUA's, CIP and impact fees, which shall be submitted as follows:
- i. Before the fifth (5th) business day before the date of

- the public hearing on the proposed LUA'S and CIP;
- ii. Before the fifth (5th) business day before the date of the public hearing on the proposed impact fees;
- iii. Before the fifth (5th) business day before the date of the public hearing on any proposed amendments to the LUA's, CIP and impact fees; and
- iv. At any other such time as the Committee or City Council shall deem appropriate or necessary.

Section 3. Supporting Reports and Studies

The City Council and City Staff shall make available to the Committee any professional reports regarding the development or implementation of land use assumptions, capital improvement plans, utility financial analyses, or any other information that may be available and relevant to the study, consideration, development and adoption of impact fees pursuant to the Impact Fee Statute.

Section 4. Severability Clause

In the event any clause, phrase, provision, sentence or part of this Resolution or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Resolution as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Willow Park, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any part thus declared to be invalid or unconstitutional.

Section 5. Effective Date.


This Resolution shall be effective upon its passage and approval by City Council.

PASSED, APPROVED, and ADOPTED this 25th day of January, 2022.

CITY OF WILLOW PARK, TEXAS



Doyle Moss, Mayor

ATTEST:


Crystal Dozier, City Secretary
City of Willow Park

DRAFT

Item 1.



2022
WATER & WASTEWATER
IMPACT FEE STUDY
CITY OF WILLOW PARK, TEXAS

JULY 2022

Prepared by:



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- Appendix B – Existing Approved Land Use Plan
- Appendix C - Future Land Use Plan
- Appendix D – Water and Wastewater Impact Fee Comparisons



Acknowledgements

This impact fee study would not have been possible without assistance from several key City staff members. Providing us with input and information, they have expended considerable time and effort. These staff members included Bryan Grimes, Bill Funderburk, Candy Scott, Crystal Dozier, Toni Fisher, Michelle Guelker, and others as well as the City's development consultant, Betty Chew, and accountant, Jake Weber. Sincere thanks to these individuals for their hard work, dedication and professionalism, without whom this study would not have been successfully completed.

Jacob and Martin has relied upon the extensive data supplied by the City. Thus, the integrity of the study is largely dependent upon the accuracy of this data. Every effort has been made by Jacob and Martin to validate and confirm the information contained herein prior to the preparation of the final study documents. This report presents no assurance or guarantee that the forecast contained herein will be consistent with actual results or performances. These represent forecasts based on a series of assumptions about future behavior, and are not guarantees. Any changes in assumptions or actual events may result in significant revisions to the forecast and its conclusions. The cash flow projections and debt service coverage calculations are not intended to present overall financial positions, results of operations, and/or cash flows for the periods indicated, which is in conformity with guidelines for presentation of a forecast established by the American Institute of Certified Public Accountants.

Section 1

Executive Summary

1.1. General Background

Chapter 395 of the Texas Local Government Code describes the procedures the State of Texas has put into place for Texas cities to follow in the creation and implementation of municipal impact fees. Impact fees have been most recently defined by Chapter 395 as amended by Senate Bill 243 (SB 243), as “a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated and attributable to the new development.”

Chapter 395 rules mandate that an impact fee analysis is required before impact fees may be set. These rules also require that the analysis be updated, at a minimum, every five (5) years with respect to land use assumptions and capital improvement plans. A copy of these state municipal code rules regarding impact fees is in Appendix A of this study.

In March of 2022, the City of Willow Park authorized Jacob and Martin, LLC to create an Impact Fee Analysis on the City’s water and wastewater systems for the creation and implementation of utility impact fees. In addition, a review of Willow Park’s Land Use Assumptions and Capital Improvements Plan were performed. The Land Use Assumptions and Capital Improvements Plan form the basis for the development of the Impact Fee calculations in regard to required improvements to meet projected population growth, and the estimated costs of these improvements.

The impact fee analysis involves determining the utilization of existing and proposed projects, as defined by the Capital Improvement Plan, required to serve new development over the next 10-year period. Once the utilization of a project by 2022-2032 development is determined, a portion of a project’s cost can be assigned as impact fees.

The City of Willow Park has previously implemented impact fees prior to this study and therefore, this study is intended to update the current fees. The purpose of this study is to explain the methodology used to analyze and determine the water and wastewater impact fees for the City of Willow Park. All requirements of the Texas Local Government Code Section 395, for the establishment of water and wastewater impact fees, have been satisfied by this study.

The statutory authority for impact fees was established by the Texas Legislature in 1987. These state laws provide for the means to allow municipalities to lessen the impact that growth has on their existing systems and to allow a viable way to place some of the burden of this growth on future new development.

The following is a summary of the key regulations and components of a municipal impact fee system, under the current Chapter 395 regulations.

- The time period that the impact fee and land use assumptions must be updated is a minimum of 5 years.
- The impact fee must be based on capital improvements necessary for growth during a specific time period; typically, no longer than 10 years.
- A public hearing is required to discuss any changes to the land use assumptions and capital improvements plan for cities with an existing, utility impact fees, or for approval of a new utility impact fee.
- A 50% credit is applied to the total cost of growth per service unit during the 10-year time period to account for revenue generated by water sales for the service provider. The 50% credit is the maximum allowable fee that can be collected from new development unless the water service provider performs a credit analysis to determine if a higher than 50% credit is applicable.

Impact fees can be used to pay for:

- Construction contract price.
- Surveying and Engineering fees
- Land and easement acquisition costs.
- Fees paid to the consultant preparing or updating the capital improvements plan.
- Projected interest charges and other finance costs for facilities expansions identified in the capital improvements plan.

Impact fees cannot be used to pay for:

- Construction, acquisition, or expansion of public facilities or assets other than those identified on the capital improvements plan.
- Repair, operation, or maintenance of existing or new capital improvements.
- Upgrading, updating, expanding, or replacing existing capital improvements to serve existing development in order to meet stricter safety, efficiency, environmental, or regulatory standards.
- Upgrading, updating, expanding, or replacing existing capital improvements to provide better service to existing development.
- Administrative and operating costs of the political subdivision.
- Principal payments and interest or other finance charges on bonds or other indebtedness, except as allowed above.

For existing or proposed projects, the impact fee is calculated as a percentage of the project cost, based upon the percentage of the project's capacity needed to serve development projected to occur between 2022 and 2032. Costs associated with capacity to serve existing development and

development projected for more than 10 years in the future are not included in the impact fee calculation.

Chapter 395 of the Texas Local Government Code states that the maximum impact fee may not exceed the eligible capital improvement costs divided by the total number of service units attributed to new development during the Impact Fee eligibility period less a credit to account for water and wastewater revenues and property taxes used to finance capital improvement plans. The recommended 50% credit has been assumed in this study.

Section 2

Land Use Assumptions

2.1 Purpose

Population and employment projections are an important factor in the analysis of water and wastewater systems. Water demands and wastewater flows depend on the number of connections in a system, which are usually dictated by the size of the residential population and commercial development being served by the system. The nature of these demands and flows in turn determine the sizing and location of system infrastructure. To assist the City of Willow Park in determining the need and timing of capital improvements to serve future development, a reasonable estimation of future growth, both for population and for land use, is required.

For the purposes of determining an impact fee structure, growth and development projections were formulated based on assumptions pertaining to the type, location, quantity, and timing of various future land uses in the community. The purpose of this section of the study is to establish and document the methodology used for preparing the growth and land use assumptions for the City of Willow Park. These land use assumptions, which include population projections, will become the basis for the preparation of impact fees for the water and wastewater capital improvement plans for the City of Willow Park.

2.2 Elements of the Land Use Assumptions

This section contains:

- A. Explanation of the general methodology used to prepare the land use assumptions.
- B. Historical data analysis.
- C. Base year data – Information on population and land use for the City of Willow Park from the City’s 2022 Capital Improvement Plan.
- D. Future 10-year data – Information on population and land use for the City of Willow Park in the year 2032 based on projections from the City’s 2022 Capital Improvement Plan.
- E. Land use maps – Existing and future land use maps for the City of Willow Park from the City’s 2022 Capital Improvement Plan.

2.3 Methodology

The land use assumptions and future growth projections take into account several factors influencing development patterns, including:

- Type, density, and quantity of existing development
- Existing zoning patterns

- Current growth trends
- Location and configuration of vacant land
- Availability of land for residential growth

The data to compile these land use assumptions was obtained from the City of Willow Park. The 10-year growth projections were calculated based upon reasonable growth rates using past absorption rates and development proposals known or approved by the City. Using the growth assumptions and capital improvements needed to support growth, it is possible to develop an impact fee structure that fairly allocates improvement costs to growth areas in relationship to their impact on the entire infrastructure system.

2.4 Base Data (Year 2022)

In any evaluation and projection of future land use patterns, a documentation of existing conditions is essential. Descriptions of residential and nonresidential land use patterns provide a ratio for residential and nonresidential development. This information will serve as a basis for future growth. Existing land use patterns and population for the City of Willow Park were provided by the City staff, as well as the 2017 Comprehensive Plan published by Public Management and the 2022 Capital Improvement Plan.

Appendix B contains the existing land use plan for the City of Willow Park. The table below represents a summary of existing land use and population assumptions for the City.

Table 2.1 - 2022 Land Use and Population Data

Land Use	Within City Limits	
	Acreage	Population
Residential	2,053	6,330
Non-Residential	763	-

2.5 Growth Assumptions

Growth was characterized, based on population. A series of assumptions were made to arrive at a reasonable growth rate. The following assumptions have been made as a basis from which a 10-year projection can be made.

- A. Future land uses were developed by reviewing historical and current development patterns and input from the City of Willow Park staff on new and proposed developments.
- B. Land use assumptions are based on the adopted zoning regulations and current market trends. The land use assumptions were reviewed by Jacob and Martin and the City.

2.6 Population Projections

Existing and projected population estimates are based on data provided by the City of Willow Park and found in the City’s 2022 Capital Improvement Plan. A series of assumptions were made to arrive at reasonable growth rates for population and employment, based on historical data and projections contained in the Capital Improvement Plan. An important feature of any impact fee study is a knowledge of existing and projected populations within the impact fee service area for the specified utility. The 10-year projections are based on 2.9% annual growth from the Capital Improvement Plan. The historical populations for water and sewer populations are used to calculate historical trends for growth and per capita demand. Table 2.2 below contains the historical population estimates for the water and wastewater service areas.

Year	City Population
2019	6,075
2020	6,086
2021	6,208
2022	6,330

The service area for the water and wastewater impact fees is defined generally by Willow Park’s ETJ, although the wastewater is currently confined to the City’s city limit boundary. Estimated existing and projected populations within the City Limits were determined.

Projected water and wastewater service area populations are based on data and projections developed in the City’s 2022 Capital Improvement Plan. Population projections for the water and wastewater service areas are summarized in Table 2.3.



Table 2.3 - Water and Wastewater Service Area Population Projections

Year	Water Population	Wastewater Population
2022	6,330	2,446
2032	8,173	3,392

2.7 10-Year Projections (Year 2032)

The projected 10-year population was developed using the Population Projections provided in the 2022 Willow Park Capital Improvement Plan. Land use acreages are also based on projected land use designations contained within the 2022 Capital Improvement Plan, with residential acreage scaled based on 2032 population projections to account for the expected difference in development between 2032 and 2050. The 2022 Capital Improvement Plan’s projected land use assumes large-scale development throughout the ETJ by the year 2050. The land use and population projections for the year 2032 are shown in Table 2.5, and were based on the following criteria:

- Future land use is expected to occur as identified on the Future Land Use Plan, as shown in Appendix C.
- The City will be able to finance the necessary improvements to accommodate growth.
- Population densities will be similar to existing development.

Table 2.5 - 2032 Land Use Assumptions and Population Data

Land Use	Acreage	Population
Residential	3,247	8,173
Non-Residential	979	-

2.7 Summary

The following is a bulleted summary of the land use assumptions for this study:

- The 2022 population of the Willow Park total planning area was 6,330.
- The 2022 existing non-residential (excluding agricultural) acreage was 763.
- The 2032 population projection for the Willow Park total planning area is 8,173.
- The projected 2032 non-residential (excluding agricultural) acreage is 979.
- Buildout will occur by the year 2050.

Section 3

Water and Wastewater Impact Fee Analysis



3.1 Water and Wastewater Impact Fee Methodology

As cities experience a growth in development, the additional demands will place an additional demand on the entirety of an infrastructure system. In order to maintain a viable system, various elements throughout a system may need to be upsized and improved in order to handle increased demands. Water and wastewater impact fees are based on the capital costs a city incurs to provide the water distribution system and wastewater collection system to new development in the next ten (10) years and the service units added during that same time period. The impact fee analysis for the water and wastewater systems is based on existing and future capital improvements plans already budgeted for, as well as proposed capital improvement plans developed in this report.

3.2 Populations

The City of Willow Park’s total population in 2022 is estimated to be 6,330 within the service area. The wastewater service population must be prorated based on meter connections since the current wastewater service does not serve everyone in the city limits or in the ETJ. Tables 2.2 and 2.3 in Section 2.4 – *Population Projections* above summarize estimated historical and projected populations for water and wastewater service areas.

The City population in 2032 is projected to be 8,173, which will be considered the water service area. The wastewater service area population, based on meter count, is estimated to be 3,392 by the year 2032. These water system and wastewater system populations were used to establish water demands and wastewater flows, which are used to size proposed water and wastewater system improvements.

3.3 Historical Water Data

Historical water data is used to determine existing demand per capita characteristics. Water usage records were analyzed from monthly utility reports. The information provided data consisting of total daily and monthly demands for the past four years. This data was used to calculate annual average day demand, and the peaking factors shown below. These factors are derived from the ratio of maximum day demand to average day demand. Per capita consumption was also reported in this table.

As previously mentioned, the water service population is the estimated population within the City of Willow Park’s ETJ. These population values will be different than the data used in the historical wastewater service population and usage calculations, since the wastewater service population is assumed to be the population within the City Limits only. Table 3.1 below summarizes the system-wide historical water usage.

Table 3.1 - Historical Water Service Population and Usage

	A	B	C	D	D/C	C/A	D/A
Year	Water Service Population	Total Water Use (MG)	Ave Day Demand (GPD)	Max Day Demand (GPD)	MD:AD Peaking Factor	Ave Daily Per Capita Consumption (GPCD)	Max Daily Per Capita Consumption (GPCD)
2018	5,842	232.5	636,862	1,166,495	1.83	109.0	199.7
2019	5,964	263.39	721,625	1,414,135	1.96	121.0	237.1
2020	6,086	279.74	770,000	1,380,000	1.79	126.5	226.8
2021	6,208	268.10	740,000	1,420,000	1.92	119.2	228.7
Average	6,025	260.93	717,122	1,345,158	1.88	118.9	223.1

3.4 Historical Wastewater Data

The historical wastewater flow from 2022-2032 was reviewed and analyzed using treated wastewater outflow data provided by the City. The variance in volume between outflow and inflow values was assumed to be negligible. Maximum day demand was calculated using peak wastewater flow and service population estimates.

The wastewater service population is the estimated population utilizing the sewer system. These population values are different than the data used in the historical water service population and usage calculations. Table 3.2 on the following page summarizes the historical flows as well as the average annual per capita flow.

Table 3.2 - Historical Wastewater Service Population and Flows



	A	B	C	C x D	D	C/A	D/A
Year	Wastewater Service Population	Total Wastewater Flow (MG)	Average Wastewater Flow (GPD)	Peak Wastewater Flow (GPD)	PF:AF Peaking Factor	Average Day Per Capita Load (GPCD)	Max Day Per Capita Load (GPCD)
2018	2,130	86.2	236,080	807,646	3.4	110.8	379.2
2019	2,195	86.9	238,122	664,010	2.8	108.5	302.5
2020	2,187	97.0	265,810	708,001	2.7	121.5	323.7
2021	2,349	105.1	287,946	821,041	2.9	122.6	349.5
Average	2,215	93.8	256,990	750,175	3.0	115.9	338.7

3.5 Water Demands

The water system population data was used to develop future water demands, based on a projected average day per capita usage and peaking factors. The average day and maximum day water demands for 2022 and 2032 were taken from the City’s capital improvement plan. The data describing historical water demands is summarized in Table 3.1. The future average daily demand was estimated using average historical daily per capita consumption and projected 2032 population values. The average daily peaking factor of 2.5 was used to estimate the future maximum day demand from average day demand. A peaking factor of 2.5, a conservative estimate of peak demands, was assumed to estimate peak hour demand from maximum day demand. Current and projected water demands for the City of Willow Park are shown in Table 3.3.

Table 3.3 - Projected Water Demands

Year	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Peak Hour Demand (MGD)
2022	0.75	1.43	3.58
2032	1.12	2.65	6.63

The average day demands, shown above, were calculated using:

- Projections from the City’s 2022 CIP.
- The average recorded average daily usage from 2018-2022.



The maximum daily demands, shown above, were calculated using:

- Projections from the City’s 2022 CIP.
- The average of the historical peaking factors.
-

3.6 Wastewater Demands

Population data and projected average daily flow per capita use were used to develop future wastewater flows using historical wastewater treatment plant information provided by the City. Average annual and peak wet weather flows for 2022 and 2032 were taken from the City’s 2022 Capital Improvement Plan. A peaking factor of 3.0 was used to estimate peak wet weather flow from average annual daily flow. Current and projected average and peak wastewater flows for the City of Willow Park are shown in Table 3.4.

Table 3.4 - Projected Wastewater Flows

Year	Average Annual Daily Flow (MGD)	Peak Wet Weather Flow (MGD)
2022	0.295	0.885
2032	0.405	1.215

The average annual daily flows, shown above, were calculated using:

- Projections from the City’s 2022 CIP.
- The 2032 estimated City population.

3.7 Water Capital Improvements

Proposed water system projects were developed as part of the City’s 2022 Capital Improvement Plan. A summary of the costs for each of the projects, required for the 10-year growth period used in the impact fee analysis for the water system are shown in Table 3.5.

The 2022 percent utilization used in Table 3.5, is relative to the number of customers utilizing the improvement and population as well as the location in the system. The 2032 percent utilization used in Table 3.5, is relative to the 10-year population and future number of customers utilizing the improvement and location in the system. The growth rate for the 2022-2032 time period is impact eligible through growth for new lines. The cost per linear foot information that was provided in the

cost allocation tables was developed using current project pricing for the North Central Texas area. In addition to the base cost information, 20% was added for contingencies, and 25% was added for engineering, surveying and construction inspection fees.

The 2022 percent utilization is the portion of a project's capacity required to serve existing development, which is not included in the impact fee. The 2032 percent utilization is the portion of the project's capacity projected to be required to serve the City of Willow Park in 2032. The 2022-2032 percent utilization is the portion of the project's capacity required to serve new development expected to occur between 2022 and 2032. The portion of a project's total cost that is used to serve development projected to occur between 2022 and 2032 is calculated using the total estimated cost multiplied by the 2022 to 2032 percent utilization. Only this portion of the cost is used in the impact fee analysis. The 10-year water capital improvements are shown in Appendix D.



Table 3.5: Cost Allocation for Proposed Capital Improvements

CIP #	Project	Location	Cost	Percent Utilization			Impact Fee Eligible
				2022	2032	2022-2032	
1	El Chico to Fox Hunt Transmission Line	El Chico/Fox Hunt	\$ 2,500,000.00	0%	50%	50%	\$ 1,250,000.00
2	Disinfection Improvements	All Well Sites	\$ 100,000.00	0%	100%	100%	\$ 100,000.00
3	Emergency Generators	All Well Sites	\$ 500,000.00	0%	100%	100%	\$ 500,000.00
4	Willow Springs Oaks Interconnect	IH20 & Crown Pointe Blvd	\$ 50,000.00	0%	25%	25%	\$ 12,500.00
5	New 0.5 MG Elevated Tank	Fox Hunt	\$ 2,500,000.00	33%	50%	17%	\$ 425,000.00
6	Replace Deteriorated Lines	City Wide	\$ 2,000,000.00	25%	25%	0%	\$ -
7	Bankhead 8" Water Line	Bankhead South of IH20	\$ 600,000.00	0%	35%	35%	\$ 210,000.00
8	Crown Road 12" Loop	Crown Road	\$ 1,750,000.00	0%	50%	50%	\$ 875,000.00
9	Bay Hill Loop	Bay Hill	\$ 500,000.00	0%	15%	15%	\$ 75,000.00
10	New 0.5 MG Elevated Tank	South of IH 20	\$ 3,250,000.00	0%	50%	50%	\$ 1,625,000.00
11	Fire Hydrant Additions	City Wide	\$ 100,000.00	0%	75%	75%	\$ 75,000.00
12	Russell Road Water Line	Russell Road	\$ 600,000.00	0%	15%	15%	\$ 90,000.00
13	Upsize Lines	City Wide	\$ 1,500,000.00	85%	95%	10%	\$ 150,000.00
14	Fee Studies		\$ 35,000.00	0%	100%	100%	\$ 35,000.00
			\$ 15,985,000.00				46% \$ 5,422,500.00



3.8 Wastewater Capital Improvements

Proposed wastewater system projects were also developed as part of the City's 2022 Capital Improvements Plan. These projects, less the ones that have been completed, along with new future projects, have been tabulated. A summary of the costs for each of the projects, required for the 10-year growth period used in the impact fee analysis for the wastewater system, are shown in Table 3.6.

The 2022 percent utilization, used in Table 3.6, is relative to the existing line diameter and population. The 2032 percent utilization, used in Table 3.6, is relative to the 10-year population and future line diameter. The growth rate, for the 2022-2032 time period, is impact eligible through growth for new lines. The cost per linear foot information provided in the cost allocation tables was developed using current project pricing for the North Central Texas area. In addition to the base cost information, 20% was added for contingencies, and 25% was added for engineering, surveying and construction inspection fees.

The 2022 percent utilization is the portion of a project's capacity required to serve existing development, which is not included in the impact fee analysis. The 2032 percent utilization is the portion of the project's capacity that will be required to serve the City of Willow Park in 2032. The 2022-2032 percent utilization is the portion of the project's capacity required to serve new development from 2022 to 2032. The portion of a project's total cost that is used to serve development projected to occur from 2022 through 2032 is calculated as the total actual cost multiplied by the 2022 to 2032 percent utilization. Only this portion of the cost is used in the impact fee analysis.

A map of the proposed 10-year wastewater system capital improvement projects can be found in Appendix E.

Table 5: Cost Allocation for Proposed Capital Improvements

CIP #	Project	Location	Cost	Percent Utilization			Impact Fee Eligible
				2022	2032	2022-2032	
1	New WWTP	Site	\$ 14,130,000.00	75%	95%	20%	\$ 2,826,000.00
2	South of IH20 Sewer Transmission	South of IH 20	\$ 1,500,000.00	0%	25%	25%	\$ 375,000.00
3	Line Testing	City Wide	\$ 150,000.00	0%	100%	100%	\$ 150,000.00
4	Lift Station Improvements	All Lift Stations	\$ 75,000.00	0%	50%	50%	\$ 37,500.00
5	Replace Deteriorated Lines	City Wide	\$ 550,000.00	75%	85%	10%	\$ 55,000.00
6	Fee Studies		\$ 35,000.00	0%	100%	100%	\$ 35,000.00
			\$ 16,440,000.00				51% \$ 3,478,500.00

3.9 Water and Wastewater Service Units

For the purposes of the water impact fee analysis, a water service account is defined as a service equivalent to a water connection for a single-family residence. The City of Willow Park does not directly meter wastewater flows. Instead, bills for wastewater services are based on the customer's water consumption. For the purposes of the impact fee analysis, a wastewater service account is defined as the wastewater service provided to a customer with a water connection for a single-family residence.

The service associated with public, commercial, and industrial connections is converted into service accounts based upon the capacity of the meter used to provide service. The number of service accounts required to represent each meter size is based on the maximum rated capacity of the meters as shown in American Water Works Association's *Manual 6: Water Meters -- Selection, Installation, Testing, and Maintenance*.

Table 3.7 - Service Account Equivalency Table

Meter Size	Maximum Flow (GPM)	Service Account Equivalents
5/8"	20	1
3/4"	30	1.5
1"	50	2.5
1.5"	100	5.0
2"	160	8.0
3"	350	15
4"	600	25
6"	1,000	50

3.10 Projected Water and Wastewater Growth

The maximum impact fee may not exceed the amount determined by dividing the cost of capital improvements required by the total number of service accounts attributed to new development during the impact fee eligibility period. This service unit growth for water and wastewater is estimated in the tables below. Table 3.8 shows the projected growth in water service units due to population growth.



Table 3.8 - Projected Water Service Units for 2022-2032

Meter Size	Meter Capacity (GPM)	Service Unit Equivalents	2022		2032		Equivalent Unit Growth
			Meter Count	Equivalent Units	Est. Meter Count	Equivalent Units	
3/4"	30	1.5	2,102	3,153	2,890	4,335	1,182
1"	50	2.5	49	122	67	167	44
1.5"	100	5.0	18	90	25	125	35
2"	160	8.0	33	264	45	360	96
3"	350	15	5	75	7	105	30
4"	600	25	10	250	14	350	100
6"	1,000	50	3	150	4	200	50
Totals			2,220	3,153	3,052	5,642	1,537

Table 3.9 shows the projected growth in wastewater service units based on connection count, due to population growth.

Table 3.9 - Projected Wastewater Service Units for 2022-2032

Meter Size	Service Unit Equivalents	2022		2032		Equivalent Unit Growth
		Meter Count	Equivalent Units	Est. Meter Count	Equivalent Units	
3/4"	1.5	788	1,182	1,094	1,641	459
1"	2.5	49	122	67	167	44
1.5"	5.0	18	90	25	125	35
2"	8.0	33	264	45	360	96
3"	15	5	75	7	105	30
4"	25	10	250	14	350	100
6"	50	3	150	4	200	50
Totals		906	2,133	1,256	2,948	814

For both water and wastewater projections, the total account values are based on data provided by the City from July 2020. The 2032 equivalent meter values are based on a 10-year period of growth, based on the population projections detailed in the 2022 Capital Improvement Plan completed by Jacob & Martin.



3.11 2022-2032 Maximum Water Impact Fees

The cost of water capital improvements between 2022 and 2032 is estimated to be \$15,985,000. Of that cost, the cost of water capital improvements to serve new development projected to occur between 2022 and 2032, is \$5,422,500. Finance costs are not included as part of the cost estimates for this study. The increase in the number of equivalent water service accounts due to growth over the next ten years is projected to be 1,537. The maximum allowable water impact fee calculation is shown below:

Total Water CIP Costs	\$15,985,000
Total Eligible Water Costs	\$5,422,500
50% Water Impact Fee Credit	\$2,711,250
Growth in Water Service Units	1,537
Maximum Base Water Impact Fee With Credit	\$1,764

3.12 2022-2032 Maximum Wastewater Impact Fees

The total cost of wastewater system capital improvements between 2022 and 2032 is estimated to be \$2,739,333. Of that cost, the cost of wastewater capital improvements to serve new development, projected to occur between 2022 and 2032, is \$1,344,833. Finance costs are not included as part of the cost estimates for this study. The increase in the number of equivalent wastewater service accounts due to growth over the next ten years is projected to be 814. The maximum allowable wastewater impact fee calculation is shown below:

Total Wastewater CIP Costs	\$16,440,000
Total Eligible Wastewater Costs	\$3,478,500
50% Wastewater Impact Fee Credit	\$1,739,250
Growth in Wastewater Service Units	814
Maximum Base Wastewater Impact Fee With Credit	\$2,137

Section 5

Conclusion and Recommendations



5.1 Maximum Impact Fee Calculations

The maximum impact fee that can be levied is equal to the projected capital cost required to serve 10-year development divided by the projected 10-year growth in service accounts. The total projected costs include the projected capital improvement costs to serve the 10-year development, the projected finance costs for the capital improvements, and the consultant costs for preparing and updating the capital improvements plan.

5.1.1 Maximum Water Impact Fee

The impact fee for water service includes the following:

- Total Water Capital Improvement Costs (all costs): \$15,985,000
- Total Eligible Water Costs (new development eligible): \$5,157,500
- Total Water Impact Fee Credit (50%): \$2,578,750

The total eligible cost associated with the proposed water system improvements necessary to meet projected growth over the next ten years is \$5,157,500. The increase in the number of service units due to growth over the next ten years is projected as 1,537 water service accounts.

Maximum Water Impact Fee = (Total Eligible Costs – Credit)/(10-Year Growth in Service Accounts)
With Credit = \$5,157,500 - \$2,578,750) / (1,537 Water Service Accounts)
= \$1,764 per 5/8" Water Service Account

\$2,646 is the recommended Water Impact Fee per ¾" service unit for the City of Willow Park.



5.1.2 Maximum Wastewater Impact Fee

The impact fee for wastewater service includes the following:

- Total Wastewater Capital Improvement Costs (all costs): \$16,440,000
- Total Eligible Costs (new development eligible): \$3,478,500
- Total Wastewater Impact Fee Credit (50%): \$1,739,250

The total eligible cost associated with the proposed wastewater system improvements to meet projected growth over the next ten years is \$3,478,500. The increase in the number of service accounts due to growth over the next ten years is projected as 534 service accounts.

Max. Wastewater Impact Fee With Credit = (Total Eligible Costs – Credit)/(10-Year Growth in Accounts)

= (\$3,478,500 - \$1,739,250) / (814 Wastewater Service Accounts)

= \$2,137 per Wastewater Service Account (5/8" Water Meter)

\$3,205 is the recommended Wastewater Impact Fee per ¾" service unit for the City of Willow Park.



Appendix A

Texas Municipal Code Governing Impact Fees



State of Texas - Local Government Code

TITLE 12: Planning and development
SUBTITLE C: Planning and development provisions
CHAPTER 395: Financing capital improvements
SUBCHAPTER A - General provisions

Sec. 395.001. DEFINITIONS. In this chapter:

- (1) "Capital improvement" means any of the following facilities that have a life expectancy of three or more years and are owned and operated by or on behalf of a political subdivision:
- (A) water supply, treatment, and distribution facilities; wastewater collection and treatment facilities; and storm water, drainage, and flood control facilities; whether or not they are located within the service area; and
- (B) roadway facilities.
- (2) "Capital improvements plan" means a plan required by this chapter that identifies capital improvements or facility expansions for which impact fees may be assessed.
- (3) "Facility expansion" means the expansion of the capacity of an existing facility that serves the same function as an otherwise necessary new capital improvement, in order that the existing facility may serve new development. The term does not include the repair, maintenance, modernization, or expansion of an existing facility to better serve existing development.
- (4) "Impact fee" means a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development. The term includes amortized charges, lump-sum charges, capital recovery fees, contributions in aid of construction, and any other fee that functions as described by this definition. The term does not include:
- (A) dedication of land for public parks or payment in lieu of the dedication to serve park needs;
- (B) dedication of rights-of-way or easements or construction or dedication of on-site or off-site water distribution, wastewater collection or drainage facilities, or streets, sidewalks, or curbs if the dedication or construction is required by a valid ordinance and is necessitated by and attributable to the new development;
- (C) lot or acreage fees to be placed in trust funds for the purpose of reimbursing developers for oversizing or constructing water or sewer mains or lines; or
- (D) other pro rata fees for reimbursement of water or sewer mains or lines extended by the political subdivision.



However, an item included in the capital improvements plan may not be required to be constructed except in accordance with Section 395.019(2), and an owner may not be required to construct or dedicate facilities and to pay impact fees for those facilities.

(5) "Land use assumptions" includes a description of the service area and projections of changes in land uses, densities, intensities, and population in the service area over at least a 10-year period.

(6) "New development" means the subdivision of land; the construction, reconstruction, redevelopment, conversion, structural alteration, relocation, or enlargement of any structure; or any use or extension of the use of land; any of which increases the number of service units.

(7) "Political subdivision" means a municipality, a district or authority created under Article III, Section 52, or Article XVI, Section 59, of the Texas Constitution, or, for the purposes set forth by Section 395.079, certain counties described by that section.

(8) "Roadway facilities" means arterial or collector streets or roads that have been designated on an officially adopted roadway plan of the political subdivision, together with all necessary appurtenances. The term includes the political subdivision's share of costs for roadways and associated improvements designated on the federal or Texas highway system, including local matching funds and costs related to utility line relocation and the establishment of curbs, gutters, sidewalks, drainage appurtenances, and rights-of-way.

(9) "Service area" means the area within the corporate boundaries or extraterritorial jurisdiction, as determined under Chapter 42, of the political subdivision to be served by the capital improvements or facilities expansions specified in the capital improvements plan, except roadway facilities and storm water, drainage, and flood control facilities. The service area, for the purposes of this chapter, may include all or part of the land within the political subdivision or its extraterritorial jurisdiction, except for roadway facilities and storm water, drainage, and flood control facilities. For roadway facilities, the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six miles. For storm water, drainage, and flood control facilities, the service area may include all or part of the land within the political subdivision or its extraterritorial jurisdiction, but shall not exceed the area actually served by the storm water, drainage, and flood control facilities designated in the capital improvements plan and shall not extend across watershed boundaries.

(10) "Service unit" means a standardized measure of consumption, use, generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years.

SUBCHAPTER B - Authorization of impact fee

Sec. 395.011. AUTHORIZATION OF FEE.

(a) Unless otherwise specifically authorized by state law or this chapter, a governmental entity or political subdivision may not enact or impose an impact fee.

(b) Political subdivisions may enact or impose impact fees on land within their corporate boundaries or extraterritorial jurisdictions only by complying with this chapter, except that impact fees may not be enacted or imposed in the extraterritorial jurisdiction for roadway facilities.





(c) A municipality may contract to provide capital improvements, except roadway facilities, to an area outside its corporate boundaries and extraterritorial jurisdiction and may charge an impact fee under the contract, but if an impact fee is charged in that area, the municipality must comply with this chapter.

Sec. 395.012. ITEMS PAYABLE BY FEE.

(a) An impact fee may be imposed only to pay the costs of constructing capital improvements or facility expansions, including and limited to the:

- (1) construction contract price;
- (2) surveying and engineering fees;
- (3) land acquisition costs, including land purchases, court awards and costs, attorney's fees, and expert witness fees; and
- (4) fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the capital improvements plan who is not an employee of the political subdivision.

(b) Projected interest charges and other finance costs may be included in determining the amount of impact fees only if the impact fees are used for the payment of principal and interest on bonds, notes, or other obligations issued by or on behalf of the political subdivision to finance the capital improvements or facility expansions identified in the capital improvements plan and are not used to reimburse bond funds expended for facilities that are not identified in the capital improvements plan.

(c) Notwithstanding any other provision of this chapter, the Edwards Underground Water District or a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may use impact fees to pay a staff engineer who prepares or updates a capital improvements plan under this chapter.

(d) A municipality may pledge an impact fee as security for the payment of debt service on a bond, note, or other obligation issued to finance a capital improvement or public facility expansion if:

- (1) the improvement or expansion is identified in a capital improvements plan; and
- (2) at the time of the pledge, the governing body of the municipality certifies in a written order, ordinance, or resolution that none of the impact fee will be used or expended for an improvement or expansion not identified in the plan.

(e) A certification under Subsection (d)(2) is sufficient evidence that an impact fee pledged will not be used or expended for an improvement or expansion that is not identified in the capital improvements plan.

Sec. 395.013. ITEMS NOT PAYABLE BY FEE.

Impact fees may not be adopted or used to pay for:

- (1) construction, acquisition, or expansion of public facilities or assets other than capital improvements or facility expansions identified in the capital improvements plan;
- (2) repair, operation, or maintenance of existing or new capital improvements or facility expansions;



- (3) upgrading, updating, expanding, or replacing existing capital improvements to serve existing development in order to meet stricter safety, efficiency, environmental, or regulatory standards;
- (4) upgrading, updating, expanding, or replacing existing capital improvements to provide better service to existing development;
- (5) administrative and operating costs of the political subdivision, except the Edwards Underground Water District or a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may use impact fees to pay its administrative and operating costs;
- (6) principal payments and interest or other finance charges on bonds or other indebtedness, except as allowed by Section 395.012.

Sec. 395.014. CAPITAL IMPROVEMENTS PLAN.

(a) The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:

- (1) a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;
- (2) an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;
- (3) a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;
- (4) a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial;
- (5) the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;
- (6) the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and
- (7) a plan for awarding:
 - (A) a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or



(B) in the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan.

(b) The analysis required by Subsection (a)(3) may be prepared on a system wide basis within the service area for each major category of capital improvement or facility expansion for the designated service area.

(c) The governing body of the political subdivision is responsible for supervising the implementation of the capital improvements plan in a timely manner.

Sec. 395.015. MAXIMUM FEE PER SERVICE UNIT.

(a) The impact fee per service unit may not exceed the amount determined by subtracting the amount in Section 395.014(a)(7) from the costs of the capital improvements described by Section 395.014(a)(3) and dividing that amount by the total number of projected service units described by Section 395.014(a)(5).

(b) If the number of new service units projected over a reasonable period of time is less than the total number of new service units shown by the approved land use assumptions at full development of the service area, the maximum impact fee per service unit shall be calculated by dividing the costs of the part of the capital improvements necessitated by and attributable to projected new service units described by Section 395.014(a)(6) by the projected new service units described in that section.

Sec. 395.016. TIME FOR ASSESSMENT AND COLLECTION OF FEE.

(a) This subsection applies only to impact fees adopted and land platted before June 20, 1987. For land that has been platted in accordance with Subchapter A, Chapter 212, or the subdivision or platting procedures of a political subdivision before June 20, 1987, or land on which new development occurs or is proposed without platting, the political subdivision may assess the impact fees at any time during the development approval and building process. Except as provided by Section 395.019, the political subdivision may collect the fees at either the time of recordation of the subdivision plat or connection to the political subdivision's water or sewer system or at the time the political subdivision issues either the building permit or the certificate of occupancy.

(b) This subsection applies only to impact fees adopted before June 20, 1987, and land platted after that date. For new development which is platted in accordance with Subchapter A, Chapter 212, or the subdivision or platting procedures of a political subdivision after June 20, 1987, the political subdivision may assess the impact fees before or at the time of recordation. Except as provided by Section 395.019, the political subdivision may collect the fees at either the time of recordation of the subdivision plat or connection to the political subdivision's water or sewer system or at the time the political subdivision issues either the building permit or the certificate of occupancy.

(c) This subsection applies only to impact fees adopted after June 20, 1987. For new development which is platted in accordance with Subchapter A, Chapter 212, or the subdivision or platting procedures of a political subdivision before the adoption of an impact fee, an impact fee may not be collected on any service unit for which a valid building permit is issued within one year after the date of adoption of the impact fee.



(d) This subsection applies only to land platted in accordance with Subchapter A, Chapter 212, or the subdivision or platting procedures of a political subdivision after adoption of an impact fee adopted after June 20, 1987. The political subdivision shall assess the impact fees before or at the time of recordation of a subdivision plat or other plat under Subchapter A, Chapter 212, or the subdivision or platting ordinance or procedures of any political subdivision in the official records of the county clerk of the county in which the tract is located. Except as provided by Section 395.019, if the political subdivision has water and wastewater capacity available:

(1) the political subdivision shall collect the fees at the time the political subdivision issues a building permit;

(2) for land platted outside the corporate boundaries of a municipality, the municipality shall collect the fees at the time an application for an individual meter connection to the municipality's water or wastewater system is filed; or

(3) a political subdivision that lacks authority to issue building permits in the area where the impact fee applies shall collect the fees at the time an application is filed for an individual meter connection to the political subdivision's water or wastewater system.

(e) For land on which new development occurs or is proposed to occur without platting, the political subdivision may assess the impact fees at any time during the development and building process and may collect the fees at either the time of recordation of the subdivision plat or connection to the political subdivision's water or sewer system or at the time the political subdivision issues either the building permit or the certificate of occupancy.

(f) An "assessment" means a determination of the amount of the impact fee in effect on the date of occurrence provided in this section and is the maximum amount that can be charged per service unit of such development. No specific act by the political subdivision is required.

(g) Notwithstanding Subsections (a)-(e) and Section 395.017, the political subdivision may reduce or waive an impact fee for any service unit that would qualify as affordable housing under 42 U.S.C. Section 12745, as amended, once the service unit is constructed. If affordable housing as defined by 42 U.S.C. Section 12745, as amended, is not constructed, the political subdivision may reverse its decision to waive or reduce the impact fee, and the political subdivision may assess an impact fee at any time during the development approval or building process or after the building process if an impact fee was not already assessed.

Sec. 395.017. ADDITIONAL FEE PROHIBITED; EXCEPTION.

After assessment of the impact fees attributable to the new development or execution of an agreement for payment of impact fees, additional impact fees or increases in fees may not be assessed against the tract for any reason unless the number of service units to be developed on the tract increases. In the event of the increase in the number of service units, the impact fees to be imposed are limited to the amount attributable to the additional service units.

Sec. 395.018. AGREEMENT WITH OWNER REGARDING PAYMENT.

A political subdivision is authorized to enter into an agreement with the owner of a tract of land for which the plat has been recorded providing for the time and method of payment of the impact fees.



Sec. 395.019. COLLECTION OF FEES IF SERVICES NOT AVAILABLE.

Except for roadway facilities, impact fees may be assessed but may not be collected in areas where services are not currently available unless:

- (1) the collection is made to pay for a capital improvement or facility expansion that has been identified in the capital improvements plan and the political subdivision commits to commence construction within two years, under duly awarded and executed contracts or commitments of staff time covering substantially all of the work required to provide service, and to have the service available within a reasonable period of time considering the type of capital improvement or facility expansion to be constructed, but in no event longer than five years;
- (2) the political subdivision agrees that the owner of a new development may construct or finance the capital improvements or facility expansions and agrees that the costs incurred or funds advanced will be credited against the impact fees otherwise due from the new development or agrees to reimburse the owner for such costs from impact fees paid from other new developments that will use such capital improvements or facility expansions, which fees shall be collected and reimbursed to the owner at the time the other new development records its plat; or
- (3) an owner voluntarily requests the political subdivision to reserve capacity to serve future development, and the political subdivision and owner enter into a valid written agreement.

Sec. 395.020. ENTITLEMENT TO SERVICES.

Any new development for which an impact fee has been paid is entitled to the permanent use and benefit of the services for which the fee was exacted and is entitled to receive immediate service from any existing facilities with actual capacity to serve the new service units, subject to compliance with other valid regulations.

Sec. 395.021. AUTHORITY OF POLITICAL SUBDIVISIONS TO SPEND FUNDS TO REDUCE FEES.

Political subdivisions may spend funds from any lawful source to pay for all or a part of the capital improvements or facility expansions to reduce the amount of impact fees.

Sec. 395.022. AUTHORITY OF POLITICAL SUBDIVISION TO PAY FEES.

- (a) Political subdivisions and other governmental entities may pay impact fees imposed under this chapter.
- (b) A school district is not required to pay impact fees imposed under this chapter unless the board of trustees of the district consents to the payment of the fees by entering a contract with the political subdivision that imposes the fees. The contract may contain terms the board of trustees considers advisable to provide for the payment of the fees.

Sec. 395.023. CREDITS AGAINST ROADWAY FACILITIES FEES.

Any construction of, contributions to, or dedications of off-site roadway facilities agreed to or required by a political subdivision as a condition of development approval shall be credited against roadway facilities impact fees otherwise due from the development.



Sec. 395.024. ACCOUNTING FOR FEES AND INTEREST.

- (a) The order, ordinance, or resolution levying an impact fee must provide that all funds collected through the adoption of an impact fee shall be deposited in interest-bearing accounts clearly identifying the category of capital improvements or facility expansions within the service area for which the fee was adopted.
- (b) Interest earned on impact fees is considered funds of the account on which it is earned and is subject to all restrictions placed on use of impact fees under this chapter.
- (c) Impact fee funds may be spent only for the purposes for which the impact fee was imposed as shown by the capital improvements plan and as authorized by this chapter.
- (d) The records of the accounts into which impact fees are deposited shall be open for public inspection and copying during ordinary business hours.

Sec. 395.025. REFUNDS.

- (a) On the request of an owner of the property on which an impact fee has been paid, the political subdivision shall refund the impact fee if existing facilities are available and service is denied or the political subdivision has, after collecting the fee when service was not available, failed to commence construction within two years or service is not available within a reasonable period considering the type of capital improvement or facility expansion to be constructed, but in no event later than five years from the date of payment under Section 395.019(1).
- (b) Repealed by Acts 2001, 77th Leg., ch. 345, Sec. 9, eff. Sept. 1, 2001.
- (c) The political subdivision shall refund any impact fee or part of it that is not spent as authorized by this chapter within 10 years after the date of payment.
- (d) Any refund shall bear interest calculated from the date of collection to the date of refund at the statutory rate as set forth in Section 302.002, Finance Code, or its successor statute.
- (e) All refunds shall be made to the record owner of the property at the time the refund is paid. However, if the impact fees were paid by another political subdivision or governmental entity, payment shall be made to the political subdivision or governmental entity.
- (f) The owner of the property on which an impact fee has been paid or another political subdivision or governmental entity that paid the impact fee has standing to sue for a refund under this section.

SUBCHAPTER C - Procedures for adoption of impact fee

Sec. 395.041. COMPLIANCE WITH PROCEDURES REQUIRED.

Except as otherwise provided by this chapter, a political subdivision must comply with this subchapter to levy an impact fee.



Sec. 395.0411. CAPITAL IMPROVEMENTS PLAN.

The political subdivision shall provide for a capital improvements plan to be developed by qualified professionals using generally accepted engineering and planning practices in accordance with Section 395.014.

Sec. 395.042. HEARING ON LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN.

To impose an impact fee, a political subdivision must adopt an order, ordinance, or resolution establishing a public hearing date to consider the land use assumptions and capital improvements plan for the designated service area.

Sec. 395.043. INFORMATION ABOUT LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN AVAILABLE TO PUBLIC.

On or before the date of the first publication of the notice of the hearing on the land use assumptions and capital improvements plan, the political subdivision shall make available to the public its land use assumptions, the time period of the projections, and a description of the capital improvement facilities that may be proposed.

Sec. 395.044. NOTICE OF HEARING ON LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN.

(a) Before the 30th day before the date of the hearing on the land use assumptions and capital improvements plan, the political subdivision shall send a notice of the hearing by certified mail to any person who has given written notice by certified or registered mail to the municipal secretary or other designated official of the political subdivision requesting notice of the hearing within two years preceding the date of adoption of the order, ordinance, or resolution setting the public hearing.

(b) The political subdivision shall publish notice of the hearing before the 30th day before the date set for the hearing, in one or more newspapers of general circulation in each county in which the political subdivision lies. However, a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may publish the required newspaper notice only in each county in which the service area lies.

(c) The notice must contain:

(1) a headline to read as follows:

"NOTICE OF PUBLIC HEARING ON LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN RELATING TO POSSIBLE ADOPTION OF IMPACT FEES"

(2) the time, date, and location of the hearing;

(3) a statement that the purpose of the hearing is to consider the land use assumptions and capital improvements plan under which an impact fee may be imposed; and

(4) a statement that any member of the public has the right to appear at the hearing and present evidence for or against the land use assumptions and capital improvements plan.



Sec. 395.045. APPROVAL OF LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN REQUIRED.

- (a) After the public hearing on the land use assumptions and capital improvements plan, the political subdivision shall determine whether to adopt or reject an ordinance, order, or resolution approving the land use assumptions and capital improvements plan.
- (b) The political subdivision, within 30 days after the date of the public hearing, shall approve or disapprove the land use assumptions and capital improvements plan.
- (c) An ordinance, order, or resolution approving the land use assumptions and capital improvements plan may not be adopted as an emergency measure.

Sec. 395.0455. SYSTEMWIDE LAND USE ASSUMPTIONS.

- (a) In lieu of adopting land use assumptions for each service area, a political subdivision may, except for storm water, drainage, flood control, and roadway facilities, adopt system wide land use assumptions, which cover all of the area subject to the jurisdiction of the political subdivision for the purpose of imposing impact fees under this chapter.
- (b) Prior to adopting system wide land use assumptions, a political subdivision shall follow the public notice, hearing, and other requirements for adopting land use assumptions.
- (c) After adoption of system wide land use assumptions, a political subdivision is not required to adopt additional land use assumptions for a service area for water supply, treatment, and distribution facilities or wastewater collection and treatment facilities as a prerequisite to the adoption of a capital improvements plan or impact fee, provided the capital improvements plan and impact fee are consistent with the system wide land use assumptions.

Sec. 395.047. HEARING ON IMPACT FEE.

On adoption of the land use assumptions and capital improvements plan, the governing body shall adopt an order or resolution setting a public hearing to discuss the imposition of the impact fee. The public hearing must be held by the governing body of the political subdivision to discuss the proposed ordinance, order, or resolution imposing an impact fee.

Sec. 395.049. NOTICE OF HEARING ON IMPACT FEE.

- (a) Before the 30th day before the date of the hearing on the imposition of an impact fee, the political subdivision shall send a notice of the hearing by certified mail to any person who has given written notice by certified or registered mail to the municipal secretary or other designated official of the political subdivision requesting notice of the hearing within two years preceding the date of adoption of the order or resolution setting the public hearing.
- (b) The political subdivision shall publish notice of the hearing before the 30th day before the date set for the hearing, in one or more newspapers of general circulation in each county in which the political subdivision lies. However, a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may publish the required newspaper notice only in each county in which the service area lies.
- (c) The notice must contain the following:



- (1) a headline to read as follows: "NOTICE OF PUBLIC HEARING ON ADOPTION OF IMPACT FEES"
- (2) the time, date, and location of the hearing;
- (3) a statement that the purpose of the hearing is to consider the adoption of an impact fee;
- (4) the amount of the proposed impact fee per service unit; and
- (5) a statement that any member of the public has the right to appear at the hearing and present evidence for or against the plan and proposed fee.

Sec. 395.050. ADVISORY COMMITTEE COMMENTS ON IMPACT FEES.

The advisory committee created under Section 395.058 shall file its written comments on the proposed impact fees before the fifth business day before the date of the public hearing on the imposition of the fees.

Sec. 395.051. APPROVAL OF IMPACT FEE REQUIRED.

- (a) The political subdivision, within 30 days after the date of the public hearing on the imposition of an impact fee, shall approve or disapprove the imposition of an impact fee.
- (b) An ordinance, order, or resolution approving the imposition of an impact fee may not be adopted as an emergency measure.

Sec. 395.052. PERIODIC UPDATE OF LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN REQUIRED.

- (a) A political subdivision imposing an impact fee shall update the land use assumptions and capital improvements plan at least every five years. The initial five-year period begins on the day the capital improvements plan is adopted.
- (b) The political subdivision shall review and evaluate its current land use assumptions and shall cause an update of the capital improvements plan to be prepared in accordance with Subchapter B.

Sec. 395.053. HEARING ON UPDATED LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN. The governing body of the political subdivision shall, within 60 days after the date it receives the update of the land use assumptions and the capital improvements plan, adopt an order setting a public hearing to discuss and review the update and shall determine whether to amend the plan.

Sec. 395.054. HEARING ON AMENDMENTS TO LAND USE ASSUMPTIONS, CAPITAL IMPROVEMENTS PLAN, OR IMPACT FEE.

A public hearing must be held by the governing body of the political subdivision to discuss the proposed ordinance, order, or resolution amending land use assumptions, the capital improvements plan, or the impact fee. On or before the date of the first publication of the notice of the hearing on the amendments, the land use assumptions and the capital improvements plan, including the amount of any proposed amended impact fee per service unit, shall be made available to the public.



Sec. 395.055. NOTICE OF HEARING ON AMENDMENTS TO LAND USE ASSUMPTIONS, CAPITAL IMPROVEMENTS PLAN, OR IMPACT FEE.

(a) The notice and hearing procedures prescribed by Sections 395.044(a) and (b) apply to a hearing on the amendment of land use assumptions, a capital improvements plan, or an impact fee.

(b) The notice of a hearing under this section must contain the following:

(1) a headline to read as follows: "NOTICE OF PUBLIC HEARING ON AMENDMENT OF IMPACT FEES"

(2) the time, date, and location of the hearing;

(3) a statement that the purpose of the hearing is to consider the amendment of land use assumptions and a capital improvements plan and the imposition of an impact fee; and

(4) a statement that any member of the public has the right to appear at the hearing and present evidence for or against the update.

Sec. 395.056. ADVISORY COMMITTEE COMMENTS ON AMENDMENTS.

The advisory committee created under Section 395.058 shall file its written comments on the proposed amendments to the land use assumptions, capital improvements plan, and impact fee before the fifth business day before the date of the public hearing on the amendments.

Sec. 395.057. APPROVAL OF AMENDMENTS REQUIRED.

(a) The political subdivision, within 30 days after the date of the public hearing on the amendments, shall approve or disapprove the amendments of the land use assumptions and the capital improvements plan and modification of an impact fee.

(b) An ordinance, order, or resolution approving the amendments to the land use assumptions, the capital improvements plan, and imposition of an impact fee may not be adopted as an emergency measure.

Sec. 395.0575. DETERMINATION THAT NO UPDATE OF LAND USE ASSUMPTIONS, CAPITAL IMPROVEMENTS PLAN OR IMPACT FEES IS NEEDED.

(a) If, at the time an update under Section 395.052 is required, the governing body determines that no change to the land use assumptions, capital improvements plan, or impact fee is needed, it may, as an alternative to the updating requirements of Sections 395.052-395.057, do the following:

(1) The governing body of the political subdivision shall, upon determining that an update is unnecessary and 60 days before publishing the final notice under this section, send notice of its determination not to update the land use assumptions, capital improvements plan, and impact fee by certified mail to any person who has, within two years preceding the date that the final notice of this matter is to be published, give written notice by certified or registered mail to the municipal secretary or other designated official of the political subdivision requesting notice of hearings related to impact fees. The notice must contain the information in Subsections (b)(2)-(5).



(2) The political subdivision shall publish notice of its determination once a week for three consecutive weeks in one or more newspapers with general circulation in each county in which the political subdivision lies. However, a river authority that is authorized elsewhere by state law to charge fees that function as impact fees may publish the required newspaper notice only in each county in which the service area lies. The notice of public hearing may not be in the part of the paper in which legal notices and classified ads appear and may not be smaller than one-quarter page of a standard-size or tabloid-size newspaper, and the headline on the notice must be in 18-point or larger type.

(b) The notice must contain the following:

(1) a headline to read as follows: "NOTICE OF DETERMINATION NOT TO UPDATE LAND USE ASSUMPTIONS, CAPITAL IMPROVEMENTS PLAN, OR IMPACT FEES";

(2) a statement that the governing body of the political subdivision has determined that no change to the land use assumptions, capital improvements plan, or impact fee is necessary;

(3) an easily understandable description and a map of the service area in which the updating has been determined to be unnecessary;

(4) a statement that if, within a specified date, which date shall be at least 60 days after publication of the first notice, a person makes a written request to the designated official of the political subdivision requesting that the land use assumptions, capital improvements plan, or impact fee be updated, the governing body must comply with the request by following the requirements of Sections 395.052-395.057; and

(5) a statement identifying the name and mailing address of the official of the political subdivision to whom a request for an update should be sent.

(c) The advisory committee shall file its written comments on the need for updating the land use assumptions, capital improvements plan, and impact fee before the fifth business day before the earliest notice of the government's decision that no update is necessary is mailed or published.

(d) If, by the date specified in Subsection (b)(4), a person requests in writing that the land use assumptions, capital improvements plan, or impact fee be updated, the governing body shall cause an update of the land use assumptions and capital improvements plan to be prepared in accordance with Sections 395.052-395.057.

(e) An ordinance, order, or resolution determining the need for updating land use assumptions, a capital improvements plan, or an impact fee may not be adopted as an emergency measure.

Sec. 395.058. ADVISORY COMMITTEE.

(a) On or before the date on which the order, ordinance, or resolution is adopted under Section 395.042, the political subdivision shall appoint a capital improvements advisory committee.

(b) The advisory committee is composed of not less than five members who shall be appointed by a majority vote of the governing body of the political subdivision. Not less than 40 percent of the membership of the advisory committee must be representatives of the real estate, development, or building industries who are not employees or officials of a political subdivision or governmental entity. If the political subdivision has a planning and zoning commission, the commission may act as the advisory committee if the commission includes at least one representative of the real estate, development, or



building industry who is not an employee or official of a political subdivision or governmental entity. If no such representative is a member of the planning and zoning commission, the commission may still act as the advisory committee if at least one such representative is appointed by the political subdivision as an ad hoc voting member of the planning and zoning commission when it acts as the advisory committee. If the impact fee is to be applied in the extraterritorial jurisdiction of the political subdivision, the membership must include a representative from that area.

- (c) The advisory committee serves in an advisory capacity and is established to:
- (1) advise and assist the political subdivision in adopting land use assumptions;
 - (2) review the capital improvements plan and file written comments;
 - (3) monitor and evaluate implementation of the capital improvements plan;
 - (4) file semiannual reports with respect to the progress of the capital improvements plan and report to the political subdivision any perceived inequities in implementing the plan or imposing the impact fee; and
 - (5) advise the political subdivision of the need to update or revise the land use assumptions, capital improvements plan, and impact fee.
- (d) The political subdivision shall make available to the advisory committee any professional reports with respect to developing and implementing the capital improvements plan.
- (e) The governing body of the political subdivision shall adopt procedural rules for the advisory committee to follow in carrying out its duties.

SUBCHAPTER D – Other Provisions

Sec. 395.071. DUTIES TO BE PERFORMED WITHIN TIME LIMITS.

If the governing body of the political subdivision does not perform a duty imposed under this chapter within the prescribed period, a person who has paid an impact fee or an owner of land on which an impact fee has been paid has the right to present a written request to the governing body of the political subdivision stating the nature of the unperformed duty and requesting that it be performed within 60 days after the date of the request. If the governing body of the political subdivision finds that the duty is required under this chapter and is late in being performed, it shall cause the duty to commence within 60 days after the date of the request and continue until completion.

Sec. 395.072. RECORDS OF HEARINGS.

A record must be made of any public hearing provided for by this chapter. The record shall be maintained and be made available for public inspection by the political subdivision for at least 10 years after the date of the hearing.

Sec. 395.073. CUMULATIVE EFFECT OF STATE AND LOCAL RESTRICTIONS.

Any state or local restrictions that apply to the imposition of an impact fee in a political subdivision where an impact fee is proposed are cumulative with the restrictions in this chapter.



Sec. 395.074. PRIOR IMPACT FEES REPLACED BY FEES UNDER THIS CHAPTER.

An impact fee that is in place on June 20, 1987, must be replaced by an impact fee made under this chapter on or before June 20, 1990. However, any political subdivision having an impact fee that has not been replaced under this chapter on or before June 20, 1988, is liable to any party who, after June 20, 1988, pays an impact fee that exceeds the maximum permitted under Subchapter B by more than 10 percent for an amount equal to two times the difference between the maximum impact fee allowed and the actual impact fee imposed, plus reasonable attorney's fees and court costs.

Sec. 395.075. NO EFFECT ON TAXES OR OTHER CHARGES.

This chapter does not prohibit, affect, or regulate any tax, fee, charge, or assessment specifically authorized by state law.

Sec. 395.076. MORATORIUM ON DEVELOPMENT PROHIBITED.

A moratorium may not be placed on new development for the purpose of awaiting the completion of all or any part of the process necessary to develop, adopt, or update land use assumptions, a capital improvements plan, or an impact fee.

Sec. 395.077. APPEALS.

(a) A person who has exhausted all administrative remedies within the political subdivision and who is aggrieved by a final decision is entitled to trial de novo under this chapter.

(b) A suit to contest an impact fee must be filed within 90 days after the date of adoption of the ordinance, order, or resolution establishing the impact fee.

(c) Except for roadway facilities, a person who has paid an impact fee or an owner of property on which an impact fee has been paid is entitled to specific performance of the services by the political subdivision for which the fee was paid.

(d) This section does not require construction of a specific facility to provide the services.

(e) Any suit must be filed in the county in which the major part of the land area of the political subdivision is located. A successful litigant shall be entitled to recover reasonable attorney's fees and court costs.

Sec. 395.078. SUBSTANTIAL COMPLIANCE WITH NOTICE REQUIREMENTS.

An impact fee may not be held invalid because the public notice requirements were not complied with if compliance was substantial and in good faith.

Sec. 395.079. IMPACT FEE FOR STORM WATER, DRAINAGE, AND FLOOD CONTROL IN POPULOUS COUNTY.

(a) Any county that has a population of 3.3 million or more or that borders a county with a population of 3.3 million or more, and any district or authority created under Article XVI, Section 59, of the Texas Constitution within any such county that is authorized to provide storm water, drainage, and flood control facilities, is authorized to impose impact fees to provide storm water, drainage, and flood control improvements necessary to accommodate new development.



(b) The imposition of impact fees authorized by Subsection (a) is exempt from the requirements of Sections 395.025, 395.052-395.057, and 395.074 unless the political subdivision proposes to increase the impact fee.

(c) Any political subdivision described by Subsection (a) is authorized to pledge or otherwise contractually obligate all or part of the impact fees to the payment of principal and interest on bonds, notes, or other obligations issued or incurred by or on behalf of the political subdivision and to the payment of any other contractual obligations.

(d) An impact fee adopted by a political subdivision under Subsection (a) may not be reduced if:

(1) the political subdivision has pledged or otherwise contractually obligated all or part of the impact fees to the payment of principal and interest on bonds, notes, or other obligations issued by or on behalf of the political subdivision; and

(2) the political subdivision agrees in the pledge or contract not to reduce the impact fees during the term of the bonds, notes, or other contractual obligations.

Sec. 395.080. CHAPTER NOT APPLICABLE TO CERTAIN WATER-RELATED SPECIAL DISTRICTS.

(a) This chapter does not apply to impact fees, charges, fees, assessments, or contributions:

(1) paid by or charged to a district created under Article XVI, Section 59, of the Texas Constitution to another district created under that constitutional provision if both districts are required by law to obtain approval of their bonds by the Texas Natural Resource Conservation Commission; or

(2) charged by an entity if the impact fees, charges, fees, assessments, or contributions are approved by the Texas Natural Resource Conservation Commission.

(b) Any district created under Article XVI, Section 59, or Article III, Section 52, of the Texas Constitution may petition the Texas Natural Resource Conservation Commission for approval of any proposed impact fees, charges, fees, assessments, or contributions. The commission shall adopt rules for reviewing the petition and may charge the petitioner fees adequate to cover the cost of processing and considering the petition. The rules shall require notice substantially the same as that required by this chapter for the adoption of impact fees and shall afford opportunity for all affected parties to participate.

Sec. 395.081. FEES FOR ADJOINING LANDOWNERS IN CERTAIN MUNICIPALITIES.

(a) This section applies only to a municipality with a population of 115,000 or less that constitutes more than three-fourths of the population of the county in which the majority of the area of the municipality is located.

(b) A municipality that has not adopted an impact fee under this chapter that is constructing a capital improvement, including sewer or waterline or drainage or roadway facilities, from the municipality to a development located within or outside the municipality's boundaries, in its discretion, may allow a landowner whose land adjoins the capital improvement or is within a specified distance from the capital improvement, as determined by the governing body of the municipality, to connect to the capital improvement if:



- (1) the governing body of the municipality has adopted a finding under Subsection (c); and
 - (2) the landowner agrees to pay a proportional share of the cost of the capital improvement as determined by the governing body of the municipality and agreed to by the landowner.
- (c) Before a municipality may allow a landowner to connect to a capital improvement under Subsection (b), the municipality shall adopt a finding that the municipality will benefit from allowing the landowner to connect to the capital improvement. The finding shall describe the benefit to be received by the municipality.
- (d) A determination of the governing body of a municipality, or its officers or employees, under this section is a discretionary function of the municipality and the municipality and its officers or employees are not liable for a determination made under this section.



Appendix B

Existing Approved Land Use Plan



CITY OF WILLOW PARK

FIGURE II.1

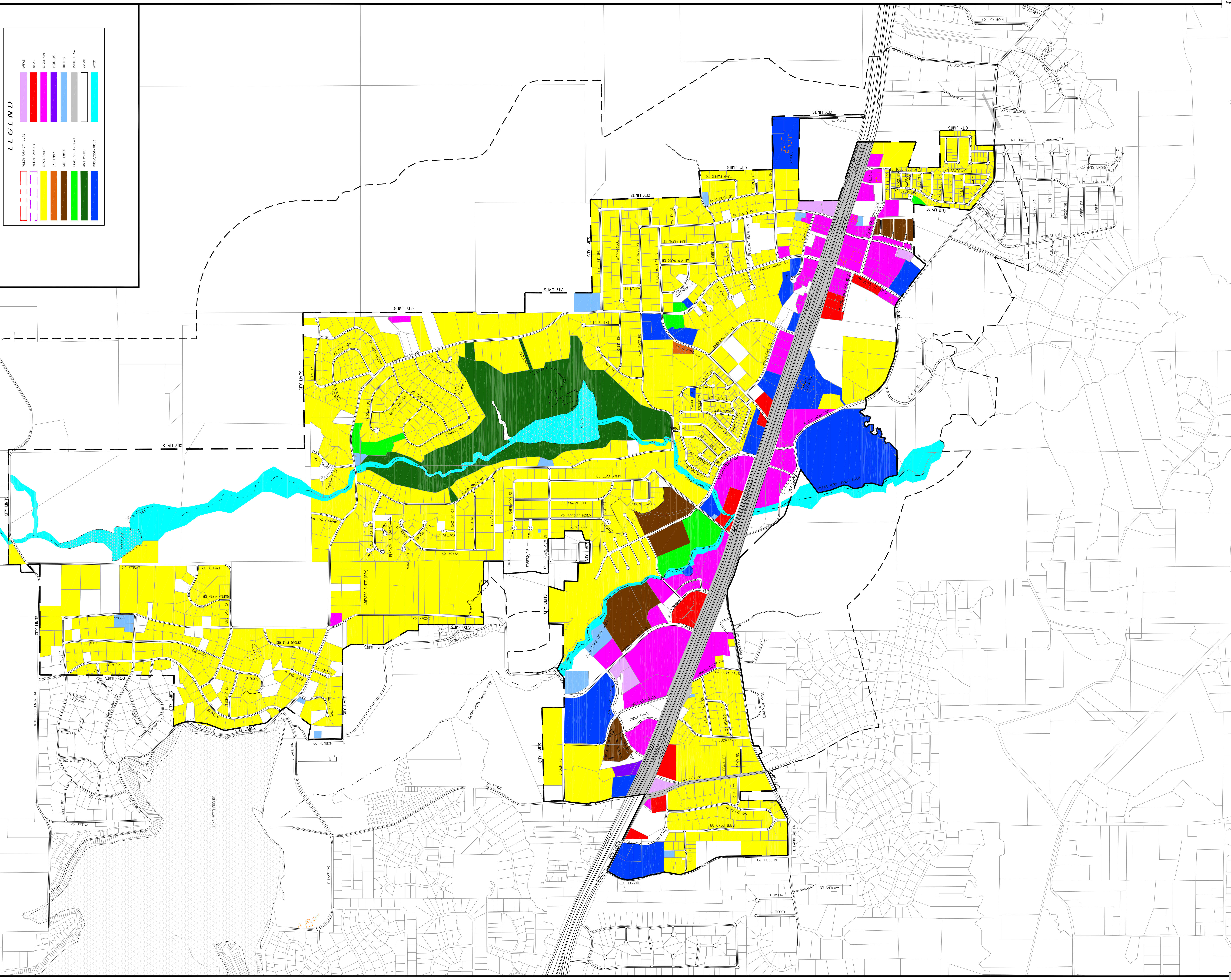
EXISTING LAND USE MAP

MAY 2022



ARIEL LUTHELY, FIDUCIARY
325-465-1070
1508 SANTA FE DR. STE. 204
DALLAS, TX 75206
817-534-9880
4950 S. LOOP 288, STE. 104
DALLAS, TX 75244
817-342-6215

LEGEND	
	WILLOW PARK CITY LIMITS
	WILLOW PARK CITY
	SINGLE-FAMILY
	TWO-FAMILY
	THREE & MORE UNITS
	OFFICE
	COMMERCIAL
	INDUSTRIAL
	UTILITIES
	RECREATION
	PORT OF WAF
	WATER
	PARKS/OPEN SPACE
	GOVT COURSE
	PUBLIC/COMM-PUBLIC



Appendix C

Future Land Use Plan



Appendix D

Water and Wastewater Impact Fee Comparison



Comparison Municipalities

City of Aledo							Population	4,770
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.60	2.00	4.00	14.00	24.00	50.00
Water	\$2,383.00	\$3,972.00	\$6,355.00	\$7,944.00	\$15,888.00	\$55,608.00	\$95,328.00	\$198,600.00
Sewer	\$2,398.00	\$3,997.00	\$6,395.00	\$7,994.00	\$15,988.00	\$55,958.00	\$95,928.00	\$199,850.00
Total	\$4,781.00	\$7,969.00	\$12,750.00	\$15,938.00	\$31,876.00	\$111,566.00	\$191,256.00	\$398,450.00

City of Alverado							Population	4,280
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1.5		2.50	5.00	8.00	17.50	31.50	65.00
Water	\$1,160.00	\$1,740.00	\$2,900.00	\$5,800.00	\$9,280.00	\$20,300.00	\$36,540.00	\$75,400.00
Sewer	\$2,541.00	\$3,812.00	\$3,653.00	\$12,705.00	\$20,328.00	\$44,468.00	\$80,042.00	\$165,165.00
Total	\$3,701.00	\$5,552.00	\$6,553.00	\$18,505.00	\$29,608.00	\$64,768.00	\$116,582.00	\$240,565.00

City of Azle							Population	12,950
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.67	3.33	5.33	10.00	16.67	
Water	\$0.00	\$1,578.00	\$2,635.26	\$5,254.74	\$8,410.70	\$15,780.00	\$26,305.26	\$39,450.00
Sewer	\$0.00	\$1,563.00	\$2,610.21	\$5,204.79	\$8,330.79	\$15,630.00	\$26,055.21	TBD
Total	\$0.00	\$3,141.00	\$5,245.47	\$10,459.53	\$16,741.49	\$31,410.00	\$52,360.47	\$39,450.00

City of Boyd							Population	1,380
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1.5		2.50	5.00	8.00	17.50	30.00	62.50
Water	\$0.00	\$6,270.00	\$10,450.00	\$20,899.00	\$33,439.00	\$73,147.00	\$125,395.00	\$261,239.00
Sewer	\$0.00	\$4,106.00	\$6,844.00	\$13,688.00	\$21,901.00	\$47,908.00	\$82,125.00	\$171,099.00
Total	\$0.00	\$10,376.00	\$17,294.00	\$34,587.00	\$55,340.00	\$121,055.00	\$207,520.00	\$432,338.00

City of Burleson							Population	47,150
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1.00		1.67	3.33	5.33	16.00	28.00	61.33
Water	\$2,624.00	\$3,936.00	\$6,560.00	\$13,120.00	\$20,992.00	\$62,976.00	\$110,208.00	\$241,408.00
Sewer	\$1,312.00	\$1,968.00	\$3,280.00	\$6,560.00	\$10,496.00	\$31,488.00	\$55,104.00	\$120,704.00
Total	\$3,936.00	\$5,904.00	\$9,840.00	\$19,680.00	\$31,488.00	\$94,464.00	\$165,312.00	\$362,112.00



City of Crowley							Population	15,970
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.67	3.33	5.33	11.67	21.00	46.67
Water	\$557.22	\$831.67	\$1,388.89	\$2,769.46	\$4,432.80	\$9,705.59	\$17,465.07	\$38,814.04
Sewer	\$180.73	\$269.75	\$450.48	\$898.27	\$1,437.77	\$3,147.98	\$5,664.75	\$12,589.23
Total	\$737.95	\$1,101.42	\$1,839.37	\$3,667.73	\$5,870.57	\$12,853.57	\$23,129.82	\$51,403.27

City of Decatur							Population	6,980
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.67	3.33	6.66	15.99	27.98	61.30
Water	\$0.00	\$856.00	\$1,426.00	\$2,852.00	\$5,704.00	\$13,689.00	\$23,955.00	\$52,473.00
Sewer	\$0.00	\$1,378.00	\$2,297.00	\$4,593.00	\$9,187.00	\$22,048.00	\$38,584.00	\$84,517.00
Total	\$0.00	\$2,234.00	\$3,723.00	\$7,445.00	\$14,891.00	\$35,737.00	\$62,539.00	\$136,990.00

City of Granbury							Population	12,950
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.67	3.33	5.33	10.00	16.67	33.33
Water	\$0.00	\$4,866.00	\$8,126.22	\$16,203.00	\$25,934.00	\$48,657.00	\$81,111.00	\$162,173.00
Sewer	\$0.00	\$2,733.00	\$4,565.00	\$9,102.00	\$14,569.00	\$27,335.00	\$45,567.00	\$91,106.00
Total	\$0.00	\$7,599.00	\$12,691.22	\$25,305.00	\$40,503.00	\$75,992.00	\$126,678.00	\$253,279.00

City of Hudson Oaks							Population	2,610
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.67	3.33	5.33	11.63	20.00	
Water	\$0.00	\$2,227.00	\$3,719.00	\$7,416.00	\$11,870.00	\$25,898.00	\$44,540.00	
Sewer	\$0.00	\$2,849.38	\$4,758.02	\$9,488.88	\$15,187.64	\$32,387.80	\$55,264.72	
Total	\$0.00	\$5,076.38	\$8,477.02	\$16,904.88	\$27,057.64	\$58,285.80	\$99,804.72	

City of Lake Worth							Population	4,930
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.67	3.33	5.33			
Water	\$0.00	\$2,637.00	\$4,396.00	\$8,791.00	\$14,066.00			
Sewer	\$0.00	\$1,566.00	\$2,609.00	\$5,219.00	\$8,350.00			
Total	\$0.00	\$4,203.00	\$7,005.00	\$14,010.00	\$22,416.00			



City of Pilot Point							Population	4,460
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.67	3.33	5.33	23.33	43.33	93.33
Water	\$0.00	\$2,228.00	\$3,721.00	\$7,419.00	\$11,875.00	\$51,979.00	\$96,539.00	\$207,939.00
Sewer	\$0.00	\$3,899.00	\$6,511.00	\$12,984.00	\$20,782.00	\$91,964.00	\$168,944.00	\$363,894.00
Total	\$0.00	\$6,127.00	\$10,232.00	\$20,403.00	\$32,657.00	\$143,943.00	\$265,483.00	\$571,833.00

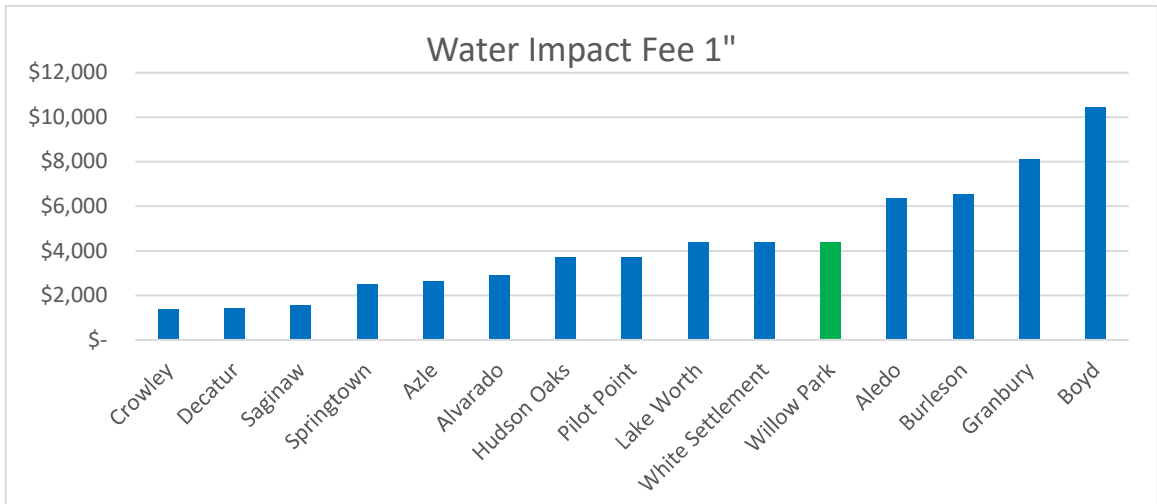
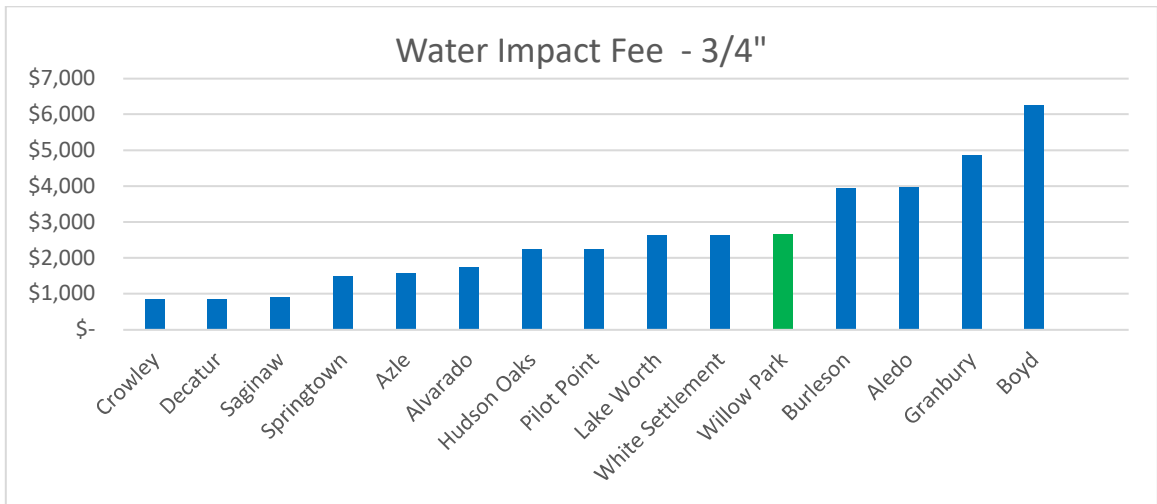
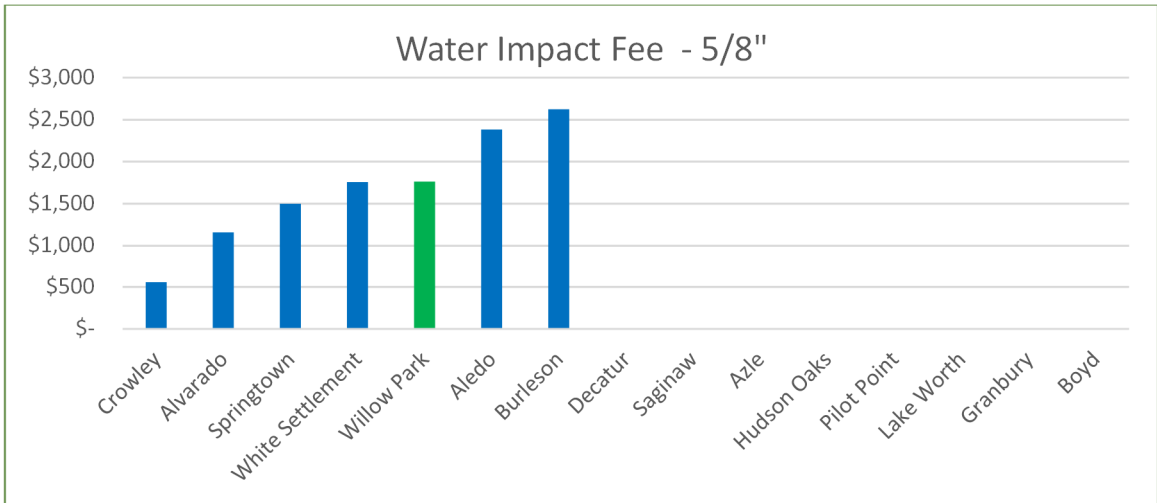
City of Saginaw							Population	23,840
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1		1.70	5.87	9.41	11.70	21.00	43.30
Water	\$0.00	\$913.00	\$1,552.00	\$5,358.00	\$8,591.00	\$10,682.00	\$19,173.00	\$39,533.00
Sewer	\$0.00	\$49.00	\$83.00	\$162.00	\$260.00	\$573.00	\$1,029.00	\$2,205.00
Total	\$0.00	\$962.00	\$1,635.00	\$5,520.00	\$8,851.00	\$11,255.00	\$20,202.00	\$41,738.00

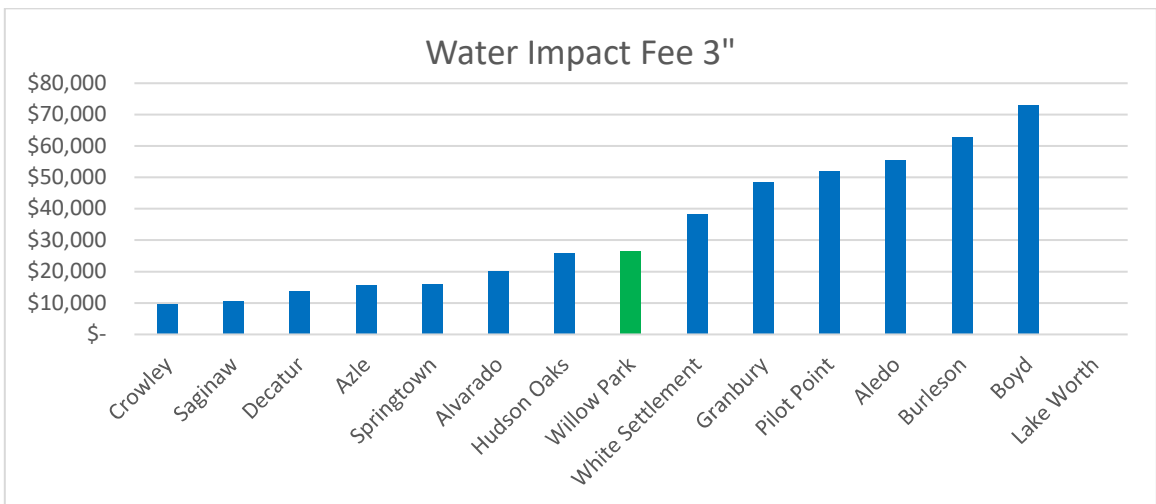
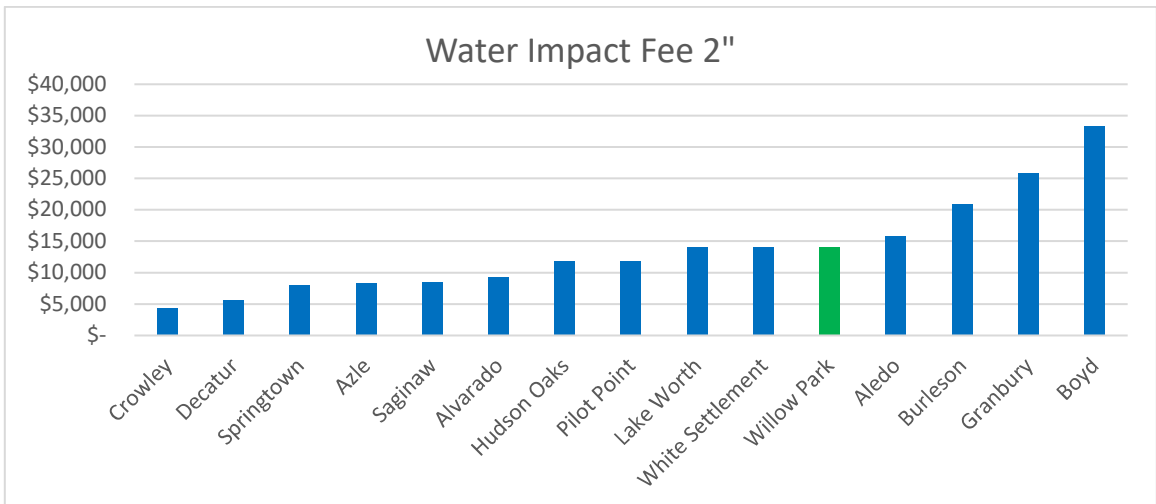
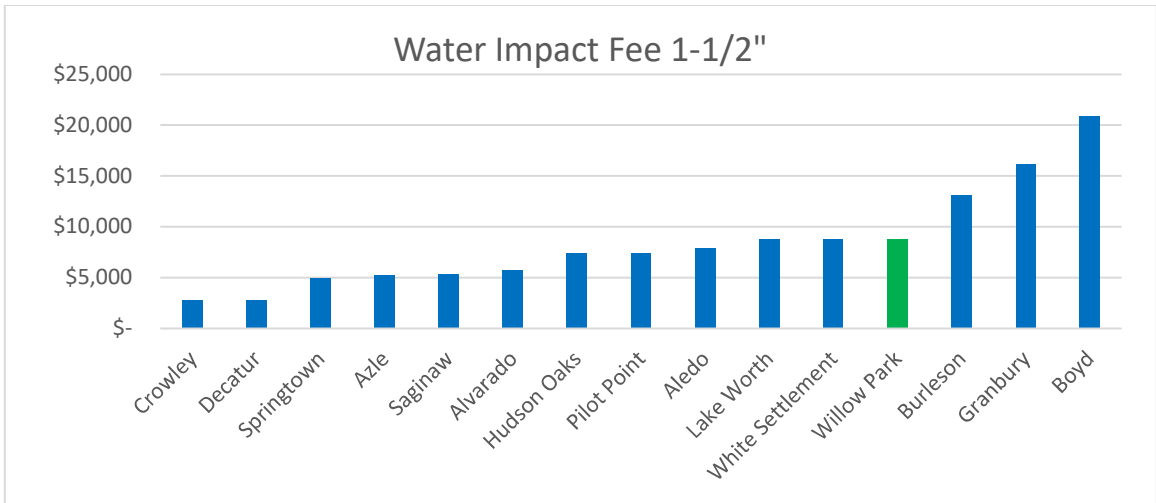
City of Springtown							Population	3,060
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1	1	1.67	3.33	5.33	10.67	16.67	33.33
Water	\$1,500.00	\$1,500.00	\$2,505.00	\$4,995.00	\$7,995.00	\$16,005.00	\$25,005.00	\$49,995.00
Sewer	\$1,500.00	\$1,500.00	\$2,505.00	\$4,995.00	\$7,995.00	\$16,005.00	\$25,005.00	\$49,995.00
Total	\$3,000.00	\$3,000.00	\$5,010.00	\$9,990.00	\$15,990.00	\$32,010.00	\$50,010.00	\$99,990.00

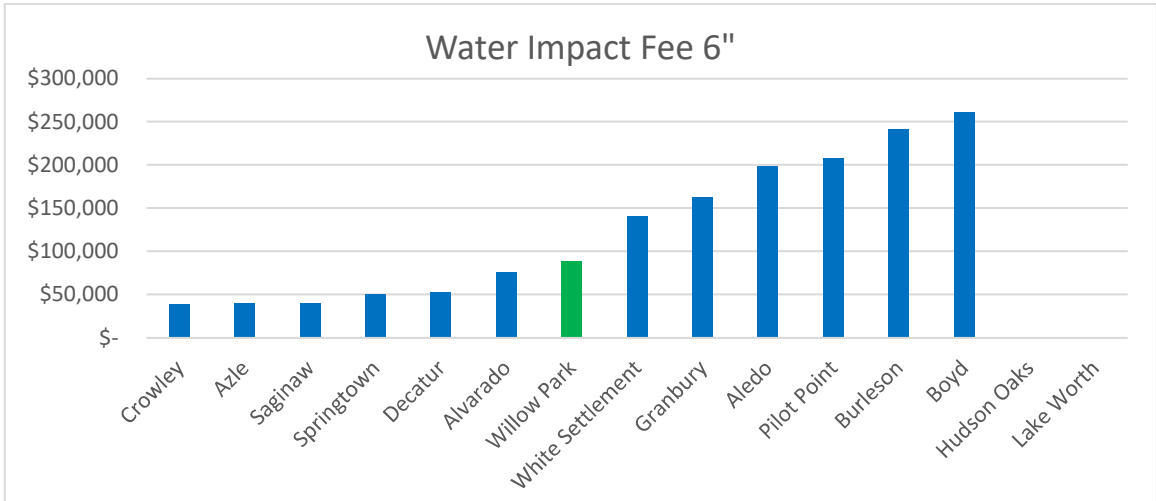
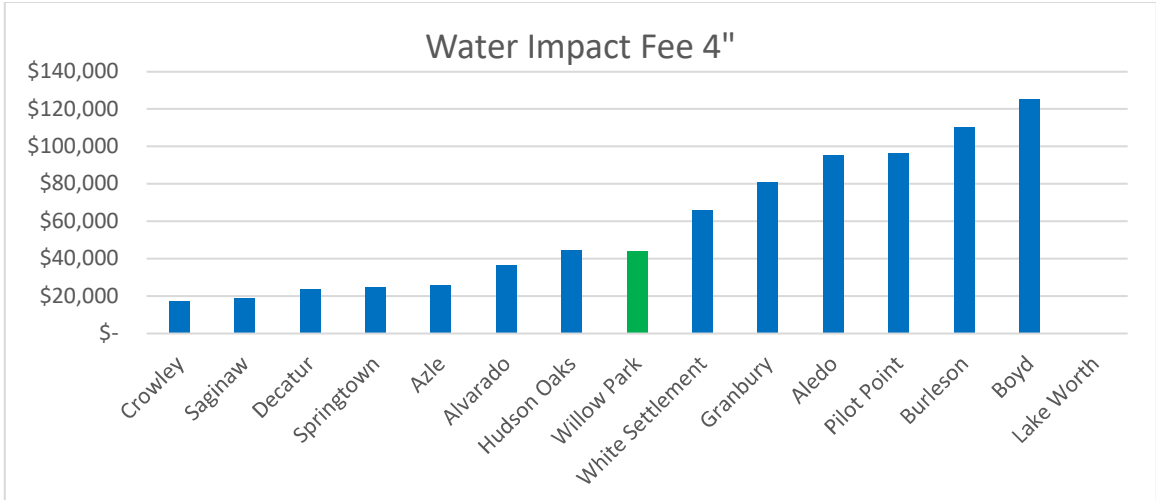
City of Willow Park							Population	6,330
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1	1.50	2.50	5.00	8.00	15.00	25.00	50.00
Water	\$1,764.00	\$2,646.00	\$4,410.00	\$8,820.00	\$14,112.00	\$26,460.00	\$44,100.00	\$88,200.00
Sewer	\$2,137.00	\$3,205.50	\$5,342.50	\$10,685.00	\$17,096.00	\$32,055.00	\$53,425.00	\$106,850.00
Total	\$3,901.00	\$5,851.50	\$9,752.50	\$19,505.00	\$31,208.00	\$58,515.00	\$97,525.00	\$195,050.00

City of White Settlement							Population	17,720
Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Equivalent	1.5		2.50	5.00	8.00	21.75	37.50	80.00
Water	\$1,758.00	\$2,637.00	\$4,396.00	\$8,791.00	\$14,066.00	\$38,242.00	\$65,934.00	\$140,660.00
Sewer	\$1,044.00	\$1,566.00	\$2,609.00	\$5,219.00	\$8,350.00	\$22,702.00	\$39,141.00	\$83,500.00
Total	\$2,802.00	\$4,203.00	\$7,005.00	\$14,010.00	\$22,416.00	\$60,944.00	\$105,075.00	\$224,160.00



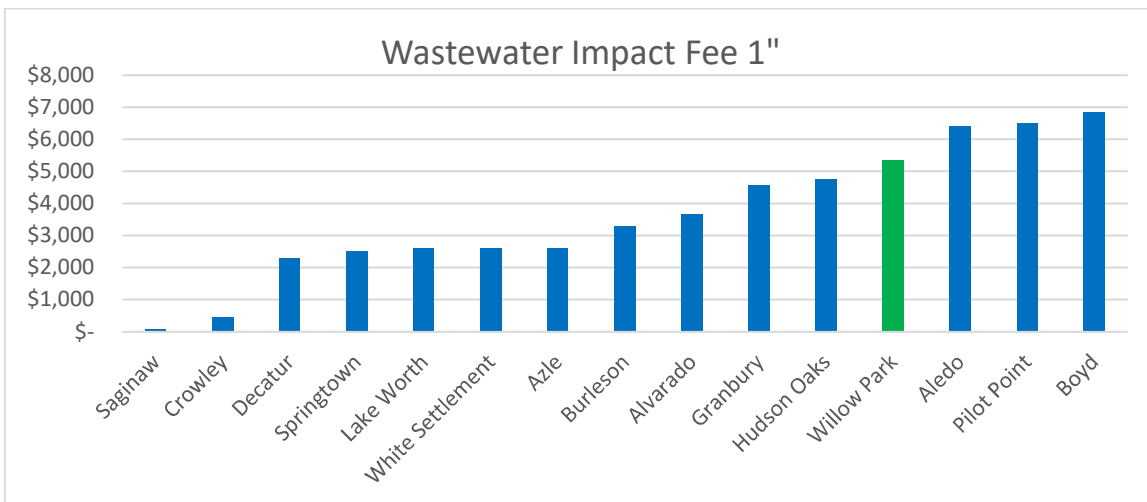
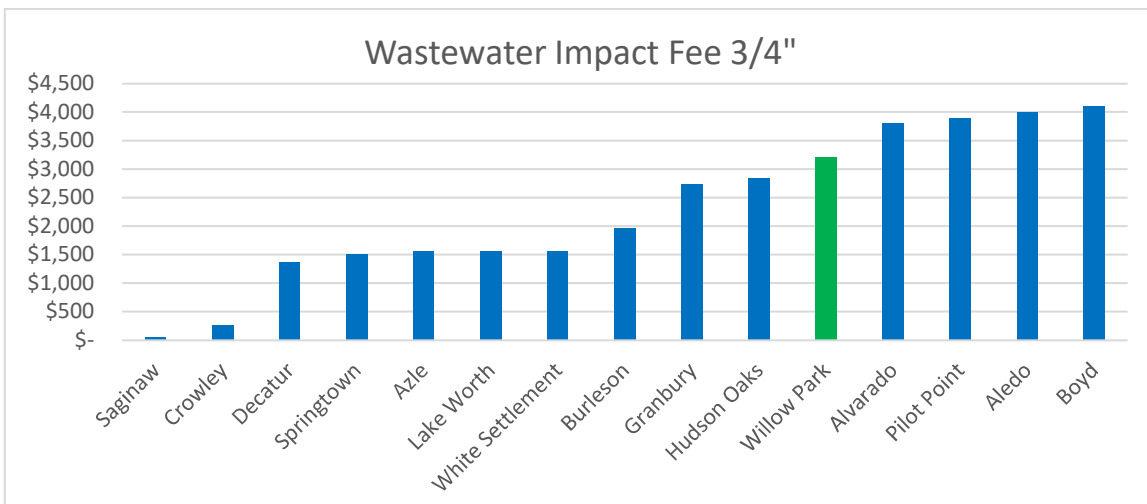
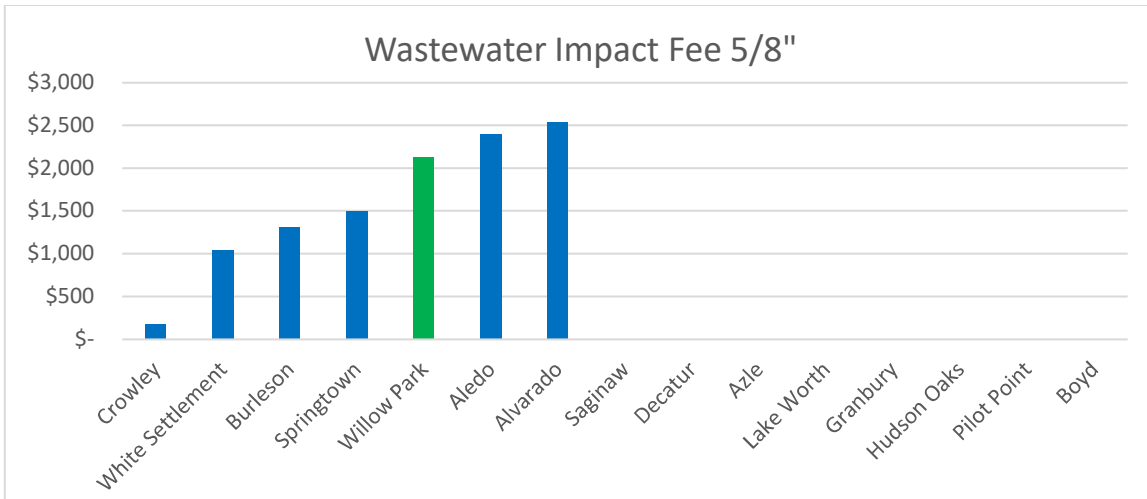


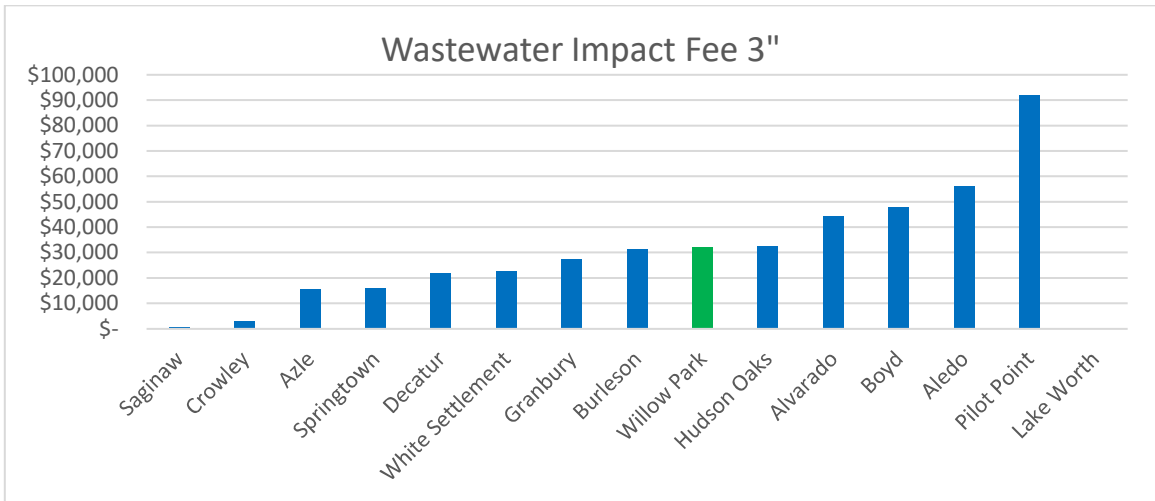
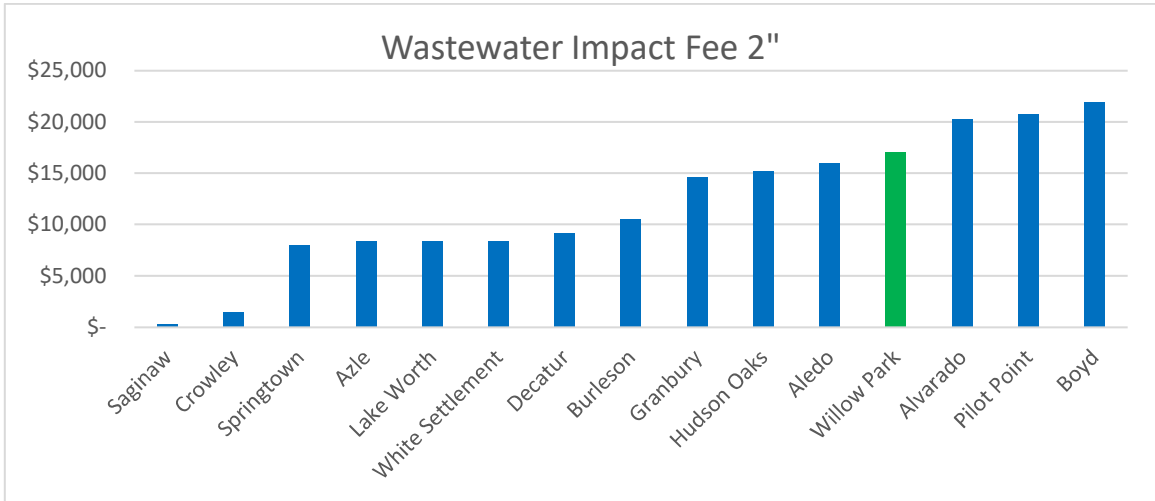
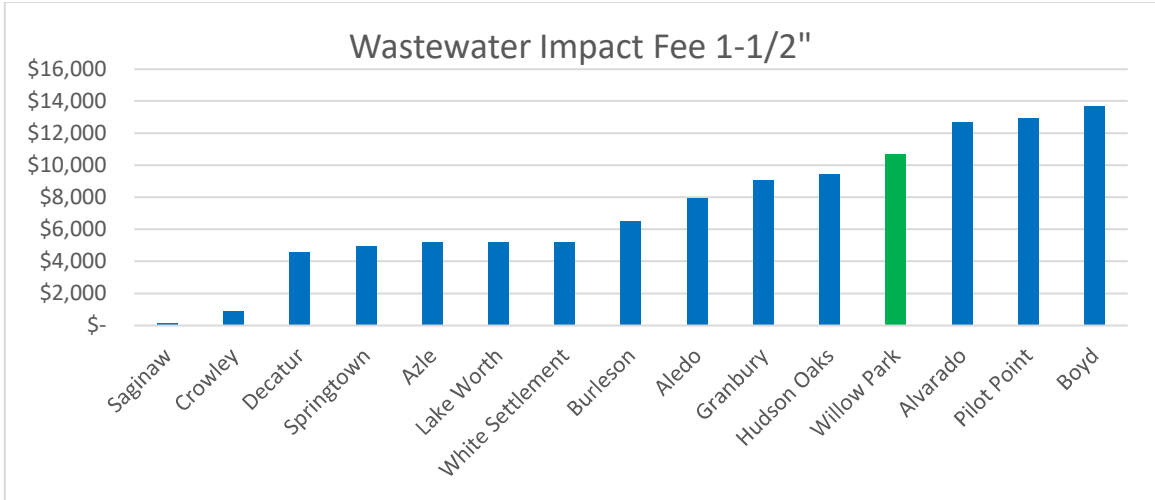


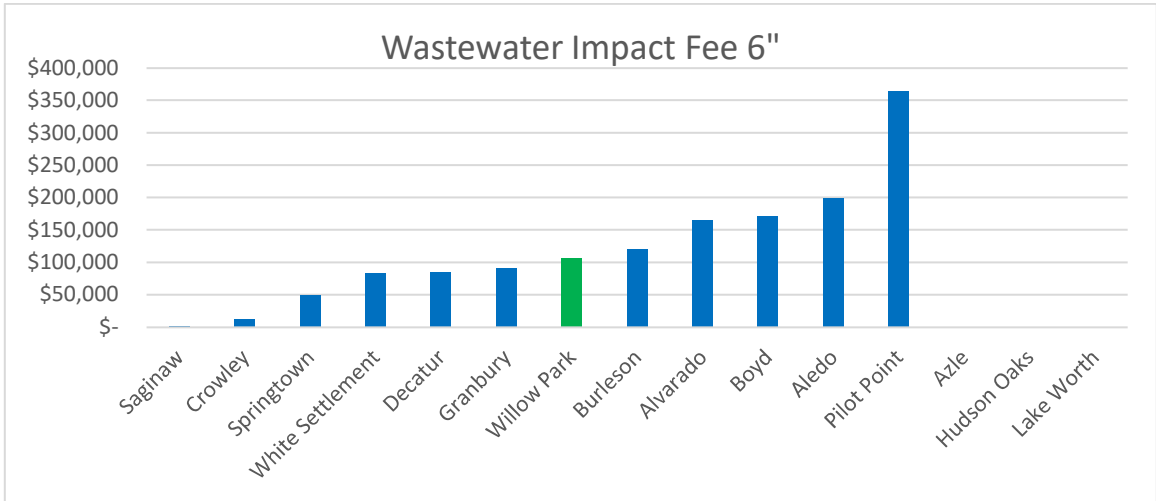
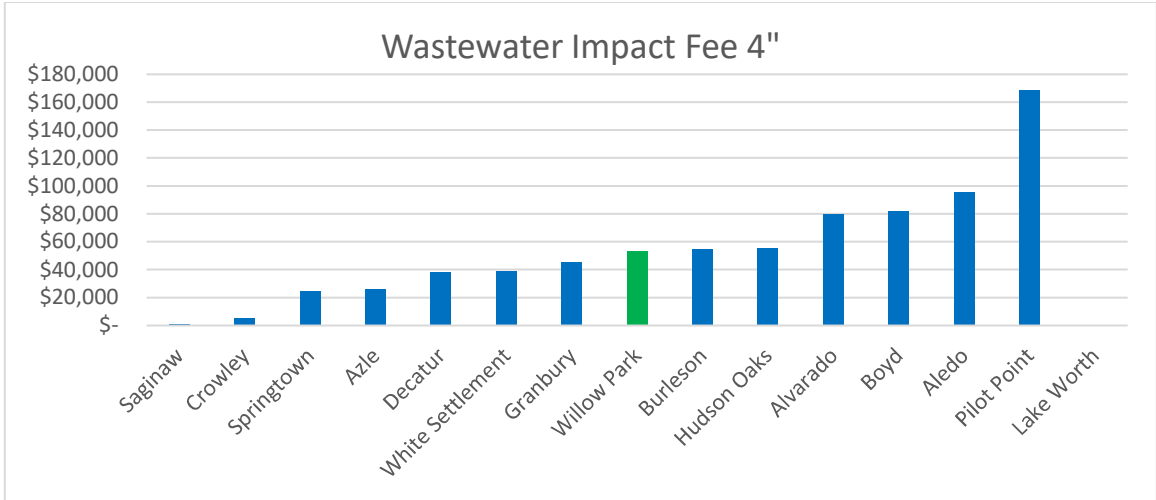


Municipality	Water Impact Fees								
	Population	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Aledo	4,767	\$2,383.00	\$3,972.00	\$6,355.00	\$7,944.00	\$15,888.00	\$55,608.00	\$95,328.00	\$198,600.00
Alvarado	4,282	\$1,160.00	\$1,740.00	\$2,900.00	\$5,800.00	\$9,280.00	\$20,300.00	\$36,540.00	\$75,400.00
Azle	12,950	\$0.00	\$1,578.00	\$2,635.26	\$5,254.74	\$8,410.70	\$15,780.00	\$26,305.26	\$39,450.00
Boyd	1,375	\$0.00	\$6,270.00	\$10,450.00	\$20,899.00	\$33,439.00	\$73,147.00	\$125,395.00	\$261,239.00
Burleson	47,151	\$2,624.00	\$3,936.00	\$6,560.00	\$13,120.00	\$20,992.00	\$62,976.00	\$110,208.00	\$241,408.00
Crowley	15,972	\$557.22	\$831.67	\$1,388.89	\$2,769.46	\$4,432.80	\$9,705.59	\$17,465.07	\$38,814.04
Decatur	6,976	\$0.00	\$856.00	\$1,426.00	\$2,852.00	\$5,704.00	\$13,689.00	\$23,955.00	\$52,473.00
Granbury	10,325	\$0.00	\$4,866.00	\$8,126.22	\$16,203.00	\$25,934.00	\$48,657.00	\$81,111.00	\$162,173.00
Hudson Oaks	2,613	\$0.00	\$2,227.00	\$3,719.00	\$7,416.00	\$11,870.00	\$25,898.00	\$44,540.00	\$0.00
Lake Worth	4,932	\$0.00	\$2,637.00	\$4,396.00	\$8,791.00	\$14,066.00	\$0.00	\$0.00	\$0.00
Pilot Point	4,457	\$0.00	\$2,228.00	\$3,721.00	\$7,419.00	\$11,875.00	\$51,979.00	\$96,539.00	\$207,939.00
Saginaw	23,835	\$0.00	\$913.00	\$1,552.00	\$5,358.00	\$8,591.00	\$10,682.00	\$19,173.00	\$39,533.00
Springtown	3,059	\$1,500.00	\$1,500.00	\$2,505.00	\$4,995.00	\$7,995.00	\$16,005.00	\$25,005.00	\$49,995.00
Willow Park	6,330	\$1,764.00	\$2,646.00	\$4,410.00	\$8,820.00	\$14,112.00	\$26,460.00	\$44,100.00	\$88,200.00
White Settlement	17,716	\$1,758.00	\$2,637.00	\$4,396.00	\$8,791.00	\$14,066.00	\$38,242.00	\$65,934.00	\$140,660.00
		Willow Park Proposed							
		Fees							









Wastewater Impact Fees

Municipality	Population	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"
Aledo	4,767	\$2,398.00	\$3,997.00	\$6,395.00	\$7,994.00	\$15,988.00	\$55,958.00	\$95,928.00	\$199,850.00
Alvarado	4,282	\$2,541.00	\$3,812.00	\$3,653.00	\$12,705.00	\$20,328.00	\$44,468.00	\$80,042.00	\$165,165.00
Azle	12,950	\$0.00	\$1,563.00	\$2,610.21	\$5,204.79	\$8,330.79	\$15,630.00	\$26,055.21	TBD
Boyd	1,375	\$0.00	\$4,106.00	\$6,844.00	\$13,688.00	\$21,901.00	\$47,908.00	\$82,125.00	\$171,099.00
Burleson	47,151	\$1,312.00	\$1,968.00	\$3,280.00	\$6,560.00	\$10,496.00	\$31,488.00	\$55,104.00	\$120,704.00
Crowley	15,972	\$180.73	\$269.75	\$450.48	\$898.27	\$1,437.77	\$3,147.98	\$5,664.75	\$12,589.23
Decatur	6,976	\$0.00	\$1,378.00	\$2,297.00	\$4,593.00	\$9,187.00	\$22,048.00	\$38,584.00	\$84,517.00
Granbury	10,325	\$0.00	\$2,733.00	\$4,565.00	\$9,102.00	\$14,569.00	\$27,335.00	\$45,567.00	\$91,106.00
Hudson Oaks	2,613	\$0.00	\$2,849.38	\$4,758.02	\$9,488.88	\$15,187.64	\$32,387.80	\$55,264.72	\$0.00
Lake Worth	4,932	\$0.00	\$1,566.00	\$2,609.00	\$5,219.00	\$8,350.00	\$0.00	\$0.00	\$0.00
Pilot Point	4,457	\$0.00	\$3,899.00	\$6,511.00	\$12,984.00	\$20,782.00	\$91,964.00	\$168,944.00	\$363,894.00
Saginaw	23,835	\$0.00	\$49.00	\$83.00	\$162.00	\$260.00	\$573.00	\$1,029.00	\$2,205.00
Springtown	3,059	\$1,500.00	\$1,500.00	\$2,505.00	\$4,995.00	\$7,995.00	\$16,005.00	\$25,005.00	\$49,995.00
Willow Park	6,330	\$2,137.00	\$3,205.50	\$5,342.50	\$10,685.00	\$17,096.00	\$32,055.00	\$53,425.00	\$106,850.00
White Settlement	17,716	\$1,044.00	\$1,566.00	\$2,609.00	\$5,219.00	\$8,350.00	\$22,702.00	\$39,141.00	\$83,500.00
		Willow Park Proposed Fees							

Total Water and Wastewater Impact Fees

Municipality	Population	5/8"	3/4"	1"	1-1/2"	2"	3"	4"	6"	
Aledo	4,767	\$4,781.00	\$7,969.00	\$12,750.00	\$15,938.00	\$31,876.00	\$111,566.00	\$191,256.00	\$398,450.00	
Alvarado	4,282	\$3,701.00	\$5,552.00	\$6,553.00	\$18,505.00	\$29,608.00	\$64,768.00	\$116,582.00	\$240,565.00	
Azle	12,950	\$0.00	\$3,141.00	\$5,245.47	\$10,459.53	\$16,741.49	\$31,410.00	\$52,360.47	\$39,450.00	
Boyd	1,375	\$0.00	\$10,376.00	\$17,294.00	\$34,587.00	\$55,340.00	\$121,055.00	\$207,520.00	\$432,338.00	
Burleson	47,151	\$3,936.00	\$5,904.00	\$9,840.00	\$19,680.00	\$31,488.00	\$94,464.00	\$165,312.00	\$362,112.00	
Crowley	15,972	\$737.95	\$1,101.42	\$1,839.37	\$3,667.73	\$5,870.57	\$12,853.57	\$23,129.82	\$51,403.27	
Decatur	6,976	\$0.00	\$2,234.00	\$3,723.00	\$7,445.00	\$14,891.00	\$35,737.00	\$62,539.00	\$136,990.00	
Granbury	10,325	\$0.00	\$7,599.00	\$12,691.22	\$25,305.00	\$40,503.00	\$75,992.00	\$126,678.00	\$253,279.00	
Hudson Oaks	2,613	\$0.00	\$5,076.38	\$8,477.02	\$16,904.88	\$27,057.64	\$58,285.80	\$99,804.72	\$0.00	
Lake Worth	4,932	\$0.00	\$4,203.00	\$7,005.00	\$14,010.00	\$22,416.00	\$0.00	\$0.00	\$0.00	
Pilot Point	4,457	\$0.00	\$6,127.00	\$10,232.00	\$20,403.00	\$32,657.00	\$143,943.00	\$265,483.00	\$571,833.00	
Saginaw	23,835	\$0.00	\$962.00	\$1,635.00	\$5,520.00	\$8,851.00	\$11,255.00	\$20,202.00	\$41,738.00	
Springtown	3,059	\$3,000.00	\$3,000.00	\$5,010.00	\$9,990.00	\$15,990.00	\$32,010.00	\$50,010.00	\$99,990.00	
Willow Park	6,330	\$3,901.00	\$5,851.50	\$9,752.50	\$19,505.00	\$31,208.00	\$58,515.00	\$97,525.00	\$195,050.00	
White Settlement	17,716	\$2,802.00	\$4,203.00	\$7,005.00	\$14,010.00	\$22,416.00	\$60,944.00	\$105,075.00	\$224,160.00	
		Lowest Impact Fees				Highest Impact Fees			Willow Park Proposed Fees	







2022
CAPITAL IMPROVEMENT PLAN
CITY OF WILLOW PARK, TEXAS

JUNE 2022

Prepared by:



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www.jacobmartin.com

Firm No. F-2448

PRELIMINARY

CITY OF WILLOW PARK CAPITAL IMPROVEMENT PLAN

MAY 2022

I. GENERAL

A. Introduction

The City of Willow Park authorized JACOB & MARTIN, LLC to prepare an update to the capital improvement plan in January, 2022. The City has authorized an update to the plan completed in 2019 to include discussions for capital improvements to the water, sewer, street and drainage systems. Willow Park is located in an area of rapid growth, along the Interstate 20 corridor, approximately 20 miles west of the City of Fort Worth.

The outlook for the City of Willow Park is for sustained growth over the next 25 to 30 years. It is therefore imperative for the City to maintain a workable plan to prepare for and accommodate that growth with the least detrimental impact to the public.

B. Purpose

The purpose of the updated plan is to evaluate the City's existing water, wastewater, street, and drainage facilities and provide a plan which will allow the City to conduct orderly improvement of the water and wastewater systems to meet demands through the year 2032.

C. Scope of Work

The following areas are to be considered:

- Population & Land Use Assumptions
- Water & Wastewater Design Criteria
- Water Use Projections
- Water Supply
- Water System Infrastructure
- Recommended Water System Improvements
- Costs of Water System Improvements
- Wastewater Flows
- Wastewater System Infrastructure
- Recommended Wastewater System Improvements
- Costs of Wastewater System Improvements
- Street Inventory and Evaluation
- Recommended Street Improvements
- Drainage Inventory and Evaluation
- Recommended Drainage Improvements

D. Description of Plan Area

The plan area includes the City Limits and Extraterritorial Jurisdiction (ETJ) of the City of Willow Park. The plan area is depicted in Figure I.1.

E. Water Plan Approach

The approach to the development of the water plan involves the following steps:

1. Develop water use projections and estimate per capita use (current & future)
2. Identify and evaluate current & potential water supply sources
3. Inventory and evaluate the current infrastructure
4. Develop strategies for addressing current shortfalls & meeting future demands
5. Develop costs and financing strategies for addressing the identified needs

F. Wastewater Plan Approach

1. Develop wastewater flow projections and estimate per capita contributions
2. Identify and evaluate current & potential treatment alternatives
3. Inventory and evaluate the current infrastructure
4. Develop strategies for addressing current shortfalls & meeting future needs
5. Develop costs and financing strategies for addressing the identified needs

G. Street Plan Approach

1. Inventory and evaluate the current streets
2. Develop strategies for addressing current shortfalls & meeting future needs
3. Develop Costs and financing strategies for addressing the identified needs

H. Drainage Plan Approach

1. Inventory and evaluate the current drainage infrastructure
2. Develop strategies for addressing current shortfalls & meeting future needs
3. Develop Costs and financing strategies for addressing the identified needs

II. DEVELOPMENT AND GROWTH

A. Population Projections

According to the 2000 and 2010 Census, the City's population was 2,849 and 3,779, respectively. This is a population increase of approximately 33% in ten years or a 3.3% increase per year. The results of the 2020 census are not yet available, however, various sources estimate the population between 4,950 and approximately 6,500.

CITY OF WILLOW PARK

ETJ MAP

FEBRUARY 2022

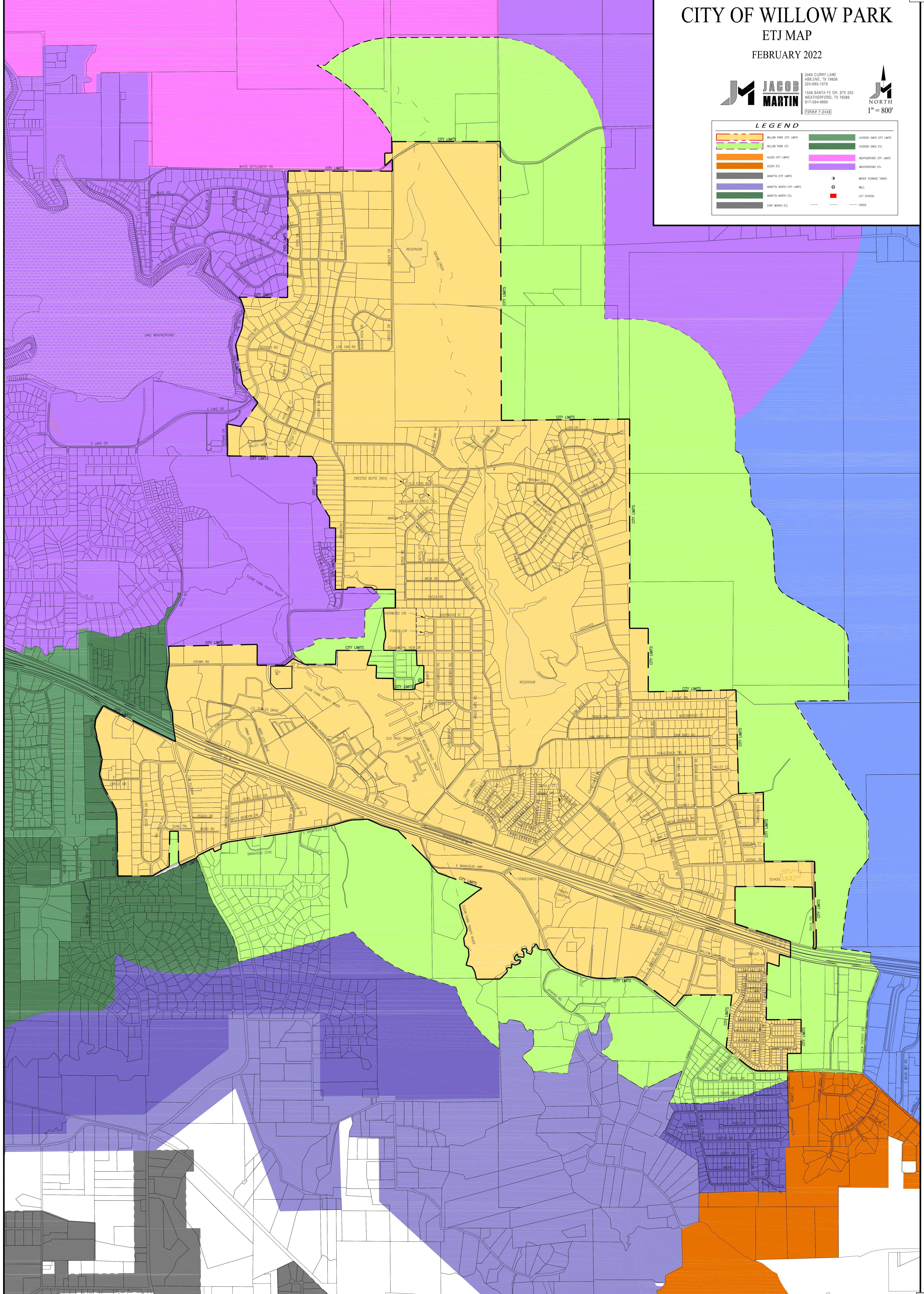


3465 CURRY LANE
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LEGEND

	WILLOW PARK CITY LIMITS		Hudson Oaks City Limits
	WILLOW PARK ETJ		Hudson Oaks ETJ
	Aledo City Limits		Weatherford City Limits
	Aledo ETJ		Weatherford ETJ
	Annetta City Limits		Water Storage Tanks
	Annetta North City Limits		Well
	Annetta North ETJ		Lift Station
	Fort Worth ETJ		Creek



Various sources including, the Census Bureau, the Texas Water Development Board, the City’s Comprehensive Plan, and previous engineering studies for the City of Willow Park have been used to develop the historical and projected population growth for the City as illustrated in Table II.1. Based on this data, Willow Park is projected to increase in population by an average 4.65% per year through the year 2050. This growth will be impacted early in the planning period by development projects that are underway or currently being proposed. Ultimate population is based on available land and land use assumptions as discussed in Section II.B. Therefore, the total utility service projection is limited by the build-out potential of various types. The water system currently serves the majority of the population and the water service projections, therefore follow a similar growth pattern. The sewer system only serves a portion of the total population. It is expected that, ultimately, residences and businesses not currently receiving sewer service will be tied on throughout the planning period. However, due to financing and other constraints, much of this change over would not be expected to occur until late in the planning period. Therefore, the sewer service projection is weighted toward the end of the planning period. This is consistent with the City’s plans for new wastewater treatment facilities which would cover a useful life of 20 years before additional improvements would be necessary.

**TABLE II.1
POPULATION PROJECTION**

Year	Estimated Population	Total Water Connections	Total Sewer Connections
2020	6,086	2061	810
2025	6,804	2494	1026
2030	7,853	2932	1206
2035	8,653	3231	1329
2040	9,829	3670	1510
2045	11,365	4244	1746
2050	14,587	5447	2241

B. Land Use

As previously mentioned, the City of Willow Park is located along the Interstate 20 (I-20) Corridor approximately ten miles east of Downtown Weatherford and twenty miles west of Downtown Fort Worth. The City is a small North Central Texas community developed on mostly high and flat to steep rolling terrain in eastern Parker County. As development and growth occur within the City, the infrastructure needs to be expanded to serve existing and future residences and businesses in the service area.

A land use inventory or assessment identifies the current uses of the land throughout the planning area. An inventory of the City’s land use is shown in Figure II.1 – Existing Land Use Map and the acreages are tabulated below in Table II.2 from the City’s 2014 Comprehensive Plan. The inventory is a critical set of data used to create a Future Land Use Plan. The Existing Land Use Map and acreage tabulations should be updated as new building permits are issued and property tax records are changed. This will allow the City to evaluate where it is in relation to its Future Land Use Plan.

TABLE II.2

EXISTING LAND USE		
Type of Land Use	Acres	Percent
Residential - Single Family	1982	28.1%
Residential - Two-Family	2	0.03%
Residential - Multi-Family	76	1.08%
Retail	42	0.59%
Office	17	0.24%
Commercial	221	3.13%
Industrial	4	0.05%
Public/Semi-Public	220	3.12%
Parks & Open Space	37	0.52%
Golf Course (Private)	246	3.48%
Utilities	31	0.43%
TxDOT Right-of-Way	163	2.30%
Total Developed Land	3,040	43.1%
Agriculture & Vacant	4,019	56.9%
Total Land Area	7,059	100.0%

Based on the update land use plan, there is approximately 3,040 developed acres or 43% of the total 7,059 acres of land within the City Limits and ETJ, while the remaining acreage is vacant or used for some agricultural purpose. Currently, the most predominant land use is residential which is approximately 1,982 acres or 65.2% of the total 3,040

developed acres. The future land use is expected to be predominantly residential as well. Office, retail, commercial and industrial land uses cover approximately 588 acres or 8.9% of the developed land. Most of the existing office, retail, commercial and industrial land uses in the City are located along the frontage of Interstate 20. Most of the future office, retail, commercial and industrial land uses are expected to continue along the highway frontage with minor development for these land uses occurring away from the highway. Figure II.2 - Future Land Use Plan shows the expected development areas by land use types. Table II.3 below shows the expected acreage and percentage for each land use type.

TABLE II.3

FUTURE LAND USE		
Type of Land Use	Acres	Percent
Residential - Single Family	4,995	70.8%
Residential - Two-Family	2	0.03%
Residential - Multi-Family	76	1.08%
Retail	145	2.05%
Office	18	0.26%
Commercial	424	6.01%
Industrial	112	1.59%
Public/Semi Private	258	3.66%
Parks & Open Space	90	1.28%
Golf Course (Private)	246	3.48%
Utilities	31	0.43%
TxDOT Right-of-Way	187	2.65%
Total Developed	6,586	93.3%
Undeveloped (Road & Flood Plain)	473	6.70%
Total Planning Area	7,059	100.0%

CITY OF WILLOW PARK

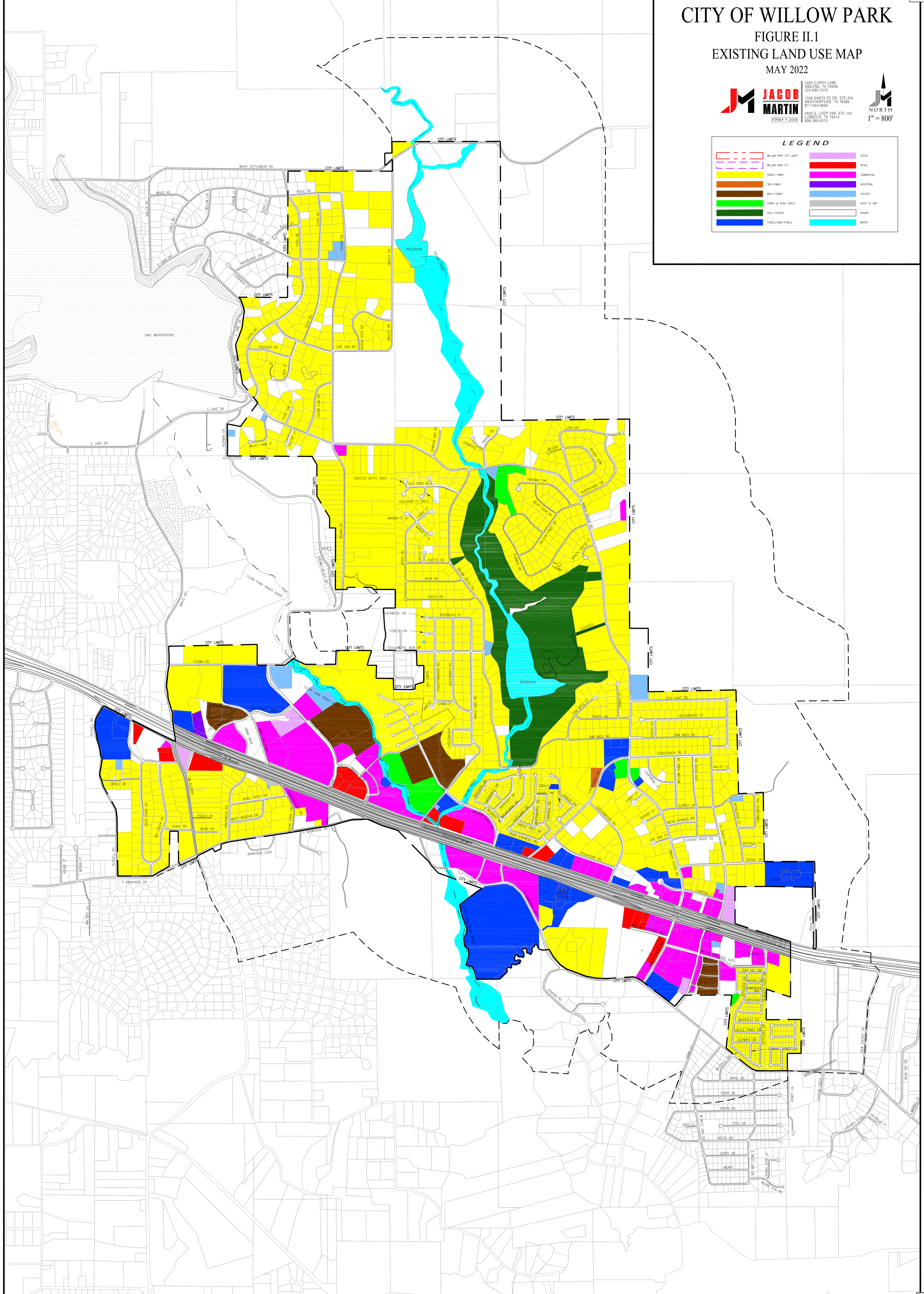
FIGURE II.1 EXISTING LAND USE MAP MAY 2022

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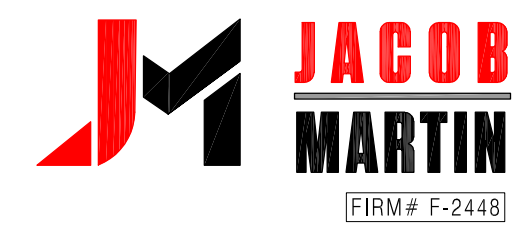
LEGEND

	WILLOW PARK CITY LIMITS		OFFICE
	WILLOW PARK EU		RETAIL
	SINGLE FAMILY		COMMERCIAL
	TWO-FAMILY		INDUSTRIAL
	MULTI-FAMILY		UTILITIES
	PARKS & OPEN SPACE		RIGHT OF WAY
	GOLF COURSE		VACANT
	PUBLIC/SOM-PUBLIC		WATER



CITY OF WILLOW PARK

FIGURE II.2 FUTURE LAND USE MAP MAY 2022

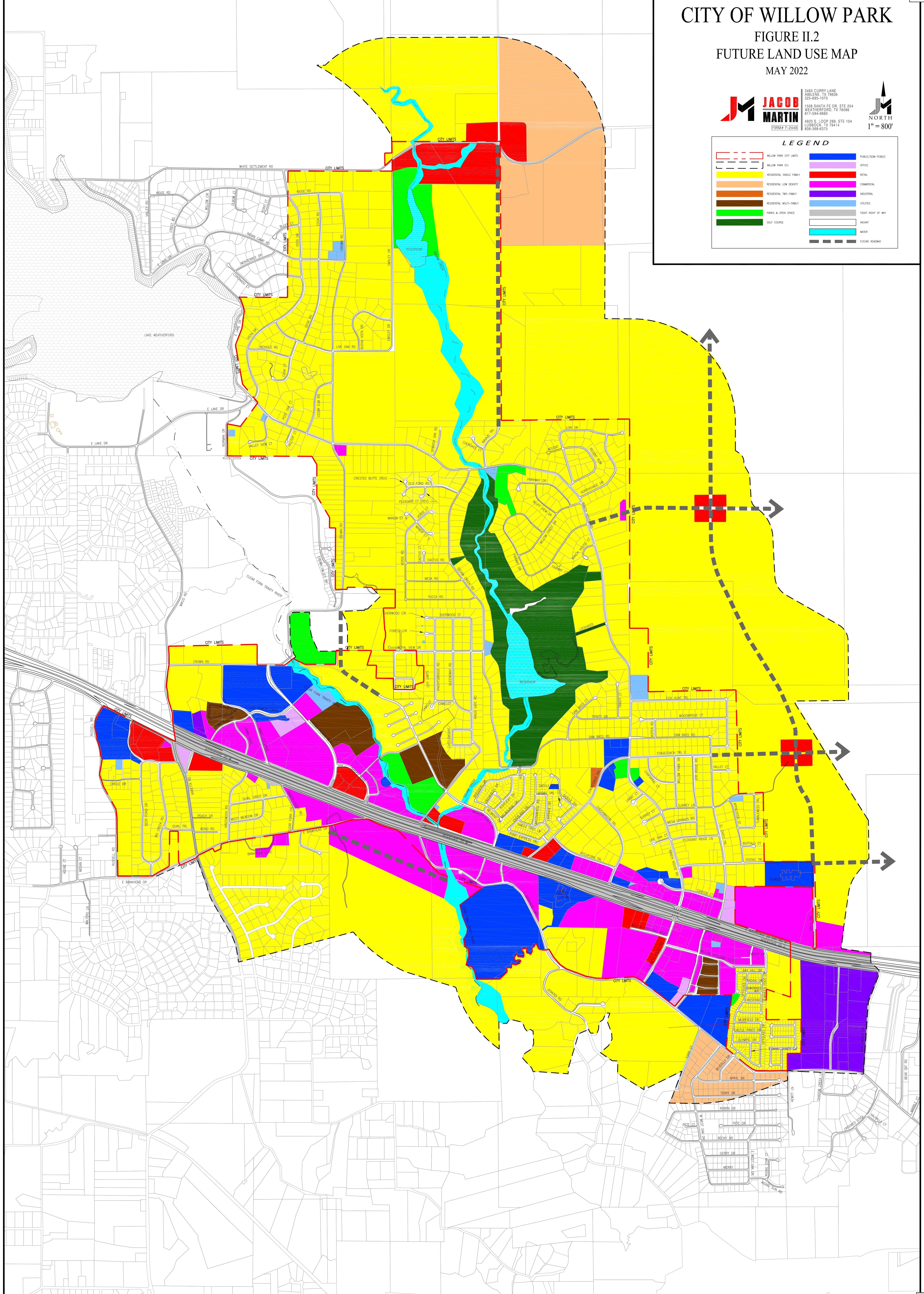


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806-968-6375



LEGEND

	WILLOW PARK CITY LIMITS		PUBLIC/SEM-PUBLIC
	WILLOW PARK EU		OFFICE
	RESIDENTIAL SINGLE-FAMILY		RETAIL
	RESIDENTIAL LOW-DENSITY		COMMERCIAL
	RESIDENTIAL TWO-FAMILY		INDUSTRIAL
	RESIDENTIAL MULTI-FAMILY		UTILITIES
	PARKS & OPEN SPACE		TROOP RIGHT OF WAY
	GOLF COURSE		VACANT
	RESERVOIR		WATER
	FUTURE ROADWAY		



III. WATER SYSTEM

A. Regulations

The agency which oversees public water systems in the State of Texas is the Texas Commission on Environmental Quality (TCEQ). The TCEQ is tasked with insuring compliance with EPA and Texas regulations concerning the quality, capacity, and operation of water systems. The rules promulgated by the TCEQ for this purpose are found in 30 TAC Chapter 290. Subchapter D of the 290 rules pertains to the operational requirements and capacities for public water systems. The relevant sections of the rules for this discussion are 290.44(d) and 290.45(b)(1)(D)(iv). Section 290.44(d) states that “the system must be designed to maintain a minimum pressure of 35 psi at all points within the distribution network at flow rates of at least 1.5 gpm per connection”. This is the peak hourly demand requirement which must be met by public water systems. The TCEQ further requires, in Section 290.45(b)(1)(D)(i), that supplies of 0.6 gpm per connection be available (peak day requirement) for either well supplies or surface water sources. Section 290.45(b)(1)(D)(iv) requires 100 gallons per connection of elevated storage or a pressure tank capacity of 20 gallons per connection. Section 290.45(b)(1)(D)(ii) requires a total storage capacity of 200 gallons per connection. Each section cited herein pertains to groundwater supplies. The requirements for surface water systems are the same, for systems serving more than 250 connections, and are found in Section 290.45(b)(2) of the TCEQ regulations. The TCEQ’s regulations governing public water systems can be viewed online at www.tceq.texas.gov/rules/indxpdf.html.

B. Water Use

The City’s historical and projected water use is illustrated in Table III.1.

**TABLE III.1
METER CONNECTIONS PROJECTION**

Year	Water conn	Yearly Flow (MG/Yr)	Avg. Daily Flow		Max Daily Flow		Peak Hour gpm/conn
			MGD	gpm/conn	MGD	gpm/conn	
2020	2061	279.74	0.77	0.26	1.38	0.46	1.50
2021	2,150	268.1	0.74	0.24	1.42	0.46	1.50
2025	2,494	338.6	0.93	0.25	2.16	0.60	1.50
2030	2,932	398.0	1.09	0.25	2.53	0.60	1.50
2035	3,231	438.5	1.20	0.25	2.79	0.60	1.50
2040	3,670	498.2	1.36	0.25	3.17	0.60	1.50
2045	4,244	576.0	1.58	0.25	3.67	0.60	1.50
2050	5,447	739.3	2.03	0.25	4.71	0.60	1.50

Historically, the City’s average day, peak day, and peak hourly flows have been somewhat less than the guidelines established by the TCEQ. The average daily flow, expressed as gallons per minute per connection (gpm/conn) between 2007 and 2021 has

been 0.25. Repairs and water conservation measures have led to a general decline in average daily water use for the system and this trend would be expected to continue. The City’s peak day use has averaged 0.55 gpm/conn and the peak hourly use has averaged 1.50 gpm per connection. The TCEQ requires planning and design for 0.6 gpm/conn peak day and 1.5 gpm/conn peak hourly flow as discussed in Section III.A. For planning purposes, the TCEQ criteria has been used to project peak day and hourly water uses through the year 2050.

C. Water Supply

The current water supply for the system is from twenty-five Paluxy and Trinity formation groundwater wells and a contracted treated surface water supply from the City of Fort Worth. The Fort Worth water supply is expected become available in late 2022. The capacity of the City’s existing wells is indicated in Table III.2. The available treated water supply from Fort Worth, by contract, is 3.5 million gallons per day (MGD).

Based on the water use projections stated above, it is expected that the City’s current water supply will be sufficient beyond the year 2050. The City’s wells have been decreasing in capacity over the last several years due to reduction in aquifer levels and poorer water quality. However, the reduction in use due to the availability of treated surface water is expected to prolong the available groundwater supply.

**TABLE III.2
WATER WELL INVENTORY**

Well #	Capacity (gpm)	Depth	Pump (HP)
1	60	182	7.5
2	36	148	7.5
3	48	166	7.5
4	24	177	7.5
5	26	158	7.5
6T	64	620	10
6P	50	160	7.5
7	37	135	7.5
9T	114	650	15
9P	85	260	7.5
10T	31	650	15
10P	58	270	7.5
11	35	215	3
El Chico T	50	650	15
El Chico P	22	221	5
14	44	290	7.5
15	97	650	30

16T	35	624	10
16P	26	269	3
WWN	31	250	5
WWS	37	255	3
WSO-T	85	650	15
WSO-P	38	235	5
WSS	12	256	3
WSN	17	256	1
Total GPM	1,137		
Total MGD	1.64		

D. Existing Water System

The City’s existing water facilities are depicted in Figure III.1 – Water System Inventory Map. Approximately 43% of the well supply is conveyed directly to the City’s Indian Camp pump station and elevated tank site on the north end of the system. The pump station at this site fills the adjacent elevated tank and provides supply flow to the rest of the system. The water is conveyed through the distribution system and the City’s main 12-inch groundwater supply line to the Foxhunt elevated tank and pump station site. Additional groundwater is pumped into the system at this site. The Foxhunt elevated tank is on the same pressure plane as the Indian Camp tank (North Pressure Plane). Well 9, Well 10 and the El Chico well site located downstream of the Foxhunt elevated tank site, provide additional groundwater into this portion of the system as well. The Indian Camp elevated tank site provides direct service to the southwest portion of the City’s system and supply flow to the Willow Springs Oaks pressure plane (South Pressure Plane) on the far southwest corner of the service area. Well 11 and the Willow Wood wells and pump station located centrally in the City’s system provides additional groundwater into the distribution system prior to the South Pressure Plane. The Willow Springs Oaks pump station and elevated tank site provides direct service to the South Pressure Plane. The Willow Springs pump station and well site located on the east end of the South Pressure Plane provides additional groundwater into this portion of the system.

The Fort Worth supply is conveyed to the El Chico Pump Station site through a shared 18-inch pipeline. The water then enters the system by a direct connection to the existing 12-inch transmission line in El Chico Drive. Surface water is then conveyed to Hudson Oaks via a 14-inch shared pipeline which runs west along Interstate 20.

Schematic layouts of the City’s pumping and storage facilities are included in Appendix A.

The City’s distribution system is comprised of approximately 74 miles of pipe ranging in size from 2-inch to 12-inch (excluding the Fort Worth transmission line). An evaluation of the system has been made and locations of deteriorated and undersized pipe determined. Deteriorated pipe has led to significant water loss due to

CITY OF WILLOW PARK

FIGURE III.1 WATER SYSTEM INVENTORY MAP

MARCH 2022

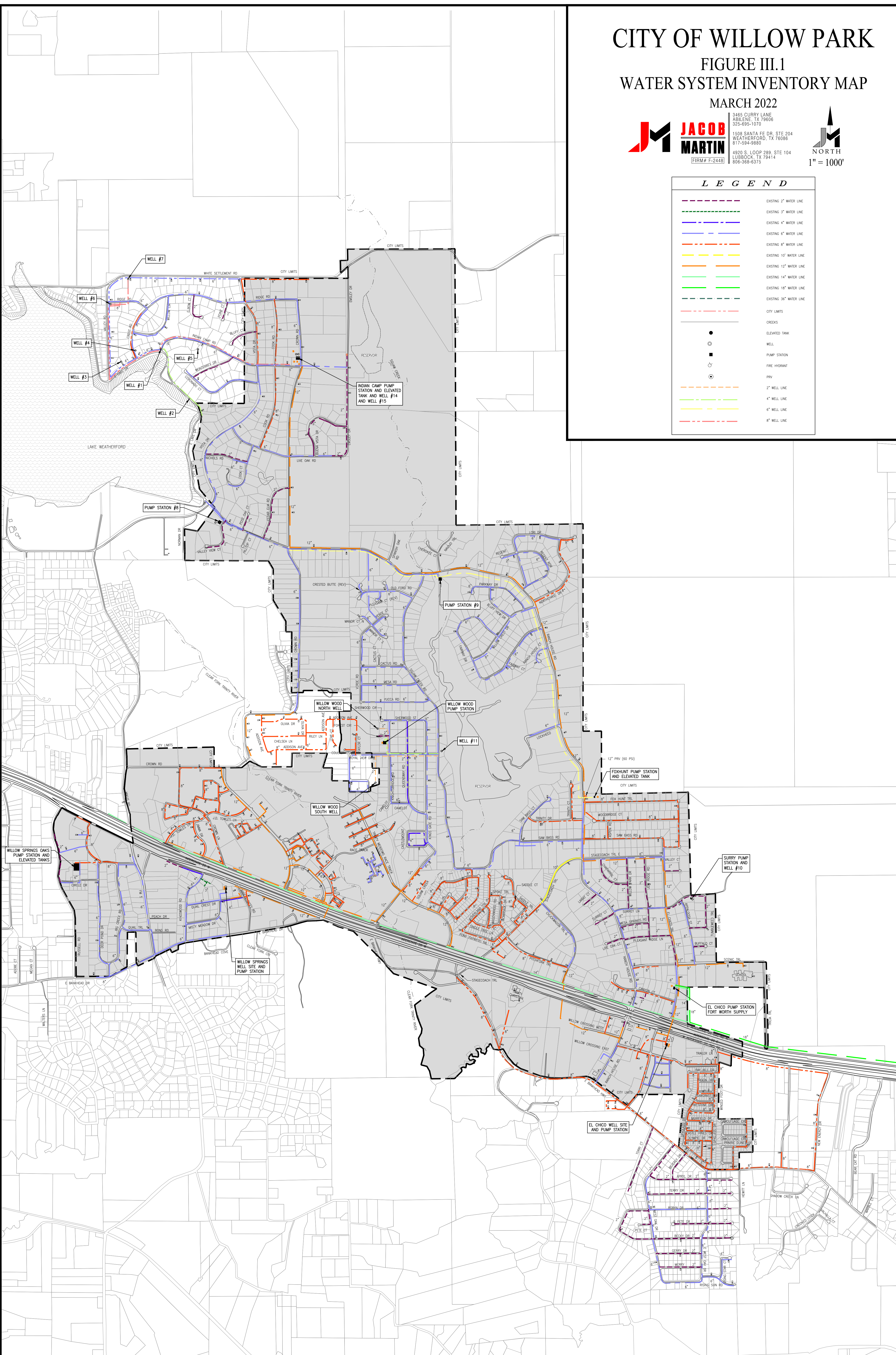


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LEGEND

	EXISTING 2" WATER LINE
	EXISTING 3" WATER LINE
	EXISTING 4" WATER LINE
	EXISTING 6" WATER LINE
	EXISTING 8" WATER LINE
	EXISTING 10" WATER LINE
	EXISTING 12" WATER LINE
	EXISTING 14" WATER LINE
	EXISTING 18" WATER LINE
	EXISTING 36" WATER LINE
	CITY LIMITS
	CREEKS
	ELEVATED TANK
	WELL
	PUMP STATION
	FIRE HYDRANT
	PRV
	2" WELL LINE
	4" WELL LINE
	6" WELL LINE
	8" WELL LINE



pipe breaks in the system as well as service outages. Undersized lines require higher feed pressures to maintain minimum service requirements. These higher pressures lead to even more breaks in vulnerable areas of the system. Additionally, adequate fire protection requires larger pipes to insure sufficient flow can be maintained during a fire. A 6-inch pipe is the smallest size that is acceptable for fire coverage and there are several locations within the City where neighborhoods are being served by 2-inch pipes. Additionally, adequate fire coverage requires fire hydrants spaced at 500 to 1,000 feet depending upon the area. Many areas in the City exceed even the 1,000 foot separation. The City is contemplating a project to address many of these areas. The City’s system is looped, from north to south, in three locations. Additional north-south, as well as east-west, looping will be necessary to insure adequate flow throughout the system.

E. Storage and Pumping Requirements

According to TCEQ regulations, the following minimum requirements must be provided by a community-type water system that serves more than 250 connections. Minimum residual pressure of 20 psi and a minimum normal operating pressure of 35 psi with an instantaneous use in the system of 1.5 gpm per connection are required.

*TOTAL STORAGE CAPACITY 200 Gallons per Connection

PRESSURE MAINTENANCE FACILITIES:

A. Pressure Tank 20 Gallons per each Connection

B. Elevated Tank 100 Gallons per Connection

WATER SUPPLY FLOW RATE: 0.6 gpm per Connection

SERVICE PUMPS: 2 or more pumps with total rated capacity of 2.0 gpm per connection or 0.6 gpm if 200 gallons per connection of elevated tank capacity provided

* Pressure tank storage is not recognized.

1. Ground Storage

The City of Willow Park currently maintains nine ground storage tanks at seven locations within the system. An inventory of the ground storage facilities is included in Table III.3. Table III.4 provides the expected ground storage requirement based on the water customer projections from Section III.B. As evidenced in these tables, the City will meet the projected regulatory requirement for ground storage volume with the existing facilities. However, from an operational standpoint, additional ground storage may be

needed to meet the needs of additional supply and blending as well as insuring adequate emergency supply.

**TABLE III.3
GROUND STORAGE FACILITIES**

Site Name	Ground Elev. (Ft. above MSL)	Capacity (MG)
Indian Camp Rd.	1,012	0.500
		0.350
Well 9	896	0.06
Fox Hunt	963	0.286
Site 10 (Surry Ln)	954	0.092
El Chico Well Site	945	0.031
Willow Wood	944	0.042
Willow Springs	958	0.024
Willow Springs Oaks	975	0.042
		0.031
El Chico Pump Station	932	0.50
Total Ground Storage		1.958

**TABLE III.4
PROJECTED GROUND STORAGE REQUIREMENTS**

Year	Water Connections	Required Ground Storage (MG)
2020	2061	0.412
2025	2494	0.499
2030	2932	0.586
2035	3231	0.646
2040	3670	0.734
2045	4244	0.849
2050	5447	1.089

2. High Service Pumping

The City currently maintains nine pump stations located throughout the system as well as one emergency pump station. An inventory of the pumping facilities is included in Table

III.5. Based on an elevated storage requirement of 100 gallons per connection, the pumping requirement for the City would be 2.0 gallons per connection. Table III.6 provides the expected high service pump requirements based on this scenario and the water customer projections from Section III.B. The ultimate high service pump capacity under this scenario would be 10,894 gpm. While there is a deficiency by the year 2050, it is slight. Potential improvements to address this shortfall will be examined in later sections of this report.

**TABLE III.5
HIGH SERVICE PUMP FACILITIES**

Site Name	Ground Elev. (Ft. above MSL)	Pump (HP)	Capacity (gpm)
Indian Camp Rd.	1,012	30	700
		30	700
		30	700
Well 9	896	7.5	80
		7.5	80
Fox Hunt	963	20	300
		20	300
Site 10 (Surry Ln)	954	15	350
		15	350
		15	200
El Chico	945	5	100
		10	200
		10	200
Willow Wood	944	10	175
		10	175
		10	175
Willow Springs	958	10	175
		10	175
Willow Springs Oaks	975	10	200
		10	200
		10	200
El Chico Pump Station WP	932	150	1215
		150	1215
		150	1215
El Chico Pump Station HO	932	150	468
		150	468
		150	468
Total High Service Capacity			10,784

**TABLE III.6
PROJECTED HIGH SERVICE PUMP REQUIREMENTS**

Year	Water Connections	Required High Service Pump Capacity (gpm)
2020	2,061	4,122
2025	2,494	4,989
2030	2,932	5,865
2035	3,231	6,462
2040	3,670	7,340
2045	4,244	8,487
2050	5,447	10,894

*Based on 2.0 gpm per connection.

3. Elevated Storage

The City of Willow Park currently maintains three elevated storage tanks at the Indian Camp, Fox Hunt and Willow Springs Oaks locations. The Indian Camp and Fox Hunt tanks provide pressure maintenance for the North Pressure Plane with high water levels of 1,132 MSL. The South Pressure Plane is served by the Willow Springs Oaks tank with a high water level of 1,102 MSL. An inventory of the elevated storage facilities is included in Table III.7. Table III.8 provides the expected elevated storage requirement based on the water customer projections from Section III.B and a requirement of 100 gallons per connection through the year 2045, as discussed in Section III.E.2. As evidenced in these tables, the elevated tank capacity is expected to be sufficient through the year 2050. However, the City has had issues with storage running low in the past. From an operational perspective, the tanks have not been adequate to maintain water supply during times of supply outages. Note also that the elevated storage in the south pressure plane may become insufficient during the planning period based on growth in that area. Additionally, the existing tanks are not expected to last through 2050 as they have deteriorated and will continue to do so. It is likely that one or all of them will require replacement in that time.

**TABLE III.7
ELEVATED STORAGE FACILITIES**

Site Name	Ground Elev. (Ft. above MSL)	Capacity (MG)
Indian Camp Rd.	1,012	0.250
Fox Hunt	963	0.250
Willow Springs Oaks	975	0.125
Total Ground Storage		0.625

**TABLE III.8
PROJECTED ELEVATED STORAGE REQUIREMENTS**

Year	Water Connections	Required Elevated Storage (MG)
2020	2,061	0.206
2025	2,494	0.249
2030	2,932	0.293
2035	3,231	0.323
2040	3,670	0.367
2045	4,244	0.424
2050	5,447	0.545

*Based on 100 gallons per connection.

From a regulatory standpoint, the facilities meet the projected ground storage and elevated storage needs through the planning period. Based on population projections, the pumping capacity becomes deficient sometime prior to 2050. Phased improvements will be necessary for the City to meet regulatory requirements and maintain a high level of service to its customers.

F. Recommended Water System Improvements

An analysis of the system has identified some areas that are or will likely become deficient by the year 2050. Elevated storage, distribution piping, and transmission lines are elements that should be addressed over the next several years and beyond. Pumping capacity will potentially become inadequate by 2050 and may be resolved with minor upgrades at that time.

1. Elevated Storage

Elevated Storage

A previous Capital Improvement Plan recommended siting a new 0.25 MG elevated tank in the vicinity of the existing El Chico Well and Pump Station. This would be an advantageous site and would address some high pressure issues as well. An alternative would be to replace an existing tank, most likely at the Fox Hunt site, with a larger tank. A second new elevated tank or replacement of an existing tank would be recommended for future development with an added capacity of 0.4 MG.

2. Distribution System

Most of the water loss in the City's system is attributable to deteriorated, leaking cast iron or ductile iron waterlines. There are several additional, deteriorated lines in the system that are in need of replacement as depicted in Figure III.3. Additionally, there are a number of lines that are less than 6-inches in diameter and serving residential areas. It is recommended that these lines be upsized to 6-inch and that fire hydrants be installed in locations where the maximum separation is being exceeded.

3. Transmission Lines

It is recommended that a new 12-inch transmission line be installed from the new El Chico Pump Station to the Fox Hunt ground storage facility. This would eliminate supply flow through the distribution system, reducing system pressures, and it would be a more efficient means of filling the Fox Hunt Elevated tank. Additionally, main line loops along Crown Road, Bankhead Highway, and others would provide more reliable service at lower pressures. A tie-in from the new Willow Park/Hudson Oaks 14-inch supply line to provide surface water supply to the Willow Springs Oaks pressure plane is also recommended.

All of the proposed water distribution and storage improvements are depicted in Figure III.2.

CITY OF WILLOW PARK

FIGURE III.2

WATER SYSTEM IMPROVEMENTS MAP

MAY 2022

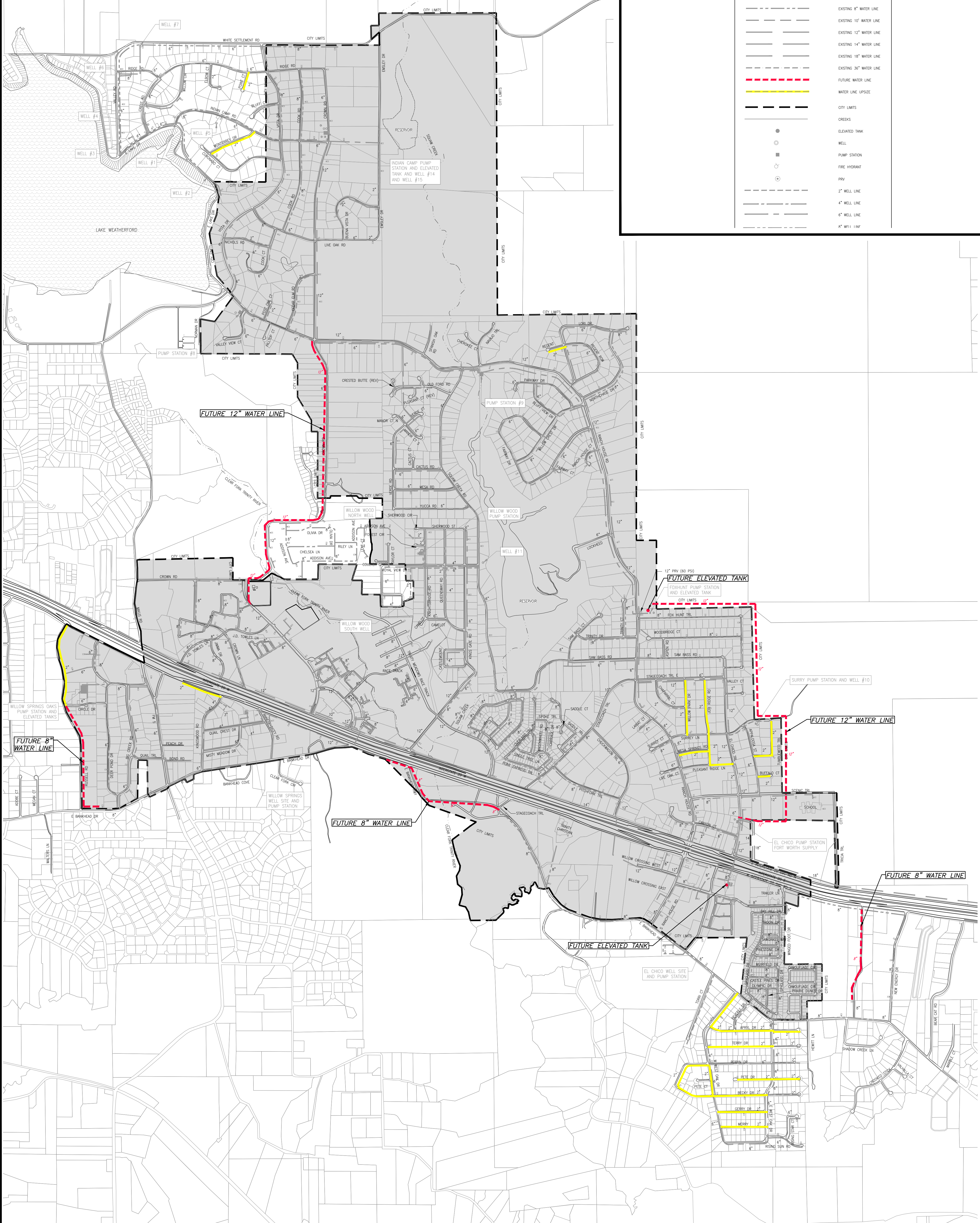


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LEGEND

	EXISTING 2" WATER LINE
	EXISTING 3" WATER LINE
	EXISTING 4" WATER LINE
	EXISTING 6" WATER LINE
	EXISTING 8" WATER LINE
	EXISTING 10" WATER LINE
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	EXISTING 14" WATER LINE
	EXISTING 18" WATER LINE
	EXISTING 36" WATER LINE
	FUTURE WATER LINE
	WATER LINE UPSIZE
	CITY LIMITS
	CREEKS
	ELEVATED TANK
	WELL
	PUMP STATION
	FIRE HYDRANT
	PRV
	2" WELL LINE
	4" WELL LINE
	6" WELL LINE
	8" WELL LINE



G. Priority and Cost Estimates

The following costs and priority timelines may help in planning and budgeting for capital improvement projects. Table III.9 includes both the estimated costs of the recommended improvements and the recommended timeframes for completion of those projects.

**TABLE III.9
WATER SYSTEM IMPROVEMENTS
PRIORITY AND PROJECTED COSTS**

CIP #	Project	Location	Cost
1	El Chico to Fox Hunt Transmssion Line	El Chico/Fox Hunt	\$ 2,500,000.00
2	Disinfection Improvements	All Well Sites	\$ 100,000.00
3	Emergency Generators	All Well Sites	\$ 500,000.00
4	Willow Springs Oaks Interconnect	IH20 & Crown Pointe Blvd	\$ 50,000.00
5	New 0.5 MGElevated Tank	Fox Hunt	\$ 2,500,000.00
6	Replace Deteriorated Lines	City Wide	\$ 2,000,000.00
7	Bankhead 8" Water Line	Bankhead South of IH20	\$ 600,000.00
8	Crown Road 12" Loop	Crown Road	\$ 1,750,000.00
9	Bay Hill Loop	Bay Hill	\$ 500,000.00
10	New 0.5 MG Elevated Tank	South of IH 20	\$ 3,250,000.00
11	Fire Hydrant Additions	City Wide	\$ 100,000.00
12	Russell Road Water Line	Russell Road	\$ 600,000.00
13	Upsize Lines	City Wide	\$ 1,500,000.00
14	Fee Studies		\$ 35,000.00

The costs in Table III.9 make allowance for inflation. The line replacement item, Item 6, is a maintenance issue which will reduce water loss and save cost for repairs once completed. The line upsizes and hydrants are not demand driven and are not critical from an operational standpoint. The City must weigh this against safety concerns when attributing a priority to this item. The remainder of the recommended improvements are driven by increased demand in the system and there should have flexibility in the timing of the improvements. The pace at which development occurs may accelerate or delay the need for these items. Development may also help to offset the cost of these improvements through cost sharing agreements and impact fees.

IV. WASTEWATER SYSTEM

A. Regulations

The TCEQ is also the agency which oversees wastewater systems in the State of Texas. The TCEQ is tasked with insuring compliance with EPA and Texas regulations concerning the effects of wastewater discharge into the waters of the State as well as public welfare and air quality. The rules promulgated by the TCEQ for this purpose are found in 30 TAC Chapter 217. Subchapter B of the 217 rules pertains to the determination of capacity and design loadings for wastewater systems. Subchapter C sets out the regulations regarding collection systems and Subchapters E through L pertain to the design and sizing of wastewater treatment systems.

The TCEQ's regulations governing wastewater systems can be viewed online at www.tceq.texas.gov/rules/indxpdf.html.

B. Wastewater Flows

Critical parameters for wastewater systems design are average daily flow and peak hourly flow. Wastewater flow projections were made using the same growth patterns and land use assumptions discussed in previous sections. However, in the case of wastewater, there are approximately 1,003 water customers which are not currently connected to the sewer system. While it is reasonable to assume that, as facilities are made available, these customers will eventually be connected to the sewer collection system, it is not likely to happen until late in the planning period. Growth patterns and the timing of improvements will dictate to a large degree when these connections would come on line. For the purposes of this report, it is assumed this will occur starting in the year 2050 and the wastewater projections have been adjusted accordingly.

**TABLE IV.1
WASTEWATER CONNECTIONS AND FLOW PROJECTIONS**

Year	Sewer conn	Yearly Flow (MG/Yr)	Avg. Daily Flow		Peak Hour gal/day/conn
			MGD	gal/day/conn	
2020	810	97.02	0.265	327	825
2021	870	105.62	0.289	332	825
2025	1026	1123.61	0.339	330	825
2030	1206	145.30	0.398	330	825
2035	1329	160.10	0.439	330	825
2040	1510	181.86	0.498	330	825
2045	1746	210.28	0.576	330	825
2050	2241	269.90	0.739	330	825

C. Existing Wastewater System

The City’s existing wastewater system is shown schematically in Figure IV.1. It consists of approximately 14 miles of 6-inch through 12-inch gravity mains and 2.7 miles of 2-inch through 6-inch force main, currently serving 897 customers. The wastewater system currently serves less than half the residences and businesses in Willow Park. Wastewater collected from the system is transferred by force main from three sewer lift stations. An area located on Crown Road on the west side of the City which serves eight homes utilizes individual, private lift stations. Sewer is transferred from these lift stations via a single, 2-inch force main directly to the wastewater treatment plant.

The Willow Park Village lift station serves the area generally east of Ranch House Road, south of Interstate 20, west of Hewitt Lane, and north of Bankhead Highway. The lift station was upgraded in 2015 and includes three 35 horsepower pumps rated at approximately 219 gpm each. This lift station pumps to a manhole in Willow Crossing Road through a 6-inch force main.

The Beavers Creek lift station serves the area bounded generally on the north by Scenic Drive, on the east by Tricia Trail, on the south by East Bankhead Highway, and on the west by Chuckwagon Trail. This station also receives flow from the Willow Park Village lift station. The Beavers Creek lift station was also upgraded in 2015 and consists of three 20 horsepower pumps rated at an estimated 278 gpm each and pumps via 6-inch force main to a manhole in Pitchfork Trail.

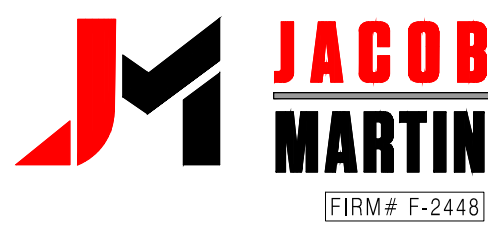
The Kings Gate lift station receives flow from the entire collection system except the few homes on Crown Lane previously mentioned. This station was upgraded along with the others and currently consists of three 25 horsepower pumps rated at an estimated 256 gpm each. This lift station pumps to the wastewater treatment plant through a 6-inch force main. The lift station clogs frequently due to the nature of the sewage and is in need of a grinder to eliminate larger solids and rags.

CITY OF WILLOW PARK

FIGURE IV.1

SEWER SYSTEM INVENTORY MAP









MAY 2022

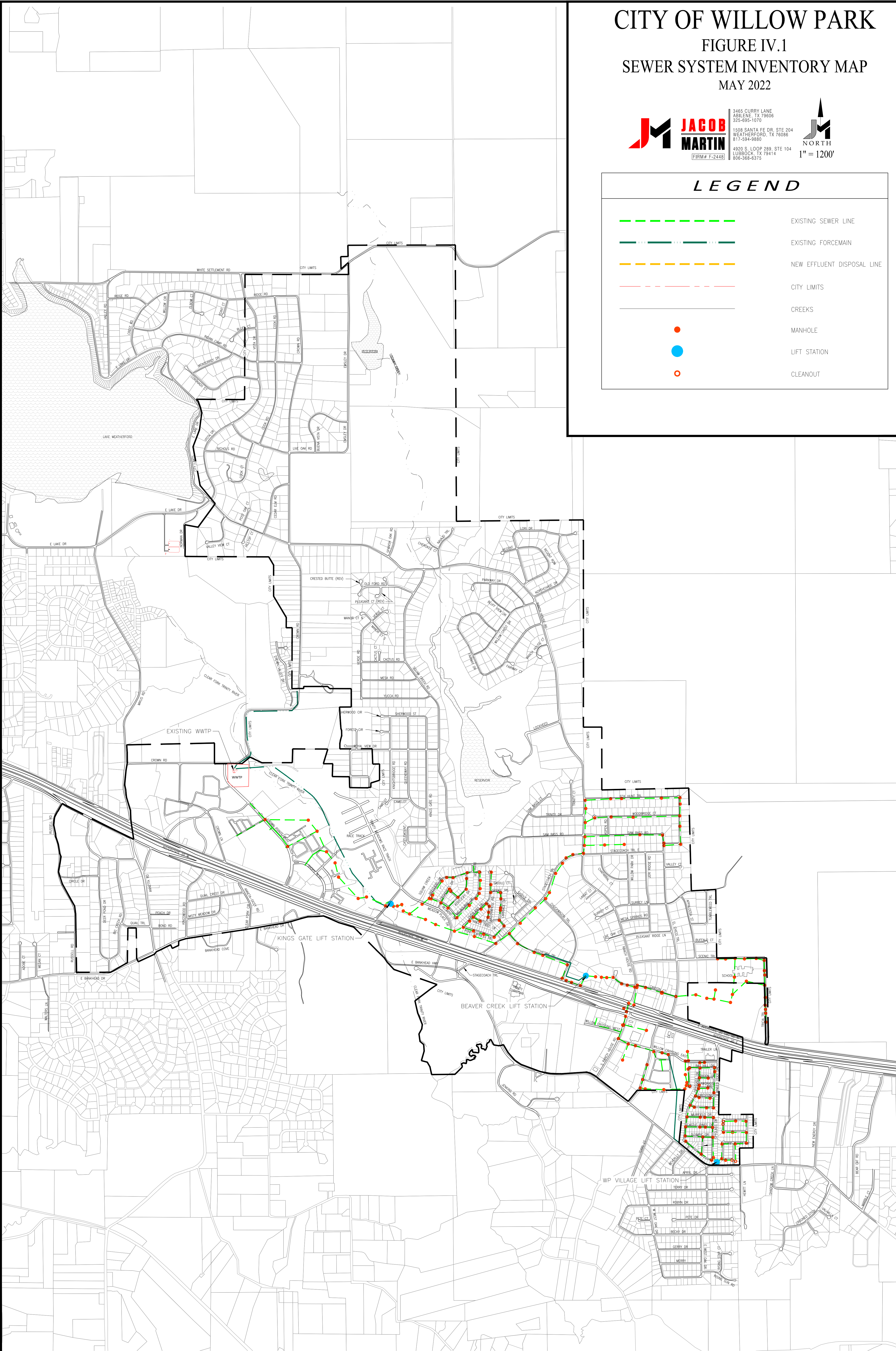


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LEGEND

-  EXISTING SEWER LINE
-  EXISTING FORCEMAIN
-  NEW EFFLUENT DISPOSAL LINE
-  CITY LIMITS
-  CREEKS
-  MANHOLE
-  LIFT STATION
-  CLEANOUT



The current capacity of the wastewater treatment plant is 500,000 gpd. The plant has been installed within the last three years as an interim solution to the City's overall wastewater treatment needs. However, a project is in progress to install a new 1.0 MGD wastewater treatment plant, replacing the existing interim plant. The interim facility is a conventional activated sludge wastewater plant contained in steel basins. The service area is located in the drainage basin for Lake Benbrook which has been designated as an impaired stream. Because of this, the TCEQ requires lower limits than would be typical for a plant of this size. The effluent standards in place for the plant are BOD-5 ppm, TDS-5 ppm, ammonia-nitrogen-1.8 ppm, and phosphorous-1.0 ppm. In order to meet these limits, filtration and coagulant feed are required at the plant. The City has obtained a new discharge point to dispose of up to 500,000 gpd into Reservoir No. 23 at Squaw Creek Golf Course. The effluent standards in place for the new discharge point are BOD-10 ppm, TDS-15 ppm, ammonia-nitrogen-3 ppm, and phosphorous-0.5 ppm. The City has obtained property and funding to construct a new 1.0 MGD wastewater treatment facility which will utilize both of the permitted discharge locations. This plant will be constructed as a permanent solution to the City's needs.

D. Recommended Wastewater System Improvements

The capacity of the wastewater system has been impacted a great deal by inflow and infiltration as well as a high rate of growth in the community. Inflow and infiltration (I&I) occur when segments of the collection system are in disrepair and allow stormwater and water from other sources to infiltrate the sewer system. The City has had significant (I&I) over the last few years which results in overflows of manholes (unauthorized discharges), overburdening of lift stations and force mains, and capacity exceedance at the wastewater treatment plant. The City has begun the process of identifying sources of I&I and has significantly improved the system in recent months, however, some areas of the system still need to be addressed. Additionally, the City's Kings Gate lift station is in need of upgrades to prevent clogging of pumps and related treatment issues. Improvements discussed in the following sections are depicted in Figure IV.2.

1. Collection System

It is recommended that the City continue smoke testing and/or video inspection of existing sewer mains. Problem areas identified to date have been addressed, but it is expected that other areas will be identified. It is also recommended that the City adopt and enforce a pretreatment program to prevent toxic materials from entering the collection system and eventually interfering with the treatment process. The Kings Gate Lift station should be equipped with a grinder as previously stated. Other minor improvements to other lift stations are recommended.

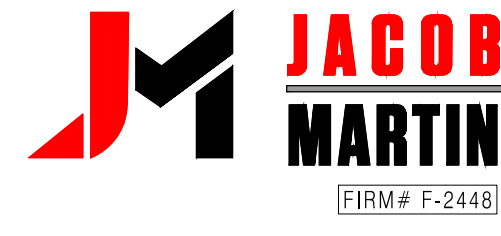
The location and patterns of development will dictate when potential

CITY OF WILLOW PARK

FIGURE IV.2

SEWER SYSTEM IMPROVEMENTS MAP

MAY 2022

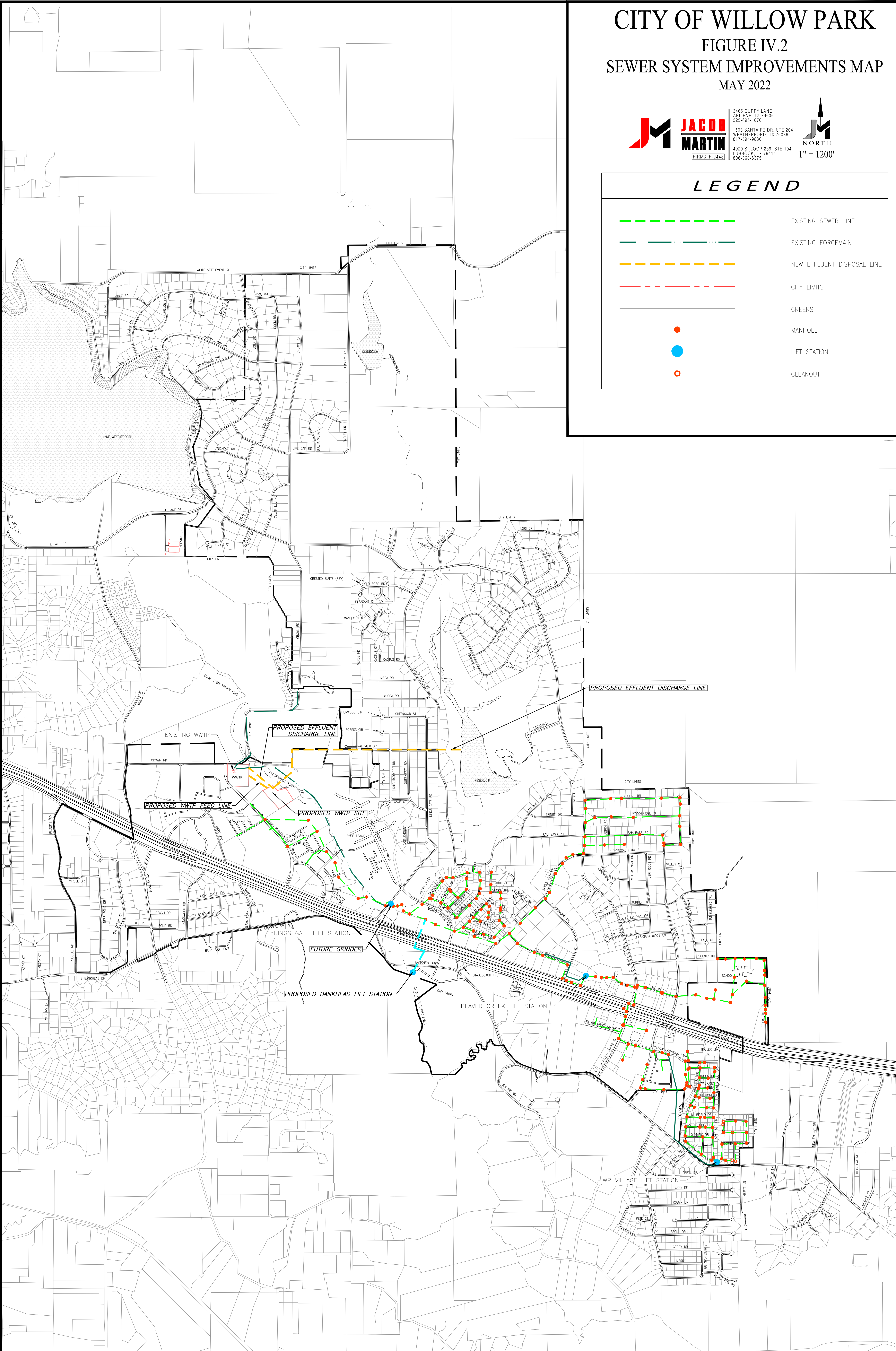


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LEGEND

	EXISTING SEWER LINE
	EXISTING FORCEMAIN
	NEW EFFLUENT DISPOSAL LINE
	CITY LIMITS
	CREEKS
	MANHOLE
	LIFT STATION
	CLEANOUT



improvements will be necessary as well as the need for new lift stations and collection lines. A project is underway to install a lift station on the south side of Interstate 20 on Bankhead Highway and a force main to the 12-inch gravity trunk line which feeds the Kings Gate Lift Station. The new lift station will allow service to the currently unserved areas west of Ranch House Road and South of Interstate 20. A new transmission line in this area will be required to collect and convey the sewer.

2. Wastewater Treatment

As mentioned previously, the City has begun the design for a new 1.0 MGD wastewater treatment plant. Based on the information in Table IV.1, the current plant would only be compliant until 2035 and the TCEQ has indicated that an acceptable timeframe for the interim plant will be approximately five years. Therefore, the City should strive to have a permanent solution for the wastewater treatment issues online as soon as possible. The proposed new plant is being designed for 1.0 MGD with expansion capabilities. This would be compliant beyond the year 2050 at which time expansion would need to be underway. Due to the efficiency of treatment and economy of space, sequencing batch reactor (SBR) technology has been selected for the new plant. Additionally, it is recommended locations for the irrigation of effluent be identified and secured as this will be a requirement of future permits for the disposal of wastewater effluent. Golf courses, parks, and athletic fields are among the sites commonly used for irrigation. The City is currently investigating a number of sites for this purpose. Other potential options should be explored as well including a joint effort with other communities to reduce the cost of the facility.

E. Priority and Cost Estimates

The following costs and priority timelines may help in planning and budgeting for capital improvement projects. Table IV.2 includes both the estimated costs of the recommended improvements and the recommended timeframes for completion of those projects. The costs in Table IV.2 make allowance for inflation.

**TABLE IV.2
WASTEWATER SYSTEM IMPROVEMENTS
PRIORITY AND PROJECTED COSTS**

Priority	Description	Cost
2022 -2025		
1	Collection System Inspection and Testing	\$150,000
2	Permanent 1.0 MGD Wastewater Treatment Plant	\$14,130,000
3	Kings Gate Lift Station Grinder	\$100,000
4	South of IH 20 Sewer Transmission	800,000
2022-2030		
5	Collection System Improvements (I&I Reduction)	\$550,000
2040-2050		
6	Wastewater Treatment Plant Expansion	\$10,000,000

V. STREET SYSTEM

A. Inventory

An inventory of the City's existing streets was performed including arterial, collector, and local streets. This is depicted in Figure V.1, Street System Map.

B. Evaluation

An evaluation was made of the condition of each street and improvements recommended based on the type of street, traffic volume, and condition. Table V.1 shows the streets identified as being in need of rehabilitation along with priorities and the associated cost.

While streets are not regulated like water and wastewater, the condition of the street can have a significant impact to the safety of residents and should be treated accordingly. Likewise, funding for street improvements is generally only available through the issuance of taxes and use of proceeds from property and sales taxes. Therefore, planning for future improvements is critical to maintain an adequate street system.

As part of that process, a seal coat program should be considered to maintain and extend the life of the streets that are not currently in poor condition or soon to be improved. A yearly operating allowance should be considered for this purpose in the street department budget and is usually in the range of \$100,000 for a city the size of Willow Park.

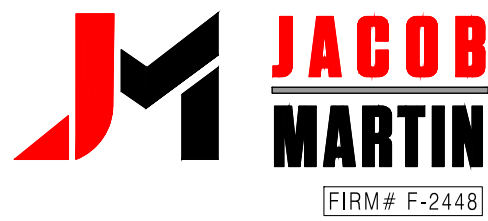
For the streets that have been identified as in need of major rehabilitation, consideration should be given to the type of improvement that will result in the most economical solution while providing the longest life cycle for the street. Local streets that see lower traffic volume as well as lower weight vehicles may be asphalt reconstruction or overlay, while streets that see heavier traffic volumes and loads may warrant more expensive concrete paving. In general, the subgrade soils in Willow Park are expansive, which was not accounted for when much of the existing street system was constructed. In most cases, where street rehabilitation is recommended, subgrade stabilization should be considered as well. In some areas that have been recently upgraded and this was not done, the surface layer is showing evidence of premature cracking due to the subgrade condition.

C. Priority and Cost Estimates

Estimated costs and priorities have been assigned to the street system based on the street evaluation, anticipated traffic volumes, and community input. Table V.1 includes both the estimated costs of the recommended improvements and the recommended priorities for completion of those projects. The priority one projects should be planned to be completed within a 1-2 year timeframe. The priority 2 projects recommended to be done within 3-7 years and the priority 3 projects within 10 years. The priority 4 projects would be 10-15 year projects with priority 5 being within 20 years. The costs in Table V.1 make allowance for inflation.

CITY OF WILLOW PARK

FIGURE V.1 STREET SYSTEM MAP MAY 2022

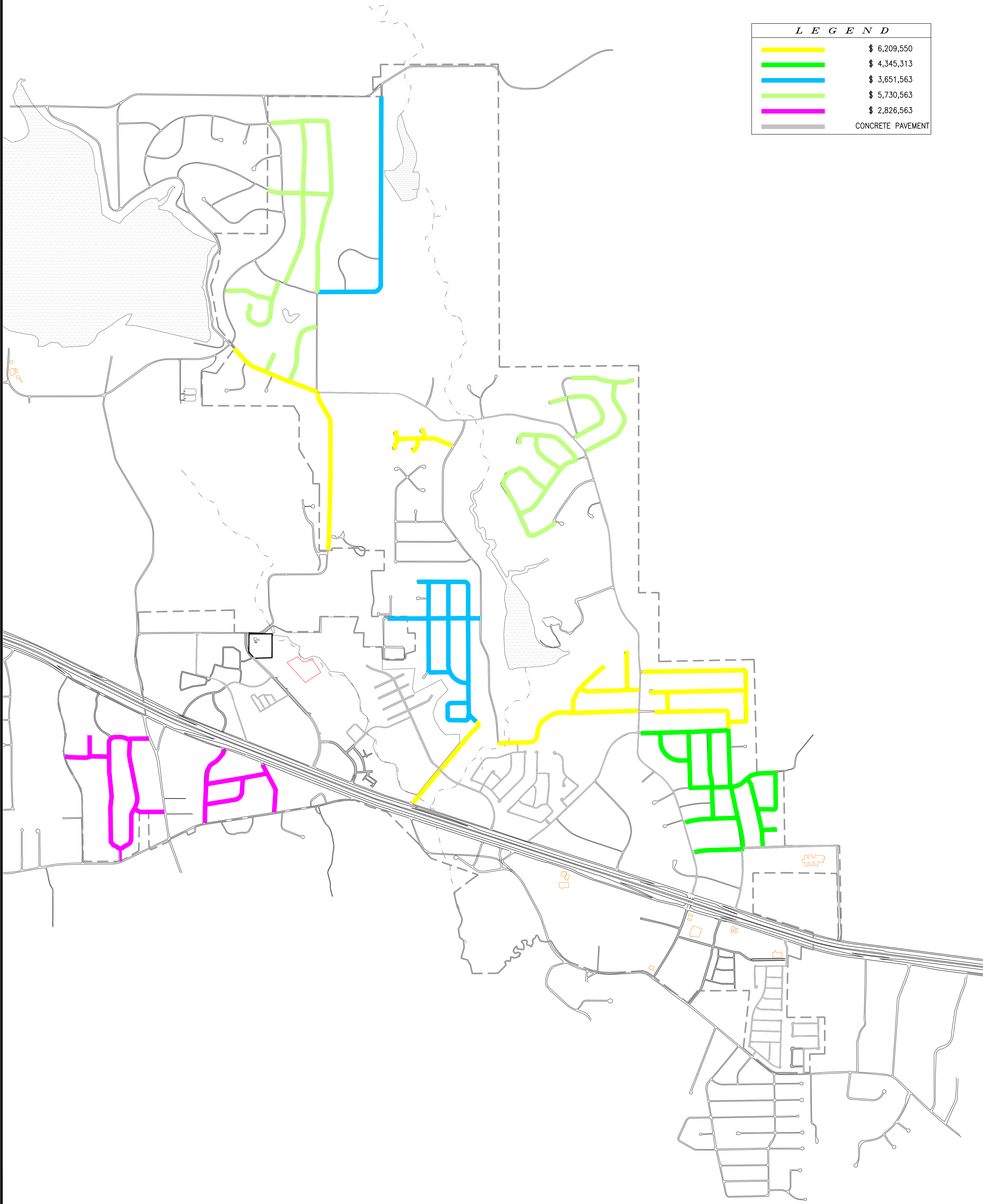


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FIRM# F-2448



NORTH
1" = 1000'

L E G E N D	
	\$ 6,209,550
	\$ 4,345,313
	\$ 3,651,563
	\$ 5,730,563
	\$ 2,826,563
	CONCRETE PAVEMENT



**TABLE V.1
STREET SYSTEM IMPROVEMENTS
PRIORITY & PROJECTED COSTS**

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of	Overall
1	Crown	Ranch House	Crown Valley	3,850	Arterial	Concrete	\$ 1,232,000
1	Kings Gate	Bridge	Castlemont	2,378	Arterial	Concrete	\$ 760,960
1	Ranch House Road	Crown	Vista	2,400	Arterial	Concrete	\$ 768,000
1	Sam Bass	Squaw Creek	Ranch House	3,650	Local	Concrete	\$ 1,168,000
1	Old Ford Road	Squaw Creek Road	End	1,600	Local	Reconstruction	\$ 300,000
1	Sam Bass Court	Sam Bass Road	End	1,300	Local	Reconstruction	\$ 243,750
1	Trinity Court	Trinity Drive	End	900	Local	Reconstruction	\$ 168,750
1	Trinity Drive	Sam Bass Court	Ranch House	1,450	Local	Reconstruction	\$ 271,875
1	Crested Butte Court	Old Ford Road	End	200	Local	Reconstruction	\$ 37,500
1	Pleasant Court	Old Ford Road	End	400	Local	Reconstruction	\$ 75,000
				Total Linear Feet	16,078		\$ 5,025,835
				Miles	3.05		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
2	Fox Hunt Trail	Ranch House	El Chico Trail	4,000	Local	Reconstruction	\$ 750,000
2	Woodbridge	Fox Hunt Trail	Cul De Sac	2,175	Local	Reconstruction	\$ 407,813
2	Sam Bass Road	Ranch House	El Chico Trail	2,275	Local	Reconstruction	\$ 426,563
2	Aspenwood Drive	Woodbridge	Sam Bass Road	500	Local	Reconstruction	\$ 93,750
2	Squaw Creek	Sam Bass Road	Ranch House Road	7,950	Minor Arterial	Reconstruction	\$ 6,000,000
				Total Linear Feet	16,900		\$ 7,678,125
				Miles	3.20		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
3	Verde	HOA Entrance	Yucca	1,475	Local	Reconstruction	\$ 276,563
3	Cactus	Verde	Squaw Creek	1,350	Local	Reconstruction	\$ 253,125
3	Mesa	Verde	Squaw Creek	1,450	Local	Reconstruction	\$ 271,875
3	Yucca	Verde	Squaw Creek	1,775	Local	Reconstruction	\$ 332,813
				Total Linear Feet	6,050		\$ 1,134,375
				Miles	1.15		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
3	Stage Coach Trail	Ranch House	El Chico Trail	2,050	Local	Reconstruction	\$ 384,375
3	El Chico	Stage Coach Trail	Scenic Trail	2,800	Local	Reconstruction	\$ 525,000
3	Jeri Ridge Road	Stage Coach Trail	Pleasant Ridge Lane	2,050	Local	Reconstruction	\$ 384,375
3	Willow Park Drive	Stage Coach Trail	Surrey	1,350	Local	Reconstruction	\$ 253,125
3	Chaparral Court	Stage Coach Trail	Willow Park Drive	1,115	Local	Reconstruction	\$ 209,063
3	Surrey Lane	Ranch House	El Chico Trail	1,315	Local	Reconstruction	\$ 246,563
3	Mesa Springs Road	Ranch House	Jeri Ridge Road	750	Local	Reconstruction	\$ 140,625
3	Pleasant Ridge LN	Ranch House	El Chico Trail	1,250	Local	Reconstruction	\$ 234,375
				Total Linear Feet	12,680		\$ 2,377,500
				Miles	2.40		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
3	Surry Lane	El Chico	Tumbleweed Trail	1,120	Local	Reconstruction	\$ 210,000
3	Appaloosa	Surry Ln	Scenic Trail	1,700	Local	Reconstruction	\$ 318,750
3	Tumbleweed Trl	Surry Ln	Appaloosa	1,275	Local	Reconstruction	\$ 239,063
3	Buffalo Court	Appaloosa	Cul De Sac	350	Local	Reconstruction	\$ 65,625
				Total Linear Feet	4,445		\$ 833,438
				Miles	0.84		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
4	Kings Gate Rd	Castelmont	Sherwood	3,100	Local	Reconstruction	\$ 581,250
4	Queensway Rd	King Gate Rd	Sherwood	2,625	Local	Reconstruction	\$ 492,188
4	Kings Bridge Rd	Camelot	Sherwood	2,100	Local	Reconstruction	\$ 393,750
4	Sherwood	King Gate Rd	Cul De Sac	1,125	Local	Reconstruction	\$ 210,938
4	Royal View	Squaw Creek	Cul De Sac	2,275	Local	Reconstruction	\$ 426,563
4	Camelot	Kingsbridge	Queensway Rd	550	Local	Reconstruction	\$ 103,125
4	Casletmount	(All Square)	(All Square)	1,350	Local	Reconstruction	\$ 253,125
				Total Linear Feet	13,125		\$ 2,460,938
				Miles	2.49		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
4	Emsley Dr	White Settlement	Crown	6,350	Local	Reconstruction	\$ 1,190,625
				Total Linear Feet	6,350		\$ 1,190,625
				Miles	1.20		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
5	Crown Road	Live Oak	Ridge Road	4,036	Local	Reconstruction	\$ 756,750
5	Cook Road	Live Oak	Ridge Road	3,850	Local	Reconstruction	\$ 721,875
5	Indian Camp Rd	Crown	Vista	1,100	Local	Reconstruction	\$ 206,250
5	Live Oak	Crown	Vista	1,750	Local	Reconstruction	\$ 328,125
5	Nichols Rd	Cook Ct	Vista	1,150	Local	Reconstruction	\$ 215,625
5	Cook Ct	Live Oak	Cul De Sac	1,925	Local	Reconstruction	\$ 360,938
5	Cedar Elm Rd	Crown	Ranch House	1,600	Local	Reconstruction	\$ 300,000
5	Post Oak Ct	Ranch House	Cul De Sac	500	Local	Reconstruction	\$ 93,750
				Total Linear Feet	11,875		\$ 2,983,313
				Miles	2.25		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
5	Fairway Drive	Ranch House	Willow Crest Dr.	3,475	Local	Reconstruction	\$ 651,563
5	Willow Crest Dr	Ranch House	Fairway	2,163	Local	Reconstruction	\$ 405,563
5	Parkway Drive	Willow Crest Dr	Cul De Sac	1,775	Local	Reconstruction	\$ 332,813
5	Bluff View Dr	Parkway Dr	Willow Crest Dr.	1,050	Local	Reconstruction	\$ 196,875
5	Ranch House Ct	Ranch House	Cul De Sac	600	Local	Reconstruction	\$ 112,500
				Total Linear Feet	9,063		\$ 1,699,313
				Miles	1.72		

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
5	Lori Dr	End of Improve	Cul De Sac	1,039	Local	Reconstruction	\$ 194,813
5	Regent Row	Ranch House	Cul De Sac	2,350	Local	Reconstruction	\$ 440,625
5	Nortchase Dr	Ranch House	Lori Dr.	2,200	Local	Reconstruction	\$ 412,500
							\$ 1,047,938
			Total Linear Feet	5,589			
			Miles	1.06			

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
6	Big Creek Road	Deer Pond Dr	Deer Pond Dr	2,700	Local	Reconstruction	\$ 506,250
6	Deer Pond Dr.	Mikus	Bankhead	3,950	Local	Reconstruction	\$ 740,625
6	Circle Dr	Russell Rd	Deer Pond Dr	1,075	Local	Reconstruction	\$ 201,563
6	Circle Ct.	Circle Dr.	Cul De Sac	500	Local	Reconstruction	\$ 93,750
6	Quail Trail	Big Creek Rd	Mikus	800	Local	Reconstruction	\$ 150,000
							\$ 1,692,188
			Total Linear Feet	9,025			
			Miles	1.71			

Priority	Street	Street (Start)	Street (End)	Linear Feet	Street Type	Type of Replacement	Overall
6	Kingswood	IH 20	Bankhead	1,950	Local	Reconstruction	\$ 365,625
6	Clear Fork Cir	IH 20	Bankhead	1,300	Local	Reconstruction	\$ 243,750
6	Quail Crest Dr	Kingswood	Clear Fork Cir	1,500	Local	Reconstruction	\$ 281,250
6	Misty Meadow Dr.	Quail Crest Dr	Kingswood	1,300	Local	Reconstruction	\$ 243,750
							\$ 1,134,375
			Total Linear Feet	6,050			
			Miles	1.15			

VI. DRAINAGE SYSTEM

A. Inventory

In 2019, the City authorized JACOB & MARTIN, LLC to complete a master plan for the City's drainage system. That study was completed in March 2019 and contains an inventory of the City drainage infrastructure as well as hydrologic and hydraulic analyses for most of the system's conveyance structures components. The drainage plan has been updated over the last six months. Table VI.1 is a summary of the findings of that report. Figure VI.1 shows the City's drainage infrastructure.

**Table VI.1
DRAINAGE SYSTEM
PRIORITIES & PROJECTED COSTS**

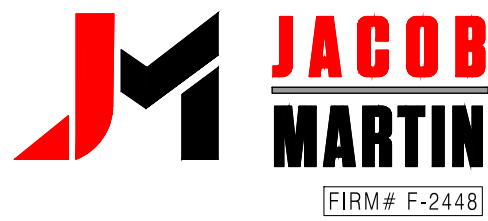
Priority	Description	Cost
2022 -2025		
1	Sam Bass & Pleasant Ridge Culvert & Channel Improvements	\$500,000
2	Fox Hunt to El Chico Channel Improvements	\$500,000
3	Crown Pointe Channel Improvements	\$225,000
4	IH 20 & Chuckwagon Trail Channel Improvements	\$130,000
5	133 Sam Bass Culvert & Channel Improvements	\$85,000
6	Castlemount Culvert & Channel Improvements	\$100,000
7	Vista Drive Culvert & Channel Improvements	\$250,000
8	Live Oak Road Culvert & Channel Improvements	\$100,000
9	Major Culverts – General Improvements	\$800,000
10	Minor Culverts – General Improvements	\$1,175,000
2025-2035		
11	Ditch & Culvert Maintenance (per year)	\$100,000

CITY OF WILLOW PARK

FIGURE VI.1

DRAINAGE IMPROVEMENTS MAP

MAY 2022



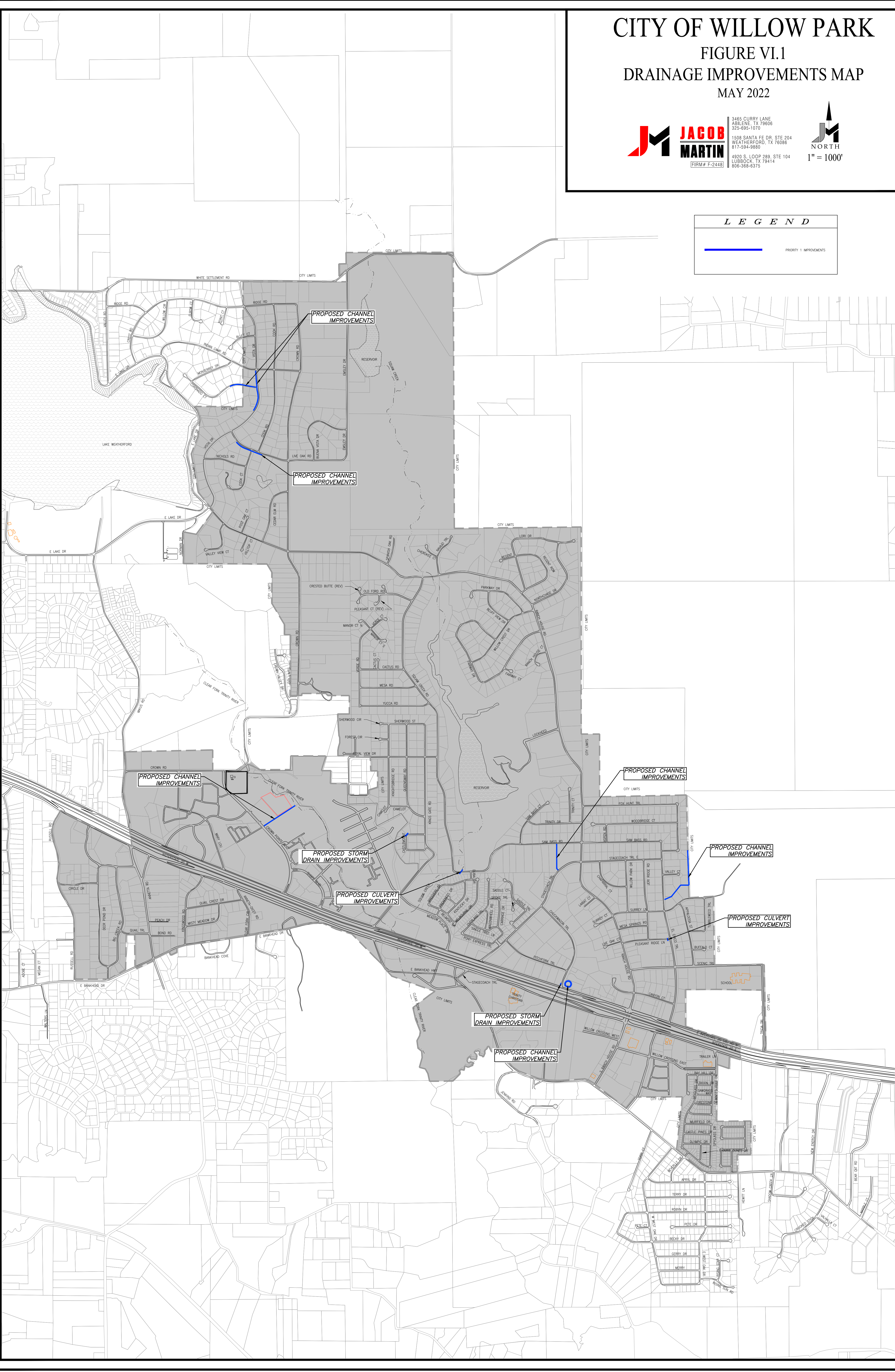
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LEGEND



PRIORITY 1 IMPROVEMENTS



VII. CONCLUSIONS AND RECOMMENDATIONS

Based on our evaluation of the City of Willow Park's infrastructure, we offer the following conclusions and recommendations to assist the City with decisions related to capital improvements through the year 2050

A. Water System

The City has recently completed a project that should insure adequate water supply through 2050. However, water conveyance and distribution should remain a priority for the immediate future. The following is recommended toward that end:

- Complete a surface water supply transmission line to convey surface water to the Foxhunt site.
- Complete system loops in critical flow areas.

These projects would resolve issues with tank refill and allow backup options in times of shortage.

The reduction of water loss and improving pressure maintenance while serving expected growth should be the next priority:

- Install a new elevated tank by 2030.
- Complete replacement of old, poorly installed and deteriorated lines by 2030.

These projects would protect the water supply and insure that expected growth could be accommodated.

Long term supply and demand service should be considered early in the planning period to eliminate shortages in the future:

- Replace an existing elevated tank with a larger tank by 2040.
- Upsize existing small distribution lines.
- Install fire hydrants in various locations as needed by 2040.

These improvements would allow complete distribution of each water source throughout the service area.

B. Wastewater System

The upgrade of the City's wastewater treatment system should be the highest priority. The City should continue with the projects that are underway to address this concern:

- Upgrade the existing Kings Gate lift station by early 2025.
- Complete a new permanent wastewater plant by 2024.

In order to prolong the life of the treatment system and eliminate unauthorized discharges, the City should undertake collection system improvements as soon as possible.

- Begin collection system inspection and testing by 2023.
- Complete collection system replacements and repairs by 2030.

Planning for expansion on the proposed permanent wastewater plant will allow the City to serve future growth in the wastewater system without unnecessary capital expenditure.

- Complete expansion of the permanent wastewater plant by 2045.

C. Streets

A focus on the upgrade of the City's streets should be maintained. The City should continue with the projects that are underway to address this concern:

- Complete priority 1 street improvements by 2024.
- Begin a yearly seal coat program by 2023.

In order to ensure a safe and adequate street system other lower grade streets should be upgraded:

- Begin priority 2 and 3 street improvements by 2025.
- Continue yearly maintenance program.

Assuming yearly maintenance is performed on all streets, the final priority upgrades can be completed without revisiting previously rehabilitated streets.

- Complete priority 4 and 5 streets by the year 2035

D. Drainage

Inadequate drainage can result in significant property damage, damage to infrastructure and even loss of life. Additionally, drainage issues tend to worsen over time as erosion occurs. The City should allocate funds to address significant drainage issues:

- Complete priority years 1 by 2025.
- Continue maintenance program through the planning period.

VIII. FINANCING OF IMPROVEMENTS

The water and wastewater improvement projects currently underway are being funded by low interest loans from the Texas Water Development Board, special federal allocations, and local bond issues. The larger, future recommended improvements should be funded by the Texas Water Development Board as the terms of their funding is very favorable. Smaller projects should be funded by a combination of yearly budgeting and bond issues.

Additionally, capital improvement fees should be evaluated periodically. These fees can be used to fund much of the improvements needed in the system. As development increases in the City, impact fees will also serve to offset potential rate increases. Regardless of the financial vehicles used to fund the recommended projects, it is likely that water and sewer rates will have to increase as well.

Street projects are not generally ranked well enough to be funded through state and federal agencies. The City should consider allocating in the yearly budget for as much as possible and fund larger projects through general obligation bonds or tax notes.

The drainage projects are expected to be funded through the newly instituted Stormwater Utility Rate and impact fees. The larger projects are intended to be funded by a bond issue with these new fees covering the debt service. The Stormwater Utility and impact fees should cover yearly maintenance and smaller projects as well.

IX. CLOSURE

The City should continue to evaluate this plan on a five year basis. As development occurs, the need and timing for various improvements will be more clearly defined. The City should continue to encourage development in accordance with the most recent comprehensive plan and this document.