

CITY OF JOHNSON CITY

ORDINANCE NO. 22-0702

AN ORDINANCE PROVIDING FOR THE APPROVAL AND ADOPTION OF THE 2022 IMPACT FEE STUDY REVISING AND UPDATING LAND USE ASSUMPTIONS, CAPITAL IMPROVEMENT PLANS FOR WATER AND WASTEWATER FACILITIES, AND IMPACT FEES; PROVIDING FOR THE ADOPTION OF ARTICLE 13.07 IMPACT FEES OF CHAPTER 13 UTILITIES OF THE CITY OF JOHNSON CITY CODE OF ORDINANCES FOR THE ADMINISTRATION OF IMPACT FEES; AND PROVIDING FOR AN EFFECTIVE DATE.

RECITALS

WHEREAS, the City of Johnson City (“City”) adopted Resolution R17-012 on November 3, 2017 regarding adoption of a capital improvements plan, and the implementation, assessment and collection of water and wastewater impact fees; and

WHEREAS, Local Government Code Chapter 395 provides for the updating of land use assumptions, capital improvements plans and impact fees by a municipality; and

WHEREAS, in accordance with Chapter 395, the City Council of the City appointed a Capital Improvements Advisory Committee (“Committee”) and commissioned the preparation of an impact fee study by a qualified professional engineer to update land use assumptions, the capital improvements plan, and rates for water and sanitary sewer impact fees; and

WHEREAS, the Committee has recommended the adoption of the impact fee study with updated and revised land use assumptions, capital improvements plans, and impact fees; and

WHEREAS, in accordance with State law, the City Council conducted a public hearing to receive testimony on the proposed updates; and

WHEREAS, the City has observed and complied with all methodologies and procedures prescribed by Chapter 395 for the implementation of impact fees; and

WHEREAS, in accordance with Chapter 395, the City Council finds that it is in the best interest of the citizens of the City to adopt Article 13.07 of Chapter 13 of the City’s Code of Ordinance to revise water and wastewater impact fees and implement the administration of the impact fees.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Johnson City:

ARTICLE I. FINDINGS OF FACT

The foregoing recitals are adopted as facts and are incorporated fully herein.

ARTICLE II. APPROVAL OF REVISED IMPACT FEE STUDY

- A. The City Council of the City of Johnson City hereby approves the **Capital Improvements Plan and Impact Fee Study 2022 Update** (“Impact Fee Study”), dated July 2022 and prepared by Quiddity Engineering, attached hereto as “*Attachment A*” and incorporated fully herein for all intents and purposes. The complete and original study shall be on file and available for public review at the offices of the City at City Hall.
- B. The City Council of the City of Johnson City hereby approves and adopts the following revised land use plan, water and wastewater capital improvements plans and impact fees contained in the Impact Fee Study:
1. Land Use Plan (Exhibit A);
 2. Water Capital Improvements Plan (Table 3-7; Exhibit B; and Attachment E);
 3. Wastewater Capital Improvements Plan (Table 4-3; Exhibit C; and Attachment F);
 4. Maximum Water Impact Fee Per Service Unit (Table 5-4; Table 5-6);
 5. Maximum Wastewater Impact Fee per Service Unit (Table 5-5; Table 5-6); and
 6. Water and Wastewater Impact Fees (Table 5-6).

ARTICLE III. ADOPTION OF IMPACT FEES

The City Council hereby revises and approves the impact fees for water and wastewater as contained in the Impact Fee Study and attached hereto as “*Attachment B*”, incorporated fully herein for all intents and purposes. The fees shall be included in the Municipal Master Fee Schedule and referenced for the assessment of impact fees. The fees shall be applied as of the effective date of approval and passage of this Ordinance.

ARTICLE IV. IMPLEMENTATION OF IMPACT FEES

The City Council of the City of Johnson City hereby implements the revised land use plan, capital improvement plans and impact fees in the Impact Fee Study by enacting in the City’s Code of Municipal Ordinances, Chapter 13 Utilities, *Article 13.07 Impact Fees*, as depicted in “*Attachment C*” attached hereto and incorporated fully herein for all intents and purposes, and to read as contained therein.

ARTICLE V. REPEALER AND SEVERABILITY

- A. REPEALER: All ordinances, or parts thereof, that are in conflict or inconsistent with any provision of this Ordinance are hereby repealed to the extent of such conflict, and the provisions of this Ordinance shall be and remain controlling as to the matters regulated, herein.

B. **SEVERABILITY:** Should any of the clauses, sentences, paragraphs, sections or parts of this Ordinance be deemed invalid, unconstitutional, or unenforceable by a court of law or administrative agency with jurisdiction over the matter, such action shall not be construed to affect any other valid portion of this Ordinance.

ARTICLE VI. EFFECTIVE DATE

This Ordinance shall be effective immediately upon passage and approval.

PASSED AND APPROVED this, the 26th day of July, by a majority vote of the City Council of Johnson City, Texas.

CITY OF JOHNSON CITY, TEXAS

Rhonda Stell, Mayor

Attest:

Whitney Walston, City Secretary

City of Johnson City
Capital Improvements Plan and Impact Fee Study
2022 Update



JULY 2022

The complete and original study is on file and available for public review
at the offices of the City at City Hall.

Water & Wastewater Impact Fees

Meter Size	Maximum Capacity (gpm)	ESFC	Maximum Assessable Water Fee	Maximum Assessable Wastewater Fee
5/8"	15	1.0	\$3,550	\$5,091
3/4"	25	1.7	\$6,035	\$8,654
1"	40	2.7	\$9,585	\$13,744
1 1/4"	45	3.0	\$10,650	\$15,272
1 1/2"	50	3.3	\$11,715	\$16,799
2"	160	10.7	\$37,985	\$54,468
3"	320	21.3	\$75,615	\$108,428
4"	500	33.3	\$118,215	\$169,514
6"	1,000	66.7	\$236,785	\$339,536
8"	1,600	106.7	\$378,785	\$543,156
10"	2,300	153.3	\$544,215	\$780,374

Effective July 2022

The fees are included in the Municipal Master Fee Schedule of the City and shall be referenced for the assessment of impact fees.

CITY OF JOHNSON CITY CODE OF ORDINANCES

CHAPTER 13 UTILITIES

ARTICLE 13.07 IMPACT FEES

Sec. 13.07.001 Purpose; Authority; Applicability

- (a) *Purpose.* This Article is intended to assure the provision of adequate public facilities to serve new development in the City by requiring each development to pay a share of the costs of improvements necessitated by and attributable to such new development. Impact fees established by this Article are additional and supplemental to, and not in substitution of any other requirements imposed by the City on the development of land or the issuance of building permits or certificates of occupancy. Such fees are intended to be consistent with and to further the policies of the City's Comprehensive Plan, the impact fee capital improvements plan, and other City policies, ordinances and resolutions by which the City seeks to provide adequate public facilities in conjunction with the development of land.
- (b) *Authority.* This Article is adopted pursuant to Texas Local Government Code, Chapter 395. The provisions of this Article shall not be construed to limit the power of the City to utilize other methods authorized under State law or pursuant to other City powers to accomplish the purposes set forth herein, either in substitution or in conjunction with this Article.
- (c) *Applicability.*
1. This Article applies to all new development proposed after the effective date of this Article and located within the corporate boundaries of the City and its extra-territorial jurisdiction.
 2. In accordance with Chapter 395, the imposition of impact fees shall not apply to a development by a public school district unless the school board consents to payment of fees by contract with the City;

Sec. 13.07.002 Definitions

For purposes of this Article, the definitions contained in Chapter 395, are hereby adopted and incorporated herein. In addition, the following definitions apply:

Capital Improvements Plan and Impact Fee Study 2022 Update; Impact Fee Study: The impact fee study, dated July 2022, prepared by Quiddity Engineering which updates and revises the City's land use plan, water and wastewater capital improvement plans and impact fees originally adopted in 2017. Said Study, plans and fee schedules are on file and available for public review and inspection at the offices of the City.

Chief Administrative Officer; "CAO": The City's Chief Administrative Officer or designee.

City: The City of Johnson City.

City Council: The City Council of the City of Johnson City.

Extraterritorial Jurisdiction; ETJ: The unincorporated area of the City of Johnson City that is contiguous to the corporate boundaries of the City and that is within one-half mile of those boundaries.

New development: 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.

Owner; Owner Applicant: An owner of real property, or an agent, employee, applicant or representative thereof authorized to act on the real property owner's behalf.

Person: An individual, association, firm, corporation, governmental agency, political subdivision, or legal entity of any kind, including commercial or residential subdivision development.

Texas Local Government Code Chapter 395; "Chapter 395": The chapter of the Texas Local Government Code and accompanying sections, entitled "Financing Capital Improvements Required by New Development in Municipalities, Counties, and Certain Other Local Governments." The Chapter includes amendments and any successor statute to Chapter 395.

Sec. 13.07.003 Impact Fee Study Adopted

The *Capital Improvements Plan and Impact Fee Study 2022 Update*, including the land use plan, water and wastewater capital improvements plans and impact fees contained therein, is approved and adopted, and is incorporated fully herein for all purposes consisted with this Article.

Sec. 13.07.004 Impact Fees Adoption; Maximum Amount

- (a) *Adoption.* Water and wastewater impact fees set forth in the Impact Fee Study are hereby adopted and shall be assessed and collected against new development in accordance with this Article.
- (b) *Impact fees required.* No final plat for new development shall be approved without assessment or notation of impact fees pursuant to this Article. No building permit shall issue, nor utility connection allowed, including water or wastewater tap, until all impact fees have been paid to the City by an owner-applicant in accordance with this Article.
- (c) *Legality.* It shall be illegal to develop a property without payment of impact fees required under this Article.
- (d) *Maximum Impact Fees.* Water and wastewater maximum impact fees per service unit shall be those contained in the Impact Fee Study, incorporated fully herein. Said fees shall be included in the City's Master Fee Schedule and shall be referenced for assessment.

- (e) *General Credit.* As provided in Chapter 395, a credit equal to fifty percent (50%) of the total projected cost of implementing the capital improvement plan projects shall be applied against assessed impact fees. This credit shall be, and is, reflected in the maximum assessable impact fees. No other credit shall be applied.
- (f) *Offsets.* The City Council may approve an agreement for the construction or financing by the property owner of some of the public improvements identified in the capital improvements plans, and an offset of actual costs from assessed impact fees. A property owner must apply for an offset before final plat approval. The agreement, on a form approved by the City, and shall establish the estimated cost of improvement, the schedule for initiation and completion of the improvement, contain a requirement that the improvement shall be completed to City standards, and contain any other terms and conditions the City deems necessary. The City Engineer shall review the improvement plan, verify costs and time schedules, determine if the improvement is contained in the capital improvements plans, and determine the amount of the applicable costs offsets for such improvements before submitting the proposed agreement to the City Council. Costs incurred by the owner will be offset against the balance of total impact fees due from the new development. No offsets shall be granted for rights-of-way or easements obtained by the owner.

Sec. 13.07.005 Assessment of Impact Fees

- (a) *Assessment Required.* A new development shall include the assessment or notation of the impact fee applicable to such development as a condition for final plat approval.
- (b) *Timing.* An impact fee for new development shall be assessed as follows:
 - 1. For new development submitted for approval pursuant to the City's subdivision regulations or for replatting resulting in an increase in the number of service units, assessment or notation of impact fees shall occur at the time of final plat approval, and shall be at the rate in effect at the time of the subdivision plat approval. Following the lapse or expiration of approval for a plat, a new assessment must be performed at the time a new application for such development is filed.
 - 2. For new development for which no platting or replatting is required, assessment shall occur at the time an application is made for a building permit or utility connection, and shall be at the rate in effect at the time of the building permit or utility connection application. In the case where a building permit or utility connection approval has expired, and a new application is filed, a new assessment must be performed at the rates in effect at the time the new application is filed. Previously paid but unrefunded fees shall be credited toward the new amounts.
- (c) *Increased Assessments.* After assessment of the impact fees, additional impact fees or increases shall not be assessed against that development unless the number of service units increases. Increased impact fees are limited to the additional units and shall be at the rate in effect at the time of the increases.

Sec. 13.07.006 Payment and Collection of Impact Fees

- (a) Impact fees shall be collected at the time of issuance of the building permit. If no building permit is required, or for new development for which no platting or replatting is required, collection is at the time that an application is made for connection to the City's water or sanitary sewer system.
- (b) No water or wastewater tap or building permit shall be issued until all impact fees have been paid to the City.
- (c) The City may enter into an agreement with the owner for the timing and method of payment of impact fees prior to the issuance of a building permit.

Sec. 13.07.007 Administration and Use of Impact Fees

- (a) *Use of Fees.* The impact fee proceeds shall be used to finance or to recoup the costs of any capital improvements or facilities expansions identified in the applicable impact fee capital improvements plan and may be used for other costs permitted by Chapter 395. Impact fees may also be used to pay the principal sum and interest and other finance costs on bonds, notes or other obligations issued by or on behalf of the City to finance such capital improvements or facilities expansions. Proceeds may not be used for those items prohibited by Chapter 395.
- (b) *Impact Fee Accounts.* The City shall establish interest-bearing accounts for deposit of impact fees collected. The City shall maintain and keep financial records of these accounts which shall identify the category of capital improvement or facility expansion for which the fee was adopted and show the source and disbursement of all fees. Interest earned on the account shall be considered funds of the account and shall be used solely for the purposes authorized.
- (c) *Expenditure Disbursement.* An impact fee paid shall be expended within a reasonable period of time, not to exceed ten (10) years from the date the fee is deposited into the account.

Sec. 13.07.008 Refunds

- (a) *Refund.* Any impact fee or portion thereof, which has not been expended within ten (10) years from the date of payment, shall be refunded, upon application, to the record owner of the property at the time the refund is paid, or if the impact fee was paid by another governmental entity, to such governmental entity, together with interest calculated from the date of collection to the date of refund at the statutory rate as set forth in Texas Finance Code Section 302.002 or any successor statute.
- (b) *Expenditures.* An impact fee shall be considered expended if the total expenditures for capital improvements or facilities expansions within ten (10) years following the date of payment exceeds the total fees collected for such improvements or expansions during such period. An impact fee shall be considered expended on a first-in, first-out basis.
- (c) *Pro-rated Refund.* If a refund is due, the City shall pro-rate the same by dividing the difference between the amount of expenditures and the amount of the fees collected by the total number of service units for the period to determine the refund due per service unit. The refund to the record owner shall be calculated by multiplying the refund due per service unit by the number

of service units for the development for which the fee was paid, and interest due shall be calculated upon that amount.

- (d) *Petition for Refund.* If the building permit for a new development for which an impact fee has been paid has expired, and a modified or new application has not been filed within six (6) months of such expiration, the City shall, upon written application, refund the amount of the impact fee to the applicant. Failure to apply for a refund within twelve (12) months of expiration of the permit shall waive any right to refund and the fee shall be applied as a credit to any future building permit upon the same property. No interest shall be paid on the refund.

Sec. 13.07.009 Appeal

- (a) The property owner or applicant for a new development may appeal to the City Council:
 - 1. The applicability of an impact fee to the development;
 - 2. The amount of an impact fee due;
 - 3. The availability or amount of a refund; or
 - 4. The availability of offsets.
- (b) An applicant shall file a notice of appeal with the City Secretary within 30 days of the administrative decision. The burden of proof shall be on the appellant.
- (c) If the notice of appeal is accompanied by cash, a bond or letter of credit in an amount equal to the disputed impact fee amount, a building permit or utility connection may issue while the appeal is pending. The owner shall bear all costs of the appeal.
- (d) The CAO shall respond to the appeal within 30 days of receipt of the owner's notice of appeal.
- (e) The petition for appeal shall be forwarded to the City Council within 30 days of the CAO's response. The City Council shall review and determine whether the impact fee regulations and/or the amounts of the impact fees have been correctly applied to the proposed development. To the extent that the City Council's determination requires the owner to pay an impact fee, the owner shall promptly pay the impact fee within five (5) business days after the Council's decision on appeal.

Sec. 13.07.010 Plan Updates and Fee Revisions

- (a) In accordance with the procedures set out in Chapter 395, the City shall update its land use assumptions, impact fees, and capital improvements plans at least every five years with the first five-year period beginning from the effective date of this ordinance and, continuing every five years thereafter. The City Council shall make a determination whether changes to the land use assumptions, capital improvements plans, or impact fees are needed, or that no updates or revisions are necessary.
- (b) The City may review its land use assumptions, capital improvements plans and other factors such as market conditions more frequently than provided in subsection (a) to determine

whether the land use assumptions and capital improvements plan for impact fees should be updated and the impact fee recalculated accordingly.



303 E. Pecan Dr. Johnson City, TX 78838 | P.O. Box 369 Johnson City, TX 78838
Phone: 830.868.7111 | Fax: 830.868.7718 | Web: www.JohnsonCityTX.org

June 29, 2022

Honorable Mayor and Members of the City Council
City of Johnson City, Texas
303 E. Pecan Dr.
Johnson City, Texas 78636

Re: 2022 Update to the City of Johnson City Land Use Assumptions, Capital Improvements Plan, and Impact Fee Study

Mayor Stell and City Council,

The Capital Improvements Advisory Committee met for an introductory meeting on March 22, 2022 and a regular meeting on June 28, 2022. At the June 2022 regular meeting, Quiddity Engineering presented the proposed 2022 Update to the *City of Johnson City Land Use Assumptions, Capital Improvements Plan, and Impact Fee Study*.

Pursuant to Texas Local Government Code Sec. 395.056. *Advisory Committee Comments on Amendments*, the Committee reviewed the proposed 2022 Update and unanimously recommended approval of the 2022 Update with the following comments:

1. Update Section 2.3.3 *20-Year Projections* to reflect the correct U.S. Census population projection for the City; and
2. Increase projected institutional / public water and wastewater connections to reflect future Johnson City Independent School District (JCISD) growth.

As required by State Law, the Committee will continue to meet semiannually in January and July and file reports with respect to the progress of the Capital Improvements Plan and any perceived inequities in implementing the Plan or imposing the impact fee.

Thank you,

Suree Birck
Chairwoman
Planning and Zoning Commission
and Capital Improvements Advisory Committee

Capital Improvements Plan and Impact Fee Study 2022 Update

City of Johnson City



INTERIM REVIEW

Not intended for construction, bidding
or permit purposes.

Engineer: Alan M. Moon, P.E.

P.E. Serial No.: 123364

Date: July 2022

JULY 2022
QUIDDITY JOB NO. 0A830-0011-00



**CAPITAL IMPROVEMENTS PLAN AND IMPACT FEE STUDY
CITY OF JOHNSON CITY**

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JOHNSON CITY
CAPITAL IMPROVEMENTS PLAN AND IMPACT FEE STUDY

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- A. Texas Local Government Code Chapter 395
- B. Existing Water Plant Capacity Analysis
- C. Projected 2027 Water Plant Capacity Analysis
- D. Projected 2032 Water Plant Capacity Analysis
- E. Water Capital Improvement Plan Projects Cost Estimates
- F. Wastewater Capital Improvement Plan Projects Cost Estimates

EXECUTIVE SUMMARY

This study was performed to update the City of Johnson City’s water and wastewater system impact fees in accordance with the Texas Local Government Code Chapter 395. The population growth over the next 20-years was projected, water and wastewater system analyses were completed, and the City’s Land Use Plan and Capital Improvements Plans were updated per the requirements of Texas Local Government Code Chapter 395.

The projected 10-year growth by water connections was converted to equivalent standard 5/8” diameter water meter service units, which is the typical size for a single-family residential connection. Only projects that are attributable to new development were considered when calculating impact fees. Based on the City’s 10-year growth projections and associated demand values, a total of 2,580 additional service units are anticipated being added by the year 2032. The total water improvements cost per service unit eligible for impact fees is estimated at \$7,100 and the total wastewater improvements cost per service unit eligible for impact fees is estimated at \$10,181. With a 50% reduction of the maximum eligible recoverable cost per Chapter 395.014(7), the baseline impact fee per service unit is \$3,550 for water and \$5,091 for wastewater. The impact fees per service unit were then applied to the standard water meters’ capacity. Table ES-1 presents the maximum assessable impact fees for commonly used meters based on the 50% reduction, as outlined in the Texas Local Government Code Chapter 395.

Table ES-1 Maximum Assessable Impact Fee

Meter Size	Maximum Capacity (gallons per minute)	ESFC	Maximum Assessable Water Fee	Maximum Assessable Wastewater Fee
5/8"	15	1.0	\$3,550	\$5,091
3/4"	25	1.7	\$6,035	\$8,654
1"	40	2.7	\$9,585	\$13,744
1 1/4"	45	3.0	\$10,650	\$15,272
1 1/2"	50	3.3	\$11,715	\$16,799
2"	160	10.7	\$37,985	\$54,468
3"	320	21.3	\$75,615	\$108,428
4"	500	33.3	\$118,215	\$169,514
6"	1,000	66.7	\$236,785	\$339,536
8"	1,600	106.7	\$378,785	\$543,156
10"	2,300	153.3	\$544,215	\$780,374

1.0 INTRODUCTION

In January 2022, the City of Johnson City (the “City”) authorized Quiddity to update the 2017 Water & Wastewater Impact Fee Study for the City’s water and wastewater systems. The purpose of this report is to calculate water and wastewater impact fees for the City in accordance with Texas Local Government Code Chapter 395 (§395), as shown in Attachment A. §395 defines an impact fee 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.” Impact fees may be imposed to pay for capital improvements, including and limited to:

- Construction contract price;
- Surveying and engineering fees;
- Land acquisition costs, including land purchases, court awards and costs, attorney’s fees, and expert witness fees; and
- Fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the capital improvements plan.

Impact fees cannot be used to pay for:

- Construction, acquisition, or expansion of public facilities other than capital improvements identified in 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 standards;
- Upgrading, updating, expanding, or replacing existing capital improvements to provide better service to existing developments;
- Administrative and operating costs of the political subdivision; and
- Principal payments and interest or other finance charges.

Impact fees must be assessed for new developments on projects identified in the Capital Improvements Plan (CIP) and cannot be used for any rehabilitation project to serve existing development. Also required per §395, a Land Use Plan and CIP must be presented to the public. The CIP should include an analysis of the total water and wastewater system capacity, projected service units attributable to new development

within a period of 10-years, and should be updated at least every five years. The City's last update was completed August 2017.

2.0 PLANNED GROWTH PROJECTIONS

A critical part of the CIP is to project the future development within the City's system and to project the anticipated water demands and wastewater flows. The projections aide in determining what capital improvements are necessary to sustain future growth, as well as the timing of those improvements. The future development projections are based on the City's available space for growth and the anticipated type of developments. These anticipated types of development then become the foundation for the future water demands and wastewater flows.

2.1 EXISTING SYSTEM

Currently, the City serves the area within its City limits and serves only a handful of any customers within its Extra-Territorial Jurisdiction (ETJ). Monthly billing information was provided to Quiddity for Fiscal Year (FY) 2021. Connection counts from January 2022 were utilized as the existing system connections. The existing water system is comprised of several types of uses, including single family residential, multi-family residential, commercial, industrial, and institutional (i.e. schools, public buildings, etc.) uses. Connections for this analysis are physical connections to which drinking water is supplied, as defined by 30 TAC §290.38(16). Table 2-1 presents the existing system connection count.

Table 2-1 Existing System Connections

Type	Connections
Single Family Residential	724
Multi Family Residential	4
Commercial	122
Industrial	2
Institutional	67
Total	919

2.2 LAND USE PLAN

The future land use plan was created by utilizing the City's existing land use plan and zoning map, identifying the undeveloped lots and lots anticipated to redevelop, and assigning anticipated types of development to the lots. Quiddity collaborated with the City to determine the anticipated type of development and a timetable for each undeveloped lot. There are several tracts with proposed land plans or developer interest, such as the LCRA tract and the 92-acre tract, which were incorporated into the land

plan. Other currently undeveloped tracts along highways or major roads were projected to be developed for commercial or mixed use. The future land use plan is attached in Figure 1.

2.3 FUTURE GROWTH

The future growth projections are based on the future land use plan and the projected development timing. Any development or re-development that is anticipated to occur outside of the 20-year timeframe was excluded from this analysis. The number of connections per acre was assumed for each type of usage and applied to the acreage of the proposed development. The number of connections per acre, or density, was established based on the existing density within the City’s system and Quiddity’s experience with other types of development within the area. Table 2-2 lists the assumed density by type of usage for the future developments.

Table 2-2 Density by Type of Development

Type	Connections per Acre
Single Family Residential	1.5
Multi Family Residential	2-7
Mixed-Use	2
Commercial	0.5-1
Commercial (RV Parks)	7

2.3.1 5-YEAR PROJECTIONS

The growth projected within the next 5 years is primarily assumed to occur on the undeveloped tracts the City is currently discussing with Developers and commercial tracts within the City’s limits. This includes approximately 92 acres of single family residential, 116 acres of commercial, and 25 acres of mixed-use tracts. The City’s 5-year population projection resulting from this growth is 4,600, approximately double the existing population. Table 2-3 lists the 5-year projected connections for each use.

Table 2-3 5-Year Connection Projections (FY 2027)

Type	Connections
Single Family Residential	925
Multi Family Residential	404
Commercial	137
Industrial	2
Institutional	77
Total	1,545

2.3.2 10-YEAR PROJECTIONS

The growth within the 5- to 10-year timeframe will primarily take place in the undeveloped areas in the outer City limits or within the ETJ. This includes approximately 460 acres of single-family residential, 75 acres of multi-family residential, 130 acres of commercial, as well as 175 acres of mixed use projects. The City's 10-year population projection resulting from this growth is approximately 7,340 people. Table 2-4 lists the 10-year projected connections for each use.

Table 2-4 10-Year Connection Projections (FY 2032)

Type	Connections
Single Family Residential	1,384
Multi Family Residential	621
Commercial	207
Industrial	2
Institutional	87
Mixed Use	124
Total	2,425

2.3.3 20-YEAR PROJECTIONS

Much of the growth to the City's system is anticipated to occur during the 10- to 20-year timeframe. The growth is expected to occur along the US-290 and US-281 corridors and is expected to include approximately 142 acres of land for single-family and 137 acres of land for commercial. The City's 20-year population projection resulting from this growth is 13,560 people.

The Texas Water Development Board (TWDB) analyzes population trends across the State and produces population and water demand projections. The 2021 TWDB population projections for Johnson City showed a population increase of 388 people in the next 10 years and 861 people over the next 50 years. After discussions with the City gauging developer interest, it was quickly clear that the TWDB population projections did not reflect current situational trends in the City and surrounding areas.

3.0 WATER SYSTEM CAPITAL IMPROVEMENTS PLAN

The water system capabilities to serve the existing and future development were evaluated as part of the impact fee analysis. Quiddity collected available records from City Staff, including three (3) years of daily well meter readings, monthly customer billing data, GIS shapefiles, maps, and previous reports.

3.1 EXISTING SYSTEM EVALUATION

3.1.1 EXISTING INFRASTRUCTURE

The City currently has two (2) water plants and an additional elevated storage tank serving its system. The Danz Water Plant is located at 813 Danz Well Rd, and the Eagle Water Plant is located at 300 N Avenue J. The Lady Bird Elevated Storage Tank (EST) is located on East Lady Bird Lane. The City has two additional wells located on US-290 that pump to the Danz Water Plant, as well as a booster station located at 100 Post Oak Drive. Table 3-1 presents the facilities at each of the City’s water plants.

Table 3-1 Existing Water Plant Facilities

Facilities	Well (gpm)	Ground Storage (gal)	Elevated Storage (gal)	Booster Pumps (gpm)	Hydro-Tank (gal)
Danz Water Plant	1 – 140	1 – 200,000 1 – 211,568	-	2 – 530	-
Eagle Water Plant	1 – 160 1 – 60	1 – 95,000	-	2 – 700	-
US-290 West Wells	1 – 170 1 – 270	-	-	-	-
Lady Bird EST	-	-	1 – 150,000	-	-
Post Oak Booster Station	-	-	-	2 – 50	1 – 2,000

The City also owns and maintains approximately 108,000 LF of waterline ranging in size between 2” diameter to 10” diameter.

3.1.2 EXISTING WATER DEMANDS

Water demands were determined by analyzing the City’s January 2022 billing data, as well as using three (3) years of daily well meter readings. An average, daily flow was established using the number of connections in the billing data provided, and the monthly metering data for each connection type was utilized to determine unit flow rates. Table 3-2 presents the existing demand breakdown for the City.

Table 3-2 Existing System Demands

Connection Type	Connections	Unit Demand (gpd/conn)	Total Demand (gpd)
Single Family Residential	724	115	83,260
Multi Family Residential	4	910	3,640
Commercial	122	190	23,180
Industrial	2	2,000	4,000
Public	67	215	14,405
Accountability/Losses	58%		180,215
Total	919		308,700

The City had a significant difference between well pumpage and billed amounts of water in 2021 that's been attributed to water loss. The City has already begun identifying and fixing leaks and taking steps to minimize the water loss. To evaluate the system, the peak-hour condition, as set forth by the TCEQ, was used as the worst-case scenario. Peak-hour conditions occur when a system experiences the highest-use hour on a maximum day. Evaluating the previous three (3) years of well data, the City experienced a maximum day on September 7th, 2021, resulting in a maximum day factor of 2.2. Table 3-3 presents the calculation for the maximum day flow.

Table 3-3 Max Day Flow

	Flow (gpd)
Average Day Flow	308,700
Max Day Factor	2.2
Max Day Flow	679,140

Peak-hour flows (PHF) are determined by multiplying the maximum day flow by a factor of 1.25 for systems with elevated storage in the absence of verified historical data. No hourly demand data was available at the time of the report. A calculation of 2.2 multiplied by 1.25 yields a total maximum day PHF of 2.75 times the average day flow (ADF). Table 3-4 presents the existing flow condition for the City.

Table 3-4 Existing Peak Hour Flow

Existing Flow Condition	Equation	Flow (gpm)
Average Day	308,700 gpd / 1,440 min/day	214
Peak Hour (Max Day)	214 gpm x 2.2 x 1.25	589

3.1.3 EXISTING SYSTEM CAPACITY ANALYSIS

The existing water facilities were analyzed for their capacity to serve the existing system, in accordance with 30 TAC §TAC290.45(b)(1)(D). To meet the minimum requirements, the City must have a minimum guaranteed supply of 0.6 gpm per connection, a minimum storage capacity of 200 gallons per connection, a minimum elevated storage tank capacity of 100 gallons per connection, and either a firm booster pump

capacity (with the largest pump out of service) of 2 gpm per connection or enough firm booster pump capacity to meet the maximum day peak hour demand. The City’s water plants have enough supply, elevated storage, ground storage, and booster pump capacity to serve the existing system. The existing system water plant capacity analysis is presented in Attachment B.

3.2 FUTURE SYSTEM EVALUATION

3.2.1 METHODOLOGY OF PROJECTED WATER DEMANDS

To determine the projected water demands, the projected connections based on the future developments and timelines were utilized. The water unit demands by type of connection were applied to the projected connections, where applicable, and unit demands were established for Mixed Use and Industrial connections based upon Quiddity’s experience with similar types of developments within the region.

3.2.2 5-YEAR PROJECTIONS

Table 3-5 presents the projected average daily flows for the 5-year anticipated buildout.

Table 3-5 5-Year Projected Average Day Flow

Connection Type	Connections	Unit Demand (gpd/conn)	Total Demand (gpd)
Existing Single Family Residential	724	115	83,260
New Single Family Residential	201	225	45,225
Existing Multi Family Residential	4	910	3,640
Multi Family (Apartments)	400	200	80,000
Commercial	133	190	25,270
Commercial (RV Parks)	4	20,000	80,000
Industrial	2	2,000	4,000
Institutional	77	215	16,555
Accountability/Losses	20%		67,160
Total	1,535		405,540

3.2.3 10-YEAR PROJECTIONS

Table 3-6 presents the projected average daily flows for the 10-year anticipated buildout.

Table 3-6 10-Year Projected Average Day Flow

Connection Type	Connections	Unit Demand (gpd/conn)	Total Demand (gpd)
Existing Single Family Residential	724	115	83,260
New Single Family Residential	660	225	148,500
Multi Family Residential	221	910	201,110
Multi Family (Apartments)	400	200	80,000
Commercial	203	190	38,570
Commercial (RV Parks)	4	20,000	80,000
Industrial	2	2,000	4,000
Institutional	87	215	18,705
Mixed Use	124	200	24,800
Accountability/Losses	10%		67,460
Total	2,405		746,835

The total demand is expected to more than double from the 5-year projected demand.

3.2.4 FUTURE SYSTEM CAPACITY ANALYSIS

The City’s water plants do not have enough water supply, elevated storage, ground storage, and booster pump capacity to serve the projected 5-year and 10-year buildouts. The City needs to build a 100,000 gallon elevated storage tank and a 320 gallon per minute (gpm) well to serve the 5-year buildout. The City also needs to build a 100,000 gallon ground storage tank, a 330 gpm well, and two (2) - 300 gpm booster pumps in the 10-year buildout. The 5-year and 10-year water plant capacity analyses are presented in Attachments C and D, respectively.

3.3 CAPITAL IMPROVEMENTS PLAN (CIP)

Quiddity collaborated with City Staff to identify and include projects in the Water CIP that are needed to not only serve new development, but also to assist with operations and better serve the existing customers. Previous CIPs were utilized as reference for improvement and rehabilitation projects that were planned, but not completed, to date. However, not all projects in the CIP can be utilized for impact fees; only those that serve new or future development can be funded through impact fees. Table 3-7 presents the Water CIP. Cost estimates are included in Attachment E for construction projects that can be funded

through impact fees and are intended to serve future development. These projects include engineering and contingencies, where applicable. The water construction projects are shown in Figure 2.

Table 3-7 Water Capital Improvements Plan

No.	Description of Project	Cost
Existing Projects		
W-1	Impact Fee Study	\$90,000
W-2	2" Waterline Replacement	\$1,827,000
W-3	West Side Remote Water Well Connection	\$734,000
W-4	Ladybird Elevated Storage Tank Connection	\$54,000
W-5	Post Oak Drive Water Age Loop	\$158,000
Proposed Projects		
W-6	Remote Water Well and 0.1 MG EST	\$5,230,000
W-7	US-290 12" Extension	\$722,000
W-8	US-281 Water Improvements	\$842,000
W-9	US-281 N Waterline Extension	\$603,000
W-10	FM 2766 Waterline Extension	\$943,000
W-11	Mesquite & Vio-Lin Loop	\$1,455,000
W-12	Water Plant No. 3 (Well, GST, BPs)	\$4,175,000
Total		\$16,833,000

4.0 WASTEWATER SYSTEM CAPITAL IMPROVEMENTS PLAN

The wastewater system capabilities to serve the existing and future development were evaluated as part of the impact fee analysis. Quiddity collected available records from City Staff, such as three (3) years of daily wastewater treatment plant (WWTP) effluent flows, daily lift station pump run times for two (2) lift stations, and lift station record drawings.

4.1 EXISTING SYSTEM EVALUATION

4.1.1 EXISTING INFRASTRUCTURE

The City owns and maintains a WWTP, located at 343 Resort Road, which has a permitted daily average flow of 303,000 gallons per day (gpd) and a 2-hour peak of 619 gallons per minute (gpm) utilizing a peak factor of approximately 3.0.

The City also owns and maintains eight (8) lift stations (LS) within the system, including, but not limited to, the Oak Forest LS, Deer Creek LS, Gonzales LS, Creekview LS, Brianna Circle LS, and Heritage LS. The wastewater system also contains approximately 62,000 LF of gravity sewers ranging in size between 6" diameter to 12" diameter and approximately 160 manholes.

4.1.2 EXISTING WASTEWATER FLOWS

Daily lift station pump run times from April 29th, 2021 to August 23rd, 2021 were provided for the Gonzales LS and Deer Creek LS. The data was analyzed to determine the lift stations’ average day and maximum day flows. Daily run times for the other four LS (Oak Forest, Creekview, Brianna Circle, Heritage) were not available at the time of the report, and daily average flows were provided by the City. Table 4-1 presents the average and maximum lift station pump run times in hours.

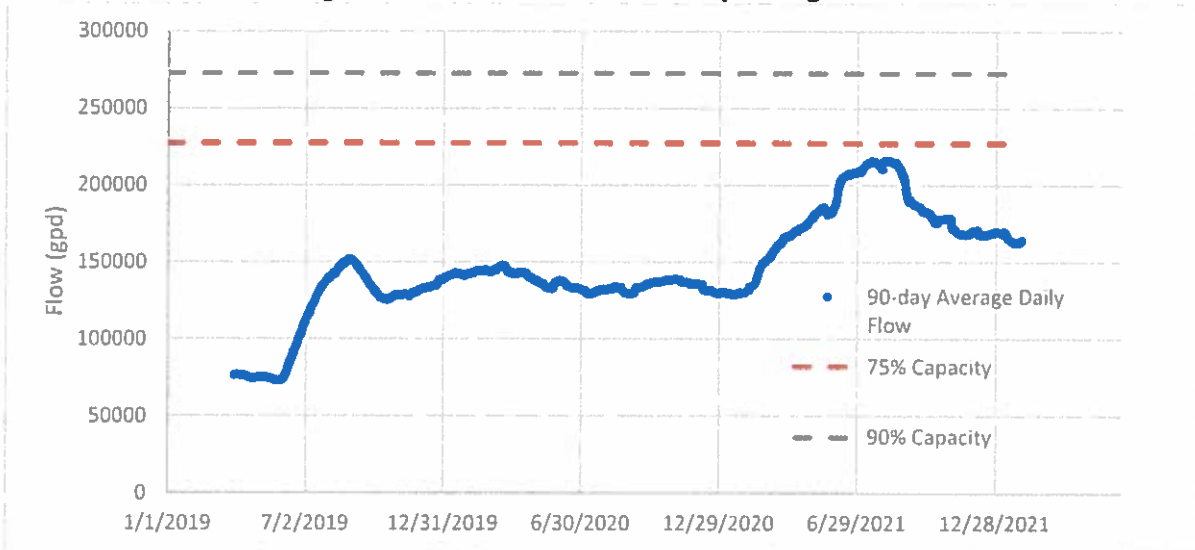
Table 4-1 Lift Station Run Times Summary

Lift Station	Average Day (hours)	Max Day (hours)
Oak Forest	1.3	-
Deer Creek	0.14	0.38
Gonzales	4.0	18.0
Creekview	2.5	-
Brianna Circle	0.7	-
Heritage	3.4	-

Based on the three (3) years of WWTP effluent data available, the City currently has an average daily flow of approximately 146,700 gallons and a permitted average daily flow of 303,000 gallons. TCEQ §305.126 requires a WWTP permit holder to initiate engineering and financial planning for expansion when the average daily sewer flows reach 75% of permitted daily flows for 3 consecutive months. Additionally, the permit holder must also obtain necessary authorization to commence construction for additional facilities when the average daily flows reach 90% of permitted flows for 3 consecutive months. Figure 1 shows the consecutive 90-day average of the daily flows. The plant’s consecutive 90-day average day flows peaked from July to mid-August 2021 with a maximum 90-day average of 216,160 gpd, approximately 71% of the plant’s permitted capacity.

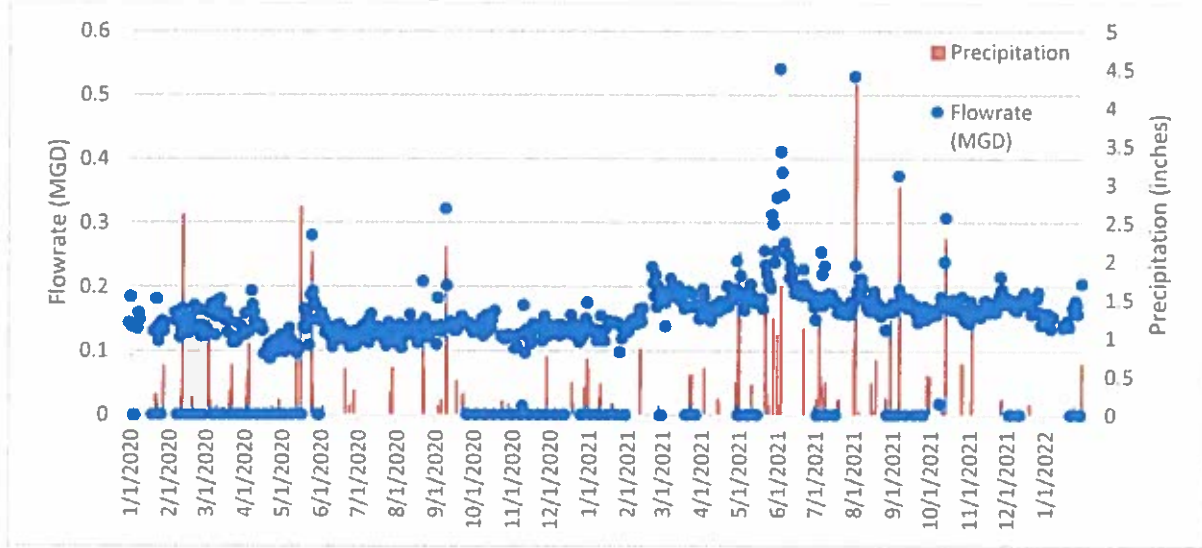
from July to mid-August 2021 with a maximum 90-day average of 216,160 gpd, approximately 71% of the plant's permitted capacity.

Figure 1 - WWTP Consecutive 90-Day Average Flows



In discussions with City Staff, there are deficiencies in the existing gravity sewer system that could be leading to inflow and infiltration. Figure 2 presents the daily WWTP flows compared to the rainfall logged from the Lower Colorado River Authority's rain gauge in the City. There were several rainfall events greater than 2" since September 2020 that correspond with peak daily flows at the WWTP, including a 4" rainfall event in August 2021 which correlates with the peak consecutive 90-day average in August 2021. By eliminating some inflow and infiltration, the City would be able to decrease their peak daily flows and the corresponding 3 month average daily flows.

Figure 2 - WWTP Flows vs. Rainfall



4.2 FUTURE SYSTEM EVALUATION

4.2.1 METHODOLOGY OF WASTEWATER FLOW PROJECTIONS

To determine the projected wastewater flows, projected connections based on future developments and timelines were utilized. Water unit demands by type of connection were utilized, and a return factor was applied to establish the wastewater flows. Due to the significant amount of water loss and reported issues with the sewer system leading to inflow and infiltration, a historical system-wide return factor could not be established. A return factor of 0.6 was used for new development.

4.2.2 5- AND 10-YEAR PROJECTIONS

Table 4-2 presents the projected 5-year and 10-year buildout average day flows for the WWTP.

Table 4-2 Projected WWTP Flows

Year	Total Connections	Average Daily Flows (gpd)
2022 (Existing)	919	146,700
2027 (5-yr projection)	1,545	370,510
2032 (10-yr projection)	2,425	536,600

4.2.3 FUTURE SYSTEM CAPACITY ANALYSIS

The City is expected to surpass their permitted capacity of 303,000 gallons within the next 5 years. It is recommended that the City begin preparing to expand the WWTP in anticipation of new development and closely monitor flows after the 5 year mark as tracts continue to develop. The City has already begun daily influent sampling in preparation for a WWTP expansion.

4.3 CAPITAL IMPROVEMENTS PLAN

Quiddity collaborated with City Staff to identify and include projects in the Wastewater CIP that are needed to not only serve new development, but also, to assist with operations and provide better service to the existing customers. Previous CIPs were utilized as reference for improvement and rehabilitation projects that were planned, but not completed, to date. However, not all of the projects in the CIP can be utilized for impact fees; only those that serve new or future development can be funded through impact fees. Table 4-3 presents the Wastewater CIP. Cost estimates are included in Attachment F for construction projects that can be funded through impact fees and are intended to serve future development. These projects include engineering and contingencies, where applicable. The wastewater construction projects are shown in Figure 3.

Table 4-3 Wastewater Capital Improvements Plan

No.	Description of Project	Cost
Existing Projects		
S-1	Impact Fee Study	\$80,000
Proposed Projects		
S-2a	WWTP Expansion Study	\$40,000
S-2b	WWTP Expansion	\$14,000,000
S-3	Trunk Line Upsizing	\$1,293,000
S-4	US-290 Sewer Extension	\$437,000
S-5	US-281 S Sewer Extension	\$323,000
S-6	US-281 N Lift Station and Force Main	\$1,337,000
S-7	FM 2766 Lift Station and Force Main	\$1,195,000
S-8	US-290 Lift Station and Force Main	\$1,091,000
S-9	Mesquite & Vio-Lin Sewer Extensions	\$1,010,000
S-10	Wastewater Master Plan	\$75,000
S-11	Smoke Testing	\$36,000
S-12	CCTV	\$75,000
S-13	Gravity System Rehabilitation	\$300,000
S-14	SCADA Improvements at LSs & WWTP	\$199,900
Total		\$21,491,000

5.0 IMPACT FEE ANALYSIS

The impact fee analysis determines the capacity of existing and proposed improvement projects utilized to serve new developments over the next 10-years. The fees are calculated as a percentage of the estimated project cost based upon the percentage of the project's capacity to serve the projected development in the next 10-years. No improvement projects meant to improve service to existing

customers or projects increasing capacity serving existing development are considered as part of this analysis.

5.1 SERVICE UNITS

For impact fees, a service unit is defined as an equivalent single family residential water connection (ESFC) that consumes the amount of water requiring a standard 5/8” diameter meter. This is a different definition of connection from 30 TAC §290.38(16) in that a single physical connection could be defined as multiple ESFCs. For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8” meter. The City does not meter or bill individual customer wastewater flows; therefore, wastewater service units are equivalent to water service units for this analysis. Table 5-1 presents the water and wastewater ESFCs for the existing and future systems.

Table 5-1 Projected Service Units

	2022 ADF (gpd)	2022 ESFCs	2027 ADF (gpd)	2027 ESFCs	2032 ADF (gpd)	2032 ESFCs
Water	308,700	1,086	405,540	2,345	746,835	3,666
Wastewater	216,160	1,086	370,510	2,345	536,600	3,666

5.2 WATER AND WASTEWATER ATTRIBUTABLE IMPROVEMENTS

Existing and proposed improvement projects were evaluated to determine the percent utilization for new development within the next 10-years. The percent utilization within the 10-year timeframe for new development is used to calculate the eligible project costs for impact fees. Any of the projects’ capacity used on existing development cannot be included in the eligible project costs for impact fees. Tables 5-2 and 5-3 show the calculated eligible project cost for the water and wastewater systems.

CITY OF JOHNSON CITY
Capital Improvements Plan and Impact Fee Study
2022 Update

Table 5-2 Water Projects Eligible Impact Fee Cost

Project	% Utilization	FY 2022-2027	FY 2027-2032	Total	Impact Fee Eligible Cost
Impact Fee Study	100%	40,000	50,000	90,000	90,000
2" Waterline Replacement	10%	1,827,000	-	1,827,000	182,700
West Side Remote Water Well Connection	10%	734,000	-	734,000	73,400
Ladybird Elevated Storage Tank Connection	50%	54,000	-	54,000	27,000
Post Oak Drive Water Loop	25%	158,000	-	158,000	39,500
Remote Water Well and 0.1 MG EST	100%	5,230,000	-	5,230,000	5,230,500
US-290 12" Water Extension	100%	722,000	-	722,000	722,000
US-281 Water Improvements	25%	842,000	-	842,000	210,500
US-281 N Waterline Extension	100%	603,000	-	603,000	603,000
FM 2766 Water Extension	100%	-	997,000	997,000	997,000
Mesquite & Vio-Lin Loop	100%	-	1,455,000	1,455,000	1,455,000
Water Plant No. 3(Well, GST, BPs)	100%	-	4,175,00	4,175,000	\$4,175,000
Summation		\$10,210,00	\$6,677,000	\$16,887,000	\$13,805,600

Table 5-3 Wastewater Project Eligible Impact Fee Cost

Project	% Utilization	FY 2022-2027	FY 2027-2032	Total	Impact Fee Eligible Cost
Impact Fee Study	100%	35,000	45,000	80,000	80,000
WWTP Expansion	100%	14,000,000	-	14,000,000	14,000,000
Trunk Line Upsizing	25%	1,293,000	-	1,293,000	323,250
US-290 Sewer Extension	100%	437,000	-	437,000	437,000
US-281 S Sewer Extension	100%	323,000	-	323,000	323,000
US-281 N Lift Station and Force Main	100%	1,337,000	-	1,337,000	1,337,000
FM 2766 Lift Station and Force Main	100%	-	1,195,000	1,195,000	1,195,000
US-290 Lift Station and Force Main	100%	-	1,091,000	1,091,000	1,091,000
Mesquite & Vio-Lin Sewer Extensions	100%	-	1,010,000	1,010,000	1,010,000
Summation		\$17,425,00	\$3,341,000	\$20,766,000	\$19,796,250

5.3 MAXIMUM IMPACT FEE CALCULATION

According to the §395, impact fees can be assessed based on one of two options. The fees can either a) allow for a credit calculation to credit back the development community based on the utility revenues and ad valorem taxes that are allocated for paying a portion of future capital improvements or b) reduce recoverable cost for implementing the capital improvements plan by 50%. The intent of the credit is to

prevent the City from double charging development for future capital improvements via impact fees and utility rates. The City has historically assessed impact fees using the second option, to reduce the recoverable cost by 50%. For this analysis, the 50% credit option was utilized. Tables 5-4 and 5-5 present the calculation for the maximum assessable impact fee per service unit for both the water and wastewater system.

Table 5-4 Maximum Water Impact Fee per Service Unit

Eligible Impact Fee Costs	\$13,805,600
Finance Costs (4%)	\$4,515,000
10-Year Additional ESFCs	2,580 ESFCs
Eligible Cost per ESFC	\$7,100
Impact Fee per ESFC (50% Reduction)	\$3,550.00

Table 5-5 Maximum Wastewater Impact Fee per Service Unit

Eligible Impact Fee Costs	\$19,796,250
Finance Costs (4%)	\$6,474,000
10-Year Additional ESFCs	2,580 ESFCs
Eligible Cost per ESFC	\$10,181
Impact Fee per ESFC (50% Reduction)	\$5,091

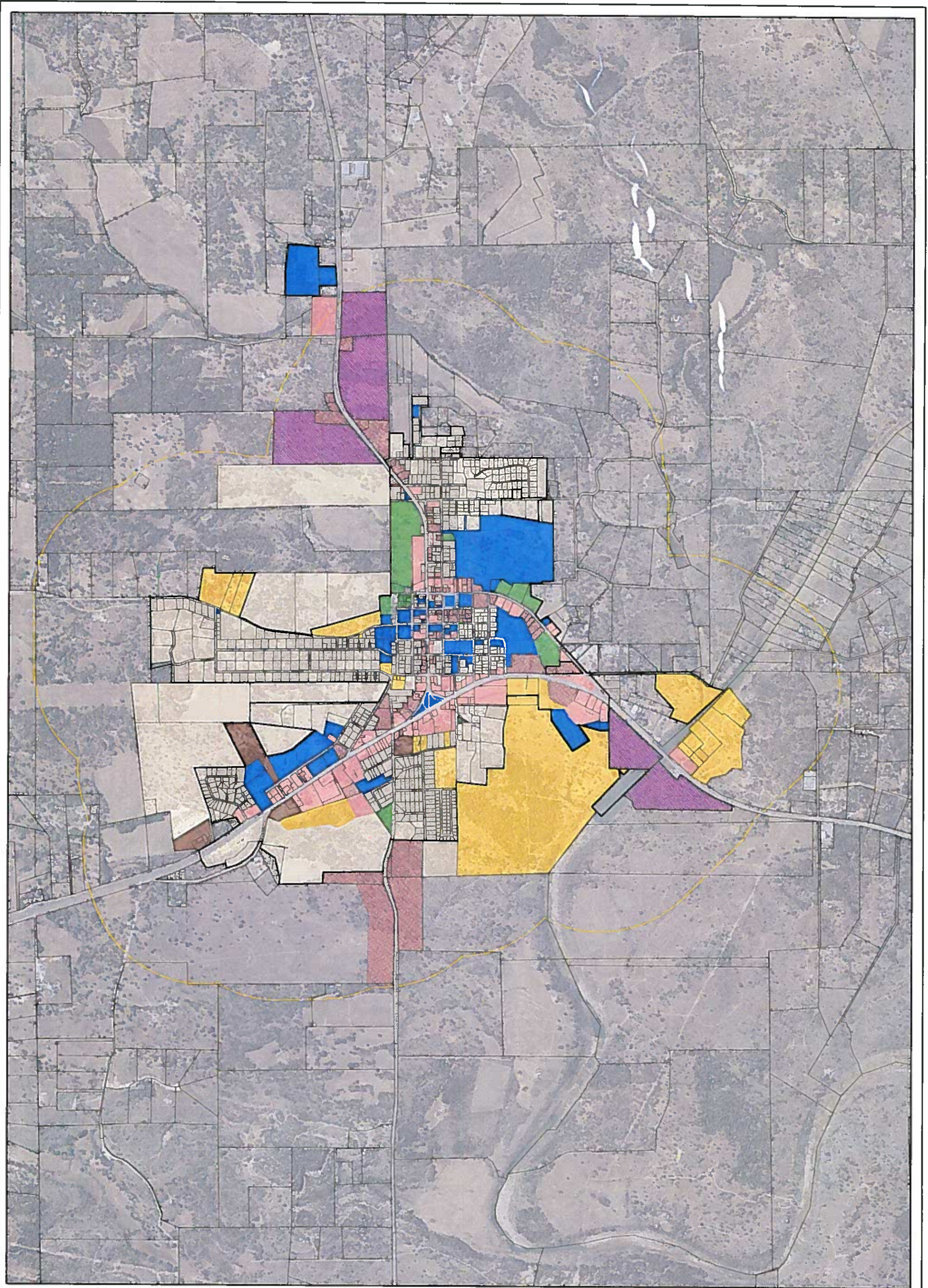
For a development that requires a different size meter, an ESFC is established at a multiplier based on its capacity with respect to a 5/8" meter. The maximum impact fee that could be assessed for other meter sizes is based on the value show in Table 5-6.

Table 5-6 Proposed Water & Wastewater Impact Fees

Meter Size	Maximum Capacity (gpm)	ESFC	Maximum Assessable Water Fee	Maximum Assessable Wastewater Fee
5/8"	15	1.0	\$3,550	\$5,091
3/4"	25	1.7	\$6,035	\$8,654
1"	40	2.7	\$9,585	\$13,744
1 1/4"	45	3.0	\$10,650	\$15,272
1 1/2"	50	3.3	\$11,715	\$16,799
2"	160	10.7	\$37,985	\$54,468
3"	320	21.3	\$75,615	\$108,428
4"	500	33.3	\$118,215	\$169,514
6"	1,000	66.7	\$236,785	\$339,536
8"	1,600	106.7	\$378,785	\$543,156
10"	2,300	153.3	\$544,215	\$780,374

6.0 IMPACT FEE ADOPTION

In order to approve the impact fees outlined in the report, an advisory council must review the proposed CIP, Land Use Plan, and Impact Fees and provide comments to the City Council. A public hearing must subsequently be held to review and allow public comment on the CIP, Land Use Plan, and Impact Fees.



VICINITY MAP
1 INCH = 50 MILES

- LEGEND**
- City Limits
 - City ETJ
 - Agriculture/Undeveloped
 - Commercial
 - Industrial/Warehouse
 - Future Commercial
 - Institutional
 - Mixed Use
 - Public Use
 - Recreation/Open Space
 - Multi-Family Residential
 - Single-Family Residential
 - Property Lines

EXHIBIT A
LAND USE
EXHIBIT

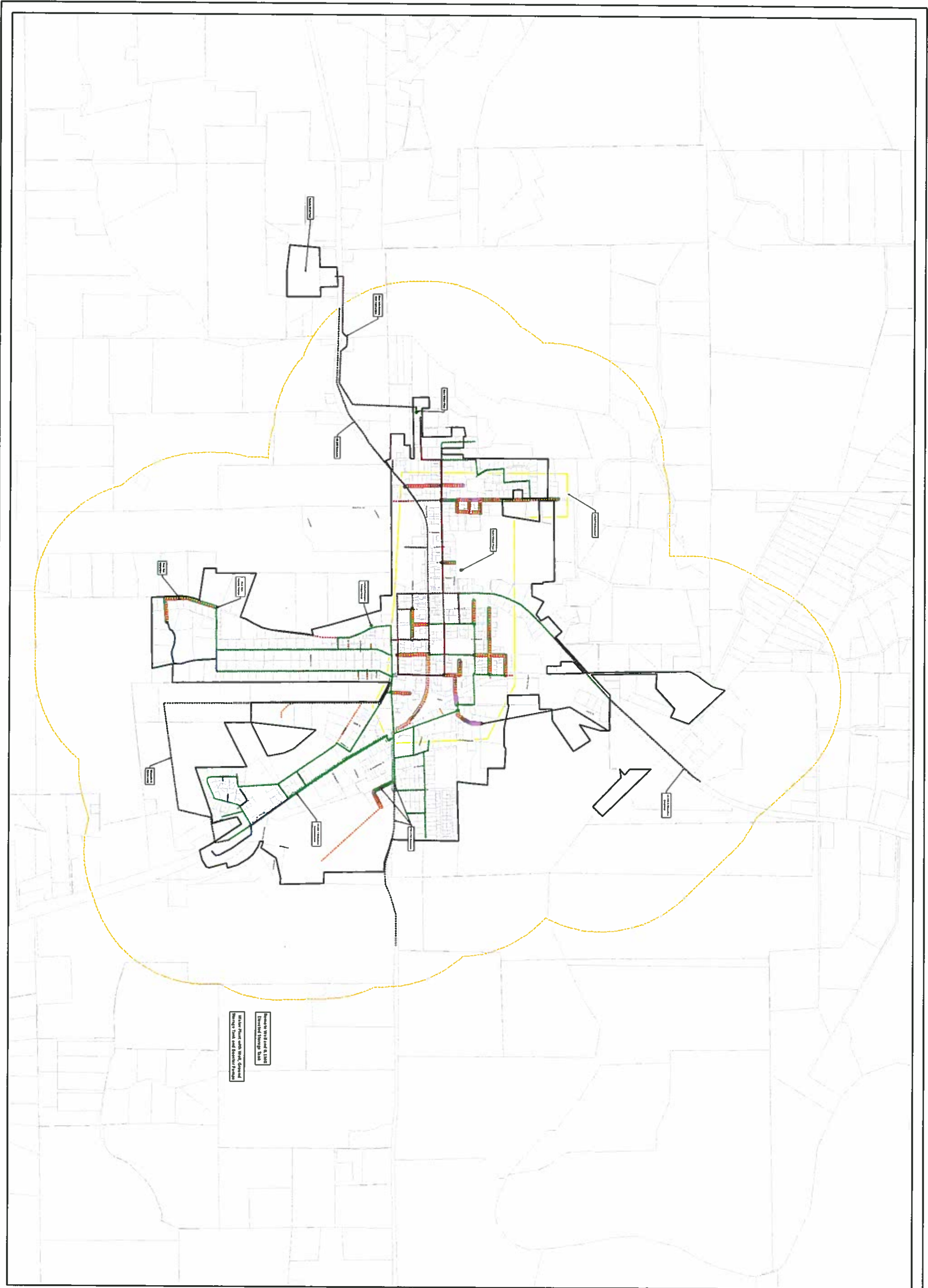
CITY OF JOHNSON CITY
BLANCO COUNTY, TEXAS



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QUIDDITY



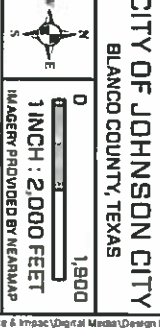
Water Plant with Water, Ground
Treatment, Storage, and
Emergency Tank and Booster Pumps



VICINITY MAP
1 INCH = 50 MILES

- LEGEND**
- Property Lines
 - City ETJ
 - City Limits
 - 12" Waterline
 - 10" Waterline
 - 8" Waterline
 - 6" Waterline
 - 4" Waterline
 - 2" Waterline
 - 2" Replacement
 - Storage Tanks
 - Increase to 6"
 - Increase to 8"
 - Increase to 10"
 - Increase to 12"

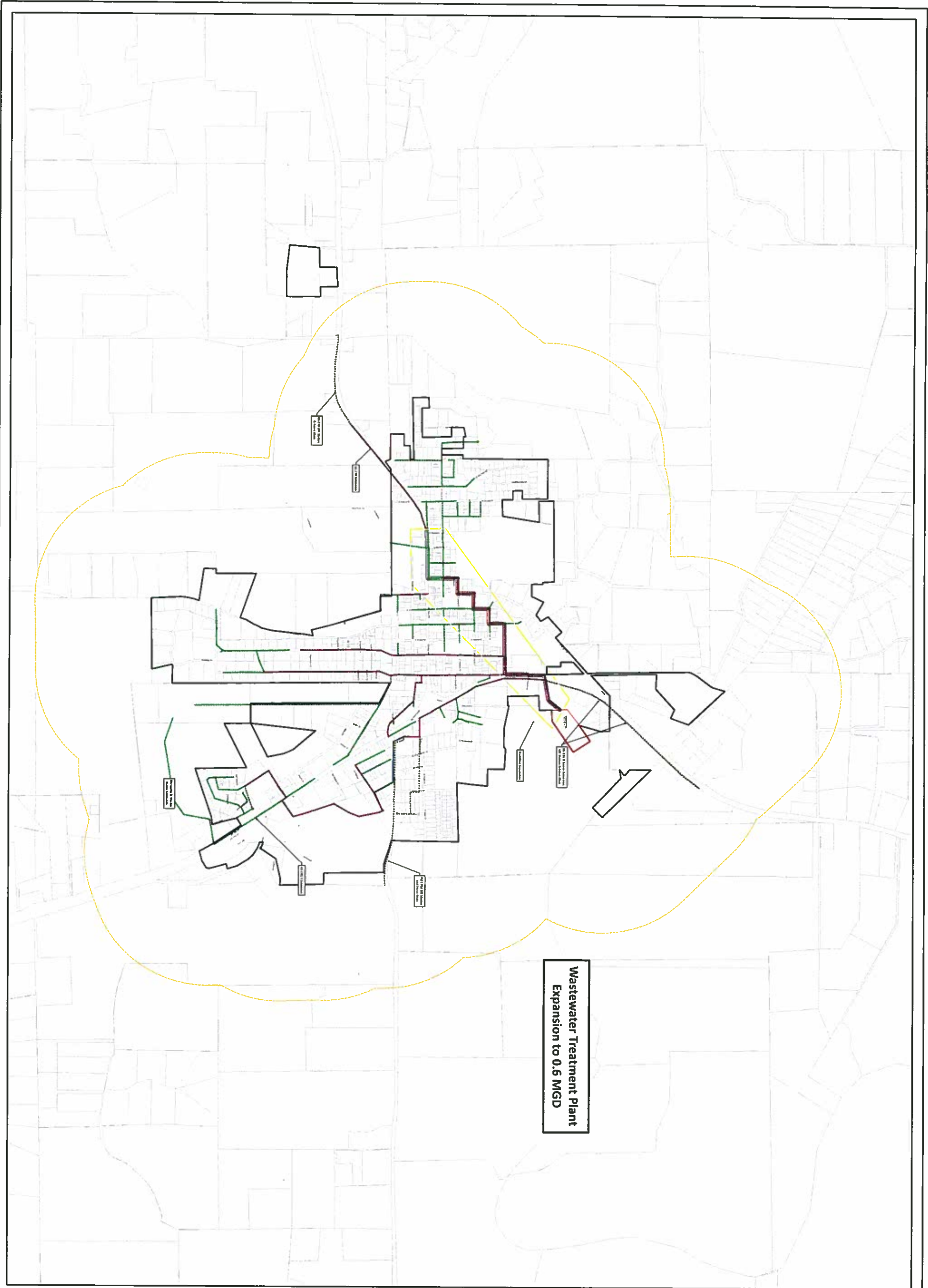
EXHIBIT B
WATER CAPITAL
PROJECTS
CITY OF JOHNSON CITY
BLANCO COUNTY, TEXAS



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QUIDDITY



**Wastewater Treatment Plant
Expansion to 0.6 MGD**



VICINITY MAP
1 INCH = 50 MILES

- LEGEND**
- Property Lines
 - City Limits
 - City ETJ
 - Lift Station
 - Manhole
 - 15" Sanitary Line
 - 12" Sanitary Line
 - 8" Sanitary Line
 - 6" Sanitary Line
 - 6" Force Main
 - 4" Force Main
 - Increase to 8"
 - Increase to 12"
 - Increase to 15"
 - Trunkline Expansion

EXHIBIT C

**WASTEWATER
CAPITAL PROJECTS**
CITY OF JOHNSON CITY
BLAND COUNTY, TEXAS



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QUIDDITY

ATTACHMENT A

LOCAL GOVERNMENT CODE

TITLE 12. PLANNING AND DEVELOPMENT

SUBTITLE C. PLANNING AND DEVELOPMENT PROVISIONS APPLYING TO MORE THAN ONE TYPE OF LOCAL GOVERNMENT

CHAPTER 395. FINANCING CAPITAL IMPROVEMENTS REQUIRED BY NEW DEVELOPMENT IN MUNICIPALITIES, COUNTIES, AND CERTAIN OTHER LOCAL GOVERNMENTS

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 1989, 71st Leg., ch. 566, Sec. 1(e), eff. Aug. 28, 1989; Acts 2001, 77th Leg., ch. 345, Sec. 1, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 1995, 74th Leg., ch. 90, Sec. 1, eff. May 16, 1995.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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 systemwide 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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 2, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 3, eff. Sept. 1, 2001.

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 or 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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 1997, 75th Leg., ch. 980, Sec. 52, eff. Sept. 1, 1997;

Acts 2001, 77th Leg., ch. 345, Sec. 4, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by:

Acts 2007, 80th Leg., R.S., Ch. 250 (S.B. 883), Sec. 1, eff. May 25, 2007.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 1997, 75th Leg., ch. 1396, Sec. 37, eff. Sept. 1, 1997;

Acts 1999, 76th Leg., ch. 62, Sec. 7.82, eff. Sept. 1, 1999; Acts 2001, 77th Leg., ch. 345, Sec. 9, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.
Amended by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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 systemwide 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 systemwide land use assumptions, a political subdivision shall follow the public notice, hearing, and other requirements for adopting land use assumptions.

(c) After adoption of systemwide 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 systemwide land use assumptions.

Added by Acts 1989, 71st Leg., ch. 566, Sec. 1(b), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.
Amended by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 5, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 6, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 345, Sec. 7, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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 plans, 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.

Added by Acts 1989, 71st Leg., ch. 566, Sec. 1(d), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 441, Sec. 2, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 2001, 77th Leg., ch. 669, Sec. 107, eff. Sept. 1, 2001.

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.

Added by Acts 1989, 71st Leg., ch. 1, Sec. 82(a), eff. Aug. 28, 1989.

Amended by Acts 1995, 74th Leg., ch. 76, Sec. 11.257, eff. Sept. 1, 1995.

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.

Added by Acts 1997, 75th Leg., ch. 1150, Sec. 1, eff. June 19, 1997.

Amended by:

Acts 2011, 82nd Leg., R.S., Ch. 1043 (H.B. 3111), Sec. 5, eff. June 17, 2011.

Acts 2011, 82nd Leg., R.S., Ch. 1163 (H.B. 2702), Sec. 100, eff. September 1, 2011.

**ATTACHMENT B
EXISTING SYSTEM
WATER PLANT CAPACITY ANALYSIS
THE CITY OF JOHNSON CITY
JULY 2022**

1. Unit Flows	Connections	Unit Flowrate	Total Average Daily Flow
Single Family	724	115 gpd/conn	83,260 gpd (1)
Multi Family	4	910 gpd/conn	3,640 gpd
Commercial	122	190 gpd/conn	23,180 gpd
Industrial	2	2,000 gpd/conn	4,000 gpd
Institutional	67	215 gpd/conn	14,405 gpd
Water Loss	58%		180,215 gpd
	<u>919</u>		<u>308,700 gpd</u>

Effective Unit Flowrate Per Connection = 336 gpd/conn
140 gpd/conn

2. Total Supply Capacity {TAC §290.45(b)(1)(D)(i)}	Individual Capacity	Average Daily Flowrate
TCEQ Minimum Required = (0.6 gpm/conn)(919 conn) =	551 gpm	
Existing Well #2 @ Danz Road: 1@ 140 gpm	140 gpm	
Existing Well #3 : 1@ 170 gpm	170 gpm	
Existing Well #4: 1 @ 270 gpm	270 gpm	
Existing Well #5 @ Eagle: 1 @ 160 gpm	160 gpm	
Existing Well #6 @ Eagle: 1 @ 60 gpm	60 gpm	
	<u>800 gpm</u>	

(800 gpm)(1440 min/day)/(2.2) = 523,636 gpd (2)

3. Ground Storage Capacity {TAC §290.45(b)(1)(D)(ii)}		
TCEQ Minimum Required = (200 gal/conn)(919 conn) =	183,800 gal	
Existing Ground Storage Tank @ Danz Road: 1 @ 200,000 gallons	200,000 gal	
Existing Ground Storage Tank @ Danz Road: 1 @ 211,568 gallons	211,568 gal	
Existing Ground Storage Tank @ Eagle: 1 @ 95,000 gallons	95,000 gal	
	<u>506,568 gal</u>	(3)

4. Elevated Storage Capacity		
TCEQ Minimum Required = (100 gal/conn)(919 conn) =	91,900 gal	
Existing Elevated Storage Tank: 1 @ 150,000 gallons	150,000 gal	(4)

5. Booster Pump Capacity {TAC §290.45(b)(1)(D)(iii)}

TCEQ Minimum Required = (2 gpm/conn)(919 conn) = 1,838 gpm
or (308700 gpd)*(2.2*1.25)/(1,440 min/day) = 590 gpm

Existing Pumps @ Eagle: 2 @ 600 gpm 600 gpm

Existing Pumps @ Danz Road: 2 @ 530 gpm 1,060 gpm

Existing Pumps @ Booster Station: 2 @ 50 gpm 100 gpm

(with largest out of service) 1,760 gpm

(1760 gpm)(1440 min/day)/(1.25)/(2.2) = 921,600 gpd (5)

Total Plant Capacity = 523,636 gpd

NOTES: (Corresponding to the numbered items above)

1. Existing connection counts are based on the City's January billing data. Unit flow rates were calculated based on customer's monthly billing and rounded to the nearest whole number based on the past 36 months of historical data. A max day factor of 2.2 is utilized based on 3 years of historical daily well logs provided by the City.
2. The City must have two or more wells having a total capacity of 0.6 gpm per connection. The City currently has five active wells.
3. The ground storage tank (GST) capacity required by the TCEQ is 200 gpd/conn. Because the GST does not produce any water, it should not be considered in the calculation of the plant's capacity in terms of flow.
4. The City is required to have elevated storage tank (EST) capacity of 100 gallons per connection or hydropneumatic tank capacity of 20 gallons per connection for up to 2,500 connections. For more than 2,500 connections, the City is required to have EST capacity of 100 gallons per connection.
5. The TCEQ's minimum requirement for booster pumps is 2 gpm/conn or a minimum of 1,000 gpm and the ability to meet peak hourly demand with the largest pump out of service. The Peak Hourly Demand (PHD) is calculated by using the TCEQ's factor of 1.25 for the ratio of PHD to Maximum Daily Flow. Multiplying the two factors together gives us the ratio of PHD to ADF and is equal to 3.0.

**ATTACHMENT C
PROJECTED 2027 SYSTEM
WATER PLANT CAPACITY ANALYSIS
THE CITY OF JOHNSON CITY
JULY 2022**

1. Unit Flows	Connections	Unit Flowrate	Total Average Daily Flow
Single Family	724	115 gpd/conn	83,260 gpd (1)
New Single Family	201	225 gpd/conn	45,225 gpd
Multi Family	4	910 gpd/conn	3,640 gpd
Multi Family (Apartments)	400	200 gpd/conn	80,000 gpd
Commercial	133	190 gpd/conn	25,270 gpd
Commercial (RV Parks)	4	20,000 gpd/conn	80,000 gpd
Industrial	2	2,000 gpd/conn	4,000 gpd
Institutional	77	215 gpd/conn	16,555 gpd
Water Loss	<u>20%</u>		<u>67,590 gpd</u>
	1,545		405,540 gpd

Effective Unit Flowrate Per Connection = 262 gpd/conn

2. Total Supply Capacity {TAC §290.45(b)(1)(D)(i)}	Individual Capacity	Average Daily Flowrate
TCEQ Minimum Required = (0.6 gpm/conn)(1545 conn) =	927 gpm	
Existing Well #2 @ Danz Road: 1@ 140 gpm	140 gpm	
Existing Well #3 : 1@ 170 gpm	170 gpm	
Existing Well #4: 1 @ 270 gpm	270 gpm	
Existing Well #5 @ Eagle: 1 @ 160 gpm	160 gpm	
Existing Well #6 @ Eagle: 1 @ 60 gpm	60 gpm	
Proposed Well: 1 @ 320 gpm	<u>320 gpm</u>	
	1,120 gpm	

(1120 gpm)(1440 min/day)/(2.2) = 733,091 gpd (2)

3. Ground Storage Capacity {TAC §290.45(b)(1)(D)(ii)}		
TCEQ Minimum Required = (200 gal/conn)(1545 conn) =	309,000 gal	
Existing Ground Storage Tank @ Danz Road: 1 @ 200,000 gallons	200,000 gal	
Existing Ground Storage Tank @ Danz Road: 1 @ 211,568 gallons	211,568 gal	
Existing Ground Storage Tank @ Eagle: 1 @ 95,000 gallons	<u>95,000 gal</u>	
	506,568 gal	(3)

4. Elevated Storage Capacity		
TCEQ Minimum Required = (100 gal/conn)(1545 conn) =	154,500 gal	
Existing Elevated Storage Tank: 1 @ 150,000 gallons	150,000 gal	(4)
Proposed Elevated Storage Tank: 1 @ 100,000 gallons	<u>100,000 gal</u>	
	250,000 gal	

5. Booster Pump Capacity {TAC §290.45(b)(1)(D)(iii)}

TCEQ Minimum Required = (2 gpm/conn)(1545 conn) = 3,090 gpm
or (405540 gpd)*(2.2*1.25)/(1,440 min/day) = 774 gpm

Existing Pumps @ Eagle: 2 @ 600 gpm 600 gpm
Existing Pumps @ Danz Road: 2 @ 530 gpm 1,060 gpm
Existing Pumps @ Post Oak Booster Station: 2 @ 50 gpm 100 gpm
(with largest out of service) 1,760 gpm

(1760 gpm)(1440 min/day)/(1.25)/(2.2) = 921,600 gpd (5)

Total Plant Capacity = 733,091 gpd

NOTES: (Corresponding to the numbered items above)

1. Existing connection counts are based on the City's January billing data. Unit flow rates were calculated based on customer's monthly billing and rounded to the nearest whole number based on the past 36 months of historical data. A max day factor of 2.2 is utilized based on 3 years of historical daily well logs provided by the City. The amount of water loss was reduced from existing day based on the City finding and fixing issues attributing to water loss.
2. The City must have two or more wells having a total capacity of 0.6 gpm per connection. The City currently has five active wells.
3. The ground storage tank (GST) capacity required by the TCEQ is 200 gpd/conn. Because the GST does not produce any water, it should not be considered in the calculation of the plant's capacity in terms of flow.
4. The City is required to have elevated storage tank (EST) capacity of 100 gallons per connection or hydropneumatic tank capacity of 20 gallons per connection for up to 2,500 connections. For more than 2,500 connections, the City is required to have EST capacity of 100 gallons per connection.
5. The TCEQ's minimum requirement for booster pumps is 2 gpm/conn or a minimum of 1,000 gpm and the ability to meet peak hourly demand with the largest pump out of service. The Peak Hourly Demand (PHD) is calculated by using the TCEQ's factor of 1.25 for the ratio of PHD to Maximum Daily Flow. Multiplying the two factors together gives us the ratio of PHD to ADF and is equal to 3.0.

**ATTACHMENT D
PROJECTED 2032 SYSTEM
WATER PLANT CAPACITY ANALYSIS
THE CITY OF JOHNSON CITY
JULY 2022**

1. Unit Flows	Connections	Unit Flowrate	Total Average Daily Flow
Single Family	724	115 gpd/conn	83,260 gpd (1)
New Single Family	660	225 gpd/conn	148,500 gpd
Multi Family	221	910 gpd/conn	201,110 gpd
Multi Family (Apartments)	400	200 gpd/conn	80,000 gpd
Commercial	203	190 gpd/conn	38,570 gpd
Commercial (RV Parks)	4	20,000 gpd/conn	80,000 gpd
Industrial	2	2,000 gpd/conn	4,000 gpd
Institutional	87	215 gpd/conn	18,705 gpd
Mixed Use	124	200 gpd/conn	24,800 gpd
Water Loss	<u>10%</u>		<u>67,890 gpd</u>
	2,425		746,835 gpd

Effective Unit Flowrate Per Connection = 308 gpd/conn

2. Total Supply Capacity {TAC §290.45(b)(1)(D)(i)}	Individual Capacity	Average Daily Flowrate
TCEQ Minimum Required = (0.6 gpm/conn)(2425 conn) =	1,455 gpm	
Existing Well #2 @ Danz Road: 1@ 140 gpm	140 gpm	
Existing Well #3 : 1@ 170 gpm	170 gpm	
Existing Well #4: 1 @ 270 gpm	270 gpm	
Existing Well #5 @ Eagle: 1 @ 160 gpm	160 gpm	
Existing Well #6 @ Eagle: 1 @ 60 gpm	60 gpm	
Proposed Well: 1 @ 320 gpm	320 gpm	
Proposed Well: 1 @ 330 gpm	<u>330 gpm</u>	
	1,450 gpm	
(1,450 gpm)(1440 min/day)/(2.2) =		<u>949,091 gpd (2)</u>

3. Ground Storage Capacity {TAC §290.45(b)(1)(D)(ii)}		
TCEQ Minimum Required = (200 gal/conn)(2425 conn) =	485,000 gal	
Existing Ground Storage Tank @ Danz Road: 1 @ 200,000 gallons	200,000 gal	
Existing Ground Storage Tank @ Danz Road: 1 @ 211,568 gallons	211,568 gal	
Existing Ground Storage Tank @ Eagle: 1 @ 95,000 gallons	95,000 gal	
Proposed Ground Storage Tank: 1 @ 100,000 gallons	<u>100,000 gal</u>	
	606,568 gal	(3)

4. Elevated Storage Capacity		
TCEQ Minimum Required = (100 gal/conn)(2425 conn) =	242,500 gal	
Existing Elevated Storage Tank: 1 @ 150,000 gallons	150,000 gal	(4)

<i>Proposed Elevated Storage Tank: 1 @ 100,000 gallons</i>	<i>100,000 gal</i>
	<i>250,000 gal</i>

5. Booster Pump Capacity {TAC §290.45(b)(1)(D)(iii)}

TCEQ Minimum Required = (2 gpm/conn)(2425 conn) =	4,850 gpm
or (746835 gpd)*(2.2*1.25)/(1,440 min/day) =	1,426 gpm

Existing Pumps @ Eagle: 2 @ 600 gpm	600 gpm
Existing Pumps @ Danz Road: 2 @ 530 gpm	1,060 gpm
Existing Pumps @ Booster Station: 2 @ 50 gpm	100 gpm
<i>Proposed Booster Pumps: 2 @ 300 gpm</i>	<i>300 gpm</i>
(with largest out of service)	<i>2,060 gpm</i>

(1760 gpm)(1440 min/day)/(1.25)/(2.2) =	<u>1,078,691 gpd (5)</u>
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Total Plant Capacity =	949,091 gpd
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NOTES: (Corresponding to the numbered items above)

1. Existing connection counts are based on the City's January billing data. Unit flow rates were calculated based on customer's monthly billing and rounded to the nearest whole number based on the past 36 months of historical data. A max day factor of 2.2 is utilized based on 3 years of historical daily well logs provided by the City. The amount of water loss was reduced from existing day based on the City finding and fixing issues attributing to water loss.
2. The City must have two or more wells having a total capacity of 0.6 gpm per connection. The City currently has five active wells.
3. The ground storage tank (GST) capacity required by the TCEQ is 200 gpd/conn. Because the GST does not produce any water, it should not be considered in the calculation of the plant's capacity in terms of flow.
4. The City is required to have elevated storage tank (EST) capacity of 100 gallons per connection or hydropneumatic tank capacity of 20 gallons per connection for up to 2,500 connections. For more than 2,500 connections, the City is required to have EST capacity of 100 gallons per connection.
5. The TCEQ's minimum requirement for booster pumps is 2 gpm/conn or a minimum of 1,000 gpm and the ability to meet peak hourly demand with the largest pump out of service. The Peak Hourly Demand (PHD) is calculated by using the TCEQ's factor of 1.25 for the ratio of PHD to Maximum Daily Flow. Multiplying the two factors together gives us the

ATTACHMENT E

**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
2" WATERLINE REPLACEMENT
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 60,000	\$ 60,000
2	12" Waterline	2,360	L.F.	90	212,000
3	12" Waterline by Trenchless Construction	470	L.F.	150	71,000
4	8" Waterline	840	L.F.	75	63,000
5	8" Waterline by Trenchless Construction	50	L.F.	130	7,000
6	6" Waterline	5,580	L.F.	50	279,000
7	6" Waterline by Trenchless Construction	870	L.F.	100	87,000
8	12" Gate Valves	4	EA.	2,500	10,000
9	8" Gate Valves	5	EA.	2,000	10,000
10	6" Gate Valves	15	EA.	2,000	30,000
11	12" Wet Connection	4	EA.	5,000	20,000
12	8" Wet Connection	3	EA.	4,000	12,000
13	6" Wet Connection	12	EA.	3,000	36,000
14	Reconnect Services	150	EA.	2,000	300,000
15	Abandon 2" Waterline	10,170	L.F.	10	102,000
16	SWPPP	1	L.S.	10,000	10,000
17	Traffic Control	1	L.S.	15,000	15,000
Subtotal					\$ 1,324,000
Contingencies				20%	265,000
Engineering				15%	238,000
TOTAL					\$ 1,827,000
TOTAL REIMBURSABLE PERCENTAGE					25%

NOTES:

- (1) This estimate represents my best judgement as a design professional familiar with the construction industry. Quiddity has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this cost estimate.
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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
WEST SIDE REMOTE WELL CONNECTION
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 20,000	\$ 20,000
2	6" Waterline	1,800	L.F.	50	90,000
3	6" Gate Valve	3	EA.	1,500	5,000
4	6" Wet Connect	1	EA.	1,500	2,000
5	12" Waterline	4,900	L.F.	75	368,000
6	12" Gate Valve	7	EA.	2,500	18,000
7	12" Wet Connect	1	EA.	2,000	2,000
8	Combination Air Release Valve w/ Manhole	3	EA.	5,000	15,000
9	2" Blow Off	1	EA.	2,000	2,000
10	Traffic Control	1	L.S.	10,000	10,000
Subtotal					\$ 532,000
Contingencies					20% 106,000
Engineering					15% 96,000
TOTAL					\$ 734,000
TOTAL REIMBURSABLE PERCENTAGE					10%

NOTES:

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
LADYBIRD ELEVATED STORAGE TANK CONNECTION
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 5,000	\$ 5,000
2	10" Waterline	300	L.F.	65	20,000
3	10" Gate Valve	1	Ea.	2,500	3,000
4	6" Wet Connect	1	Ea.	2,000	2,000
5	Fire Hydrant Assembly	1	Ea.	4,000	4,000
6	Traffic Control	1	L.S.	5,000	5,000
Subtotal					\$ 39,000
Contingencies					20% 8,000
Engineering					15% 7,000
TOTAL					\$ 54,000
TOTAL REIMBURSABLE PERCENTAGE					100%

NOTES:

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
POST OAK WATERLINE LOOP
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 4,000	\$ 4,000
2	6" Waterline	1,700	L.F.	50	85,000
3	6" Gate Valve	2	Ea.	2,000	4,000
4	6" Wet Connect	2	Ea.	2,000	4,000
5	Fire Hydrant Assembly	3	Ea.	4,000	12,000
6	Traffic Control	1	L.S.	5,000	5,000
Subtotal					\$ 114,000
Contingencies					20% 23,000
Engineering					15% 21,000
TOTAL					\$ 158,000
TOTAL REIMBURSABLE PERCENTAGE					25%

NOTES:

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- (2) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
REMOTE WATER WELL AND 0.1 MG ELEVATED STORAGE TANK
CITY OF JOHNSON CITY**

JUNE 2022

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	RI
1.	Move-in and Set-up	1	L.S.	\$140,000	\$140,000	
2.	One (1) 320 gpm Water Well	1	L.S.	1,100,000	1,100,000	(3)
3.	One (1) Standby Generator with Fuel Tank	1	L.S.	200,000	200,000	
4.	Electrical Work	1	L.S.	450,000	450,000	
5.	On-Site Plant Piping, Valves, Fittings, Thrust Blocks, Pipe Supports, & Coating	1	L.S.	250,000	250,000	
6.	Disinfection Including FRP building	1	L.S.	150,000	150,000	(4)
7.	One (1) 0.1 MG Multi-Leg Elevated Storage Tank	1	L.S.	1,200,000	1,200,000	
8.	Hydro-mulch Disturbed Areas	1	L.S.	10,000	10,000	
9.	Site Work	1	L.S.	150,000	150,000	(5)
10.	GST Modifications for Remote Tie-In	1	L.S.	100,000	100,000	
11.	Chain-Link Fencing and Gate	1	L.S.	30,000	30,000	
12.	Pollution Prevention	1	L.S.	10,000	10,000	
Subtotal					\$3,790,000	
Contingencies 20%					\$760,000	
Engineering 15%					\$680,000	
TOTAL					\$5,230,000	
TOTAL					\$5,230,500.0	
TOTAL REIMBURSABLE PERCENTAGE					100%	

Notes:

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- (2) This cost estimate assumes the water plant site is not located within the 1% annual chance floodplain or within existing wetlands. This estimate does not include any costs for wetland mitigation, detention basins, mitigation basins, or any other work related to compensating for wetlands or floodplain impact.
- (3) JC does not and cannot guarantee a 320 gpm water well can be obtained from this aquifer in this location. JC does not control the hydraulic conductivity of the aquifer or the water quality produced from the aquifer. JC will hold the Contractor responsible for obtaining the capacity that has a minimum of 80% aquifer efficiency as measured in draw-down tests. This estimate does not provide provisions to improve water quality if poor water quality is found after the water well is constructed. This estimate includes a two-piece well to accommodate the pump being set in liner, a test hole 200' beyond planned depth, and an aboveground motor.
- (4) This item includes a chlorine gas disinfection system.
- (5) This item includes concrete pavement and site drainage.
- (6) This estimate does not include costs associated with inflation; engineering; land and easement acquisition; platting; detention; offsite drainage; distribution waterlines outside the plant; aesthetic upgrades; electrical underground service entrance; or bringing electrical power to the site.
- (7) This estimate does not include inflation or escalation. Market conditions remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
12" WATERLINE EXTENSION ALONG US 290
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 15,000	\$ 15,000
2	12" Waterline	4,125	L.F.	90	371,000
3	12" Waterline by Trenchless Construction 12" Waterline by Trenchless Construction w/ Steel	160	L.F.	150	24,000
4	Casing	170	L.F.	225	38,000
5	12" Gate Valves	3	EA.	3,000	9,000
6	Wet Connection	1	EA.	3,000	3,000
7	Plug & Clamp w/ 2" Blow off	1	EA.	3,000	3,000
8	Fire Hydrant Assemblys	8	EA.	4,000	32,000
9	SWPPP	1	L.S.	8,000	8,000
10	Traffic Control	1	L.S.	20,000	20,000
				Subtotal	\$ 523,000
				Contingencies	20% 105,000
				Engineering	15% 94,000
				TOTAL	\$ 722,000
				TOTAL REIMBURSABLE PERCENTAGE	100%

NOTES:

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
US 281 S WATERLINE IMPROVEMENTS
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 30,000	\$ 30,000
2	12" Waterline	2,925	L.F.	90	263,000
3	12" Waterline by Trenchless Construction	1,180	L.F.	150	177,000
4	Abandon 6" Waterline	3,250	L.F.	10	33,000
5	Abandon 4" Waterline	860	L.F.	8	7,000
6	12" Gate Valves	2	EA.	3,000	6,000
7	8" Gate Valves	2	EA.	2,500	5,000
8	Wet Connection	2	EA.	3,000	6,000
9	Plug & Clamp w/ 2" Blow off	2	EA.	3,000	6,000
10	Reconnect Fire Hydrants	3	EA.	4,000	12,000
11	Reconnect Services	25	EA.	2,000	50,000
12	SWPPP	1	L.S.	5,000	5,000
13	Traffic Control	1	L.S.	10,000	10,000
				Subtotal	\$ 610,000
				Contingencies	20% 122,000
				Engineering	15% 110,000
				TOTAL	\$ 842,000
				TOTAL REIMBURSABLE PERCENTAGE	100%

NOTES:

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
US-281 N WATERLINE EXTENSION
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 20,000	\$ 20,000
2	12" Waterline	2,385	L.F.	90	215,000
3	12" Waterline by Trenchless Construction	115	L.F.	150	17,000
4	12" Waterline Aerial - Attached to Bridge	690	L.F.	200	138,000
5	12" Gate Valves	2	EA.	2,500	5,000
6	Wet Connection	1	EA.	3,000	3,000
7	Plug & Clamp w/ 2" Blow off	1	EA.	3,000	3,000
8	Fire Hydrant Assemblies	4	EA.	4,000	16,000
9	SWPPP	1	L.S.	5,000	5,000
10	Traffic Control	1	L.S.	15,000	15,000
Subtotal					\$ 437,000
Contingencies					20% 87,000
Engineering					15% 79,000
TOTAL					\$ 603,000
TOTAL REIMBURSABLE PERCENTAGE					100%

NOTES:

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
FM 2766 WATERLINE EXTENSION
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 30,000	\$ 30,000
2	12" Waterline	4,580	L.F.	90	412,000
3	12" Waterline by Trenchless Construction	160	L.F.	150	24,000
4	8" Waterline	870	L.F.	75	65,000
5	8" Waterline by Trenchless Construction	60	L.F.	130	8,000
6	Abandon 6" Waterline	1,785	L.F.	10	18,000
7	12" Gate Valves	3	EA.	3,000	9,000
8	8" Gate Valves	2	EA.	2,500	5,000
9	Wet Connection	2	EA.	3,000	6,000
10	Plug & Clamp w/ 2" Blow off	2	EA.	3,000	6,000
11	Fire Hydrants	8	EA.	5,000	40,000
12	Reconnect Fire Hydrants	3	EA.	4,000	12,000
13	Reconnect Services	10	EA.	2,000	20,000
14	SWPPP	1	L.S.	8,000	8,000
15	Traffic Control	1	L.S.	20,000	20,000
				Subtotal	\$ 683,000
				Contingencies 20%	137,000
				Engineering 15%	123,000
				TOTAL	\$ 943,000
				TOTAL REIMBURSABLE PERCENTAGE	100%

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
MESQUITE / VIO-LIN LOOP
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 52,000	\$ 52,000
2	12" Waterline	8,340	L.F.	90	751,000
3	12" Waterline by Trenchless Construction 12" Waterline by Trenchless Construction w/ Steel	360	L.F.	150	54,000
4	Casing	150	L.F.	200	30,000
5	Abandon 6" Waterline	2,360	L.F.	10	24,000
6	Abandon 2" Waterline	2,045	L.F.	4	8,000
7	12" Gate Valves	6	EA.	3,000	18,000
8	Wet Connection	2	EA.	3,000	6,000
9	Fire Hydrant Assembly	12	EA.	5,000	60,000
10	Reconnect Fire Hydrants	4	EA.	4,000	16,000
11	Reconnect Services	10	EA.	2,000	20,000
12	SWPPP	1	L.S.	5,000	5,000
13	Traffic Control	1	L.S.	10,000	10,000
				Subtotal	\$ 1,054,000
				Contingencies 20%	211,000
				Engineering 15%	190,000
				TOTAL	\$ 1,455,000
				TOTAL REIMBURSABLE PERCENTAGE	100%

NOTES:

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
WATER PLANT NO. 3
CITY OF JOHNSON CITY
JUNE 2022**

Item			Unit	
<u>No.</u> <u>Description</u>	<u>Unit</u>	<u>Qty.</u>	<u>Price</u>	<u>Total</u>
1. Move-in and Set-up	L.S.	1	\$110,000	\$110,000
2. One (1) 330 gpm Water Well	L.S.	1	1,100,000	1,100,000 (3)
3. One (1) Standby Generator with Fuel Tank	L.S.	1	200,000	200,000
4. Electrical Work	L.S.	1	500,000	500,000
5. On-Site Plant Piping, Valves, Fittings, Thrust Blocks, Pipe Supports, & Coating	L.S.	1	325,000	325,000
6. Disinfection Including FRP building	L.S.	1	150,000	150,000 (4)
7. One (1) 0.1 MG Bolted Ground Storage Tank	L.S.	1	175,000	175,000
8. Hydro-mulch Disturbed Areas	L.S.	1	10,000	10,000
9. Site Work Including Building for Electrical	L.S.	1	250,000	250,000 (5)
10. Two (2) 300 gpm Booster Pumps	L.S.	1	150,000	150,000
11. Chain-Link Fencing and Gate	L.S.	1	45,000	45,000
12. Pollution Prevention	L.S.	1	10,000	10,000
				<hr/>
		SUBTOTAL		\$3,025,000
		Contingencies	20%	\$605,000
		Engineering	15%	\$45,000
		TOTAL		<hr/> \$4,175,000

Notes:

- (1) This estimate represents my best judgment as a design professional familiar with the construction industry. Quiddity has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this cost estimate.
- (2) This cost estimate assumes the water plant site is not located within the 1% annual chance floodplain or within existing wetlands. This estimate does not include any costs for wetland mitigation, detention basins, mitigation basins, or any other work related to compensating for wetlands or floodplain impact.
- (3) Quiddity does not and cannot guarantee a 330 gpm water well can be obtained from this aquifer in this location. Quiddity does not control the hydraulic conductivity of the aquifer or the water quality produced from the aquifer. Quiddity will hold the Contractor responsible for obtaining the capacity that has a minimum of 80% aquifer efficiency as measured in draw-down tests. This estimate does not provisions to improve water quality if poor water quality is found after the water well is constructed. This estimate includes a two-piece well to accommodate the pump being set in liner, a test hole 200' beyond planned depth, and an aboveground motor.
- (4) This item includes a chlorine gas disinfection system.
- (5) This item includes concrete pavement and site drainage.
- (6) This estimate does not include costs associated with inflation; engineering; land and easement acquisition; platting; detention; offsite drainage, distribution waterlines outside the plant, aesthetic upgrades; electrical underground service entrance; or bringing electrical power to the site.
- (7) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 8.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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ATTACHMENT F

**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
TRUNKLINE UPSIZING
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 36,000	\$ 36,000
2	Pre-Construction Cleaning and Televising	6,950	L.F.	\$ 5	\$ 35,000
3	Pipe Burst 6" Sanitary to 8"	1,850	L.F.	\$ 50	\$ 93,000
4	Pipe Burst 8" Sanitary Line to 12"	3,900	L.F.	\$ 100	\$ 390,000
5	Pipe Burst 12" Sanitary Line to 15"	1,200	L.F.	\$ 110	\$ 132,000
6	Manhole Rehabilitation	17	EA.	\$ 4,000	\$ 68,000
7	Service Reconnections	70	EA.	\$ 1,200	\$ 83,000
8	By-pass Pumping	1	L.S.	\$ 100,000	\$ 100,000
Subtotal					\$ 937,000
Contingencies 20%					187,000
Engineering 15%					169,000
TOTAL					\$ 1,293,000
TOTAL REIMBURSABLE PERCENTAGE					50%

NOTES:

- (1) This estimate represents my best judgement as a design professional familiar with the construction industry. Quiddity has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this cost estimate.
- (2) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
US 290 GRAVITY SEWER EXTENSION
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 12,000	\$ 12,000
2	8" Gravity Sewer	2,730	L.F.	\$ 75	\$ 205,000
3	8" Gravity Sewer by Trenchless Construction	270	L.F.	\$ 120	\$ 32,000
4	8" Gravity Sewer by Trenchless Construction with Steel Casing	100	L.F.	\$ 200	\$ 20,000
5	Manholes	6	EA.	\$ 5,000	\$ 30,000
6	Manhole Connection and Rehabilitation	1	EA.	\$ 8,000	\$ 8,000
7	SWPPP	1	L.S.	\$ 5,000	\$ 5,000
8	Traffic Control	1	L.S.	\$ 5,000	\$ 5,000
Subtotal					\$ 317,000
Contingencies					20% 63,000
Engineering					15% 57,000
TOTAL					\$ 437,000
TOTAL REIMBURSABLE PERCENTAGE					100%

NOTES:

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- (2) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
US 281 GRAVITY SEWER EXTENSION
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 9,000	\$ 9,000
2	6" Gravity Sewer	2,510	L.F.	\$ 60	\$ 151,000
3	6" Gravity Sewer by Trenchless Construction	240	L.F.	\$ 110	\$ 26,000
4	Manholes	6	EA.	\$ 5,000	\$ 30,000
5	Manhole Connection and Rehabilitation	1	EA.	\$ 8,000	\$ 8,000
6	SWPPP	1	L.S.	\$ 5,000	\$ 5,000
7	Traffic Control	1	L.S.	\$ 5,000	\$ 5,000
Subtotal					\$ 234,000
Contingencies 20%					47,000
Engineering 15%					42,000
TOTAL					\$ 323,000
TOTAL REIMBURSABLE PERCENTAGE					100%

NOTES:

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- (2) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
US 281 N LIFT STATION AND FORCE MAIN
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 6,000	\$ 6,000
2	6' Diameter Lift Station	1	L.S.	\$ 400,000	\$ 400,000
3	Electrical	1	L.S.	\$ 200,000	\$ 200,000
4	Site Work	1	L.S.	\$ 40,000	\$ 40,000
5	4" Force Main	2,200	L.F.	\$ 40	\$ 88,000
6	4" Force Main Aerial - Attached to Bridge	600	L.F.	\$ 125	\$ 75,000
7	4" Gate Valves	2	EA.	\$ 2,000	\$ 4,000
8	8" Gravity Sewer	1,390	L.F.	\$ 75	\$ 104,000
9	8" Gravity Sewer by Trenchless Construction	60	L.F.	\$ 120	\$ 7,000
10	Manholes	6	EA.	\$ 5,000	\$ 30,000
11	Manhole Connection and Rehabilitation	1	EA.	\$ 5,000	\$ 5,000
12	SWPPP	1	L.S.	\$ 5,000	\$ 5,000
13	Traffic Control	1	L.S.	\$ 5,000	\$ 5,000
Subtotal					\$ 969,000
Contingencies 20%					194,000
Engineering 15%					174,000
TOTAL					\$ 1,337,000
TOTAL REIMBURSABLE PERCENTAGE					100%

NOTES:

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- (2) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
FM 2766 LIFT STATION AND FORCE MAIN
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 33,000	\$ 33,000
2	6' Diameter Lift Station	1	L.S.	\$ 400,000	\$ 400,000
3	Electrical	1	L.S.	\$ 200,000	\$ 200,000
4	Site Work	1	L.S.	\$ 50,000	\$ 50,000
5	4" Force Main 4" Force Main by Trenchless Construction w/ Steel	3,770	L.F.	\$ 40	\$ 151,000
6	Casing	80	L.F.	\$ 100	\$ 8,000
7	Combination Air Release Valve w/ Manhole	1	EA.	\$ 5,000	\$ 5,000
8	Gate Valve	2	EA.	\$ 2,000	\$ 4,000
9	SWPPP	1	L.S.	\$ 5,000	\$ 5,000
10	Traffic Control	1	L.S.	\$ 10,000	\$ 10,000
Subtotal					\$ 866,000
Contingencies 20%					173,000
Engineering 15%					156,000
TOTAL					\$ 1,195,000
TOTAL REIMBURSABLE PERCENTAGE					100%

NOTES:

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- (2) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
US 290 LIFT STATION AND FORCE MAIN
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 40,000	\$ 40,000
2	6' Diameter Lift Station	1	L.S.	\$ 400,000	\$ 400,000
3	Electrical	1	L.S.	\$ 200,000	\$ 200,000
4	Site Work	1	L.S.	\$ 40,000	\$ 40,000
5	4" Force Main	2,100	L.F.	\$ 40	\$ 84,000
6	4" Force Main by Trenchless Construction	80	L.F.	\$ 100	\$ 8,000
7	Combination Air Release Valve w/ Manhole	1	EA.	\$ 5,000	\$ 5,000
8	Gate Valves	2	EA.	\$ 2,000	\$ 4,000
9	SWPPP	1	L.S.	\$ 5,000	\$ 5,000
10	Traffic Control	1	L.S.	\$ 5,000	\$ 5,000
Subtotal					\$ 791,000
Contingencies 20%					158,000
Engineering 15%					142,000
TOTAL					\$ 1,091,000
TOTAL REIMBURSABLE PERCENTAGE					100%

NOTES:

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- (2) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
MESQUITE & VIO-LIN SEWER EXTENSION
CITY OF JOHNSON CITY
JUNE 2022**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	Mobilization	1	L.S.	\$ 28,000	\$ 28,000
2	6" Gravity Sewer	9,250	L.F.	\$ 60	\$ 555,000
3	6" Gravity Sewer by Trenchless Construction	100	L.F.	\$ 110	\$ 11,000
4	6" Gravity Sewer by Trenchless Construction W/ Steel Casing	100	L.F.	\$ 200	\$ 20,000
5	Manholes	20	EA.	\$ 5,000	\$ 100,000
6	Manhole Connection and Rehabilitation	1	EA.	\$ 8,000	\$ 8,000
7	SWPPP	1	Ea.	\$ 5,000	\$ 5,000
8	Traffic Control	1	L.S.	\$ 5,000	\$ 5,000
Subtotal					\$ 732,000
Contingencies					20% 146,000
Engineering					15% 132,000
TOTAL					\$ 1,010,000
TOTAL REIMBURSABLE PERCENTAGE					100%

NOTES:

- (1) This estimate represents my best judgement as a design professional familiar with the construction industry. Quiddity has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this cost estimate.
- (2) This estimate does not include inflation or escalation. Market condition remain volatile due to, but not limited to, labor shortages, material shortages, and supply chain disruptions since the start of the pandemic. More recently, market conditions are experiencing added strain due to recent and global conflicts. The U.S. Bureau of Labor Statistics Consumer Index reported an average overall inflation of 7.5% over the last 12 months. The unknown decisions of federal government monetary policy, in connection with the events noted above, may increase or decrease current inflation rates. In addition to inflation, Quiddity has seen a significant market escalation, on the order of 30-40%, over the past 24 months due to the significant deficit in supply versus demand in the local construction industry in connection with the events noted above. It is recommended the City take these items in consideration when preparing the budget of the project.

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**CLASS 3 ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
SCADA IMPROVEMENTS
CITY OF JOHNSON CITY
June 6, 2022**

Item				Unit	
<u>No.</u> <u>Description</u>	<u>Unit</u>	<u>Qty.</u>	\$	<u>Price</u>	<u>Total</u>
1. Lift Station SCADA Panels	L.S.	4	\$	31,860	\$ 127,400 (2)
2. Mobilization	L.S.	1		6,370	\$ 6,400
				SUBTOTAL	<u>\$ 133,800</u>
				Contingencies (30%)	40,000
				Engineering	26,070
				TOTAL	\$ 199,900

Notes:

- (1) This estimate represents my best judgment as a design professional familiar with the construction industry. Quiddity Engineering has no control over the cost of labor, materials, or equipment; over the Contractor's methods of determining bid prices; or over competitive bidding or market conditions. Accordingly, we cannot and do not guarantee that bids will not vary from this cost estimate.
- (2) This cost includes programming, testing, start-up, and training for the SCADA system at four lift stations not yet in the SCADA Network as well as the master SCADA at City Hall.

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