ORDINANCE NO. 2020-17

AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, ADOPTING UPDATED LAND USE ASSUMPTIONS, A CAPITAL IMPROVEMENTS PLAN, AND IMPACT FEES FOR WATER AND WASTEWATER FACILITIES IN ACCORDANCE WITH CHAPTER 395 OF THE TEXAS LOCAL GOVERNMENT CODE; MAKING CERTAIN FINDINGS RELATED TO THE SUBJECT; AND PROVIDING FOR SEVERABILITY.

WHEREAS, by Ordinance No. 90-14, passed, approved, and adopted on May 21, 1990, the City of Jersey Village, Texas ("City") adopted land use assumptions and a capital improvements plan and imposed impact fees on new development within the City to recover capital costs associated with water and wastewater facilities provided to serve such new development, all in accordance with Article 1269j-4.11, Texas Revised Civil Statutes (now Chapter 395 of the Texas Local Government Code); and

WHEREAS, by Ordinance No. 95-14, passed, approved, and adopted on June 19, 1995 as amended by Ordinance 01-25, passed, approved, and adopted on August 20, 2001 updating the land use assumptions and capital improvements plan and impact fees on new development within the City to recover capital costs associated with water and wastewater facilities provided to serve such new development, all in accordance with Chapter 395 of the Texas Local Government Code); and

WHEREAS, by Ordinance No. 2015-33, passed, approved, and adopted on October 19, 2015, the City adopted Updated Land Use Assumptions, a Capital Improvements Plan, and Impact Fees for Water and Wastewater Facilities, all in accordance with Chapter 395 of the Texas Local Government Code; and

WHEREAS, Chapter 395 of the Texas Local Government Code requires the City to update periodically its land use assumptions, capital improvements plan, and impact fees; and

WHEREAS, the City Council of the City finds that the land use assumptions, capital improvements plan, and impact fees currently in effect should be updated; and

WHEREAS, the City secured the firm of Jones | Carter to prepare updated land use assumptions and a capital improvements plan and to calculate proposed impact fees, and a copy of such firm's report and recommendation is attached to this Ordinance as Exhibit A; and

WHEREAS, the City Council has received written comments from the Capital Improvements Advisory Committee in accordance with Section 395.058 of the Texas Local Government Code; and has held a public hearing as required by law, at which hearing all persons desiring to be heard were heard on the amendment of land use assumptions and a capital improvements plan and the imposition of an impact fee; and

WHEREAS, the City Council now desires to adopt updated land use assumptions and an updated capital improvements plan and to impose updated impact fees on new development within the City and its extraterritorial jurisdiction; **NOW THEREFORE**,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JERSEY VILLAGE, TEXAS THAT:

Section 1. The facts and recitations set forth in the preamble of this Ordinance are hereby found to be true and correct and are hereby adopted, ratified and confirmed.

Section 2. The land use assumptions, capital improvements plan, and proposed impact fees set forth in the "City of Jersey Village Capital Improvements Plan, Future Land Use Plan and Impact Fee Study" prepared by Jones | Carter, attached hereto as Exhibit A and made a part hereof for all purposes, are hereby approved and adopted.

Section 3. The impact fees, set forth in Table 5-6 on Page 18 of Exhibit A, are hereby levied against new development on lands located within the City and its extraterritorial jurisdiction and shall be paid to the City at the earlier of the time such lands are subdivided or at the time a building permit is issued; provided, however, such impact fees shall not be due and payable until such time as the utility service for which the impact fee is imposed is available to such lands. The impact fees levied by this Ordinance are subject to the provisions of Chapter 395 of the Texas Local Government Code.

Section 4. In the event any clause phrase, provision, sentence, or part of this Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Jersey Village, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

PASSED, APPROVED, AND ADOPTED this **20th** day of **July 2020.**

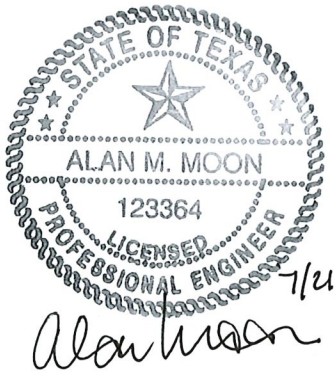
s/Andrew Mitcham, Mayor

ATTEST:

s/Lorri Coody, City Secretary

CITY OF JERSEY VILLAGE
TEXAS
A TEXAS STAR COMMUNITY

City of Jersey Village
Capital Improvements Plan, Future Land Use Plan and Impact Fee Study



July 2020

JONES | CARTER

Texas Board of Professional Engineers Registration No. F-439 | Texas Board of Professional Land Surveying Registration No. 10046100

CITY OF JERSEY VILLAGE
CAPITAL IMPROVEMENTS PLAN, FUTURE LAND USE PLAN AND IMPACT FEE STUDY

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CITY OF JERSEY VILLAGE
CAPITAL IMPROVEMENTS PLAN AND IMPACT FEE STUDY

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Executive Summary

This study was performed to update the City of Jersey Village's water and wastewater system impact fees in accordance with the Texas Local Government Code Chapter 395. The growth projected over the next 10-years was projected, a water and wastewater system analysis was 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 connections were converted to equivalent service units to a standard 5/8" diameter water meter, the typical size for a single-family residential connection. From the Water and Wastewater Capital Improvements Plans, 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 1,501 addition service units are anticipated being added by the year 2030. The total water improvements cost eligible for impact fees is estimated at $6,873,600 and the total wastewater improvements cost eligible for impact fees is estimated at $3,574,034. With a 50% reduction of the maximum eligible recoverable cost, the baseline impact fee per service unit is $3,026 for water and $1,664 per 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	1.00	$3,026	$1,664
3/4"	25	1.67	$5,144	$2,829
1"	40	2.67	$8,169	$4,494
1 1/4"	45	3.00	$9,077	$4,993
1 1/2"	120	8.00	$9,984	$5,492
2"	170	11.33	$32,374	$17,809
3"	350	23.33	$64,445	$35,452
4"	600	40.00	$100,752	$55,424
6"	1,200	80.00	$201,807	$111,015
8"	1,800	120.00	$322,830	$177,590
10"	2,300	153.30	$463,823	$255,151

1.0 INTRODUCTION

In February 2020, the City of Jersey Village (the City) authorized Jones|Carter to update the 2015 Water & Wastewater Impact Fee Study for the City's water and wastewater systems. The purpose of this report is to develop and 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,
- 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
- Principal payments and interest or other finance charges

Impact fees can only be assessed for new developments on improvement projects identified in the Capital Improvements Plan (CIP) and cannot be used for any repair or rehabilitation project to serve existing development. Also required per §395, a Land Use Plan and Capital Improvements Plan must be created, presented to the public for approval. The CIP should include an analysis of the total capacity, projected service unit attributable to new development within a period not to exceed of 10-years, and should be updated at least every five years. The City's last updated was completed September 2015.

The City of Jersey Village is located within Harris County, northwest of the City of Houston (COH) along US-290. The City is approximately 3.5 square miles in area and had a reported population of 7,620 in the 2010 US Census. According to Tapestry Segmentation by ESRI, a majority of the City's demographic consist of "Savvy Suburbanites" (married couples, older established neighborhoods, median age of 45 and median household income of $108,700) and "Young and Restless" (single-person households, predominantly renters, median age of 30 and median household income of $40,500).

2.0 PLANNED GROWTH PROJECTIONS

A critical part of the CIP is to project the future development within the City's system, and 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 does not serve any customers outside of the City limits within its Extra-Territorial Jurisdiction (ETJ). Monthly billing information was provided to JC for Fiscal Year (FY) 17 – FY 19. Connection counts for September 2019 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, public and irrigation. Connections for this analysis are physical connections to which drinking water is supplied as defined by 30 TAC §290.38(16). See Table 2-1 for existing system connection count.

Table 2-1 Existing System Connections

Type	Connections
Single Family Residential	2,220
Multi Family Residential	1,544
Commercial	150
Irrigation	814
Public	61
Total	4,789

2.2 Land Use Plan

The future land use plan was created by utilizing the City's existing land use plan, identifying the undeveloped lots and lots anticipated to redevelop, and assigning anticipated types of development to the lots. JC collaborated with the City to determine the anticipated type of development and a timetable for each undeveloped lot. A detailed land use plan was also provided for Zoning District D, the future Village Center southwest of US 290. Several of the existing industrial lots near the future Village Center are expected to redevelop to Single Family Residential, Multi Family and Mixed Use. The remainder of the industrial lots are assumed to be redeveloped for commercial usage. 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 development timing as anticipated by the City. Any development or re-development that is anticipated to occur outside of the 10-year timeframe was excluded from this analysis. A 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 JC's experience with other types of development within the Houston metro area. Single Family Residential lots within the City are predominantly quarter-acre lots and the total number of multi-family connections was divided by the existing acreage. 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 / Acre
Single Family Residential	4
Multi Family Residential	6.25
Commercial	0.5
Industrial	2
Mixed Use	5
Irrigation	2
Public	1

2.3.1 5-Year Projections

All of the growth within the next 5-years occurs within the City's limits on currently undeveloped lots and within the future Village Center. This includes approximately 95 acres of currently undeveloped lots associated with the Village Center, along US 290 at Jones Road, US 290 at Seattle Avenue, and along Castlebridge Dr. Most of the growth within these areas are anticipated to be commercial and mixed use. Table 2-3 lists the projected connections in 5-years.

Table 2-3 5-Year Connection Projections (FY 2025)

Type	Connections
Single Family Residential	2,220
Multi Family Residential	1,544
Commercial	208
Mixed Use	452
Irrigation	814
Public	66
Total	5,352

2.3.2 10-Year Projections

After completion of the Village Center, the City limits are nearly built out. A majority of the remaining projected growth to the City's system within the 5- to 10-year timeframe is anticipated to occur due to improvement projects serving previously unserved lots in the ETJ. This includes approximately 660 acres of existing industrial development. The industrial lots are assumed to be redeveloped into single family residential and mixed use around the Village Center, and the remaining lots to be redeveloped to commercial usage. Table 2-4 lists the projected connections in 10-years.

Table 2-4 10-Year Connection Projections (FY 2030)

Type	Connections
Single Family Residential	2,441
Multi Family Residential	1,544
Commercial	218
Industrial	4
Mixed Use	638
Irrigation	814
Public	66
Total	5,725

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. JC collected available records from City staff such as daily well meter readings, daily COH surface water meter readings, three (3) years of monthly customer billing reports, GIS shapefiles, maps and previous reports. The City was able to provide accurate well and surface water meter data from April 2019 through December 2019. Prior to April 2019, there were discrepancies in the reporting and meters were re-calibrated.

3.1 Existing System Evaluation

3.1.1 Existing Infrastructure

The City currently has three (3) water plants and an additional elevated storage tank serving its system. Table 3-1 presents the facilities at each of the City's water plants. The Seattle Water Plant (Water Plant No. 1) is located at 15601 Seattle Street, the Village Water Plant (Water Plant No. 2) is located at 16600 Village Drive, the West Water Plant (Water Plant No. 3) is located at 12115 West Drive, and the Congo Elevated Storage Tank is located at 15402 Congo Lane.

Table 3-1 Existing Water Plant Facilities

Water Plant	Surface Water (gpm)	Well (gpm)	Ground Storage (gal)	Elevated Storage (gal)	Booster Pumps (gpm)
Seattle (WP 1)	1,042	1,250	1 - 300,000 1 - 500,000	-	3 - 1,100
Village (WP 2)	-	900	1 - 420,000 1 - 250,000	250,000	1 - 1,100 1 - 750 1 - 500
West (WP 3)	-	1,550	500,000	-	1 - 1,000 1 - 750 1 - 500 1 - 250
Congo	-	-	-	500,000	-

The City also owns and maintains approximately 257,000 LF of waterline ranging in size between 2" diameter to 16" diameter and approximately 1,790 fire hydrants.

3.1.2 Existing Water Demands

Water demands were determined by analyzing the daily well meter readings and daily COH surface water meter readings from April 2019 through December 2019 as well as the three (3) years of monthly billing reports. An average day flow was established from the daily meter reads provided, and the monthly metering data by type of connection was utilized to determine the 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	2,220	250	555,000
Multi Family Residential	1,544	125	193,000
Commercial	150	1,250	187,500
Irrigation	814	340	276,800
Public	61	430	26,200
Accountability/Losses			215,000
Total	4,789		1,453,500

After discussions with the City, it was determined the accountability and losses between April 2019 through December 2019 are mostly attributable to distribution system flushing and filling of the ground storage tanks that were previously empty. 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. Per 30 TAC §290.38(46), in the absence of 36 months of historical daily water usage, a maximum day factor of 2.4 should be assumed. Table 3-3 presents the calculation for the maximum day flow.

Table 3-3 Max Day Flow

	Flow (gpd)
Average Day Flow	1,453,500
Max Day Factor	2.4
Max Day Flow	3,488,400

Peak-hour flows (PHF) are determined by multiplying the max 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 2.4 multiplied by 1.25 yields a total max day PHF of 3.0 times the 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	1,453,500 gpd / 1,440 min/day	1,009
Peak Hour (Max Day)	1,009 gpm x 2.4 x 1.25	3,027

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 a firm booster pump capacity (with the largest pump out of service) of 2 gpm per connection or enough booster pump capacity to meet the maximum day peak hour flow. The City's water plants have enough supply, elevated storage, ground storage, and booster pump capacity to serve the existing system. The City has a take or pay contract with the COH to receive a minimum 22.5 million gallons per month, or approximately 750,000

gpd, and a maximum daily rate of 1.5 MGD. Since the contract states that the City is "not guaranteed any specific quantity or pressure of water", the surface water was not counted towards the guaranteed supply amount. In order for the City to meet the TCEQ minimum supply, the wells must be operational. The existing system water plant capacity analysis is presented in Attachment B.

While the City must have enough well capacity for guaranteed supply for the existing system, the City intends to operate on nearly 100% surface water from the City of Houston. The City is a part of North Harris County Regional Water Authority's Groundwater Reduction Plan and therefore is required to pay a fee for every 1,000 gallons of groundwater pumped. Based on these operations, the City contractually has enough surface water to meet the average day flows but would be using more than the maximum contractual amount for any usage above average day flows.

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 JC'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)
Single Family Residential	2,267	250	566,800
Multi Family Residential	1,544	125	193,000
Commercial	208	1,250	259,700
Mixed Use	452	400	180,900
Irrigation	814	340	276,800
Public	66	430	28,500
Accountability/Losses			215,000
Total	5,023		1,720,700

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)
Single Family Residential	2,441	250	610,200
Multi Family Residential	1,544	125	193,000
Commercial	218	1,250	271,900
Industrial	4	1,000	4,000
Mixed Use	638	400	255,300
Irrigation	814	340	276,800
Public	66	430	28,500
Accountability/Losses			215,000
Total	5,718		1,854,700

3.2.4 Future System Capacity Analysis

The City's water plants have enough water supply, elevated storage, ground storage, and booster pump capacity to serve the projected 5-year and 10-year buildout. The City intends to build a new water plant southwest of US 290 to better serve the new development projected. The 5-year and 10-year water plant capacity analyses are presented in Attachments C and D respectively.

Based on the City's intent to operate at nearly 100% surface water to comply with the North Harris County Regional Water Authority's Groundwater Reduction Plan, it is recommended the City renegotiate a new contractual amount of water with the COH. The maximum daily amount of water should be increased to 4,451,280 gpd, the projected 10-year maximum daily flow utilizing a max day factor of 2.4.

3.3 Capital Improvement Plan (CIP)

JC collaborated with City staff to identify and include projects in the Water CIP that are needed to not only serve new development but 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. Not all of the projects in the CIP can be utilized for impact fees, only those that serve new or future development. Table 3-7 presents the Water CIP. Cost estimates are included in Attachment E for construction projects that are to be utilized for impact fees and intended to serve future development. These projects include engineering, contingencies and inflation 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-A	Jones Road Extension - Utilities	$670,000
W-B	2020 Impact Fee Study	$75,000
Proposed Projects		
W-1	Seattle Water Plant - Well Repair	$385,000
W-2	SCADA System Upgrades	$250,000
W-3	Village Water Plant - Service Pump Upgrades[(1)]	$80,000
W-4	Village Water Plant – Rehabilitation[(1)]	$275,000
W-5	Seattle Water Plant - GST Rehabilitation[(1)]	$375,000
W-6	Seattle Water Plant - Variable Frequency Drive[(1)]	$100,000
W-7	Seattle Water Plant - Generator	$500,000
W-8	West Road Water Plant - Generator Repair[(1)]	$150,000
W-9	Congo Elevated Storage Tank Rehabilitation	$450,000
W-10	Water Plants LED Light Projects[(1)]	$100,000
W-11	Hydrant and Valve Survey	$100,000
W-12	Water Master Plan	$125,000
W-13	Impact Fee Study & Rate Analysis	$75,000
W-14	Proposed Water Facility #4[(2)]	$7,183,000
W-15	City of Houston Interconnect No. 2[(2)]	$1,472,000
W-16	FM 529 8" & 12" Water Line from Harms Rd to Hwy 290 - Service to ETJ[(2)]	$981,000
W-17	Charles Rd 8" & Wright Rd 12" Water Line Loop - Service to ETJ[(2)]	$1,051,000
W-18	Wright Rd 12" Water Line from Charles Rd to Hwy 290 - Service to ETJ[(2)]	$1,072,000
W-19	Fairview St 12" Water Line from FM 529 to Taylor Rd - Service to ETJ[(2)]	$1,948,000
W-20	Harms Rd 12" Water Line from FM 529 to Taylor Rd - Service to ETJ[(2)]	$2,195,000
W-21	Musgrove Ln 8" & 12" Water Line from Taylor Rd to Jones Rd Along Hwy 290 - Service to ETJ[(2)]	$505,000
W-22	Taylor Rd 8" Water Line Extension from Hwy 290 to Edge of ETJ - Service to ETJ[(2)]	$132,000
	Total	**$20,249,000**

Notes:

(1) Project scope and estimated costs are based on the City's 2018 Capital Improvements Plan.

(2) Project scope and estimated costs are based on the City's 2015 Water & Wastewater Impact Fee Study

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. JC collected available records from City staff such as average day effluent flows from the Castlebridge wastewater treatment plant (WWTP), daily lift station pump run times, maps and previous reports. JC also collected three (3) years of monthly billing reports from the White Oak Bayou WWTP. The City was able to provide accurate Castlebridge WWTP meter data from April 2019 through December 2019. Prior to April 2019, there were discrepancies in the reporting and meters were re-calibrated.

4.1 Existing System Evaluation

4.1.1 Existing Infrastructure

The City owns and maintains the Castlebridge WWTP, located at 12103 Castlebridge Drive, which has a permitted daily average flow of 800,000 gpd and a 2-hour peak of 1,885 gpm (with a peaking factor of 3.4). The City is also a partner in the White Oak Bayou WWTP Joint Powers, along with West Harris County Municipal Utility District (MUD) No. 1, Harris County MUD No. 25, Windfern Forest Utility District and Baker Oil Tools. Collectively the partners own the White Oak Bayou WWTP, located at 15201 Philippine Street, which has a permitted effluent flow of 2.0 million gallons per day (MGD) and a peak flow of 5,556 gpm (peak factor of 4.0). The City owns 40.63% of the WWTP and is billed accordingly for any improvement projects at the plant. The City is also billed monthly based on the percentage contributed of the total flow per month to the WWTP.

The City also owns and maintains eight (8) lift station (LS) within the system including the Philippine LS, Hillcrest LS, Tahoe LS, Rio Grande LS, 290 NW LS, and the Jones Rd LS. Record drawings and pump sizes for the lift stations were not available at the time of the report. The wastewater system also contains approximately 205,000 LF of gravity sewers ranging in size between 4” diameter to 33” diameter and approximately 795 manholes.

4.1.2 Existing Wastewater Flows

Wastewater flows were determined by analyzing the Castlebridge WWTP daily average wastewater flows provided by the City and the previous three (3) years of monthly White Oak Bayou WWTP billing reports. An average day flow per WWTP service area was established. Table 4-1 presents the existing wastewater flows per service area for the City.

Table 4-1 Existing Wastewater Flows

Service Area	Flows (gpd)
Castlebridge WWTP	277,250
White Oak Bayou WWTP	357,820
Total	635,070

Daily lift station pump run times from April 2019 – December 2019 were collected and analyzed to determine if any of the lift station had high average day or max day run times. In general, if the lift station

had a 30 day average run time of 6 hours or higher per day, the lift station should be further evaluated for capacity. Table 4-2 presents the minimum and maximum 30 day average lift station pump run times in hours.

Table 4-2 Lift Station Run Times Summary

	White Oak Bayou WWTP					Castlebridge WWTP
Lift Station	Rio Grande	Tahoe	Philippine	Hillcrest	290 NW	Jones Rd
Min 30 Day Avg	3.44	2.88	1.16	0.17	0.83	0.04
Max 30 Day Avg	5.35	10.10	2.60	0.79	1.64	0.37
Average	4.48	5.46	1.91	0.40	1.27	0.16

Flows per lift station were estimated based on the number of single family lots in each lift station service area, the multifamily units in each service area, and the total number of commercial and public connections divided by the currently developed acreage by type of connection in each service area. Then the approximate water demand for each WWTP service area was divided by the WWTP average day flows to determine return factors for each WWTP service area. The Castlebridge WWTP service area return factor was calculated to be 0.76 and the White Oak Bayou WWTP return factor was calculated to be 0.60. The return factors were then applied to approximate water demands per lift station service area. Irrigation water usage was ignored for this analysis as water used for irrigation does not contribute to wastewater flows. Table 4-3 presents the approximate lift station flows.

Table 4-3 Approximate Lift Station Existing Flows

	White Oak Bayou WWTP					Castlebridge WWTP
Lift Station	Rio Grande	Tahoe	Philippine	Hillcrest	290 NW	Jones Rd
Flows (gpd)	15,300	78,400	357,800	39,300	6,200	1,500

4.1.3 Existing System Capacity Analysis

Based on the permitted flows of the Castlebridge WWTP and White Oak Bayou WWTP, the City has sufficient capacity to serve the existing system. The Castlebridge WWTP has a permitted flow of 800,000 gpd and is only receiving 277,250 gpd on average. The White Oak Bayou WWTP has a permitted flow of 2.0 MGD, and based on the City's 40.63% ownership, could send up to 812,600 gpd. The City is currently only sending 357,820 gpd of flow on average. The record drawings of the wastewater treatment plants, reports of effluent sampling and hourly wastewater flows were not available at the time of the report.

The lift stations appear to have enough capacity to serve the existing development based on the reported lift station run times. Record drawings and rated pump capacities were not available at the time of the report.

4.2 Future System Evaluation

4.2.1 Methodology of Wastewater Flow Projections

To determine the projected wastewater flows, the projected connections based on the future developments and timelines were utilized. The water unit demands by type of connection were utilized and the return factor based on the WWTP service area was applied.

4.2.2 5-Year Projections

Table 4-4 presents the projected average day flows for each WWTP, and Table 4-5 presents the projected average day flows for each LS for the 5-year buildout.

Table 4-4 5-Year Projected WWTP Flows

Service Area	Flows (gpd)
Castlebridge WWTP	413,560
White Oak Bayou WWTP	366,070
Total	779,630

Table 4-5 5-Year Projected LS Flows

	White Oak Bayou WWTP					Castlebridge WWTP	
Lift Station	Rio Grande	Tahoe	Philippine	Hillcrest	290 NW	Jones Rd	Prop LS
Exist Flows (gpd)	15,300	78,400	357,800	39,300	6,200	1,500	-
Proj. Add. Flows (gpd)	-	1,500	9,000	6,725	-	80,000	75,060
Total Flows (gpd)	15,300	79,900	366,800	46,025	6,200	81,500	75,060

4.2.3 10-Year Projections

Table 4-6 presents the projected average day flows for each WWTP, and Table 4-7 presents the projected average day flows for each LS for the 10-year buildout.

Table 4-6 10-Year Project WWTP Flows

Service Area	Flows (gpd)
Castlebridge WWTP	490,870
White Oak Bayou WWTP	369,220
Total	860,090

Table 4-7 10-Year Projected LS Flows

	White Oak Bayou WWTP					Castlebridge WWTP	
Lift Station	Rio Grande	Tahoe	Philippine	Hillcrest	290 NW	Jones Rd	Prop LS
Exist Flows (gpd)	15,300	78,400	357,800	39,300	6,200	1,500	-
Proj. Add. Flows (gpd)	-	1,500	9,000	7,500	-	80,000	78,700
Total Flows (gpd)	15,300	79,900	366,800	46,800	6,200	81,500	78,700

4.2.4 Future System Capacity Analysis

Based on the projected 5-year and 10-year WWTP flows, it appears the WWTPs have enough capacity to serve the future projected development. TCEQ §305.126 requires a WWTP permit holder to initiate engineering and financial planning for expansion when the sewage flows reach 70% of permitted average daily flows for 3 consecutive months. The permit holder must also obtain necessary authorization to commence construction for additional facilities when the flows reach 90% of permitted average daily flows. It is recommended as the 10-year timeline approaches, the City monitor the Castlebridge WWTP effluent flows closely as the projected flow of 490,870 gpd is close to 70% of the permitted flow (560,000 gpd). The White Oak Bayou WWTP has a permitted flow of 2.0 MGD, and based on the City's 40.63% ownership, could send up to 812,600 gpd. The City is projected to only send 369,220 gpd of flow on average.

In general, it appears the LSs have enough capacity to serve the future projected development based on the estimated average day flows, projected flows, and current run times. The only LS with large projected increase in flows is the Jones Rd LS, which has current average pump runtimes of 0.16 hours per day. It is recommended the capacity of the LS be evaluated based on wet well and rated pump sizes.

4.3 Capital Improvement Plan (CIP)

JC collaborated with City staff to identify and include projects in the Wastewater CIP that are needed to not only serve new development but 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. Not all of the projects in the CIP can be utilized for impact fees, only those that serve new or future development. Table 4-8 presents the Wastewater CIP. Cost estimates are included in Attachment F for construction projects that are to be utilized for impact fees and are intended to serve future development. These projects include engineering, contingencies and inflation were applicable. The wastewater construction projects are shown in Figure 3.

Table 4-8 Wastewater Capital Improvements Plan

No.	Description of Project	Cost
Existing Projects		
S-A	Jones Rd 8” Line	$539,543
Proposed Projects		
S-1	Rehabilitation/Repair of Sanitary Sewer Lines Utilizing Existing Televising Videos	$2,000,000
S-2	Lift Station and Castlebridge WWTP Inspection	$60,000
S-3	Lift Station Rehabilitation/Repair	$1,500,000
S-4	Castlebridge WWTP Rehabilitation	$1,500,000
S-5	Manhole Survey	$100,000
S-6	Wastewater Master Plan	$175,000
S-7	Impact Fee Study & Rate Analysis	$75,000
S-8	White Oak Bayou Treatment Plant Generator Replacement & Bleach Conversion[(1)]	$650,000
S-9	White Oak Bayou Treatment Plant CIP Projects (2022 - 2024) [(1)]	$1,305,000
S-10	Charles Rd 8" Wastewater Line from FM 529 to Wright Rd - Service to ETJ[(2)]	$645,000
S-11	Charles Rd Area 8" Wastewater Lines - Service to ETJ[(2)]	$361,000
S-12	Proposed Lift Station #1 at Taylor Rd/Hwy 290 & 12" Force Main to Castlebridge WWTP - Service to ETJ[(2)]	$2,305,000
S-13	Wright Rd 10" Wastewater Line from FM 529 to Hwy 290 - Service to ETJ[(2)]	$944,000
S-14	Taylor Road 8", 10", & 12" Wastewater Line - Service to ETJ[(2)]	$1,116,000
S-15	Fairview St 10" Wastewater Line from FM 529 to Taylor Rd - Service to ETJ[(2)]	$1,006,000
S-16	Harms Rd 10" Wastewater Line from FM 529 to Taylor Rd - Service to ETJ[(2)]	$986,000
S-17	Jones Rd Area 8” Wastewater Line[(2)]	$208,000
	Total	**$15,475,543**

Notes:

(1) Project scope and estimated costs are based on the White Oak Bayou WWTP Major Project Reserves.

(2) Project scope and estimated costs are based on the City’s 2015 Water & Wastewater Impact Fee Study

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. Any improvement projects meant to improve service to existing customers, and projects' capacity serving existing development are not 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. Irrigation connections were not included as part of the wastewater service units as irrigation water usage does not contribute to wastewater flows. Table 5-1 presents the water and wastewater ESFCs for the existing and future systems.

Table 5-1 Projected Service Units

	2020 ADF (gpd)	2020 ESFCs	2025 ADF (gpd)	2025 ESFCs	2030 ADF (gpd)	2030 ESFCs	10-Year Additional ESFCs
Water	1,453,500	4,960	1,720,700	5,952	1,854,700	6,461	1,501
Wastewater	635,070	3,844	779,630	4,809	860,090	5,345	1,501

5.2 Water and Wastewater Attributable Improvements

The 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.

Table 5-2 Water Projects Impact Fee Eligible Costs

Project	% Utilization	FY 2010-2015	FY 2015-2020	FY 2020-2025	FY 2025-2030	Eligible Project Cost	Total Project Cost (Beyond 2030)
2020 Impact Fee Study	100			75,000	75,000	150,000	150,000
Jones Road Extension – Utilities	90	670,000				603,000	670,000
Proposed Water Facility No. 4	40				7,183,000	2,873,200	7,183,000
COH Interconnect No. 2	40				1,472,000	588,800	1,472,000
FM 529 8” & 12” Water Harms Rd to US 290	50			981,000		490,500	981,000
Charles Rd 8” & Wright Rd 12” Water	90			1,051,000		945,900	1,051,000
Wright Rd 12” Water	60				1,072,000	643,200	1,072,000
Fairview St 12” Water	10				1,948,000	194,800	1,948,000
Harms Rd 12” Water	10				2,195,000	219,500	2,195,000
Musgrove Ln 8” & 12” Water	30				505,000	151,500	505,000
Taylor Rd 8” Water	10				132,000	13,200	132,000
Summation		**$670,000**	**$0**	**$2,107,000**	**$14,582,000**	**$6,873,600**	**$17,359,000**

Table 5-3 Wastewater Projects Impact Fee Eligible Costs

Project	% Utilization		FY 2015-2020	FY 2020-2025	FY 2025-2030	Eligible Project Cost	Total Project Cost (Beyond 2030)
Jones Rd 8” Sewer	80	539,543				431,634	539,543
Charles Rd 8” Sewer	80				645,000	516,000	645,000
Charles Rd Area 8” Sewer	60			361,000		216,600	361,000
Proposed LS #1 & 12” Force Main	40				2,305,000	922,000	2,305,000
Wright Rd 10” Line	60				944,000	566,400	944,000
Taylor Rd 8”, 12”, & 12” Lines	30				1,116,000	334,800	1,116,000
Fairview St 10” Sewer	10				1,006,000	100,600	1,006,000
Harms Rd 10” Sewer	10				986,000	98,600	986,000
Jones Rd Area 8” Line	30				208,000	62,400	208,000
Wastewater Master Plan	100			175,000		175,000	175,000
Impact Fee Study	100		75,000		75,000	150,000	150,000
Summation		**$539,543**	**$75,000**	**$536,000**	**$7,285,000**	**$3,575,034**	**$8,435,543**

5.3 Maximum Impact Fee Calculation

According to the §395, impact fees can be assessed based on either two options. The fees can either a) allow for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements or b) reduce recoverable cost 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. Table 5-4 and 5-5 presents 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	$6,873,600
Finance Costs (4%)	$2,248,000
10-Year Additional ESFCs	1,501 ESFCs
Eligible Cost per ESFC	$6,051.18
Impact Fee per ESFC (50% Reduction)	$3,025.59

Table 5-5 Maximum Wastewater Impact Fee per Service Unit

Eligible Impact Fee Costs	$3,574,034
Finance Costs (4%)	$1,169,000
10-Year Additional ESFCs	1,501 ESFCs
Eligible Cost per ESFC	$3,328.78
Impact Fee per ESFC (50% Reduction)	$1,664.39

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

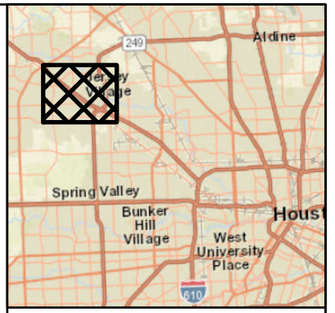
Meter Size	Maximum Capacity (gpm)	ESFC	Maximum Assessable Water Fee	Maximum Assessable Wastewater Fee
5/8”	15	1.00	$3,026	$1,664
3/4”	25	1.67	$5,144	$2,829
1”	40	2.67	$8,169	$4,494
1 1/4”	45	3.00	$9,077	$4,993
1 1/2”	120	8.00	$9,984	$5,492
2”	170	11.33	$32,374	$17,809
3”	350	23.33	$64,445	$35,452
4”	600	40.00	$100,752	$55,424
6”	1,200	80.00	$201,807	$111,015
8”	1,800	120.00	$322,830	$177,590
10”	2,300	153.30	$463,823	$255,151

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. Then a public hearing must be held to review and allow public comment on the CIP, Land Use Plan and Impact Fees. A presentation was made to the Capital Improvements Advisory Committee on June 23rd, 2020 who in turn provided written comments to the City Council. The public hearing and presentation to City Council was held on July 20th, 2020 with the goal of adopting the updated CIP, Land Use Plan and Impact Fees for the new fiscal year. There were no public comments, so the City Council approved the adoption of the CIP, Land Use Plan and Impact Fees at the July 20th, 2020 City Council meeting.

FIGURE A

FUTURE LAND USE PLAN



VICINITY MAP

Scale: 1 inch equals 10 miles

LEGEND

- City of Jersey Village City Limits
- City of Jersey Village City ETJ
- HCAD Parcels

Future Land Use Classification

- Low-Density Residential
- Multi-Family Residential
- Mixed-Use
- Office
- Retail
- Industrial
- Public/Semi-Public
- Parks/Open Space
- Water/Detention

FUTURE LAND USE CLASSIFICATION LAYOUT

CITY OF JERSEY VILLAGE

HARRIS COUNTY, TEXAS

0 750 1,500

Feet

1 inch equals 1,500 feet

N W E S

JONES|CARTER

Texas Board of Professional Engineers Registration No. F-439

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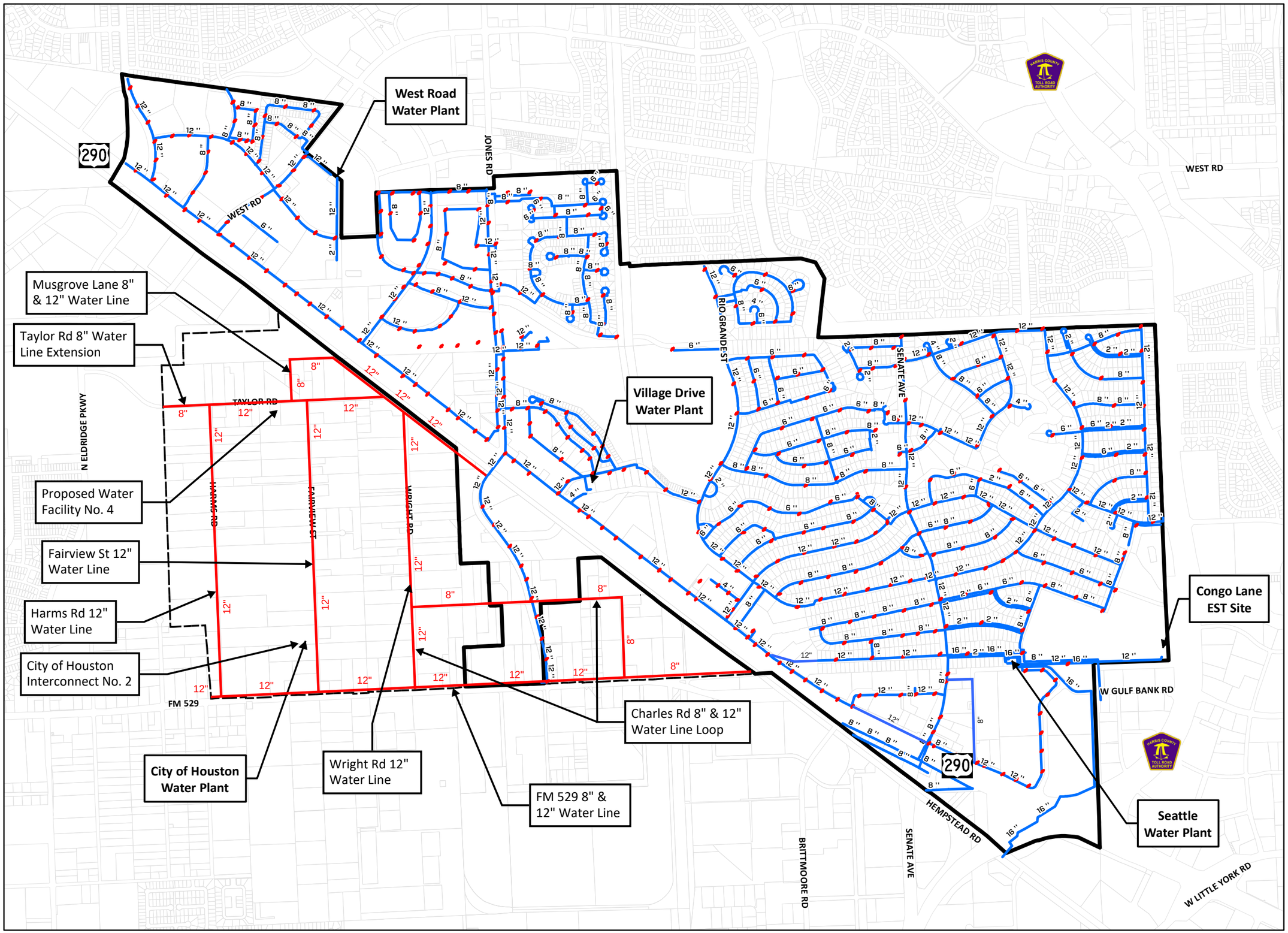
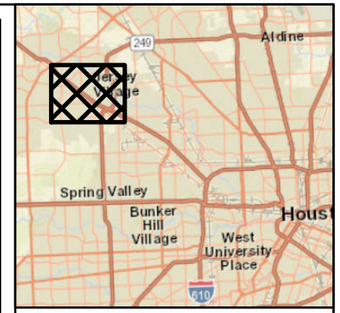
FIGURE B

WATER SYSTEM IMPROVEMENTS





VICINITY MAP

Scale: 1 inch equals 10 miles

LEGEND

- Fire Hydrant
- Waterline
- City of Jersey Village City Limits
- City of Jersey Village City ETJ
- HCAD Parcels
- Proposed Water Line

WATER DISTRIBUTION SYSTEM LAYOUT

CITY OF JERSEY VILLAGE

HARRIS COUNTY, TEXAS

0 750 1,500

Feet

1 inch equals 1,500 feet

N W E S

JONES|CARTER

Texas Board of Professional Engineers Registration No. F-439

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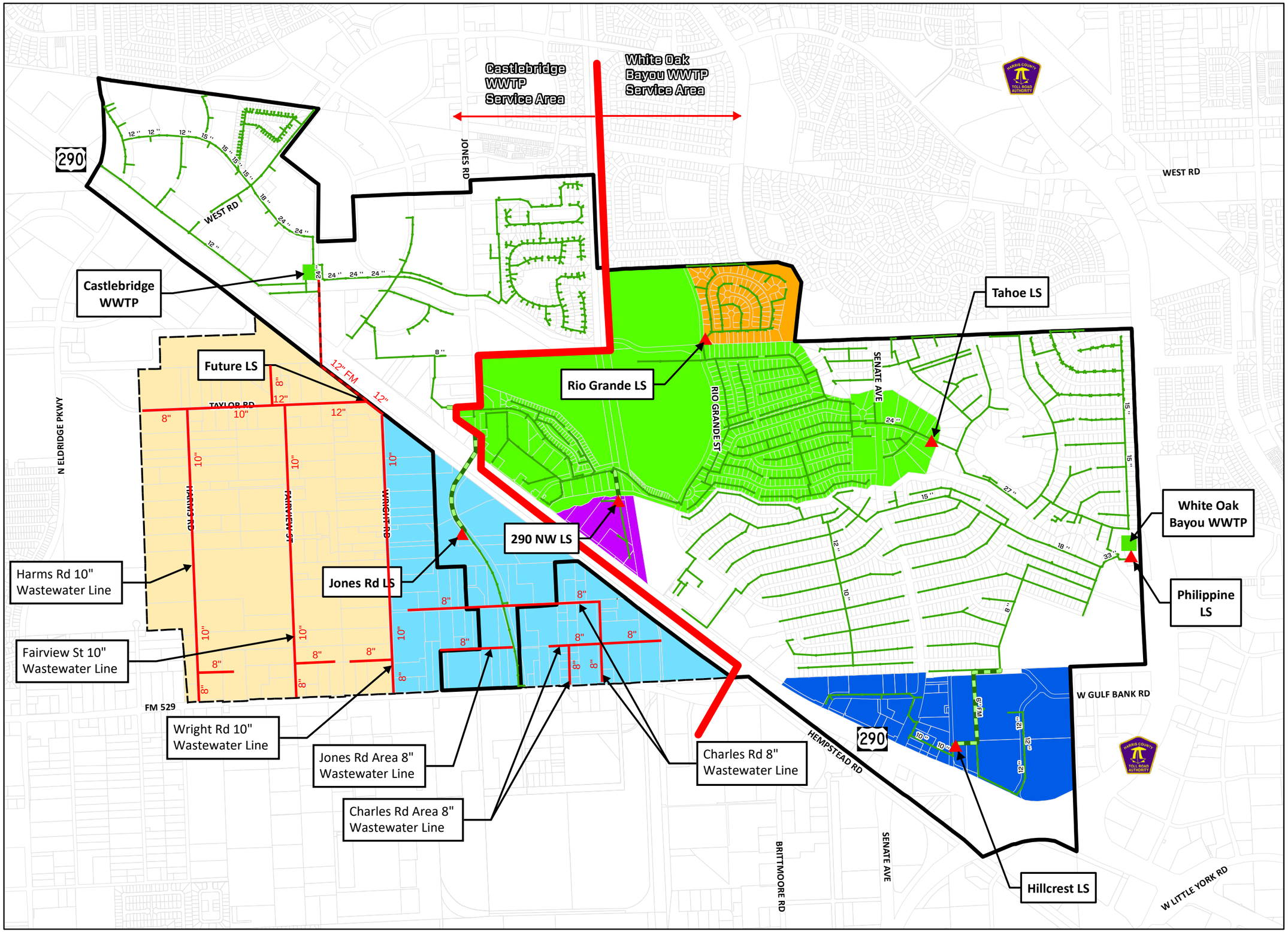
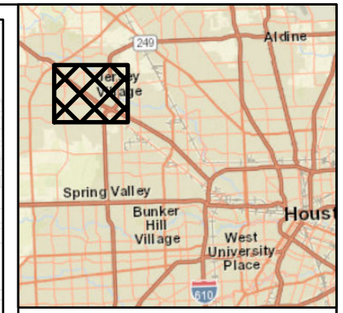
FIGURE C

WASTEWATER SYSTEM IMPROVEMENTS





VICINITY MAP

Scale: 1 inch equals 10 miles

LEGEND

- Lift Station
- WWTP
- Force Main
- Gravity Main
- City of Jersey Village City Limits
- City of Jersey Village City ETJ
- HCAD Parcels
- Proposed Wastewater Line
- Proposed Force Main

WATER DISTRIBUTION SYSTEM LAYOUT

CITY OF JERSEY VILLAGE
HARRIS COUNTY, TEXAS

0 750 1,500
Feet

1 inch equals 1,500 feet

N W E S

JONES | CARTER
Texas Board of Professional Engineers Registration No. F-439

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Project Number: 05440-0004-00
Date: 5/5/2020
User Name: CEH

ATTACHMENT A

TEXAS LOCAL GOVERNMENT CODE CHAPTER 395

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 WATER PLANT CAPACITY ANALYSIS

ATTACHMENT B
EXISTING WATER PLANT CAPACITY ANALYSIS
CITY OF JERSEY VILLAGE
JULY 2020

1. Demand Conditions

Type	Connections	Unit Flowrate		Total Average Daily Flow
SF Residential	2,220	250 gpd/conn		555,000 gpd
MF Residential	1,544	125 gpd/conn		193,000 gpd
Commercial	150	1,250 gpd/conn		187,500 gpd
Industrial	0	1,000 gpd/conn		gpd
Mixed Use	0	400 gpd/conn		gpd
Irrigation	814	340 gpd/conn		276,800 gpd
Public	61	430 gpd/conn		26,200 gpd
Accountability/Losses			14.8%	215,000 gpd
Total	**4,789**			**1,453,500 gpd**

Effective Unit Flowrate Per Connection = 304 gpd/conn

2. Supply Capacity {TAC §290.45(b)(1)(D)(i)}	Capacity	Flowrate
TCEQ Minimum Required = (0.6 gpm/conn)(4,789 conn) =	2,873 gpm	
Existing Well No. 1 @ Well Water Plant : 1 @ 1,550 gpm =	1,550 gpm	
Existing Well No. 1 @ Village Water Plant : 1 @ 900 gpm =	900 gpm	
	2,450 gpm	
(2,800 gpm)(1,440 min/day)/(2.4) =		1,470,000 gpd
Surface Water Supply @ Seattle Water Plant : 1,042 gpm =	1,042 gpm *	

3. Total Storage Capacity {TAC §290.45(b)(1)(D)(ii)}	
TCEQ Minimum Required = (200 gal/conn)(4,789 conn) =	957,800 gal
Existing Ground Storage Tank @ Seattle Water Plant = 1 @ 380,000 gallons =	380,000 gal
Existing Ground Storage Tank @ Seattle Water Plant = 1 @ 500,000 gallons =	500,000 gal
Existing Ground Storage Tank @ Village Water Plant = 1 @ 420,000 gallons =	420,000 gal
Existing Elevated Storage Tank @ Village Water Plant = 1 @ 250,000 gallons =	250,000 gal
Existing Ground Storage Tank @ West Water Plant = 1 @ 500,000 gallons =	500,000 gal
Existing Elevated Storage Tank @ Congo Ln = 1 @ 500,000 gallons =	500,000 gal
	2,550,000 gal

4. Elevated Storage Tank Capacity {TAC §290.45(b)(1)(D)(iv)}	
TCEQ Minimum Required = (100 gal/conn)(4,789 conn) =	478,900 gal
Existing Elevated Storage Tank @ Village Water Plant = 1 @ 250,000 gallons =	250,000 gal
Existing Elevated Storage Tank @ Congo Ln = 1 @ 500,000 gallons =	500,000 gal
	750,000 gal
Existing Pressure Tank @ Village Water Plant = 1 @ 25,000 gallons =	25,000 gal

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

TCEQ Minimum Required = (2 gpm/conn)(4,789 conn) =	9,578 gpm	
or (1,453,500 gpd)*(2.4*1.25)/(1,440 min/day) =	3,028 gpm	
Existing Pumps @ Seattle Water Plant = 2 @ 1,100 gpm =	2,200 gpm	
Existing Pumps @ Village Water Plant = 1 @ 250 gpm =	250 gpm	
Existing Pumps @ Village Water Plant = 1 @ 500 gpm =	500 gpm	
Existing Pumps @ Village Water Plant = 1 @ 750 gpm =	750 gpm	
Existing Pumps @ West Water Plant = 1 @ 250 gpm =	250 gpm	
Existing Pumps @ West Water Plant = 1 @ 500 gpm =	500 gpm	
Existing Pumps @ West Water Plant = 1 @ 750 gpm =	750 gpm	
	5,200 gpm	
Existing Pumps @ Seattle Water Plant = 1 @ 1,100 gpm =	1,100 gpm	
Existing Pumps @ Village Water Plant = 1 @ 1,100 gpm =	1,100 gpm	
Existing Pumps @ West Water Plant = 1 @ 1,000 gpm =	1,000 gpm	
(5,200 gpm)(1,440 min/day)/(1.25)/(2.4) =		2,496,000 gpd
Total Plant Capacity =		**1,470,000 gpd**

NOTES: (Corresponding to the numbered items)

1. Existing connection counts are based on billing data provided by the City for October 2016 through September 2019. Daily flow rates are based on well and surface water meter data provided by the City for April 2019 through December 2019. A value of 2.4 for the maximum daily demand factor was utilized as established by 30 TAC 290.38 (43) in lieu of 3 years of daily flow data. Based on the difference between water pumped and water billed from April 2019 - December 2019, water losses were added.

2. The values presented for the water wells are based on the 2015 FNI Impact Fee Study. The flow of 0.6 gpm/conn is taken from the TCEQ's Chapter 290 criteria.The factor of 2.4 shown in the JC calculations was utilized as the ratio of Maximum Daily Flow (MDF) to Average Daily Flow (ADF). JC's criteria is based on being able to pump the MDF with the well running 24 hrs/day and back calculating the ADF. (24 hr run time)/2.4 = 10 hrs on an average day (600 min). Surface water supply is not included in the supply capacity because no amount of water supply is guaranteed by the City of Houston in the supply contract. Since the City of Houston cannot guarantee a minimum of 0.35 gpm/connection, Jersey Village is required to have a total well capacity of 0.6 gpm/connection. The well at the West plant was counted in the existing supply, but needs to be brought online to bring the City into compliance with the requirements of 30 TAC 290.45(b)(1)(D)(i).

3. The total storage 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 system capacity in terms of flow.

4. Elevated storage tank (EST) capacity must be at least 100 gallons per connection to meet the requirements of 30 TAC 290.45(b). Since the EST capacity is sufficient, the Hydropneumatic tank capacity is not used in calculating the maximum number of connections allowed.

5. The TCEQ's minimum requirement for booster pumps is 2 gpm/conn or the ability to meet Peak Hourly Flow (PHF) with the largest unit at each pump station out of service, whichever is lesser. The PHF is calculated by using the TCEQ's factor of 1.25 for the ratio of PHF to MDF, for systems that meet the EST capacity rules of greater than 100 gpd/connection. Multiplying the PHF by the MDF as defined in Note No. 1 gives us the ratio of PHF to ADF and is equal to 3.0.

ATTACHMENT C

PROJECTED 2025 WATER PLANT CAPACITY ANALYSIS

ATTACHMENT C
PROJECTED 2025 WATER PLANT CAPACITY ANALYSIS
CITY OF JERSEY VILLAGE
JULY 2020

1. Demand Conditions

Type	Connections	Unit Flowrate		Total Average Daily Flow
SF Residential	2,267	250 gpd/conn		566,800 gpd
MF Residential	1,544	125 gpd/conn		193,000 gpd
Commercial	208	1,250 gpd/conn		259,700 gpd
Industrial	0	1,000 gpd/conn		gpd
Mixed Use	452	400 gpd/conn		180,900 gpd
Irrigation	814	340 gpd/conn		276,800 gpd
Public	66	430 gpd/conn		28,500 gpd
Accountability/Losses			12.5%	215,000 gpd
Total	**5,352**			**1,720,700 gpd**

Effective Unit Flowrate Per Connection = 322 gpd/conn

2. Supply Capacity {TAC §290.45(b)(1)(D)(i)}	Capacity	Flowrate
TCEQ Minimum Required = (0.6 gpm/conn)(5,352 conn) =	3,211 gpm	
Existing Well No. 1 @ West Water Plant : 1 @ 1,550 gpm =	1,550 gpm	
Existing Well No. 1 @ Seattle Water Plant : 1 @ 1,250 gpm =	1,250 gpm	
Existing Well No. 1 @ Village Water Plant : 1 @ 900 gpm =	900 gpm	
	3,700 gpm	
(2,592 gpm)(1,440 min/day)/(2.4) =		2,220,000 gpd
Surface Water Supply @ Seattle Water Plant : 1,042 gpm =	1,042 gpm *	

3. Total Storage Capacity {TAC §290.45(b)(1)(D)(ii)}	
TCEQ Minimum Required = (200 gal/conn)(5,352 conn) =	1,070,317 gal
Existing Ground Storage Tank @ Seattle Water Plant = 1 @ 380,000 gallons =	380,000 gal
Existing Ground Storage Tank @ Seattle Water Plant = 1 @ 500,000 gallons =	500,000 gal
Existing Ground Storage Tank @ Village Water Plant = 1 @ 420,000 gallons =	420,000 gal
Existing Elevated Storage Tank @ Village Water Plant = 1 @ 250,000 gallons =	250,000 gal
Existing Ground Storage Tank @ West Water Plant = 1 @ 500,000 gallons =	500,000 gal
Existing Elevated Storage Tank @ Congo Ln = 1 @ 500,000 gallons =	500,000 gal
	2,550,000 gal

4. Elevated Storage Tank Capacity {TAC §290.45(b)(1)(D)(iv)}	
TCEQ Minimum Required = (100 gal/conn)(5,352 conn) =	535,159 gal
Existing Elevated Storage Tank @ Village Water Plant = 1 @ 250,000 gallons =	250,000 gal
Existing Elevated Storage Tank @ Congo Ln = 1 @ 500,000 gallons =	500,000 gal
	750,000 gal
Existing Pressure Tank @ Village Water Plant = 1 @ 25,000 gallons =	25,000 gal

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

TCEQ Minimum Required = (2 gpm/conn)(5,352 conn) =	10,703 gpm	
or (1,720,700 gpd)*(2.4*1.25)/(1,440 min/day) =	3,585 gpm	
Existing Pumps @ Seattle Water Plant = 2 @ 1,100 gpm =	2,200 gpm	
Existing Pumps @ Village Water Plant = 1 @ 250 gpm =	250 gpm	
Existing Pumps @ Village Water Plant = 1 @ 500 gpm =	500 gpm	
Existing Pumps @ Village Water Plant = 1 @ 750 gpm =	750 gpm	
Existing Pumps @ West Water Plant = 1 @ 250 gpm =	250 gpm	
Existing Pumps @ West Water Plant = 1 @ 500 gpm =	500 gpm	
Existing Pumps @ West Water Plant = 1 @ 750 gpm =	750 gpm	
	5,200 gpm	
Existing Pumps @ Seattle Water Plant = 1 @ 1,100 gpm =	1,100 gpm	
Existing Pumps @ Village Water Plant = 1 @ 1,100 gpm =	1,100 gpm	
Existing Pumps @ West Water Plant = 1 @ 1,000 gpm =	1,000 gpm	
(5,200 gpm)(1,440 min/day)/(1.25)/(2.4) =		2,496,000 gpd
Total Plant Capacity =		**2,220,000 gpd**

NOTES: (Corresponding to the numbered items)

1. Existing connection counts are based on billing data provided by the City for October 2016 through September 2019. Projected connection counts are based on the currently undeveloped lots within the City's system being developed. Daily flow rates are based on well and surface water meter data provided by the City for April 2019 through December 2019. A value of 2.4 for the maximum daily demand factor was utilized as established by 30 TAC 290.38 (43) in lieu of 3 years of daily flow data. Based on the difference between water pumped and water billed from April 2019 - December 2019, water losses were added.

2. The values presented for the water wells are based on the 2015 FNI Impact Fee Study.The flow of 0.6 gpm/conn is taken from the TCEQ's Chapter 290 criteria. The factor of 2.4 shown in the JC calculations was utilized as the ratio of Maximum Daily Flow (MDF) to Average Daily Flow (ADF). JC's criteria is based on being able to pump the MDF with the well running 24 hrs/day and back calculating the ADF. (24 hr run time)/2.4 = 10 hrs on an average day (600 min). Surface water supply is not included in the supply capacity because no amount of water supply is guaranteed by the City of Houston in the supply contract. Since the City of Houston cannot guarantee a minimum of 0.35 gpm/connection, Jersey Village is required to have a total well capacity of 0.6 gpm/connection.

3. The total storage 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 system capacity in terms of flow.

4. Elevated storage tank (EST) capacity must be at least 100 gallons per connection to meet the requirements of 30 TAC 290.45(b). Since the EST capacity is sufficient, the Hydropneumatic tank capacity is not used in calculating the maximum number of connections allowed.

5. The TCEQ's minimum requirement for booster pumps is 2 gpm/conn or the ability to meet Peak Hourly Flow (PHF) with the largest unit at each pump station out of service. The PHF is calculated by using the TCEQ's factor of 1.25 for the ratio of PHF to MDF, for systems that meet the EST capacity rules of greater than 100 gpd/connection. Multiplying the PHF by the MDF as defined in Note No. 1 gives us the ratio of PHF to ADF and is equal to 3.0.

ATTACHMENT D

PROJECTED 2030 WATER PLANT CAPACITY ANALYSIS

ATTACHMENT D
PROJECTED 2030 WATER PLANT CAPACITY ANALYSIS
CITY OF JERSEY VILLAGE
JULY 2020

1. Demand Conditions

Type	Connections	Unit Flowrate		Total Average Daily Flow
SF Residential	2,441	250 gpd/conn		610,200 gpd
MF Residential	1,544	125 gpd/conn		193,000 gpd
Commercial	218	1,250 gpd/conn		271,900 gpd
Industrial	4	1,000 gpd/conn		4,000 gpd
Mixed Use	638	400 gpd/conn		255,300 gpd
Irrigation	814	340 gpd/conn		276,800 gpd
Public	66	430 gpd/conn		28,500 gpd
Accountability/Losses			11.6%	215,000 gpd
Total	**5,725**			**1,854,700 gpd**

Effective Unit Flowrate Per Connection = 324 gpd/conn

2. Supply Capacity {TAC §290.45(b)(1)(D)(i)}	Capacity	Flowrate
TCEQ Minimum Required = (0.6 gpm/conn)(5,725 conn) =	3,435 gpm	
Existing Well No. 1 @ West Water Plant : 1 @ 1,550 gpm =	1,550 gpm	
Existing Well No. 1 @ Seattle Water Plant : 1 @ 1,250 gpm =	1,250 gpm	
Existing Well No. 1 @ Village Water Plant : 1 @ 900 gpm =	900 gpm	
New Well @ Future Water Plant 4 =	**650 gpm**	
	4,350 gpm	
(2,592 gpm)(1,440 min/day)/(2.4) =		2,610,000 gpd
Surface Water Supply @ Seattle Water Plant : 1,042 gpm =	1,042 gpm	

3. Total Storage Capacity {TAC §290.45(b)(1)(D)(ii)}	
TCEQ Minimum Required = (200 gal/conn)(5,725 conn) =	1,144,993 gal
Existing Ground Storage Tank @ Seattle Water Plant = 1 @ 380,000 gallons =	380,000 gal
Existing Ground Storage Tank @ Seattle Water Plant = 1 @ 500,000 gallons =	500,000 gal
Existing Ground Storage Tank @ Village Water Plant = 1 @ 420,000 gallons =	420,000 gal
Existing Elevated Storage Tank @ Village Water Plant = 1 @ 250,000 gallons =	250,000 gal
Existing Ground Storage Tank @ West Water Plant = 1 @ 500,000 gallons =	500,000 gal
Existing Elevated Storage Tank @ Congo Ln = 1 @ 500,000 gallons =	500,000 gal
Proposed Ground Storage Tank @ Water Plant No. 4 = 1 @ 1,000,000	**1,000,000 gal**
	3,550,000 gal

4. Elevated Storage Tank Capacity {TAC §290.45(b)(1)(D)(iv)}	
TCEQ Minimum Required = (100 gal/conn)(5,725 conn) =	572,497 gal
Existing Elevated Storage Tank @ Village Water Plant = 1 @ 250,000 gallons =	250,000 gal
Existing Elevated Storage Tank @ Congo Ln = 1 @ 500,000 gallons =	500,000 gal
	750,000 gal
Existing Pressure Tank @ Village Water Plant = 1 @ 25,000 gallons =	25,000 gal

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

TCEQ Minimum Required = (2 gpm/conn)(5,725 conn) =	11,450 gpm	
or (1,854,700 gpd)*(2.4*1.25)/(1,440 min/day) =	3,864 gpm	
Existing Pumps @ Seattle Water Plant = 3 @ 1,100 gpm =	2,200 gpm	
Existing Pumps @ Village Water Plant = 1 @ 250 gpm =	250 gpm	
Existing Pumps @ Village Water Plant = 1 @ 500 gpm =	500 gpm	
Existing Pumps @ Village Water Plant = 1 @ 750 gpm =	750 gpm	
Existing Pumps @ West Water Plant = 1 @ 250 gpm =	250 gpm	
Existing Pumps @ West Water Plant = 1 @ 500 gpm =	500 gpm	
Existing Pumps @ West Water Plant = 1 @ 750 gpm =	750 gpm	
New Pumps @ Future Water Plant 4 = 3 @ 600 gpm =	**1,800 gpm**	
	7,000 gpm	
Existing Pump @ Seattle Water Plant = 1 @ 1,100 gpm =	1,100 gpm	
Existing Pump @ Village Water Plant = 1 @ 1,100 gpm =	1,100 gpm	
Existing Pump @ West Water Plant = 1 @ 1,000 gpm =	1,000 gpm	
New Pump @ Future Water Plant 4 = 1 @ 600 gpm =	**600 gpm**	
(7,000 gpm)(1,440 min/day)/(1.25)/(2.4) =		3,360,000 gpd
Total Plant Capacity =		**2,610,000 gpd**

NOTES: (Corresponding to the numbered items)

1. Existing connection counts are based on data provided by the City for October 2016 through September 2019. Projected connection counts are based on the currently undeveloped lots within the City's system being developed and extending service to customers within the ETJ but outside of City limits. Daily flow rates are based on data provided by the City for April 2019 through December 2019. A value of 2.4 for the maximum daily demand factor was utilized as established by 30 TAC 290.38 (43) in lieu of 3 years of daily flow data. Based on the difference between water pumped and water billed from April 2019 - December 2019, water losses were added.

2. The values presented for the water wells are based on the 2015 FNI Impact Fee Study.The flow of 0.6 gpm/conn is taken from the TCEQ's Chapter 290 criteria. The factor of 2.4 shown in the JC calculations was utilized as the ratio of Maximum Daily Flow (MDF) to Average Daily Flow (ADF). JC's criteria is based on being able to pump the MDF with the well running 24 hrs/day and back calculating the ADF. (24 hr run time)/2.4 = 10 hrs on an average day (600 min). Surface water supply is not included in the supply capacity because no amount of water supply is guaranteed by the City of Houston in the supply contract. Since the City of Houston cannot guarantee a minimum of 0.35 gpm/connection, Jersey Village is required to have a total well capacity of 0.6 gpm/connection. Additionally, a new 650 gpm well will be required at Future Water Plant 4.

3. The total storage 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 system capacity in terms of flow.

4. Elevated storage tank (EST) capacity must be at least 100 gallons per connection to meet the requirements of 30 TAC 290.45(b). Since the EST capacity is sufficient, the Hydropneumatic tank capacity is not used in calculating the maximum number of connections allowed.

5. The TCEQ's minimum requirement for booster pumps is 2 gpm/conn or the ability to meet Peak Hourly Flow (PHF) with the largest unit at each pump station out of service. The PHF is calculated by using the TCEQ's factor of 1.25 for the ratio of PHF to MDF, for systems that meet the EST capacity rules of greater than 100 gpd/connection. Multiplying the PHF by the MDF as defined in Note No. 1 gives us the ratio of PHF to ADF and is equal to 3.0. To meet pumping requirements with the largest pump out of service, a total of four new 600 gpm pumps are required at Future Water Plant 4.

ATTACHMENT E

WATER CAPITAL IMPROVEMENT PLAN PROJECTS COST ESTIMATES

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
PROPOSED WATER FACILITY No. 4
CAPITAL IMPROVEMENTS PROJECT No. W-14
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of construction of 1.0 MG ground storage tank, a 3,000 GPM booster pump station, all related piping, foundations, electrical instrumentation, site work and all additional items needed for completely functional water plant.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$220,000	$220,000	
2.	Clearing & Grubbing	L.S.	1	15,000	15,000	
3.	1.0 MGD Ground Storage Tank	L.S.	1	1,250,000	1,250,000	
4.	3,000 GPM Booster Pump Station	L.S.	1	555,000	555,000	
5.	Booster Pump Building/Control Station	L.S.	1	200,000	200,000	
6.	Booster Pump Station and Site Electrical	L.S.	1	650,000	650,000	
7.	Yard Piping and Appurtenances	L.S.	1	200,000	200,000	
8.	Water Distribution/Transmission Line	L.S.	1	510,000	510,000	
9.	Site Improvements	L.S.	1	100,000	100,000	(2)
10.	SWPPP	L.S.	1	5,000	5,000	
11.	OH&P	L.S.	1	650,000	650,000	
			SUBTOTAL		$4,355,000	(3)
				Contingencies (20%)	$871,000	
				9 Yr Inflation @ 2%/Yr	$1,020,000	
				Engineering	$937,000	
				TOTAL	**$7,183,000**	(4)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) Includes drainage, pavement improvements, protective coatings

(3) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way; platting; or aesthetic upgrades.

(4) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
CITY OF HOUSTON INTERCONNECT No. 2
CAPITAL IMPROVEMENTS PROJECT No. W-15
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of design and construction of a second interconnect with the City of Houston at the Water Facility No. 4 to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$45,000	$45,000	
2.	City of Houston Interconnect No. 2 Piping and Meter Vault	L.S.	1	830,000	830,000	
				SUBTOTAL	$875,000	(2)
				Contingencies (20%)	$175,000	
				10 Yr Inflation @ 2%/Yr	$230,000	
				Engineering	$192,000	
				TOTAL	**$1,472,000**	(3)

(1) All Totals have been rounded to the nearest $1,000.

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way; platting; aesthetic upgrades; or bringing electrical power to the site.

(3) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
FM 529 8-INCH & 12-INCH WATER LINE FROM HWY 290 TO JONES RD - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. W-16
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of design and construction of a 12-inch waterline along FM 529 from Jones Road to Charles Road, an 8-inch water line from FM 529 along Charles Road to Jones and an 8-inch waterline from Charles Road to Hwy 290 to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$30,000	$30,000	
2.	8" Waterline	L.F.	4,800	80	384,000	
3.	12" Waterline	L.F.	1,300	120	156,000	
4.	Fire Hydrants	EA.	12	3,500	42,000	
5.	8" Gate Valves	EA.	10	2,000	20,000	
6.	12" Gate Valves	EA.	4	3,000	12,000	
			SUBTOTAL		$644,000	(2)
			Contingencies (20%)		$129,000	
			5 Yr Inflation @ 2%/Yr		$80,000	
			Engineering		$128,000	
			TOTAL		**$981,000**	(3)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way.

(3) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
CHARLES ROAD 8-INCH & WRIGHT ROAD 12-INCH WATER LINE LOOP - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. W-17
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of design and construction of an 8-inch waterline from Jones Road west along Charles Road to Wright Road and a 12-inch waterline south along Wright Road and east along FM 529 connection to the existing 12-inch waterline to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$35,000	$35,000	
2.	8" Waterline	L.F.	2,000	80	160,000	
3.	12" Waterline	L.F.	3,500	120	420,000	
4.	Fire Hydrants	EA.	14	3,500	49,000	
5.	8" Gate Valves	EA.	4	2,000	8,000	
6.	12" Gate Valves	EA.	6	3,000	18,000	
			SUBTOTAL		$690,000	(2)
			Contingencies (20%)		$138,000	
			5 Yr Inflation @ 2%/Yr		$86,000	
			Engineering		$137,000	
			TOTAL		**$1,051,000**	(3)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way.

(3) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
WRIGHT ROAD 12-INCH WATER LINE FROM CHARLES ROAD TO HWY 290 - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. W-18
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of design and construction of an 12-inch waterline along Wright Road from Charles Road to Hwy 290 and along Hwy 290 from Wright Road to Jones Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$35,000	$35,000	
2.	12" Waterline	L.F.	4,900	120	588,000	
3.	Fire Hydrants	EA.	10	3,500	35,000	
4.	12" Gate Valves	EA.	6	3,000	18,000	
			SUBTOTAL		$676,000	(2)
				Contingencies (20%)	$135,000	
				7 Yr Inflation @ 2%/Yr	$121,000	
				Engineering	$140,000	
				TOTAL	**$1,072,000**	(3)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way.

(3) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
FAIRVIEW STREET 12-INCH WATER LINE FROM FM 529 TO TAYLOR ROAD - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. W-19
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of design and construction of an 12-inch waterline along Fairview Street from FM 529 to Taylor Road, along FM 529 from Fairview Road to Wright Road and along Taylor Road and Hwy 290 from Fairview Road to Wright Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$60,000	$60,000	
2.	12" Waterline	L.F.	8,400	120	1,008,000	
3.	Fire Hydrants	EA.	17	3,500	60,000	
4.	12" Gate Valves	EA.	10	3,000	30,000	
			SUBTOTAL		$1,158,000	(2)
			Contingencies (20%)		$232,000	
			10 Yr Inflation @ 2%/Yr		$304,000	
			Engineering		$254,000	
			TOTAL		**$1,948,000**	(3)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way.

(3) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
HARMS ROAD 12-INCH WATER LINE FROM FM 529 TO TAYLOR ROAD - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. W-20
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of design and construction of an 12-inch waterline along Harms Road from FM 529 to Taylor Road, along FM 529 from Harms Road to Fairview Road and along Taylor Road from Harms Road to Fairview Road to serve projected developement.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$65,000	$65,000	
2.	12" Waterline	L.F.	9,500	120	1,140,000	
3.	Fire Hydrants	EA.	20	3,500	70,000	
4.	12" Gate Valves	EA.	10	3,000	30,000	
			SUBTOTAL		$1,305,000	(2)
				Contingencies (20%)	$261,000	
				10 Yr Inflation @ 2%/Yr	$343,000	
				Engineering	$286,000	
				TOTAL	**$2,195,000**	(3)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way.

(3) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
MUSGROVE LANE 8-INCH & 12-INCH WATER LINE
FROM TAYLOR ROAD TO JONES ROAD ALONG HWY 290
CAPITAL IMPROVEMENTS PROJECT No. W-21
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of design and construction of an 8-inch waterline along Musgrove Lane and east to Hwy 290 and a 12-inch waterline along Hwy 290 to Taylor Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$15,000	$15,000	
2.	8" Waterline	L.F.	1,500	80	120,000	
3.	12" Waterline	L.F.	1,100	120	132,000	
4.	Fire Hydrants	EA.	6	3,500	21,000	
5.	8" Gate Valves	EA.	3	2,000	6,000	
6.	12" Gate Valves	EA.	2	3,000	6,000	
			SUBTOTAL		$300,000	(2)
			Contingencies (20%)		$60,000	
			10 Yr Inflation @ 2%/Yr		$79,000	
			Engineering		$66,000	
			TOTAL		**$505,000**	(3)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way.

(3) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
TAYLOR ROAD 8-INCH WATER LINE EXTENSION FROM HWY 290 TO EDGE OF ETJ -SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. W-22
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project will consist of design and construction of an 8-inch waterline along Taylor Road to the west of Harms Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$5,000	$5,000	
2.	8" Waterline	L.F.	800	80	64,000	
3.	Fire Hydrants	EA.	2	3,500	7,000	
4.	8" Gate Valves	EA.	2	2,000	4,000	
			SUBTOTAL		$80,000	(2)
				Contingencies (20%)	$16,000	
				9 Yr Inflation @ 2%/Yr	$19,000	
				Engineering	$17,000	
				TOTAL	**$132,000**	(3)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate does not include costs for determination, dedication, or acquisition of easements or right-of-way.

(3) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

ATTACHMENT F

WASTEWATER CAPITAL IMPROVEMENT PLAN PROJECTS COST ESTIMATES

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
CHARLES ROAD 8-INCH WASTEWATER LINE FROM FM 529 TO WRIGHT ROAD - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. S-10
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project consists of design and construction of an 8-inch gravity sewer from FM 529 north and west along Charles Road to Wright Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$20,000	$20,000	
2.	8-inch Gravity Sewer	L.F.	4,600	80	368,000	
3.	48-inch Diameter Manhole	EA.	7	5,000	35,000	
			SUBTOTAL		$423,000	
				Contingencies (20%)	$85,000	
				5 Yr Inflation @ 2%/Yr	$53,000	
				Engineering	$84,000	
				TOTAL	**$645,000**	(2)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
CHARLES ROAD 8-INCH WASTEWATER LINE - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. S-11
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project consists of design and construction of an 8-inch gravity sewer from Charles Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$12,000	$12,000	
2.	8-inch Gravity Sewer	L.F.	2,500	80	200,000	
3.	48-inch Diameter Manhole	EA.	5	5,000	25,000	
			SUBTOTAL		$237,000	
				Contingencies (20%)	$47,000	
				5 Yr Inflation @ 2%/Yr	$30,000	
				Engineering	$47,000	
				TOTAL	**$361,000**	(2)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
PROPOSED LIFT STATION NO. 1 AT TAYLOR ROAD/HWY 290
& 12-INCH FORCE MAIN TO CASTLEBRIDGE WWTP - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. S-12
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project consists of design and construction of 1.1 MGD lift station (Lift Station No. 1) and 12-inch force main to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$80,000	$80,000	
2.	1.1 MGD Lift Station	L.S.	1	800,000	800,000	
3.	12-inch Force Main	L.F.	2,900	84	244,000	
4.	20-inch Boring and Casing	L.F.	600	550	330,000	
			SUBTOTAL		$1,454,000	
				Contingencies (20%)	$291,000	
				7 Yr Inflation @ 2%/Yr	$259,000	
				Engineering	$301,000	
				TOTAL	**$2,305,000**	(2)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
WRIGHT ROAD 10-INCH WASTEWATER LINE FROM FM 529 TO HWY 290 - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. S-13
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project consists of design and construction of a 10-inch gravity sewer along Wright Road from Lift Station No. 1 along Hwy 290 then south along Wright Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$30,000	$30,000	
2.	8-inch Gravity Sewer	L.F.	1,300	80	104,000	
3.	10-inch Gravity Sewer	L.F.	4,100	100	410,000	
4.	48-inch Diameter Manhole	EA.	8	5,000	40,000	
			SUBTOTAL		$584,000	
				Contingencies (20%)	$117,000	
				8 Yr Inflation @ 2%/Yr	$120,000	
				Engineering	$123,000	
				TOTAL	**$944,000**	(2)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
TAYLOR ROAD 8-INCH, 10-INCH, & 12-INCH WASTEWATER LINE - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. S-14
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project consists of design and construction of a 12-inch gravity sewer along Taylor Road from Hwy 290 to Musgrove Lane, a 10-inch gravity sewer from Musgrove Lane to Harms Road, an 8-inch gravity sewer along Musgrove Lane and an 8-inch gravity sewer along Taylor Road west of Harms Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$35,000	$35,000	
2.	8-inch Gravity Sewer	L.F.	1,500	80	120,000	
3.	10-inch Gravity Sewer	L.F.	2,900	100	290,000	
4.	12-inch Gravity Sewer	L.F.	1,600	120	192,000	
5.	48-inch Diameter Manhole	EA.	8	5,000	40,000	
			SUBTOTAL		$677,000	
			Contingencies (20%)		$135,000	
			9 Yr Inflation @ 2%/Yr		$158,000	
			Engineering		$146,000	
			TOTAL		**$1,116,000**	(2)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
FAIRVIEW STREET 10-INCH WASTEWATER LINE FROM FM 529 TO TAYLOR ROAD -SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. S-15
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project consists of design and construction of a 10-inch gravity sewer along Fairview Street to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$30,000	$30,000	
2.	8-inch Gravity Sewer	L.F.	1,350	80	108,000	
3.	10-inch Gravity Sewer	L.F.	4,300	100	430,000	
4.	48-inch Diameter Manhole	EA.	6	5,000	30,000	
			SUBTOTAL		$598,000	
				Contingencies (20%)	$120,000	
				10 Yr Inflation @ 2%/Yr	$157,000	
				Engineering	$131,000	
				TOTAL	**$1,006,000**	(2)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
HARMS ROAD 10-INCH WASTEWATER LINE FROM FM 529 TO TAYLOR ROAD - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. S-16
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project consists of design and construction of a 10-inch gravity sewer along Harms Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$30,000	$30,000	
2.	8-inch Gravity Sewer	L.F.	1,200	80	96,000	
3.	10-inch Gravity Sewer	L.F.	4,300	100	430,000	
4.	48-inch Diameter Manhole	EA.	6	5,000	30,000	
				SUBTOTAL	$586,000	
				Contingencies (20%)	$117,000	
				10 Yr Inflation @ 2%/Yr	$154,000	
				Engineering	$129,000	
				TOTAL	**$986,000**	(2)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.

CLASS 3 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FOR CONSTRUCTION OF
JONES ROAD AREA 8-INCH WASTEWATER LINE - SERVICE TO ETJ
CAPITAL IMPROVEMENTS PROJECT No. S-17
CITY OF JERSEY VILLAGE
JULY 2020

Scope:

The project consists of design and construction of a 10-inch gravity sewer along Harms Road to serve projected development.

Item No.	Description	Unit	Qty.	Unit Price	Total	(1)
1.	Mobilization, Bonds & Insurance, Permits	L.S.	1	$12,000	$12,000	
2.	8-inch Gravity Sewer	L.F.	1,250	80	100,000	
3.	48-inch Diameter Manhole	EA.	4	5,000	20,000	
			SUBTOTAL		$132,000	
				Contingencies (20%)	$26,000	
				10 Yr Inflation @ 2%/Yr	$23,000	
				Engineering	$27,000	
				TOTAL	**$208,000**	(2)

Notes:

(1) All Totals have been rounded to the nearest $1,000.

(2) This estimate represents my best judgment as a design professional familiar with the construction industry. Jones|Carter, Inc. 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.