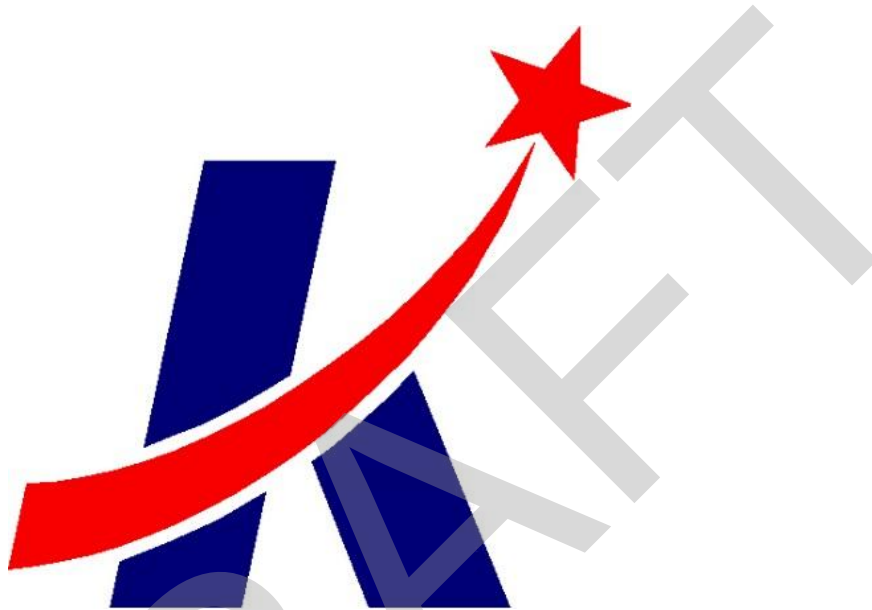


CITY OF KILLEEN, TEXAS WATER, WASTEWATER, & ROADWAY 2019 IMPACT FEE STUDY DRAFT



August
2019

Prepared for the City of Killeen

Prepared by:

Kimley-Horn and Associates, Inc.

801 Cherry Street, Unit 11, Suite 1300

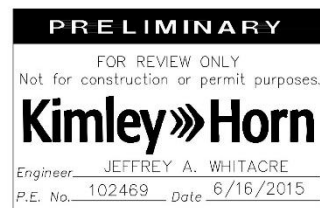
Fort Worth, TX 76102

Phone 817 335 6511

TBPE Firm Registration Number: F-928

Project Number: 064405304

© Kimley-Horn and Associates, Inc.



FORWARD

Overview and Background of Texas Impact Fees

Impact Fees are a mechanism for funding the public infrastructure necessitated by new development. Across the country, they are used to fund police and fire facilities, parks, schools, roads and utilities. In Texas, the legislature has allowed their use for water, wastewater, roadway and drainage facilities. The process for developing impact fees is defined in Texas Local Government Code Chapter 395 (see Chapter 4). Chapter 395 was put into effect on June 20, 1987 and applies to water, wastewater, roadway, and drainage infrastructure.

In the most basic terms, impact fees are a means to recover the incremental cost of the impact of each new unit of development creating new infrastructure needs. In other words, an impact fee is a mechanism to recover infrastructure costs required to serve new growth. Each impact fee is a one-time fee assessed to new development and is the roughly proportionate share of water, wastewater, and roadway infrastructure required to support the new demands of the new development. Impact fees are designed to determine a maximum fee that would represent growth paying for growth are assessed based on the amount of potential water used, wastewater discharged, or traffic generated. The maximum impact fee per service unit is derived from a 10-year land use plan and a 10-year impact fee capital improvement plan.

Without contribution from new development, such as the collection of impact fees, the City must rely entirely on other funding sources.

By State statute, the City must complete an impact fee study to determine the maximum impact fee per unit of new development chargeable as allowed by the state law. This determination is not a recommendation; the actual fee amount ultimately assessed is at the discretion of the City Council, so long as it does not exceed the maximum assessable allowed by law. The study forecasts 10 years into the future in order to project new growth and corresponding capacity needs, as required by state law. The study (and corresponding maximum fees) must be restudied at least every five years. However, the study can be updated at any time to accommodate significant changes in any of the key variables of the impact fee equation.

TABLE OF CONTENTS

CHAPTER 1 – LAND USE ASSUMPTIONS 1

CHAPTER 2 – WATER AND WASTEWATER IMPACT FEE STUDY 2

CHAPTER 3 – ROADWAY IMPACT FEE STUDY 3

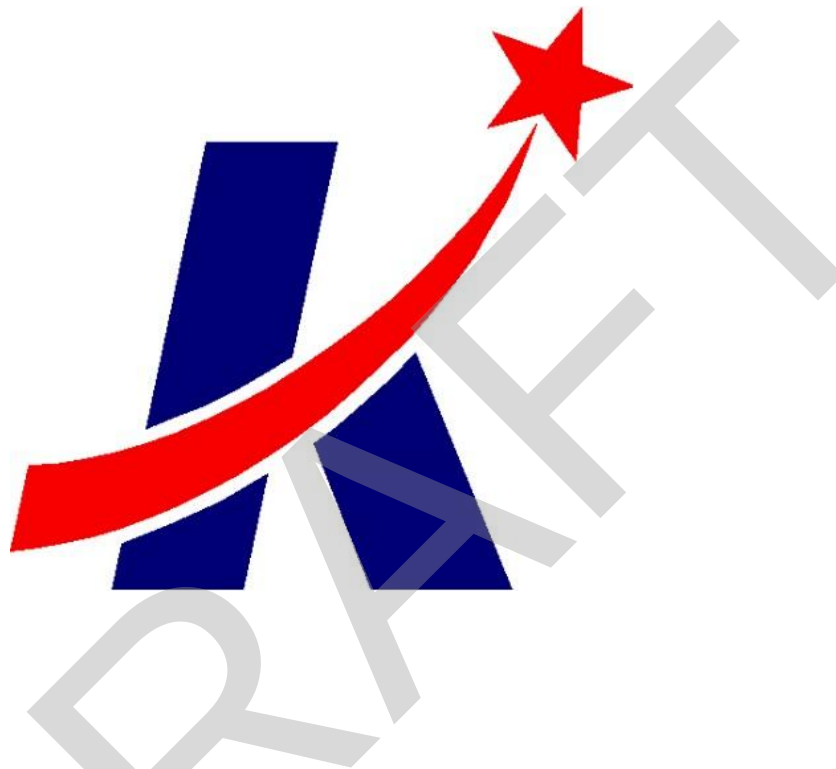
CHAPTER 4 – TEXAS LOCAL GOVERNMENT CODE CHAPTER 395..... 4

DRAFT

CHAPTER 1 – LAND USE ASSUMPTIONS

DRAFT

CITY OF KILLEEN, TEXAS LAND USE ASSUMPTIONS FOR 2019 IMPACT FEE STUDY



August
2019

Prepared for the City of Killeen

Prepared by:

Kimley-Horn and Associates, Inc.

801 Cherry Street, Unit 11, Suite 1300

Fort Worth, TX 76102

Phone 817 335 6511

TBPE Firm Registration Number: F-928

Project Number: 064405304

© Kimley-Horn and Associates, Inc.

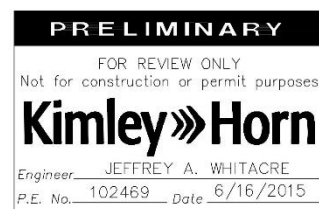


Table of Contents

1.1	PURPOSE	3
1.2	COMPONENTS OF THE LAND USE ASSUMPTIONS REPORT	3
1.3	METHODOLOGY.....	4
1.4	IMPACT FEE SERVICE AREAS	5
A.	Service Area Definition.....	5
B.	Water and Wastewater Impact Fee Service Areas.....	5
C.	Roadway Impact Fee Service Areas.....	5
1.5	DATA FORMAT	8
1.6	WATER AND WASTEWATER 10-GROWTH SUMMARY	8
1.7	ROADWAY 10-GROWTH SUMMARY	9
1.8	SUMMARY	9

List of Figures

Figure 1.1.	Water and Wastewater Service Area Boundary	6
Figure 1.2.	Roadway Service Area Boundaries	7

List of Tables

Table 1.1.	Residential and Non-Residential Land Use Assumptions Growth Projections (2019-2029)	9
------------	--	---

City of Killeen 2019 Land Use Assumptions

AS PREPARED FOR THE CITY OF KILLEEN, TEXAS

1.1 PURPOSE

Chapter 395 (see Chapter 4) of the Texas Local Government Code describes the procedure Texas political subdivisions must follow in order to assess impact fees for new development. The first step required in updating impact fees is the development of Land Use Assumptions. These Land Use Assumptions, including both population and employment estimates, form the basis for the development of impact fee Capital Improvement Plans for roadway, wastewater, and water facilities.

Reasonable future growth estimates are necessary in order to aid the City of Killeen in establishing the need for capital improvements required to serve future development. In accordance with Chapter 395, Kimley-Horn and Associates, Inc. (Kimley-Horn) has compiled the information required to complete the update of the Land Use Assumptions using the following sources:

- 2019 Water and Wastewater Master Plan (City of Killeen);
- 2015 Thoroughfare Plan;
- Bell County Appraisal District (BellCAD); and
- City of Killeen staff.

1.2 COMPONENTS OF THE LAND USE ASSUMPTIONS REPORT

The Land Use Assumptions include the following components:

- Land Use Assumptions Methodology – An overview of the general methodology used to generate the land use assumptions.
- Impact Fee Study Service Areas – Explanation of the division of Killeen into service areas for water, wastewater, and transportation facilities.
- 10-Year Growth Assumptions – A synopsis of the land use assumptions.
- Land Use Assumptions Summary – A synopsis of the land use assumptions.

1.3 METHODOLOGY

The residential and non-residential growth projections formulated in this report were done using reasonable and generally accepted planning principles. The following factors were considered in developing these projections:

- Character, type, density, location, and quantity of existing development;
- Historic Growth trends;
- Population projections in the Water and Wastewater Master Plan;
- Population projections in the City of Killeen's Thoroughfare Plan;
- Location of vacant land; and
- Physical holding capacity of Killeen.

Research of historic building permits was performed to compare the projected growth with previous growth trends in the City of Killeen over the last ten years. During the last ten years, the City of Killeen grew by approximately 8,564 single family dwelling units, approximately 1,871 multi-family dwelling units and approximately 17,000,000 square feet of non-residential development.

Residential growth projections for each service area, summarizing population and dwelling unit growth from 2019 to 2029, were determined using growth estimates outlined in the Water and Wastewater Master Plan (2019) and the Thoroughfare Plan (2015) as well as development plans for three Planned Unit Developments (PUDs) and one Municipal Utility District (MUD). It is projected that approximately 9,370 new residential dwelling units will be added by 2029 within Killeen's city limits. This does not include an additional 870 dwelling units anticipated outside the 2015 Roadway Impact Fee Study's service areas.

Non-residential growth projections for each service area were computed by determining the historic growth in basic, service, and retail land uses within the City of Killeen from the previous ten years (17,000,000 square feet). It was assumed that the current proportion of basic, service and retail development in each service would remain approximately the same over the next ten years.

1.4 IMPACT FEE SERVICE AREAS

A. Service Area Definition

According to Chapter 395 of the Local Government Code, a Service Area refers to the area within the corporate boundaries or extraterritorial jurisdiction of the political subdivision to be served by the capital improvement or facilities specified in the Capital Improvement Plan. Funds collected in the specific service areas must be spent in the service area collected.

B. Water and Wastewater Impact Fee Service Areas

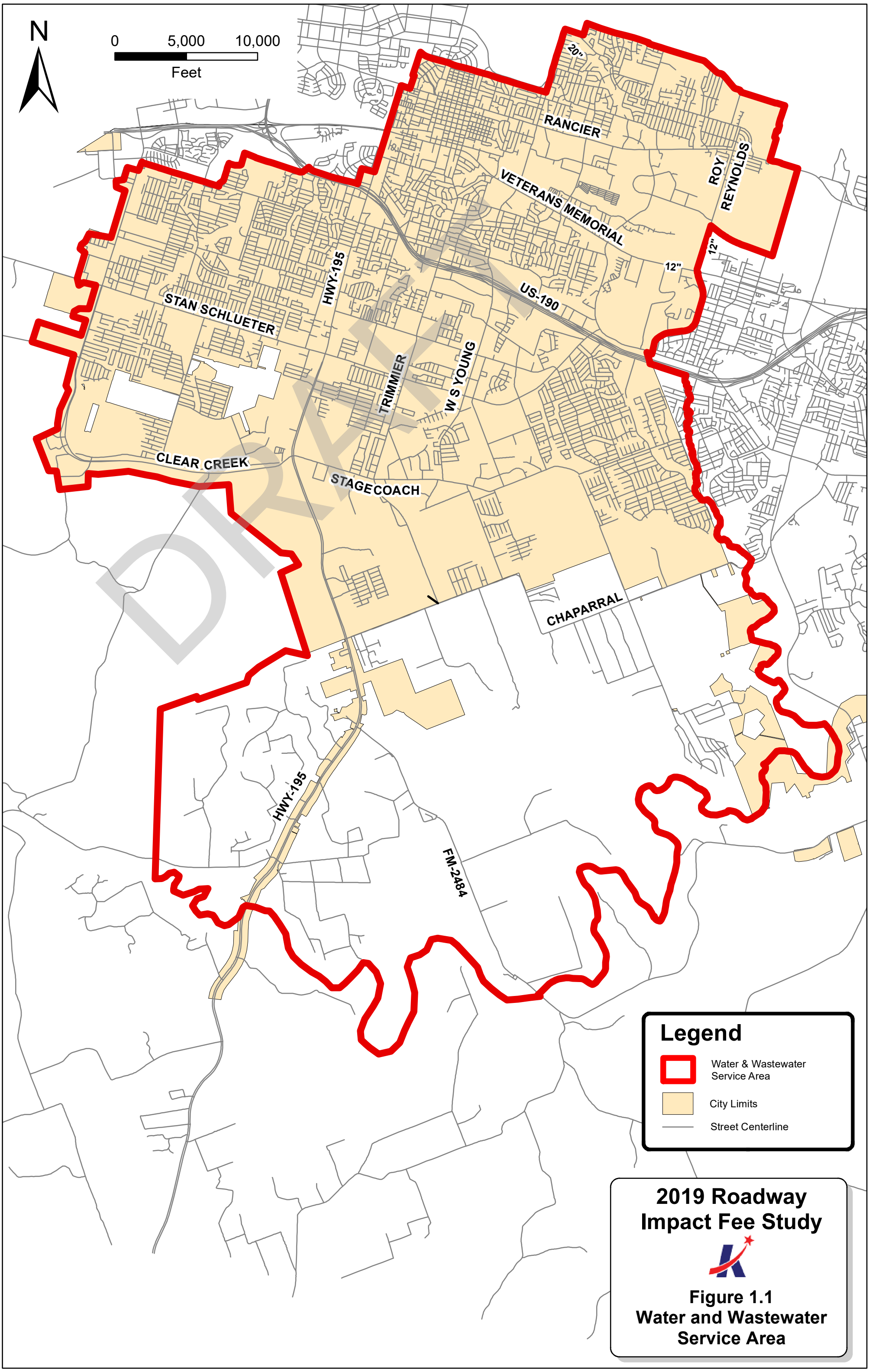
The geographic boundaries of the impact fee service area for water and wastewater facilities are shown in Figure 1.1. A single service area boundary is defined for both water and wastewater facilities.

C. Roadway Impact Fee Service Areas

The geographic boundaries of the three (3) impact fee service areas for roadway facilities are shown in Figure 1.2. The roadway service areas cover the entire corporate boundary of the City of Killeen. Chapter 395 of the Texas Local Government Code specifies that “the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles.” Service Area A is located north of US 190, and Service Area B is positioned south of US 190 and east of West Trimmier Road. Service Area B also extends west of West Trimmier Road, south of Clear Creek Road. Service Area C encompasses the remaining western region within the city limits and is located south of US 190 and north of Clear Creek Road to the west of West Trimmier Road.



0 5,000 10,000
Feet



Legend

-  Water & Wastewater Service Area
-  City Limits
-  Street Centerline

2019 Roadway Impact Fee Study



Figure 1.1
Water and Wastewater
Service Area



2019 Roadway Impact Fee Study



Kimley»Horn

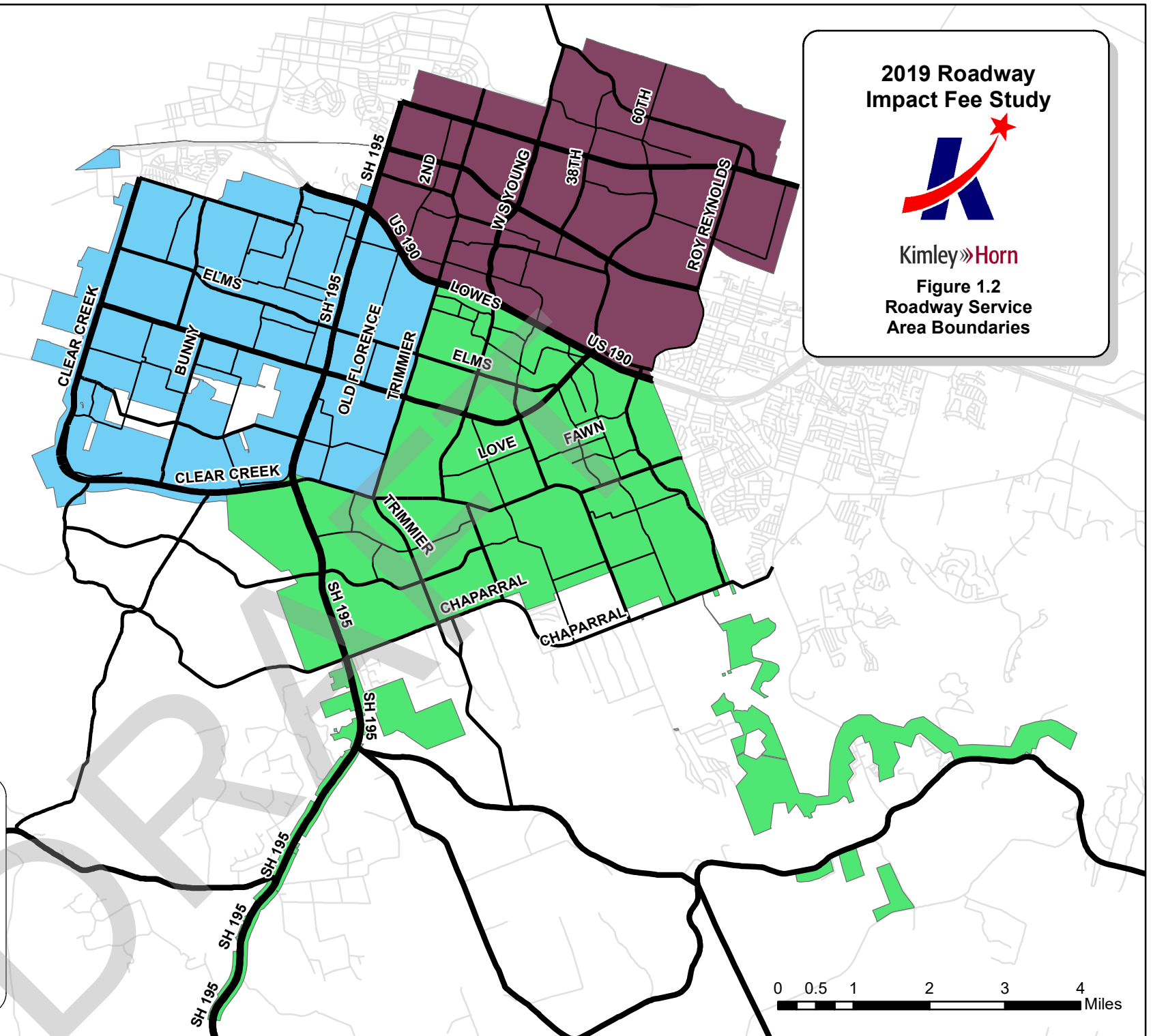
Figure 1.2
Roadway Service
Area Boundaries

Legend

- Principal Arterial
- Minor Arterial
- Collector

Service Areas

- A
- B
- C



0 0.5 1 2 3 4 Miles

1.5 DATA FORMAT

The population and employment estimates were all compiled in accordance with the following categories and format:

Impact Fee Service Areas: Larger zones, which correspond to the proposed roadway, wastewater, and water facilities service areas (as described in the previous section).

Units: Number of dwelling units, both single and multi-family.

Population: Number of people, based on person per dwelling unit factors.

Employment: Square feet of building area based on three (3) different classifications:

Retail: Land use activities which provide for the retail sale of goods that primarily serve households and whose location choice is oriented toward the household sector (i.e. grocery stores and restaurants).

Service: Land use activities which provide personal and professional services such as government and other professional administrative offices.

Basic: Land use activities that produce goods and services, including those that are exported outside the local economy (i.e. manufacturing, construction, transportation, wholesale, trade, warehousing, and other industrial uses).

1.6 WATER AND WASTEWATER 10-GROWTH SUMMARY

The impact fee study includes information from the 2019 Water and Wastewater Master Plan completed by Freese and Nichols. Kimley-Horn also interviewed Killeen staff to identify any changes that may have occurred regarding the proposed water and wastewater capital improvement plans identified in the Master Plans. The water and wastewater capital improvement plans associated with the 10-year impact fee are based upon the recommended master plan capital improvements and current growth projections. It is projected that approximately 9,370 new residential dwelling units will be added by 2029 within Killeen's city limits as indicated in the 2019 Water and Wastewater Master Plan. It was assumed that 870 dwelling units are outside City limits. This results in a total dwelling unit growth of 10,240.

$$\begin{array}{rccccccc} 9,370 & & + & & 870 & & = & & 10,240 \\ \text{(dwellings in city limits)} & & & & \text{(dwellings outside city limits)} & & & & \text{(Total dwellings in the service area)} \end{array}$$

1.7 ROADWAY 10-GROWTH SUMMARY

Table 1.1 summarizes the residential and non-residential 10-year growth projections within the City Limits. It illustrates the service areas in which the 9,370 dwelling units will be located. This growth rate is very similar when compared to historic growth since 2010. The anticipated growth for non-residential properties over the next ten years is similar to historical growth over the previous ten years.

Table 1.1. Residential and Non-Residential Land Use Assumptions
Growth Projections (2019-2029)

SERVICE AREA	SINGLE FAMILY (DWELLING UNITS)	MULTI FAMILY (DWELLING UNITS)	BASIC (ft ²)	SERVICE (ft ²)	RETAIL (ft ²)
A	700	600	200,000	500,000	400,000
B	4,972	1,298	500,000	1,000,000	900,000
C	1,400	400	800,000	800,000	800,000
Total	7,072	2,298	1,500,000	2,300,000	2,100,000

1.8 SUMMARY

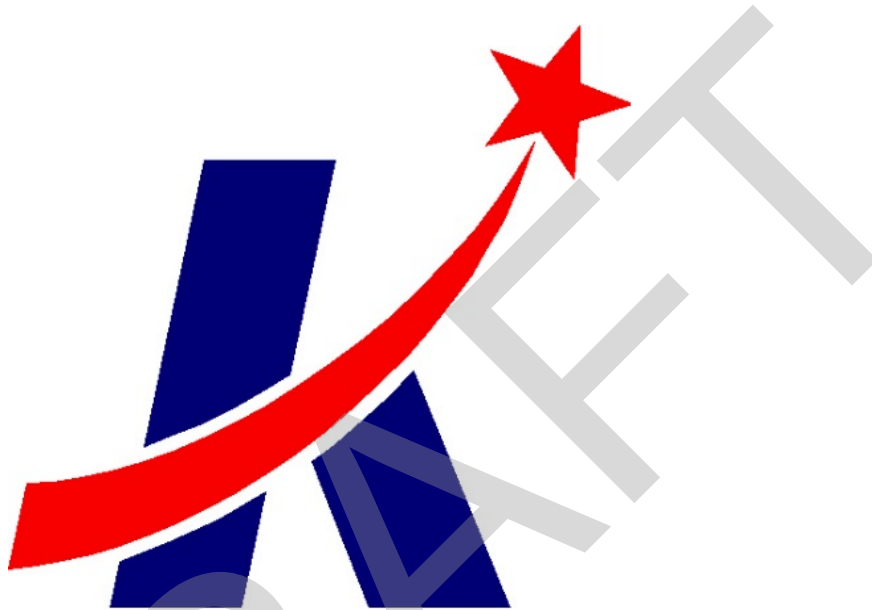
The following is a summary for the City limits. This is equivalent to the roadway land use assumptions, which was then adjusted for the wastewater and water land use assumptions based on growth in the ETJ.

- The ten year (2029) population growth projection is approximately 9,370 dwelling units within the city limits, and an additional 870 dwelling units in the ETJ (23,449 people).
- The ten year (2029) employment area growth projection is approximately 17,000,000 square feet.

CHAPTER 2 – WATER AND WASTEWATER IMPACT FEE STUDY

DRAFT

CITY OF KILLEEN, TEXAS 2019 WATER AND WASTEWATER IMPACT FEE STUDY



August
2019

Prepared for the City of Killeen

Prepared by:

Kimley-Horn and Associates, Inc.

2600 Via Fortuna, Terrace I, Suite 300

Austin, TX 78749

Phone 512 646 2237

TBPE Firm Registration Number: F-928

Project Number: 064405304

© Kimley-Horn and Associates, Inc.

PRELIMINARY

FOR REVIEW ONLY
Not for construction or permit purposes

Kimley»Horn

Engineer SEAN R. MASON, P.E.

P.E. No. 110102 Date 08/19

TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
Water	3
Wastewater	3
Water and Wastewater Impact Fees	4
2.1 INTRODUCTION	5
A. Land Use Assumptions	5
B. Evaluation of the Current Water and Wastewater Master Plan and Development of the Impact Fee Capital Improvements Plan	5
C. Impact Fee Analysis and Report	6
2.2 WATER	6
A. Design Criteria	6
Water Lines	6
Storage Tanks	6
Pump Stations	7
B. Impact Fee Capital Improvements Plan	8
C. Project Descriptions	10
D. Water Impact Fee Calculation	14
2.3 WASTEWATER	17
A. Design Criteria	17
Sewer Lines	17
Lift Stations	17
Force Mains	17
B. Impact Fee Capital Improvements Plan	18
C. Project Descriptions	20
D. Wastewater Impact Fee Calculation	23
List of Figures	
Figure 2.1 Water Impact Fee CIP	9
Figure 2.2 Wastewater Impact Fee	19

List of Tables

Table 2.1 Maximum Assessable Water and Wastewater Impact Fee for Commonly Used Meters	4
Table 2.2 Water Impact Fee Capital Improvements Plan Costs	8
Table 2.3 Water Service Unit Consumption Calculation	14
Table 2.4 Water 10-year Additional Service Units Calculation	15
Table 2.5 Water 10-year Recoverable Cost Breakdown	15
Table 2.6 Water Service Unit Equivalency Table for Commonly Used Meters	16
Table 2.7 Wastewater Impact Fee Capital Improvements Plan Costs	18
Table 2.8 Wastewater Service Unit Consumption Calculation	24
Table 2.9 Wastewater 10-year Additional Service Unit Calculation	24
Table 2.10 Wastewater 10-year Recoverable Cost Breakdown	25
Table 2.11 Wastewater Service Unit Equivalency Table for Commonly Used Meters	26

City of Killeen 2019 Water and Wastewater Impact Fees

AS PREPARED FOR THE CITY OF KILLEEN, TEXAS

EXECUTIVE SUMMARY

This study was performed to provide the City of Killeen the opportunity to assess new development water and wastewater impact fees if they so choose. Water and wastewater system analysis and master planning are important tools for facilitating orderly growth of the systems and for providing adequate facilities that promote economic development. The implementation of an impact fee is a way to shift a portion of the burden of paying for new facilities from current ratepayers to the new development.

Water

Elements of the water system, including storage facilities, pumping facilities, and the distribution network itself, were evaluated against industry standards as outlined in the City's current Master Plan and noted in the Design Criteria section of this report. Information related to the growth of the City is provided in the Land Use Assumptions chapter of this report.

Water system improvements necessary to serve 10-year (2029) needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, Texas Local Government Code (Chapter 395) only allows recovery of costs to serve the 10-year planning period. The City of Killeen's Impact Fee Capital Improvements Plan recoverable cost's total \$19,486,810. After debt service costs are added and the 50% reduction calculation is complete, \$11,886,954.5 is recoverable through impact fees serving the 10-year system needs.

Wastewater

Elements of the wastewater system, including pump facilities and the collection network itself, were evaluated against industry standards as outlined in the City's current Master Plan and noted in the Design Criteria section of this report. Information related to the growth of the City is provided in the Land Use Assumptions chapter of this report.

Wastewater system improvements necessary to serve 10-year (2029) needs were evaluated. The City of Killeen's Impact Fee Capital Improvements Plan recoverable cost's total \$7,001,703. After debt service costs are added and the 50% reduction calculation is complete, \$4,271,039 is recoverable through impact fees serving the 10-year system needs.

Water and Wastewater Impact Fees

The Chapter 395 law defines a service unit as "...a standardized measure of consumption 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." For the purpose of this study, a *service unit* shall be defined as the unit of development that consumes an amount of water requiring a standard 3/4-inch diameter water service meter. 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 3/4-inch meter. The equivalency factor and associated impact fee by meter size are shown in **Table 2.1**.

Table 2.1 Maximum Assessable Water and Wastewater Impact Fee for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)*	Service Unit Equivalent	Maximum Assessable Fee Water (\$)	Maximum Assessable Fee Wastewater (\$)
3/4"	15	1	\$1,161.00	\$418.00
1"	25	1.67	\$1,939.00	\$699.00
1 1/2"	50	3.33	\$3,867.00	\$1,392.00
2"	80	5.33	\$6,189.00	\$2,228.00
3"	175	11.67	\$13,549.00	\$4,879.00
4"	300	20.00	\$23,220.00	\$8,360.00
6"	675	45.00	\$52,245.00	\$18,810.00
8"	900	60.00	\$69,660.00	\$25,080.00

*Operating capacities obtained from American Water Works Association (AWWA) C-700-15 for positive displacement meters {3/4" – 2" meters} Table 1, Column 4, AWWA C-702-15 for compound meters (Class II) {3" – 8" meters} Table 1 Column 3. GPM – Gallons Per Minute

2.1 INTRODUCTION

The City of Killeen retained Kimley-Horn and Associates, Inc. (Kimley-Horn), for the purpose of completing a study for the potential implementation of impact fees to fund a portion of the costs for water and wastewater system capital improvements required to serve new development.

This report satisfies the requirements of State law and provides the City with an impact fee capital improvements plan with associated impact fees.

For convenience and reference, a copy of Chapter 395.014 of the Texas Local Government Code is included in the appendix.

The impact fee study includes information from the 2019 Water and Wastewater Master Plan completed by Freese and Nichols, with some projects including information from the 2012 Master Plan. Kimley-Horn also interviewed Killeen staff to identify any changes that may have occurred regarding the proposed water and wastewater capital improvement plans identified in the Master Plans. The 10-year impact fee water and wastewater capital improvement plans are based upon the Master Plan's recommended capital improvements and current growth projections.

A. Land Use Assumptions

The first task in the study involved identification of current and future land use by category and projections of population within the City's service areas. Kimley-Horn developed the land use assumptions used in the study with assistance from City of Killeen staff. The development of land use assumptions is detailed in Chapter 1 of this study and is utilized in:

- Establishing impact fee service areas for water and wastewater;
- Collecting/Determining of population and employment data; and
- Projecting the ten-year population and employment data by service area.

A single service area boundary is defined for both water and wastewater facilities. An illustration of the service area is shown on **Figure 1.1**.

B. Evaluation of the Current Water and Wastewater Master Plan and Development of the Impact Fee Capital Improvements Plan

The second task in the study involved reviewing the City's current Water and Wastewater Master Plan, identifying capital improvement projects from the Master Plan that are potentially impact fee eligible, and interviewing City staff. This information allowed Kimley-Horn to develop the 10-Year impact fee capital improvements plan. The Master Plan water demand

projections and wastewater flow projections were then used to determine the future service unit needs.

C. Impact Fee Analysis and Report

This task included calculating the additional service units, service unit equivalents, and credit reduction. These values were then used to determine the impact fee per service unit and the maximum assessable impact fee by water meter size.

2.2 WATER

Development of the Impact Fee Capital Improvements Plan is based on criteria set forth in the 2019 Master Plan. The Master Plan criteria meet or exceed the criteria outlined by Chapter 290 of the Texas Administrative Code (Public Drinking Water) and the American Water Works Associations (AWWA) requirements for the design and operation of potable water utility systems. The design criteria used to plan for water infrastructure needs are discussed in the following subsection.

A. Design Criteria

Water Lines

Water lines are generally sized to maintain the following public water utility system distribution system requirements:

- Peak hour demand with a minimum pressure of 35 psi;
- Night-time tank filling with a maximum pressure of 100 psi; and
- Peak day demand plus fire flow with a minimum pressure of 20 psi.

Storage Tanks

The Texas Commission on Environmental Quality (TCEQ) and the State Board of Insurance (SBI) have established criteria for ground and elevated storage. These criteria address volume and pressure plane requirements only. The layout of the distribution system, location of ground and elevated storage facilities, and system performance with the high service and booster pumps affect the amount of storage necessary for the most efficient and reliable operation of the system. Although ground and elevated storage facilities perform separate functions within the system, both are aimed at decreasing the impact of demand fluctuations.

Ground storage serves two purposes:

- Equalizing differing feed rates between the water supply and pumping to the system; and

- Providing emergency capacity in the event of temporary loss of water supply.

Generally, ground storage facilities are located at water supply points or at each pump station within the water distribution system. Suggested storage capacities are established based on several criteria, specified by the TCEQ, which are detailed later in this section.

Elevated storage serves three purposes:

- Equalizing the pumping rate to compensate for daily variations in demand and maintaining a fairly constant pumping rate (usually referred to as operational storage), and to the degree possible, pumping at a rate that maximizes energy efficiency.
- Providing pressure maintenance and protection against surges created by instantaneous system demand, such as fire flow or a main break, and instantaneous change in supply, such as pumps turning on and off.
- Maintaining a reserve capacity for fire flow and pressure maintenance in case of power failure to one or more pump stations.

Suggested system storage capacities are established by the TCEQ. Adequate operational storage is established by determining the required volume to equalize the daily fluctuations in flow during the maximum day demand, plus the reserve volume required for fire flow. According to Chapter 290 of the Texas Administrative Code, the minimum requirements for storage are as follows:

- Total System Storage - Equal to 200 gallons per connection.
- Elevated Storage - Equal to 100 gallons per connection; or
- Elevated Storage – Equal to 200 gallons per connection for a firm pumping capacity reduction from 2.0 gallons per connection to 0.6 gallons per connection.

Pump Stations

Pumping capacity should supply the maximum demand with sufficient redundancy to allow for the largest pump at a pump station to be out of service. This is known as firm pumping capacity.

Each pump station or pressure plane must have two or more pumps that have a total capacity of 2.0 gallons per minute per connection, or have a total capacity of at least 1,000 gallons per minute and the ability to meet peak hour demand with the largest pump out of service, whichever is less. If the system provides elevated storage capacity of 200 gallons per connection, two service pumps with a minimum combined capacity of 0.6 gpm per connection are required.

B. Impact Fee Capital Improvements Plan

The City's Master Plan provides a logical strategy for upgrading and expanding its water distribution system to accommodate future growth, and for addressing existing system deficiencies. The impact fee capital improvements plan has been developed using projects identified during the master planning process. State law only allows cost recovery associated with eligible projects in a ten 10-year planning window from the time of the impact fee study. The following lists the projects and the eligible recoverable cost.

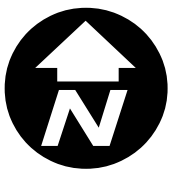
Thirteen projects along with the water impact fee study are determined eligible for recoverable cost through impact fee over the next 10 years. The City of Killeen's Impact Fee Capital Improvements Plan recoverable cost's total \$19,486,810. After debt service costs are added and the 50% reduction calculation is complete, \$11,886,954.5 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in **Table 2.2** and illustrated in **Figure 2.1**.

Table 2.2 Water Impact Fee Capital Improvements Plan Costs

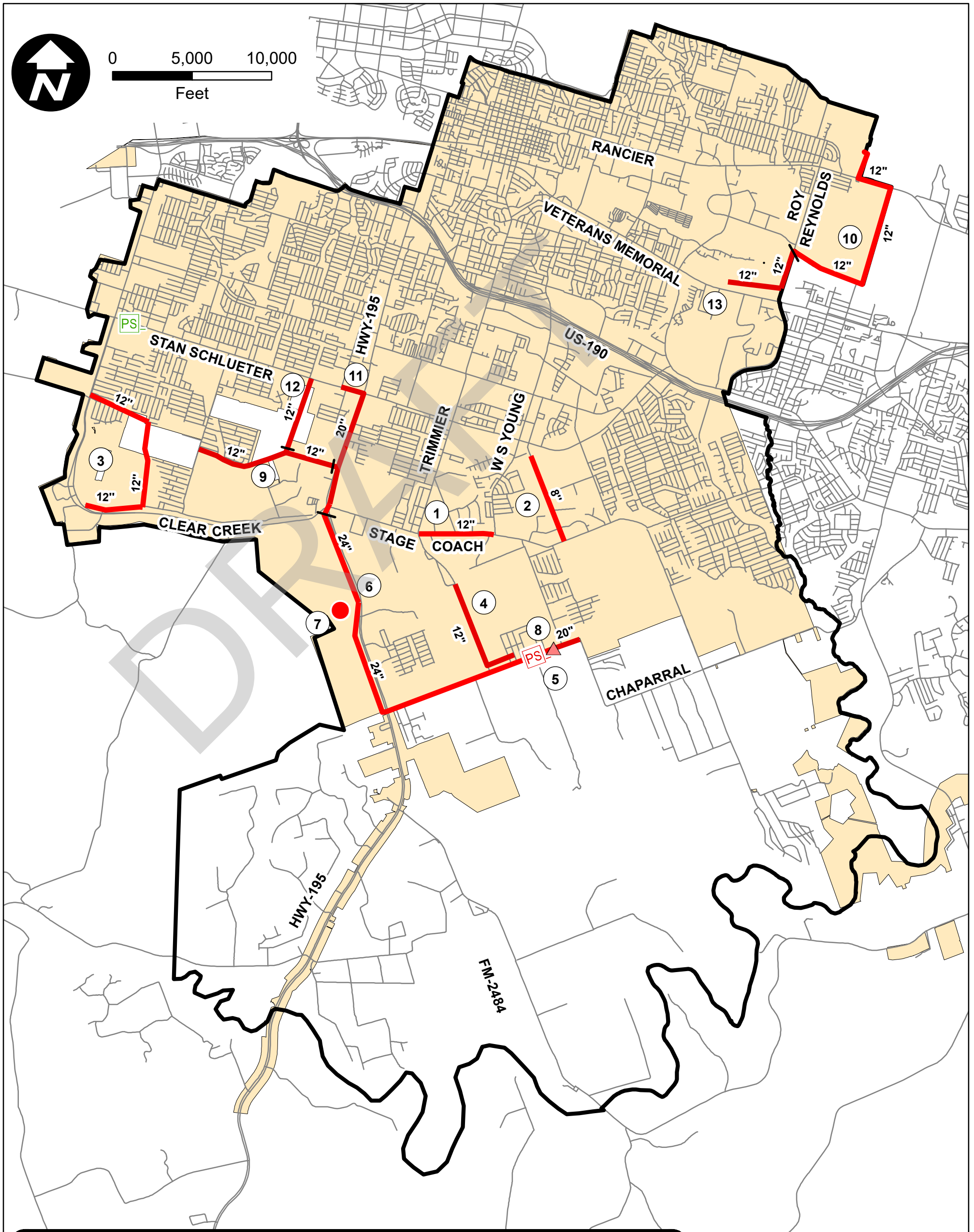
Project Number	Project Name	* Project Cost	Recoverable Cost
1	12" Stagecoach Rd WL (2012 MP-2)	\$752,640.00	\$421,479.00
2	8" Onion Rd WL (2012 MP-4)	\$687,263.00	\$529,193.00
3	12" Mohawk Dr/Clear Creek Rd WL (2012 MP-6)	\$253,009.00	\$253,009.00
4	12" Trimmer Rd WL (2012 MP-8)	\$689,615.00	\$517,212.00
5	Chaparral EST (2019 MP-1)	\$5,704,500.00	\$5,704,500.00
6	24" HWY-195 WL (2019 MP-2)	\$8,545,000.00	\$3,161,650.00
7	HWY-195 GST (2019 MP-3)	\$2,415,000.00	\$2,415,000.00
8	Chaparral Pump Station (2019 MP-4)	\$5,244,000.00	\$2,307,360.00
9	12" Mohawk Rd WL (2019 MP-6)	\$1,808,400.00	\$669,108.00
10	12" E Rancier Ave Line (2019 MP-9)	\$2,484,000.00	\$1,341,360.00
11	20" HWY-195 WL (2019 MP-10)	\$2,905,400.00	\$1,074,998.00
12	12" WL from Mohawk Rd to Stan Schlueter (2019 MP-11)	\$973,900.00	\$360,343.00
13	12" N Roy Reynolds Dr WL (2019 MP-12)	\$1,311,600.00	\$708,264.00
	Water Impact Fee Study	\$23,334.00	\$23,334.00
Total		\$33,797,661.00	\$19,486,810.00

(MP#) – Reference to the Water Master Plan project number.

*Project costs may differ from master plan costs. Project costs were adjusted based on input from City Staff.



0 5,000 10,000
Feet



Legend

Water Impact Fee Projects

- | | | |
|---|--|--|
| ① 12" Stagecoach Rd WL (2012 MP-2) | ⑨ 12" Mohawk Rd WL (2019 MP-6) | Proposed Water Line (WL) |
| ② 8" Onion Rd WL (2012 MP-4) | ⑩ 12" E Rancier Ave WL (2019 MP-9) | Street Centerline |
| ③ 12" Mohawk Dr/Clear Creek Rd WL (2012 MP-6) | ⑪ 20" HWY-195 WL (2019 MP-10) | Existing Pump Station Rehabilitation/Expansion |
| ④ 12" Trimmier Rd WL (2012 MP-8) | ⑫ 12" WL from Mohawk Rd to Stan Schlueter (2019 MP-11) | Proposed Pump Station (PS) |
| ⑤ Chaparral EST (2019 MP-1) | ⑬ 12" N Roy Reynolds Dr WL (2019 MP-12) | Proposed Ground Storage Tank (GST) |
| ⑥ 24" HWY-195 WL (2019 MP-2) | Water & Wastewater Service Area | Proposed Elevated Storage Tank (EST) |
| ⑦ HWY-195 GST (2019 MP-3) | City Limits | (MP-#) Master Plan Project Number |
| ⑧ Chaparral Pump Station (2019 MP-4) | | |

2019 Killeen Impact Fees



Figure 2.1
Water Impact Fee
Capital Improvement Plan

C. Project Descriptions

The following acronyms used within the project descriptions are defined as follows:

- ETJ – Extraterritorial Jurisdiction
- MG – Million Gallons
- MGD – Million Gallons Per Day
- GPD – Gallons Per Day

1. 12-inch Stagecoach Road Water Line (2012 MP-2)

This project consists of 12-inch water line along Stagecoach Rd. between Trimmier Rd. and W.S. Young Dr.; decommission the Douglas Mountain Storage Tanks.

This line closed the loop between two existing 12-inch lines and provides capacity for development infill within the City limits. The line is 100% utilized in the 10yr study window, but because it is replacing an existing 8-inch line, 56% of the project cost is recoverable.

Project Cost:	\$752,640
Recoverable Cost:	\$421,479

2. 8-inch Onion Road Water Line (2012 MP-4)

This project consists of 8-inch water line along Onion Rd. between Rio Grande Ct. and Stagecoach Rd.

This line replaces an existing 4-inch line and connects an existing 12-inch line and an existing 8-inch line and provides capacity for development within the City limits. The line is 100 percent utilized in the 10yr study window, but because it is replacing an existing 4-inch line which contains a capacity of 23% of the proposed 8-inch line, only 77% of the project cost is recoverable.

Project Cost:	\$687,263
Recoverable Cost:	\$529,193

3. 12-inch Mohawk Drive/Clear Creek Road Water Line (2012 MP-6)

This project consists of a 12-inch water line extending east from Mohawk Dr.; 12-inch water line extending south from Bridgewood Dr. to Clear Creek Rd. This line will replace an existing 4-inch water line.

This project will upsize the existing water line to serve the new growth projected in the area. The project cost only includes cost for the upsize of the main to increase capacity. The project cost is 100% recoverable.

Project Cost:	\$253,009
Recoverable Cost:	\$253,009

4. 12" Trimmier Road Water Line (2012 MP-8)

This project consists of 12-inch water line along Chaparral Rd. between Trimmier Rd. and Tumbleweed Dr. 12-inch water line along Trimmier Rd. between existing 12-inch line south of Stagecoach Rd. and Chaparral Rd. This line will replace an existing 6-inch waterline.

This line provides service to new development in the Upper Pressure Plane and is planned to occur in the 10-year study window. The 12-inch water line will be 100 percent utilized in the 10-year study window, but because it is replacing an existing 6-inch water line, only 75% of the project is recoverable.

Project Cost:	\$689,615
Recoverable Cost:	\$517,212

5. Chaparral EST (2019 MP-1)

This project includes a 1.5 MG elevated storage tank located along Chaparral Road and a 20-inch water line along Chaparral Road connecting to the existing 16-inch water line in the Lower Pressure Plane. The new tank provides additional elevated storage in the LPP. It will also serve as storage for the suction side of the future UPP pump station.

This 1.5 MG will provide the LPP with a total elevated storage volume of 6.75 MG. The LPP will only require 5.76 MG of combined elevated storage at the end of the 10yr planning window, utilizing 34% (0.5MG) of the added volume. The EST will also provide the Chaparral Booster Pump Station with suction storage. 1.17 MG will be needed for 8 hours of suction storage, resulting in the total storage volume of the EST being 100% utilized. The project cost is 100% recoverable.

Project Cost:	\$5,704,500
Recoverable Cost:	\$5,704,500

6. 24-inch Highway 195 Water Line (2019 MP-2)

This project includes a transmission line along Highway 195 between the proposed Chaparral Road Pump Station and Stagecoach Road. This pipeline is needed to convey water from the proposed Chaparral Pump Station into the UPP. It also provides transmission capacity to and from the proposed Highway 195 tank.

Based on growth projections in the UPP, this line will be 37% utilized at the end of the 10yr planning window. The project cost is 37% recoverable.

Project Cost:	\$8,545,000
Recoverable Cost:	\$3,161,650

7. Highway 195 GST (2019 MP-3)

This project includes a 1.5 MG ground storage tank serving as an elevated tank located on a hill near Highway 195 and Tower Hill Lane. The projected growth in the UPP requires additional elevated storage to meet TCEQ requirements.

Based on growth projections, the UPP will require 5.06 MG of elevated storage. With the addition of this 1.5 MG of elevated storage, the UPP will only have 4.5 MG of elevated storage, utilizing 100% of this project's storage volume. 100% of the project cost is recoverable.

Project Cost:	\$2,415,000
Recoverable Cost:	\$2,415,000

8. Chaparral Pump Station (2019 MP-4)

This project includes an 8.0 MGD Pump Station on the same site as the Chaparral EST. Additional pumping capacity is needed to meet projected maximum day demands in the UPP. This pump station allows the City to better utilize water supply from the new BCWCID #1 South Water Treatment Plant.

At the end of the 10yr planning window, it is projected that 3.52 MGD of additional pumping capacity will be needed in the UPP. Only 3.52 MGD of the 8 MGD pumping capacity is projected to be utilized within the 10yr window. The project cost is 44% recoverable.

Project Cost:	\$5,244,000
Recoverable Cost:	\$2,307,360

9. 12-inch Mohawk Road Water Line (2019 MP-6)

This project involves a 12-inch distribution line between Bunny Trail and Highway 195. This pipeline is needed to distribute water to an area projected for future growth.

Based on growth projections in the UPP, this line will be 37% utilized at the end of the 10yr planning window. The project cost is 37% recoverable.

Project Cost:	\$1,808,400
Recoverable Cost:	\$669,108

10. 12-inch E Rancier Avenue Water Line (2019 MP-9)

This project involves a 12-inch loop in the northeastern portion of the LPP, generally between Rancier Avenue and the railroad. This pipeline is needed to extend water service to an area projected for future growth.

Based on growth projections in the LPP, this line will be 54% utilized at the end of the 10yr planning window. The project cost is 54% recoverable.

Project Cost:	\$2,484,000
Recoverable Cost:	\$1,341,360

11. 20-inch Highway 195 Water Line (2019 MP-10)

This project includes a 20-inch waterline along Hwy 195 from Stagecoach to Stan Schlueter Loop. It will increase transmission capacity in the UPP and connect to the downstream end of the HWY-195 24-inch waterline to extend transmission capacity from the HWY-195 GST and Chaparral Pump Station.

Based on growth projections in the UPP, this line will be 37% utilized at the end of the 10yr planning window. The project cost is 37% recoverable.

Project Cost:	\$2,905,400
Recoverable Cost:	\$1,074,998

12. 12-inch Water Line from Mohawk Road to Stan Schlueter (2019 MP-11)

This project involves a 12-inch distribution line between Stan Schlueter Loop and the proposed 12-inch along Mohawk Road. This pipeline is needed to distribute water to an area projected for future growth.

Based on growth projections in the UPP, this line will be 37% utilized at the end of the 10yr planning window. The project cost is 37% recoverable.

Project Cost:	\$973,900
Recoverable Cost:	\$360,343

13. 12-inch N Roy Reynolds Drive Water Line (2019 MP-12)

This project involves a 12-inch distribution line along Business Highway 190 from S Twin Creek Drive to Roy Reynolds Drive, and north from Business Highway 190 to the railroad. This pipeline extends water service to an area projected for future growth.

Based on growth projections in the LPP, this line will be 54% utilized at the end of the 10yr planning window. The project cost is 54% recoverable.

Project Cost:	\$1,311,600
Recoverable Cost:	\$708,264

D. Water Impact Fee Calculation

Chapter 395 of the Local Government Code defines a service unit as "...a standardized measure of consumption 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." For the purposes of this study, a *service unit* is based on historical water usage over the past 10 years in terms of estimated residential units. The residential unit is the development type that predominately uses a 3/4-inch water meter. The measure of consumption per service unit is based on a 3/4-inch meter flow equivalent and the data shown in **Table 2.3**.

Table 2.3 Water Service Unit Consumption Calculation

Year	Population	Service Units (2.29 persons/unit)	Water Usage Average Day Demand (MGD)	Consumption per Service Unit (GPD)
2008	116,934	51,063	15.02	294
2009	119,510	52,188	14.13	271
2010	127,921	55,861	13.87	248
2011	128,967	56,317	16.19	287
2012	130,389	56,938	16.00	281
2013	132,960	58,061	15.06	259
2014	135,517	59,178	14.71	249
2015	138,031	60,276	15.30	254
2016	140,478	61,344	14.51	237
2017	142,893	62,399	14.65	235
Average Consumption per Service Unit				261

Per the 2019 Water and Wastewater Master Plan, using historical data over the last 10 years, an average daily demand per capita was found to be 112 gpd/capita (256.5 gpd/unit). In order to conservatively plan for dry years with below average rainfall the master plan used an average daily demand of 121 gpd/capita (277.09 gpd/unit). For consistency, the master plan value of **121 gpd/capita (277.09 gpd/unit)** was used when calculating projected demands in this report. Based on the City's 10-year growth projections and the resulting water demand projections, water service will be required for an additional **10,240** service units. The calculation is as follows:

- A service unit, which is a unit of development that consumes approximately 277.09 gallons per day (GPD), is a typical residential connection that uses a 3/4-inch meter. **Table 2.4** outlines the future water demand projections and its relationship to the additional service units projected for the next 10-years.

Table 2.4 Water 10-year Additional Service Units Calculation

Year	Average Day Demand (GPD)	Service Unit Demand (GPD)	Service Units
2019	17,863,230	277.09	64,467
2029	20,700,559	277.09	74,707
10-year Additional Service Units			10,240

Impact fee law allows 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. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the City chooses not to pursue a financial analysis to determine the credit value, the Chapter 395 law requires that the City reduce the recoverable cost by 50 percent. The City has chosen not to calculate the credit value. Therefore, the maximum recoverable cost for impact fee shown below is 50 percent of the recoverable cost for impact fee CIP with debt service.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 2.5 Water 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	\$19,486,810
Debt Service	\$4,287,099
Recoverable Impact Fee CIP Costs w/Debt Service	\$23,773,909
50 Percent Reduction	(\$11,886,954.5)
Maximum Recoverable Cost of Impact Fee	\$11,886,954.5

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$11,886,954.5}{10,240}$$

$$\text{Impact fee per service unit} = \$1,161$$

Therefore, the maximum assessable impact fee per service unit is \$1,161.

For a development that requires a different size meter, a service unit equivalent is established as a multiplier based on its capacity with respect to the 3/4-inch meter. The maximum impact fee that could be assessed for other meter sizes is based on the value shown on **Table 2.6**, Service Unit Equivalency Table for Commonly Used Meters.

Table 2.6 Water Service Unit Equivalency Table for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (GPM) *	Service Unit Equivalent	Maximum Assessable Fee Water (\$)
3/4"	15	1	\$1,161.00
1"	25	1.67	\$1,939.00
1 1/2"	50	3.33	\$3,867.00
2"	80	5.33	\$6,189.00
3"	175	11.67	\$13,549.00
4"	300	20.00	\$23,220.00
6"	675	45.00	\$52,245.00
8"	900	60.00	\$69,660.00

*Operating capacities obtained from American Water Works Association (AWWA) C-700-15 for positive displacement meters {3/4" – 2" meters} Table 1, Column 4, AWWA C-702-15 for compound meters (Class II) {3" – 8" meters} Table 1 Column 3. GPM – Gallons Per Minute

2.3 WASTEWATER

Development of the Impact Fee Capital Improvements Plan is based on criteria set forth in the 2019 Master Plan. The Master Plan criteria meet or exceed the criteria outlined by Chapter 217 of the Texas Administrative Code (Design Criteria for Domestic Wastewater Systems). The design criteria used to plan for the wastewater infrastructure needs are discussed in the following subsection.

A. Design Criteria

Sewer Lines

The design criteria for sizing sanitary sewer trunk lines or interceptors is based on the TCEQ requirements to contain wet weather design flows with no overflows while maintaining a minimum of 2 ft/sec pipe flow velocity and not exceeding a maximum of 8 ft/sec pipe flow velocity.

Lift Stations

PUMPING CAPACITY

The design criteria for lift station pumps is based on providing firm pumping capacity to meet 125% of the peak wet weather design flows. The firm pumping capacity is defined as the available total pumping capacity with the largest lift station pump out of service.

WET WELL CAPACITY

The design criteria for lift station wet wells is based on providing adequate volumes to limit pump cycling to once every 10 minutes. Based on this criterion, the required operating volume for each pump can be calculated as follows:

$$V = tQ/4 \text{ where,}$$

t = Maximum pump cycling time = 10 minutes

Q = Lead pump discharge rate in gallons per minute (gpm)

V = Required wet well volume between pump start and stop elevation

Force Mains

The design criteria recommended for force mains is based on providing the required pumping capacity of the lift station at a discharge velocity less than 8 feet per second and a maximum discharge pressure of 100 psi and to allow a minimum of 2 feet per second scouring velocity during a single pump operation.

B. Impact Fee Capital Improvements Plan

The City's Master Plan provides a logical strategy for upgrading and expanding its wastewater collection system to accommodate future growth, and for addressing existing system deficiencies. The impact fee capital improvements plan has been developed using projects identified during the master planning process. State law only allows cost recovery associated with eligible projects in a 10-year planning window from the time of the impact fee study. The following details the projects and the eligible recoverable cost.

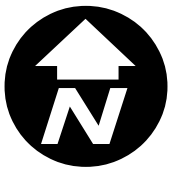
Twelve projects along with the wastewater impact fee study are determined eligible for recoverable cost through impact fee over the next 10 years. The City of Killeen's Impact Fee Capital Improvements Plan recoverable cost's total \$7,001,703. After debt service costs are added and the 50% reduction calculation is complete, \$4,271,039 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in **Table 2.7** and illustrated in **Figure 2.2**.

Table 2.7 Wastewater Impact Fee Capital Improvements Plan Costs

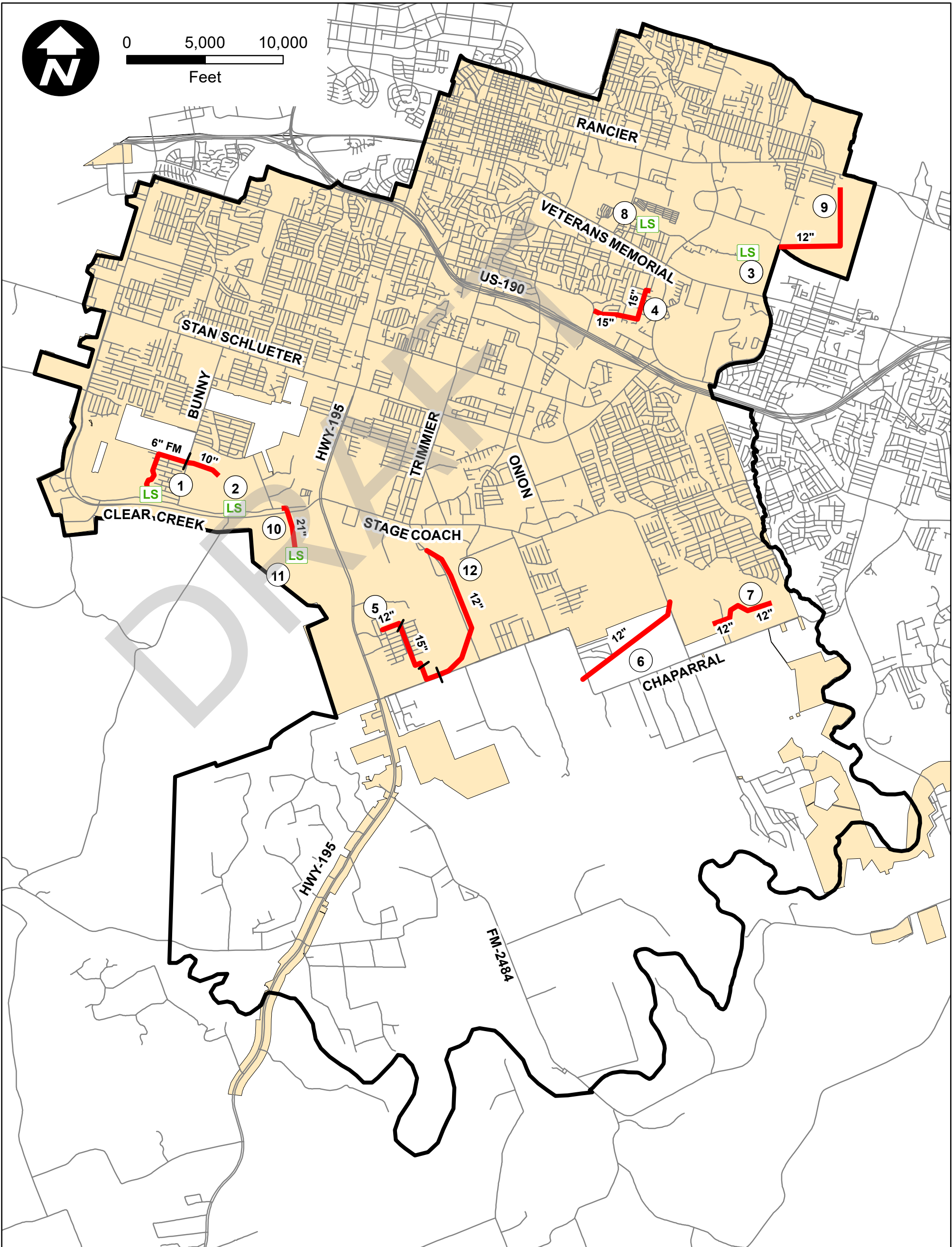
Project Number	Project Name	*Project Cost	Impact Fee Recoverable Cost
1	LS #23 Expansion 6" Force Main & 10" Gravity Main (2012 MP-1)	\$1,118,804.00	\$783,163.00
2	LS #22 Expansion (2019 MP-1)	\$350,000.00	\$178,500.00
3	LS #8 Expansion (2019 MP-3)	\$1,596,680.00	\$846,241.00
4	15" WW Main Replacement in the Long Branch Basin (2019 MP-4)	\$1,668,500.00	\$317,015.00
5	12"/15" Wastewater Main (2019 MP-5)	\$1,959,200.00	\$470,208.00
6	12" Wastewater Main in Trimmier Creek Basin (2019 MP-6)	\$1,620,700.00	\$891,385.00
7	12" Wastewater Main near Money Pit Rd (2019 MP-7)	\$850,100.00	\$467,555.00
8	LS #6 Expansion (2019 MP-12)	\$1,500,000.00	\$450,000.00
9	12" WW Main in Long Branch Basin (2019 MP-13)	\$1,640,600.00	\$902,330.00
10	18"/21" Main replacement in the Trimmier Creek Basin (2019 MP-14)	\$1,546,100.00	\$262,837.00
11	LS #20 Expansion (2019 MP-15)	\$350,000.00	\$273,000.00
12	12-inch Wastewater Main along Trimmier Road in the Southern Trimmier Creek Basin (2019 MP-16)	\$2,065,700	\$1,136,135
	Wastewater Impact Fee Study	\$23,334.00	\$23,334.00
Total		\$16,289,718.00	\$7,001,703.00

(MP#) – Reference to the Wastewater Master Plan project number.

*Project costs may differ from master plan costs. Project costs were adjusted based on input from City Staff.



0 5,000 10,000
Feet



Legend

Wastewater Impact Fee Projects

- | | |
|--|--|
| ① LS #23 Expansion 6" FM & 10" GM (2012 MP-1) | ⑦ 12" WW Main near Money Pit Rd (2019 MP-7) |
| ② LS #22 Expansion (2019 MP-1) | ⑧ LS #6 Expansion (2019 MP-12) |
| ③ LS #8 Expansion (2019 MP-3) | ⑨ 12" WW Main in Long Branch Basin (2019 MP-13) |
| ④ 15" WW Main Replacement in the Long Branch Basin (2019 MP-4) | ⑩ 18"/21" Main replacement in the Trimmer Creek Basin (2019 MP-14) |
| ⑤ 12"/15" WW Main (2019 MP-5) | ⑪ LS #20 Expansion (2019 MP-15) |
| ⑥ 12" WW Main in Trimmer Creek Basin (2019 MP-6) | ⑫ 12" WW Main along Trimmer Rd. in the Trimmer Basin (2019 MP-16) |
- (MP-#) Master Plan Project Number

- | | |
|--|---------------------------------|
| | Proposed Wastewater Line |
| | Street Centerline |
| | Existing Lift Station Expansion |
| | Proposed Lift Station (LS) |
| | Water & Wastewater Service Area |
| | City Limits |

2019 Killeen Impact Fees



Figure 2.2
Wastewater Impact Fee
Capital Improvement Plan

C. Project Descriptions

The following acronyms used within the project descriptions are as follows:

- ETJ – Extraterritorial Jurisdiction
- WWTP – Wastewater Treatment Plant
- MG – Million Gallons
- MGD – Million Gallons Per Day
- GPD – Gallons Per Day

1. Lift Station #23 Expansion and 6-inch Force Main/10-inch Gravity Main (2012 MP-1)

This project consists of expanding Lift Station #23 to a firm capacity of 2.5 MGD by construction of an additional 1.85 MGD capacity LS. This project will also provide stub-out for future pumping diversion through Goodnight Ranch. The new force main and gravity main will divert 0.75 MGD of flow from the South Nolan Creek Basin to the Trimmier Creek Basin through the proposed Goodnight Ranch Development.

This 1.85 MGD lift station provides additional capacity for future development in the basin and is planned to be 70 percent utilized in the 10-year planning study window. The project cost is 70% recoverable.

Project Cost:	\$1,118,804
Recoverable Cost:	\$783,162

2. Lift Station #22 Expansion (2019 MP-1)

This project involves expanding Lift Station #22 from its current capacity of 2.2 MGD to a firm capacity of 4.0 MGD. The projected growth in Lift Station #22's subbasin requires the 1.8 MGD expansion to handle future peak wet weather flow.

Based on growth projections in the Trimmier Creek Basin, only 0.93 MGD of the added 1.8 MGD capacity will be utilized within the 10yr planning window. The project cost is 51% recoverable.

Project Cost:	\$350,000
Recoverable Cost:	\$178,500

3. Lift Station #8 Expansion (2019 MP-3)

This project involves expanding Lift Station #8 from its current capacity of 3.89 MGD to a firm capacity of 6.5 MGD. The projected growth in Lift Station #8's sub-basin requires a 2.6 MGD expansion to handle future peak wet weather flow.

Based on growth projections in the Long Branch Basin, only 1.39 MGD of the added 2.6 MGD capacity will be utilized within the 10yr planning window. The project cost is 53% recoverable.

Project Cost:	\$1,596,680
Recoverable Cost:	\$846,241

4. 15-inch Wastewater Main Replacement in the Long Branch Basin (2019 MP-4)

This project involves replacing an existing 12-inch line with a 15-inch line from Scottsdale Drive to Flynn Street. The existing 12-inch line shows model predicted overflows during peak wet weather flows. The proposed 15-inch wastewater main will provide capacity to convey future peak wet weather flows.

Based on growth projections Long Branch Basin, this line will be 42% utilized within the 10yr planning window, but since it is replacing a 12-inch line, only 19% of the project cost is recoverable.

Project Cost:	\$1,668,500
Recoverable Cost:	\$317,015

5. 12-inch, 15-inch Wastewater Main (2019 MP-5)

This project involves replacing an existing 10/12/15-inch main downstream of the force main from Lift Station #21 with a 12/15-inch wastewater line. Population projections indicate that there will be growth in the areas upstream of Lift Station #24. The existing wastewater main does not have the capacity to serve the population growth and must be upsized to convey future flows.

Based on growth projections Trimmier Creek Basin, this line will be 55% utilized at the end of the 10yr planning window, but since it is replacing an existing 10/12/15-inch line, only 24% of the project cost is recoverable.

Project Cost:	\$1,959,200
Recoverable Cost:	\$470,208

6. 12-inch Wastewater Main in Trimmier Creek Basin (2019 MP-6)

This project involves a new 12-inch wastewater main north of Chaparral Road and west of East Trimmier Road, which connects to the existing 27-inch line in the Trimmier Creek Basin. The new line will provide wastewater service to new customers north of Chaparral Road in the Trimmier Creek Basin.

Based on growth projections in the Trimmier Creek Basin, this line will be 55% utilized at the end of the 10yr planning window and the project cost is 55% recoverable.

Project Cost:	\$1,620,700
Recoverable Cost:	\$891,385

7. 12-inch Wastewater Main near Money Pit Road (2019 MP-7)

This project involves a proposed 12-inch wastewater main extending west from an existing 15-inch main south of Pyrite Drive in the Trimmier Creek sub-basin. The proposed line will provide service to future customers west of the existing 15-inch line.

Based on growth projections in the Trimmier Creek Basin, this line will be 55% utilized at the end of the 10yr planning window. The project cost is 55% recoverable.

Project Cost:	\$850,100
Recoverable Cost:	\$467,555

8. Lift Station #6 Expansion (2019 MP-12)

This project involves expanding Lift Station #6 from its current capacity of 17.28 MGD to a firm capacity of 24.0 MGD. This project provides operational flexibility to allow wastewater to be diverted from Lift Station #2 to Lift Station #6 and pumped to the North WWTP.

Based on growth projections in the Long Branch Basin, 2 MGD of the added 6.7 MGD will be utilized within the 10yr planning window. The project cost is 30% recoverable.

Project Cost:	\$1,500,000
Recoverable Cost:	\$450,000

9. 12-inch Wastewater Main in Long Branch Basin (2019 MP-13)

This project involves a new 12-inch wastewater main upstream of an existing 15-inch main east of Roy Reynolds Drive. The new lines will provide wastewater service to new customers east of Roy Reynolds Drive in the Long Branch Basin.

Based on growth projections in the Long Branch Basin, this line will be 55% utilized at the end of the 10yr planning window. The project cost is 55% recoverable.

Project Cost:	\$1,640,600
Recoverable Cost:	\$902,330

10. 18-inch, 21-inch Main Replacement in the Trimmier Creek Basin (2019 MP-14)

This project involves replacing existing 15/18-inch wastewater lines with new 18/21-inch lines south of Stagecoach Road. Replacing the existing line with a 18/21-inch wastewater main will provide capacity to convey future peak wet weather flows.

Based on growth projections in the Trimmier Creek Basin, this main will be 55% utilized within the 10yr planning window, but because it is replacing a 15-inch and 18-inch line only 17% of the project cost is recoverable.

Project Cost:	\$1,546,100
Recoverable Cost:	\$262,837

11. Lift Station #20 Expansion (2019 MP-15)

This project involves expanding Lift Station #20 from its current capacity of 5.9 MGD to a firm capacity of 7.25 MGD. Growth in Lift Station #20's sub basin requires a 1.4 MGD expansion to handle future peak wet weather flow.

Based on growth projections in the Trimmier Creek Basin, the lift station will be 78% utilized by the end of the 10yr planning window. The project cost is 78% recoverable.

Project Cost:	\$350,000
Recoverable Cost:	\$273,000

12. 12-inch Wastewater Main along Trimmier Road in the Southern Trimmier Creek Basin (2019 MP-16)

This project involves a new 12-inch wastewater main along the creek near Trimmier Road between Stagecoach Road and Lift Station #24. This project will provide service to existing and new customers along Trimmier Road.

Based on growth projections in the Trimmier Creek Basin, this line will be 55% utilized at the end of the 10yr planning window and the project cost is 55% recoverable.

Project Cost:	\$2,065,700
Recoverable Cost:	\$1,136,135

D. Wastewater Impact Fee Calculation

Chapter 395 of the Local Government Code defines a service unit as "...a standardized measure of consumption 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." For the purpose of this study, a service unit is based on historical wastewater discharge over the past 10 years in terms of the estimated residential units. The residential unit is the development type that predominately uses a 3/4-inch water meter, which directly correlates to the representative return flow as wastewater from the same residential unit. The measure of discharge per service unit is based on a 3/4-inch meter the data shown in **Table 2.8**.

Table 2.8 Wastewater Service Unit Consumption Calculation

Year	Population	Service Units (2.29 persons/unit)	Wastewater Flow Average Day Demand (MGD)	Flow per Service Unit (GPD)
2008	116,934	51,063	10.77	211
2009	119,510	52,188	12.55	240
2010	127,921	55,861	12.99	233
2011	128,967	56,317	9.88	175
2012	130,389	56,938	10.58	186
2013	132,960	58,061	10.80	186
2014	135,517	59,178	11.41	193
2015	138,031	60,276	13.76	228
2016	140,478	61,344	13.11	214
2017	142,893	62,399	11.17	179
Average Flow per Service Unit				204

Per the 2019 Water and Wastewater Master Plan, using historical data over the last 10 years, an average daily flow per capita was found to be 87 gpd/capita (199.2 gpd/unit). In order to conservatively plan for years with above average flows the master plan used an average daily flow of 99 gpd/capita (226.71 gpd/unit). For consistency, the master plan value of **99 gpd/capita (226.71 gpd/unit)** was used when calculating projected flows in this report.

Based on the City's 10-year growth projections and the resulting wastewater flow projections, wastewater service will be required for an additional 10,240 service units. The calculation is as follows:

- A service unit, which is a unit of development that discharges approximately 226.71 gallons per day (GPD), is a typical residential connection that uses a 3/4-inch meter. **Table 2.9** outlines the future wastewater discharge projections and its relationship to the additional service units projected for the next 10-years.

Table 2.9 Wastewater 10-year Additional Service Unit Calculation

Year	Average Day Flow (GPD)	Service Unit Demand (GPD)	Service Units
2019	14,615,370	226.71	64,467
2029	16,936,821	226.71	74,707
10-year Additional Service Units			10,240

Impact fee law allows 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. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the City chooses not to pursue a financial analysis to determine the credit value, to the Chapter 395 law requires that they reduce the recoverable cost by 50 percent. The City has chosen not to calculate the credit value. Therefore, the maximum recoverable cost for impact fee shown below is 50 percent of the recoverable cost for impact fee CIP with debt service.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 2.10 Wastewater 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	\$7,001,703
Debt Service	\$1,540,375
Recoverable Impact Fee CIP Costs w/Debt Service	\$8,542,078
50 Percent Reduction	(\$4,271,039)
Maximum Recoverable Cost for Impact Fee	\$4,271,039

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$4,271,039}{10,240}$$

$$\text{Impact fee per service unit} = \$418$$

Therefore, the maximum assessable impact fee per service unit is \$418.

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 3/4-inch meter. The maximum impact fee that could be assessed for other meter sizes is based on the value shown on **Table 2.11**, Service Unit Equivalency Table for Commonly Used Meters.

Table 2.11 Wastewater Service Unit Equivalency Table for Commonly Used Meters

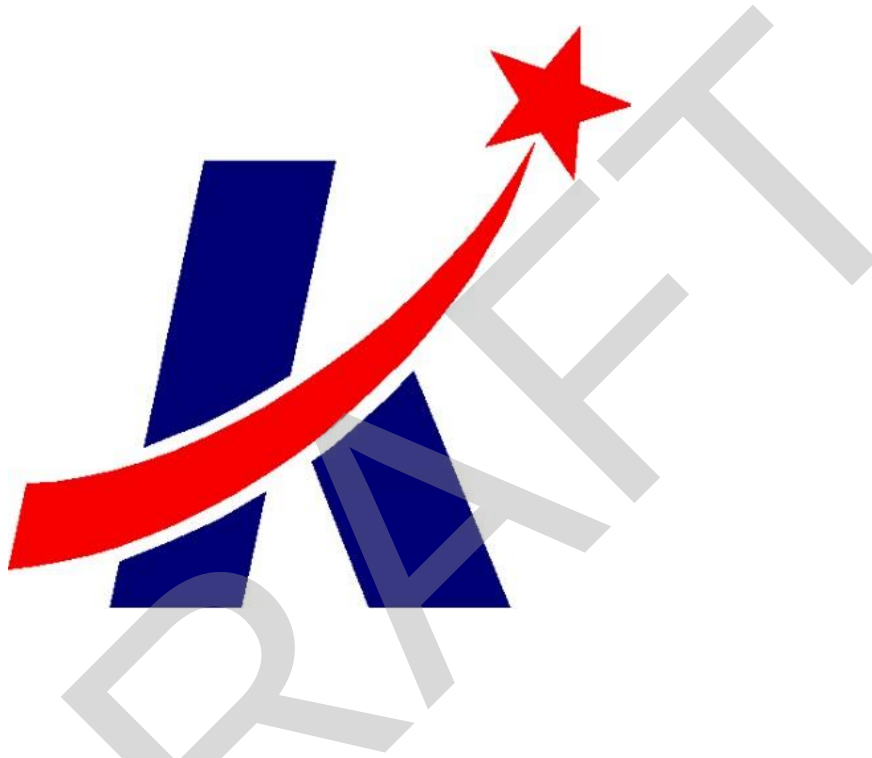
Meter Size	Maximum Continuous Operating Capacity (GPM) *	Service Unit Equivalent	Maximum Assessable Fee (\$)
3/4"	15	1	\$418.00
1"	25	1.67	\$699.00
1 1/2"	50	3.33	\$1,392.00
2"	80	5.33	\$2,228.00
3"	175	11.67	\$4,879.00
4"	300	20.00	\$8,360.00
6"	675	45.00	\$18,810.00
8"	900	60.00	\$25,080.00

*Operating capacities obtained from American Water Works Association (AWWA) C-700-15 for positive displacement meters {3/4" – 2" meters} Table 1, Column 4, AWWA C-702-15 for compound meters (Class II) {3" – 8" meters} Table 1 Column 3. GPM – Gallons Per Minute

CHAPTER 3 – ROADWAY IMPACT FEE STUDY

DRAFT

CITY OF KILLEEN, TEXAS 2019 ROADWAY IMPACT FEE STUDY



August
2019

Prepared for the City of Killeen

Prepared by:

Kimley-Horn and Associates, Inc.

801 Cherry Street, Unit 11, Suite 1300

Fort Worth, TX 76102

Phone 817 335 6511

TBPE Firm Registration Number: F-928

Project Number: 064405304

© Kimley-Horn and Associates, Inc.

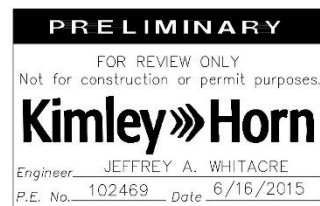


Table of Contents

EXECUTIVE SUMMARY	3
3.1 INTRODUCTION	5
3.2 ROADWAY IMPACT FEE CALCULATION INPUTS	6
A. Land Use Assumptions	6
B. Capital Improvement Plan	7
I. CIP Project Summary and Description	8
3.3 METHODOLOGY FOR ROADWAY IMPACT FEES	19
A. Service Area	19
B. Service Units	19
C. Cost Per Service Unit	19
D. Cost of the CIP	20
E. Service Unit Calculation	23
3.4 IMPACT FEE CALCULATION	27
A. Maximum Assessable Roadway Impact Fee Per Service Unit	27
B. Plan for Awarding the Roadway Impact Fee Credit	29
C. Service Unit Demand Per Unit of Development	30
3.5 SAMPLE CALCULATIONS	34
3.6 CONCLUSION	35

List of Figures

Figure 3.1. CIP for Roadway Impact Fees for Service Area A	16
Figure 3.2. CIP for Roadway Impact Fees for Service Area B	17
Figure 3.3. CIP for Roadway Impact Fees for Service Area C	18

List of Tables

Table 3.1. Residential and Non-Residential Land Use Assumptions Growth Projections	6
Table 3.2. Level of Use for the Existing/Proposed Facilities	8
Table 3.3. 10-Year Roadway Impact Fee CIP with Conceptual Level Cost Projections	22
Table 3.4. Transportation Demand Factor Calculations	25
Table 3.5. 10-Year Growth Projections	26
Table 3.6. Maximum Assessable Roadway Impact Fee	30
Table 3.7. Land Use / Vehicle-Mile Equivalency Table (LUVMET)	32

List of Appendices

Appendix A: CIP Service Units of Supply

Appendix B: Mohawk Drive/Future N/S Collector Costing Methodology

City of Killeen 2019 Roadway Impact Fees

AS PREPARED FOR THE CITY OF KILLEEN, TEXAS

EXECUTIVE SUMMARY

This study was performed to update the City of Killeen Roadway Impact Fees. Transportation system analysis is an important tool for facilitating orderly growth of the transportation system and for providing adequate facilities. The implementation of an impact fee is one way to shift a portion of the burden for new facilities onto new development. In other words, it is a manner that helps facilitate growth paying for growth.

The City of Killeen is divided into three (3) service areas for the purposes of the 2019 Roadway Impact Fee Study. These service areas cover the entire corporate boundary of the City of Killeen. Each service area is an individual study area. For each service area, the funds collected must be spent on projects identified in the Roadway Impact Fee Capital Improvement Plan (CIP) for that specific service area.

Roadway improvements necessary to serve the 10-year (2019-2029) needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirement; however, Texas' impact fee law (Chapter 395 of the Local Government Code) only allows recovery of costs to serve the 10-year planning period. For example, the projected recoverable cost attributed to new growth to construct the infrastructure needed through 2029 by service area (as outlined further in Table 3.6) are:

SERVICE AREA:	A	B	C
COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH WITH FINANCING AND CREDIT FOR AD VALOREM TAXES	\$1,833,869	\$4,466,614	\$13,008,505

A portion of the remainder can be assessed as the planning window extends beyond 2029 and as the impact fees are updated in the future. As required by Chapter 395 (see Chapter 4), the recoverable cost attributed to new growth is reduced by 50% to account for the credit of the use of ad valorem taxes to fund the Roadway Impact Fee CIP.

Chapter 395 of the Texas Local Government Code defines a service unit as "...a standardized measure of consumption 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."

Therefore, the City of Killeen defines a service unit as the number of vehicle-miles of travel during the afternoon peak-hour. For each type of development, the City of Killeen utilizes the Land Use/Vehicle-Mile Equivalency Table (LUVMET) to determine the number of service units.

Based on the City's 10-year growth projections and the associated demand (consumption), values for each service area are as follows in terms of vehicle-miles:

SERVICE AREA:	A	B	C
TOTAL VEHICLE-MILES OF NEW DEMAND OVER TEN YEARS	9,643	35,122	18,420

Based on the additional service units and the recoverable capital improvement plans, the City can determine the maximum roadway impact fee per vehicle-mile by the following equation:

$$\text{Maximum Roadway Impact Fee} = \frac{\text{Cost of Capacity Added Attributable to Growth with Financing} * 50\%}{\text{Total Vehicle Miles of New Demand Over Ten Years}}$$

The resulting maximum roadway impact fees per vehicle-mile are:

SERVICE AREA:	A	B	C
MAXIMUM ASSESSABLE FEE PER SERVICE UNIT	\$190	\$127	\$706

3.1 INTRODUCTION

Chapter 395 (see Chapter 4) of the Texas Local Government Code describes the procedure Texas cities must follow in order to create and implement impact fees. Senate Bill 243 (SB 243) amended Chapter 395 in September 2001 to define 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 or facility expansions necessitated by and attributable to the new development.”

The City of Killeen is developing its Land Use Assumptions and Roadway Impact Fee Capital Improvement Plan (CIP) to update the City’s existing Roadway Impact Fees. The City retained Kimley-Horn and Associates, Inc. (Kimley-Horn) to provide professional transportation engineering services for the update of the 2019 Roadway Impact Fee Study. This report includes details of the impact fee calculation methodology in accordance with Chapter 395, the applicable Land Use Assumptions, development of the Roadway Impact Fee CIP, the creation of a Land Use Vehicle-Mile Equivalency Table, and the calculation of the maximum fee to be assessed to future development.

This report introduces and references two of the basic inputs to the Roadway Impact Fee: the Land Use Assumptions and the Roadway Impact Fee Capital Improvement Plan (CIP). Information from these two components is used extensively in the remainder of the report. This report consists of detailed discussions of the methodology for the computation of impact fees. The discussions - Methodology for Roadway Impact Fees and Impact Fee Calculation address each of the components of the computation and modifications required for the study. The components include:

- Service Areas;
- Service Units;
- Cost Per Service Unit;
- Cost of the Roadway Impact Fee CIP;
- Service Unit Calculation;
- Maximum Assessable Impact Fee Per Service Unit; and
- Service Unit Demand Per Unit of Development.

The report also includes a section concerning the Plan for Awarding the Roadway Impact Fee Credit. In the case of the City of Killeen, the credit calculation was based on awarding a 50% credit. The final section of the report is the Conclusion, which presents the findings of the analysis.

3.2 ROADWAY IMPACT FEE CALCULATION INPUTS

A. Land Use Assumptions

In order to assess an impact fee, land use assumptions must be developed to provide the basis for population and employment growth projections within a political subdivision. As defined by Chapter 395 of the Texas Local Government Code, these assumptions include a description of changes in land uses, densities, and population in the service area. The land use assumptions used in this report were developed and presented in Chapter 1: *Land Use Assumptions for 2019 Impact Fee Study*.

Table 3.1 summarizes the residential and employment 10-year growth projections within the City Limits. It illustrates the service areas in which the 9,370 dwelling units will be located. The information provided in Table 3.1 was taken from the previously referenced *Land Use Assumptions for 2019 Impact Fee Study*.

Table 3.1. Residential and Non-Residential Land Use Assumptions
Growth Projections (2019-2029)

SERVICE AREA	SINGLE FAMILY (DWELLING UNITS)	MULTI FAMILY (DWELLING UNITS)	BASIC (ft ²)	SERVICE (ft ²)	RETAIL (ft ²)
A	700	600	200,000	500,000	400,000
B	4,972	1,298	500,000	1,000,000	900,000
C	1,400	400	800,000	800,000	800,000
Total	7,072	2,298	1,500,000	2,300,000	2,100,000

B. Capital Improvement Plan

The City has identified the City-funded transportation projects needed to accommodate the projected growth within the City. According to Chapter 395, the Roadway Impact Fee CIP can include the following projects:

- Recently completed projects with excess capacity available to serve new growth – *not included in the City of Killeen*;
- Projects currently under construction (Rosewood Drive); and
- Projects identified on the City's Master Thoroughfare Plan for improvements.

The Roadway Impact Fee CIP projects that are proposed for the 2019 Roadway Impact Fee Study are mapped in Figure 3.1, Figure 3.2, and Figure 3.3. The Roadway Impact Fee CIP was developed in conjunction with input from City of Killeen staff and represents those projects that will be needed to accommodate the growth projected from the land use assumptions.

The various roadway classifications describe the purpose and function of each roadway. These roadway classifications are based on the City of Killeen Master Thoroughfare Plan – Functional Classification. There are five primary classifications that were used in the 2019 Killeen Roadway Impact Fee Study. These classifications are:

- Principal Arterial
- Minor Arterial
- Collector
- Marginal Access
- Local Street

Each of the classifications above has different assumed vehicular capacities assigned to them (see Table 3.2) based on their roadway characteristics and existing geometry. Freeways are designed to move the most traffic and provide a larger amount of capacity. Existing thoroughfares provide for travel between neighborhoods and commercial areas or serve as routes for thru-traffic. A collector's primary function is to bring traffic from local streets to the thoroughfare streets. Collectors are intended to move less traffic and are designed with lower vehicular capacity than arterial facilities. Local streets are not budgeted for in the Roadway Impact Fee CIP process and, in turn, impact fees.

Table 3.2. Level of Use for the Existing/Proposed Facilities
(used in Appendix A – CIP Service Units of Supply)

Roadway Type	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
M2U	Two Lane Undivided Marginal Access	425
C2U	Two Lane Undivided Residential Collector	425
C3U	Three Lane Undivided Mixed Collector	550
C4U	Four Lane Undivided Commercial Collector	500
C5U	Five Lane Undivided Commercial Collector	575
A4U	Four Lane Undivided Minor Arterial	600
A5U	Five Lane Undivided Minor Arterial	650
A4D	Four Lane Divided Principal Arterial	750
A8U	Eight Lane Undivided Principal Arterial	950

I. CIP Project Summary and Description

Below is a list of the Roadway Impact Fee CIP projects used to develop the Roadway Impact Fee. The Estimated Projected Costs are based on the Transportation Capital Improvement Plan (CIP). Estimated Impact Fee Applicable Costs reflect the estimated cost of the CIP project applied to how much of the project is located in each of the three service areas.

A-1. SH 195 Overpass – Service Area A From Avenue E (FM 439) to Business 190

The purpose of the SH 195 Overpass is to improve travel times and accessibility to Fort Hood as well as addressing the congestion problems at the intersection of SH 195 and Business 190. The project will include the construction of an overpass for SH 195 over Business 190 and the nearby BNSF rail-line.

Estimated Project Cost:	\$20,000,000 (CIP Plan)
Estimated Impact Fee Applicable Cost:	\$4,000,000
	(20% of City contribution to TxDOT)

A-2, C-1. Jasper Drive Overpass – Service Area A and Service Area C
From Florence Road to US 190

The Jasper Drive Overpass involves the reconstruction of the current overpass at the intersection of Jasper Drive and US 190. This project aims to improve safety conditions and increase capacity in a congested area where the Florence Road and Jasper Drive intersection crosses US 190.

Estimated Project Cost:	\$24,628,150 (CIP Plan)
Estimated Impact Fee Applicable Cost:	\$4,925,630 (20% of City Contribution to to TxDOT split between Service Areas)

A-3. WS Young Drive – Service Area A
From US 190 to Illinois Avenue

This project aims to improve efficiency and safety along WS Young Drive by reconfiguring traffic signals and making median improvements to help manage access to adjacent businesses and alleviate traffic congestion.

Estimated Project Cost:	\$4,889,546 (CIP Plan)
Estimated Impact Fee Cost:	\$4,889,546

Cunningham Road CIP Project – US 190 to FM 3470

As outlined in the Draft CIP Plan, the planned reconstruction of Cunningham Road spans 1.27 miles from US 190 to FM 3470 at a cost of \$7,817,350. These projects include B-1 and B-2. The costs of these two projects were determined by dividing the length of the Impact Fee project by the total 1.27 mile length. Next, this quantity was multiplied by the \$7,817,350 CIP Plan cost estimate for the Cunningham Road reconstruction.

B-1. Cunningham Road (1) – Service Area B
From US 190 to Little Nolan Road

This project entails the construction of a new segment of Cunningham Road extending from US 190 and Little Nolan Road. The project will provide a more efficient route for north-south movement, as well as relieve congestion along Stan Schlueter Loop (FM 3470), WS Young Drive, and Elms Road. Project B-1 encompasses 45% of the length of the Cunningham Road CIP Plan Project.

Estimated Project Cost:	\$3,517,808 (45% of the CIP Plan)
Estimated Impact Fee Cost:	\$3,517,808

B-2. Cunningham Road (2) – Service Area B
From Little Nolan Road to Stan Schlueter Loop (FM 3470)

This project includes the reconstruction of the existing segment of Cunningham Road from Little Nolan Road to Stan Schlueter Loop (FM 3470) from a two-lane facility to a three-lane collector with a center turning lane. The project will provide a more efficient route for north-south movement, as well as relieve congestion along Stan Schlueter Loop (FM 3470), WS Young Drive, and Elms Road. Project B-2 encompasses 55% of the length of the Cunningham Road CIP Plan Project.

Estimated Project Cost:	\$4,299,542 (55% of the CIP Plan)
Estimated Impact Fee Cost:	\$4,299,542

B-3. Trimmier Road – Service Area B
From Stagecoach Road to Chaparral Road

This project entails the reconstruction of Trimmier Road from Stagecoach Road to Chaparral Road from a two-lane facility to a four-lane divided roadway with a median. Due to new development and the building of a large education complex nearby, these improvements are needed in response to increased traffic volumes along Trimmier Road.

Estimated Project Cost:	\$6,873,825 (CIP Plan)
Estimated Impact Fee Cost:	\$6,873,825

B-4. Featherline Drive – Service Area B
From Stagecoach Road to Killeen's city limit

This project consists of the reconstruction of Featherline Drive to a five-lane arterial including a center turning lane between Stagecoach Road and Chaparral Road. This project will also involve the construction of roundabouts where Featherline Road intersects Stagecoach Road and WS Young Drive.

Estimated Project Cost:	\$7,886,382 (CIP Plan)
Estimated Impact Fee Cost:	\$7,886,382

E. Trimmier Road CIP Project – Stagecoach Road to Chaparral Road

As outlined in the Draft CIP Plan, the planned reconstruction of E. Trimmier Road spans 1.81 miles from Stagecoach Road to Chaparral Road at a cost of \$6,047,000. These projects include B-5 and B-6. The costs of these two projects were determined by dividing the length of the Impact Fee project by the total 1.81 mile length. Next, this quantity was multiplied by the \$6,047,000 CIP Plan cost estimate for the E. Trimmier Road reconstruction.

B-5. E. Trimmier Road – Service Area B From Stagecoach Road to Killeen's city limit

This project entails the reconstruction of E. Trimmier Road to a five-lane arterial between Stagecoach Road and Killeen's city limits. Enhancements to this segment of E. Trimmier Road are necessary to accommodate an anticipated increase in traffic volumes due to the construction of new residential developments nearby. Project B-5 encompasses 62% of the length of the E. Trimmier Road CIP Plan Project.

Estimated Project Cost:	\$3,749,140 (62% of the CIP Plan)
Estimated Impact Fee Cost:	\$3,749,140

B-6. E. Trimmier Road – Service Area B/ETJ From Killeen's city limit To Chaparral Road

This project entails the reconstruction of E. Trimmier Road to a five-lane arterial between Killeen's city limits and Chaparral Road. Enhancements to this segment of E. Trimmier Road are necessary to accommodate an anticipated increase in traffic volumes due to the construction of new residential developments nearby. Project B-6 encompasses 38% of the length of the E. Trimmier Road CIP Plan Project.

Estimated Project Cost:	\$2,297,860 (38% of the CIP Plan)
Estimated Impact Fee Cost:	\$1,148,930

Chaparral Road CIP Project – SH 195 to FM 3481

As outlined in the Draft CIP Plan, the planned reconstruction of Chaparral Road spans 6.34 miles from SH 195 to FM 3481 at a cost of \$23,000,000. Portions of this CIP project are located both within and outside of Killeen's city limit boundary. Approximately 56% of the widening project exists within the city limits. Due to this fact, the reconstruction of Chaparral Road is broken up into four projects for the 2019 Roadway Impact Fee Study, consisting of the portions of Chaparral Road that are positioned within the corporate limits of Killeen. These

projects include B-7, B-8, B-9 and B-10. The costs of these four projects were determined by dividing the length of the Impact Fee project by the total 6.34 mile length. Next, this quantity was multiplied by the \$23,000,000 CIP Plan cost estimate for the Chaparral Road reconstruction. When Chaparral Road borders the extraterritorial jurisdiction only 50% of the project costs were included in the Roadway Impact Fee CIP.

B-7. Chaparral Road (1) – Service Area B/ETJ
From SH 195 to Trimmier Road

This project entails the reconstruction of Chaparral Road extending from SH 195 to Trimmier Road into a four-lane divided arterial. The length of this project is 1.30 miles. This length shows that Project B-7 encompasses 21% of the length of the Chaparral Road CIP Plan Project.

Estimated Project Cost:	\$4,830,000 (21% of City Estimate)
Estimated Impact Fee Cost:	\$2,415,000

B-8. Chaparral Road (2) – Service Area B/ETJ
From Trimmier Road to Featherline Drive

This project entails the reconstruction of Chaparral Road extending from Trimmier Road to Featherline Drive into a four-lane divided arterial. The length of this project is 0.83 miles. This length shows that Project B-8 encompasses 13% of the Chaparral Road CIP Plan project.

Estimated Project Cost:	\$2,990,000 (13% of City Estimate)
Estimated Impact Fee Cost:	\$1,495,000

B-9. Chaparral Road (3) – Service Area B/ETJ
From East Trimmier Road to 325 feet west of Money Pit Road

This project entails the reconstruction of the segment of Chaparral Road extending from East Trimmier Road to 325 feet west of Money Pit Road into a four-lane divided arterial. The length of this project is 0.47 miles. This length shows that Project B-9 encompasses 7% of the Chaparral Road CIP Plan project.

Estimated Project Cost:	\$1,610,000 (7% of the City Estimate)
Estimated Impact Fee Cost:	\$805,000

B-10. Chaparral Road (4) – Service Area B/ETJ

From 325 feet west of Money Pit Road to 700 feet east of Rosewood Drive

This project entails the reconstruction of Chaparral Road extending from 325 feet west of Money Pit Road to approximately 700 feet east of Rosewood Drive into a four-lane divided arterial. The length of this project is 0.94 miles. This length shows that Project B-10 encompasses 15% of the Chaparral Road CIP Plan project.

Estimated Project Cost:	\$3,450,000 (15% of the City Estimate)
Estimated Impact Fee Cost:	\$1,725,000

B-11. Rosewood Drive – Service Area B

From Serpentine Drive to Chaparral Road

This project will extend Rosewood Drive from its current terminus south of Serpentine Drive to Chaparral Road. The extension of Rosewood Drive will consist of a new five-lane arterial including a center turning lane. This extension is currently under construction at a cost \$7,826,151 and a design cost of \$741,623, for a total cost of \$8,567,774.

Actual Project Cost:	\$8,567,774 (Bid Tabs)
Estimated Impact Fee Cost:	\$8,567,774

C-2. Florence Road – Service Area C

From Jasper Drive to Elms Road

This project entails the widening of Florence Road between Jasper Drive and Elms Road. This widening is necessary due to the increase traffic levels anticipated to occur when TxDOT reconstructs the Jasper Drive Overpass (see Project A-2, C-1). This project adds additional capacity to this segment of Florence Road by widening the existing three-lane facility to a five-lane arterial including a center turning lane, sidewalks, and bicycle lanes.

Estimated Project Cost:	\$6,292,450 (CIP Plan)
Estimated Impact Fee Cost:	\$6,292,450

C-3. Mohawk Drive (1) – Service Area C
From Bunny Trail to Castle Gap

This project entails the construction of a new segment of Mohawk Drive from Bunny Trail to Castle Gap. The new roadway will be built as a five-lane arterial including a center turning lane.

Estimated Project Cost:	\$6,771,000 (Appendix B)
Estimated Impact Fee Cost:	\$6,771,000

C-4. Mohawk Drive (2) – Service Area C/ETJ
From Castle Gap to 2,494 feet east of Castle Gap

This project includes the construction of a new segment of Mohawk Drive from Castle Gap to approximately 2,494 feet east of Castle Gap. The new roadway will be built as a five-lane arterial including a center turning lane.

Estimated Project Cost:	\$4,665,000 (Appendix B)
Estimated Impact Fee Cost:	\$2,332,500

C-5. Mohawk Drive (3) – Service Area C
From 2,494 feet east of Castle Gap to Atlas Avenue

This project includes the construction of a new segment of Mohawk Drive starting approximately 2,494 feet east of Castle Gap and ending at Atlas Avenue. The new roadway will be built as a five-lane arterial including a center turning lane.

Estimated Project Cost:	\$13,226,000 (Appendix B)
Estimated Impact Fee Cost:	\$13,226,000

C-6. Future N/S Collector – Service Area C
From Mohawk Drive to Clear Creek Road

This project includes the construction of a new north-south oriented collector facility from beginning at the proposed Mohawk Drive extension and proceeding south to intersect with Clear Creek Road. The new roadway will be built as a four-lane undivided arterial.

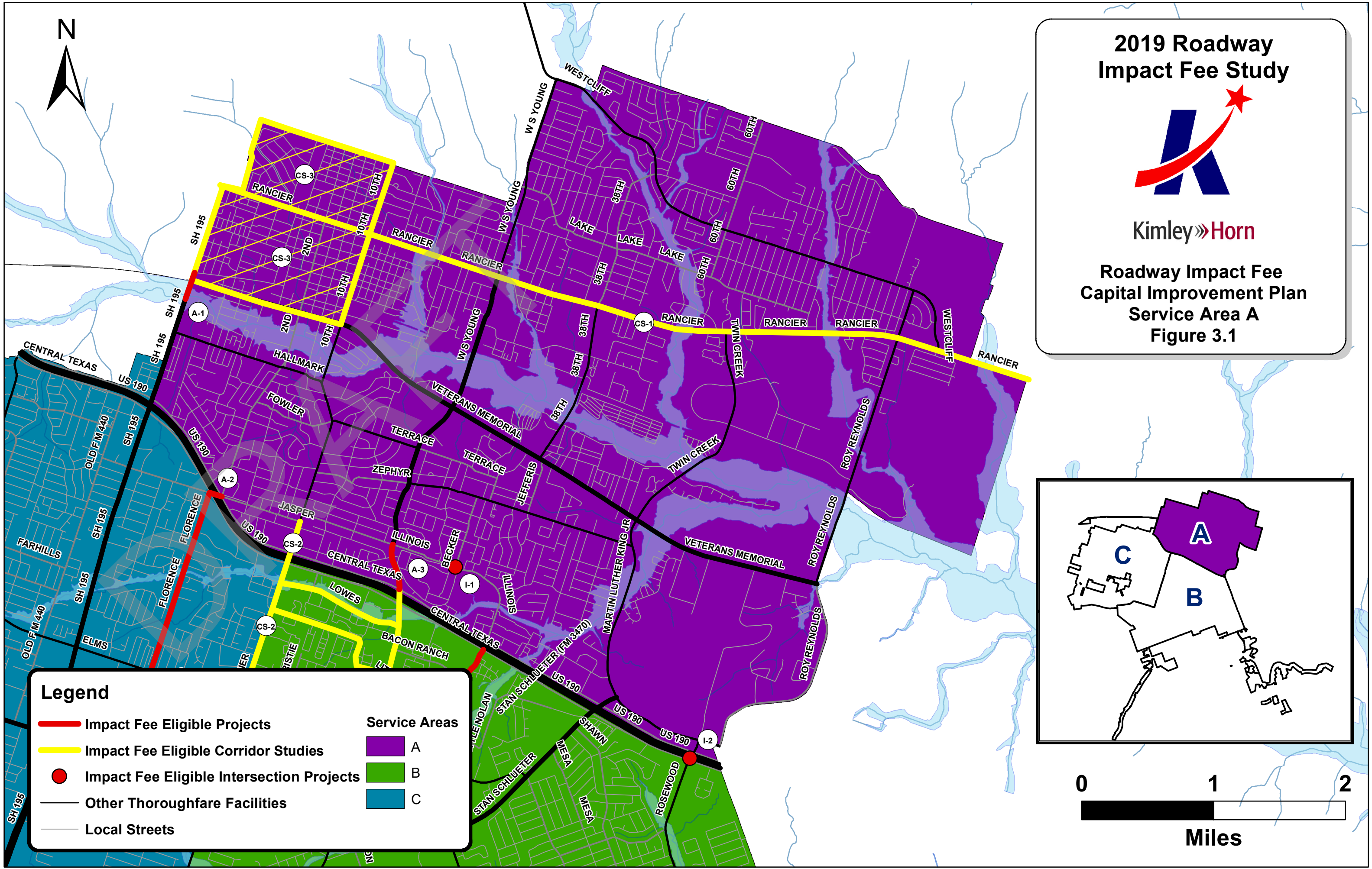
Estimated Project Cost:	\$2,632,000 (Appendix B)
Estimated Impact Fee Cost:	\$2,632,000

The following table below highlights the intersection improvement projects by Service Area that are included in the 2019 Roadway Impact Fee Study:

Intersection Projects				
<u>Service Area</u>	<u>Project #</u>	<u>Project</u>	<u>Limits</u>	<u>Project Cost</u>
A	I-1	Intersection Improvements	Illinois Avenue & Becker Drive	\$ 400,000.00
A/B	I-2	Intersection Improvements	US 190 & Rosewood Drive	\$ 400,000.00
B	I-3	Intersection Improvements	Stagecoach Rd. & W.S. Young Dr.	\$ 400,000.00
B	I-4	Intersection Improvements	Stagecoach Rd. & Featherline Rd.	\$ 400,000.00
B	I-5	Intersection Improvements	Stagecoach Rd. & Cunningham Rd.	\$ 400,000.00
B	I-6	Intersection Improvements	Stagecoach Rd. & East Trimmer Rd.	\$ 400,000.00
B	I-7	Intersection Improvements	FM 3470 (Stan Schlueter Loop) & Mesa Drive	\$ 400,000.00
B	I-8	Intersection Improvements	FM 3470 (Stan Schlueter Loop) & Onion Road	\$ 400,000.00
B	I-9	Intersection Improvements	WS Young Drive & Bacon Ranch Road	\$ 400,000.00
B	I-10	Intersection Improvements	SH 195 & Chaparral Road	\$ 400,000.00
B	I-11	Intersection Improvements	Trimmer Road & Chaparral Road	\$ 400,000.00
B	I-12	Intersection Improvements	Featherline Road & Chaparral Road	\$ 400,000.00
C	I-13	Intersection Improvements	Bunny Trail & Clear Creek Rd.	\$ 400,000.00
C	I-14	Intersection Improvements	Jake Spoon Road & FM 3470 (Stan Schlueter Loop)	\$ 400,000.00
C	I-15	Intersection Improvements	SH 195 & Pershing Drive	\$ 400,000.00
C	I-16	Intersection Improvements	SH 201 & John David Drive	\$ 400,000.00

The following table below highlights the Corridor Studies by Service Area that are included in the 2019 Roadway Impact Fee Study:

Corridor Studies					
<u>Service Area</u>	<u>Project #</u>	<u>Project</u>	<u>Limits</u>		<u>Project Cost</u>
A	CS-1	Rancier Avenue	Fort Hood Entrance		\$ 225,000.00
A/B/C	CS-2	Commercial Corridor Access	Trimmier Rd., WS Young Dr., Lowe's Blvd., Bacon Ranch Rd.		\$ 125,000.00
A	CS-3	One-Way Street Conversion	Downtown Killeen		\$ 225,000.00
B	CS-4	SH 195 South	Clear Creek Dr. (SH 201)	FM 2484	\$ 175,000.00
C	CS-5	Clear Creek Rd./SH 201	Watercrest Road	Mohawk Drive	\$ 250,000.00

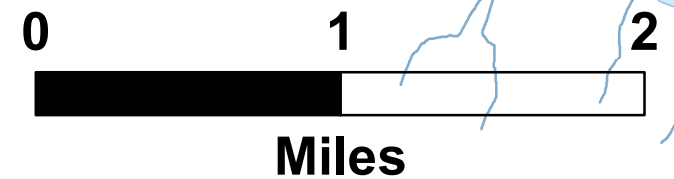
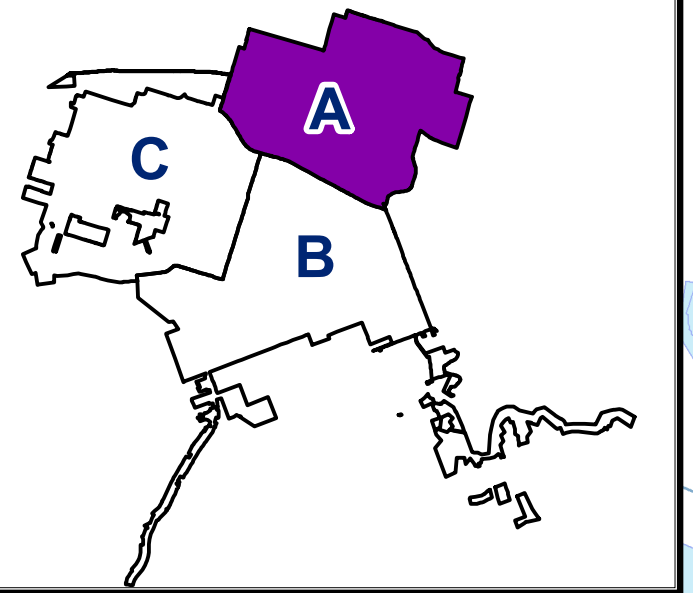


2019 Roadway Impact Fee Study



Kimley»Horn

Roadway Impact Fee
Capital Improvement Plan
Service Area A
Figure 3.1



2019 Roadway Impact Fee Study



Kimley»Horn

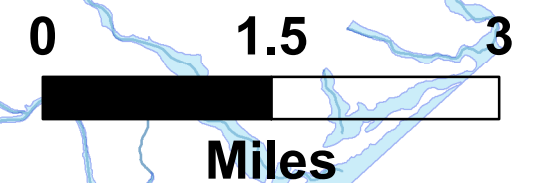
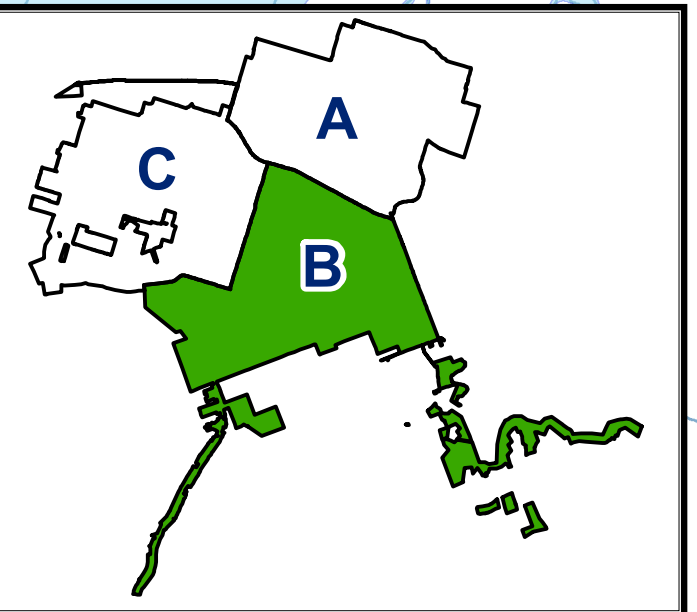
Roadway Impact Fee
Capital Improvement Plan
Service Area B
Figure 3.2

Legend

- Impact Fee Eligible Projects
- Impact Fee Eligible Corridor Studies
- Impact Fee Eligible Intersection Projects
- Other Thoroughfare Facilities
- Local Streets

Service Areas

- A
- B
- C





2019 Roadway Impact Fee Study



Kimley»Horn

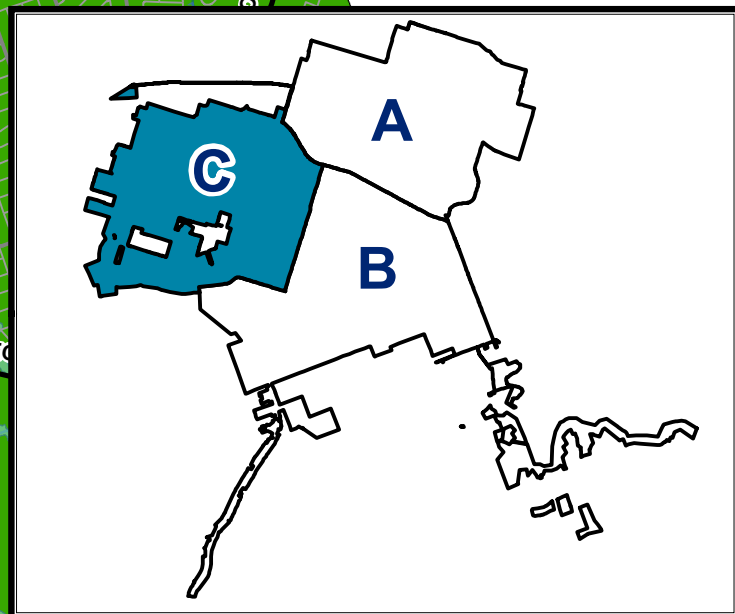
Roadway Impact Fee
Capital Improvement Plan
Service Area C
Figure 3.3

Legend

- Impact Fee Eligible Projects
- Impact Fee Eligible Corridor Studies
- Impact Fee Eligible Intersection Projects
- Other Thoroughfare Facilities
- Local Streets

Service Areas

- A
- B
- C



3.3 METHODOLOGY FOR ROADWAY IMPACT FEES

A. Service Area

The service areas used in the 2019 Roadway Impact Fee Study are shown in the previously referenced Figure 1.2. Chapter 395 of the Texas Local Government Code specifies that “the service areas are limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles.” Based on the guidance in Chapter 395 and examination of the City of Killeen, three roadway service areas were deemed appropriate. These service areas cover the corporate boundary of the City of Killeen. The service area locations are listed below:

- Service Area A is located north of US 190.
- Service Area B is located south of US 190 and east of West Trimmier Road. Service Area B also extends west of West Trimmier Road, south of Clear Creek Road.
- Service Area C encompasses the remaining western region within the city limits and is located south of US 190 and north of Clear Creek Road to the west of West Trimmier Road.

B. Service Units

The “service unit” is a measure of consumption or use of the roadway facilities by new development. In other words, it is the measure of supply and demand for roads in the City. For transportation purposes, the service unit is defined as a vehicle-mile. On the supply side, this is a lane-mile of an arterial street. On the demand side, this is a vehicle-trip of one-mile in length. The application of this unit as an estimate of either supply or demand is based on travel during the afternoon peak hour of traffic. This time period is commonly used as the basis for transportation planning and the estimation of trips created by new development.

Another aspect of the service unit is the service volume that is provided (supplied) by a lane-mile of roadway facility. This number, also referred to as capacity, is a function of the facility type, facility configuration, number of lanes, and level of service.

The hourly service volumes used in the 2019 Roadway Impact Fee Study are based upon Thoroughfare Capacity criteria developed in the Highway Capacity Manual but have been adjusted to the City of Killeen Master Thoroughfare Plan. Table 3.2 shows the service volumes utilized in this report.

C. Cost Per Service Unit

A fundamental step in the impact fee process is to establish the cost for each service unit. In the case of the roadway impact fee, this is the cost for each vehicle-mile of travel. This cost per service unit is the cost to construct a roadway (lane-mile) needed to accommodate a vehicle-mile of travel at a level of service corresponding to the City's standards. The cost per service unit is calculated for each service area based on a specific list of projects within that service area.

The second component of the cost per service unit is the number of service units in each service area. This number is the measure of the growth in transportation demand that is projected to occur in the ten-year period. Chapter 395 requires that Impact Fees be assessed only to pay for growth projected to occur in the city limits within the next ten years, a concept that will be covered in a later section of this report. As noted earlier, the units of demand are vehicle-miles of travel.

D. Cost of the CIP

The costs that may be included in the cost per service unit are all of the implementation costs for the 2019 Roadway Impact Fee Study, as well as project costs for thoroughfare system elements within the Capital Improvement Plan. Chapter 395 of the Texas Local Government Code specifies that the allowable costs are "...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 Improvement Plan who is not an employee of the political subdivision."

A majority of the projects have recently been analyzed for both feasibility and cost in the 2019 Thoroughfare Plan. When available, those previously identified planning level costs were then utilized for the study.

Table 3.3 lists the Roadway Impact Fee CIP projects for the City of Killeen with conceptual level project cost projections. It should be noted that these tables reflect only conceptual-level opinions or assumptions regarding the portions of future project costs that are potentially recoverable through impact fees. These costs are estimated using various City of Killeen

documents and recent bid tabs of similar projects in the City of Killeen. Actual costs of construction are likely to change with time and are dependent on market and economic conditions that cannot be precisely predicted at this time.

This Roadway Impact Fee CIP establishes the list of projects for which impact fees may be utilized. Essentially, it establishes a list of projects for which an impact fee funding program can be established. This is different from a City's construction CIP, which provides a broad list of capital projects for which the City is committed to building. The cost projections utilized in this study should not be utilized for the City's building program or construction CIP.

DRAFT

Table 3.3. 10-Year Roadway Impact Fee CIP with Conceptual Level Cost Projections

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% in Service Area	Total Project Cost	Cost in Service Area
SA A	A-1	Overpass (A4U)	S.H. 195 (1)	Avenue E (FM 439) to Business 190	0.18	100%	\$ 4,000,000	\$ 4,000,000
	A-2, C-1	Overpass (A8U)	Jasper Drive (A)	Florence Road to US 190	0.08	50%	\$ 4,925,630	\$ 2,462,815
	A-3	A4D	W.S. Young Drive	US 190 to Illinois Avenue	0.30	100%	\$ 4,889,546	\$ 4,889,546
	I-1	Intersection	Intersection Improvements	Illinois Avenue & Becker Drive	-	100%	\$ 400,000	\$ 400,000
	I-2	Intersection	Intersection Improvements	US 190 & Rosewood Drive	-	50%	\$ 400,000	\$ 200,000
	CS-1	Corridor Study	Rancier Avenue	Fort Hood Entrance	-	100%	\$ 225,000	\$ 225,000
	CS-2	Corridor Study	Commercial Corridor Access	Trimmier Rd., WS Young Dr., Lowe's Blvd., Bacon Ranch Rd.	-	8%	\$ 125,000	\$ 10,000
	CS-3	Corridor Study	One-Way Street Conversion	Downtown Killeen (Conversion of downtown streets from 2-way streets to one-way)	-	100%	\$ 225,000	\$ 225,000
	Service Area Project Cost Subtotal							\$ 11,352,361
	Service Area Intersection Project Cost Subtotal							\$ 600,000
Service Area Corridor Study Project Cost Subtotal							\$ 460,000	
2019 Roadway Impact Fee Cost Per Service Area							\$ 7,778	
Total Cost in SERVICE AREA A							\$ 12,420,139	
Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% in Service Area	Total Project Cost	Cost in Service Area
SA B	B-1	C3U	Cunningham Road (1)	US Hwy 190 to Little Nolan Road	0.57	100%	\$ 3,517,808	\$ 3,517,808
	B-2	C3U	Cunningham Road (2)	Little Nolan Road to Stan Schluter Loop (FM 3470)	0.70	100%	\$ 4,299,542	\$ 4,299,542
	B-3	A5U	Trimmier Road	Stagecoach Road to Chaparral Road	1.89	100%	\$ 6,873,825	\$ 6,873,825
	B-4	A5U	Featherline Drive	Stagecoach Road to City Limit	1.34	100%	\$ 7,886,382	\$ 7,886,382
	B-5	A5U	E. Trimmier Road (1)	Stagecoach Road to City Limit	1.13	100%	\$ 3,749,140	\$ 3,749,140
	B-6	A5U	E. Trimmier Road (2)	City Limit to Chaparral Road	0.69	50%	\$ 2,297,860	\$ 1,148,930
	B-7	A4D	Chaparral Road (1)	SH 195 to Trimmier Road	1.30	50%	\$ 4,830,000	\$ 2,415,000
	B-8	A4D	Chaparral Road (2)	Trimmier Road to Featherline Drive	0.83	50%	\$ 2,990,000	\$ 1,495,000
	B-9	A4D	Chaparral Road (3)	East Trimmier Road to 325' West of Money Pit Road	0.47	50%	\$ 1,610,000	\$ 805,000
	B-10	A4D	Chaparral Road (4)	325' West of Money Pit Road to 700' East of Rosewood Drive	0.94	50%	\$ 3,450,000	\$ 1,725,000
	B-11	A5U	Rosewood Drive	Chaparral Road to Serpentine Drive	0.83	100%	\$ 8,567,774	\$ 8,567,774
	I-2	Intersection	Intersection Improvements	US 190 & Rosewood Drive	-	50%	\$ 400,000	\$ 200,000
	I-3	Intersection	Intersection Improvements	Stagecoach Rd. & W.S. Young Dr.	-	100%	\$ 400,000	\$ 400,000
	I-4	Intersection	Intersection Improvements	Stagecoach Rd. & Featherline Rd.	-	100%	\$ 400,000	\$ 400,000
	I-5	Intersection	Intersection Improvements	Stagecoach Rd. & Cunningham Rd.	-	100%	\$ 400,000	\$ 400,000
	I-6	Intersection	Intersection Improvements	Stagecoach Rd. & East Trimmier Rd.	-	100%	\$ 400,000	\$ 400,000
	I-7	Intersection	Intersection Improvements	FM 3470 (Stan Schluter Loop) & Mesa Drive	-	100%	\$ 400,000	\$ 400,000
	I-8	Intersection	Intersection Improvements	FM 3470 (Stan Schluter Loop) & Onion Road	-	100%	\$ 400,000	\$ 400,000
	I-9	Intersection	Intersection Improvements	WS Young Drive & Bacon Ranch Road	-	100%	\$ 400,000	\$ 400,000
	I-10	Intersection	Intersection Improvements	SH 195 & Chaparral Road	-	100%	\$ 400,000	\$ 400,000
	I-11	Intersection	Intersection Improvements	Trimmier Road & Chaparral Road	-	50%	\$ 400,000	\$ 200,000
	I-12	Intersection	Intersection Improvements	Featherline Road & Chaparral Road	-	50%	\$ 400,000	\$ 200,000
	CS-2	Corridor Study	Commercial Corridor Access	Trimmier Rd., WS Young Dr., Lowe's Blvd., Bacon Ranch Rd.	-	80%	\$ 125,000	\$ 100,000
	CS-4	Corridor Study	SH 195 South	Clear Creek Dr. (SH 201) to FM 2484	-	100%	\$ 175,000	\$ 175,000
	Service Area Project Cost Subtotal							\$ 42,483,401
	Service Area Intersection Project Cost Subtotal							\$ 3,800,000
	Service Area Corridor Study Project Cost Subtotal							\$ 275,000
	2019 Roadway Impact Fee Cost Per Service Area							\$ 7,778
Total Cost in SERVICE AREA B							\$ 46,566,179	
Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% in Service Area	Total Project Cost	Cost in Service Area
SA C	A-2, C-1	Overpass (A8U)	Jasper Drive (C)	Florence Road to US 190	0.08	50%	\$ 4,925,630	\$ 2,462,815
	C-2	C5U	Florence Road	Jasper Drive to Elms Road	1.22	100%	\$ 6,292,450	\$ 6,292,450
	C-3	A5U	Mohawk Drive (1)	Bunny Trail to Castle Gap	0.64	100%	\$ 6,771,000	\$ 6,771,000
	C-4	A5U	Mohawk Drive (2)	Castle Gap to 2,494' East of Castle Gap	0.47	50%	\$ 4,665,000	\$ 2,332,500
	C-5	A5U	Mohawk Drive (3)	2,494' East of Castle Gap to Atlas Avenue	1.29	100%	\$ 13,226,000	\$ 13,226,000
	C-6	C4U	Future N/S Collector	Mohawk Drive to Clear Creek Road	0.74	100%	\$ 2,632,000	\$ 2,632,000
	I-13	Intersection	Intersection Improvements	Bunny Trail & Clear Creek Rd.	-	100%	\$ 400,000	\$ 400,000
	I-14	Intersection	Intersection Improvements	Jake Spoon Road & FM 3470 (Stan Schluter Loop)	-	100%	\$ 400,000	\$ 400,000
	I-15	Intersection	Intersection Improvements	SH 195 & Pershing Drive	-	100%	\$ 400,000	\$ 400,000
	I-16	Intersection	Intersection Improvements	SH 201 & John David Drive	-	100%	\$ 400,000	\$ 400,000
	CS-2	Corridor Study	Commercial Corridor Access	Trimmier Rd., WS Young Dr., Lowe's Blvd., Bacon Ranch Rd.	-	12%	\$ 125,000	\$ 15,000
	CS-5	Corridor Study	Clear Creek Rd./SH 201	Watercrest Road to Mohawk Drive	-	100%	\$ 250,000	\$ 250,000
	Service Area Project Cost Subtotal							\$ 33,716,765
	Service Area Intersection Project Cost Subtotal							\$ 1,600,000
	Service Area Corridor Study Project Cost Subtotal							\$ 265,000
	2019 Roadway Impact Fee Cost Per Service Area							\$ 7,778
Total Cost in SERVICE AREA C							\$ 35,589,543	

Notes:

- The planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Killeen.
- The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

E. Service Unit Calculation

The basic service unit for the computation of the City of Killeen's roadway impact fees is the vehicle-mile of travel during the afternoon peak hour. To determine the cost per service unit, it is necessary to project the growth in vehicle-miles of travel for the service area for the ten-year study period.

The growth in vehicle-miles from 2019 to 2029 is based upon projected changes in residential and non-residential growth for the period. In order to determine this growth, baseline estimates of population, basic square feet, service square feet, and retail square feet for 2019 were made, along with projections for each of these demographic statistics through 2029 using known development information provided by the City of Killeen. The Land Use Assumptions (see Table 3.1) detail the growth estimates used for the impact fee determination.

For the purpose of impact fees, all developed and developable land is categorized as either residential or non-residential. For residential land uses, the existing and projected population is converted to dwelling units. The number of dwelling units in each service area is multiplied by a transportation demand factor to compute the vehicle-miles of travel that occur during the afternoon peak hour. This factor computes the average amount of demand caused by the residential land uses in the service area. The transportation demand factor is discussed in more detail below.

For non-residential land uses, the process is similar. The Land Use Assumptions provide the existing and projected amount of building square footages for three (3) categories of non-residential land uses – basic, service, and retail. These categories correspond to an aggregation of other specific land use categories based on the North American Industrial Classification System (NAICS).

Building square footage is the most common independent variable for the estimation of non-residential trips in the Institute of Transportation Engineers' (ITE), *Trip Generation Manual, 10th Edition*. This independent variable is more appropriate than the number of employees because building square footage is tied more closely to trip generation and is known at the time of application for any development or development modification that would require the assessment of an impact fee.

The existing and projected land use assumptions for the dwelling units and the square footage of basic, service, and retail land uses provide the basis for the projected increase in vehicle-

miles of travel. As noted earlier, a transportation demand factor is applied to these values and then summed to calculate the total peak-hour vehicle-miles of demand for each service area.

The transportation demand factors are aggregate rates derived from two sources – the *ITE Trip Generation Manual, 10th Edition*, and the regional Origin-Destination Travel Survey performed by the National Household Travel Survey (NHTS). The *ITE Trip Generation Manual* provides the number of trips that are produced or attracted to the land use for each dwelling unit, square foot of building, or other corresponding unit. For the retail category of land uses, the rate is adjusted to account for the fact that a percentage of retail trips are made by people who would otherwise be traveling past that particular establishment anyway, such as a trip between work and home. These trips are called pass-by trips, and since the travel demand is accounted for in the land use calculations relative to the primary trip, it is necessary to discount the retail rate to avoid double counting trips.

The next component of the transportation demand factor accounts for the length of each trip. The average trip length for each category is based on a trip analysis of Killeen using the Network Analyst Function in ArcGIS 10.2.

The computation of the *transportation demand factor* is detailed in the following equation:

$$TDF = T * (1 - P_b) * L_{\max}$$

where... $L_{\max} = \min(L * OD \text{ or } SA_L)$

Variables:

TDF = Transportation Demand Factor;
 T = Trip Rate (peak hour trips / unit);
 P_b = Pass-By Discount (% of trips);
 L_{max} = Maximum Trip Length (miles);
 L = Average Trip Length (miles);
 OD = Origin-Destination Reduction (50%); and
 SA_L = Max Service Area Trip Length (see Table 3.4).

The adjustment made to the average trip length (L) statistic in the computation of the maximum trip length (L_{max}) is the origin-destination reduction (OD). This adjustment is made because the roadway impact fee is charged to both the origin and destination end of the trip. For example, the impact fee methodology will account for a trip from home to work within the City of Killeen to both residential and non-residential land uses. To avoid counting these trips as both residential and non-residential trips, a 50% origin-destination (OD) reduction factor is applied. Therefore, only half of the trip length is assessed to each land use.

Table 3.4 shows the derivation of the Transportation Demand Factor for the two (2) residential land uses and the three (3) non-residential land uses. The values utilized for all variables shown in the Transportation Demand Factor equation are also shown in the table.

Table 3.4. Transportation Demand Factor Calculations

Variable	Residential, Single Family	Residential, Multi-Family	Basic (General Light Industrial)	Service (General Office)	Retail (Shopping Center)
T	0.99	0.44	0.63	1.15	3.81
P _b	0%	0%	0%	0%	34%
T (with P _b)	0.99	0.44	0.63	1.15	2.51
L (miles)	8.2	8.2	10.02	6.0	6.7
SA _L	6.0	6.0	6.0	6.0	6.0
L _{max} * (miles)	4.10	4.10	5.01	3.0	3.35
TDF	4.06	1.80	3.16	3.45	8.41

The application of the demographic projections and the transportation demand factors are presented in the 10-Year Growth Projections in Table 3.5. This table shows the total vehicle-miles by service area for the years 2019-2029. These estimates and projections lead to the Vehicle Miles of Travel for 2019-2029.

Table 3.5. 10-Year Growth Projections

2019 - 2029 Growth Projections															
SERVICE AREA	RESIDENTIAL VEHICLE-MILES ¹				NON-RESIDENTIAL SQUARE FEET ⁵				TRANS. DEMAND FACTOR ⁶			NON-RESIDENTIAL VEHICLE-MILES ¹⁰			TOTAL VEHICLE MILES ¹¹
	Single Family Units	Trip Rate TDF ²	Multi-Family Units	Trip Rate TDF ³	VEHICLE MILES ⁴	BASIC	SERVICE	RETAIL	BASIC ⁷	SERVICE ⁸	RETAIL ⁹	BASIC	SERVICE	RETAIL	
A	700	0.99	600	0.44	3,922	200,000	500,000	400,000	0.63	1.15	2.51	632	1,725	3,364	5,721
B	4,972	4.06	1,298	1.80	22,523	500,000	1,000,000	900,000	3.16	3.45	8.41	1,580	3,450	7,569	12,599
C	1,400		400		6,404	800,000	800,000	800,000				2,528	2,760	6,728	12,016
Totals	7,072		2,298		32,849	1,500,000	2,300,000	2,100,000				4,740	7,935	17,661	30,336
															63,185

VEHICLE-MILES OF INCREASE (2019-2029)

SERVICE AREA	VEH-MILES
A	9,643
B	35,122
C	18,420

Notes:

- ¹ From City of Killeen, TX Land Use Assumptions for 2019 Impact Fee Study
- ² Transportation Demand Factor for each Service Area (from LUVMET) using Single Family Detached Housing and Apartment land use and Trip Generation Rate
- ³ Transportation Demand Factor for each Service Area (from LUVMET) using Multi-Family Housing (Mid-Rise) land use and Trip Generation Rate
- ⁴ Calculated by multiplying TDF by the number of dwelling units
- ⁵ From City of Killeen, TX Land Use Assumptions for 2019 Impact Fee Study
- ⁶ Trip Generation Rate and Transportation Demand Factors from LUVMET for each land use
- ⁷ 'Basic' corresponds to General Light Industrial land use and Trip Generation Rate
- ⁸ 'Service' corresponds to General Office land use and Trip Generation Rate
- ⁹ 'Retail' corresponds to Shopping Center land use and Trip Generation Rate
- ¹⁰ Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use
- ¹¹ Residential plus non-residential vehicle-mile totals for each Service Area

3.4 IMPACT FEE CALCULATION

A. Maximum Assessable Roadway Impact Fee Per Service Unit

This section presents the maximum assessable roadway impact fee rate calculated for each service area. The maximum assessable roadway impact fee is the sum of the eligible Roadway Impact Fee CIP costs for the service area divided by the growth in travel attributable to new development projected to occur within the 10-year period. A majority of the components of this calculation have been described and presented in previous sections of this report. The purpose of this section is to document the computation for each service area and to demonstrate that the guidelines provided by Chapter 395 of the Texas Local Government Code have been addressed. Table 3.6 illustrates the computation of the maximum assessable impact fee computed for each service area. Each row in the table is numbered to simplify explanation of the calculation.

Line	Title	Description
1	<i>Total Vehicle-Miles of Capacity Added by the Impact Fee CIP</i>	The total number of vehicle-miles added to the service area based on the capacity, length, and number of lanes in each project. (from Appendix A – CIP Service Units of Supply)

Each project identified in the Roadway Impact Fee CIP will add a certain amount of capacity to the City's roadway network based on its length and classification. This line displays the total amount added within the service area.

2	<i>Total Vehicle-Miles of Existing Demand</i>	A measure of the amount of traffic currently using the roadway facilities upon which capacity is being added. (from Appendix A – CIP Service Units of Supply)
---	---	---

3	<i>Net Amount of Vehicle-Miles of Capacity Added</i>	A measurement of the amount of vehicle-miles added by the CIP that will not be utilized by existing demand. (Line 1 – Line 2)
---	--	---

4	<i>Total Cost of the CIP within the Service Area</i>	The total cost of the projects within the service area (from Table 3.3. 10-Year Roadway CIP with Conceptual Level Cost Projections)
---	--	---

This line simply identifies the total cost of all of the projects identified in the service area.

5	<i>Cost of Net Capacity Supplied</i>	The total CIP cost (Line 4) prorated by the ratio of Net Capacity Added (Line 3) to Total Capacity Added (Line 1). [(Line 3 / Line 1) * (Line 4)]
---	--------------------------------------	--

Using the ratio of vehicle-miles added by the Roadway Impact Fee CIP available to serve future growth to the total vehicle-miles added, the total cost of the Roadway Impact Fee CIP is reduced to the amount available for future growth (i.e., excluding existing usage and deficiencies).

6	<i>Cost to Meet Existing Needs and Usage</i>	The difference between the Total Cost of the CIP (Line 4) and the Cost of the Net Capacity supplied (Line 5). (Line 4 – Line 5)
---	--	---

This line is provided for information purposes only – it is to present the portion of the total cost of the Roadway Impact Fee CIP that is required to meet existing demand.

7	<i>Total Vehicle-Miles of New Demand over Ten Years</i>	Based upon the growth projection provided in the Land Use Assumptions (see Chapter 1), an estimate of the number of new vehicle-miles within the service area over the next ten years. (from Table 3.5)
---	---	---

This line presents the amount of growth (in vehicle-miles) projected to occur within each service area over the next ten years.

8	<i>Percent of Capacity Added Attributable to New Growth</i>	The result of dividing Total Vehicle-Miles of New Demand (Line 7) by the Net Amount of Capacity Added (Line 3), limited to 100% (Line 9). This calculation is required by Chapter 395 to ensure capacity added is attributable to new growth.
9	<i>Chapter 395 Check</i>	

In order to ensure that the vehicle-miles added by the Roadway Impact Fee CIP do not exceed the amount needed to accommodate growth beyond the ten-year window, a comparison of the two values is performed. If the amount of vehicle-miles added by the Roadway Impact Fee CIP exceeds the growth projected to occur in the next ten years, the Roadway Impact Fee CIP cost is reduced accordingly.

10	<i>Cost of Capacity Added Attributable to New Growth</i>	The result of multiplying the Cost of Net Capacity Added (Line 5) by the Percent of Capacity Added Attributable to New Growth, limited to 100% (Line 9).
----	--	--

B. Plan for Awarding the Roadway Impact Fee Credit

Chapter 395 of the Texas Local Government Code requires the Capital Improvement Plan for Roadway Impact Fees to contain specific enumeration of a plan for awarding the impact fee credit. Section 395.014 of the Code states:

“(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 improvement plan; or
- B. In the alternative, a credit equal to 50 percent of the total projected cost of implementing the Roadway Impact Fee Capital Improvement Program...”

The following table summarizes the portions of Table 3.6 that utilize this credit calculation, based on awarding a 50 percent credit.

Line	Title	Description
11	<i>Cost of Capacity Added Attributable to Growth and Financing</i>	Found by multiplying Cost of Capacity Added Attributable to New Growth (Line 10) by 22% in order to determine the Financing Cost, and then adding the Financing Cost to the Cost of Capacity Added Attributable to New Growth (Line 10). $((\text{Line } 10 * 22\%)) + (\text{Line } 10))$
12	<i>Cost of Capacity Added Attributable to Growth with Financing and Credit for Ad Valorem Taxes</i>	A credit equal to 50% of the total projected cost, as per Section 395.014 of the Texas Local Government Code.
13	<i>Maximum Assessable Fee Per Service Unit</i>	Found by dividing the Recoverable Cost of the CIP attributable to growth (Line 12) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 7). $(\text{Line } 12 / \text{Line } 7)$

Table 3.6. Maximum Assessable Roadway Impact Fee

SERVICE AREA:		A	B	C
1	TOTAL VEH-MI OF CAPACITY ADDED BY THE CIP (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, APPENDIX A)	2,045	8,916	2,263
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, APPENDIX A)	1,550	7,514	907
3	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2)	495	1,402	1,356
4	TOTAL COST OF THE CIP WITHIN SERVICE AREA (FROM TABLE 3.3)	\$ 12,420,139	\$ 46,566,179	\$ 35,589,543
5	COST OF NET CAPACITY SUPPLIED (LINE 3 / LINE 1) * (LINE 4)	\$ 3,006,342	\$ 7,322,318	\$ 21,325,418
6	COST TO MEET EXISTING NEEDS AND USAGE (LINE 4 - LINE 5)	\$ 9,413,797	\$ 39,243,861	\$ 14,264,125
7	TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (FROM TABLE 3.5 and Land Use Assumptions)	9,643	35,122	18,420
8	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 7 / LINE 3)	1948.0%	2505.1%	1358.4%
9	IF LINE 7 > LINE 3, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE	100.0%	100.0%	100.0%
10	COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 5 * LINE 9)	\$ 3,006,342	\$ 7,322,318	\$ 21,325,418
11	COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH AND FINANCING (22%) (LINE 10 * 22%) + LINE 10)	\$ 3,667,737	\$ 8,933,228	\$ 26,017,010
12	COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH WITH FINANCING (LINE 11) AND CREDIT FOR AD VALOREM TAXES (50% OF LINE 11)	\$ 1,833,869	\$ 4,466,614	\$ 13,008,505
13	MAXIMUM ASSESSABLE FEE PER SERVICE UNIT (\$ PER VEH-MI) (LINE 12 / LINE 7)	\$ 190	\$ 127	\$ 706

C. Service Unit Demand Per Unit of Development

The roadway impact fee is determined by multiplying the impact fee rate by the number of service units projected for the proposed development. For this purpose, the City utilizes the Land Use/Vehicle-Mile Equivalency Table (LUVMET), presented in Table 3.7. This table lists the predominant land uses that may occur within the City of Killeen. For each land use, the development unit that defines the development's magnitude with respect to transportation demand is shown. Although every possible use cannot be anticipated, the majority of uses are

found in this table. If the exact use is not listed, one similar in trip-making characteristics can serve as a reasonable proxy. The individual land uses are grouped into categories, such as residential, office, commercial, industrial, and institutional.

The trip rates presented for each land use are a fundamental component of the LUVMET. The trip rate is the average number of trips generated during the afternoon peak hour by each land use per development unit. The next column, if applicable to the land use, presents the number of trips to and from certain land uses reduced by pass-by trips, as previously discussed.

The source of the trip generation and pass-by statistics is the *ITE Trip Generation Manual, 10th Edition*, the latest edition for trip generation data. This manual utilizes trip generation studies for a variety of land uses throughout the United States and is the standard used by traffic engineers and transportation planners for traffic impact analysis, site design, and transportation planning.

To convert vehicle trips to vehicle-miles, it is necessary to multiply trips by trip length. The adjusted trip length values are based on a trip analysis of Killeen using the Network Analyst Function in ArcGIS 10.2. The other adjustment to trip length is the 50% origin-destination reduction to avoid double counting of trips. At this stage, another important aspect of the state law is applied – the limit on transportation service unit demand. If the adjusted trip length is above the maximum trip length allowed within the service area, the maximum trip length used for calculation is reduced to the corresponding value. This reduction, as discussed previously, limits the maximum trip length to the approximate size of the service areas.

The remaining column in the LUVMET shows the vehicle-miles per development unit. This number is the product of the trip rate and the maximum trip length. This number, previously referred to as the Transportation Demand Factor, is used in the impact fee estimate to compute the number of service units consumed by each land use application. The number of service units is multiplied by the impact fee rate (established by City ordinance) in order to determine the impact fee for a development.

Table 3.7. Land Use / Vehicle-Mile Equivalency Table (LUVMET)

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev-Unit
PORT AND TERMINAL											
Intermodal Truck Terminal	030	1,000 SF GFA	1.87	0%	0	1.87	10.02	50%	5.01	5.01	9.37
INDUSTRIAL											
General Light Industrial	110	1,000 SF GFA	0.63	0%	0	0.63	10.02	50%	5.01	5.01	3.16
Industrial Park	130	1,000 SF GFA	0.40	0%	0	0.40	10.02	50%	5.01	5.01	2.00
Manufacturing	140	1,000 SF GFA	0.67	0%	0	0.67	10.02	50%	5.01	5.01	3.36
Warehousing	150	1,000 SF GFA	0.19	0%	0	0.19	10.02	50%	5.01	5.01	0.95
Mini-Warehouse	151	1,000 SF GFA	0.17	0%	0	0.17	10.02	50%	5.01	5.01	0.85
RESIDENTIAL											
Single-Family Detached Housing	210	Dwelling Unit	0.99	0%	0	0.99	8.20	50%	4.10	4.10	4.06
Multi-Family Housing (Low-Rise)	220	Dwelling Unit	0.56	0%	0	0.56	8.20	50%	4.10	4.10	2.30
Multi-Family Housing (Mid-Rise)	221	Dwelling Unit	0.44	0%	0	0.44	8.20	50%	4.10	4.10	1.80
Mobile Home	240	Dwelling Unit	0.46	0%	0	0.46	8.20	50%	4.10	4.10	1.89
Assisted Living	254	1,000 SF GFA	0.48	0%	0	0.48	8.20	50%	4.10	4.10	1.97
LODGING											
Hotel	310	Room	0.60	0%	0	0.60	6.70	50%	3.35	3.35	2.01
Motel / Other Lodging Facilities	320	Room	0.38	0%	0	0.38	6.70	50%	3.35	3.35	1.27
RECREATIONAL											
Multipurpose Recreational Facility	435	1,000 SF GFA	3.58	0%	0	3.58	6.43	50%	3.22	3.22	11.53
Bowling Alley	437	1,000 SF GFA	1.16	0%	0	1.16	6.43	50%	3.22	3.22	3.74
Adult Cabaret	440	1,000 SF GFA	2.93	0%	0	2.93	6.43	50%	3.22	3.22	9.43
Ice Skating Rink	465	1,000 SF GFA	1.33	0%	0	1.33	6.43	50%	3.22	3.22	4.28
Health/Fitness Club	492	1,000 SF GFA	3.45	0%	0	3.45	6.43	50%	3.22	3.22	11.11
Athletic Club	493	1,000 SF GFA	6.29	0%	0	6.29	6.43	50%	3.22	3.22	20.25
Recreational Community Center	495	1,000 SF GFA	2.31	0%	0	2.31	6.43	50%	3.22	3.22	7.44
INSTITUTIONAL											
Elementary School	520	1,000 SF GFA	1.37	0%	0	1.37	6.00	50%	3.00	3.00	4.11
Middle School/Junior High School	522	1,000 SF GFA	1.19	0%	0	1.19	6.00	50%	3.00	3.00	3.57
High School	530	1,000 SF GFA	0.97	0%	0	0.97	6.00	50%	3.00	3.00	2.91
Private School (K-8)	534	1,000 SF GFA	6.53	0%	0	6.53	6.00	50%	3.00	3.00	19.59
Junior / Community College	540	1,000 SF GFA	1.86	0%	0	1.86	6.00	50%	3.00	3.00	5.58
Church	560	1,000 SF GFA	0.49	0%	0	0.49	4.02	50%	2.01	2.01	0.98
Mosque	562	1,000 SF GFA	4.22	0%	0	4.22	4.02	50%	2.01	2.01	8.48
Day Care Center	565	1,000 SF GFA	11.12	44%	B	6.23	6.00	50%	3.00	3.00	18.69
Museum	580	1,000 SF GFA	0.18	0%	0	0.18	6.00	50%	3.00	3.00	0.54
MEDICAL											
Nursing Home	620	1,000 SF GFA	0.59	0%	0	0.59	6.00	50%	3.00	3.00	1.77
Clinic	630	1,000 SF GFA	3.28	0%	0	3.28	6.00	50%	3.00	3.00	9.84
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	3.53	30%	B	2.47	6.00	50%	3.00	3.00	7.41
OFFICE											
General Office Building	710	1,000 SF GFA	1.15	0%	0	1.15	6.00	50%	3.00	3.00	3.45
Corporate Headquarters Building	714	1,000 SF GFA	1.40	0%	0	1.40	6.00	50%	3.00	3.00	4.20
Single Tenant Office Building	715	1,000 SF GFA	1.71	0%	0	1.71	6.00	50%	3.00	3.00	5.13
Medical-Dental Office Building	720	1,000 SF GFA	3.46	0%	0	3.46	6.00	50%	3.00	3.00	10.38
Office Park	750	1,000 SF GFA	1.33	0%	0	1.33	6.00	50%	3.00	3.00	3.99

Table 3.7. Land Use / Vehicle-Mile Equivalency Table (LUVMET) (Continued)

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev-Unit
COMMERCIAL											
Automobile Related											
New and Used Car Sales	841	1,000 SF GFA	3.75	20%	B	3.00	6.43	50%	3.22	3.22	9.66
Recreational Vehicle Sales	842	1,000 SF GFA	0.77	0%	0	0.77	6.43	50%	3.22	3.22	2.48
Automobile Parts Sales	843	1,000 SF GFA	4.91	43%	A	2.80	6.43	50%	3.22	3.22	9.02
Tire Store	848	1,000 SF GFA	3.98	28%	A	2.87	6.43	50%	3.22	3.22	9.24
Tire Superstore	849	1,000 SF GFA	2.11	28%	B	1.52	6.43	50%	3.22	3.22	4.89
Quick Lubrication Vehicle Shop	941	1,000 SF GFA	8.70	40%	B	5.22	6.43	50%	3.22	3.22	16.81
Automobile Care Center	942	1,000 SF GFA	3.11	40%	B	1.87	6.43	50%	3.22	3.22	6.02
Automobile Parts & Service Center	943	1,000 SF GFA	2.26	40%	B	1.36	6.43	50%	3.22	3.22	4.38
Self-Service Car Wash	947	Stall	5.54	40%	B	3.32	1.20	50%	0.60	0.60	1.99
Automated Car Wash	948	1,000 SF GFA	14.20	40%	B	8.52	1.20	50%	0.60	0.60	5.11
Dining											
Drinking Place	925	1,000 SF GFA	11.36	43%	B	6.48	4.79	50%	2.40	2.40	15.55
Sit Down Restaurant	931	1,000 SF GFA	7.80	44%	A	4.37	4.79	50%	2.40	2.40	10.49
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	9.77	43%	A	5.57	4.79	50%	2.40	2.40	13.37
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	28.34	50%	B	14.17	4.79	50%	2.40	2.40	34.01
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	32.67	50%	A	16.34	4.79	50%	2.40	2.40	39.22
Coffee/Donut Shop without Drive-through Window	936	1,000 SF GFA	36.31	89%	B	3.99	4.79	50%	2.40	2.40	9.58
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	43.38	89%	B	4.77	4.79	50%	2.40	2.40	11.45
Other Retail											
Construction Equipment Rental Store	811	1,000 SF GFA	0.99	0%	0	0.99	6.70	50%	3.35	3.35	3.32
Building Materials and Lumber Store	812	1,000 SF GFA	2.06	0%	0	2.06	6.70	50%	3.35	3.35	6.90
Free-Standing Discount Superstore	813	1,000 SF GFA	4.33	29%	B	3.07	6.70	50%	3.35	3.35	10.28
Variety Store	814	1,000 SF GFA	6.84	34%	A	4.51	6.70	50%	3.35	3.35	15.11
Free-Standing Retail Store	815	1,000 SF GFA	4.83	30%	C	3.38	6.70	50%	3.35	3.35	11.32
Hardware/Paint Store	816	1,000 SF GFA	2.68	26%	A	1.98	6.70	50%	3.35	3.35	6.63
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	6.70	50%	3.35	3.35	16.28
Shopping Center	820	1,000 SF GLA	3.81	34%	A	2.51	6.70	50%	3.35	3.35	8.41
Supermarket	850	1,000 SF GFA	9.24	36%	A	5.91	6.70	50%	3.35	3.35	19.80
Convenience Market (Open 24 Hours)	851	1,000 SF GFA	49.11	51%	A	24.06	6.70	50%	3.35	3.35	80.60
Convenience Market w/ Gasoline Pumps	853	1,000 SF GFA	49.29	66%	A	16.76	6.70	50%	3.35	3.35	56.15
Discount Supermarket	854	1,000 SF GFA	8.38	21%	A	6.62	6.70	50%	3.35	3.35	22.18
Home Improvement Superstore	862	1,000 SF GFA	2.33	42%	A	1.35	6.70	50%	3.35	3.35	4.52
Office Supply Superstore	867	1,000 SF GFA	2.77	0%	0	2.77	6.70	50%	3.35	3.35	9.28
Discount Home Furnishing Superstore	869	1,000 SF GFA	1.57	0%	0	1.57	6.70	50%	3.35	3.35	5.26
Department Store	875	1,000 SF GFA	1.95	30%	B	1.37	6.70	50%	3.35	3.35	4.59
Apparel Store	876	1,000 SF GFA	4.12	0%	0	4.12	6.70	50%	3.35	3.35	13.80
Pharmacy/Drugstore w/o Drive-through window	880	1,000 SF GFA	8.51	53%	A	4.00	6.70	50%	3.35	3.35	13.40
Pharmacy/Drugstore w/ Drive-through window	881	1,000 SF GFA	10.29	49%	A	5.25	6.70	50%	3.35	3.35	17.59
Furniture Store	890	1,000 SF GFA	0.52	53%	A	0.24	6.70	50%	3.35	3.35	0.80
SERVICES											
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	3.39	50%	1.70	1.70	12.38
Drive-In Bank	912	1,000 SF GFA	20.45	38%	B	12.68	3.39	50%	1.70	1.70	21.56
Hair Salon	918	1,000 SF GFA	1.45	30%	B	1.02	3.39	50%	1.70	1.70	1.73

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 2nd Edition (June 2004)

B: Estimated by Kimley-Horn based on ITE rates for similar categories

C: ITE rate adjusted upward by KHA based on logical relationship to other categories

3.5 SAMPLE CALCULATIONS

The following section details two (2) examples of maximum assessable roadway impact fee calculations.

Example 1:

- Development Type - One (1) Unit of Single-Family Housing

Roadway Impact Fee Calculation Steps – Example 1	
Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 3.7 [Land Use – Vehicle Mile Equivalency Table]</i> Development Type: 1 Dwelling Unit of Single-Family Detached Housing Number of Development Units: 1 Dwelling Unit Veh-Mi Per Development Unit: 4.06
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit
	<i>From Table 3.6, Line 13 [Maximum Assessable Fee Per Service Unit]</i> Maximum Fee for City of Killeen (Service Area C): \$706 / vehicle-mile
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 1 * 4.06 * \$706 Maximum Assessable Impact Fee = \$2,866.36

Example 2:

- Development Type – 3,500 sq. ft. High Turnover Sit-Down Restaurant

Roadway Impact Fee Calculation Steps – Example 2	
Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 3.7 [Land Use – Vehicle Mile Equivalency Table]</i> Development Type: 3,500 square foot High Turnover Sit-Down Restaurant Development Unit: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 13.37
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit
	<i>From Table 3.6 Line 13 [Maximum Assessable Fee Per Service Unit]</i> Maximum Fee for City of Killeen (Service Area A): \$190 / vehicle-mile
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 3.5 * 13.37 * \$190 Maximum Assessable Impact Fee = \$8,891.05

3.6 CONCLUSION

The City of Killeen has established a process to implement the assessment and collection of roadway impact fees through the adoption of an impact fee ordinance that is consistent with Chapter 395 of the Texas Local Government Code.

This report establishes the maximum allowable roadway impact fee that could be assessed by the City of Killeen.

SERVICE AREA:	A	B	C
MAX ASSESSABLE FEE PER SERVICE UNIT	\$190	\$127	\$706

This document serves as a guide to the assessment of roadway impact fees pertaining to future development and the City's need for roadway improvements to accommodate that growth. Following the public hearing process, the City Council may establish an amount to be assessed (if any) up to the maximum established within this report to create a Roadway Impact Fee Ordinance accordingly.

In conclusion, it is our opinion that the data and methodology used in this Roadway Impact Fee analysis are appropriate and consistent with Chapter 395 of the Texas Local Government Code. Furthermore, the Land Use Assumptions and the proposed Capital Improvement Plan are appropriately incorporated into the process.

APPENDIX A: CIP SERVICE UNITS OF SUPPLY

DRAFT

City of Killeen - 2019 Roadway Impact Fee

CIP Service Units of Supply

Service Area A

8/16/2019

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	PROJECT COST IN SERVICE AREA
A-1	S.H. 195 (1)	Avenue E (FM 439) to Business 190	0.18	6	Overpass (A4U)	3,465	100%	700	762	629	133	\$ 4,000,000.00	\$ 4,000,000
A-2, C-1	Jasper Drive (A)	Florence Road to US 190	0.08	4	Overpass (A8U)	1,703	50%	950	159	143	16	\$ 4,925,630.00	\$ 2,462,815
A-3	W.S. Young Drive	US 190 to Illinois Avenue	0.30	5	A4D	2,597	100%	750	1124	778	346	\$ 4,889,546.00	\$ 4,889,546
I-1	Intersection Improvements	Illinois Avenue & Becker Drive					100%					\$ 400,000.00	\$ 400,000
I-2	Intersection Improvements	US 190 & Rosewood Drive					50%					\$ 400,000.00	\$ 200,000
CS-1	Rancier Avenue	Fort Hood Entrance					100%					\$ 225,000.00	\$ 225,000
CS-2	Commercial Corridor Access	Trimmer Rd., WS Young Dr., Lowe's Blvd., Bacon Ranch Rd.					8%					\$ 125,000.00	\$ 10,000
CS-3	One-Way Street Conversion	Downtown Killeen (Conversion of downtown streets from 2-way streets to one-way)					100%					\$ 225,000.00	\$ 225,000
SUBTOTAL									2,045	1,550	495		\$ 12,412,361
2019 Roadway Impact Fee Cost Per Service Area													\$ 7,778
TOTAL COST IN SERVICE AREA A													\$12,420,139

City of Killeen - 2015 Roadway Impact Fee

CIP Service Units of Supply

Service Area B

8/16/2019

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	PROJECT COST IN SERVICE AREA
B-1	Cunningham Road (1)	US Hwy 190 to Little Nolan Road	0.57	0	C3U	New	100%	550	0	0	0	\$ 3,517,808.00	\$ 3,517,808
B-2	Cunningham Road (2)	Little Nolan Road to Stan Schlueter Loop (FM 3470)	0.70	2	C3U	220	100%	550	765	153	612	\$ 4,299,542.00	\$ 4,299,542
B-3	Trimmier Road	Stagecoach Road to Chaparral Road	1.89	2	A5U	1,210	100%	650	2455	2285	170	\$ 6,873,825.00	\$ 6,873,825
B-4	Featherline Drive	Stagecoach Road to City Limit	1.34	2	A5U	1,368	100%	650	1746	1837	-91	\$ 7,886,382.00	\$ 7,886,382
B-5	E. Trimmier Road (1)	Stagecoach Road to City Limit	1.13	2	A5U	1,090	100%	650	1469	1232	237	\$ 3,749,140.00	\$ 3,749,140
B-6	E. Trimmier Road (2)	City Limit to Chaparral Road	0.69	2	A5U	660	50%	650	446	452	-6	\$ 2,297,860.00	\$ 1,148,930
B-7	Chaparral Road (1)	SH 195 to Trimmier Road	1.30	2	A4D	478	50%	750	976	622	354	\$ 4,830,000.00	\$ 2,415,000
B-8	Chaparral Road (2)	Trimmier Road to Featherline Drive	0.83	0	A4D	New	50%	750	0	0	0	\$ 2,990,000.00	\$ 1,495,000
B-9	Chaparral Road (3)	East Trimmier Road to 325' West of Money Pit Road	0.47	2	A4D	660	50%	750	353	311	42	\$ 1,610,000.00	\$ 805,000
B-10	Chaparral Road (4)	325' West of Money Pit Road to 700' East of Rosewood Drive	0.94	2	A4D	660	50%	750	706	622	84	\$ 3,450,000.00	\$ 1,725,000
B-11	Rosewood Drive	Chaparral Road to Serpentine Drive	0.83	0	A5U	New	100%	650	0	0	0	\$ 8,567,774.27	\$ 8,567,774
I-2	Intersection Improvements	US 190 & Rosewood Drive					50%					\$ 400,000.00	\$ 200,000
I-3	Intersection Improvements	Stagecoach Rd. & W.S. Young Dr.					100%					\$ 400,000.00	\$ 400,000
I-4	Intersection Improvements	Stagecoach Rd. & Featherline Rd.					100%					\$ 400,000.00	\$ 400,000
I-5	Intersection Improvements	Stagecoach Rd. & Cunningham Rd.					100%					\$ 400,000.00	\$ 400,000
I-6	Intersection Improvements	Stagecoach Rd. & East Trimmier Rd.					100%					\$ 400,000.00	\$ 400,000
I-7	Intersection Improvements	FM 3470 (Stan Schlueter Loop) & Mesa Drive					100%					\$ 400,000.00	\$ 400,000
I-8	Intersection Improvements	FM 3470 (Stan Schlueter Loop) & Onion Road					100%					\$ 400,000.00	\$ 400,000
I-9	Intersection Improvements	WS Young Drive & Bacon Ranch Road					100%					\$ 400,000.00	\$ 400,000
I-10	Intersection Improvements	SH 195 & Chaparral Road					100%					\$ 400,000.00	\$ 400,000
I-11	Intersection Improvements	Trimmier Road & Chaparral Road					50%					\$ 400,000.00	\$ 200,000
I-12	Intersection Improvements	Featherline Road & Chaparral Road					50%					\$ 400,000.00	\$ 200,000
CS-2	Commercial Corridor Access	Trimmier Rd., WS Young Dr., Lowe's Blvd., Bacon Ranch Rd.					80%					\$ 125,000.00	\$ 100,000
CS-4	SH 195 South	Clear Creek Dr. (SH 201) to FM 2484					100%					\$ 175,000.00	\$ 175,000
SUBTOTAL									8,916	7,514	1,402		\$ 46,558,401
2019 Roadway Impact Fee Cost Per Service Area												\$ 7,778	
TOTAL COST IN SERVICE AREA B												\$ 46,566,179	

City of Killeen - 2015 Roadway Impact Fee

CIP Service Units of Supply

Service Area C

8/16/2019

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	PROJECT COST IN SERVICE AREA
A-2, C-1	Jasper Drive (C)	Florence Road to US 190	0.08	4	Overpass (A8U)	1,703	50%	950	159	143	16	\$ 4,925,630.00	\$ 2,462,815
C-2	Florence Road	Jasper Drive to Elms Road	1.22	3	CSU	626	100%	575	2,104	764	1340	\$ 6,292,450.00	\$ 6,292,450
C-3	Mohawk Drive (1)	Bunny Trail to Castle Gap	0.64	0	ASU	New	100%	650	0	0	0	\$ 6,771,000.00	\$ 6,771,000
C-4	Mohawk Drive (2)	Castle Gap to 2,494' East of Castle Gap	0.47	0	ASU	New	50%	650	0	0	0	\$ 4,665,000.00	\$ 2,332,500
C-5	Mohawk Drive (3)	2,494 East of Castle Gap to Atlas Avenue	1.29	0	ASU	New	100%	650	0	0	0	\$ 13,226,000.00	\$ 13,226,000
C-6	Future N/S Collector	Mohawk Drive to Clear Creek Road	0.74	0	C4U	New	100%	500	0	0	0	\$ 2,632,000.00	\$ 2,632,000
I-13	Intersection Improvements	Bunny Trail & Clear Creek Rd.					100%					\$ 400,000.00	\$ 400,000
I-14	Intersection Improvements	Jake Spoon Road & FM 3470 (Stan Schlueter Loop)					100%					\$ 400,000.00	\$ 400,000
I-15	Intersection Improvements	SH 195 & Pershing Drive					100%					\$ 400,000.00	\$ 400,000
I-16	Intersection Improvements	SH 201 & John David Drive					100%					\$ 400,000.00	\$ 400,000
CS-2	Commercial Corridor Access	Trimmier Rd., WS Young Dr., Lowe's Blvd., Bacon Ranch Rd.					12%					\$ 125,000.00	\$ 15,000
CS-5	Clear Creek Rd./SH 201	Watercrest Road to Mohawk Drive					100%					\$ 250,000.00	\$ 250,000
SUBTOTAL									2,263	907	1,356		\$ 35,581,765
2019 Roadway Impact Fee Cost Per Service Area													\$ 7,778
TOTAL COST IN SERVICE AREA C													\$ 35,589,543

APPENDIX B: MOHAWK DRIVE/FUTURE N/S COLLECTOR COSTING METHODOLOGY

DRAFT

City of Killeen
2019 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 8/16/2019

Project Information:		Description:	Project No.	C-3
Name:	Mohawk Drive (1)	This project consists of the construction of a new 5 lane undivided Minor Arterial.		
Limits:	Bunny Trail to Castle Gap			
Impact Fee Class:	A5U			
Ultimate Class:	Minor Arterial			
Length (lf):	3371			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	14,249	cy	\$ 8.00	\$ 113,990
207	HMAC Pvmt, Type D (1.5" Comp. Depth)	27,717	sy	\$ 67.00	\$ 1,857,046
307	Flexible Base (Complete In Place)	7,678	cy	\$ 35.00	\$ 268,744
407	Lime Treated Subgrade (6" Compacted Depth)	27,717	sy	\$ 2.10	\$ 58,206
507	One Course Surface Treatment	29,215	sy	\$ 3.50	\$ 102,254
607	6" Topsoil	9,738	sy	\$ 1.50	\$ 14,608
707	Hydromulching	87,646	sf	\$ 0.50	\$ 43,823
807	Machine Laid Curb	6,742	lf	\$ 12.00	\$ 80,904
907	Concrete Sidewalk	3,746	sy	\$ 38.00	\$ 142,331
1007	Pavement Markings	20,226	lf	\$ 0.80	\$ 16,181
Paving Construction Cost Subtotal:					\$ 2,414,847
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
Traffic Control		None Anticipated	0%	\$ -	
✓	Roadway Drainage	Standard Internal System	25%	\$ 603,712	
✓	Illumination		6%	\$ 144,891	
✓	Special Drainage Structures	Minor Stream Crossing		\$ 250,000	
✓	Water	Minor Adjustments	3%	\$ 72,445	
✓	Sewer	Minor Adjustments	2%	\$ 48,297	
✓	Basic Landscaping and Irrigation		4%	\$ 96,594	
Miscellaneous:			\$0	\$ -	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 1,215,939	
Paving and Allowance Subtotal:				\$	3,630,786
Construction Contingency:				15%	\$ 544,618
Mobilization				8%	\$ 290,463
Prep ROW				3%	\$ 108,924
Construction Cost TOTAL:				\$	4,575,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,575,000
Engineering/Survey/Testing:		18%	\$ 823,500
Previous City contribution			
Other			
ROW/Easement Acquisition:		30%	\$ 1,372,500
Impact Fee Project Cost TOTAL:			\$ 6,771,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Killeen

The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

City of Killeen
2019 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 8/16/2019

Project Information:		Description:	Project No.	C-4
Name:	Mohawk Drive (2)	This project consists of the construction of a new 5 lane undivided Minor Arterial.		
Limits:	Castle Gap to 2,494' East of Castle Gap			
Impact Fee Class:	A5U			
Ultimate Class:	Minor Arterial			
Length (lf):	2494			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	10,542	cy	\$ 8.00	\$ 84,334
207	HMAC Pvmt, Type D (1.5" Comp. Depth)	20,506	sy	\$ 67.00	\$ 1,373,917
307	Flexible Base (Complete In Place)	5,681	cy	\$ 35.00	\$ 198,827
407	Lime Treated Subgrade (6" Compacted Depth)	20,506	sy	\$ 2.10	\$ 43,063
507	One Course Surface Treatment	21,615	sy	\$ 3.50	\$ 75,651
607	6" Topsoil	7,205	sy	\$ 1.50	\$ 10,807
707	Hydromulching	64,844	sf	\$ 0.50	\$ 32,422
807	Machine Laid Curb	4,988	lf	\$ 12.00	\$ 59,856
907	Concrete Sidewalk	2,771	sy	\$ 38.00	\$ 105,302
1007	Pavement Markings	14,964	lf	\$ 0.80	\$ 11,971
Paving Construction Cost Subtotal:					\$ 1,786,600
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Roadway Drainage	Standard Internal System	25%	\$	446,650
✓	Illumination		6%	\$	107,196
✓	Special Drainage Structures	None Anticipated			
✓	Water	Minor Adjustments	3%	\$	53,598
✓	Sewer	Minor Adjustments	2%	\$	35,732
✓	Basic Landscaping and Irrigation		4%	\$	71,464
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 714,640	
Paving and Allowance Subtotal:				\$	2,501,240
Construction Contingency:				15%	\$ 375,186
Mobilization				8%	\$ 200,099
Prep ROW				3%	\$ 75,037
Construction Cost TOTAL:				\$	3,152,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,152,000
Engineering/Survey/Testing:		18%	\$ 567,360
Previous City contribution			
Other			
ROW/Easement Acquisition:		30%	\$ 945,600
Impact Fee Project Cost TOTAL:			\$ 4,665,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Killeen

The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

City of Killeen
2019 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 8/16/2019

Project Information:		Description:	Project No.	C-5
Name:	Mohawk Drive (3)	This project consists of the construction of a new 5 lane undivided Minor Arterial.		
Limits:	2,494 East of Castle Gap to Atlas Avenue			
Impact Fee Class:	A5U			
Ultimate Class:	Minor Arterial			
Length (lf):	6822			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	28,836	cy	\$ 8.00	\$ 230,685
207	HMAC Pvmt, Type D (1.5" Comp. Depth)	56,092	sy	\$ 67.00	\$ 3,758,164
307	Flexible Base (Complete In Place)	15,539	cy	\$ 35.00	\$ 543,865
407	Lime Treated Subgrade (6" Compacted Depth)	56,092	sy	\$ 2.10	\$ 117,793
507	One Course Surface Treatment	59,124	sy	\$ 3.50	\$ 206,934
607	6" Topsoil	19,708	sy	\$ 1.50	\$ 29,562
707	Hydromulching	177,372	sf	\$ 0.50	\$ 88,686
807	Machine Laid Curb	13,644	lf	\$ 12.00	\$ 163,728
907	Concrete Sidewalk	7,580	sy	\$ 38.00	\$ 288,040
1007	Pavement Markings	40,932	lf	\$ 0.80	\$ 32,746
Paving Construction Cost Subtotal:					\$ 4,887,003
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
Traffic Control		None Anticipated	0%	\$ -	
✓	Roadway Drainage	Standard Internal System	25%	\$ 1,221,751	
✓	Illumination		6%	\$ 293,220	
✓	Special Drainage Structures	Minor Stream Crossing		\$ 250,000	
✓	Water	Minor Adjustments	3%	\$ 146,610	
✓	Sewer	Minor Adjustments	2%	\$ 97,740	
✓	Basic Landscaping and Irrigation		4%	\$ 195,480	
Miscellaneous:			\$0	\$ -	
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 2,204,801	
Paving and Allowance Subtotal:				\$ 7,091,804	
Construction Contingency:				15%	\$ 1,063,771
Mobilization				8%	\$ 567,344
Prep ROW				3%	\$ 212,754
Construction Cost TOTAL:				\$ 8,936,000	

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 8,936,000
Engineering/Survey/Testing:		18%	\$ 1,608,480
Previous City contribution			
Other			
ROW/Easement Acquisition:		30%	\$ 2,680,800
Impact Fee Project Cost TOTAL:			\$ 13,226,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Killeen

The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

City of Killeen
2019 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 8/16/2019

Project Information:		Description:	Project No.	C-6
Name:	Future N/S Collector	This project consists of the construction of a new 4 lane undivided Commercial Collector.		
Limits:	Mohawk Drive to Clear Creek Road			
Impact Fee Class:	C4U			
Ultimate Class:	Commercial Collector			
Length (lf):	3912			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	10,160	cy	\$ 9.00	\$ 91,443
205	HMAC Pvmt, Type D (1.5" Comp. Depth)	20,864	sy	\$ 28.00	\$ 584,192
305	Flexible Base (Complete In Place)	5,433	cy	\$ 35.00	\$ 190,167
405	Lime Treated Subgrade (6" Compacted Depth)	26,080	sy	\$ 2.10	\$ 54,768
505	One Course Surface Treatment	19,995	sy	\$ 3.50	\$ 69,981
605	6" Topsoil	11,301	sy	\$ 1.50	\$ 16,952
705	Hydromulching	101,712	sf	\$ 0.50	\$ 50,856
805	Machine Laid Curb	7,824	lf	\$ 12.00	\$ 93,888
905	Concrete Sidewalk	4,347	sy	\$ 38.00	\$ 165,173
1005	Pavement Markings	15,648	lf	\$ 0.80	\$ 12,518
Paving Construction Cost Subtotal:					\$ 1,007,503
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Roadway Drainage	Standard Internal System	25%	\$	251,876
✓	Illumination		6%	\$	60,450
✓	Special Drainage Structures	None Anticipated			
✓	Water	Minor Adjustments	3%	\$	30,225
✓	Sewer	Minor Adjustments	2%	\$	20,150
✓	Basic Landscaping and Irrigation		4%	\$	40,300
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$ 403,001	
				Paving and Allowance Subtotal:	\$ 1,410,504
				Construction Contingency:	15% \$ 211,576
				Mobilization	8% \$ 112,840
				Prep ROW	3% \$ 42,315
				Construction Cost TOTAL:	\$ 1,778,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,778,000
Engineering/Survey/Testing:		18%	\$ 320,040
Previous City contribution			
Other			
ROW/Easement Acquisition:		30%	\$ 533,400
Impact Fee Project Cost TOTAL:			\$ 2,632,000

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Killeen

The planning level cost projections shall not supersede the City's design standards contained or the determination of the City Engineer for a specific project.

CHAPTER 4 – TEXAS LOCAL GOVERNMENT CODE CHAPTER 395

DRAFT

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.

DRAFT