

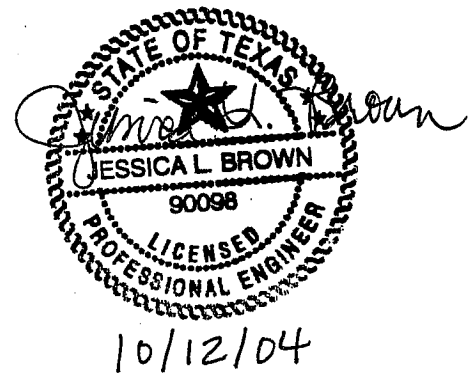
# Impact Fee Capital Improvement Plan – Water & Wastewater

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October 2004

Prepared for  
City of Hurst

HRT04153



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## **1.0 Executive Summary**

### **1.1 General Background**

Texas Local Government Code Section 395 requires an impact fee analysis before impact fees are set. Section 395 requires that land use assumptions and capital improvement plans be updated at least every five years. The City of Hurst initially implemented impact fees in 1990 and last performed an impact fee analysis in 1999.

The purpose of this report is to address the methodology used in the development and calculation of water and wastewater impact fees for the City of Hurst. The methodology used herein satisfies the requirements of the Texas Local Government Code Section 395 for the establishment of water and wastewater impact fees. The statutory authority for Impact Fees was established by the Texas Legislature in 1987 with the passage of Senate Bill 336 (SB 336) and is currently codified in chapter 395, of the Texas Local Government Code as a means to allow Cities to reduce the impact growth has on its existing customer base and to allow a mechanism to place some of the burden of this growth to future new development. In September 2001, SB 336 was replaced by Senate Bill 243 (SB 243) which contained several changes to the original bill. The changes in this bill include the following:

- Increased the time period that the impact fee and land use assumptions must be updated from 3 to 5 years.
- Service area structure for roadway facilities was based on 6 mile areas.
- City's share of the costs on the federal or Texas highway system, including matching funds, utility line relocations, right-of-way acquisition, curb and gutter, sidewalks and drainage structures can be included
- A credit must be provided for: the portion of the utility service revenues generated by development during the program period that is used for payment of improvements, including the payment of debt, that are included in the capital

improvements plan, or a credit equal to 50% of the total projected cost of implementing the capital improvements program.

- Consolidation of the land use assumptions and capital improvements plan public hearings
- Changes in compliance requirements as they relate to annual reporting

Chapter 395 also identifies the items that impact fees can be used to pay for. They are:

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

The fee can not be used to pay for:

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

In March 2004, the City of Hurst, Texas, authorized Freese and Nichols, Inc. (FNI) to perform an impact fee analysis on the City's water and wastewater system. The impact fee analysis follows the general set of procedures in Subchapter B of Chapter 395, Authorization of Impact Fee.

The impact fee analysis involves determining the utilization of existing and proposed projects required as defined by the capital improvement plan to serve new development over the next 10-year time period. Once the utilization of a project by 2004-2014 development is determined, a portion of a project's cost can be assigned as impact fees.

For existing or proposed projects, the impact fee is calculated as a percentage of the project cost, based upon the percentage of the project's capacity needed to serve development projected to occur between 2004 and 2014. Capacity serving existing development and development projected for more than 10 years in the future cannot be charged to impact fees.

Chapter 395 of the Texas Local Government Code states that the maximum impact fee may not exceed the amount determined by dividing the cost of capital improvements needed by the total number of service units attributed to new development during the Impact Fee eligibility period less a credit to account for water and wastewater revenues and property taxes used to finance capital improvement plans.

The City of Hurst also pays impact fees to the City of Fort Worth as a wholesale customer of Fort Worth. The City of Fort Worth's updated impact fee schedule will go into effect August 16, 2004 and is included in the impact fees collected by the City of Hurst. Fort Worth's impact fee schedule is included in Appendix A.

## 1.2 Maximum Allowable Water Impact Fee

The cost of water capital improvements to serve development projected to occur between 2004 and 2014 is \$ 1,024,588. The increase in the number of service units due to growth over the next ten years is projected as 1,023 service units. The maximum allowable water impact fee with the credit is \$515 per service unit. The maximum allowable water impact fee calculation is summarized as follows:

Proposed Capital Improvement Costs	\$1,042,770
<b>Total Capital Improvement Costs</b>	<b>\$1,042,770</b>
Financing Costs	\$149,468
Impact Fee Study	\$9,953
<b>Total Eligible Costs</b>	<b>\$1,202,191</b>
<b>Total 10-year Projected Growth in Service Units</b>	<b>1,023</b>
<b>Base Maximum Calculated Water Impact Fee Per Service Unit Without Credit Analysis</b>	<b>\$1,175</b>
<b>Water Impact Fee Credit (50%)</b>	<b>\$588</b>
<b>Base Maximum Calculated Water Impact Fee Per Service Unit With Credit</b>	<b><u>\$587</u></b>
<b>Water Impact Fee Paid by Hurst to Fort Worth</b>	<b><u>\$644</u></b>

### 1.3 Maximum Allowable Wastewater Impact Fee

The cost of wastewater system capital improvements to serve development projected to occur between 2004 and 2014 is \$1,740,066. The increase in the number of service units due to growth over the next ten years is projected as 1,023 service units. The maximum allowable wastewater impact fee is \$856 per service unit. The maximum allowable wastewater impact fee calculation is summarized as follows:

Proposed Capital Improvement Costs	\$1,740,066
<b>Total Capital Improvement Costs</b>	<b>\$1,740,066</b>
Financing Costs	\$361,218
Impact Fee Study	\$9,953
<b>Total Eligible Costs</b>	<b>\$2,111,237</b>
<b>Total 10-year Projected Growth in Service Units</b>	<b>1,023</b>
<b>Base Maximum Calculated Wastewater Impact Fee Per Service Unit Without Credit</b>	<b>\$2,064</b>
<b>Wastewater Impact Fee Credit (50%)</b>	<b>\$1,032</b>
<b>Base Maximum Calculated Wastewater Impact Fee Per Service Unit With Credit</b>	<b><u>\$1,032</u></b>
<b>Wastewater Impact Fee Paid by Hurst to Fort Worth</b>	<b><u>\$276</u></b>

## **2.0 Land Use Assumptions**

### **2.1 Purpose**

Chapter 395 of the Texas Local Government Code describes the process by which cities in Texas must formulate the development of impact fees. To assist the City of Hurst in determining the need and timing of capital improvements to serve future development, a reasonable estimation of future growth is required. For the purposes of determining an impact fee structure, growth and development projections were formulated based on assumptions pertaining to the type, location, quantity, and time of various future land uses in the community. The purpose of this section of the report is to establish and document the methodology used for preparing the growth and land use assumptions for the City of Hurst. These land use assumptions, which include population projections, will become the basis for the preparation of an impact fee for capital improvement plans for water and wastewater facilities.

### **2.2 Elements of the Land Use Assumptions**

This section contains:

1. Explanation of the general methodology used to prepare the land use assumptions
2. Base Year Data – Information on population and land use for the City of Hurst as of January 2004
3. Future 10-Year Data - Information on population and land use for the City of Hurst in the year 2014
4. Buildout Data - Information on population and land use for buildout of the City of Hurst
5. Land Use Maps – Maps of land use for years 2004 and 2014 of the City of Hurst

### **2.3 Methodology**

The Land Use Assumptions and future growth projections take into account several factors influencing development patterns, including:

1. The character, type, density, and quantity of existing development
2. Existing zoning patterns
3. Current growth trends in the City
4. Location and configuration of vacant land
5. Availability of land for residential growth

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

#### 2.4 Base Data (Year 2004)

In any evaluation and projection of future land use patterns, a documentation of existing conditions is essential. A documentation of existing land use patterns and population was made from staff input. This documentation will serve as a base line for future growth. **Table 2.1** indicates a summary of existing land uses and populations for the City of Hurst.

Table 2.1 2004 Land Use, Population and Employment			
Land Use	Acreage	Population	Employment
Commercial	882		
Residential	2872		
Multi-family	296		
Parks	271		
School/Church/Institutional	326		
Industrial	185		
Total Developed Acres	4,832	37,088	20,998

## 2.5 Growth Assumptions

The growth was characterized based on population. A series of assumptions were made to arrive at a reasonable growth rate. The following assumptions have been made as a basis from which ten-year projections could be initiated.

1. Future land uses will occur as identified by current development patterns and city staff.
2. The City will be able to finance the necessary improvements to accommodate growth.
3. School facilities will accommodate increases in population.

## 2.6 10-Year Projections (Year 2014)

The 10-year projections or land use assumptions are based upon previous and current growth rates. Since 1970, the growth rate of the City of Hurst has decreased as the City approaches buildout as indicated in **Table 2.2**.

Table 2.2 Historical Population Data		
Year	Population	Average Annual Growth Rate
1970	27,215	
1980	31,420	1.55%
1990	33,574	0.69%
2000	36,273	0.80%
2002*	36,550	0.38%
2003*	36,750	0.55%
2004	37,088	0.92%

\*Estimated population from NCTCOG

As the City of Hurst approaches buildout, the growth rate will tend to slow. For the 10-year population projections an average yearly growth rate of 0.3% was determined to be a reasonable rate at which Hurst can be expected to grow. This rate was determined from

recent residential development projects and the amount of land available for residential development. The projected 10-year population and land use are shown in **Table 2.3**.

Table 2.3 2014 Land Use and Population			
Land Use	Acreage	Population	Employment
Commercial	1,068		
Residential	2,949		
Multi-family	299		
Parks	271		
School/Church/Institutional	334		
Industrial	227		
<b>Total Developed Acres</b>	<b>5,152</b>	<b>38,276</b>	<b>23,414</b>

## 2.7 Ultimate Projections (Past Year 2014)

Ultimate or buildout projections were established based upon the land area of Hurst, conversations with City staff and development patterns. The future land use table is shown in **Table 2.4**. The total developed acres do not account for right-of-way.

Table 2.4 Buildout Land Use and Population			
Land Use	Acreage	Population	Employment
Commercial	1,068		
Residential	2,949		
Multi-family	303		
Parks	271		
School/Church/Institutional	334		
Industrial	227		
<b>Total Developed Acres</b>	<b>5,152</b>	<b>39,637</b>	<b>26,156</b>

## 2.8 Land Use Maps

Land use maps are provided on the following pages. These land use maps contain land uses for the following categories:

Undeveloped Land  
Commercial  
Residential  
Multi-Family  
Parks  
School/Church/Institutional  
Industrial

**Figure 2.1** illustrates land uses for the year 2004. **Figure 2.2** illustrates land uses for the year 2014.

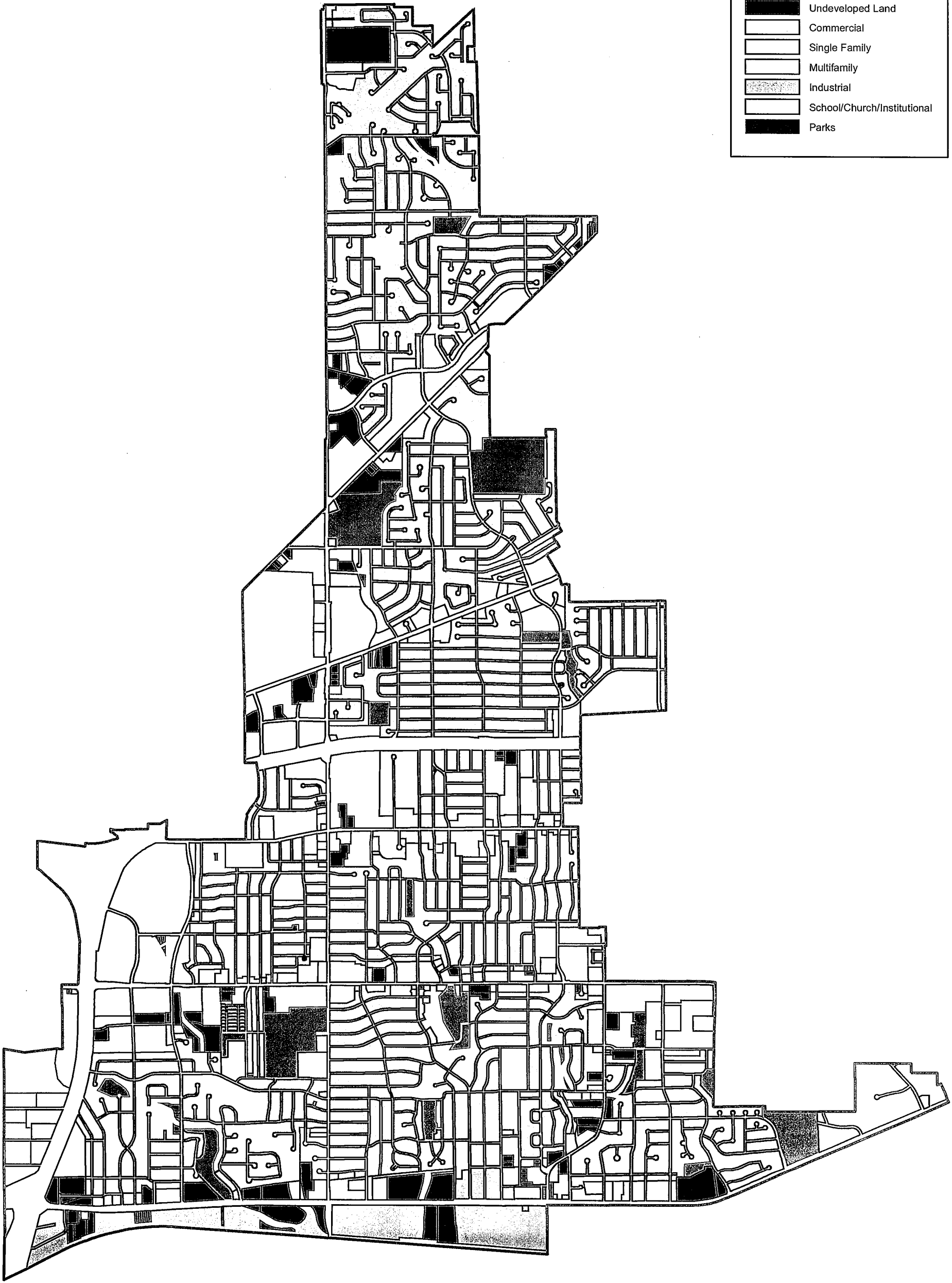
## 2.9 Summary

- Existing estimated population of Hurst in the year 2004 is 37,088 persons, and existing estimated employment of Hurst in 2004 is 20,998.
- An average annual growth rate of 0.3% was used to calculate the City of Hurst's 10-year growth projections.
- The 10-year population projection for the year 2014 in the City of Hurst is 38,276 persons, and the 10-year employment projection for 2014 in Hurst is 23,414.
- Buildout will occur past the year 2014. The buildout population for the City of Hurst is 39,637, and the buildout employment is 26,156.

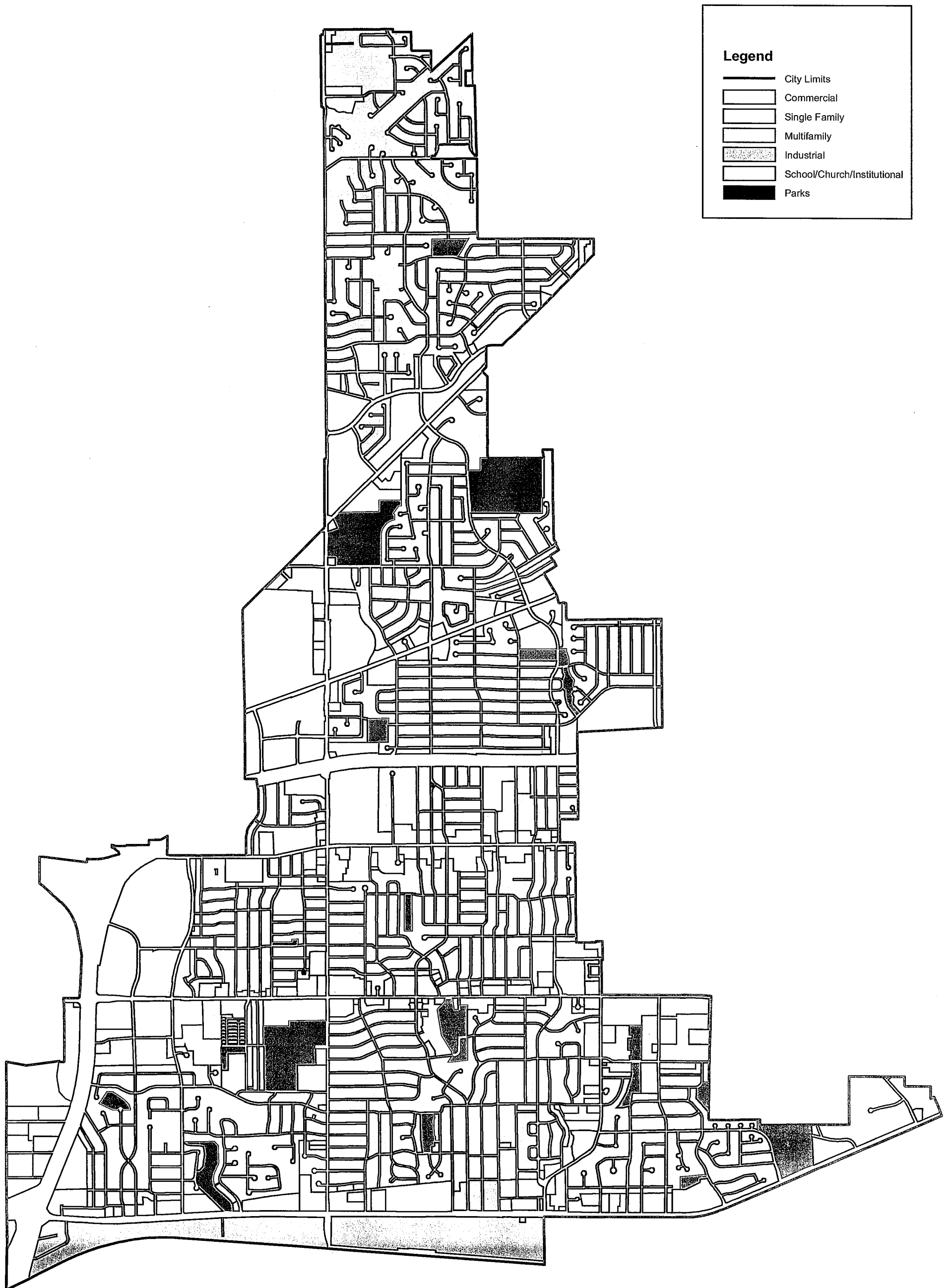
**FIGURE 2.1**  
**2004 LAND USE**  
**CITY OF HURST**

**Legend**

- City Limits
- Undeveloped Land
- Commercial
- Single Family
- Multifamily
- ▨ Industrial
- School/Church/Institutional
- Parks



**FIGURE 2.2**  
**2014 LAND USE**  
**CITY OF HURST**



### **3.0 Water and Wastewater Impact Fee Analysis**

Water and wastewater impact fees are based on the capital costs a city incurs to provide the water distribution system and wastewater system to serve development in the next ten years and the service units added during the same time period. The impact fee analysis for the water distribution and wastewater system is based on the capital improvement plans developed in this report.

#### **3.1 Populations**

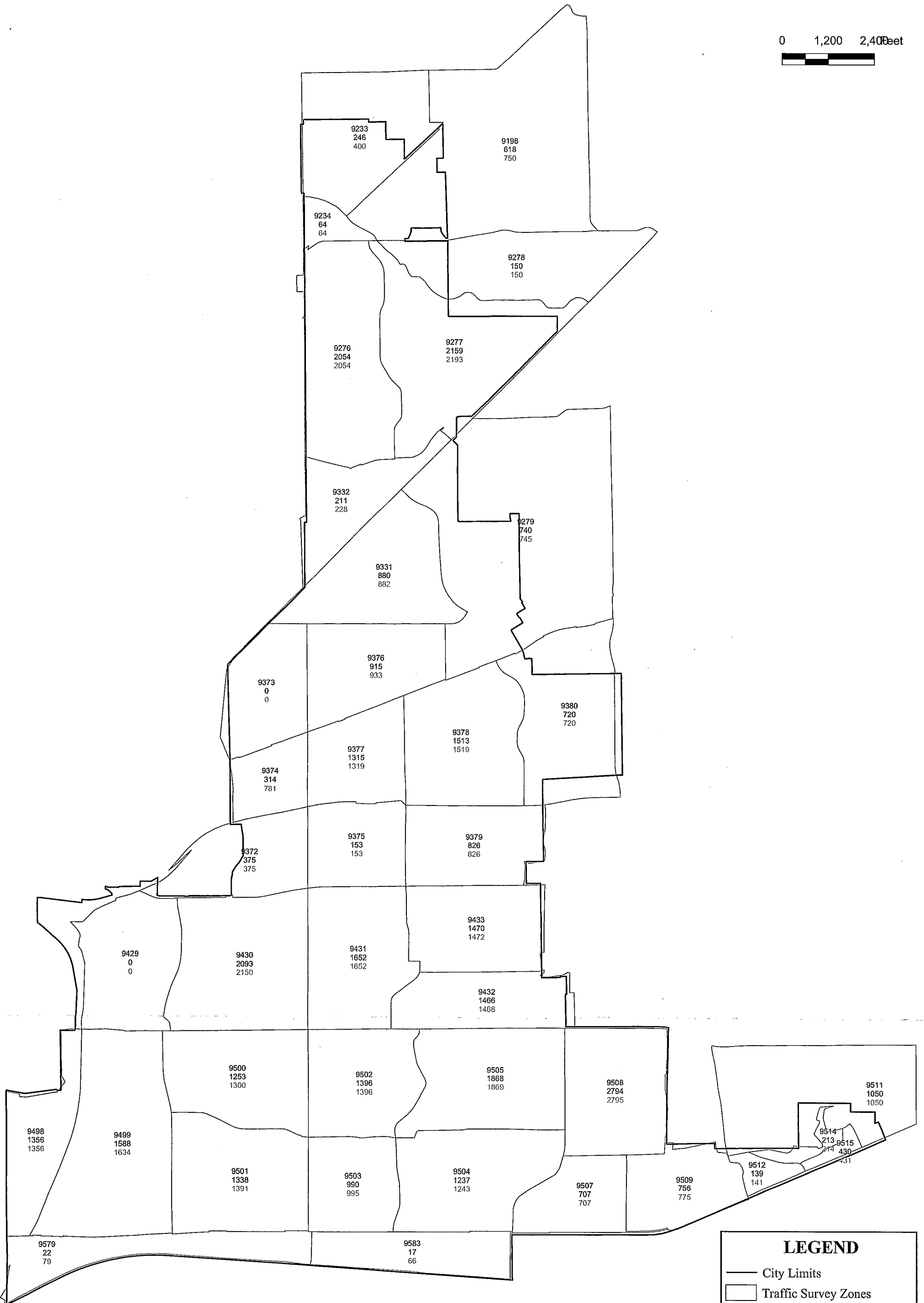
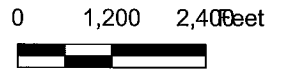
Population and employment projections were prepared using land use data from the City and NCTCOG population and employment data. The City of Hurst total population in 2004 is projected as 37,088; the population in 2014 is projected as 38,276. The 10-year population growth is projected to be 1,188. The City of Hurst total employment for 2004 is projected as 20,998; the employment in 2014 is projected as 23,414. The 10-year employment growth is projected to be 2,416. The land use assumptions were broken down into Traffic Survey Zones (TSZs) as shown in **Figure 3.1**. These populations were used to establish water demands and wastewater flows, which are used to size proposed water and wastewater system improvements. The employment numbers used for planning are shown in **Figure 3.2**.

#### **3.2 Water Demands**

The population data along with the Capital Improvements Plan developed future water demands based on a projected average day per capita use and peaking factors. The average day, maximum day, and peak hour water demands for 2004 and 2014 were projected using the information developed by this document. These water demands are shown in **Table 3.1**.

# FIGURE 3.1 WATER AND WASTEWATER PLANNING AREAS AND PROPOSED POPULATION GROWTH CITY OF HURST

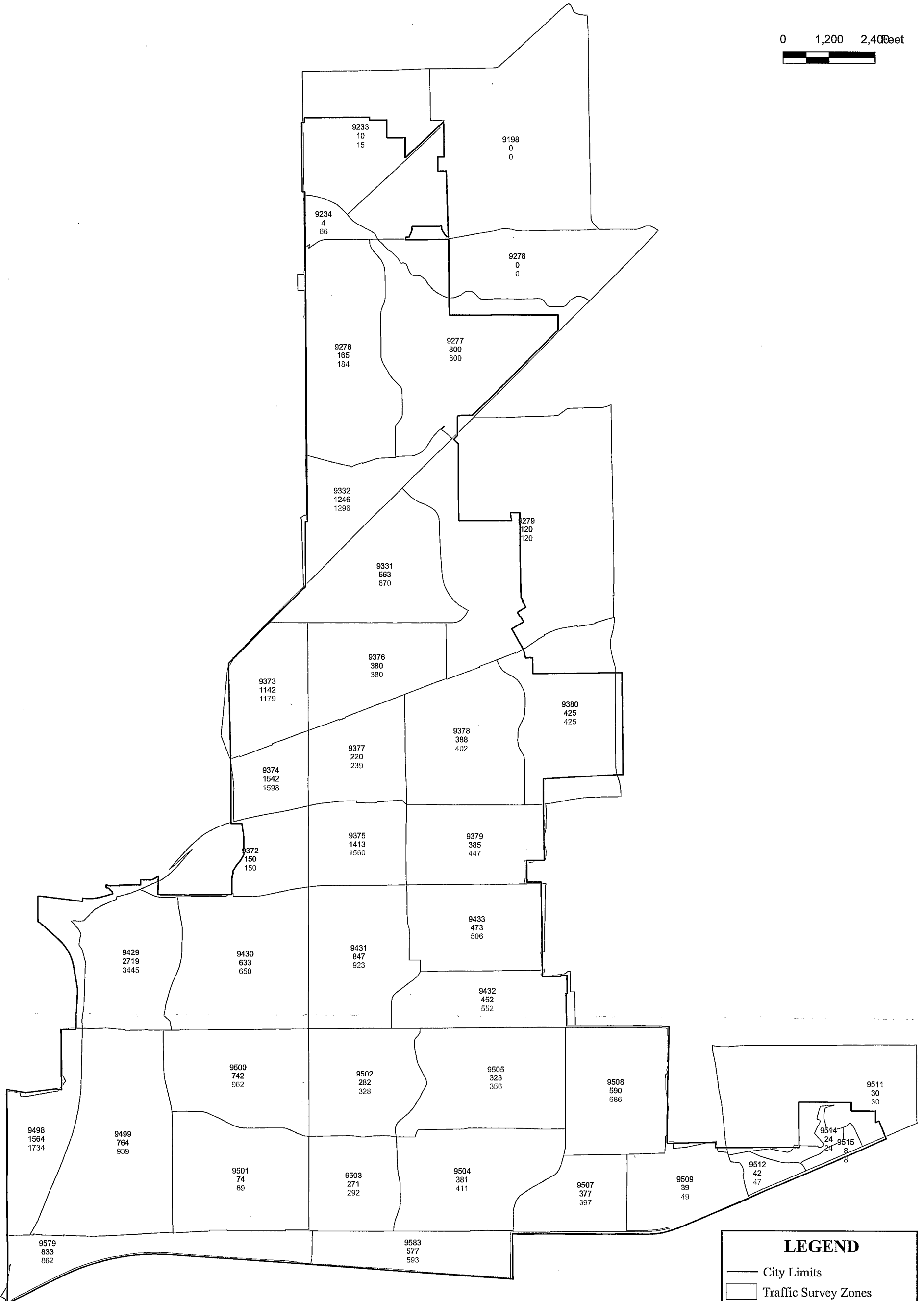
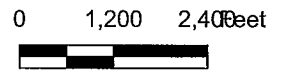
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**LEGEND**

- City Limits
- Traffic Survey Zones
- 1000 Traffic Survey Zone Number
- 1000 2004 Population
- 1000 2014 Population

# FIGURE 3.2 WATER AND WASTEWATER PLANNING AREAS AND PROPOSED EMPLOYMENT GROWTH CITY OF HURST



**LEGEND**

- City Limits
- Traffic Survey Zones
- 1000 Traffic Survey Zone Number
- 1000 2004 Employment
- 1000 2014 Employment

Table 3.1 Projected Water Demands				
Year	Population	Total Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
2004	37,088	6.30	11.97	17.96
2014	38,276	6.51	12.37	18.56

### 3.3 Wastewater Flows

The Capital Improvements Plan developed future wastewater flows based on historical data, projected average day per capita wastewater production and peaking factors for dry and wet weather flows. Peaking factors for peak dry weather and peak wet weather flows were taken from the *Phase I Sanitary Sewer System Study* by the RJN Group, Inc. The projected wastewater flows for 2004 and 2014 are shown in **Table 3.2**.

Table 3.2 Projected Wastewater Flows				
Year	Population	Avg. Day Dry Weather Flows (mgd)	Peak Dry Weather Flows (mgd)	Peak Wet Weather Flows (mgd)
2004	37,088	4.45	8.90	20.03
2014	38,276	4.59	9.18	20.66

### 3.4 Water and Wastewater System Capital Improvements

Proposed water system projects were developed as part of the Capital Improvement Plan created in this document. A detailed description of the costs for each of the various projects needed for the 10-year growth period used in the impact fee analysis for both the water and wastewater systems are shown in **Tables 3.3** and **3.4** respectively. These proposed water system Capital Improvement Projects are shown on **Plate 1**. Proposed wastewater projects are shown on **Plate 2**.

Table 3.3  
Existing and Planned Improvements for the Water Distribution System, 2004-2014 with Estimated Costs  
City of Hurst

No.	Description of Project	Estimated Cost
<b>Existing Projects</b>		
5	1,030 feet of 8" along east side of Precinct Line Road, TCJC Elevated Tank to Cannon	\$57,634
8	609 feet of 8" along east side of Precinct Line Road, 3700 feet north of North Precinct Water tank to north city limits	\$28,770
9	1,050 feet of 12" along south side of Harwood, Lorean Branch to east of Cimarron	\$47,250
16	1,915 feet of 8" along Glade Road, Little Bear Creek to east city limits	\$87,324
18	2,050 feet of 12" along new Bluebonnet Road, Parkview to SH 10	\$112,750
20a	588 feet of 12" along Bear Creek Drive from Railroad south to Whitney Way	\$32,458
21	1,650 feet of 8" along Glade Road, Whitney Way to existing Glade Road	\$75,240
22	721 feet of 6" in Reagan Estates	\$32,878
23	2,690 feet of 12" along east side of Precinct Line Road, north of Railroad	\$148,488
24	Pump Station Number 4 Improvements	\$260,000
26	1,080 linear feet 8" water in Hurst Town Center	\$55,300
<b>Proposed Projects</b>		
1	1,550 feet of 12" along north side of SH 26, Precinct Line Road to 250 feet west of Bentrige, with widening of SH 26	\$122,760
2	3,000 feet of 12" along south side of SH 121, Hurstview to Norwood	\$237,600
3	2,560 feet of 12" along east side of IH 820, from Redbud to Hurst Toyota, and 400 feet of 12" crossing IH 820	\$202,752
4	580 feet of 8" along east side of SH 26, northeast of Antwerp	\$30,624
10	1,100 feet of 8" along east side of Booth-Calloway, north of Valencia to north property line of Fisher Addition	\$58,080
13	800 feet of 8" along east side of Precinct Line, SH 110 to south city limits	\$42,240
14	1,250 feet of 12" along east side of Precinct Line road, Bedford-Eules south to north property line of Tract 17	\$99,000
15	800 feet of 8" along north side of Airport Freeway Frontage Road, east side of Precinct Line to west property line to City Hall complex	\$42,240
20b	2,800 feet of 12" along Bear Creek from Railroad west to Precinct Line Road	\$221,760
28	650 feet of 8" on east side of Harrison Lane from Charlene Drive south to Holloway Drive	\$34,320
29	700 feet of 8" on north side of Henson drive from Billy Creek Circle east to Englewood Lane	\$36,960
30	1,930 feet of 12" along Melbourne Road from Barber Street north to Bedford-Eules Road	\$152,856
32	1,750 feet of 12" on east side of Precinct Line Road from Cedar Street north to Joanna Drive	\$138,600
33	Upsize 2,100 feet of 8" to 12" on Pipeline Road from Mary Drive to 200-feet west of Norwood	\$55,440
34	230 feet of 8" on Sheri Lane from Reed Street to Keith Drive	\$12,144
36	1,100 feet of 12" on the north side of Pipeline Road from Brown Trail east to Bellaire Drive	\$87,120
37	530 feet of 12" on Bellaire Drive from Pipeline Road south	\$41,976
38	Upsize 2,900 feet of 8" to 12" on north side of SH 10, from Melbourne west to Booth Road	\$76,560
	One-half of Consultant Fee for Current Impact Fee Study	\$9,953
	<b>TOTAL</b>	<b>\$2,641,077</b>

\*Projects provided by the City of Hurst.

Table 3.4  
Existing and Planned Improvements for the Wastewater Collection System, 2004-2014 with Estimated Costs  
City of Hurst

No.	Description of Project	Estimated Cost
<b>Existing Projects</b>		
Lorean Branch Interceptor		
8B	SH 121/183 to Smith-Barfield Park: 90 feet of 18"; 865 feet of 21"	\$140,844
10A	Hurst Town Center Extension: 750 feet of 8"	\$35,500
Little Bear Creek Area		
12B	To Glade Rd. from Precinct Line Rd. to 500 ft east and in Precinct Line Rd. to 550 ft south Glade Rd.: 1,050 ft of 8"	\$53,500
<b>Proposed Projects</b>		
Valley View Interceptor		
1	North of SH 10 to Redbud: 676 feet of 18", 800 feet of 21", 685 feet of 24", and 698 feet of 27"	\$678,522
2	Redbud to Pleasantview: 8,403 feet of 18" and 1,298 feet of 24"	\$1,926,207
3	Pleasantview to Louella: 1,752 feet of 18"	\$333,020
Lorean Branch Interceptor		
6	Sheri Lane to Hurstview: 622 feet of 27"	\$177,345
7	North of Bedford-Eules Road: 1,690 feet of 21"	\$374,774
8A	Smith-Barfield Park to Harwood: 1,639 feet of 18"	\$311,541
9	North side of SH 10, Arthur to Anderson: 2,120 feet of 10"	\$139,920
10	North side of SH 10, Precinct Line Road to 1,600 feet west: 1,600 feet of 10"	\$105,600
Walker Branch Interceptor		
11A	Along Walker Branch, 450' north of SH 10 to south City limits: Upsize 570 feet of 8" with 12", 700' of 10" with 20" & 450' of 8" & 10" with 20"	\$127,908
11B	Along Walker Branch: Upsize 400' of 10" with 12"	\$5,280
Little Bear Creek Area		
12A	Southside of Glade Road, Little Bear Creek to east city limits: 1,200 feet of 8"	\$63,360
13	700 feet of 8" along north side of W. Bedford-Eules Rd from 836 W. Bedford-Eules Rd to east side of Precinct Line Rd and north 430 feet north: 1,130 feet of 8"	\$59,664
14	310 feet of 8" on west side of Precinct Line Road from 313 Precinct to north side of Cullum and 60 feet of 8" on Cullum: 370 feet of 8"	\$19,536
	One-half of Consultant Fee for Current Impact Fee Study	\$9,953
	<b>TOTAL</b>	<b>\$4,562,475</b>

\*Projects are from the City of Hurst.

Table 3.5  
Existing and Planned Improvements for the Water Distribution System, 2004-2014  
Cost Allocation for Water Impact Fee Calculations

No.	Description of Project	Percent Utilization			Estimated Cost	Costs Based on 2004 Prices		
		2004	2014	2004-2014		Current Development	10-Year (2004-2014)	Beyond 2014
<b>Existing Projects</b>								
5	1,030 feet of 8" along east side of Precinct Line Road, TCJC Elevated Tank to Cannon	30%	50%	20%	\$57,634	\$17,290	\$11,527	\$28,817
8	609 feet of 8" along east side of Precinct Line Road, 3700 feet north of North Precinct Water tank to north city limits	45%	100%	55%	\$28,770	\$12,947	\$15,824	\$0
9	1,050 feet of 12" along south side of Harwood, Lorean Branch to east of Cimarron	60%	100%	40%	\$47,250	\$28,350	\$18,900	\$0
16	1,915 feet of 8" along Glade Road, Little Bear Creek to east city limits	50%	100%	50%	\$87,324	\$43,662	\$43,662	\$0
18	2,050 feet of 12" along new Bluebonnet Road, Parkview to SH 10	75%	100%	25%	\$112,750	\$84,563	\$28,188	\$0
20a	588 feet of 12" along Bear Creek Drive from Railroad south to Whitney Way	50%	100%	50%	\$32,458	\$16,229	\$16,229	\$0
21	1,650 feet of 8" along Glade Road, Whitney Way to existing Glade Road	50%	100%	50%	\$75,240	\$37,620	\$37,620	\$0
22	721 feet of 6" in Reagan Estates	45%	100%	55%	\$32,878	\$14,795	\$18,083	\$0
23	2,690 feet of 12" along east side of Precinct Line Road, north of Railroad	25%	70%	45%	\$148,488	\$37,122	\$66,820	\$44,546
24	Pump Station Number 4 Improvements	25%	50%	25%	\$260,000	\$65,000	\$65,000	\$130,000
26	1,080 linear feet 8" water in Hurst Town Center	10%	85%	75%	\$55,300	\$5,530	\$41,475	\$8,295
<b>Proposed Projects</b>								
1	1,550 feet of 12" along north side of SH 26, Precinct Line Road to 250 feet west of Bentrige, with widening of SH 26	0%	45%	45%	\$122,760	\$0	\$55,242	\$67,518
2	3,000 feet of 12" along south side of SH 121, Hurstview to Norwood	0%	35%	35%	\$237,600	\$0	\$83,160	\$154,440
3	2,560 feet of 12" along east side of IH 820, from Redbud to Hurst Toyota, and 400 feet of 12" crossing IH 820	0%	35%	35%	\$202,752	\$0	\$70,963	\$131,789
4	580 feet of 8" along east side of SH 26, northeast of Antwerp	0%	55%	55%	\$30,624	\$0	\$16,843	\$13,781
10	1,100 feet of 8" along east side of Booth-Calloway, north of Valencia to north property line of Fisher Addition	0%	25%	25%	\$58,080	\$0	\$14,520	\$43,560
13	800 feet of 8" along east side of Precinct Line, SH 110 to south city limits	0%	30%	30%	\$42,240	\$0	\$12,672	\$29,568
14	1,250 feet of 12" along east side of Precinct Line road, Bedford-Euleess south to north property line of Tract 17	0%	40%	40%	\$99,000	\$0	\$39,600	\$59,400
15	800 feet of 8" along north side of Airport Freeway Frontage Road, east side of Precinct Line to west property line to City Hall complex	0%	75%	75%	\$42,240	\$0	\$31,680	\$10,560
20b	2,800 feet of 12" along Bear Creek from Railroad west to Precinct Line Road	0%	55%	55%	\$221,760	\$0	\$121,968	\$99,792
28	650 feet of 8" on east side of Harrison Lane from Charlene Drive south to Holloway Drive	0%	30%	30%	\$34,320	\$0	\$10,296	\$24,024
29	700 feet of 8" on north side of Henson drive from Billy Creek Circle east to Englewood Lane	0%	35%	35%	\$36,960	\$0	\$12,936	\$24,024
30	1,930 feet of 12" along Melbourne Road from Barber Street north to Bedford-Euleess Road	0%	40%	40%	\$152,856	\$0	\$61,142	\$91,714
32	1,750 feet of 12" on east side of Precinct Line Road from Cedar Street north to Joanna Drive	0%	35%	35%	\$138,600	\$0	\$48,510	\$90,090
33	Upsize 2,100 feet of 8" to 12" on Pipeline Road from Mary Drive to 200-foot west of Norwood**	0%	30%	30%	\$55,440	\$0	\$16,632	\$38,808
34	230 feet of 8" on Sheri Lane from Reed Street to Keith Drive	0%	30%	30%	\$12,144	\$0	\$3,643	\$8,501
36	1,100 feet of 12" on the north side of Pipeline Road from Brown Trail east to Bellaire Drive	0%	35%	35%	\$87,120	\$0	\$30,492	\$56,628
37	530 feet of 12" on Bellaire Drive from Pipeline Road south	0%	35%	35%	\$41,976	\$0	\$14,692	\$27,284
38	Upsize 2,900 feet of 8" to 12" on north side of SH 10, from Melbourne west to Booth Road**	0%	45%	45%	\$76,560	\$0	\$34,452	\$42,108
<b>TOTAL</b>					<b>\$2,631,124</b>	<b>\$363,107</b>	<b>\$1,042,770</b>	<b>\$1,225,247</b>
One-half of Consultant Fee for Current Impact Fee Study		0%	100%	100%	\$9,953	\$0	\$9,953	\$0

\*Projects provided by the City of Hurst.

\*\*Cost shown is upsizing cost only.

Table 3.6  
Existing and Planned Improvements for the Wastewater Collection System, 2004-2014  
Cost Allocation for Wastewater Impact Fee Calculations

No.	Description of Project	Percent Utilization			Estimated Cost	Costs Based on 2004 Prices					
		2004	2014	2004-2014		Current Development	10-Year (2004-2014)	Beyond 2014			
<b>Existing Projects</b>											
<b>Lorean Branch Interceptor</b>											
8B	SH 121/183 to Smith-Barfield Park: 90 feet of 18"; 865 feet of 21"	40%	80%	40%	\$140,844	\$56,338	\$56,338	\$28,169			
10B	Hurst Town Center Extension: 750 feet of 8"	10%	75%	65%	\$35,500	\$3,550	\$23,075	\$8,875			
<b>Little Bear Creek Area</b>											
12B	To Glade Rd. from Precinct Line Rd. to 500 ft east and in Precinct Line Rd. to 550 ft south Glade Rd.: 1,050 ft of 8"	10%	45%	35%	\$53,500	\$5,350	\$18,725	\$29,425			
<b>Proposed Projects</b>											
<b>Valley View Interceptor</b>											
1	North of SH 10 to Redbud: 676 of 18", 800 feet of 21", 685 feet of 24", and 698 feet of 27"	35%	75%	40%	\$678,522	\$237,483	\$271,409	\$169,631			
2	Redbud to Pleasantview: 8,403 feet of 18" and 1,298 feet of 24"	35%	70%	35%	\$1,926,207	\$674,173	\$674,173	\$577,862			
3	Pleasantview to Louella: 1,752 feet of 18"	50%	80%	30%	\$333,020	\$166,510	\$99,906	\$66,604			
<b>Lorean Branch Interceptor</b>											
6	Sheri Lane to Hurstview: 622 feet of 27"	35%	80%	45%	\$177,345	\$62,071	\$79,805	\$35,469			
7	North of Bedford-Eules Road: 1,690 feet of 21"	35%	80%	45%	\$374,774	\$131,171	\$168,648	\$74,955			
8A	Smith-Barfield Park to Harwood: 1,639 feet of 18"	40%	80%	40%	\$311,541	\$124,616	\$124,616	\$62,308			
9	North side of SH 10, Arthur to Anderson: 2,120 feet of 10"	0%	35%	35%	\$139,920	\$0	\$48,972	\$90,948			
10	North side of SH 10, Precinct Line Road to 1,600 feet west: 1,600 feet of 10"	0%	35%	35%	\$105,600	\$0	\$36,960	\$68,640			
<b>Walker Branch Interceptor</b>											
11A	Along Walker Branch, 450' north of SH 10 to south City limits: Upsize 570 feet of 8" with 12", 700' of 10" with 20" & 450' of 8" & 10" with 20"	40%	80%	40%	\$127,908	\$51,163	\$51,163	\$25,582			
11B**	Along Walker Branch: Upsize 400' of 10" with 12"	50%	85%	35%	\$5,280	\$2,640	\$1,848	\$792			
<b>Little Bear Creek Area</b>											
12A	Southside of Glade Road, Little Bear Creek to east city limits: 1,200 feet of 8"	0%	55%	55%	\$63,360	\$0	\$34,848	\$28,512			
13	700 feet of 8" along north side of W. Bedford-Eules Rd from 836 W. Bedford-Eules Rd to east side of Precinct Line Rd and north 430 feet north: 1,130 feet of 8"	0%	70%	70%	\$59,664	\$0	\$41,765	\$17,899			
14	310 feet of 8" on west side of Precinct Line Road from 313 Precinct to north side of Cullum and 60 feet of 8" on Cullum: 370 feet of 8"	0%	40%	40%	\$19,536	\$0	\$7,814	\$11,722			
<b>TOTAL</b>					\$4,552,522	\$1,515,064	\$1,740,066	\$1,297,392			
One-half of Consultant Fee for Current Impact Fee Study					0%	100%	100%	\$9,953	\$0	\$9,953	\$0

\*Projects are from the City of Hurst.

\*\*Cost shown is upsizing cost only.

The proposed water system projects that have excess capacity to serve future development and are used in the impact fee analysis are listed in **Table 3.5**. The proposed wastewater system projects that have excess capacity to serve future development and are used in the impact fee analysis are listed in **Table 3.6**. In **Tables 3.5** and **3.6**, the percent utilization for 2004, 2014, and the 10-year period, 2004-2014 are listed. The 2004 percent utilization is the portion of a project's capacity needed to serve existing development. It is not included as part of the impact fee analysis. The 2014 percent utilization is the portion of the project's capacity that will be needed to serve Hurst in 2014. The 2004-2014 percent utilization is the portion of the project's capacity needed to serve development from 2004 to 2014.

The portion of a project's total cost that is used to serve development projected to occur from 2004 through 2014 is calculated as the total actual cost multiplied by the 2004-2014 percent utilization. Only this portion of the cost is used in the impact fee analysis.

### **3.5 Service Units**

The maximum impact fee may not exceed the amount determined by dividing the cost of capital improvements needed by the total number of service units attributed to new development during the impact fee eligibility period. For the purposes of the water impact fee analysis, a water service unit is defined as service equivalent to a water connection for a single-family residence. The City of Hurst does not directly meter wastewater flows and bills for wastewater services based on the customer's water consumption. The wastewater service unit is defined in terms of the size of the water meter used. For the purposes of the impact fee analysis, a wastewater service unit is defined as the wastewater service provided to a customer with a water connection for a single-family residence.

The service associated with public, commercial, and industrial connections is converted into service units based upon the capacity of the meter used to provide service. The number of service units needed to represent each meter size is based on the maximum rated capacity of the meters as shown in AWWA Manual 6, Water Meters -- Selection,

Installation, Testing, and Maintenance, 3rd edition, 1986. The service unit equivalent for each meter size is listed in **Table 3.7**.

Table 3.7 Service Unit Equivalency Table	
Meter Size	Water Service Unit Equivalents
5/8"	1
1"	1.67
1 1/2"	3.33
2"	5.33
2 1/2"	7.67
3"	10
4"	16.67
5"	25
6"	33.33

**Table 3.8** shows the water service units for 2004 and the projected service units for 2014. Typically, in Hurst, single-family residences are served with 5/8-inch water meters. Larger meters represent public, commercial, and industrial water use. The 2004 water residential and commercial meter quantities were provided by Hurst. The total number of service unit equivalents for 2004 is 19,772. The 2014 projected water meter quantities are based on population and employment growth projections. The projected total number of service unit equivalents for 2014 is 20,795. The growth in service unit equivalents from 2004 to 2014 is 1,023.

Table 3.8 Projected Water Service Units for 2004-2014								
Meter Size	2004 Existing Water Meters & Service Units				2014 Projected Water Meters & Service Units			
	Residential		Commercial/Industrial		Residential		Commercial/Industrial	
	Meters	Service Units	Meters	Service Units	Meters	Service Units	Meters	Service Units
5/8"	14,184	14,184	894	894	14,615	14,615	998	998
1"	217	362	372	621	224	374	415	693
1.5"	75	250	238	793	79	263	265	882
2"	39	208	310	1,652	41	219	346	1,844
2.5"	0	0	3	23	0	0	3	23
3"	0	0	41	410	0	0	46	460
4"	1	17	15	250	2	33	17	283
5"	2	50	1	25	2	50	1	25
6"	0	0	1	33	0	0	1	33
<b>Total</b>	14,518	<b>15,071</b>	1,875	<b>4,701</b>	14,963	<b>15,554</b>	2,092	<b>5,241</b>

**Table 3.9** shows the wastewater service units for 2004 and the projected service units for 2014. A wastewater service unit for a single family residence is represented by a 5/8" water meter. Larger meters represent public, commercial, and industrial wastewater use. The 2004 residential and commercial connections were provided by Hurst. The 2014 projected connections are based on population and employment growth.

Table 3.9  
Projected Wastewater Service Units for 2004-2014

Meter Size	2004 Existing Connections & Service Units				2014 Projected Connections & Service Units			
	Residential		Commercial/Industrial		Residential		Commercial/Industrial	
	Meters	Service Units	Meters	Service Units	Meters	Service Units	Meters	Service Units
5/8"	14,184	14,184	894	894	14,615	14,615	998	998
1"	217	362	372	621	224	374	415	693
1.5"	75	250	238	793	79	263	265	882
2"	39	208	310	1,652	41	219	346	1,844
2.5"	0	0	3	23	0	0	3	23
3"	0	0	41	410	0	0	46	460
4"	1	17	15	250	2	33	17	283
5"	2	50	1	25	2	50	1	25
6"	0	0	1	33	0	0	1	33
<b>Total</b>	<b>14,518</b>	<b>15,071</b>	<b>1,875</b>	<b>4,701</b>	<b>14,963</b>	<b>15,554</b>	<b>2,092</b>	<b>5,241</b>

### 3.6 Maximum Impact Fee Calculation

The maximum impact fee that can be levied is equal to the projected capital cost needed to serve 10-year development divided by the projected 10-year growth in service units.

The total projected costs include the projected capital improvement costs to serve 10-year development, the projected finance cost for the capital improvements, and the consultant cost for preparing and updating the Capital Improvement Plan.

#### 3.6.1 Maximum Water Impact Fee

The eligible costs for water include the following:

Proposed Capital Improvement Costs	<u>\$1,042,770</u>
<b>Total Capital Improvement Costs</b>	<b>\$1,042,770</b>

Financing Costs	\$149,648
Impact Fee Study	<u>\$9,953</u>
<b>Total Financing and Consulting Costs</b>	<b>\$ 159,421</b>
<b>Total Eligible Costs</b>	<b>\$1,202,191</b>
<b>Total Water Impact Fee Credit (50%)</b>	<b>\$601,096</b>

The total eligible costs associated with the existing and proposed water system improvements to meet projected growth over the next ten years is \$1,202,191. The increase in the number of service units due to growth over the next ten years is projected as 1,023 service units.

$$\begin{aligned}
 \text{Maximum Water Impact Fee} &= \frac{\text{10-year Capital Improvement Cost} - \text{Credit}}{\text{10-year growth in Service Units}} \\
 \text{With Credit} &= \frac{\$1,202,191 - \$601,096}{1,023 \text{ SU}} \\
 &= \$ 587/ \text{SU}
 \end{aligned}$$

### 3.6.2 Maximum Wastewater Impact Fee

The eligible costs for water include the following:

Proposed Capital Improvement Costs	<u>\$1,740,066</u>
<b>Total Capital Improvement Costs</b>	<b>\$1,740,066</b>
Financing Costs	\$361,218
Impact Fee Study	<u>\$ 9,953</u>
<b>Total Financing and Consulting Costs</b>	<b>\$371,171</b>
<b>Total Eligible Costs</b>	<b>\$2,111,237</b>
<b>Total Wastewater Impact Fee Credit (50%)</b>	<b>\$1,055,619</b>

The total eligible costs associated with the existing and proposed wastewater system improvements to meet projected growth over the next ten years is \$2,111,237. The

increase in the number of service units due to growth over the next ten years is projected as 1,023 service units.

$$\begin{aligned} \text{Maximum Wastewater Impact} &= \frac{\text{10-year Capital Improvement Cost - Credit}}{\text{10-year Growth in Service Units}} \\ \text{Fee With Credit} &= \frac{\$2,111,237 - \$1,055,619}{1,023 \text{ SU}} \\ &= \$1,032/\text{SU} \end{aligned}$$

**Appendix A**  
**Fort Worth Impact Fee Schedule**

**WATER AND WASTEWATER IMPACT FEE ASSESSMENT SCHEDULE  
CITY OF FORT WORTH (EFFECTIVE 8/16/04)**

<b>METER SIZE</b>	<b>*WATER IMPACT FEE</b>	<b>*WASTEWATER IMPACT FEE</b>
5/8"	\$431	\$185
3/4"	\$644	\$276
1"	\$1,075	\$461
1 1/2"	\$2,145	\$918
2"	\$3,433	\$1,470
3"	\$7,515	\$3,219
4"	\$13,524	\$5,792
6"	\$30,055	\$12,872
8"	\$51,520	\$22,064
10"	\$81,575	\$34,936


\* Water & Wastewater Impact Fees are calculated at 35% of the total maximum assessable amount.

**Appendix B**

**Adopted Hurst Impact Fee Ordinance**

PLATE 1  
CITY OF HURST  
PROPOSED WATER SYSTEM  
IMPROVEMENTS  
WITH IMPACT FEES

LEGEND

CITY LIMITS 

① PROJECT # FOR IMPACT FEE IMPROVEMENTS 

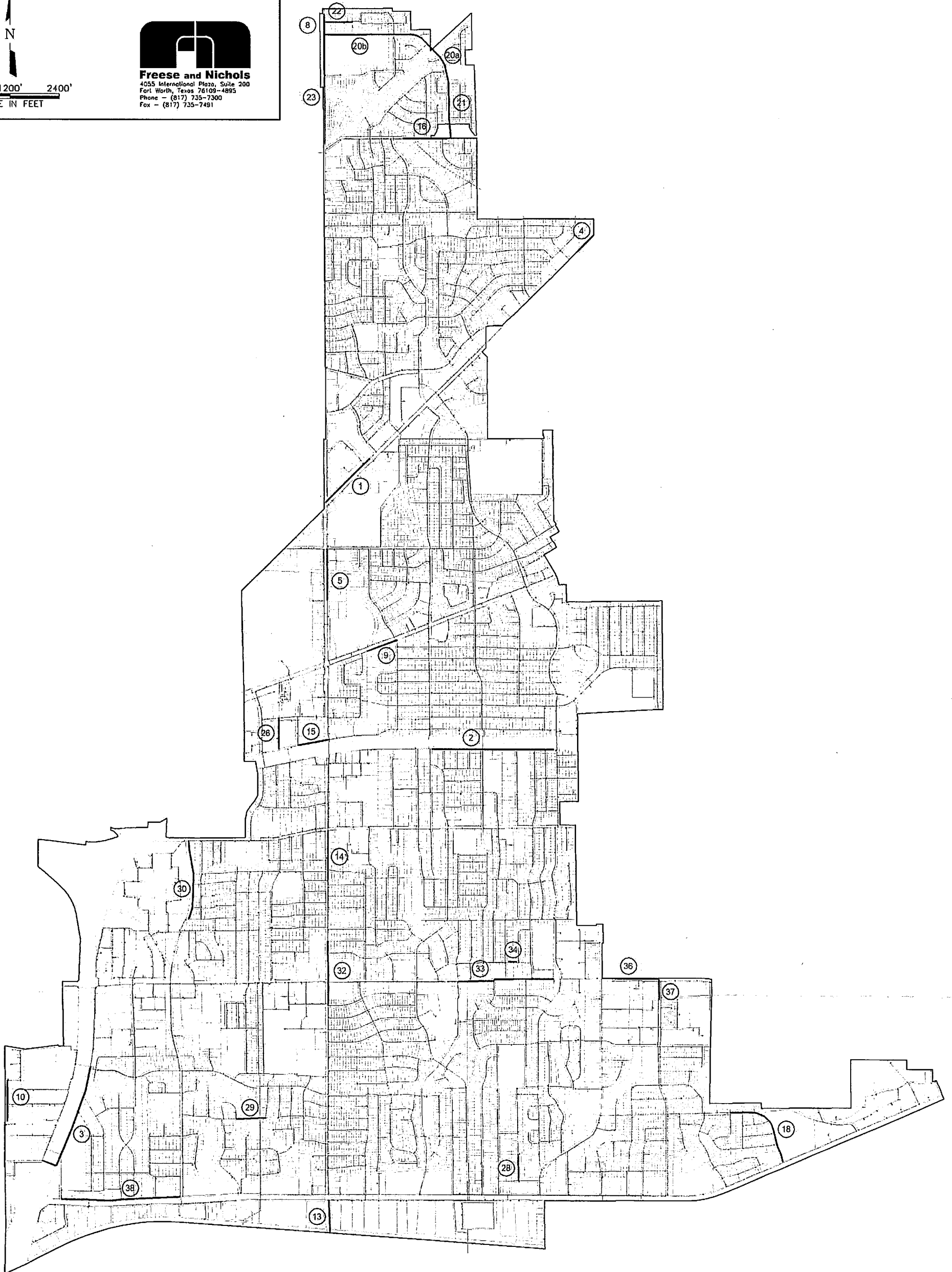
EXISTING WATER LINES 



0 1200' 2400'  
SCALE IN FEET



**Freese and Nichols**  
4055 International Plaza, Suite 200  
Fort Worth, Texas 76109-4895  
Phone - (817) 735-7300  
Fax - (817) 735-7481



DATE: 11/11/03  
DRAWN BY: J. H. HARRIS  
CHECKED BY: J. H. HARRIS  
SCALE: AS SHOWN  
PROJECT NO. 03-001

