2015

Transportation, Water and Wastewater

Impact Fee Update

Adopted September 22, 2015

City of Melissa, Texas

Kimley»Horn

H&F CONSULTING, INC.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MELISSA, TEXAS, AMENDING MELISSA'S CODE OF ORDINANCES, ORDINANCE NO. 92-04, AS AMENDED, CHAPTER 13 (IMPACT FEES), ARTICLE 13.100 (WATER, WASTEWATER AND ROADWAYS), SECTIONS 13.102 (DEFINITIONS), 13.106 (IMPACT FEES ADOPTED), 13.108 (ASSESSMENT OF IMPACT FEES), 13.109 (COMPUTATION AND COLLECTION OF IMPACT FEES) AND 13.114 (UPDATES TO PLAN AND REVISION OF FEES); ADOPTING UPDATED LAND USE ASSUMPTIONS; ADOPTING AN UPDATED CAPITAL IMPROVEMENTS PLAN; ADOPTING REVISED WATER, WASTEWATER AND ROADWAY IMPACT FEES TO BE ASSESSED AND COLLECTED; PROVIDING A PENALTY CLAUSE, SAVINGS/REPEALING CLAUSE, SEVERABILITY CLAUSE AND AN EFFECTIVE DATE; AND PROVIDING FOR THE PUBLICATION OF THE CAPTION HEREOF.

WHEREAS, the City Council of the City of Melissa, Texas ("City Council") has previously adopted Ordinance Nos. 09-20 and 10-17 (individually and collectively, "Impact Fee Ordinance"), establishing land use assumptions, a capital improvements plan and impact fees to be assessed by the City of Melissa, Texas ("Melissa" or "City"); and

WHEREAS, the Impact Fee Ordinance is codified at Chapter 13 (Impact Fees), Article 13.100 (Water, Wastewater and Roadways) of Melissa's Code of Ordinances, Ordinance No. 92-04, as amended ("Code of Ordinances"), as set forth below

WHEREAS, the City Council has investigated and determined that Melissa has fully complied with Chapter 395 of the Texas Local Government Code ("Code"), concerning the notice, adoption, promulgation and methodology necessary to adopt land use assumptions and a capital improvements plan establishing impact fees and properly adopted the Impact Fee Ordinance; and

WHEREAS, the City Council has further investigated and determined that Melissa has reviewed the land use assumptions, capital improvements plan and impact fees adopted under the Impact Fee Ordinance in compliance with the Code; and

WHEREAS, the City Council desires to amend the land use assumptions; capital improvements plan; the amount of water, wastewater and roadway impact fees; and the Impact Fee Ordinance based on findings set forth in the "2015 Transportation, Water and Wastewater Impact Fee Update" dated September 2015 and prepared by H&F Consulting, Inc. and Kimley-Horn and Associates, Inc. on behalf of the City, a true and correct copy of which is located in the Office of the City Secretary and incorporated by reference herein ("Study"); and

WHEREAS, Melissa has, within sixty (60) days after the date it received the updated land use assumptions and capital improvements plan, adopted a resolution setting a public hearing to discuss and review the same and to determine whether to amend the same; and

WHEREAS, before the thirtieth (30th) day before the date of the hearing on the updated land use assumptions and capital improvements plan, Melissa sent a notice of the hearing by certified mail to all persons, if any, who have given written notice by certified or registered mail to the Melissa City Secretary requesting notice of the hearing within two (2) years preceding the date of adoption of the order setting the public hearing; and

WHEREAS, Melissa published the required notice of the hearing in one or more newspapers of general circulation in each county in which Melissa lies before the thirtieth (30th) day before the date set for the hearing; and

WHEREAS, on or before the date of the first publication of the notice of the hearing, the updated land use assumptions and capital improvements plan, including the amount of the proposed impact fees per service unit, were made available to the public; and

WHEREAS, the Capital Improvements Advisory Committee, created under Section 395.058 of the Code, filed its written comments on the proposed amendments to the land use assumptions, capital improvements plan and water, wastewater and roadway impact fees before the fifth (5th) business day before the date of the public hearing on the amendments; and

WHEREAS, the City Council held a public hearing to discuss the amendments to the land use assumptions, capital improvements plan and water, wastewater and roadway impact fees; and

WHEREAS, within thirty (30) days after the date of the public hearing on the amendments to the land use assumptions, capital improvements plan and water, wastewater and roadway impact fees, the City Council is considering to approve or disapprove the amendments as more fully set forth below; and

WHEREAS, the City Council has investigated and determined that Melissa has fully complied with Chapter 395 of the Code to approve the amendments to the land use assumptions, capital improvements plan and water, wastewater and roadway impact fees; and

WHEREAS, the City Council has further investigated and determined and hereby finds that it is in the best interest of the citizens of Melissa to adopt such amendments to the land use assumptions, capital improvements plan and water, wastewater and roadway impact fees to assure the provision of adequate water, wastewater and roadway improvements to serve new development by requiring each such development to pay its share of the costs of such improvements necessitated by and attributable to such new development.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MELISSA, TEXAS:

SECTION 1: Findings Incorporated. The findings set forth above are incorporated into the body of this Ordinance as if fully set forth herein.

SECTION 2: Updated Land Use Assumptions Adopted. All previously adopted land use assumptions have been reviewed, evaluated, updated and revised, and the City Council finds that the updated land use assumptions that are set forth in the Study are hereby adopted and approved.

SECTION 3: Updated Capital Improvements Plan Adopted. All previously adopted capital improvements plan has been reviewed, evaluated, updated and revised, and the City Council finds that the updated capital improvements plan that is set forth in the Study is hereby adopted and approved.

SECTION 4: Updated Impact Fees for Roadways Adopted. All previously adopted impact fees for roadways have been reviewed, evaluated, updated and revised. The City Council finds that the maximum amount of impact fees for roadways to be assessed shall be as set forth in Exhibit A (Roadway Impact Fee Schedule), attached hereto and incorporated herein for all purposes, and such fees are hereby adopted and approved for service area 1 and service area 2, as shown in Exhibit A. Exhibit A hereto hereby replaces Exhibit A and Exhibit B to the Impact Fee Ordinance and Exhibit A and Exhibit B to Chapter 13 (Impact Fees), Article 13.100 (Water, Wastewater and Roadways) of the Code of Ordinances.

SECTION 5: Updated Impact Fees for Water Adopted. All previously adopted impact fees for water have been reviewed, evaluated, updated and revised. The City Council finds that the maximum amount of impact fees for water to be assessed shall be as set forth in Exhibit B (Water Impact Fee Schedule), attached hereto and incorporated herein for all purposes, and such fees are hereby adopted and approved. Exhibit B hereto hereby replaces Exhibit C to the Impact Fee Ordinance and Exhibit C to Chapter 13 (Impact Fees), Article 13.100 (Water, Wastewater and Roadways) of the Code of Ordinances.

SECTION 6: Updated Impact Fees for Wastewater Adopted. All previously adopted impact fees for wastewater have been reviewed, evaluated, updated and revised. The City Council finds that the maximum amount of impact fees for wastewater to be assessed shall be as set forth in Exhibit C (Wastewater Impact Fee Schedule Per Service Unit), attached hereto and incorporated for all purposes, and such fees are hereby adopted and approved. Exhibit C hereto hereby replaces Exhibit D to the Impact Fee Ordinance and Exhibit D to Chapter 13 (Impact Fees), Article 13.100 (Water, Wastewater and Roadways) of the Code of Ordinances.

SECTION 7: Amendment to the Code of Ordinances, Chapter 13 (Impact Fees), Article 13.100 (Water, Wastewater and Roadways), Sections 13.102 (Definitions), 13.106 (Impact Fees

Adopted), 13.108 (Assessment of Impact Fees), 13.109 (Computation and Collection of Impact Fees) and 13.114 (Updates to Plan and Revision of Fees). The Code of Ordinances, Chapter 13 (Impact Fees), Article 13.100 (Water, Wastewater and Roadways), Sections 13.102 (Definitions), 13.106 (Impact Fees Adopted), 13.108 (Assessment of Impact Fees), 13.109 (Computation and Collection of Impact Fees) and 13.114 (Updates to Plan and Revision of Fees) are hereby amended as follows:

"ARTICLE 13.100 Water, Wastewater and Roadways

...

§ 13.102. – Definitions.

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Assessment or assess means the determination of the amount of the maximum impact fee per service unit which can be imposed on new development pursuant to this article.

...

Study means the "2015 Transportation, Water and Wastewater Impact Fee Update" dated September 2015 and prepared by H&F Consulting, Inc. and Kimley-Horn and Associates, Inc. on behalf of the City, a true and correct copy of which is located in the Office of the City Secretary and incorporated by reference herein, as may be amended from time to time.

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§ 13.106. – Impact Fees Adopted

(a) The City Council finds that the maximum amount of impact fees for roadways to be assessed in service area 1 and service area 2 shall be as set forth in Exhibit A (Roadway Impact Fee Schedule), attached hereto and incorporated herein for all purposes, and such fees are hereby adopted and approved for service area 1 and service area 2, as shown in Exhibit A. If overlapping and/or combined uses exist in either service area, impact fees shall be assessed and collected utilizing the per development unit of measurement (defined in the study) for each use contained therein.

(b) The City Council finds that the maximum amount of impact fees for water to be assessed shall be as set forth in Exhibit B (Water Impact Fee Schedule Per

Service Unit), attached hereto and incorporated for all purposes, and such fees are hereby adopted and approved.

(c) The City Council finds that the maximum amount of impact fees for wastewater to be assessed shall be as set forth in Exhibit C (Wastewater Impact Fee Schedule Per Service Unit), attached hereto and incorporated for all purposes, and such fees are hereby adopted and approved.

(d) The impact fee per service unit which is to be paid by each new development within a service area shall be that established by ordinance by the City Council, as such may be amended from time to time, and shall be an amount less than or equal to the maximum impact fee per service unit established in subsections (a)-(c) above, as applicable.

(e) The City may vary the rates of collection or amount of impact fees per service unit among or within service areas in order to reasonably further goals and policies affecting the adequacy of roadway, water and/or wastewater facilities serving new development, or other regulatory purposes affecting the type, quality, intensity, economic development potential or development timing of land uses within such service districts.

(f) The maximum impact fees per service unit for roadway, water and wastewater facilities, respectively, as may be amended from time to time, hereby is declared to be an approximate and appropriate measure of the impacts generated by a new unit of development on the City's roadway, water and wastewater systems, respectively. To the extent that the impact fee charged against a new development, as may be amended from time to time, is less than the maximum impact fee per service unit, such difference is declared to be founded on policies unrelated to measurement of the impacts of the new development on the City's roadway, water and/or wastewater systems, as applicable. The maximum impact fee may be used in evaluating any claim by a property owner that the dedication or construction of a capital improvement within a service area imposed as a condition of development approval pursuant to the City's subdivision or development regulations is disproportionate to the impacts created by the development on the City's roadway, water and/or wastewater systems, as applicable.

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§ 13.108. – Assessment of Impact Fees

(a) The assessment of impact fees for any new development shall be calculated

and made at the time of the recordation of a final plat in the Collin County land records and shall be the amount of the maximum impact fee per service unit as set forth in Exhibit A, Exhibit B or Exhibit C, as applicable, then in effect; however, for the sole purpose of phasing in the application of this Ordinance, with respect to final plats that have been approved on or before October 1, 2015, pursuant to the City's subdivision regulations, or for a final plat deemed approved by the City on or before October 1, 2015 due to the City's failure to act, assessment for the new development to which the final plat applies shall be calculated and made in accordance with the applicable fees existing on September 30, 2015.

(b) Following initial assessment of the impact fee for a new development pursuant to subsection (a), the amount of the impact fee per service unit for that development cannot be increased, unless the approved final plat expires or lapses under applicable ordinances or law or the owner proposes to change the approved development by the submission of a new development application or an application to increase the number of service units, in which case the impact fee will be reassessed for increased meter size or additional meters or service units at the impact fee rate then in effect.

(c) Following the lapse or expiration of a final plat that has been approved or a final plat deemed approved due to the City's failure to act, pursuant to the City's subdivision regulations, a new assessment shall be performed at the time of the recordation of a new final plat in the Collin County land records in accordance with this article.

§ 13.109. – Computation and Collection of Impact Fees

(a) The impact fees due on new development shall be collected at the time of application for a building permit or, in cases for which no plat is submitted to the City, whether the property is located inside or outside the corporate boundaries of City, at the time of application for building permit, utility connection or certificate of occupancy, whichever occurs first; provided, however, that the City may enter into an agreement with a developer for a different time and manner of payment of impact fees, in which case the agreement shall determine the time and manner of payment.

(b) The impact fees to be paid and collected per service unit for a new development shall be based on a percentage of the assessed maximum impact fee rate per service unit then in effect, determined as follows:

(1) Roadway Impact Fee for Service Area 1: an amount equal to 100

percent (100%) of the assessed maximum impact fee per service unit for residential uses and an amount equal to 75 percent (75%) of the assessed maximum impact fee per service unit for non-residential uses;

(2) Roadway Impact Fee for Service Area 2: an amount equal to 100 percent (100%) of the assessed maximum impact fee per service unit for residential uses and an amount equal to 75 percent (75%) of the assessed maximum impact fee per service unit for non-residential uses;

(3) Water Impact Fee: an amount equal to 100 percent (100%) of the assessed maximum impact fee per service unit;

(4) Wastewater Impact Fee: an amount equal to 100 percent (100%) of the assessed maximum impact fee per service unit.

(c) At the time of the recordation of a final plat in the Collin County land records, or the request for a utility connection for an area in the City's extraterritorial jurisdiction for which a final plat was not submitted to the City, for all new developments, the City shall compute the maximum impact fees assessed on the new development in the following manner:

(1) The amount of each type of impact fee due (roadway, water and/or wastewater) shall be determined by multiplying the number of each type of service unit generated by the new development by the maximum impact fee assessed on each type of service unit in the applicable service area set forth in Exhibit A, Exhibit B, and/or Exhibit C, respectively.

(2) The amount of each maximum impact fee assessed shall be reduced by any allowable credits for that category of capital improvements in the manner provided by this article.

(d) Whenever a property owner proposes to increase the number of service units for a new development, the additional impact fees to be collected for such new service units shall be determined by using the amount of assessed maximum impact fee per service unit in Exhibit A, Exhibit B, and/or Exhibit C then in effect, and such additional fee shall be collected at the time of issuance of a new building permit, or for an area in the City's extraterritorial jurisdiction for which a final plat was not required to be submitted to the

City, prior to or at the time of enlargement of the connection to the City's water or wastewater system.

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§ 13.114. – Updates to Plan and Revision of Fees

(a) The City shall update its land use assumptions and capital improvements plans at least every five (5) years, commencing from the date of adoption of such plans, and shall recalculate the maximum assessable impact fees based thereon in accordance with the procedures set forth in Chapter 395 of the Texas Local Government Code, as amended, or in any successor statute.

(b) The City may review its land use assumptions, impact fees, capital improvements plans and other factors such as market conditions more frequently than provided in subsection (a) to determine whether the land use assumptions and capital improvements plan should be updated and the impact fee recalculated accordingly, or whether any exhibits hereto should be changed.

(c) If, at the time an update is required pursuant to subsection (a), the City Council determines that no change to the land use assumptions, capital improvements plan or impact fee is needed, it may dispense with such update by following the procedures in Chapter 395 of the Texas Local Government Code, as amended, or in any successor statute.

(d) The impact fees to be paid and collected per service unit established in § 13.109(a) of this article may be amended without revising land use assumptions and capital improvements plans at any time prior to the update provided for in subsection (a), provided that the impact fees to be collected under § 13.109(a) do not exceed the maximum impact fees assessed under Exhibit A, Exhibit B, and/or Exhibit C. Public notice and hearing is required to amend § 13.109(a) of this article in accordance with the procedure for amending impact fees set forth in Chapter 395 of the Texas Local Government Code, as amended, or in any successor statute.

(e) The City may amend any other provisions of this article in accordance with procedures for ordinance amendments contained in the City's Charter.

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SECTION 8: Saving/Repealing. Unless otherwise set forth herein, all fee ordinances shall remain in full force and effect for final plats that have been approved on or before October 1, 2015,

pursuant to the City's subdivision regulations, or for a final plat deemed approved by the City on or before October 1, 2015 due to the City's failure to act, save and except as amended by this or any other ordinance. All provisions of any ordinance in conflict with this Ordinance are hereby repealed to the extent they are in conflict; but such repeal shall not abate any pending prosecution for violation of the repealed ordinance, nor shall the repeal prevent a prosecution from being commenced for any violation if occurring prior to the repeal of the ordinance. Any remaining portions of said ordinances shall remain in full force and effect.

SECTION 9: Severability. Should any section, subsection, sentence, clause or phrase of this Ordinance be declared unconstitutional and/or invalid by a court of competent jurisdiction, it is expressly provided that any and all remaining portions of this Ordinance shall remain in full force and effect. The City Council hereby declares that it would have passed this Ordinance, and each section, subsection, sentence, clause and phrase thereof regardless of whether any one or more sections, subsections, sentences, clauses and/or phrases may be declared unconstitutional and/or invalid.

SECTION 10: Penalty. Any person, firm, entity or corporation violating any provision of this Ordinance or the Impact Fee Ordinance, as they exist or may be amended, shall be deemed guilty of a misdemeanor, and on conviction thereof, shall be fined in an amount not exceeding TWO THOUSAND AND 00/100 DOLLARS ($2,000.00). Each continuing day's violation shall constitute a separate offense. The penal provisions imposed under this Ordinance shall not preclude Melissa from filing suit to enjoin the violation. Melissa retains all legal rights and remedies available to it pursuant to local, state and federal law.

SECTION 11: Effective Date. This Ordinance shall become effective from and after its adoption and publication as required by the City Charter and by law.

DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF MELISSA, TEXAS on this 22nd day of September, 2015.

Reed Greer, Mayor

ATTESTED TO AND CORRECTLY RECORDED:

Linda Bannister, City Secretary

Dates of Publication: Oct 1 & 8, 2015, *Anna-Melissa Tribune*

Exhibit A
Roadway Impact Fee Schedule

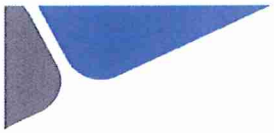
The maximum assessed impact fee per service unit for Service Area 1 ("SA 1") is $651.00.
The maximum assessed impact fee per service unit for Service Area 2 ("SA 2") is $762.00.

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	Average Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi) [SA 1]	Max Trip Length (mi) [SA 2]	Veh-Mi Per Dev-Unit (SA 1)	Veh-Mi Per Dev-Unit (SA 2)
PORT AND TERMINAL													
Truck Terminal	030	Acre	6.55			6.55	14.65	50%	7.32	5.80	3.70	37.99	24.24
INDUSTRIAL													
General Light Industrial	110	1,000 SF GFA	0.97			0.97	14.65	50%	7.33	5.80	3.70	5.63	3.59
General Heavy Industrial	120	1,000 SF GFA	0.68			0.68	14.65	50%	7.33	5.80	3.70	3.94	2.52
Industrial Park	130	1,000 SF GFA	0.85			0.85	14.65	50%	7.33	5.80	3.70	4.93	3.15
Warehousing	150	1,000 SF GFA	0.32			0.32	14.65	50%	7.33	5.80	3.70	1.86	1.18
Mini-Warehouse	151	1,000 SF GFA	0.26			0.26	14.65	50%	7.33	5.80	3.70	1.51	0.96
RESIDENTIAL													
Single-Family Detached Housing	210	Dwelling Unit	1.00			1.00	15.50	50%	7.75	5.80	3.70	5.80	3.70
Apartment/Multi-family	220	Dwelling Unit	0.62			0.62	15.50	50%	7.75	5.80	3.70	3.60	2.29
Residential Condominium/Townhome	230	Dwelling Unit	0.52			0.52	15.50	50%	7.75	5.80	3.70	3.02	1.92
Senior Adult Housing-Detached	251	Dwelling Unit	0.27			0.27	15.50	50%	7.75	5.80	3.70	1.57	1.00
Senior Adult Housing-Attached	252	Dwelling Unit	0.25			0.25	15.50	50%	7.75	5.80	3.70	1.45	0.93
Assisted Living	254	Beds	0.22			0.22	15.50	50%	7.75	5.80	3.70	1.28	0.81
LODGING													
Hotel	310	Room	0.60			0.60	6.43	50%	3.22	3.22	3.22	1.93	1.93
Motel / Other Lodging Facilities	320	Room	0.47			0.47	6.43	50%	3.22	3.22	3.22	1.51	1.51
RECREATIONAL													
Golf Driving Range	432	Tee	1.25			1.25	7.86	50%	3.93	3.93	3.70	4.91	4.63
Golf Course	430	Acre	0.30			0.30	7.86	50%	3.93	3.93	3.70	1.18	1.11
Recreational Community Center	495	1,000 SF GFA	2.74			2.74	7.86	50%	3.93	3.93	3.70	10.77	10.14
Ice Skating Rink	465	1,000 SF GFA	2.36			2.36	7.86	50%	3.93	3.93	3.70	9.27	8.73
Miniature Golf Course	431	Hole	0.33			0.33	7.86	50%	3.93	3.93	3.70	1.30	1.22
Multiplex Movie Theater	445	Screens	13.64			13.64	7.86	50%	3.93	3.93	3.70	53.61	50.47
Racquet / Tennis Club	491	Court	3.35			3.35	7.86	50%	3.93	3.93	3.70	13.17	12.40
INSTITUTIONAL													
Church	560	1,000 SF GFA	0.55			0.55	8.31	50%	4.16	4.16	3.70	2.29	2.04
Day Care Center	565	1,000 SF GFA	12.34	44%	B	6.91	3.49	50%	1.75	1.75	1.75	12.09	12.09
Primary/Middle School (1-8)	522	Students	0.16			0.16	3.49	50%	1.75	1.75	1.75	0.28	0.28
High School (9-12)	530	Students	0.13			0.13	3.49	50%	1.75	1.75	1.75	0.23	0.23
Junior / Community College	540	Students	0.12			0.12	10.44	50%	5.22	5.22	3.70	0.63	0.44
University / College	550	Students	0.17			0.17	10.44	50%	5.22	5.22	3.70	0.89	0.63
MEDICAL													
Clinic	630	1,000 SF GFA	5.18			5.18	9.85	50%	4.93	4.93	3.70	25.54	19.17
Hospital	610	1,000 SF GFA	0.93			0.93	9.85	50%	4.93	4.93	3.70	4.58	3.44
Nursing Home	620	Beds	0.22			0.22	9.85	50%	4.93	4.93	3.70	1.08	0.81
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	4.72	30%	B	3.30	9.85	50%	4.93	4.93	3.70	16.27	12.21
OFFICE													
Corporate Headquarters Building	714	1,000 SF GFA	1.41			1.41	14.65	50%	7.33	5.80	3.70	8.18	5.22
General Office Building	710	1,000 SF GFA	1.49			1.49	14.65	50%	7.33	5.80	3.70	8.64	5.51
Medical-Dental Office Building	720	1,000 SF GFA	3.57			3.57	9.85	50%	4.93	4.93	3.70	17.60	13.21
Single Tenant Office Building	715	1,000 SF GFA	1.74			1.74	14.65	50%	7.33	5.80	3.70	10.09	6.44
Office Park	750	1,000 SF GFA	1.48			1.48	14.65	50%	7.33	5.80	3.70	8.58	5.48
COMMERCIAL													
Automobile Related													
Automobile Care Center	942	1,000 SF Occ. GLA	3.11	40%	B	1.87	4.45	50%	2.23	2.23	2.23	4.17	4.17
Automobile Parts Sales	843	1,000 SF GFA	5.98	43%	A	3.41	4.45	50%	2.23	2.23	2.23	7.60	7.60
Gasoline/Service Station	944	Vehicle Fueling Position	13.87	42%	A	8.04	1.20	50%	0.60	0.60	0.60	4.82	4.82
Gasoline/Service Station w/ Conv Market	945	Vehicle Fueling Position	13.51	56%	B	5.94	1.20	50%	0.60	0.60	0.60	3.56	3.56
Gasoline/Service Station w/ Conv Market and Car Wash	946	Vehicle Fueling Position	13.86	56%	A	6.10	1.20	50%	0.60	0.60	0.60	3.66	3.66
New and Used Car Sales	841	1,000 SF GFA	2.62	20%	B	2.10	4.45	50%	2.23	2.23	2.23	4.68	4.68
Quick Lubrication Vehicle Shop	941	Servicing Positions	5.19	40%	B	3.11	4.45	50%	2.23	2.23	2.23	6.94	6.94
Self-Service Car Wash	947	Stall	5.54	40%	B	3.32	1.20	50%	0.60	0.60	0.60	1.99	1.99
Tire Store	848	1,000 SF GFA	4.15	28%	A	2.99	4.45	50%	2.23	2.23	2.23	6.67	6.67
Dining													
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	32.65	50%	A	16.33	5.64	50%	2.82	2.82	2.82	46.05	46.05
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	26.15	50%	B	13.08	5.64	50%	2.82	2.82	2.82	36.89	36.89
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	9.85	43%	A	5.61	6.07	50%	3.04	3.04	3.04	17.05	17.05
Sit Down Restaurant	931	1,000 SF GFA	7.49	44%	A	4.19	6.07	50%	3.04	3.04	3.04	12.74	12.74
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	42.80	70%	A	12.84	4.53	50%	2.27	2.27	2.27	29.15	29.15
Other Retail													
Free-Standing Discount Superstore	813	1,000 SF GFA	4.35	30%	C	3.05	5.60	50%	2.80	2.80	2.80	8.54	8.54
Free-Standing Retail Store	815	1,000 SF GFA	4.98	30%	C	3.49	5.60	50%	2.80	2.80	2.80	9.77	9.77
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	5.60	50%	2.80	2.80	2.80	13.61	13.61
Home Improvement Superstore	862	1,000 SF GFA	2.33	48%	A	1.21	5.60	50%	2.80	2.80	2.80	3.39	3.39
Pharmacy/Drugstore	881	1,000 SF GFA	9.91	49%	A	5.05	5.60	50%	2.80	2.80	2.80	14.14	14.14
Shopping Center	820	1,000 SF GLA	3.71	34%	A	2.45	5.60	50%	2.80	2.80	2.80	6.86	6.86
Supermarket	850	1,000 SF GFA	9.48	36%	A	6.07	5.60	50%	2.80	2.80	2.80	17.00	17.00
Toy/Children's Superstore	864	1,000 SF GFA	4.99	30%	B	3.49	5.60	50%	2.80	2.80	2.80	9.77	9.77
Department Store	875	1,000 SF GFA	1.87	30%	B	1.31	5.60	50%	2.80	2.80	2.80	3.67	3.67
SERVICES													
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	4.45	50%	2.23	2.23	2.23	16.23	16.23
Drive-In Bank	912	Drive-in Lanes	33.24	47%	A	17.62	4.45	50%	2.23	2.23	2.23	39.29	39.29
Hair Salon	918	1,000 SF GLA	1.45	30%	B	1.02	4.45	50%	2.23	2.23	2.23	2.27	2.27

Key to Sources of Pass-by Rates:
A: ITE Trip Generation Handbook 3rd Edition (Aug 2014)
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

Exhibit B
Water Impact Fee Schedule



Water and Wastewater Impact Fee Update
City of Melissa, Texas
2015

Meter Size	Maximum Continuous Operating Capacity (gpm)**	Service Unit Equivalent	Maximum Assessable Fee Water ($)
5/8"x 3/4" PD	10	0.67	$1,446.67
3/4" PD	15	1	$2,170.00
1" PD	25	1.67	$3,616.67
1 1/2" PD	50	3.33	$7,233.33
2" PD	80	5.33	$11,573.33
2" Compound	80	5.33	$11,573.33
2" Turbine	160	10.67	$23,146.67
3" Compound	175	11.67	$25,316.67
3" Turbine	350	23.33	$50,633.33
4" Compound	300	20.00	$43,400.00
4" Turbine	650	43.33	$94,033.33
6" Compound	675	45.00	$97,650.00
6" Turbine	1,400	93.33	$202,533.33
8" Compound	900	60.00	$130,200.00
8" Turbine	2,400	160.00	$347,200.00
10" Turbine	3,500	233.33	$506,333.33

**PD = Positive Displacement Meter (typical residential meter)*
***Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-15. Turbine and Compound meter flows are based on Class II (in-line) meters.*

Kimley»Horn

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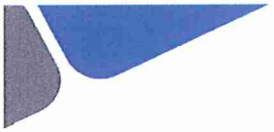
Exhibit C
Wastewater Impact Fee Schedule



Water and Wastewater Impact Fee Update
City of Melissa, Texas
2015

Meter Size	Maximum Continuous Operating Capacity (gpm)**	Service Unit Equivalent	Maximum Assessable Fee Wastewater ($)
5/8"x 3/4" PD	10	0.67	$398.67
3/4" PD	15	1	$598.00
1" PD	25	1.67	$996.67
1 1/2" PD	50	3.33	$1,993.33
2" PD	80	5.33	$3,189.33
2" Compound	80	5.33	$3,189.33
2" Turbine	160	10.67	$6,378.67
3" Compound	175	11.67	$6,976.67
3" Turbine	350	23.33	$13,953.33
4" Compound	300	20.00	$11,960.00
4" Turbine	650	43.33	$25,913.33
6" Compound	675	45.00	$26,910.00
6" Turbine	1,400	93.33	$55,813.33
8" Compound	900	60.00	$35,880.00
8" Turbine	2,400	160.00	$95,680.00
10" Turbine	3,500	233.33	$139,533.33

**PD = Positive Displacement Meter (typical residential meter)*
***Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-15. Turbine and Compound meter flows are based on Class II (in-line) meters.*

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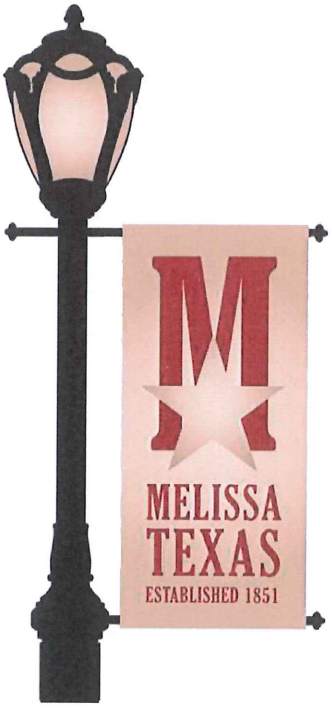
Chapter 1 – Transportation Impact Fee

City of Melissa, Texas

2015 Transportation Impact Fee Update

August 2015



Prepared for:
City of Melissa

Prepared by:

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Phone: 817 335 6511

TBPE Firm Registration Number: F-928

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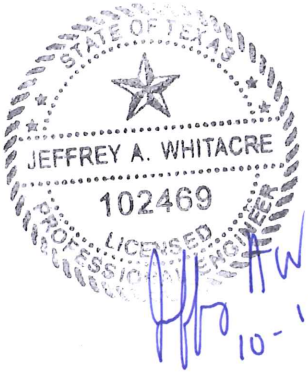
1710 Cooper St.
Melissa, TX 75454
Phone: 972 837 2111



10-12-2015

Project Number: 064474601

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List of Examples

1.1 Introduction

Chapter 395 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."

Chapter 395 mandates that impact fees be reviewed and updated at least every five (5) years. Accordingly, the City of Melissa has initiated a review of its Land Use Assumptions, Capital Improvement Plan (CIP), and Transportation Impact Fees. The City has retained Kimley-Horn and Associates, Inc. to provide professional transportation engineering services for the 2015 update of their Transportation Impact Fees. This report includes the details of the Transportation Impact Fee calculation methodology in accordance with Chapter 395 and the adopted revisions to the Land Use Assumptions, Capital Improvement Plan, and refinement of the Land Use Equivalency Table.

This report introduces and references two of the basic inputs to the Transportation Impact Fee:

1. **Land Use Assumptions** (Pg. 2)
2. **Capital Improvement Plan** (Pg. 4)

Information from the Land Use Assumptions and this Capital Improvement Plan is used extensively throughout the remainder of the report.

This report consists of a detailed discussion of the methodology for the computation of impact fees and is broken down into two components:

1. **Methodology for Transportation Impact Fees** (Pg. 8)
2. **Transportation Impact Fee Calculation** (Pg. 19)

The components of the **Methodology for Transportation Impact Fee** includes development of:

- Service Areas
- Service Units
- Cost Per Service Unit
- Cost of the CIP
- Service Unit Calculation

The components of the Transportation Impact Fee Calculation include:

- Maximum Assessable Impact Fee Per Service Unit
- Service Unit Demand Per Unit of Development

This report also includes a section concerning the **Plan for Awarding the Transportation Impact Fee Credit**. This plan details the maximum assessable impact fee per service unit the City of Melissa may apply under Chapter 395 of the Texas Local Government Code.

The final section of the report is the **Conclusion**, which presents the findings of the update analysis and summarizes the report.

1.2 Transportation Impact Fee Calculation Inputs

A. Land Use Assumptions

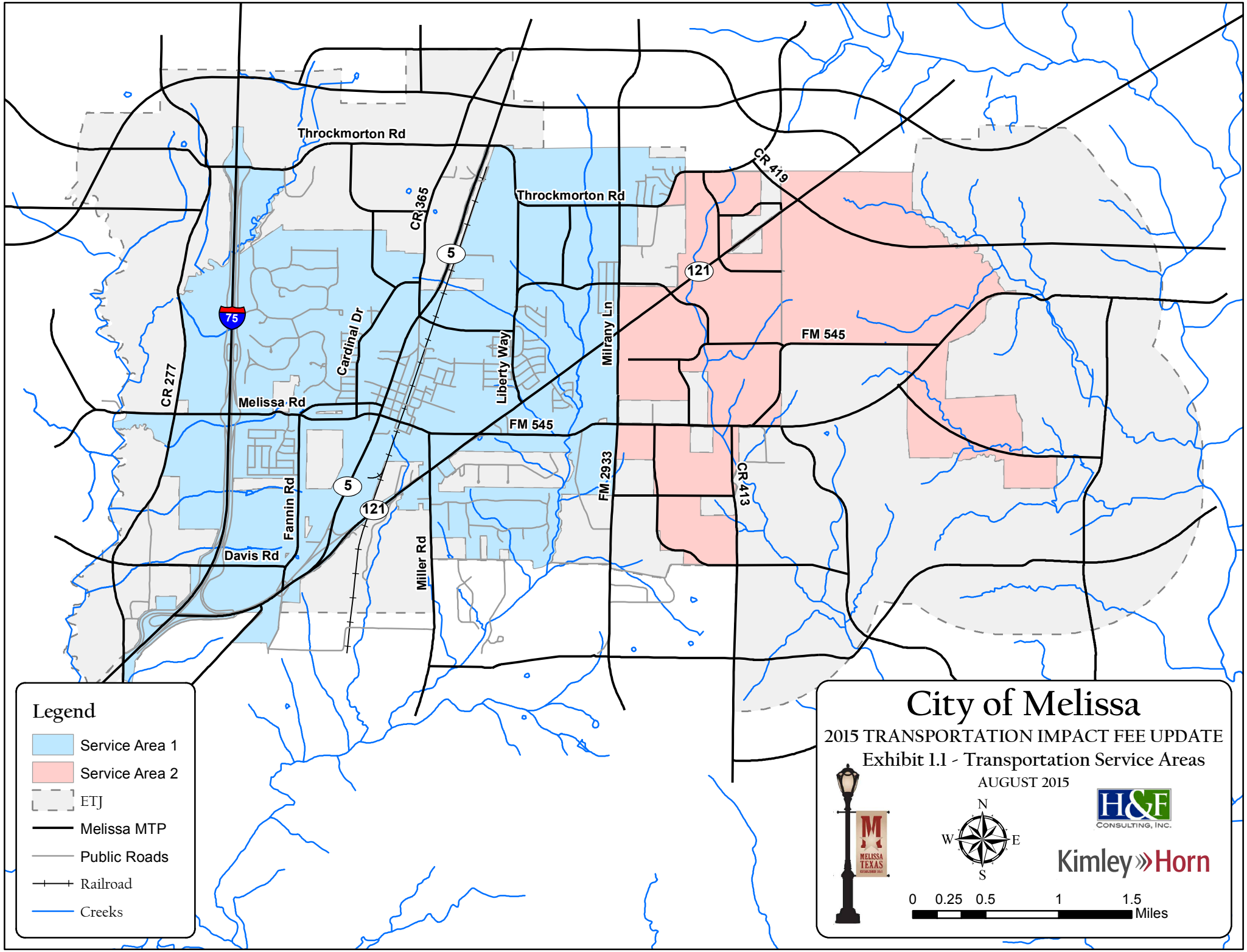
In order to assess an impact fee, land use assumptions must be developed to provide the basis for population and employment growth projections within a political subdivision. As defined by Chapter 395 of the Texas Local Government Code, these assumptions include a description of changes in land uses, densities, and population in the service area. The land use assumptions used in this report were developed using information found in the City of Melissa 2015 Comprehensive Plan Update, and with input from City staff.

The geographic boundaries of the impact fee service areas for roadway facilities are shown in **Exhibit 1.1**. The City of Melissa is divided into two (2) service areas, each based on a six (6) mile limit as required in Chapter 395.

Table 1.1 summarizes the residential and non-residential 10 year growth projections by service area within the City of Melissa from 2015 to 2025.

Table 1.1. Residential and Non-Residential 10-Year Growth Projections for the City of Melissa

Service Area	Residential Population	Dwelling Units	Basic	Retail	Service
			Building SF	Building SF	Building SF
1	25,803	7,702	0	1,784,645	1,127,129
2	1,358	405	409,855	198,294	483,055
Total	27,161	8,108	409,855	1,982,939	1,610,184


Throckmorton Rd
Throckmorton Rd
CR 419
CR365
5
121
75
Cardinal Dr
Liberty Way
Milrany Ln
FM 545
CR 277
Melissa Rd
FM 545
FM 2933
CR 413
5
121
Fannin Rd
Miller Rd
Davis Rd
Legend
Service Area 1
Service Area 2
ETJ
Melissa MTP
Public Roads
Railroad
Creeks
City of Melissa
2015 TRANSPORTATION IMPACT FEE UPDATE
Exhibit 1.1 - Transportation Service Areas
AUGUST 2015
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H&F CONSULTING, INC.
Kimley»Horn
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Miles

B. Capital Improvement Plan

The City has identified the City-funded transportation projects needed to accommodate the projected growth within the City. The Capital Improvement Plan (CIP) for Transportation Impact Fees is made up of the following:

- Recently completed projects with excess capacity available to serve new growth;
- Projects currently under construction; and
- All remaining projects needed to complete the City's Master Thoroughfare Plan.

The CIP includes arterial and collector class roadway facilities as well as intersection improvements and other transportation related facilities. All of the facilities are part of the currently adopted Master Thoroughfare Plan.

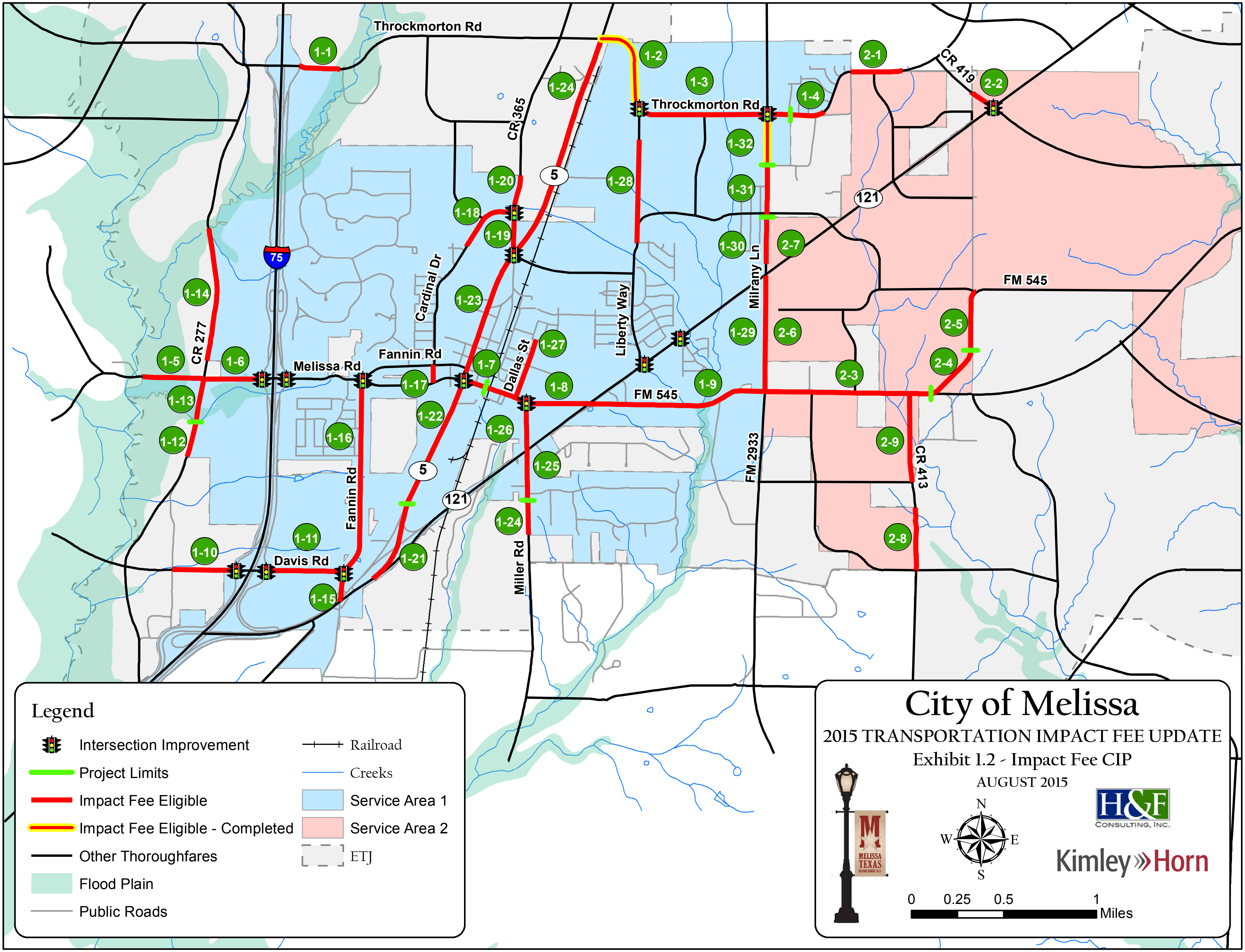
The CIP for Transportation Impact Fees for the 2015 Impact Fee Update is listed in **Table 1.2** and mapped in **Exhibit 1.2.** The table shows the length of each project as well as the facility's Master Thoroughfare Plan classification. The CIP was developed in conjunction with input from City of Melissa staff and represents those projects that will be needed to accommodate the growth projected by the 2015 Land Use Assumptions for Transportation Impact Fee Update.

Table 1.2.1. Transportation Improvement Plan for Transportation Impact Fees – Service Area 1

Service Area	Proj. #	Impact Fee Class	Roadway	Limits	Length (mi)	% In Service Area
SA 1	1-1	4D(100)	Throckmorton Rd (1)	US 75 NBFR to 1,170' E of US 75 NBFR	0.22	50%
	1-2	4D(100)	Throckmorton Rd (2)	SH 5 to Liberty Way (Future)	0.55	100%
	1-3	4D(100)	Throckmorton Rd (3)	Liberty Way (Future) to Spruce Rd	0.81	100%
	1-4	4D(100)	Throckmorton Rd (4)	Spruce Rd to 990' East of Spruce Rd	0.19	50%
	1-5	3U(60)	Melissa Rd (1)	1,755' W of CR 277 to CR 277	0.33	100%
	1-6	4D(100)	Melissa Rd (2)	Co Rd 277 to US 75 SBFR	0.32	100%
	1-7	6D(120)	Melissa Rd (3)	SH 5 to Co Rd 365	0.13	100%
	1-8	6D(120)	Melissa Rd (4)	Co Rd 365 to SH 121	0.57	100%
	1-9	4D(100)	FM 545 (1)	SH 121 to FM 2933	0.97	100%
	1-10	4D(100)	Davis Rd (1)	CR 277 to US 75 SBFR	0.34	100%
	1-11	4D(100)	Davis Rd (2)	US 75 NBFR to Fannin Rd	0.42	100%
	1-12	3U(60)	CR 277 (1)	2,285' S of Melissa Rd to 1,275' S of Melissa Rd	0.19	50%
	1-13	3U(60)	CR 277 (2)	1,275' S of Melissa Rd to Melissa Rd	0.24	100%
	1-14	3U(60)	CR 277 (3)	515' N of Melissa Rd to Throckmorton Creek	0.72	50%
	1-15	4D(100)	Fannin Rd (1)	SH 121 to Davis Rd	0.16	100%
	1-16	3U(60)	Fannin Rd (2)	Davis Rd to Melissa Rd	1.07	100%
	1-17	3U(60)	Cardinal Dr (1)	Melissa Rd to Fannin Rd	0.10	100%
	1-18	3U(60)	Cardinal Dr (2)	135' N of Surrey Dr to CR 365	0.35	100%
	1-19	3U(60)	CR 365 (1)	SH 5 to Cardinal Dr	0.23	100%
	1-20	2U(50)	CR 365 (2)	Cardinal Dr to 1,065' N of Cardinal Dr	0.20	50%
	1-21	4D(100)	SH 5 (1)	SH 121 to 3,900' S of Melissa Rd	0.46	100%
	1-22	4D(100)	SH 5 (2)	3,900' S of Melissa Rd to Melissa Rd	0.74	100%
	1-23	4D(100)	SH 5 (3)	Melissa Rd to Throckmorton Rd	2.01	100%
	1-24	3U(60)	Miller Rd (1)	775' N of CR 362 to 300' S of Thornberry Dr	0.20	50%
	1-25	3U(60)	Miller Rd (2)	300' S of Thornberry Dr to SH 121	0.29	100%
	1-26	3U(60)	Miller Rd (3)	SH 121 to FM 545	0.26	100%
	1-27	3U(60)	Dallas St	Melissa Rd to Independence Dr	0.33	100%
	1-28	2U(50)	Liberty Way	Patton Dr to 900' S of Throckmorton Rd	0.56	100%
	1-29,2-6	3U(60)	Milrany Ln (1)	FM 545 to SH 121	0.62	50%
	1-30,2-7	3U(60)	Milrany Ln (2)	300' N of SH 121 to 100 S of Hunter's Run Pkwy	0.25	50%
	1-31	3U(60)	Milrany Ln (3)	100' S of Hunter's Run Pkwy to CR 418 (E-W)	0.28	50%
	1-32	3U(60)	Milrany Ln (4)	CR 418 (E-W) to Throckmorton Rd	0.28	100%
	S-1	-	Signal Installation	CR 365 & Cardinal Dr	-	100%
	S-2	-	Signal Installation	Davis Rd & US 75 NBFR	-	100%
	S-3	-	Signal Installation	Davis Rd & US 75 SBFR	-	100%
	S-4	-	Signal Installation	Fannin Rd & Davis Rd	-	100%
	S-5	-	Signal Installation	Melissa Rd & Berry Rd	-	100%
	S-6	-	Signal Installation	Melissa Rd & Fannin Rd	-	100%
	S-7	-	Signal Installation	Melissa Rd & US 75 NBFR	-	100%
	S-8	-	Signal Installation	Melissa Rd & US 75 SBFR	-	100%
	S-9	-	Signal Installation	SH 121 & Liberty Way	-	100%
	S-10	-	Signal Installation	SH 121 & Redwood Blvd	-	100%
	S-11	-	Signal Installation	SH 5 & CR 365	-	100%
	S-12	-	Signal Installation	SH 5 & Melissa Rd	-	100%
	S-13	-	Signal Installation	Throckmorton Rd & CR 418	-	50%
	S-14	-	Signal Installation	Throckmorton Rd & Liberty Way	-	100%
	PWF-1	-	Public Works Facility	-	-	33%
	TOC-1	-	Traffic Operations Center	-	-	38%

Table 1.2.2. Transportation Improvement Plan for Transportation Impact Fees – Service Area B

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
SA 2	2-1	2U(50)	Throckmorton Rd (5)	CR 418 to 1,490' E of CR 418	0.28	50%
	2-2	2U(50)	CR 419	SH 121 to Throckmorton Rd	0.14	100%
	2-3	4D(100)	FM 545 (2)	FM 2933 to CR 415	0.90	100%
	2-4	3U(60)	FM 545 (3)	CR 415 to 1,750' N of CR 415	0.33	100%
	2-5	3U(60)	FM 545 (4)	1,750' N of CR 415 to CR 416	0.33	50%
	1-28,2-6	3U(60)	Milrany Ln (2)	FM 545 to SH 121	0.62	50%
	1-29,2-7	3U(60)	Milrany Ln (3)	300' N of SH 121 to 100 S of Hunter's Run Pkwy	0.25	100%
	2-8	2U(50)	CR 413 (1)	CR 413 (E-W) to 2,005' N of CR 413 (E-W)	0.38	50%
	2-9	2U(50)	CR 413 (2)	City Limit to FM 545	0.48	100%
	S-15	-	Signal Installation	SH 121 & CR 419	-	100%
	TOC-1	-	Traffic Operations Center	-	-	15%


City of Melissa
2015 TRANSPORTATION IMPACT FEE UPDATE
Exhibit 1.2 - Impact Fee CIP
AUGUST 2015
Legend
Intersection Improvement
Project Limits
Impact Fee Eligible
Impact Fee Eligible - Completed
Other Thoroughfares
Flood Plain
Public Roads
Railroad
Creeks
Service Area 1
Service Area 2
ETJ
Throckmorton Rd
CR 365
CR 419
121
5
75
FM 545
Milrany Ln
Liberty Way
Cardinal Dr
Fannin Rd
Melissa Rd
CR 277
Dallas St
Miller Rd
FM 2933
CR 413
Davis Rd
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1.3 Methodology for Transportation Impact Fees

A. Service Areas

The two (2) service areas used in the 2015 Transportation Impact Fee Update are shown in the previously referenced **Exhibit 1.1**. These service areas cover the entire corporate boundary of the City of Melissa. 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." The roadway service areas used in the 2015 Transportation Impact Fee Update are the same as in the previous impact fee update (adopted in 2009).

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.

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. Below is the definition for vehicle-mile.

Vehicle-Mile: The capacity consumed in a single lane in the PM peak hour by a vehicle making a trip one mile in length. The PM Peak is commonly used as the basis for transportation planning and the estimation of trips caused by new development.

Total Vehicle-Miles of Supply: Based on the total length (miles), number of lanes, and capacity (vehicles per hour) provided by the Melissa Mobility Plan (see **Appendix B**).

Total Vehicle-Miles of Demand: Based on the 10-year growth projections. The demand is equal to PM Trip Rate (trips) * Trip Length (miles).

The hourly service volumes used in the Transportation Impact Fee Update are based upon Thoroughfare Capacity Criteria published by the North Central Texas Council of Governments (NCTCOG) and applied to the City of Melissa. **Table 1.3** shows the service volumes as a function of the facility type.

Table 1.3.1. Level of Use for Proposed Facilities (used in Appendix B – CIP Units of Supply)

Roadway Type (MTP Classifications)	Median Configuration	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
6D(120) – Major Arterial	Divided	725
4D(100) – Minor Arterial	Divided	700
4U(80) – Major Collector	Undivided	650
3U(60) – Minor Collector	Undivided	525
2U(50) – Local Street	Undivided	400

Table 1.3.2. Level of Use for Existing Facilities (used in Appendix C – Existing Facilities Inventory)

Roadway Type	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
2U-R	Rural Cross-Section (i.e. gravel, dirt, etc.)	150
C2U	Two lane undivided	400
C3U	Three lane undivided (TWLTL)	450
2U	Two lane undivided	500
2UR	Two lane undivided - Regional Arterial	925
3U	Three lane undivided (TWLTL)	525
3UR	Three lane undivided (TWLTL) - Regional Arterial	925
4D	Four lane divided	700
RF4D	Regional Freeway - Four Lane Divided	2300

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 Transportation 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 (**see Section 1.3.E**). 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 Transportation Impact Fee Update, as well as project costs for arterial 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."

The engineer's opinion of the probable costs of the projects in the CIP is based, in part, on the calculation of a unit cost of construction. This means that a cost per linear foot of roadway is calculated based on an average price for the various components of roadway construction. This allows the probable cost to be determined by the type of facility being constructed, the number of lanes, and the length of the project. The costs for location-specific items such as bridges, highway ramps, drainage structures, and any other special components are added to each project as appropriate. In addition, based upon discussions with City of Melissa staff, projects in which the City has contributed a portion of the total project cost have been included in the CIP as lump sum costs. The following is a detailed description of the costing worksheet/methodology for the Transportation Impact Fee CIP.

1. Overview of Transportation Impact Fee CIP Costing Worksheets

For each project a specific costing worksheet was developed (see **Appendix A**). Each worksheet contained the following four (4) main components:

- Project Information,
- Construction Pay Items,
- Construction Component Allowances and
- Summary of Costs and Allowances

An example costing sheet showing these four components is provided on the following page.

City of Melissa
2015 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
H&F Consulting, Inc.
updated: 7/24/2015

Project Information

Project Information:		**Description:**	**Project No.** 1-1
Name:	Throckmorton Rd (1)	**This project consists of the reconstruction of the existing facility to a four lane divided minor arterial.**	
Limits:	US 75 NBFR to 1,170' E of US 75 NBFR		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	1,170		
Service Area(s):	1,ETJ		

Construction Pay Items

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	8,320	cy	$ 10.00	$ 83,200
202	6" Lime Stabilization (with Lime @ 27#/sy)	7,020	sy	$ 6.00	$ 42,120
302	10" Concrete Pavement	6,500	sy	$ 50.00	$ 325,000
402	4" Topsoil	5,200	sy	$ 2.50	$ 13,000
502	6' Concrete Sidewalk	14,040	sf	$ 4.50	$ 63,180
602	Turn Lanes and Median Openings	623	sy	$ 56.00	$ 34,911
				Paving Construction Cost Subtotal:	**$ 561,411**

Construction Component Allowances

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 28,071
√	Pavement Markings/Signs/Posts		3%	$ 16,842
√	Roadway Drainage	Standard Internal System	35%	$ 196,494
√	Illumination		6%	$ 33,685
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 16,842
√	Sewer	Minor Adjustments	2%	$ 11,228
√	Establish Turf/Erosion Control		2%	$ 11,228
√	Basic Landscaping and Irrigation		4%	$ 22,456
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 336,847**

Paving and Allowance Subtotal:		**$ 898,257**
Construction Contingency:	15%	$ 134,739
Mobilization	6%	$ 53,895
Prep ROW	3%	$ 26,948
Construction Cost TOTAL:		**$ 1,114,000**

Summary of Costs and Allowances

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,114,000**
Engineering/Survey/Testing:		20%	$ 222,800
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 87,750
		Project Subtotal:	**$ 1,425,000**
		Bond Issuance: 1%	$ 14,250
		Project Total:	**$ 1,439,250**
		Financing: 37%	$ 531,627.41
		Road Escrow Funds:	
		Impact Fee Project Cost TOTAL:	**$ 1,970,877**

2. Project Information

In order to correctly estimate the cost of a roadway project, several attributes are first identified:

- Project Number – Identifies which Service Area the project is in with a corresponding number. The corresponding number does not represent any prioritizations and is used only to identify projects. For example, Project 1-10 is in Service Area 1 and is the 10th project on the list.
- Name – A unique identifier for each project.
- Limits – Represents the beginning and ending location for each project.
- Impact Fee Class – The costing class to be used in the analysis. The impact fee class provides the width for the various elements in the roadway. The construction costs are variable, based on the proposed Mobility Plan classification of the roadway. For example, 4D(100) represents a four lane divided minor arterial within 100' of ROW.
- Ultimate Class – The functional classification on Melissa's Mobility Plan.
- Length (ft) – The distance measured in feet that is used to cost out the project.
- Service Area(s) – Represents the service area(s) where the project is located.
- Description – Used to describe the project type assumed in the costing such as a widening or reconstruction.

3. Construction Pay Items

A typical roadway project consists of a number of costs, including the following: planning, survey, design engineering, permitting, right-of way acquisition, construction and inspection. While the construction cost component of a project may actually consist of approximately 100 various pay items, a simplified approach was used for developing the conceptual level project costs. Each new project's construction cost was divided into three cost components: roadway construction cost, major construction component allowances, and summary of cost and allowances.

4. Construction Component Allowances

A percentage of the paving construction cost is allotted for various major construction component allowances, as appropriate. These allowances include traffic control, pavement markings and signage, roadway drainage, illumination, minor water and sewer adjustments, landscaping and irrigation. These allowance percentages are also based on historical data.

In addition, lump sum dollar allowances are provided for special drainage structures, railroad crossings, and intersection improvements where needs are anticipated. The paving and allowance subtotal is given a fifteen percent (15%) contingency. An additional six percent (6%) of the construction cost total is added for mobilization and an additional three percent (3%) of the construction cost total is added for preparation of ROW.

5. Summary of Cost and Allowances

To determine the total Impact Fee Project Cost, twenty percent (20%) of the construction cost total is added for engineering, surveying, and testing.

ROW/easement acquisition was based on a ROW cost of $1.50 per square foot, and is adjusted depending on whether the project was an existing alignment or future alignment. For an existing alignment, the ROW/easement acquisition cost was based on ½ of the total ROW. For a new alignment, the ROW/easement acquisition cost was based on the full ROW width. The value for ROW/easement acquisition is an estimated contribution allocation and does not represent actual ROW/easement acquisition needs. For TxDOT facilities, no ROW/easement acquisition was allotted.

The Impact Fee Project Cost Total is the Construction Cost Total plus engineering, surveying, testing, and inspection; plus ROW/easement acquisition; and minus roadway escrow agreements

Table 1.4.1. – 10-Year Capital Improvement Plan for Transportation Impact Fees with Conceptual Level Project Cost Projections – Service Area 1

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	Total Project Cost
SA 1	1-1	4D(100)	Throckmorton Rd (1)	US 75 NBFR to 1,170' E of US 75 NBFR	0.22	$ 985,439
	1-2	4D(100)	Throckmorton Rd (2)	SH 5 to Liberty Way (Future)	0.55	$ 3,286,179
	1-3	4D(100)	Throckmorton Rd (3)	Liberty Way (Future) to Spruce Rd	0.81	$ 6,379,570
	1-4	4D(100)	Throckmorton Rd (4)	Spruce Rd to 990' East of Spruce Rd	0.19	$ 833,992
	1-5	3U(60)	Melissa Rd (1)	1,755' W of CR 277 to CR 277	0.33	$ 6,363,514
	1-6	4D(100)	Melissa Rd (2)	Co Rd 277 to US 75 SBFR	0.32	$ 3,840,791
	1-7	6D(120)	Melissa Rd (3)	SH 5 to Co Rd 365	0.13	$ 1,645,856
	1-8	6D(120)	Melissa Rd (4)	Co Rd 365 to SH 121	0.57	$ 7,905,639
	1-9	4D(100)	FM 545 (1)	SH 121 to FM 2933	0.97	$ 4,853,891
	1-10	4D(100)	Davis Rd (1)	CR 277 to US 75 SBFR	0.34	$ 3,056,589
	1-11	4D(100)	Davis Rd (2)	US 75 NBFR to Fannin Rd	0.42	$ 3,764,722
	1-12	3U(60)	CR 277 (1)	2,285' S of Melissa Rd to 1,275' S of Melissa Rd	0.19	$ 586,422
	1-13	3U(60)	CR 277 (2)	1,275' S of Melissa Rd to Melissa Rd	0.24	$ 2,578,046
	1-14	3U(60)	CR 277 (3)	515' N of Melissa Rd to Throckmorton Creek	0.72	$ 2,707,363
	1-15	4D(100)	Fannin Rd (1)	SH 121 to Davis Rd	0.16	$ 1,424,564
	1-16	3U(60)	Fannin Rd (2)	Davis Rd to Melissa Rd	1.07	$ 6,566,825
	1-17	3U(60)	Cardinal Dr (1)	Melissa Rd to Fannin Rd	0.10	$ 625,148
	1-18	3U(60)	Cardinal Dr (2)	135' N of Surrey Dr to CR 365	0.35	$ 2,199,084
	1-19	3U(60)	CR 365 (1)	SH 5 to Cardinal Dr	0.23	$ 1,410,733
	1-20	2U(50)	CR 365 (2)	Cardinal Dr to 1,065' N of Cardinal Dr	0.20	$ 571,209
	1-21	4D(100)	SH 5 (1)	SH 121 to 3,900' S of Melissa Rd	0.46	$ 1,916,246
	1-22	4D(100)	SH 5 (2)	3,900' S of Melissa Rd to Melissa Rd	0.74	$ 3,058,544
	1-23	4D(100)	SH 5 (3)	Melissa Rd to Throckmorton Rd	2.01	$ 8,334,393
	1-24	3U(60)	Miller Rd (1)	775' N of CR 362 to 300' S of Thornberry Dr	0.20	$ 627,223
	1-25	3U(60)	Miller Rd (2)	300' S of Thornberry Dr to SH 121	0.29	$ 1,768,812
	1-26	3U(60)	Miller Rd (3)	SH 121 to FM 545	0.26	$ 1,573,936
	1-27	3U(60)	Dallas St	Melissa Rd to Independence Dr	0.33	$ 2,073,225
	1-28	2U(50)	Liberty Way	Patton Dr to 900' S of Throckmorton Rd	0.56	$ 2,829,765
	1-29,2-6	3U(60)	Milrany Ln (1)	FM 545 to SH 121	0.62	$ 1,809,058
	1-30,2-7	3U(60)	Milrany Ln (2)	300' N of SH 121 to 100 S of Hunter's Run Pkwy	0.25	$ 553,223
	1-31	3U(60)	Milrany Ln (3)	100' S of Hunter's Run Pkwy to CR 418 (E-W)	0.28	$ 816,012
	1-32	3U(60)	Milrany Ln (4)	CR 418 (E-W) to Throckmorton Rd	0.28	$ 1,313,918
	S-1	-	Signal Installation	CR 365 & Cardinal Dr	-	$ 377,962
	S-2	-	Signal Installation	Davis Rd & US 75 NBFR	-	$ 377,962
	S-3	-	Signal Installation	Davis Rd & US 75 SBFR	-	$ 377,962
	S-4	-	Signal Installation	Fannin Rd & Davis Rd	-	$ 377,962
	S-5	-	Signal Installation	Melissa Rd & Berry Rd	-	$ 377,962
	S-6	-	Signal Installation	Melissa Rd & Fannin Rd	-	$ 377,962
	S-7	-	Signal Installation	Melissa Rd & US 75 NBFR	-	$ 377,962
	S-8	-	Signal Installation	Melissa Rd & US 75 SBFR	-	$ 377,962
	S-9	-	Signal Installation	SH 121 & Liberty Way	-	$ 377,962
	S-10	-	Signal Installation	SH 121 & Redwood Blvd	-	$ 377,962
	S-11	-	Signal Installation	SH 5 & CR 365	-	$ 377,962
	S-12	-	Signal Installation	SH 5 & Melissa Rd	-	$ 377,962
	S-13	-	Signal Installation	Throckmorton Rd & CR 418	-	$ 188,981
	S-14	-	Signal Installation	Throckmorton Rd & Liberty Way	-	$ 377,962
	PWF-1	-	Public Works Facility	-	-	$ 1,281,000
	TOC-1	-	Traffic Operations Center	-	-	$ 3,091,009
					Service Area Project Cost Subtotal	**$ 97,734,427**
					2015 Transortation Impact Fee Update Cost Per Service Area	**$ 19,167**
					Total Cost in SERVICE AREA 1	**$ 97,753,594**

Table 1.4.2. – 10-Year Capital Improvement Plan for Transportation Impact Fees with Conceptual Level Project Cost Projections – Service Area 2

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	Total Project Cost
SA 2	2-1	2U(50)	Throckmorton Rd (5)	CR 418 to 1,490' E of CR 418	0.28	$ 498,022
	2-2	2U(50)	CR 419	SH 121 to Throckmorton Rd	0.14	$ 656,959
	2-3	4D(100)	FM 545 (2)	FM 2933 to CR 415	0.90	$ 2,095,180
	2-4	3U(60)	FM 545 (3)	CR 415 to 1,750' N of CR 415	0.33	$ 485,486
	2-5	3U(60)	FM 545 (4)	1,750' N of CR 415 to CR 416	0.33	$ 240,653
	1-28,2-6	3U(60)	Milrany Ln (2)	FM 545 to SH 121	0.62	$ 1,809,058
	1-29,2-7	3U(60)	Milrany Ln (3)	300' N of SH 121 to 100 S of Hunter's Run Pkwy	0.25	$ 1,106,447
	2-8	2U(50)	CR 413 (1)	CR 413 (E-W) to 2,005' N of CR 413 (E-W)	0.38	$ 972,300
	2-9	2U(50)	CR 413 (2)	City Limit to FM 545	0.48	$ 2,474,316
	S-15	-	Signal Installation	SH 121 & CR 419	-	$ 377,962
	TOC-1	-	Traffic Operations Center	-	-	$ 1,236,404
					Service Area Project Cost Subtotal	**$ 11,952,785**
					2015 Transportation Impact Fee Update Cost Per Service Area	**$ 19,167**
					Total Cost in SERVICE AREA 2	**$ 11,971,951**

Notes:

a. 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 Melissa.
b. The planning level cost projections shall not supersede the City's design standards contained within the Subdivision Ordinance or the determination of the City Engineer for a specific project.
c. The project cost total within each Service Area may differ from the total shown in the Summary sheets contained within **Appendix A** due to some projects that are split between multiple service areas.

E. Service Unit Calculation

The basic service unit for the computation of Melissa's Transportation 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 period.

The growth in vehicle-miles from 2015 to 2025 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 2015 were made by the City, along with projections for each of these demographic statistics through 2025. The Land Use Assumptions section of this report details the growth estimates used for the impact fee determination.

The residential and non-residential statistics in the Land Use Assumptions provide the "independent variables" that are used to calculate the existing (2015) and projected (2025) transportation service units used to establish the Transportation Impact Fee maximum rates within each service area. The roadway demand service units (vehicle-miles) for each service area are the sum of the vehicle-miles "generated" by each category of land use in the service area.

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 existing and projected number 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, 9th Edition. This characteristic 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, 9th Edition and the latest Regional Origin-Destination Travel Survey performed by NCTCOG. ITE's Trip Generation Manual, 9th Edition 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 the region-wide travel characteristics found in the most recent National Household Travel Survey (NHTS).

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

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

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

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), and
- OD = Origin-Destination Reduction (50%)
- SA_L = Max Service Area Trip Length (see **Table 1.5**)

The maximum trip length was limited to 5.8 miles in Service Area 1, and 3.7 miles in Service Area 2. Chapter 395 of the Texas Local Government Code allows for a service area of six (6) miles, and the service areas within Melissa are approximately 5.8 miles and 3.7 miles in distance.

The adjustment made to the average trip length statistic in the computation of the maximum trip length is the origin-destination reduction. This adjustment is made because the Transportation Impact Fee is charged to both the origin and destination end of the trip. For example, impact fee methodology will account for a trip from home to work within Melissa 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. This methodology is consistent with that used in the National Household Travel Survey.

Table 1.5 shows the derivation of the Transportation Demand Factor for the residential land uses and the three (3) non-residential land use categories for each service area. The values utilized for all variables shown in the transportation demand factor equation are also shown in the table.

Table 1.5. Transportation Demand Factor Calculations

Variable	Residential (ITE 210)		Basic (ITE 110)		Service (ITE 710)		Retail (ITE 820)	
	SA 1	SA 2	SA 1	SA 2	SA 1	SA 2	SA 1	SA 2
T	1.00		0.97		1.49		3.71	
P_b	0%		0%		0%		34%	
L	15.5		14.65		14.65		5.60	
L_{max} *	5.80	3.70	5.80	3.70	5.80	3.70	2.80	2.80
TDF	**5.80**	**3.70**	**5.63**	**3.59**	**8.18**	**5.51**	**6.86**	**6.86**

The application of the demographic projections and the transportation demand factors are presented in the 10-Year Growth Projections in **Table 1.6**. This table shows the total vehicle-miles by service area for the years 2015 and 2025. These estimates and projections lead to the Vehicle-Miles of Travel for both 2015 and 2025.

Table 1.6. 10-Year Growth

SERVICE AREA	RESIDENTIAL VEHICLE-MILES			NON-RESIDENTIAL SQUARE FEET[4]			TRANS. DEMAND FACTOR[5]			NON-RESIDENTIAL VEHICLE-MILES[9]				TOTAL VEHICLE MILES[10]
	Single Family Units	Trip Rate / TDF[2]	VEHICLE MILES[3]	BASIC	SERVICE	RETAIL	BASIC[6]	SERVICE[7]	RETAIL[8]	BASIC	SERVICE	RETAIL	TOTAL	
		1.00					*0.97*	*1.49*	*3.71*					
1	7,702	5.80	44,672	0	1,127,129	1,784,645	5.63	8.64	6.86	0	9,738	12,243	21,981	66,653
2	405	3.70	1,499	409,855	483,055	198,294	3.59	5.51	6.86	1,471	2,662	1,360	5,493	6,992
Totals	**8,107**		**46,170**	**409,855**	**1,610,184**	**1,982,939**				**1,471**	**12,400**	**13,603**	**27,474**	**73,644**

VEHICLE-MILES OF INCREASE (2015 - 2025)

SERVICE AREA	VEH-MILES
1	66,653
2	6,992

Notes:

[1] From Land Use Assumptions

[2] Transportation Demand Factor for each Service Area (from LUVMET) using Single Family Detached Housing land use and *trip generation rate*

[3] Calculated by multiplying TDF by the number of dwelling units

[4] From Land Use Assumptions

[5] *Trip generation rate* and Transportation Demand Factors from LUVMET for each land use

[6] 'Basic' corresponds to General Light Industrial land use and *trip generation rate*

[7] 'Service' corresponds to General Office land use and *trip generation rate*

[8] 'Retail' corresponds to Shopping Center land use and *trip generation rate*

[9] Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use

[10] Residential plus non-residential vehicle-mile totals for each Service Area

1.4 Transportation Impact Fee Calculation

A. Maximum Assessable Impact Fee Per Service Unit

This section presents the maximum assessable impact fee rate calculated for each service area. The maximum assessable impact fee is the sum of the eligible Transportation 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 1.7** 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.

Table 1.7. Maximum Assessable Transportation Impact Fee Computation

Line	Title	Description
1	*Total Vehicle-Miles of Capacity Added by the CIP*	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 B** – CIP Service Units of Supply)

Each project identified in the 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 each service area.

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

A number of facilities identified in the Impact Fee CIP have traffic currently utilizing a portion of their existing capacity. This line displays the total amount of capacity along these facilities currently being used by existing traffic.

3	*Total Vehicle-Miles of Existing Deficiencies*	Number of vehicle-miles of travel that are not accommodated by the existing roadway system (from **Appendix C** – Existing Roadway Facilities Inventory)

In order to ensure that existing deficiencies on the City's roadway network are not recoverable through impact fees, this line is based on the entire roadway network within the service area. Any roadway within the service area that is deficient – even those not identified on the Impact Fee CIP – will have these additional vehicle-miles removed from the calculation.

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

This calculation identifies the portion of the Impact Fee CIP (in vehicle-miles) that may be recoverable through the collection of impact fees.

5	*Total Cost of the CIP within the Service Area*	The total cost of the projects within each service area (from **Table 1.4**: 10-Year Capital Improvement Plan with Conceptual Level Cost Opinions)

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

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

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

7	*Cost to Meet Existing Needs and Usage*	The difference between the Total Cost of the CIP (**Line 5**) and the Cost of the Net Capacity supplied (**Line 6**). **(Line 5 – Line 6)**

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

8	*Total Vehicle-Miles of New Demand over Ten Years*	Based upon the growth projection provided in the **Land Use Assumptions**, an estimate of the number of new vehicle-miles within the service area over the next ten years. (from **Table 1.6**)

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

9	*Percent of Capacity Added Attributable to New Growth*	The result of dividing Total Vehicle-Miles of New Demand (**Line 8**) by the Net Amount of Capacity Added (**Line 4**), limited to 100% (**Line 10**). This calculation is required by Chapter 395 to ensure capacity added is attributable to new growth.
10	*Chapter 395 Check*	

In order to ensure that the vehicle-miles added by the Transportation 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 Transportation Impact Fee CIP exceeds the growth projected to occur in the next ten years, the Transportation Impact Fee CIP cost is reduced accordingly.

11	*Cost of Capacity Added Attributable to New Growth*	The result of multiplying the Cost of Net Capacity Added (**Line 6**) by the Percent of Capacity Added Attributable to New Growth, limited to 100% (**Line 9**).

This value is the total Impact Fee CIP project costs (excluding financial costs) that may be recovered through impact fees. This line is determined considering the limitations to impact fees required by the Texas legislature.

A. Plan For Awarding the Transportation Impact Fee Credit

Chapter 395 of the Texas Local Government Code requires the Capital Improvement Plan for Transportation Impact Fees 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 improvements plan; or
>
> (B) In the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan…"

The following table summarizes the portions of **Table 1.7** that utilize this credit calculation, based on awarding a 50 percent credit.

Line	Title	Description
12	*Cost of Capacity Added Attributable to Growth with Credit for Ad Valorem Taxes*	A credit equal to 50% of the total projected cost, as per section 395.014 of the Texas Local Government Code.
13	*Maximum Assessable Fee Per Service Unit*	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 8). (Line 12 / Line 8)**

Table 1.8. Maximum Assessable Transportation Impact Fee

	SERVICE AREA:	1	2
1	TOTAL VEH-MI OF CAPACITY ADDED BY THE CIP (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, **APPENDIX B)**	29,948	6,225
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, **APPENDIX B**)	3,288	688
3	TOTAL VEH-MI OF EXISTING DEFICIENCIES (FROM EXISTING ROADWAY FACILITIES INVENTORY, **APPENDIX C**)	86	0
4	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2 - LINE 3)	26,574	5,537
5	TOTAL COST OF THE CIP WITHIN SERVICE AREA (FROM **TABLE 1.4**)	$ 97,753,594	$ 11,971,951
6	COST OF NET CAPACITY SUPPLIED (LINE 4 / LINE 1) * (LINE 5)	$ 86,740,484	$ 10,648,786
7	COST TO MEET EXISTING NEEDS AND USAGE (LINE 5 - LINE 6)	$ 11,013,110	$ 1,323,165
8	TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS **(FROM TABLE 1.6 and Land Use Assumptions)**	66,653	6,992
9	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 8 / LINE 4)	250.8%	126.2%
10	IF LINE 8 > LINE 4, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE	100.0%	100.0%
11	COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 6 * LINE 10)	$ 86,740,484	$ 10,648,786
12	CREDIT FOR AD VALOREM TAXES (50% OF LINE 11)	$ 43,370,242	$ 5,324,393
13	MAX ASSESSABLE FEE PER SERVICE UNIT ($ PER VEH-MI) (LINE 12 / LINE 8)	$ 651	$ 762

B. Service Unit Demand Per Unit of Development

The Transportation 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 1.9**. This table lists the predominant land uses that may occur within the City of Melissa. 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 ITE's Trip Generation Manual, 9th Edition, the latest edition of the definitive source 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 the Regional Origin-Destination Travel Survey performed by the North Central Texas Council of Governments (NCTCOG). 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 service area trip length, the maximum trip length used for calculation is reduced. This reduction, as discussed previously, limits the maximum trip length to the approximate size of the service areas (SA 1 – 5.8 mi, SA 2 – 3.7 mi).

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 attributed to each land use category. 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 1.9. 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	Average Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi) [SA 1]	Max Trip Length (mi) [SA 2]	Veh-Mi Per Dev-Unit (SA 1)	Veh-Mi Per Dev-Unit (SA 2)
PORT AND TERMINAL													
Truck Terminal	030	Acre	6.55			6.55	14.65	50%	7.32	5.80	3.70	37.99	24.24
INDUSTRIAL													
General Light Industrial	110	1,000 SF GFA	0.97			0.97	14.65	50%	7.33	5.80	3.70	5.63	3.59
General Heavy Industrial	120	1,000 SF GFA	0.68			0.68	14.65	50%	7.33	5.80	3.70	3.94	2.52
Industrial Park	130	1,000 SF GFA	0.85			0.85	14.65	50%	7.33	5.80	3.70	4.93	3.15
Warehousing	150	1,000 SF GFA	0.32			0.32	14.65	50%	7.33	5.80	3.70	1.86	1.18
Mini-Warehouse	151	1,000 SF GFA	0.26			0.26	14.65	50%	7.33	5.80	3.70	1.51	0.96
RESIDENTIAL													
Single-Family Detached Housing	210	Dwelling Unit	1.00			1.00	15.50	50%	7.75	5.80	3.70	5.80	3.70
Apartment/Multi-family	220	Dwelling Unit	0.62			0.62	15.50	50%	7.75	5.80	3.70	3.60	2.29
Residential Condominium/Townhome	230	Dwelling Unit	0.52			0.52	15.50	50%	7.75	5.80	3.70	3.02	1.92
Senior Adult Housing-Detached	251	Dwelling Unit	0.27			0.27	15.50	50%	7.75	5.80	3.70	1.57	1.00
Senior Adult Housing-Attached	252	Dwelling Unit	0.25			0.25	15.50	50%	7.75	5.80	3.70	1.45	0.93
Assisted Living	254	Beds	0.22			0.22	15.50	50%	7.75	5.80	3.70	1.28	0.81
LODGING													
Hotel	310	Room	0.60			0.60	6.43	50%	3.22	3.22	3.22	1.93	1.93
Motel / Other Lodging Facilities	320	Room	0.47			0.47	6.43	50%	3.22	3.22	3.22	1.51	1.51
RECREATIONAL													
Golf Driving Range	432	Tee	1.25			1.25	7.86	50%	3.93	3.93	3.70	4.91	4.63
Golf Course	430	Acre	0.30			0.30	7.86	50%	3.93	3.93	3.70	1.18	1.11
Recreational Community Center	495	1,000 SF GFA	2.74			2.74	7.86	50%	3.93	3.93	3.70	10.77	10.14
Ice Skating Rink	465	1,000 SF GFA	2.36			2.36	7.86	50%	3.93	3.93	3.70	9.27	8.73
Miniature Golf Course	431	Hole	0.33			0.33	7.86	50%	3.93	3.93	3.70	1.30	1.22
Multiplex Movie Theater	445	Screens	13.64			13.64	7.86	50%	3.93	3.93	3.70	53.61	50.47
Racquet / Tennis Club	491	Court	3.35			3.35	7.86	50%	3.93	3.93	3.70	13.17	12.40
INSTITUTIONAL													
Church	560	1,000 SF GFA	0.55			0.55	8.31	50%	4.16	4.16	3.70	2.29	2.04
Day Care Center	565	1,000 SF GFA	12.34	44%	B	6.91	3.49	50%	1.75	1.75	1.75	12.09	12.09
Primary/Middle School (1-8)	522	Students	0.16			0.16	3.49	50%	1.75	1.75	1.75	0.28	0.28
High School (9-12)	530	Students	0.13			0.13	3.49	50%	1.75	1.75	1.75	0.23	0.23
Junior / Community College	540	Students	0.12			0.12	10.44	50%	5.22	5.22	3.70	0.63	0.44
University / College	550	Students	0.17			0.17	10.44	50%	5.22	5.22	3.70	0.89	0.63
MEDICAL													
Clinic	630	1,000 SF GFA	5.18			5.18	9.85	50%	4.93	4.93	3.70	25.54	19.17
Hospital	610	1,000 SF GFA	0.93			0.93	9.85	50%	4.93	4.93	3.70	4.58	3.44
Nursing Home	620	Beds	0.22			0.22	9.85	50%	4.93	4.93	3.70	1.08	0.81
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	4.72	30%	B	3.30	9.85	50%	4.93	4.93	3.70	16.27	12.21
OFFICE													
Corporate Headquarters Building	714	1,000 SF GFA	1.41			1.41	14.65	50%	7.33	5.80	3.70	8.18	5.22
General Office Building	710	1,000 SF GFA	1.49			1.49	14.65	50%	7.33	5.80	3.70	8.64	5.51
Medical-Dental Office Building	720	1,000 SF GFA	3.57			3.57	9.85	50%	4.93	4.93	3.70	17.60	13.21
Single Tenant Office Building	715	1,000 SF GFA	1.74			1.74	14.65	50%	7.33	5.80	3.70	10.09	6.44
Office Park	750	1,000 SF GFA	1.48			1.48	14.65	50%	7.33	5.80	3.70	8.58	5.48

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (Aug 2014)

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

Table 1.9. Cont'd. 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	Average Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi) [SA 1]	Max Trip Length (mi) [SA 2]	Veh-Mi Per Dev-Unit (SA 1)	Veh-Mi Per Dev-Unit (SA 2)
COMMERCIAL													
Automobile Related													
Automobile Care Center	942	1,000 SF Occ. GLA	3.11	40%	B	1.87	4.45	50%	2.23	2.23	2.23	4.17	4.17
Automobile Parts Sales	843	1,000 SF GFA	5.98	43%	A	3.41	4.45	50%	2.23	2.23	2.23	7.60	7.60
Gasoline/Service Station	944	Vehicle Fueling Position	13.87	42%	A	8.04	1.20	50%	0.60	0.60	0.60	4.82	4.82
Gasoline/Service Station w/ Conv Market	945	Vehicle Fueling Position	13.51	56%	B	5.94	1.20	50%	0.60	0.60	0.60	3.56	3.56
Gasoline/Service Station w/ Conv Market and Car Wash	946	Vehicle Fueling Position	13.86	56%	A	6.10	1.20	50%	0.60	0.60	0.60	3.66	3.66
New and Used Car Sales	841	1,000 SF GFA	2.62	20%	B	2.10	4.45	50%	2.23	2.23	2.23	4.68	4.68
Quick Lubrication Vehicle Shop	941	Servicing Positions	5.19	40%	B	3.11	4.45	50%	2.23	2.23	2.23	6.94	6.94
Self-Service Car Wash	947	Stall	5.54	40%	B	3.32	1.20	50%	0.60	0.60	0.60	1.99	1.99
Tire Store	848	1,000 SF GFA	4.15	28%	A	2.99	4.45	50%	2.23	2.23	2.23	6.67	6.67
Dining													
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	32.65	50%	A	16.33	5.64	50%	2.82	2.82	2.82	46.05	46.05
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	26.15	50%	B	13.08	5.64	50%	2.82	2.82	2.82	36.89	36.89
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	9.85	43%	A	5.61	6.07	50%	3.04	3.04	3.04	17.05	17.05
Sit Down Restaurant	931	1,000 SF GFA	7.49	44%	A	4.19	6.07	50%	3.04	3.04	3.04	12.74	12.74
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	42.80	70%	A	12.84	4.53	50%	2.27	2.27	2.27	29.15	29.15
Other Retail													
Free-Standing Discount Superstore	813	1,000 SF GFA	4.35	30%	C	3.05	5.60	50%	2.80	2.80	2.80	8.54	8.54
Free-Standing Retail Store	815	1,000 SF GFA	4.98	30%	C	3.49	5.60	50%	2.80	2.80	2.80	9.77	9.77
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	5.60	50%	2.80	2.80	2.80	13.61	13.61
Home Improvement Superstore	862	1,000 SF GFA	2.33	48%	A	1.21	5.60	50%	2.80	2.80	2.80	3.39	3.39
Pharmacy/Drugstore	881	1,000 SF GFA	9.91	49%	A	5.05	5.60	50%	2.80	2.80	2.80	14.14	14.14
Shopping Center	820	1,000 SF GLA	3.71	34%	A	2.45	5.60	50%	2.80	2.80	2.80	6.86	6.86
Supermarket	850	1,000 SF GFA	9.48	36%	A	6.07	5.60	50%	2.80	2.80	2.80	17.00	17.00
Toy/Children's Superstore	864	1,000 SF GFA	4.99	30%	B	3.49	5.60	50%	2.80	2.80	2.80	9.77	9.77
Department Store	875	1,000 SF GFA	1.87	30%	B	1.31	5.60	50%	2.80	2.80	2.80	3.67	3.67
SERVICES													
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	4.45	50%	2.23	2.23	2.23	16.23	16.23
Drive-In Bank	912	Drive-in Lanes	33.24	47%	A	17.62	4.45	50%	2.23	2.23	2.23	39.29	39.29
Hair Salon	918	1,000 SF GLA	1.45	30%	B	1.02	4.45	50%	2.23	2.23	2.23	2.27	2.27

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (Aug 2014)

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

1.5 Sample Calculations

The following section details two (2) examples of maximum assessable Transportation Impact Fee calculations.

Example 1:
Development Type - One (1) Unit of Single-Family Housing in Service Area 1

Transportation Impact Fee Calculation Steps – Example 1	
Step 1	**Determine Development Unit and Vehicle-Miles Per Development Unit**
	From Table 1.9 [Land Use – Vehicle-mile Equivalency Table] Development Type: 1 Dwelling Unit of Single-Family Detached Housing Number of Development Units: 1 Dwelling Unit Veh-Mi Per Development Unit: 5.80
Step 2	**Determine Maximum Assessable Impact Fee Per Service Unit**
	From Table 1.7, Line 13 [Maximum Assessable Fee Per Service Unit] Service Area 1: $651
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 * 5.80* $651 Maximum Assessable Impact Fee = $3,776

Example 2:
Development Type – 125,000 square foot Home Improvement Superstore in Service Area 2

Transportation Impact Fee Calculation Steps – Example 2	
Step 1	**Determine Development Unit and Vehicle-Miles Per Development Unit**
	From Table 1.9 [Land Use – Vehicle-mile Equivalency Table] Development Type: 125,000 square feet of Home Improvement Superstore Development Unit: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 3.39
Step 2	**Determine Maximum Assessable Impact Fee Per Service Unit**
	From Table 1.7, Line 13 [Maximum Assessable Fee Per Service Unit] Service Area 2: $762
Step 3	**Determine Maximum Assessable Impact Fee**
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 125 * 3.39 * $762 Maximum Assessable Impact Fee = $322,898

1.6 Conclusion

The City of Melissa has established a process to implement the assessment and collection of Transportation 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 Transportation Impact Fee that could be assessed by the City of Melissa within each of the two (2) service areas. The maximum assessable Transportation Impact Fees calculated in this report are presented in the table below:

Service Area	1	2
2015 Transportation Impact Fee Study Maximum Assessible Fee Per Vehicle-Mile	$ 651	$ 762

This document serves as a guide to the assessment of Transportation 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 and update the Transportation Impact Fee Ordinance accordingly.

In conclusion, it is our opinion that the data and methodology used in this update 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.

1.7 Appendices

A. Conceptual Level Project Cost Projections

SERVICE AREA 1
SERVICE AREA 2

B. CIP Service Units of Supply

C. Existing Roadway Facilities Inventory

A. Conceptual Level Project Cost Projections

City of Melissa - 2015 Transportation Impact Fee Update

Capital Improvement Plan for Transportation Impact Fees

Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area 1

#	IF Classification	Project	Limits		Project Cost	Total Cost in Service Area
			From	To		
1-1	4D(100)	Throckmorton Rd (1)	US 75 NBFR	1,170' E of US 75 NBFR	$ 1,970,877	$ 985,438.70
1-2	4D(100)	Throckmorton Rd (2)	SH 5	Liberty Way (Future)	$ 3,286,179	$ 3,286,179
1-3	4D(100)	Throckmorton Rd (3)	Liberty Way (Future)	Spruce Rd	$ 6,379,570	$ 6,379,570
1-4	4D(100)	Throckmorton Rd (4)	Spruce Rd	990' East of Spruce Rd	$ 1,667,985	$ 833,992
1-5	3U(60)	Melissa Rd (1)	1,755' W of CR 277	CR 277	$ 6,363,514	$ 6,363,514
1-6	4D(100)	Melissa Rd (2)	Co Rd 277	US 75 SBFR	$ 3,840,791	$ 3,840,791
1-7	6D(120)	Melissa Rd (3)	SH 5	Co Rd 365	$ 1,645,856	$ 1,645,856
1-8	6D(120)	Melissa Rd (4)	Co Rd 365	SH 121	$ 7,905,639	$ 7,905,638.77
1-9	4D(100)	FM 545 (1)	SH 121	FM 2933	$ 4,853,891	$ 4,853,891
1-10	4D(100)	Davis Rd (1)	CR 277	US 75 SBFR	$ 3,056,589	$ 3,056,589
1-11	4D(100)	Davis Rd (2)	US 75 NBFR	Fannin Rd	$ 3,764,722	$ 3,764,722
1-12	3U(60)	CR 277 (1)	2,285' S of Melissa Rd	1,275' S of Melissa Rd	$ 1,172,845	$ 586,422
1-13	3U(60)	CR 277 (2)	1,275' S of Melissa Rd	Melissa Rd	$ 2,578,046	$ 2,578,046
1-14	3U(60)	CR 277 (3)	515' N of Melissa Rd	Throckmorton Creek	$ 5,414,726	$ 2,707,363
1-15	4D(100)	Fannin Rd (1)	SH 121	Davis Rd	$ 1,424,564	$ 1,424,564
1-16	3U(60)	Fannin Rd (2)	Davis Rd	Melissa Rd	$ 6,566,825	$ 6,566,825
1-17	3U(60)	Cardinal Dr (1)	Melissa Rd	Fannin Rd	$ 625,148	$ 625,148
1-18	3U(60)	Cardinal Dr (2)	135' N of Surrey Dr	CR 365	$ 2,199,084	$ 2,199,084
1-19	3U(60)	CR 365 (1)	SH 5	Cardinal Dr	$ 1,410,733	$ 1,410,733
1-20	2U(50)	CR 365 (2)	Cardinal Dr	1,065' N of Cardinal Dr	$ 1,142,417	$ 571,209
1-21	4D(100)	SH 5 (1)	SH 121	3,900' S of Melissa Rd	$ 1,916,246	$ 1,916,246
1-22	4D(100)	SH 5 (2)	3,900' S of Melissa Rd	Melissa Rd	$ 3,058,544	$ 3,058,544
1-23	4D(100)	SH 5 (3)	Melissa Rd	Throckmorton Rd	$ 8,334,393	$ 8,334,393
1-24	3U(60)	Miller Rd (1)	775' N of CR 362	300' S of Thornberry Dr	$ 1,254,446	$ 627,223
1-25	3U(60)	Miller Rd (2)	300' S of Thornberry Dr	SH 121	$ 1,768,812	$ 1,768,812
1-26	3U(60)	Miller Rd (3)	SH 121	FM 545	$ 1,573,936	$ 1,573,936
1-27	3U(60)	Dallas St	Melissa Rd	Independence Dr	$ 2,073,225	$ 2,073,225
1-28	2U(50)	Liberty Way	Patton Dr	900' S of Throckmorton Rd	$ 2,829,765	$ 2,829,765
1-29,2-6	3U(60)	Milrany Ln (1)	FM 545	SH 121	$ 3,618,116	$ 1,809,058
1-30,2-7	3U(60)	Milrany Ln (2)	300' N of SH 121	100 S of Hunter's Run Pkwy	$ 1,106,447	$ 553,223
1-31	3U(60)	Milrany Ln (3)	100' S of Hunter's Run Pkwy	CR 418 (E-W)	$ 1,632,025	$ 816,012
1-32	3U(60)	Milrany Ln (4)	CR 418 (E-W)	Throckmorton Rd	$ 1,313,918	$ 1,313,918
Intersection Improvements						
S-1		Signal Installation	CR 365 & Cardinal Dr		$ 377,962	$ 377,962
S-2		Signal Installation	Davis Rd & US 75 NBFR		$ 377,962	$ 377,962
S-3		Signal Installation	Davis Rd & US 75 SBFR		$ 377,962	$ 377,962
S-4		Signal Installation	Fannin Rd & Davis Rd		$ 377,962	$ 377,962
S-5		Signal Installation	Melissa Rd & Berry Rd		$ 377,962	$ 377,962
S-6		Signal Installation	Melissa Rd & Fannin Rd		$ 377,962	$ 377,962
S-7		Signal Installation	Melissa Rd & US 75 NBFR		$ 377,962	$ 377,962
S-8		Signal Installation	Melissa Rd & US 75 SBFR		$ 377,962	$ 377,962
S-9		Signal Installation	SH 121 & Liberty Way		$ 377,962	$ 377,962
S-10		Signal Installation	SH 121 & Redwood Blvd		$ 377,962	$ 377,962
S-11		Signal Installation	SH 5 & CR 365		$ 377,962	$ 377,962
S-12		Signal Installation	SH 5 & Melissa Rd		$ 377,962	$ 377,962
S-13		Signal Installation	Throckmorton Rd & CR 418		$ 377,962	$ 188,981
S-14		Signal Installation	Throckmorton Rd & Liberty Way		$ 377,962	$ 377,962
Other Improvements						
PWF-1		Public Works Facility			$ 3,843,000	$ 1,281,000
TOC-1		Traffic Operations Center			$ 8,242,690	$ 3,091,009

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

City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-1**
Name:	Throckmorton Rd (1)	**This project consists of the reconstruction of the existing facility to a four lane divided minor arterial.**	
Limits:	US 75 NBFR to 1,170' E of US 75 NBFR		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	1,170		
Service Area(s):	1,ETJ		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	8,320	cy	$ 10.00	$ 83,200
202	6" Lime Stabilization (with Lime @ 27#/sy)	7,020	sy	$ 6.00	$ 42,120
302	10" Concrete Pavement	6,500	sy	$ 50.00	$ 325,000
402	4" Topsoil	5,200	sy	$ 2.50	$ 13,000
502	6' Concrete Sidewalk	14,040	sf	$ 4.50	$ 63,180
602	Turn Lanes and Median Openings	623	sy	$ 56.00	$ 34,911
				Paving Construction Cost Subtotal:	**$ 561,411**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 28,071
√	Pavement Markings/Signs/Posts		3%	$ 16,842
√	Roadway Drainage	Standard Internal System	35%	$ 196,494
√	Illumination		6%	$ 33,685
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 16,842
√	Sewer	Minor Adjustments	2%	$ 11,228
√	Establish Turf/Erosion Control		2%	$ 11,228
√	Basic Landscaping and Irrigation		4%	$ 22,456
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 336,847**

Paving and Allowance Subtotal:		**$ 898,257**
Construction Contingency:	15%	$ 134,739
Mobilization	6%	$ 53,895
Prep ROW	3%	$ 26,948
Construction Cost TOTAL:		**$ 1,114,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,114,000**
Engineering/Survey/Testing:		20%	$ 222,800
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 87,750
		Project Subtotal:	**$ 1,425,000**
		Bond Issuance: **1%**	$ 14,250
		Project Total:	**$ 1,439,250**
		Financing: **37%**	$ 531,627.41
		Road Escrow Funds:	
		Impact Fee Project Cost TOTAL:	**$ 1,970,877**

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 Melissa

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 Melissa
2015 Transportation Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
H&F Consulting, Inc.
updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-2**
Name:	Throckmorton Rd (2)	**This project consisted of the construction of a new four lane divided minor arterial. Based on information provided by the city, the project cost was $2,376,000.**		
Limits:	SH 5 to Liberty Way (Future)			
Impact Fee Class:	4D(100)			
Ultimate Class:	Minor Arterial			
Length (lf):	2,880			
Service Area(s):	1			

Impact Fee Project Cost Summary			
Project Subtotal:		**$**	**2,376,000**
Bond Issuance:	**1%**	$	23,760
Project Total:		**$**	**2,399,760**
Financing:	**37%**	$	886,418.75
Impact Fee Project Cost TOTAL:		**$**	**3,286,179**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-3**
Name:	Throckmorton Rd (3)	**This project consists of the construction of a new four lane divided minor arterial.**	
Limits:	Liberty Way (Future) to Spruce Rd		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	4,265		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	30,329	cy	$ 10.00	$ 303,289
202	6" Lime Stabilization (with Lime @ 27#/sy)	25,590	sy	$ 6.00	$ 153,540
302	10" Concrete Pavement	23,694	sy	$ 50.00	$ 1,184,722
402	4" Topsoil	18,956	sy	$ 2.50	$ 47,389
502	6' Concrete Sidewalk	51,180	sf	$ 4.50	$ 230,310
602	Turn Lanes and Median Openings	2,273	sy	$ 56.00	$ 127,261
				Paving Construction Cost Subtotal:	**$ 2,046,511**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Signs/Posts		3%	$ 61,395
√	Roadway Drainage	Standard Internal System	35%	$ 716,279
√	Illumination		6%	$ 122,791
√	Special Drainage Structures	Minor Stream Crossing	0%	$ 201,500
√	Water	Minor Adjustments	3%	$ 61,395
√	Sewer	Minor Adjustments	2%	$ 40,930
√	Establish Turf/Erosion Control		2%	$ 40,930
√	Basic Landscaping and Irrigation		4%	$ 81,860
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 1,327,081**

**Allowances based on % of Paving Construction Cost Subtotal

Paving and Allowance Subtotal:		**$ 3,373,592**
Construction Contingency:	15%	$ 506,039
Mobilization	6%	$ 202,415
Prep ROW	3%	$ 101,208
Construction Cost TOTAL:		**$ 4,184,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 4,184,000**
Engineering/Survey/Testing:		20%	$ 836,800
ROW/Easement Acquisition:		$1.50 / Sq. Ft.	$ 639,750
		Project Subtotal:	**$ 5,661,000**
		Bond Issuance: **1%**	$ 56,610
		Project Total:	**$ 5,717,610**
		Financing: **37%**	$ 2,111,959.82
		Road Escrow Funds (12/21/05 - L109 McKinney Investments - North Creek):	$ (285,000.00)
		Road Escrow Funds (4/17/09 - L109 McKinney Investments - North Creek Facilities Agreement):	$ (1,165,000.00)
		Impact Fee Project Cost TOTAL:	**$ 6,379,570**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-4**
Name:	Throckmorton Rd (4)	**This project consists of the reconstruction of the existing facility to a four lane divided minor arterial.**	
Limits:	Spruce Rd to 990' East of Spruce Rd		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	990		
Service Area(s):	1,ETJ		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	7,040	cy	$ 10.00	$ 70,400
202	6" Lime Stabilization (with Lime @ 27#/sy)	5,940	sy	$ 6.00	$ 35,640
302	10" Concrete Pavement	5,500	sy	$ 50.00	$ 275,000
402	4" Topsoil	4,400	sy	$ 2.50	$ 11,000
502	6' Concrete Sidewalk	11,880	sf	$ 4.50	$ 53,460
602	Turn Lanes and Median Openings	528	sy	$ 56.00	$ 29,540
				Paving Construction Cost Subtotal:	**$ 475,040**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 23,752
√	Pavement Markings/Signs/Posts		3%	$ 14,251
√	Roadway Drainage	Standard Internal System	35%	$ 166,264
√	Illumination		6%	$ 28,502
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 14,251
√	Sewer	Minor Adjustments	2%	$ 9,501
√	Establish Turf/Erosion Control		2%	$ 9,501
√	Basic Landscaping and Irrigation		4%	$ 19,002
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 285,024**

****Allowances based on % of Paving Construction Cost Subtotal**

Paving and Allowance Subtotal:		**$ 760,064**
Construction Contingency:	15%	$ 114,010
Mobilization	6%	$ 45,604
Prep ROW	3%	$ 22,802
Construction Cost TOTAL:		**$ 943,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 943,000**
Engineering/Survey/Testing:		20%	$ 188,600
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 74,250
		Project Subtotal:	**$ 1,206,000**
		Bond Issuance: **1%**	$ 12,060
		Project Total:	**$ 1,218,060**
		Financing: **37%**	$ 449,924.67
		Impact Fee Project Cost TOTAL:	**$ 1,667,985**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-5**
Name:	Melissa Rd (1)	**This project consists of the reconstruction of the existing facility to a three lane undivided minor collector.**		
Limits:	1,755' W of CR 277 to CR 277			
Impact Fee Class:	3U(60)			
Ultimate Class:	Minor Collector			
Length (lf):	1,755			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	7,800	cy	$ 10.00	$ 78,000
204	6" Lime Stabilization (with Lime @ 27#/sy)	7,605	sy	$ 6.00	$ 45,630
304	10" Concrete Pavement	7,215	sy	$ 50.00	$ 360,750
404	4" Topsoil	2,340	sy	$ 2.50	$ 5,850
504	6' Concrete Sidewalk	21,060	sf	$ 4.50	$ 94,770
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 585,000**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 29,250
√	Pavement Markings/Signs/Posts		3%	$ 17,550
√	Roadway Drainage	Standard Internal System	35%	$ 204,750
√	Illumination		6%	$ 35,100
√	Special Drainage Structures	Bridge Crossing	0%	$ 2,102,100
√	Water	Minor Adjustments	3%	$ 17,550
√	Sewer	Minor Adjustments	2%	$ 11,700
√	Establish Turf/Erosion Control		2%	$ 11,700
√	Basic Landscaping and Irrigation		4%	$ 23,400
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 2,453,100**

Paving and Allowance Subtotal: **$ 3,038,100**

Construction Contingency: 15% $ 455,715

Mobilization 6% $ 182,286

Prep ROW 3% $ 91,143

Construction Cost TOTAL: **$ 3,768,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,768,000**
Engineering/Survey/Testing:		20%	$ 753,600
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 78,975
		Project Subtotal:	**$ 4,601,000**
		Bond Issuance: **1%**	$ 46,010
		Project Total:	**$ 4,647,010**
		Financing: **37%**	$ 1,716,503.64
		Impact Fee Project Cost TOTAL:	**$ 6,363,514**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-6**
Name:	Melissa Rd (2)	**This project consists of the reconstruction of the existing facility to a four lane divided minor arterial.**	
Limits:	Co Rd 277 to US 75 SBFR		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	1,665		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	11,840	cy	$ 10.00	$ 118,400
202	6" Lime Stabilization (with Lime @ 27#/sy)	9,990	sy	$ 6.00	$ 59,940
302	10" Concrete Pavement	9,250	sy	$ 50.00	$ 462,500
402	4" Topsoil	7,400	sy	$ 2.50	$ 18,500
502	6' Concrete Sidewalk	19,980	sf	$ 4.50	$ 89,910
602	Turn Lanes and Median Openings	887	sy	$ 56.00	$ 49,681
				Paving Construction Cost Subtotal:	**$ 798,931**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 39,947
√	Pavement Markings/Signs/Posts		3%	$ 23,968
√	Roadway Drainage	Standard Internal System	35%	$ 279,626
√	Illumination		6%	$ 47,936
√	Special Drainage Structures	Minor Stream Crossing	0%	$ 503,750
√	Water	Minor Adjustments	3%	$ 23,968
√	Sewer	Minor Adjustments	2%	$ 15,979
√	Establish Turf/Erosion Control		2%	$ 15,979
√	Basic Landscaping and Irrigation		4%	$ 31,957
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 983,109**

**Allowances based on % of Paving Construction Cost Subtotal

Paving and Allowance Subtotal:		**$ 1,782,039**
Construction Contingency:	15%	$ 267,306
Mobilization	6%	$ 106,922
Prep ROW	3%	$ 53,461
Construction Cost TOTAL:		**$ 2,210,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,210,000**
Engineering/Survey/Testing:		20%	$ 442,000
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 124,875
		Project Subtotal:	**$ 2,777,000**
		Bond Issuance: **1%**	$ 27,770
		Project Total:	**$ 2,804,770**
		Financing: **37%**	$ 1,036,020.56
		Impact Fee Project Cost TOTAL:	**$ 3,840,791**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-7**
Name:	Melissa Rd (3)	**This project consists of the construction of a new six lane divided major arterial.**		
Limits:	SH 5 to Co Rd 365			
Impact Fee Class:	6D(120)			
Ultimate Class:	Major Arterial			
Length (lf):	660			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	6,747	cy	$ 10.00	$ 67,467
201	6" Lime Stabilization (with Lime @ 27#/sy)	5,720	sy	$ 6.00	$ 34,320
301	11" Concrete Pavement	5,427	sy	$ 55.00	$ 298,467
401	4" Topsoil	2,640	sy	$ 2.50	$ 6,600
501	6' Concrete Sidewalk	7,920	sf	$ 4.50	$ 35,640
601	Turn Lanes and Median Openings	352	sy	$ 61.00	$ 21,452
				Paving Construction Cost Subtotal:	**$ 463,945**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Signs/Posts		3%	$ 13,918
√	Roadway Drainage	Standard Internal System	35%	$ 162,381
√	Illumination		6%	$ 27,837
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 13,918
√	Sewer	Minor Adjustments	2%	$ 9,279
√	Establish Turf/Erosion Control		2%	$ 9,279
√	Basic Landscaping and Irrigation		4%	$ 18,558
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 255,170**

Paving and Allowance Subtotal:		**$ 719,115**
Construction Contingency:	15%	$ 107,867
Mobilization	6%	$ 43,147
Prep ROW	3%	$ 21,573
Construction Cost TOTAL:		**$ 892,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 892,000**
Engineering/Survey/Testing:		20%	$ 178,400
ROW/Easement Acquisition:		$1.50 / Sq. Ft.	$ 118,800
		Project Subtotal:	**$ 1,190,000**
		Bond Issuance: **1%**	$ 11,900
		Project Total:	**$ 1,201,900**
		Financing: **37%**	$ 443,955.52
		Impact Fee Project Cost TOTAL:	**$ 1,645,856**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-8**
Name:	Melissa Rd (4)	**This project consists of the reconstruction of the existing facility to a six lane divided major arterial.**		
Limits:	Co Rd 365 to SH 121			
Impact Fee Class:	6D(120)			
Ultimate Class:	Major Arterial			
Length (lf):	3,030			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	30,973	cy	$ 10.00	$ 309,733
201	6" Lime Stabilization (with Lime @ 27#/sy)	26,260	sy	$ 6.00	$ 157,560
301	11" Concrete Pavement	24,913	sy	$ 55.00	$ 1,370,233
401	4" Topsoil	12,120	sy	$ 2.50	$ 30,300
501	6' Concrete Sidewalk	36,360	sf	$ 4.50	$ 163,620
601	Turn Lanes and Median Openings	1,614	sy	$ 61.00	$ 98,483
				Paving Construction Cost Subtotal:	**$ 2,129,929**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 106,496
√	Pavement Markings/Signs/Posts		3%	$ 63,898
√	Roadway Drainage	Standard Internal System	35%	$ 745,475
√	Illumination		6%	$ 127,796
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 63,898
√	Sewer	Minor Adjustments	2%	$ 42,599
√	Establish Turf/Erosion Control		2%	$ 42,599
√	Basic Landscaping and Irrigation		4%	$ 85,197
√	Miscellaneous:	At Grade RR Crossing	$250,000	$ 250,000
			Allowance Subtotal:	**$ 1,527,958**

****Allowances based on % of Paving Construction Cost Subtotal**

Paving and Allowance Subtotal:		**$ 3,657,887**
Construction Contingency:	15%	$ 548,683
Mobilization	6%	$ 219,473
Prep ROW	3%	$ 109,737
Construction Cost TOTAL:		**$ 4,536,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 4,536,000**
Engineering/Survey/Testing:		20%	$ 907,200
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 272,700
		Project Subtotal:	**$ 5,716,000**
		Bond Issuance: **1%**	$ 57,160
		Project Total:	**$ 5,773,160**
		Financing: **37%**	$ 2,132,478.77
		Impact Fee Project Cost TOTAL:	**$ 7,905,639**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-9**
Name:	FM 545 (1)	**This project consists of the reconstruction of the existing facility to a four lane divided minor arterial.**	
Limits:	SH 121 to FM 2933		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	5,120		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	36,409	cy	$ 10.00	$ 364,089
202	6" Lime Stabilization (with Lime @ 27#/sy)	30,720	sy	$ 6.00	$ 184,320
302	10" Concrete Pavement	28,444	sy	$ 50.00	$ 1,422,222
402	4" Topsoil	22,756	sy	$ 2.50	$ 56,889
502	6' Concrete Sidewalk	61,440	sf	$ 4.50	$ 276,480
602	Turn Lanes and Median Openings	2,728	sy	$ 56.00	$ 152,773
				Paving Construction Cost Subtotal:	**$ 2,456,773**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 122,839
√	Pavement Markings/Signs/Posts		3%	$ 73,703
√	Roadway Drainage	Standard Internal System	35%	$ 859,870
√	Illumination		6%	$ 147,406
√	Special Drainage Structures	Major Stream Crossing	0%	$ 785,850
√	Water	Minor Adjustments	3%	$ 73,703
√	Sewer	Minor Adjustments	2%	$ 49,135
√	Establish Turf/Erosion Control		2%	$ 49,135
√	Basic Landscaping and Irrigation		4%	$ 98,271
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 2,259,914**

**Allowances based on % of Paving Construction Cost Subtotal

Paving and Allowance Subtotal:		**$ 4,716,686**
Construction Contingency:	15%	$ 707,503
Mobilization	6%	$ 283,001
Prep ROW	3%	$ 141,501
Construction Cost TOTAL:		**$ 5,849,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 5,849,000**
Engineering/Survey/Testing:		20%	$ 1,169,800
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -
		Project Subtotal:	**$ 7,019,000**
		City of Melissa Contribution (50%):	**$ 3,509,500**
		Bond Issuance: **1%**	$ 35,095
		Project Total:	**$ 3,544,595**
		Financing: **37%**	$ 1,309,295.70
		Impact Fee Project Cost TOTAL:	**$ 4,853,891**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-10**
Name:	Davis Rd (1)	**This project consists of the reconstruction of the existing facility to a four lane divided minor arterial.**		
Limits:	CR 277 to US 75 SBFR			
Impact Fee Class:	4D(100)			
Ultimate Class:	Minor Arterial			
Length (lf):	1,815			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	12,907	cy	$ 10.00	$ 129,067
202	6" Lime Stabilization (with Lime @ 27#/sy)	10,890	sy	$ 6.00	$ 65,340
302	10" Concrete Pavement	10,083	sy	$ 50.00	$ 504,167
402	4" Topsoil	8,067	sy	$ 2.50	$ 20,167
502	6' Concrete Sidewalk	21,780	sf	$ 4.50	$ 98,010
602	Turn Lanes and Median Openings	967	sy	$ 56.00	$ 54,157
				Paving Construction Cost Subtotal:	**$ 870,907**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 43,545
√	Pavement Markings/Signs/Posts		3%	$ 26,127
√	Roadway Drainage	Standard Internal System	35%	$ 304,817
√	Illumination		6%	$ 52,254
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 26,127
√	Sewer	Minor Adjustments	2%	$ 17,418
√	Establish Turf/Erosion Control		2%	$ 17,418
√	Basic Landscaping and Irrigation		4%	$ 34,836
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 522,544**

Paving and Allowance Subtotal:		**$ 1,393,451**
Construction Contingency:	15%	$ 209,018
Mobilization	6%	$ 83,607
Prep ROW	3%	$ 41,804
Construction Cost TOTAL:		**$ 1,728,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,728,000**
Engineering/Survey/Testing:		20%	$ 345,600
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 136,125
		Project Subtotal:	**$ 2,210,000**
		Bond Issuance: **1%**	$ 22,100
		Project Total:	**$ 2,232,100**
		Financing: **37%**	$ 824,488.82
		Impact Fee Project Cost TOTAL:	**$ 3,056,589**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-11**
Name:	Davis Rd (2)	**This project consists of the reconstruction of the existing facility to a four lane divided minor arterial.**	
Limits:	US 75 NBFR to Fannin Rd		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	2,235		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	15,893	cy	$ 10.00	$ 158,933
202	6" Lime Stabilization (with Lime @ 27#/sy)	13,410	sy	$ 6.00	$ 80,460
302	10" Concrete Pavement	12,417	sy	$ 50.00	$ 620,833
402	4" Topsoil	9,933	sy	$ 2.50	$ 24,833
502	6' Concrete Sidewalk	26,820	sf	$ 4.50	$ 120,690
602	Turn Lanes and Median Openings	1,191	sy	$ 56.00	$ 66,689
				Paving Construction Cost Subtotal:	**$ 1,072,439**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 53,622
√	Pavement Markings/Signs/Posts		3%	$ 32,173
√	Roadway Drainage	Standard Internal System	35%	$ 375,354
√	Illumination		6%	$ 64,346
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 32,173
√	Sewer	Minor Adjustments	2%	$ 21,449
√	Establish Turf/Erosion Control		2%	$ 21,449
√	Basic Landscaping and Irrigation		4%	$ 42,898
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 643,463**
			Paving and Allowance Subtotal:	**$ 1,715,902**
			Construction Contingency: 15%	$ 257,385
			Mobilization 6%	$ 102,954
			Prep ROW 3%	$ 51,477
			Construction Cost TOTAL:	**$ 2,128,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,128,000**
Engineering/Survey/Testing:		20%	$ 425,600
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 167,625
		Project Subtotal:	**$ 2,722,000**
		Bond Issuance: 1%	$ 27,220
		Project Total:	**$ 2,749,220**
		Financing: 37%	$ 1,015,501.61
		Impact Fee Project Cost TOTAL:	**$ 3,764,722**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-12**
Name:	CR 277 (1)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**	
Limits:	2,285' S of Melissa Rd to 1,275' S of Melissa Rd		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	1,010		
Service Area(s):	1,ETJ		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	4,489	cy	$ 10.00	$ 44,889
204	6" Lime Stabilization (with Lime @ 27#/sy)	4,377	sy	$ 6.00	$ 26,260
304	10" Concrete Pavement	4,152	sy	$ 50.00	$ 207,611
404	4" Topsoil	1,347	sy	$ 2.50	$ 3,367
504	6' Concrete Sidewalk	12,120	sf	$ 4.50	$ 54,540
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 336,667**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 16,833
√	Pavement Markings/Signs/Posts		3%	$ 10,100
√	Roadway Drainage	Standard Internal System	35%	$ 117,833
√	Illumination		6%	$ 20,200
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 10,100
√	Sewer	Minor Adjustments	2%	$ 6,733
√	Establish Turf/Erosion Control		2%	$ 6,733
√	Basic Landscaping and Irrigation		4%	$ 13,467
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 202,000**

Paving and Allowance Subtotal: **$ 538,667**

Construction Contingency: 15% $ 80,800

Mobilization 6% $ 32,320

Prep ROW 3% $ 16,160

Construction Cost TOTAL: **$ 668,000**

**Allowances based on % of Paving Construction Cost Subtotal

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 668,000**
Engineering/Survey/Testing:		20%	$ 133,600
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 45,450
		Project Subtotal:	**$ 848,000**
		Bond Issuance: **1%**	$ 8,480
		Project Total:	**$ 856,480**
		Financing: **37%**	$ 316,364.94
		Impact Fee Project Cost TOTAL:	**$ 1,172,845**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-13**
Name:	CR 277 (2)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**	
Limits:	1,275' S of Melissa Rd to Melissa Rd		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	1,275		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	5,667	cy	$ 10.00	$ 56,667
204	6" Lime Stabilization (with Lime @ 27#/sy)	5,525	sy	$ 6.00	$ 33,150
304	10" Concrete Pavement	5,242	sy	$ 50.00	$ 262,083
404	4" Topsoil	1,700	sy	$ 2.50	$ 4,250
504	6' Concrete Sidewalk	15,300	sf	$ 4.50	$ 68,850
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 425,000**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 21,250
√	Pavement Markings/Signs/Posts		3%	$ 12,750
√	Roadway Drainage	Standard Internal System	35%	$ 148,750
√	Illumination		6%	$ 25,500
√	Special Drainage Structures	Major Stream Crossing	0%	$ 533,488
√	Water	Minor Adjustments	3%	$ 12,750
√	Sewer	Minor Adjustments	2%	$ 8,500
√	Establish Turf/Erosion Control		2%	$ 8,500
√	Basic Landscaping and Irrigation		4%	$ 17,000
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 788,488**

**Allowances based on % of Paving Construction Cost Subtotal

Paving and Allowance Subtotal:		**$ 1,213,488**
Construction Contingency:	15%	$ 182,023
Mobilization	6%	$ 72,809
Prep ROW	3%	$ 36,405
Construction Cost TOTAL:		**$ 1,505,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,505,000**
Engineering/Survey/Testing:		20%	$ 301,000
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 57,375
		Project Subtotal:	**$ 1,864,000**
		Bond Issuance: 1%	$ 18,640
		Project Total:	**$ 1,882,640**
		Financing: 37%	$ 695,405.95
		Impact Fee Project Cost TOTAL:	**$ 2,578,046**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-14**
Name:	CR 277 (3)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**	
Limits:	515' N of Melissa Rd to Throckmorton Creek		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	3,820		
Service Area(s):	1,ETJ		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	16,978	cy	$ 10.00	$ 169,778
204	6" Lime Stabilization (with Lime @ 27#/sy)	16,553	sy	$ 6.00	$ 99,320
304	10" Concrete Pavement	15,704	sy	$ 50.00	$ 785,222
404	4" Topsoil	5,093	sy	$ 2.50	$ 12,733
504	6' Concrete Sidewalk	45,840	sf	$ 4.50	$ 206,280
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,273,333**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 63,667
√	Pavement Markings/Signs/Posts		3%	$ 38,200
√	Roadway Drainage	Standard Internal System	35%	$ 445,667
√	Illumination		6%	$ 76,400
√	Special Drainage Structures	Bridge Crossing - Not Entire Bridge	0%	$ 477,750
√	Water	Minor Adjustments	3%	$ 38,200
√	Sewer	Minor Adjustments	2%	$ 25,467
√	Establish Turf/Erosion Control		2%	$ 25,467
√	Basic Landscaping and Irrigation		4%	$ 50,933
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 1,241,750**

**Allowances based on % of Paving Construction Cost Subtotal

Paving and Allowance Subtotal:		**$ 2,515,083**
Construction Contingency:	15%	$ 377,263
Mobilization	6%	$ 150,905
Prep ROW	3%	$ 75,453
Construction Cost TOTAL:		**$ 3,119,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,119,000**
Engineering/Survey/Testing:		20%	$ 623,800
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 171,900
		Project Subtotal:	**$ 3,915,000**
		Bond Issuance: 1%	$ 39,150
		Project Total:	**$ 3,954,150**
		Financing: 37%	$ 1,460,576.35
		Impact Fee Project Cost TOTAL:	**$ 5,414,726**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-15**
Name:	Fannin Rd (1)	**This project consists of the reconstruction of the existing pavement to a four lane divided minor arterial.**		
Limits:	SH 121 to Davis Rd			
Impact Fee Class:	4D(100)			
Ultimate Class:	Minor Arterial			
Length (lf):	845			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	6,009	cy	$ 10.00	$ 60,089
202	6" Lime Stabilization (with Lime @ 27#/sy)	5,070	sy	$ 6.00	$ 30,420
302	10" Concrete Pavement	4,694	sy	$ 50.00	$ 234,722
402	4" Topsoil	3,756	sy	$ 2.50	$ 9,389
502	6' Concrete Sidewalk	10,140	sf	$ 4.50	$ 45,630
602	Turn Lanes and Median Openings	450	sy	$ 56.00	$ 25,213
				Paving Construction Cost Subtotal:	**$ 405,463**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 20,273
√	Pavement Markings/Signs/Posts		3%	$ 12,164
√	Roadway Drainage	Standard Internal System	35%	$ 141,912
√	Illumination		6%	$ 24,328
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 12,164
√	Sewer	Minor Adjustments	2%	$ 8,109
√	Establish Turf/Erosion Control		2%	$ 8,109
√	Basic Landscaping and Irrigation		4%	$ 16,219
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 243,278**

Paving and Allowance Subtotal:		**$ 648,741**
Construction Contingency:	15%	$ 97,311
Mobilization	6%	$ 38,924
Prep ROW	3%	$ 19,462
Construction Cost TOTAL:		**$ 805,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 805,000**
Engineering/Survey/Testing:		20%	$ 161,000
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 63,375
		Project Subtotal:	**$ 1,030,000**
		Bond Issuance: **1%**	$ 10,300
		Project Total:	**$ 1,040,300**
		Financing: **37%**	$ 384,264.02
		Impact Fee Project Cost TOTAL:	**$ 1,424,564**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-16**
Name:	Fannin Rd (2)	**This project consists of the reconstruction of the existing pavement to a four lane divided minor arterial.**	
Limits:	Davis Rd to Melissa Rd		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	5,660		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	25,156	cy	$ 10.00	$ 251,556
204	6" Lime Stabilization (with Lime @ 27#/sy)	24,527	sy	$ 6.00	$ 147,160
304	10" Concrete Pavement	23,269	sy	$ 50.00	$ 1,163,444
404	4" Topsoil	7,547	sy	$ 2.50	$ 18,867
504	6' Concrete Sidewalk	67,920	sf	$ 4.50	$ 305,640
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,886,667**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 94,333
√	Pavement Markings/Signs/Posts		3%	$ 56,600
√	Roadway Drainage	Standard Internal System	35%	$ 660,333
√	Illumination		6%	$ 113,200
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 56,600
√	Sewer	Minor Adjustments	2%	$ 37,733
√	Establish Turf/Erosion Control		2%	$ 37,733
√	Basic Landscaping and Irrigation		4%	$ 75,467
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,132,000**

Paving and Allowance Subtotal:		**$ 3,018,667**
Construction Contingency:	15%	$ 452,800
Mobilization	6%	$ 181,120
Prep ROW	3%	$ 90,560
Construction Cost TOTAL:		**$ 3,744,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,744,000**
Engineering/Survey/Testing:		20%	$ 748,800
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 254,700
		Project Subtotal:	**$ 4,748,000**
		Bond Issuance: **1%**	$ 47,480
		Project Total:	**$ 4,795,480**
		Financing: **37%**	$ 1,771,345.21
		Impact Fee Project Cost TOTAL:	**$ 6,566,825**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-17**
Name:	Cardinal Dr (1)	**This project consists of the construction of a new three lane undivided minor collector.**		
Limits:	Melissa Rd to Fannin Rd			
Impact Fee Class:	3U(60)			
Ultimate Class:	Minor Collector			
Length (lf):	525			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	2,333	cy	$ 10.00	$ 23,333
204	6" Lime Stabilization (with Lime @ 27#/sy)	2,275	sy	$ 6.00	$ 13,650
304	10" Concrete Pavement	2,158	sy	$ 50.00	$ 107,917
404	4" Topsoil	700	sy	$ 2.50	$ 1,750
504	6' Concrete Sidewalk	6,300	sf	$ 4.50	$ 28,350
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 175,000**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Signs/Posts		3%	$ 5,250
√	Roadway Drainage	Standard Internal System	35%	$ 61,250
√	Illumination		6%	$ 10,500
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 5,250
√	Sewer	Minor Adjustments	2%	$ 3,500
√	Establish Turf/Erosion Control		2%	$ 3,500
√	Basic Landscaping and Irrigation		4%	$ 7,000
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 96,250**

Paving and Allowance Subtotal:		**$ 271,250**
Construction Contingency:	15%	$ 40,688
Mobilization	6%	$ 16,275
Prep ROW	3%	$ 8,138
Construction Cost TOTAL:		**$ 337,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 337,000**
Engineering/Survey/Testing:		20%	$ 67,400
ROW/Easement Acquisition:		$1.50 / Sq. Ft.	$ 47,250
		Project Subtotal:	**$ 452,000**
		Bond Issuance: **1%**	$ 4,520
		Project Total:	**$ 456,520**
		Financing: **37%**	$ 168,628.48
		Impact Fee Project Cost TOTAL:	**$ 625,148**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-18**
Name:	Cardinal Dr (2)	**This project consists of the construction of a new three lane undivided minor collector.**		
Limits:	135' N of Surrey Dr to CR 365			
Impact Fee Class:	3U(60)			
Ultimate Class:	Minor Collector			
Length (lf):	1,850			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	8,222	cy	$ 10.00	$ 82,222
204	6" Lime Stabilization (with Lime @ 27#/sy)	8,017	sy	$ 6.00	$ 48,100
304	10" Concrete Pavement	7,606	sy	$ 50.00	$ 380,278
404	4" Topsoil	2,467	sy	$ 2.50	$ 6,167
504	6' Concrete Sidewalk	22,200	sf	$ 4.50	$ 99,900
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 616,667**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Signs/Posts		3%	$ 18,500
√	Roadway Drainage	Standard Internal System	35%	$ 215,833
√	Illumination		6%	$ 37,000
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 18,500
√	Sewer	Minor Adjustments	2%	$ 12,333
√	Establish Turf/Erosion Control		2%	$ 12,333
√	Basic Landscaping and Irrigation		4%	$ 24,667
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 339,167**

Paving and Allowance Subtotal:		**$ 955,833**
Construction Contingency:	15%	$ 143,375
Mobilization	6%	$ 57,350
Prep ROW	3%	$ 28,675
Construction Cost TOTAL:		**$ 1,186,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,186,000**
Engineering/Survey/Testing:		20%	$ 237,200
ROW/Easement Acquisition:		$1.50 / Sq. Ft.	$ 166,500
		Project Subtotal:	**$ 1,590,000**
		Bond Issuance: **1%**	$ 15,900
		Project Total:	**$ 1,605,900**
		Financing: **37%**	$ 593,184.26
		Impact Fee Project Cost TOTAL:	**$ 2,199,084**

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City of Melissa
2015 Transportation Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
H&F Consulting, Inc.
updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-19**
Name:	CR 365 (1)	**This project consists of the reconstruction of an existing facility into a new three lane undivided minor collector.**		
Limits:	SH 5 to Cardinal Dr			
Impact Fee Class:	3U(60)			
Ultimate Class:	Minor Collector			
Length (lf):	1,215			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	5,400	cy	$ 10.00	$ 54,000
204	6" Lime Stabilization (with Lime @ 27#/sy)	5,265	sy	$ 6.00	$ 31,590
304	10" Concrete Pavement	4,995	sy	$ 50.00	$ 249,750
404	4" Topsoil	1,620	sy	$ 2.50	$ 4,050
504	6' Concrete Sidewalk	14,580	sf	$ 4.50	$ 65,610
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 405,000**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 20,250
√	Pavement Markings/Signs/Posts		3%	$ 12,150
√	Roadway Drainage	Standard Internal System	35%	$ 141,750
√	Illumination		6%	$ 24,300
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 12,150
√	Sewer	Minor Adjustments	2%	$ 8,100
√	Establish Turf/Erosion Control		2%	$ 8,100
√	Basic Landscaping and Irrigation		4%	$ 16,200
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 243,000**

Paving and Allowance Subtotal: **$ 648,000**
Construction Contingency: 15% $ 97,200
Mobilization 6% $ 38,880
Prep ROW 3% $ 19,440
Construction Cost TOTAL: **$ 804,000**

**Allowances based on % of Paving Construction Cost Subtotal

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 804,000**
Engineering/Survey/Testing:		20%	$ 160,800
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 54,675
		Project Subtotal:	**$ 1,020,000**
		Bond Issuance: **1%**	$ 10,200
		Project Total:	**$ 1,030,200**
		Financing: **37%**	$ 380,533.30
		Impact Fee Project Cost TOTAL:	**$ 1,410,733**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-20**
Name:	CR 365 (2)	**This project consists of the reconstruction of the existing gravel facility as a two lane undivided local street.**	
Limits:	Cardinal Dr to 1,065' N of Cardinal Dr		
Impact Fee Class:	2U(50)		
Ultimate Class:	Local Street		
Length (lf):	1,065		
Service Area(s):	1,ETJ		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	3,550	cy	$ 10.00	$ 35,500
205	6" Lime Stabilization (with Lime @ 27#/sy)	3,432	sy	$ 6.00	$ 20,590
305	10" Concrete Pavement	3,195	sy	$ 50.00	$ 159,750
405	4" Topsoil	1,893	sy	$ 2.50	$ 4,733
505	6' Concrete Sidewalk	8,520	sf	$ 4.50	$ 38,340
605	Turn Lanes and Median Openings	0	sy	$ 68.00	$ -
				Paving Construction Cost Subtotal:	**$ 258,913**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 12,946
√	Pavement Markings/Signs/Posts		3%	$ 7,767
√	Roadway Drainage	Standard Internal System	35%	$ 90,620
√	Illumination		6%	$ 15,535
√	Special Drainage Structures	Minor Stream Crossing	0%	$ 113,750
√	Water	Minor Adjustments	3%	$ 7,767
√	Sewer	Minor Adjustments	2%	$ 5,178
√	Establish Turf/Erosion Control		2%	$ 5,178
√	Basic Landscaping and Irrigation		4%	$ 10,357
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 269,098**

**Allowances based on % of Paving Construction Cost Subtotal

Paving and Allowance Subtotal:		**$ 528,011**
Construction Contingency:	15%	$ 79,202
Mobilization	6%	$ 31,681
Prep ROW	3%	$ 15,840
Construction Cost TOTAL:		**$ 655,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 655,000**
Engineering/Survey/Testing:		20%	$ 131,000
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 39,938
		Project Subtotal:	**$ 826,000**
		Bond Issuance: **1%**	$ 8,260
		Project Total:	**$ 834,260**
		Financing: **37%**	$ 308,157.36
		Impact Fee Project Cost TOTAL:	**$ 1,142,417**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-21**
Name:	SH 5 (1)	**This project consists of the reconstruction of the existing pavement to a four lane divided minor arterial.**	
Limits:	SH 121 to 3,900' S of Melissa Rd		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	2,425		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	17,244	cy	$ 10.00	$ 172,444
202	6" Lime Stabilization (with Lime @ 27#/sy)	14,550	sy	$ 6.00	$ 87,300
302	10" Concrete Pavement	13,472	sy	$ 50.00	$ 673,611
402	4" Topsoil	10,778	sy	$ 2.50	$ 26,944
502	6' Concrete Sidewalk	29,100	sf	$ 4.50	$ 130,950
602	Turn Lanes and Median Openings	1,292	sy	$ 56.00	$ 72,358
				Paving Construction Cost Subtotal:	**$ 1,163,608**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 58,180
√	Pavement Markings/Signs/Posts		3%	$ 34,908
√	Roadway Drainage	Standard Internal System	35%	$ 407,263
√	Illumination		6%	$ 69,816
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 34,908
√	Sewer	Minor Adjustments	2%	$ 23,272
√	Establish Turf/Erosion Control		2%	$ 23,272
√	Basic Landscaping and Irrigation		4%	$ 46,544
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 698,165**

Paving and Allowance Subtotal:		**$ 1,861,773**
Construction Contingency:	15%	$ 279,266
Mobilization	6%	$ 111,706
Prep ROW	3%	$ 55,853
Construction Cost TOTAL:		**$ 2,309,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,309,000**
Engineering/Survey/Testing:		20%	$ 461,800
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -
		Project Subtotal:	**$ 2,771,000**
		City of Melissa Contribution (50%):	**$ 1,385,500**
		Bond Issuance: **1%**	$ 13,855
		Project Total:	**$ 1,399,355**
		Financing: **37%**	$ 516,891.07
		Impact Fee Project Cost TOTAL:	**$ 1,916,246**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-22**
Name:	SH 5 (2)	**This project consists of the reconstruction of the existing pavement to a four lane divided minor arterial.**	
Limits:	3,900' S of Melissa Rd to Melissa Rd		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	3,900		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	27,733	cy	$ 10.00	$ 277,333
202	6" Lime Stabilization (with Lime @ 27#/sy)	23,400	sy	$ 6.00	$ 140,400
302	10" Concrete Pavement	21,667	sy	$ 50.00	$ 1,083,333
402	4" Topsoil	17,333	sy	$ 2.50	$ 43,333
502	6' Concrete Sidewalk	46,800	sf	$ 4.50	$ 210,600
602	Turn Lanes and Median Openings	2,078	sy	$ 56.00	$ 116,370
				Paving Construction Cost Subtotal:	**$ 1,871,370**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 93,568
√	Pavement Markings/Signs/Posts		3%	$ 56,141
√	Roadway Drainage	Standard Internal System	35%	$ 654,979
√	Illumination		6%	$ 112,282
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 56,141
√	Sewer	Minor Adjustments	2%	$ 37,427
√	Establish Turf/Erosion Control		2%	$ 37,427
√	Basic Landscaping and Irrigation		4%	$ 74,855
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,122,822**

Paving and Allowance Subtotal:		**$ 2,994,192**
Construction Contingency:	15%	$ 449,129
Mobilization	6%	$ 179,651
Prep ROW	3%	$ 89,826
Construction Cost TOTAL:		**$ 3,713,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,713,000**
Engineering/Survey/Testing:		20%	$ 742,600
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -
		Project Subtotal:	**$ 4,456,000**
		City of Melissa Contribution (50%):	**$ 2,228,000**
		Bond Issuance: **1%**	$ 22,280
		Project Total:	**$ 2,250,280**
		Financing: **37%**	$ 831,204.11
		Road Escrow Funds (2/6/07 - Animal Hospital of Melissa):	$ (22,940.00)
		Impact Fee Project Cost TOTAL:	**$ 3,058,544**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-23**
Name:	SH 5 (3)	**This project consists of the reconstruction of the existing pavement to a four lane divided minor arterial.**	
Limits:	Melissa Rd to Throckmorton Rd		
Impact Fee Class:	4D(100)		
Ultimate Class:	Minor Arterial		
Length (lf):	10,590		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	75,307	cy	$ 10.00	$ 753,067
202	6" Lime Stabilization (with Lime @ 27#/sy)	63,540	sy	$ 6.00	$ 381,240
302	10" Concrete Pavement	58,833	sy	$ 50.00	$ 2,941,667
402	4" Topsoil	47,067	sy	$ 2.50	$ 117,667
502	6' Concrete Sidewalk	127,080	sf	$ 4.50	$ 571,860
602	Turn Lanes and Median Openings	5,643	sy	$ 56.00	$ 315,988
				Paving Construction Cost Subtotal:	**$ 5,081,488**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 254,074
√	Pavement Markings/Signs/Posts		3%	$ 152,445
√	Roadway Drainage	Standard Internal System	35%	$ 1,778,521
√	Illumination		6%	$ 304,889
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 152,445
√	Sewer	Minor Adjustments	2%	$ 101,630
√	Establish Turf/Erosion Control		2%	$ 101,630
√	Basic Landscaping and Irrigation		4%	$ 203,260
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 3,048,893**

Paving and Allowance Subtotal:		**$ 8,130,382**
Construction Contingency:	15%	$ 1,219,557
Mobilization	6%	$ 487,823
Prep ROW	3%	$ 243,911
Construction Cost TOTAL:		**$ 10,082,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 10,082,000**
Engineering/Survey/Testing:		20%	$ 2,016,400
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -

Project Subtotal:		**$ 12,099,000**
City of Melissa Contribution (50%):		**$ 6,049,500**
Bond Issuance:	**1%**	$ 60,495
Project Total:		**$ 6,109,995**
Financing:	**37%**	$ 2,256,898.24
Road Escrow Funds (6/6/07 - M White 1 of 3):		$ (3,750.00)
Road Escrow Funds (3/14/08 - Higgins - Road Escrow):		$ (28,750.00)
Impact Fee Project Cost TOTAL:		**$ 8,334,393**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-24**
Name:	Miller Rd (1)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**	
Limits:	775' N of CR 362 to 300' S of Thornberry Dr		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	1,080		
Service Area(s):	1,ETJ		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	4,800	cy	$ 10.00	$ 48,000
204	6" Lime Stabilization (with Lime @ 27#/sy)	4,680	sy	$ 6.00	$ 28,080
304	10" Concrete Pavement	4,440	sy	$ 50.00	$ 222,000
404	4" Topsoil	1,440	sy	$ 2.50	$ 3,600
504	6' Concrete Sidewalk	12,960	sf	$ 4.50	$ 58,320
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 360,000**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 18,000
√	Pavement Markings/Signs/Posts		3%	$ 10,800
√	Roadway Drainage	Standard Internal System	35%	$ 126,000
√	Illumination		6%	$ 21,600
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 10,800
√	Sewer	Minor Adjustments	2%	$ 7,200
√	Establish Turf/Erosion Control		2%	$ 7,200
√	Basic Landscaping and Irrigation		4%	$ 14,400
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 216,000**

****Allowances based on % of Paving Construction Cost Subtotal**

Paving and Allowance Subtotal:		**$ 576,000**
Construction Contingency:	15%	$ 86,400
Mobilization	6%	$ 34,560
Prep ROW	3%	$ 17,280
Construction Cost TOTAL:		**$ 715,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 715,000**
Engineering/Survey/Testing:		20%	$ 143,000
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 48,600
		Project Subtotal:	**$ 907,000**
		Bond Issuance: **1%**	$ 9,070
		Project Total:	**$ 916,070**
		Financing: **37%**	$ 338,376.18
		Impact Fee Project Cost TOTAL:	**$ 1,254,446**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-25**
Name:	Miller Rd (2)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**	
Limits:	300' S of Thornberry Dr to SH 121		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	1,540		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	6,844	cy	$ 10.00	$ 68,444
204	6" Lime Stabilization (with Lime @ 27#/sy)	6,673	sy	$ 6.00	$ 40,040
304	10" Concrete Pavement	6,331	sy	$ 50.00	$ 316,556
404	4" Topsoil	2,053	sy	$ 2.50	$ 5,133
504	6' Concrete Sidewalk	18,480	sf	$ 4.50	$ 83,160
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 513,333**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 25,667
√	Pavement Markings/Signs/Posts		3%	$ 15,400
√	Roadway Drainage	Standard Internal System	35%	$ 179,667
√	Illumination		6%	$ 30,800
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 15,400
√	Sewer	Minor Adjustments	2%	$ 10,267
√	Establish Turf/Erosion Control		2%	$ 10,267
√	Basic Landscaping and Irrigation		4%	$ 20,533
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 308,000**

****Allowances based on % of Paving Construction Cost Subtotal**

Paving and Allowance Subtotal:		**$ 821,333**
Construction Contingency:	15%	$ 123,200
Mobilization	6%	$ 49,280
Prep ROW	3%	$ 24,640
Construction Cost TOTAL:		**$ 1,019,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,019,000**
Engineering/Survey/Testing:		20%	$ 203,800
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 69,300
		Project Subtotal:	**$ 1,293,000**
		Bond Issuance: 1%	$ 12,930
		Project Total:	**$ 1,305,930**
		Financing: 37%	$ 482,381.92
Road Escrow Funds (11/8/05 - Ralph Mason - Sonic 1 of 3 - Sonic Drive-In Melissa)			$ (6,500.00)
Road Escrow Funds (11/9/06 - Sonic Drive-In Melissa - 2 of 3)			$ (6,500.00)
Road Escrow Funds (11/21/07 - Sonic Drive-in Melissa 3 of 3)			$ (6,500.00)
		Impact Fee Project Cost TOTAL:	**$ 1,768,812**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-26**
Name:	Miller Rd (3)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**	
Limits:	SH 121 to FM 545		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	1,355		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	6,022	cy	$ 10.00	$ 60,222
204	6" Lime Stabilization (with Lime @ 27#/sy)	5,872	sy	$ 6.00	$ 35,230
304	10" Concrete Pavement	5,571	sy	$ 50.00	$ 278,528
404	4" Topsoil	1,807	sy	$ 2.50	$ 4,517
504	6' Concrete Sidewalk	16,260	sf	$ 4.50	$ 73,170
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 451,667**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 22,583
√	Pavement Markings/Signs/Posts		3%	$ 13,550
√	Roadway Drainage	Standard Internal System	35%	$ 158,083
√	Illumination		6%	$ 27,100
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 13,550
√	Sewer	Minor Adjustments	2%	$ 9,033
√	Establish Turf/Erosion Control		2%	$ 9,033
√	Basic Landscaping and Irrigation		4%	$ 18,067
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 271,000**

****Allowances based on % of Paving Construction Cost Subtotal**

Paving and Allowance Subtotal:		**$ 722,667**
Construction Contingency:	15%	$ 108,400
Mobilization	6%	$ 43,360
Prep ROW	3%	$ 21,680
Construction Cost TOTAL:		**$ 897,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 897,000**
Engineering/Survey/Testing:		20%	$ 179,400
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 60,975
		Project Subtotal:	**$ 1,138,000**
		Bond Issuance: **1%**	$ 11,380
		Project Total:	**$ 1,149,380**
		Financing: **37%**	$ 424,555.78
		Impact Fee Project Cost TOTAL:	**$ 1,573,936**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-27**
Name:	Dallas St	**This project consists of the construction of a new three lane undivided minor collector**	
Limits:	Melissa Rd to Independence Dr		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	1,745		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	7,756	cy	$ 10.00	$ 77,556
204	6" Lime Stabilization (with Lime @ 27#/sy)	7,562	sy	$ 6.00	$ 45,370
304	10" Concrete Pavement	7,174	sy	$ 50.00	$ 358,694
404	4" Topsoil	2,327	sy	$ 2.50	$ 5,817
504	6' Concrete Sidewalk	20,940	sf	$ 4.50	$ 94,230
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 581,667**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Signs/Posts		3%	$ 17,450
√	Roadway Drainage	Standard Internal System	35%	$ 203,583
√	Illumination		6%	$ 34,900
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 17,450
√	Sewer	Minor Adjustments	2%	$ 11,633
√	Establish Turf/Erosion Control		2%	$ 11,633
√	Basic Landscaping and Irrigation		4%	$ 23,267
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 319,917**

Paving and Allowance Subtotal:		**$ 901,583**
Construction Contingency:	15%	$ 135,238
Mobilization	6%	$ 54,095
Prep ROW	3%	$ 27,048
Construction Cost TOTAL:		**$ 1,118,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,118,000**
Engineering/Survey/Testing:		20%	$ 223,600
ROW/Easement Acquisition:		$1.50 / Sq. Ft.	$ 157,050
		Project Subtotal:	**$ 1,499,000**
		Bond Issuance: **1%**	$ 14,990
		Project Total:	**$ 1,513,990**
		Financing: **37%**	$ 559,234.72
		Impact Fee Project Cost TOTAL:	**$ 2,073,225**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-28**
Name:	Liberty Way	**This project consists of the**	
Limits:	Patton Dr to 900' S of Throckmorton Rd	**construction of a new two local street**	
Impact Fee Class:	2U(50)		
Ultimate Class:	Local Street		
Length (lf):	2,950		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	9,833	cy	$ 10.00	$ 98,333
205	6" Lime Stabilization (with Lime @ 27#/sy)	9,506	sy	$ 6.00	$ 57,033
305	10" Concrete Pavement	8,850	sy	$ 50.00	$ 442,500
405	4" Topsoil	5,244	sy	$ 2.50	$ 13,111
505	6' Concrete Sidewalk	23,600	sf	$ 4.50	$ 106,200
605	Turn Lanes and Median Openings	0	sy	$ 68.00	$ -
				Paving Construction Cost Subtotal:	**$ 717,178**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Signs/Posts		3%	$ 21,515
√	Roadway Drainage	Standard Internal System	35%	$ 251,012
√	Illumination		6%	$ 43,031
√	Special Drainage Structures	Minor Stream Crossing	0%	$ 113,750
√	Water	Minor Adjustments	3%	$ 21,515
√	Sewer	Minor Adjustments	2%	$ 14,344
√	Establish Turf/Erosion Control		2%	$ 14,344
√	Basic Landscaping and Irrigation		4%	$ 28,687
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 508,198**

**Allowances based on % of Paving Construction Cost Subtotal

Paving and Allowance Subtotal:		**$ 1,225,376**
Construction Contingency:	15%	$ 183,806
Mobilization	6%	$ 73,523
Prep ROW	3%	$ 36,761
Construction Cost TOTAL:		**$ 1,520,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,520,000**
Engineering/Survey/Testing:		20%	$ 304,000
ROW/Easement Acquisition:		$1.50 / Sq. Ft.	$ 221,250
		Project Subtotal:	**$ 2,046,000**
		Bond Issuance: **1%**	$ 20,460
		Project Total:	**$ 2,066,460**
		Financing: **37%**	$ 763,305.03
		Impact Fee Project Cost TOTAL:	**$ 2,829,765**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-29,2-6**
Name:	Milrany Ln (1)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**		
Limits:	FM 545 to SH 121			
Impact Fee Class:	3U(60)			
Ultimate Class:	Minor Collector			
Length (lf):	3,295			
Service Area(s):	1,2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	14,644	cy	$ 10.00	$ 146,444
204	6" Lime Stabilization (with Lime @ 27#/sy)	14,278	sy	$ 6.00	$ 85,670
304	10" Concrete Pavement	13,546	sy	$ 50.00	$ 677,306
404	4" Topsoil	4,393	sy	$ 2.50	$ 10,983
504	6' Concrete Sidewalk	39,540	sf	$ 4.50	$ 177,930
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,098,333**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 54,917
√	Pavement Markings/Signs/Posts		3%	$ 32,950
√	Roadway Drainage	Standard Internal System	35%	$ 384,417
√	Illumination		6%	$ 65,900
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 32,950
√	Sewer	Minor Adjustments	2%	$ 21,967
√	Establish Turf/Erosion Control		2%	$ 21,967
√	Basic Landscaping and Irrigation		4%	$ 43,933
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 659,000**
			Paving and Allowance Subtotal:	**$ 1,757,333**
			Construction Contingency: 15%	$ 263,600
			Mobilization 6%	$ 105,440
			Prep ROW 3%	$ 52,720
			Construction Cost TOTAL:	**$ 2,180,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,180,000**
Engineering/Survey/Testing:		20%	$ 436,000
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -
		Project Subtotal:	**$ 2,616,000**
		Bond Issuance: 1%	$ 26,160
		Project Total:	**$ 2,642,160**
		Financing: 37%	$ 975,955.99
		Impact Fee Project Cost TOTAL:	**$ 3,618,116**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-30,2-7**
Name:	Milrany Ln (2)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**	
Limits:	300' N of SH 121 to 100 S of Hunter's Run Pkwy		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	1,340		
Service Area(s):	1,2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	5,956	cy	$ 10.00	$ 59,556
204	6" Lime Stabilization (with Lime @ 27#/sy)	5,807	sy	$ 6.00	$ 34,840
304	10" Concrete Pavement	5,509	sy	$ 50.00	$ 275,444
404	4" Topsoil	1,787	sy	$ 2.50	$ 4,467
504	6' Concrete Sidewalk	16,080	sf	$ 4.50	$ 72,360
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 446,667**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 22,333
√	Pavement Markings/Signs/Posts		3%	$ 13,400
√	Roadway Drainage	Standard Internal System	35%	$ 156,333
√	Illumination		6%	$ 26,800
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 13,400
√	Sewer	Minor Adjustments	2%	$ 8,933
√	Establish Turf/Erosion Control		2%	$ 8,933
√	Basic Landscaping and Irrigation		4%	$ 17,867
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 268,000**

Paving and Allowance Subtotal:		**$ 714,667**
Construction Contingency:	15%	$ 107,200
Mobilization	6%	$ 42,880
Prep ROW	3%	$ 21,440
Construction Cost TOTAL:		**$ 887,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 887,000**
Engineering/Survey/Testing:		20%	$ 177,400
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -
		Project Subtotal:	**$ 1,065,000**
		Bond Issuance: **1%**	$ 10,650
		Project Total:	**$ 1,075,650**
		Financing: **37%**	$ 397,321.53
	Road Escrow Funds (2/11/05 - Shaddock Developers - Hunters Creek Phase 1)		$ (366,524.91)
		Impact Fee Project Cost TOTAL:	**$ 1,106,447**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**1-31**
Name:	Milrany Ln (3)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**	
Limits:	100' S of Hunter's Run Pkwy to CR 418 (E-W)		
Impact Fee Class:	3U(60)		
Ultimate Class:	Minor Collector		
Length (lf):	1,485		
Service Area(s):	1,ETJ		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	6,600	cy	$ 10.00	$ 66,000
204	6" Lime Stabilization (with Lime @ 27#/sy)	6,435	sy	$ 6.00	$ 38,610
304	10" Concrete Pavement	6,105	sy	$ 50.00	$ 305,250
404	4" Topsoil	1,980	sy	$ 2.50	$ 4,950
504	6' Concrete Sidewalk	17,820	sf	$ 4.50	$ 80,190
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 495,000**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 24,750
√	Pavement Markings/Signs/Posts		3%	$ 14,850
√	Roadway Drainage	Standard Internal System	35%	$ 173,250
√	Illumination		6%	$ 29,700
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 14,850
√	Sewer	Minor Adjustments	2%	$ 9,900
√	Establish Turf/Erosion Control		2%	$ 9,900
√	Basic Landscaping and Irrigation		4%	$ 19,800
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 297,000**

****Allowances based on % of Paving Construction Cost Subtotal**

Paving and Allowance Subtotal:		**$ 792,000**
Construction Contingency:	15%	$ 118,800
Mobilization	6%	$ 47,520
Prep ROW	3%	$ 23,760
Construction Cost TOTAL:		**$ 983,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 983,000**
Engineering/Survey/Testing:		20%	$ 196,600
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -
		Project Subtotal:	**$ 1,180,000**
		Bond Issuance: **1%**	$ 11,800
		Project Total:	**$ 1,191,800**
		Financing: **37%**	$ 440,224.80
		Impact Fee Project Cost TOTAL:	**$ 1,632,025**

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City of Melissa
2015 Transportation Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
H&F Consulting, Inc.
updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**1-32**
Name:	Milrany Ln (4)	**This project consisted of the reconstruction of the existing pavement to a three lane undivided minor collector. Based on information provided by the city, the project cost was $950.000.**		
Limits:	CR 418 (E-W) to Throckmorton Rd			
Impact Fee Class:	3U(60)			
Ultimate Class:	Minor Collector			
Length (lf):	1,470			
Service Area(s):	1			

Impact Fee Project Cost Summary			
Project Subtotal:		**$**	**950,000**
Bond Issuance:	**1%**	$	9,500
Project Total:		**$**	**959,500**
Financing:	**37%**	$	354,418.27
Impact Fee Project Cost TOTAL:		**$**	**1,313,918**

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City of Melissa - 2015 Transportation Impact Fee Update

Capital Improvement Plan for Transportation Impact Fees

Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area 2

#	IF Classification	Project	Limits		Project Cost	Total Cost in Service Area
			From	To		
2-1	2U(50)	Throckmorton Rd (5)	CR 418	1,490' E of CR 418	$ 996,043	$ 498,022
2-2	2U(50)	CR 419	SH 121	Throckmorton Rd	$ 656,959	$ 656,959
2-3	4D(100)	FM 545 (2)	FM 2933	CR 415	$ 2,095,180	$ 2,095,180
2-4	3U(60)	FM 545 (3)	CR 415	1,750' N of CR 415	$ 485,486	$ 485,486
2-5	3U(60)	FM 545 (4)	1,750' N of CR 415	CR 416	$ 481,306	$ 240,653
1-28,2-6	3U(60)	Milrany Ln (2)	FM 545	SH 121	$ 3,618,116	$ 1,809,058
1-29,2-7	3U(60)	Milrany Ln (3)	300' N of SH 121	100 S of Hunter's Run Pkwy	$ 1,106,447	$ 1,106,447
2-8	2U(50)	CR 413 (1)	CR 413 (E-W)	2,005' N of CR 413 (E-W)	$ 1,944,599	$ 972,300
2-9	2U(50)	CR 413 (2)	City Limit	FM 545	$ 2,474,316	$ 2,474,316
Intersection Improvements						
S-15		Signal Installation	SH 121 & CR 419		$ 377,962	$ 377,962.04
Other Improvements						
TOC-1		Traffic Operations Center			$ 8,242,690	$ 1,236,404

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**2-1**
Name:	Throckmorton Rd (5)	**This project consists of the reconstruction of the existing dirt road as a two lane undivided local street.**		
Limits:	CR 418 to 1,490' E of CR 418			
Impact Fee Class:	2U(50)			
Ultimate Class:	Local Street			
Length (lf):	1,490			
Service Area(s):	2,ETJ			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	4,967	cy	$ 10.00	$ 49,667
205	6" Lime Stabilization (with Lime @ 27#/sy)	4,801	sy	$ 6.00	$ 28,807
305	10" Concrete Pavement	4,470	sy	$ 50.00	$ 223,500
405	4" Topsoil	2,649	sy	$ 2.50	$ 6,622
505	6' Concrete Sidewalk	11,920	sf	$ 4.50	$ 53,640
605	Turn Lanes and Median Openings	0	sy	$ 68.00	$ -
				Paving Construction Cost Subtotal:	**$ 362,236**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 18,112
√	Pavement Markings/Signs/Posts		3%	$ 10,867
√	Roadway Drainage	Standard Internal System	35%	$ 126,782
√	Illumination		6%	$ 21,734
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 10,867
√	Sewer	Minor Adjustments	2%	$ 7,245
√	Establish Turf/Erosion Control		2%	$ 7,245
√	Basic Landscaping and Irrigation		4%	$ 14,489
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 217,341**

Paving and Allowance Subtotal:		**$ 579,577**
Construction Contingency:	15%	$ 86,937
Mobilization	6%	$ 34,775
Prep ROW	3%	$ 17,387
Construction Cost TOTAL:		**$ 719,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 719,000**
Engineering/Survey/Testing:		20%	$ 143,800
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 55,875
		Project Subtotal:	**$ 919,000**
		Bond Issuance: **1%**	$ 9,190
		Project Total:	**$ 928,190**
		Financing: **37%**	$ 342,853.04
	Road Escrow Funds (11/10/05 - L109 McKinnney Investments - North Creek)		$ (275,000.00)
		Impact Fee Project Cost TOTAL:	**$ 996,043**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**2-2**
Name:	CR 419	**This project consists of the**		
Limits:	SH 121 to Throckmorton Rd	**construction of a new two local street**		
Impact Fee Class:	2U(50)			
Ultimate Class:	Local Street			
Length (lf):	745			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	2,483	cy	$ 10.00	$ 24,833
205	6" Lime Stabilization (with Lime @ 27#/sy)	2,401	sy	$ 6.00	$ 14,403
305	10" Concrete Pavement	2,235	sy	$ 50.00	$ 111,750
405	4" Topsoil	1,324	sy	$ 2.50	$ 3,311
505	6' Concrete Sidewalk	5,960	sf	$ 4.50	$ 26,820
605	Turn Lanes and Median Openings	0	sy	$ 68.00	$ -
				Paving Construction Cost Subtotal:	**$ 181,118**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Signs/Posts		3%	$ 5,434
√	Roadway Drainage	Standard Internal System	35%	$ 63,391
√	Illumination		6%	$ 10,867
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 5,434
√	Sewer	Minor Adjustments	2%	$ 3,622
√	Establish Turf/Erosion Control		2%	$ 3,622
√	Basic Landscaping and Irrigation		4%	$ 7,245
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 99,615**

Paving and Allowance Subtotal:		**$ 280,733**
Construction Contingency:	15%	$ 42,110
Mobilization	6%	$ 16,844
Prep ROW	3%	$ 8,422
Construction Cost TOTAL:		**$ 349,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 349,000**
Engineering/Survey/Testing:		20%	$ 69,800
ROW/Easement Acquisition:		$1.50 / Sq. Ft.	$ 55,875
		Project Subtotal:	**$ 475,000**
		Bond Issuance: **1%**	$ 4,750
		Project Total:	**$ 479,750**
		Financing: **37%**	$ 177,209.14
		Impact Fee Project Cost TOTAL:	**$ 656,959**

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City of Melissa
2015 Transportation Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
H&F Consulting, Inc.
updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**2-3**
Name:	FM 545 (2)	**This project consists of the reconstruction of the existing facility to a four lane divided minor arterial.**		
Limits:	FM 2933 to CR 415			
Impact Fee Class:	4D(100)			
Ultimate Class:	Minor Arterial			
Length (lf):	4,740			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	33,707	cy	$ 10.00	$ 337,067
202	6" Lime Stabilization (with Lime @ 27#/sy)	28,440	sy	$ 6.00	$ 170,640
302	10" Concrete Pavement	26,333	sy	$ 50.00	$ 1,316,667
402	4" Topsoil	21,067	sy	$ 2.50	$ 52,667
502	6' Concrete Sidewalk	56,880	sf	$ 4.50	$ 255,960
602	Turn Lanes and Median Openings	2,526	sy	$ 56.00	$ 141,434
				Paving Construction Cost Subtotal:	**$ 2,274,434**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 113,722
√	Pavement Markings/Signs/Posts		3%	$ 68,233
√	Roadway Drainage	Standard Internal System	35%	$ 796,052
√	Illumination		6%	$ 136,466
√	Special Drainage Structures	Bridge Crossing	0%	$ 403,000
√	Water	Minor Adjustments	3%	$ 68,233
√	Sewer	Minor Adjustments	2%	$ 45,489
√	Establish Turf/Erosion Control		2%	$ 45,489
√	Basic Landscaping and Irrigation		4%	$ 90,977
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,767,660**

Paving and Allowance Subtotal:		**$ 4,042,094**
Construction Contingency:	15%	$ 606,314
Mobilization	6%	$ 242,526
Prep ROW	3%	$ 121,263
Construction Cost TOTAL:		**$ 5,013,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 5,013,000**
Engineering/Survey/Testing:		20%	$ 1,002,600
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -

Project Subtotal:		**$ 6,016,000**
City of Melissa Contribution (50%):		**$ 3,008,000**
Bond Issuance:	**1%**	$ 30,080
Project Total:		**$ 3,038,080**
Financing:	**37%**	$ 1,122,200.17
Impact Fee Project Cost TOTAL (50% for FM 545):		**$ 2,095,180**

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City of Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**2-4**
Name:	FM 545 (3)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**		
Limits:	CR 415 to 1,750' N of CR 415			
Impact Fee Class:	3U(60)			
Ultimate Class:	Minor Collector			
Length (lf):	1,755			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	7,800	cy	$ 10.00	$ 78,000
204	6" Lime Stabilization (with Lime @ 27#/sy)	7,605	sy	$ 6.00	$ 45,630
304	10" Concrete Pavement	7,215	sy	$ 50.00	$ 360,750
404	4" Topsoil	2,340	sy	$ 2.50	$ 5,850
504	6' Concrete Sidewalk	21,060	sf	$ 4.50	$ 94,770
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 585,000**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 29,250
√	Pavement Markings/Signs/Posts		3%	$ 17,550
√	Roadway Drainage	Standard Internal System	35%	$ 204,750
√	Illumination		6%	$ 35,100
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 17,550
√	Sewer	Minor Adjustments	2%	$ 11,700
√	Establish Turf/Erosion Control		2%	$ 11,700
√	Basic Landscaping and Irrigation		4%	$ 23,400
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 351,000**

Paving and Allowance Subtotal:		**$ 936,000**
Construction Contingency:	15%	$ 140,400
Mobilization	6%	$ 56,160
Prep ROW	3%	$ 28,080
Construction Cost TOTAL:		**$ 1,161,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,161,000**
Engineering/Survey/Testing:		20%	$ 232,200
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -
		Project Subtotal:	**$ 1,394,000**
		City of Melissa Contribution (50%):	**$ 697,000**
		Bond Issuance: 1%	$ 6,970
		Project Total:	**$ 703,970**
		Financing: 37%	$ 260,031.09
		Impact Fee Project Cost TOTAL (50% for FM 545):	**$ 485,486**

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 Melissa

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 Melissa
2015 Transportation Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
H&F Consulting, Inc.
updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**2-5**
Name:	FM 545 (4)	**This project consists of the reconstruction of the existing pavement to a three lane undivided minor collector.**		
Limits:	1,750' N of CR 415 to CR 416			
Impact Fee Class:	3U(60)			
Ultimate Class:	Minor Collector			
Length (lf):	1,740			
Service Area(s):	2,ETJ			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	7,733	cy	$ 10.00	$ 77,333
204	6" Lime Stabilization (with Lime @ 27#/sy)	7,540	sy	$ 6.00	$ 45,240
304	10" Concrete Pavement	7,153	sy	$ 50.00	$ 357,667
404	4" Topsoil	2,320	sy	$ 2.50	$ 5,800
504	6' Concrete Sidewalk	20,880	sf	$ 4.50	$ 93,960
604	Turn Lanes and Median Openings	0	sy	$ 56.00	$ -
				Paving Construction Cost Subtotal:	**$ 580,000**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 29,000
√	Pavement Markings/Signs/Posts		3%	$ 17,400
√	Roadway Drainage	Standard Internal System	35%	$ 203,000
√	Illumination		6%	$ 34,800
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	3%	$ 17,400
√	Sewer	Minor Adjustments	2%	$ 11,600
√	Establish Turf/Erosion Control		2%	$ 11,600
√	Basic Landscaping and Irrigation		4%	$ 23,200
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 348,000**

Paving and Allowance Subtotal:		**$ 928,000**
Construction Contingency:	15%	$ 139,200
Mobilization	6%	$ 55,680
Prep ROW	3%	$ 27,840
Construction Cost TOTAL:		**$ 1,151,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,151,000**
Engineering/Survey/Testing:		20%	$ 230,200
ROW/Easement Acquisition:	ROW Not Included for TxDOT Facilities	0%	$ -
		Project Subtotal:	**$ 1,382,000**
		City of Melissa Contribution (50%):	**$ 691,000**
		Bond Issuance: 1%	$ 6,910
		Project Total:	**$ 697,910**
		Financing: 37%	$ 257,792.66
		Impact Fee Project Cost TOTAL (50% for FM 545):	**$ 481,306**

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 Melissa

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 Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:	**Description:**	**Project No.**	**2-8**
Name:	CR 413 (1)	**This project consists of the reconstruction of the existing dirt road to a two lane undivided local street**	
Limits:	CR 413 (E-W) to 2,005' N of CR 413 (E-W)		
Impact Fee Class:	2U(50)		
Ultimate Class:	Local Street		
Length (lf):	2,005		
Service Area(s):	2,ETJ		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	6,683	cy	$ 10.00	$ 66,833
205	6" Lime Stabilization (with Lime @ 27#/sy)	6,461	sy	$ 6.00	$ 38,763
305	10" Concrete Pavement	6,015	sy	$ 50.00	$ 300,750
405	4" Topsoil	3,564	sy	$ 2.50	$ 8,911
505	6' Concrete Sidewalk	16,040	sf	$ 4.50	$ 72,180
605	Turn Lanes and Median Openings	0	sy	$ 68.00	$ -
				Paving Construction Cost Subtotal:	**$ 487,438**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control	5%	$ 24,372
√	Pavement Markings/Signs/Posts		3%	$ 14,623
√	Roadway Drainage	Standard Internal System	35%	$ 170,603
√	Illumination		6%	$ 29,246
√	Special Drainage Structures	Minor Stream Crossing	0%	$ 113,750
√	Water	Minor Adjustments	3%	$ 14,623
√	Sewer	Minor Adjustments	2%	$ 9,749
√	Establish Turf/Erosion Control		2%	$ 9,749
√	Basic Landscaping and Irrigation		4%	$ 19,498
	Miscellaneous:		$0	$ -
			Allowance Subtotal:	**$ 406,213**

****Allowances based on % of Paving Construction Cost Subtotal**

Paving and Allowance Subtotal:		**$ 893,650**
Construction Contingency:	15%	$ 134,048
Mobilization	6%	$ 53,619
Prep ROW	3%	$ 26,810
Construction Cost TOTAL:		**$ 1,109,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,109,000**
Engineering/Survey/Testing:		20%	$ 221,800
ROW/Easement Acquisition:	Existing Alignment (1/2 ROW)	$1.50 / Sq. Ft.	$ 75,188
		Project Subtotal:	**$ 1,406,000**
		Bond Issuance: **1%**	$ 14,060
		Project Total:	**$ 1,420,060**
		Financing: **37%**	$ 524,539.04
		Impact Fee Project Cost TOTAL:	**$ 1,944,599**

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 Melissa

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 Melissa

2015 Transportation Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

H&F Consulting, Inc.

updated: 8/3/2015

Project Information:		**Description:**	**Project No.**	**2-9**
Name:	CR 413 (2)	**This project consists of the**		
Limits:	City Limit to FM 545	**construction of a new two local street**		
Impact Fee Class:	2U(50)			
Ultimate Class:	Local Street			
Length (lf):	2,545			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	8,483	cy	$ 10.00	$ 84,833
205	6" Lime Stabilization (with Lime @ 27#/sy)	8,201	sy	$ 6.00	$ 49,203
305	10" Concrete Pavement	7,635	sy	$ 50.00	$ 381,750
405	4" Topsoil	4,524	sy	$ 2.50	$ 11,311
505	6' Concrete Sidewalk	20,360	sf	$ 4.50	$ 91,620
605	Turn Lanes and Median Openings	0	sy	$ 68.00	$ -
				Paving Construction Cost Subtotal:	**$ 618,718**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Signs/Posts		3%	$ 18,562
√	Roadway Drainage	Standard Internal System	35%	$ 216,551
√	Illumination		6%	$ 37,123
√	Special Drainage Structures	Minor Stream Crossing	0%	$ 113,750
√	Water	Minor Adjustments	3%	$ 18,562
√	Sewer	Minor Adjustments	2%	$ 12,374
√	Establish Turf/Erosion Control		2%	$ 12,374
√	Basic Landscaping and Irrigation		4%	$ 24,749
	Miscellaneous:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 454,045**

Paving and Allowance Subtotal:		**$ 1,072,763**
Construction Contingency:	15%	$ 160,914
Mobilization	6%	$ 64,366
Prep ROW	3%	$ 32,183
Construction Cost TOTAL:		**$ 1,331,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,331,000**
Engineering/Survey/Testing:		20%	$ 266,200
ROW/Easement Acquisition:		$1.50 / Sq. Ft.	$ 190,875
		Project Subtotal:	**$ 1,789,000**
		Bond Issuance: **1%**	$ 17,890
		Project Total:	**$ 1,806,890**
		Financing: **37%**	$ 667,425.56
		Impact Fee Project Cost TOTAL:	**$ 2,474,316**

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 Melissa

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.

B. CIP Service Units of Supply

City of Melissa - 2015 Transportation Impact Fee Update

CIP Service Units of Supply

Service Area 1

8/3/2015

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	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
1-1	Throckmorton Rd (1)	US 75 NBFR to 1,170' E of US 75 NBFR	0.22	4	4D(100)	17	700	620	4	616	$ 985,439
1-2	Throckmorton Rd (2)	SH 5 to Liberty Way (Future)	0.55	4	4D(100)	100	700	1527	55	1472	$ 3,286,179
1-3	Throckmorton Rd (3)	Liberty Way (Future) to Spruce Rd	0.81	4	4D(100)	NEW	700	2262	0	2262	$ 6,379,570
1-4	Throckmorton Rd (4)	Spruce Rd to 990' East of Spruce Rd	0.19	4	4D(100)	100	700	525	19	506	$ 833,992
1-5	Melissa Rd (1)	1,755' W of CR 277 to CR 277	0.33	2	3U(60)	298	525	349	99	250	$ 6,363,514
1-6	Melissa Rd (2)	Co Rd 277 to US 75 SBFR	0.32	4	4D(100)	298	700	883	94	789	$ 3,840,791
1-7	Melissa Rd (3)	SH 5 to Co Rd 365	0.13	6	6D(120)	NEW	725	544	0	544	$ 1,645,856
1-8	Melissa Rd (4)	Co Rd 365 to SH 121	0.57	6	6D(120)	128	725	2496	73	2,423	$ 7,905,639
1-9	FM 545 (1)	SH 121 to FM 2933	0.97	4	4D(100)	298	700	2715	289	2,426	$ 4,853,891
1-10	Davis Rd (1)	CR 277 to US 75 SBFR	0.34	4	4D(100)	22	700	963	8	955	$ 3,056,589
1-11	Davis Rd (2)	US 75 NBFR to Fannin Rd	0.42	4	4D(100)	22	700	1185	9	1,176	$ 3,764,722
1-12	CR 277 (1)	2,285' S of Melissa Rd to 1,275' S of Melissa Rd	0.19	2	3U(60)	14	525	201	3	198	$ 586,422
1-13	CR 277 (2)	1,275' S of Melissa Rd to Melissa Rd	0.24	2	3U(60)	14	525	254	3	251	$ 2,578,046
1-14	CR 277 (3)	515' N of Melissa Rd to Throckmorton Creek	0.72	2	3U(60)	14	525	760	10	750	$ 2,707,363
1-15	Fannin Rd (1)	SH 121 to Davis Rd	0.16	4	4D(100)	111	700	448	18	430	$ 1,424,564
1-16	Fannin Rd (2)	Davis Rd to Melissa Rd	1.07	2	3U(60)	108	525	1126	116	1,010	$ 6,566,825
1-17	Cardinal Dr (1)	Melissa Rd to Fannin Rd	0.10	2	3U(60)	72	525	104	7	97	$ 625,148
1-18	Cardinal Dr (2)	135' N of Surrey Dr to CR 365	0.35	2	3U(60)	NEW	525	368	0	368	$ 2,199,084
1-19	CR 365 (1)	SH 5 to Cardinal Dr	0.23	2	3U(60)	NEW	525	242	0	242	$ 1,410,733
1-20	CR 365 (2)	Cardinal Dr to 1,065' N of Cardinal Dr	0.20	2	2U(50)	20	500	202	4	198	$ 571,209
1-21	SH 5 (1)	SH 121 to 3,900' S of Melissa Rd	0.46	4	4D(100)	616	700	1286	283	1,003	$ 1,916,246
1-22	SH 5 (2)	3,900' S of Melissa Rd to Melissa Rd	0.74	4	4D(100)	616	700	2068	455	1,613	$ 3,058,544
1-23	SH 5 (3)	Melissa Rd to Throckmorton Rd	2.01	4	4D(100)	642	700	5616	1,288	4,328	$ 8,334,393
1-24	Miller Rd (1)	775' N of CR 362 to 300' S of Thornberry Dr	0.20	2	3U(60)	55	525	215	11	204	$ 627,223
1-25	Miller Rd (2)	300' S of Thornberry Dr to SH 121	0.29	2	3U(60)	55	525	306	16	290	$ 1,768,812
1-26	Miller Rd (3)	SH 121 to FM 545	0.26	2	3U(60)	178	525	269	46	223	$ 1,573,936
1-27	Dallas St	Melissa Rd to Independence Dr	0.33	2	3U(60)	NEW	525	347	0	347	$ 2,073,225
1-28	Liberty Way	Patton Dr to 900' S of Throckmorton Rd	0.56	2	2U(50)	NEW	500	559	0	559	$ 2,829,765
1-29,2-6	Milrany Ln (1)	FM 545 to SH 121	0.62	2	3U(60)	263	525	655	164	491	$ 1,809,058
1-30,2-7	Milrany Ln (2)	300' N of SH 121 to 100 S of Hunter's Run Pkwy	0.25	2	3U(60)	263	525	266	67	199	$ 553,223
1-31	Milrany Ln (3)	100' S of Hunter's Run Pkwy to CR 418 (E-W)	0.28	2	3U(60)	263	525	295	74	221	$ 816,012
1-32	Milrany Ln (4)	CR 418 (E-W) to Throckmorton Rd	0.28	2	3U(60)	263	525	292	73	219	$ 1,313,918
S-1	Signal Installation	CR 365 & Cardinal Dr	-	-	-	-	-	-	-	-	$ 377,962
S-2	Signal Installation	Davis Rd & US 75 NBFR	-	-	-	-	-	-	-	-	$ 377,962
S-3	Signal Installation	Davis Rd & US 75 SBFR	-	-	-	-	-	-	-	-	$ 377,962
S-4	Signal Installation	Fannin Rd & Davis Rd	-	-	-	-	-	-	-	-	$ 377,962
S-5	Signal Installation	Melissa Rd & Berry Rd	-	-	-	-	-	-	-	-	$ 377,962
S-6	Signal Installation	Melissa Rd & Fannin Rd	-	-	-	-	-	-	-	-	$ 377,962
S-7	Signal Installation	Melissa Rd & US 75 NBFR	-	-	-	-	-	-	-	-	$ 377,962
S-8	Signal Installation	Melissa Rd & US 75 SBFR	-	-	-	-	-	-	-	-	$ 377,962
S-9	Signal Installation	SH 121 & Liberty Way	-	-	-	-	-	-	-	-	$ 377,962
S-10	Signal Installation	SH 121 & Redwood Blvd	-	-	-	-	-	-	-	-	$ 377,962
S-11	Signal Installation	SH 5 & CR 365	-	-	-	-	-	-	-	-	$ 377,962
S-12	Signal Installation	SH 5 & Melissa Rd	-	-	-	-	-	-	-	-	$ 377,962
S-13	Signal Installation	Throckmorton Rd & CR 418	-	-	-	-	-	-	-	-	$ 188,981
S-14	Signal Installation	Throckmorton Rd & Liberty Way	-	-	-	-	-	-	-	-	$ 377,962
PWF-1	Public Works Facility	-	-	-	-	-	-	-	-	-	$ 1,281,000
TOC-1	Traffic Operations Center	-	-	-	-	-	-	-	-	-	$ 3,091,009
SUBTOTAL								**29,948**	**3,288**	**26,660**	**$ 97,734,427**

2015 Transortation Impact Fee Update Cost Per Service Area $ 19,167

TOTAL COST IN SERVICE AREA 1 $97,753,594

City of Melissa - 2015 Transportation Impact Fee Update

CIP Service Units of Supply

Service Area 2

8/3/2015

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	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
2-1	Throckmorton Rd (5)	CR 418 to 1,490' E of CR 418	0.28	2	2U(50)	100	500	282	28	254	$ 498,022
2-2	CR 419	SH 121 to Throckmorton Rd	0.14	2	2U(50)	NEW	500	141	0	141	$ 656,959
2-3	FM 545 (2)	FM 2933 to CR 415	0.90	4	4D(100)	270	700	2514	242	2272	$ 2,095,180.08
2-4	FM 545 (3)	CR 415 to 1,750' N of CR 415	0.33	3	3U(60)	270	525	524	90	434	$ 485,485.54
2-5	FM 545 (4)	1,750' N of CR 415 to CR 416	0.33	3	3U(60)	270	525	519	89	430	$ 240,653
1-28,2-6	Milrany Ln (2)	FM 545 to SH 121	0.62	3	3U(60)	263	525	983	164	819	$ 1,809,058
1-29,2-7	Milrany Ln (3)	300' N of SH 121 to 100 S of Hunter's Run Pkwy	0.25	3	3U(60)	263	525	400	67	333	$ 1,106,447
2-8	CR 413 (1)	CR 413 (E-W) to 2,005' N of CR 413 (E-W)	0.38	2	2U(50)	20	500	380	8	372	$ 972,300
2-9	CR 413 (2)	City Limit to FM 545	0.48	2	2U(50)	NEW	500	482	0	482	$ 2,474,316
S-15	Signal Installation	SH 121 & CR 419	-	-	-	-	-	-	-	-	$ 377,962
TOC-1	Traffic Operations Center	-	-	-	-	-	-	-	-	-	$ 1,236,404
SUBTOTAL								**6,225**	**688**	**5,537**	**$ 11,952,785**

2015 Transportation Impact Fee Update Cost Per Service Area $ 19,167

TOTAL COST IN SERVICE AREA 2 $ 11,971,952

C. Existing Roadway Facilities Inventory

City of Melissa - 2015 Transportation Impact Fee Update
Existing Roadway Facilities Inventory

Service Area 1

8/3/2015

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB		NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Cardinal Dr	Fannin Rd	2110' N of Fannin Rd	2109	0.40	1	1	3U	41	31	100%	525	525	210	210	16	12	193	197		
Cardinal Dr	2110' N of Fannin Rd	3675' N of Fannin Rd	1565	0.30	2	2	4D	41	31	100%	700	700	415	415	12	9	403	406		
Co Rd 365	940' N of St Hy 5	2280' N of St Hy 5	1338	0.25	1	1	2U	10	10	100%	500	500	127	127	3	3	124	124		
Co Rd 365	St Hy 5	940' N of St Hy 5	939	0.18	1	1	2U	10	10	100%	500	500	89	89	2	2	87	87		
CR 277	490' N of Co Rd 279	4301' N of Co Rd 279	3823	0.72	1	1	2U-R	13	1	100%	150	150	109	109	9	1	99	108		
CR 277	Co Rd 279	1260' S of Co Rd 279	1259	0.24	1	1	2U-R	13	1	100%	150	150	36	36	3	0	33	36		
CR 277	1260' S of Co Rd 279	2295' S of Co Rd 279	1036	0.20	1	1	2U-R	13	1	100%	150	150	29	29	3	0	27	29		
Davis Rd	US 75 NBFR	Co Rd 338	2235	0.42	1	1	2U-R	8	14	100%	150	150	63	63	3	6	60	58		
Davis Rd	Co Rd 277	US 75 SBFR	1817	0.34	1	1	2U-R	8	14	100%	150	150	52	52	3	5	49	47		
Davis Rd	US 75 SBFR	US 75 NBFR	859	0.16	2	2	4U	8	14	100%	650	650	212	212	1	2	210	209		
Fannin Rd	Co Rd 344	St Hy 121	6482	1.23	1	1	2U	76	35	100%	500	500	614	614	93	43	521	571		
Fannin Rd	Co Rd 344	St Hy 5	3157	0.60	1	1	2U	72	36	100%	500	500	299	299	43	22	256	277		
FM 2933	FM 545	St Hy 121	3322	0.63	1	1	2UR	48	48	100%	925	925	582	582	30	30	552	552		
FM 2933	FM 545	2595' S of FM 545	2597	0.49	1	1	2UR	88	88	100%	925	925	455	455	43	43	412	412		
FM 545	St Hy 121	FM 2933	5116	0.97	1	1	2UR	149	149	100%	925	925	896	896	144	144	752	752		
FM 545	St Hy 121	160' W of RR	3035	0.57	1	1	2U	64	64	100%	500	500	287	287	37	37	251	251		
Liberty Way	505' N of St Hy 121	3105' N of St Hy 121	2598	0.49	1	1	3U	107	60	100%	525	525	258	258	53	30	206	229		
Liberty Way	St Hy 121	505' N of St Hy 121	505	0.10	2	2	4D	107	60	100%	700	700	134	134	10	6	124	128		
Liberty Way	3105' N of St Hy 121	3630' N of St Hy 121	525	0.10	1	1	2U	107	60	100%	500	500	50	50	11	6	39	44		
Melissa Rd	US 75 NBFR	SH 5	5145	0.97	2	2	4D	163	77	100%	700	700	1,364	1,364	159	75	1,205	1,289		
Melissa Rd	1,760' W of Co Rd 277	US 75 NBFR	4121	0.78	1	1	2U	264	34	100%	500	500	390	390	206	27	184	364		
Miller Rd	St Hy 121	1440' S of St Hy 121	1440	0.27	1	1	2U	23	32	100%	500	500	136	136	6	9	130	128		
Miller Rd	FM 545	St Hy 121	1347	0.26	1	1	2U	94	84	100%	500	500	128	128	24	21	104	106		
Miller Rd	1440' S of St Hy 121	2430' S of St Hy 121	991	0.19	1	1	2U	23	32	100%	500	500	94	94	4	6	90	88		
Milrany Ln	3040' N of St Hy 121	4595' N of St Hy 121	1556	0.29	1	1	3U	161	102	100%	525	525	155	155	47	30	107	125		
Milrany Ln	4595' N of St Hy 121	6120' N of St Hy 121	1523	0.29	1	1	2U	161	102	100%	500	500	144	144	46	29	98	115		
Milrany Ln	St Hy 121	3040' N of St Hy 121	3039	0.58	1	1	2U	161	102	100%	500	500	288	288	93	59	195	229		
Patriot Dr	Liberty Way	2730' W of Liberty Way	2729	0.52	1	1	2U	50	50	100%	500	500	258	258	26	26	233	233		
SH 121	FM 545	FM 2933	6251	1.18	1	1	3UR	828	828	100%	925	925	1,095	1,095	980	980	115	115		
SH 121	Co Rd 339	FM 545	2207	0.42	1	1	3UR	970	970	100%	925	925	387	387	405	405	-19	-19	19	19
SH 121	RR Crossing	Creekside Rd	1253	0.24	1	1	2UR	970	970	100%	925	925	220	220	230	230	-11	-11	11	11
SH 121	Creekside Rd	Co Rd 339	1529	0.29	1	1	3UR	970	970	100%	925	925	268	268	281	281	-13	-13	13	13
SH 5	Co Rd 36	Pr Rd 5039	4156	0.79	1	1	2UR	269	269	100%	925	925	728	728	212	212	516	516		
SH 5	Co Rd 344	2875' N of Co Rd 344	2873	0.54	1	1	2UR	321	321	100%	925	925	503	503	175	175	329	329		
SH 5	Co Rd 344	3855' S of Co Rd 344	3855	0.73	1	1	2UR	308	308	100%	925	925	675	675	225	225	450	450		
SH 5	Pr Rd 5039	Co Rd 365	2551	0.48	1	1	2UR	269	269	100%	925	925	447	447	130	130	317	317		
SH 5	3855' S of Co Rd 344	St Hy 121	2469	0.47	2	2	4D	308	308	100%	700	700	655	655	144	144	511	511		
SH 5	2875' N of Co Rd 344	Co Rd 365	991	0.19	1	1	3UR	269	269	100%	925	925	174	174	51	51	123	123		
Throckmorton Rd	US 75 SBFR	US 75 NBFR	1044	0.20	1	1	2U	10	7	100%	500	500	99	99	2	1	97	97		
Throckmorton Rd	US 75 NBFR	1,070' E of US 75 NBFR	1068	0.20	1	1	2U-R	10	7	100%	150	150	30	30	2	1	28	29		
Throckmorton Rd	Railroad	2,675' E of Railroad	2676	0.51	2	2	4D	50	50	100%	700	700	710	710	25	25	684	684		
Throckmorton Rd	Mirany Ln	FM 418 (E-W)	1642	0.31	1	1	2U	49	51	100%	500	500	155	155	15	16	140	140		
Throckmorton Rd	FM 418 (E-W)	FM 418 (N-S)	1474	0.28	2	2	4D	49	51	100%	700	700	391	391	14	14	377	377		
SUBTOTAL			**102,248**	**19.37**									**14,410**	**14,410**	**4,023**	**3,573**	**10,387**	**10,837**	**43**	**43**
													28,820		**7,596**		**21,224**		**86**	

City of Melissa - 2015 Transportation Impact Fee Update
Existing Roadway Facilities Inventory

Service Area 2

8/3/2015

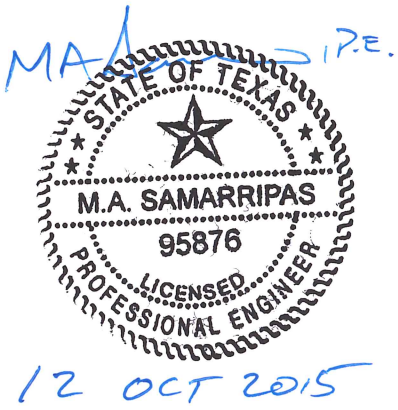
ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB		NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
FM 545	Pr Rd 5044	3400' N of Pr Rd 5044	3,398	0.64	1	1	2U	174	96	100%	500	500	322	322	112	62	210	260		
FM 545	FM 2933	Co Rd 415	4,809	0.91	1	1	2U	174	96	100%	500	500	455	455	158	87	297	368		
SH 121	Co Rd 419	2510' E of Co Rd 419	5,369	1.02	1	1	2UR	828	828	100%	925	925	941	941	842	842	99	99		
SH 121	FM 2933	Landfill	4,455	0.84	1	1	3UR	828	828	100%	925	925	781	781	699	699	82	82		
Throckmorton Rd	FM 418	730' W of FM 419	2,746	0.52	1	1	2U-R	49	51	50%	150	150	39	39	13	13	26	26		
SUBTOTAL			**20,778**	**3.94**									**2,537**	**2,537**	**1,824**	**1,703**	**713**	**834**	**0**	**0**
													5,075		**3,527**		**1,548**		**0**	

Chapter 2 – Water and Wastewater Impact Fee

City of Melissa, Texas

Water and Wastewater Impact Fee Report

August 2015



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Project Number: 064474601

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2015 Water and Wastewater Impact Fees

As prepared for the City of Melissa, Texas

Executive Summary

This study was performed to provide the City of Melissa 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 allows 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 section of this report.

Water system improvements necessary to serve 10-year (2025) 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 Melissa's Impact Fee Capital Improvements Plan recoverable cost total is $27,256,900. After debt service costs are added and the 50% reduction calculation is complete, $21,179,526 is recoverable through impact fees serving the 10-year system needs.

Wastewater

Elements of the wastewater system, including lift stations, force mains, 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 section of this report.

Wastewater system improvements necessary to serve 10-year (2025) needs were evaluated. The City of Melissa's Impact Fee Capital Improvements Plan recoverable cost total is $7,517,100. After debt service costs are added and the 50% reduction calculation is complete, $5,841,039 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 positive displacement 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 ($)	Maximum Assessable Fee Wastewater ($)
5/8"x 3/4" PD	10	0.67	$1,446.67	$398.67
3/4" PD	15	1	$2,170.00	$598.00
1" PD	25	1.67	$3,616.67	$996.67
1 1/2" PD	50	3.33	$7,233.33	$1,993.33
2" PD	80	5.33	$11,573.33	$3,189.33
2" Compound	80	5.33	$11,573.33	$3,189.33
2" Turbine	160	10.67	$23,146.67	$6,378.67
3" Compound	175	11.67	$25,316.67	$6,976.67
3" Turbine	350	23.33	$50,633.33	$13,953.33
4" Compound	300	20.00	$43,400.00	$11,960.00
4" Turbine	650	43.33	$94,033.33	$25,913.33
6" Compound	675	45.00	$97,650.00	$26,910.00
6" Turbine	1,400	93.33	$202,533.33	$55,813.33
8" Compound	900	60.00	$130,200.00	$35,880.00
8" Turbine	2,400	160.00	$347,200.00	$95,680.00
10" Turbine	3,500	233.33	$506,333.33	$139,533.33

**PD = Positive Displacement Meter (typical residential meter)*
***Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-15. Turbine and Compound meter flows are based on Class II (in-line) meters.*

2.1 Introduction

The City of Melissa 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.

The impact fee study includes information from the 2009 Water and Wastewater Impact Fee Study completed by BWR as well as the 2015 Comprehensive Plan by Freese and Nichols. Kimley-Horn also interviewed Melissa 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 water and wastewater impact fees are based upon recommendations and information from these sources.

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. The recently adopted Comprehensive Plan addressed future land uses and projected growth rates. As such, land use assumptions and growth rates are not part of this report. Kimley-Horn utilized the provided information and developed the land use assumptions used for the purposes of this study with assistance from City of Melissa staff. The development of land use assumptions 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 which correlates to the extraterritorial jurisdiction (ETJ) area. An illustration of the service area is shown on the attached Figures.

The information provided above assumes that the10-year growth will almost exclusively occur in the existing City limits. Heavy growth in the ETJ is expected in the time period from 2025 to the City's future ultimate capacity, or build-out population. Table 2.2 summarizes the residential and non-residential 10 year growth projections within the City of Melissa from 2015 to 2025 and build-out growth projections within the City including ETJ.

Table 2.2 Residential and Non-Residential 10-Year Growth Projections for the City of Melissa

	Residential Population	Dwelling Units (Pop./3.35)	Basic	Retail	Service
			Building SF	Building SF	Building SF
2015	8,919	2,662	391,063	153,228	304,575
2025	36,080	10,770	800,918	2,136,167	1,914,759
Build-Out (City plus ETJ)	119,072	35,544	2,752,992	5,524,922	15,364,048

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. It was assumed that the previously identified capital projects from the master plans are valid and no evaluation or software modeling was required to determine necessary system improvements. The existing master plans were slightly modified to incorporate the most up-to-date construction projects. The Master Plan water demand projections and wastewater flow projections were then used to determine the future service unit needs.

C. Impact Fee Analysis 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 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. While the design criteria listed above and explained in further detail below govern the design of the City's water system, for the purposes of this report, the water demands were calculated based on residential dwelling units and non-residential building square feet. Water demands and growth projections were developed using the 2015 Comprehensive Plan and the 2009 Impact Fee Study. The projected flows were developed from the demand by land use type as shown in the 2009 Impact Fee Study.

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.

Twenty-Three (23) projects are determined eligible for recoverable cost through impact fee over the next 10 years. The City of Melissa's Impact Fee Capital Improvements Plan recoverable cost total is $27,256,900. After debt service costs are added and the 50% reduction calculation is complete, $21,179,526 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in Table 2.3 and illustrated in Figure 2.1.

(1) - Future 5 MG GST
(1) - Future 16,000 GPM PS

(1) - Future 4 MG GST
(1) - Future 10,000 GPM PS
Additional 10,000 GPM from NTMWD

(1) - Future 2 MG EST

(1) - Existing 0.5 MG GST
(1) - Existing 4,100 GPM PS

(1) - Future 3 MG EST

Project 1
Project 2
16" WL
Project 3
12" WL
Project 4
18" WL
Project 5
12" WL
Project 6
12" WL
Project 6
20" WL
Project 6
12" WL
Project 7
Project 9
20" WL
Project 9
30" WL
Project 9
12" WL
Project 10
36" WL
Project 11
24" WL
Project 12
20" WL
Project 13
24" WL
Project 14
12" WL
Project 15
24" WL
Project 16
Project 17
36" WL
Project 17
18" WL
Project 18
24" WL
Project 18
16" WL
14" WL
12" WL
30" WL

PROJECT NAMES
1. South Water Take Point (Under Construction)
2. US-75 Southwest Bore (16")
3. West Side Low Pressure Plane Expansion (12"-16")
4. Northwest Tower and Lines (18"- 24")
5. Fannin Distribution Line (12")
6. Southwest Water Mains (12"- 20")
7. Southwest Tower
8. Berry Road Line Upgrade and Industrial Line (12"-16")
9. FM 2933 Main (12"- 30") (Under Construction)
10a. North Water Tap and Pump Facility
10b. Future Public Works Maintenance Facility Land Acquisition
11. North Facility to Downtown Connection (24")
12. US-75 Melissa Road Bore (20") (Bore Already constructed)
13. US-75 Throckmorton Road Bore (24")
14a. County Road 365 Line (12")
14b. Public Works Maintenance Facility
15. Northwest Transmission Line (24"- 30")
16. East Water Facility
17. East Water Facility Transmission Lines (18")
18. East Water Facility NTMWD Connection and Transmission Line (24")
19. 2015 Water Impact Fee Update
20. 2018 Water Master Plan Update
21. 2020 Water Impact Fee Update

Water CIP

- Water Line
- NTMWD North WTP Transmission Line
- Elevated Storage
- Pump Station/Ground Storage
- City Limits
- ETJ

City of Melissa

IMPACT FEE CIP

Water Infrastructure Map

JULY 2015

Figure 2.1

Kimley»Horn

H&F CONSULTING, INC.

N W E S

1,500 750 0 1,500 3,000 4,500 Feet

Table 2.3 Water Impact Fee Capital Improvements Plan Costs

Project Number	Project Name	2015 Required Capacity (Percent Utilized)	2025 Required Capacity (Percent Utilized)	2015-2025 Required Capacity (Percent Utilized)	Total Project Cost	2025 Projected Recoverable Cost
1	South Water Take Point (Under Construction)	39%	100%	61%	$ 3,990,000	$ 2,433,900
2	US-75 Southwest Bore	0%	27%	27%	$ 880,000	$ 237,600
3	West Side Low Pressure Plane Expansion	0%	27%	27%	$ 4,720,000	$ 1,274,400
4	Northwest Tower and Lines	0%	23%	23%	$ 10,640,000	$ 2,447,200
5	Fannin Distribution Line	0%	27%	27%	$ 800,000	$ 216,000
6	Southwest Water Mains	0%	27%	27%	$ 5,270,000	$ 1,422,900
7	Southwest Tower	0%	21%	21%	$ 8,230,000	$ 1,728,300
8	Berry Road Line Upgrade and Industrial Line	0%	27%	27%	$ 1,970,000	$ 531,900
9	FM 2933 Main (Under Construction)	0%	27%	27%	$ 1,640,000	$ 442,800
10a	North Water Tap and Pump Facility	0%	33%	33%	$ 12,250,000	$ 4,042,500
10b	Future Public Works Facility Land Acquisition	0%	30%	30%	$ 246,667	$ 74,000
11	North Facility to Downtown Connection	0%	27%	27%	$ 2,430,000	$ 656,100
12	US-75 Melissa Road Bore (Bore Already Constructed)	0%	27%	27%	$ 2,560,000	$ 691,200
13	US-75 Throckmorton Road Bore	0%	27%	27%	$ 1,360,000	$ 367,200
14a	County Road 365 Line	0%	27%	27%	$ 1,320,000	$ 356,400
14b	Public Works Maintenance Facility	0%	30%	30%	$ 4,023,333	$ 1,207,000
15	Northwest Transmission Line	0%	27%	30%	$ 4,120,000	$ 1,236,000
16	East Water Facility	0%	21%	30%	$ 10,750,000	$ 3,225,000
17	East Water Facility Transmission Lines	0%	27%	30%	$ 7,300,000	$ 2,190,000
18	East Water Facility NTMWD Connection	0%	27%	27%	$ 8,350,000	$ 2,254,500
19	2015 Water Impact Fee Update	0%	100%	100%	$ 22,000	$ 22,000
22	2018 Water Master Plan	0%	100%	100%	$ 150,000	$ 150,000
21	2020 Water Impact Fee Update	0%	100%	100%	$ 50,000	$ 50,000
Total					$ 93,072,000	$ 27,256,900

C. Project Descriptions

Project #1: South Water Take Point (Under Construction)

Located in downtown near Melissa Road, this 4,100 gallons per minute (gpm) pump station has the ability to add additional pumping capacity for future growth, as well as utilize water from the Greater Texoma Utility Authority's (GTUA) regional water transmission line. In addition to the pump station, a 500,000 gallon storage tank serves to offset peak demands by future customers on the water system.

Project #2: US-75 Southwest Bore

This project includes approximately 1,000 linear feet (LF) of 16" waterline and a bore underneath US-75. The mixed use and commercial areas west of US-75 will not develop without substantial water distribution from the main water system on the east side. This will be the first water line owned by the City to cross US Highway 75.

Project #3: West Side Low Pressure Plane Expansion

This project includes approximately 27,500 LF of 12" and 16" waterlines and three pressure reducing valves. The land near the Trinity River, even above the 100-year floodplain designated by FEMA, is low lying and necessitates a separate pressure plane. With a connection to the main water system, this network will provide water service to all the areas near Telephone Road within Melissa's jurisdiction. This water line project will distribute water along the west side of US-75 in the southwest area.

Project #4: Northwest Tower and Lines

This project includes approximately 9,000 LF of 18"-24" transmission lines and a 2 MG (million gallon) elevated storage tank and will serve what will be the most heavily developed area of Melissa: the US-75 corridor. Elevated water storage in this area is crucial to ensure that useful levels of pressure will be maintained during high demand periods.

Project #5: Fannin Distribution Line

This project includes approximately 3,000 LF of 12" distribution line. The future water demands of Melissa west of downtown will require a water line parallel to Melissa Road to help service the US-75 corridor, as well as the dense residential developments along Fannin Road to the south. This project will also serve to form a hydraulic loop with Project #6, ensuring good circulation of treated water through the system.

Project #6: Southwest Water Mains

This project includes approximately 9,000 LF of 12" and 20" waterline. The intersection of US Highway 75, State Highway 5, and State Highway 121 is an area expected to develop very heavily in Melissa. The Southwest Water Mains will provide water service to this area and will utilize the water distribution and supply capacity from the downtown South Water Take Point (Project #1).

Project #7: Southwest Tower

A 3 MG elevated storage tank will complement Project #6 and will offset peak demands on the water system as the southwest commercial and residential areas continue to develop.

Project #8: Berry Road Line Upgrade and Industrial Line

The existing 8" water line parallel to Berry Road is meant to serve the future residential and industrial development to its west. This project includes approximately 8,000 LF of 12"-16" distribution line in order to supply the industrial area and allow the connection of more housing in the area.

Project #9: FM 2933 Main (Under Construction)

Farm to Market 2933 needs a transmission line to serve the future low density residential development in the area. This project, which is currently under construction, consists of approximately 8,700 LF of 12" and 30" water lines and will begin Melissa's residential expansion into the southeast quadrant of its development boundaries.

Project #10a: North Water Tap and Pump Facility

The northern area of Melissa is the highest elevated; therefore, this project consists of constructing a 5 MG ground storage tank and a 16,000 gpm pump station to help maintain pressure in this part of the system. Some development (Hunters Creek, North Creek) is already established in these "highlands", distant from downtown, and from a hydraulic standpoint, it is difficult to provide properly pressurized water from the distant, low-lying pump station there (Project #1). This northern facility will use a planned second tap into the GTUA's highly pressurized transmission line that runs through Melissa and will provide some needed ground storage at a high elevation, which will save on pumping costs. This will allow efficient water supply and distribution as Melissa expands to the north.

Project #10b: Future Public Works Maintenance Facility Land Acquisition

This project will establish City-owned space for a future public works facility in addition to the direct water supply improvements this facility will provide. The cost of this project is split evenly between water, wastewater, and transportation since all three types of infrastructure will receive benefit from this facility.

Project #11: North Facility to Downtown Connection

This project includes approximately 5,000 LF of 24" transmission line and will connect into the North Water Tap and Pump Facility. As well as serving the downtown area, this water line will feed into water lines supplying water to nearby residential subdivisions and retail zones along State Highway 5.

Project #12: US-75 Melissa Road Bore (Bore Already Constructed)

This project includes approximately 2,500 LF of 20" water line and a bore underneath US-75, which has already been constructed. Key to further development along US-75, this bore will expand water distribution to the heavy development areas west of US-75 as it continues growth. The remaining portion of this project will connect into Projects #3 and #6.

Project #13: US-75 Throckmorton Road Bore

Similar to Project #12 in purpose, this bore will complete the water supply network begun by Project #3 west of US-75 and will ensure consistent pressurized water service to that high demand area. This project includes approximately 1,000 LF of 24" waterline in addition to the bore.

Project #14a: County Road 365 Water Line

This project includes approximately 6,000 LF of 12" waterline and will allow residential areas to the west of the retail area along SH 5 to develop around the Country Ridge and Villages of Melissa subdivision.

Project #14b: Public Works Maintenance Facility

A growing water and sewer system and road network will require the construction of a Public Works Facility, north of downtown Melissa, to ensure that the City water and wastewater utilities and roads will be kept in good repair. It is not in the scope of this Impact Fee Study to determine or estimate the costs of equipment that will be stored and maintained here, but only to list the estimated cost of the facility itself. The cost of this project is split evenly between water, wastewater, and transportation since all three types of infrastructure will receive benefit from this facility.

Project #15: Northwest Transmission Line

The full supply capability of the North Water Tap and Pump Facility (Project #10a) will not be able to be utilized to its fullest capability without a large and direct line traveling west to the US-75 corridor. This project includes approximately 10,400 LF of 24" and 30" distribution lines. The low pressure plane to the west will reach its maximum distribution potential with the installation of this line. In addition, this transmission line will provide needed water to the dense mixed use areas expected to develop along the northernmost reaches of the City, between SH 5 and US-75.

Project #16: East Water Facility

This water facility, consisting of a 4 MG ground storage tank and a 10,000 gpm pump station, will establish for the City the ability to provide water to its easternmost areas. The project also includes the water supply contract with North Texas Municipal Water District (NTMWD) in order to continue to supply adequate water for future development. Keeping a 10-year plan in mind, the facility will not immediately have its fullest supply capabilities as soon as it is built, but will expand its ground storage and pump capacity as Melissa continues growth.

Project #17: East Water Facility Transmission Lines

This project includes approximately 15,400 LF of 18" and 36" transmission lines. Since the first customers to use the East Water Facility's water will reside largely to the south and west along the triangle formed by SH 5, SH 121, and the Melissa City Limit to the north, these transmission lines will be installed to serve them.

Project #18: East Water Facility NTMWD Connection and Transmission Line

This project assumes that the NTMWD proposed North Water Treatment Plant Transmission line runs on the south side of the City and will require a delivery site with flow control valves, flow meters and approximately 16,600 LF of 24" transmission line to supply water to Project #16. This project will need to be constructed in conjunction with Project #16.

Project #19: 2015 Water Impact Fee Update

Based on projected future infrastructure needs, a Water Impact Fee Update was completed to determine how much of the infrastructure costs may be recovered by the City. The cost of the engineering fees for the Impact Fee Update may be recovered by the City.

Project #20: 2018 Water Master Plan Update

The Water Master Plan will need to be updated to continue to provide sufficient water service for the City's growth needs. The cost of the engineering fees for the Impact Fee Update may be recovered by the City.

Project #21: 2020 Water Impact Fee Update

Based on projected future infrastructure needs, a Water Impact Fee Update will need to be completed to determine how much of the infrastructure costs may be recovered by the City. The cost of the engineering fees for the Impact Fee Update may be recovered by the City.

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 2.4.

Table 2.4 Water Service Unit Consumption Calculation

Year	Population	Residential Units (3.35 persons/unit)	Water Usage Average Day Demand (MGD)	Consumption per Service Unit (GPD)
2006	3,036	906	0.42	467
2007	3,812	1,138	0.48	419
2008	4,248	1,268	0.52	406
2009	4,549	1,358	0.59	437
2010	4,753	1,419	0.84	593
2011	5,169	1,543	1.04	673
2012	5,532	1,651	1.01	612
2013	6,112	1,824	0.82	448
2014	7,755	2,315	0.90	391
2015	8,919	2,662	0.82	306
Average Consumption per Service Unit				475

Based on the City's 10-year growth projections and the resulting water demand projections, water service will be required for an additional 9,760 service units. The calculation is as follows:

- A service unit, which is a unit of development that consumes approximately 475 gallons per day (GPD), is a typical residential connection that uses a 3/4-inch meter. Table 2.5 outlines the future water demand projections and its relationship to the additional service units projected for the next 10-years.

Table 2.5 Water 10-year Additional Service Units Calculation

Year	Average Day Flow (MGD)	Service Unit Demand (GPD)	Service Units
2015	1.38	475	2,897
2025	6.01	475	12,657
10-year Additional Service Units			9,760

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 2.6 Water 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$	27,256,900
Debt Service	$	15,102,152
Recoverable Impact Fee CIP Costs w/Debt Service	$	42,359,052
50 Percent Reduction	$	(21,179,526)
Maximum Recoverable Cost of Impact Fee	$	21,179,526

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

$$\text{Impact fee per service unit} = \frac{\$21,179,526}{9,760}$$

$$\text{Impact fee per service unit} = \$2,170$$

Therefore, the maximum assessable impact fee per service unit is $2,170.

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 2.7, Service Unit Equivalency Table for Commonly Used Meters.

Table 2.7 Water Service Unit Equivalency Table for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (gpm)**	Service Unit Equivalent	Maximum Assessable Fee Water ($)
5/8"x 3/4" PD	10	0.67	$1,446.67
3/4" PD	15	1	$2,170.00
1" PD	25	1.67	$3,616.67
1 1/2" PD	50	3.33	$7,233.33
2" PD	80	5.33	$11,573.33
2" Compound	80	5.33	$11,573.33
2" Turbine	160	10.67	$23,146.67
3" Compound	175	11.67	$25,316.67
3" Turbine	350	23.33	$50,633.33
4" Compound	300	20.00	$43,400.00
4" Turbine	650	43.33	$94,033.33
6" Compound	675	45.00	$97,650.00
6" Turbine	1,400	93.33	$202,533.33
8" Compound	900	60.00	$130,200.00
8" Turbine	2,400	160.00	$347,200.00
10" Turbine	3,500	233.33	$506,333.33

**PD = Positive Displacement Meter (typical residential meter)*

***Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-15. Turbine and Compound meter flows are based on Class II (in-line) meters.*

2.3 Wastewater

Development of the Impact Fee Capital Improvements Plan 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. While the design criteria listed above and explained in further detail below govern the design of the City's wastewater system, for the purposes of this report, the wastewater demands were calculated based on residential dwelling units and non-residential building square feet. Wastewater demands and growth projections were developed using the 2015 Comprehensive Plan and the 2009 Impact Fee Study. The wastewater demands were calculated to be 80% of the water demands as shown in the 2009 Impact Fee Study.

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 feet per second pipe flow velocity and not exceeding a maximum of 8 feet per second pipe flow velocity.

Lift Stations

Pumping Capacity

The design criteria for lift station pumps is based on providing pumping capacity to meet 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:

$V = tQ/4$ 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.

Fourteen (14) projects are determined eligible for recoverable cost through impact fee over the next 10 years. The City of Melissa's Impact Fee Capital Improvements Plan recoverable cost total is $7,517,100. After debt service costs are added and the 50% reduction calculation is complete, $5,841,039 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in Table 2.8 and illustrated in Figure 2.2.

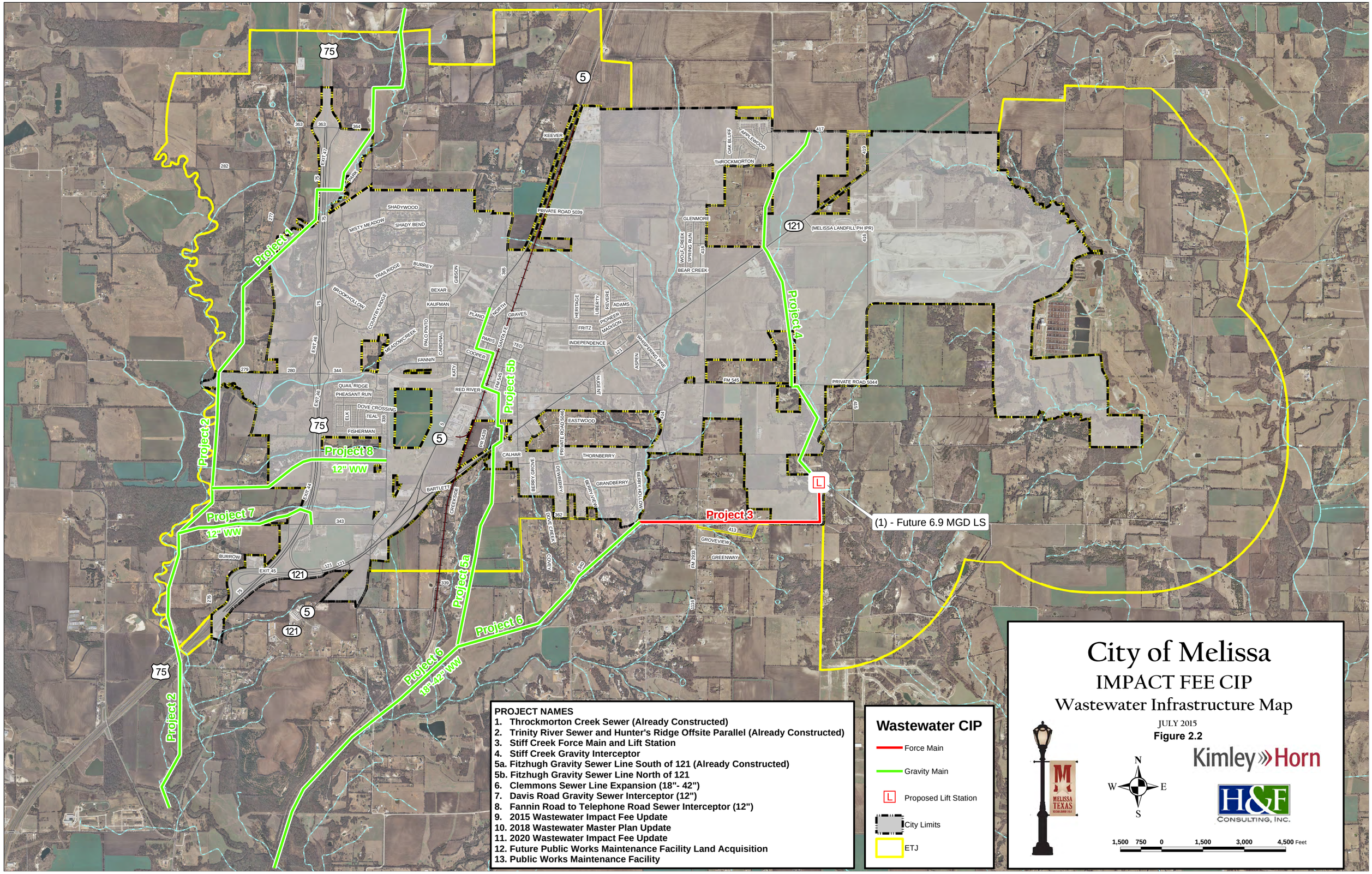
Project 1
Project 2
Project 3
Project 4
Project 5a
Project 5b
Project 6
12"-42" WW
Project 7
12" WW
Project 8
12" WW
(1) - Future 6.9 MGD LS
PROJECT NAMES
1. Throckmorton Creek Sewer (Already Constructed)
2. Trinity River Sewer and Hunter's Ridge Offsite Parallel (Already Constructed)
3. Stiff Creek Force Main and Lift Station
4. Stiff Creek Gravity Interceptor
5a. Fitzhugh Gravity Sewer Line South of 121 (Already Constructed)
5b. Fitzhugh Gravity Sewer Line North of 121
6. Clemmons Sewer Line Expansion (18"- 42")
7. Davis Road Gravity Sewer Interceptor (12")
8. Fannin Road to Telephone Road Sewer Interceptor (12")
9. 2015 Wastewater Impact Fee Update
10. 2018 Wastewater Master Plan Update
11. 2020 Wastewater Impact Fee Update
12. Future Public Works Maintenance Facility Land Acquisition
13. Public Works Maintenance Facility
Wastewater CIP
Force Main
Gravity Main
Proposed Lift Station
City Limits
ETJ
City of Melissa
IMPACT FEE CIP
Wastewater Infrastructure Map
JULY 2015
Figure 2.2
Kimley»Horn
H&F CONSULTING, INC.
1,500 750 0 1,500 3,000 4,500 Feet

Table 2.8 Wastewater Impact Fee Capital Improvements Plan Costs

Project Number	Project Name	2015 Required Capacity (Percent Utilized)	2025 Required Capacity (Percent Utilized)	2015-2025 Required Capacity (Percent Utilized)	Total Project Cost	2025 Projected Recoverable Cost
1	Throckmorton Creek Sewer (Already Constructed)	2%	17%	15%	$ 3,220,000	$ 483,000
2	Trinity River Sewer and Hunter's Ridge Offsite Parallel (Already Constructed)	2%	17%	15%	$ 5,460,000	$ 819,000
3	Stiff Creek Force Main and Lift Station	0%	16%	16%	$ 7,420,000	$ 1,187,200
4	Stiff Creek Gravity Interceptor	0%	16%	16%	$ 4,570,000	$ 731,200
5a	Fitzhugh Gravity Sewer Line (South of 121) (Already Constructed)	2%	17%	15%	$ 2,670,000	$ 400,500
5b	Fitzhugh Gravity Sewer Line (North of 121)	0%	16%	16%	$ 1,830,000	$ 292,800
6	Clemmons Sewer Line Expansion	0%	16%	16%	$ 9,460,000	$ 1,513,600
7	Davis Road Gravity Sewer Interceptor	0%	16%	16%	$ 1,880,000	$ 300,800
8	Fannin Road to Telephone Road Sewer Interceptor	0%	16%	16%	$ 2,100,000	$ 336,000
9	2015 Wastewater Impact Fee Update	0%	100%	100%	$ 22,000	$ 22,000
10	2018 Wastewater Master Plan Update	0%	100%	100%	$ 200,000	$ 100,000
11	2020 Wastewater Impact Fee Update	0%	100%	100%	$ 22,000	$ 50,000
12	Future Public Works Facility Land Acquisition	0%	30%	30%	$ 246,667	$ 74,000
13	Public Works Maintenance Facility	0%	30%	30%	$ 4,023,333	$ 1,207,000
Total					$ 43,052,000	$ 7,517,100

C. Project Descriptions

Project #1: Throckmorton Creek Sewer (Already Constructed)

This project is also known as the "GTUA (Greater Texoma Utility Authority) Sewer Interceptor, Phase II". This gravity-flow-only wastewater interceptor connects to, and thus retired, a lift station in the City of Anna and carries wastewater flows from that city up to a mutually agreed upon limit. As it leaves the City of Anna's jurisdiction south to Melissa, it picks up wastewater flows from the residential areas in the northwest parts of Melissa just east of US Highway 75. Further downhill on the line, it picks up wastewater from various residential and commercial collector lines. Near the Trinity west of the intersection of Melissa Road and Davis Road, the Throckmorton Creek Sewer connects to and ends at a junction box which temporarily routes flow to the existing Hunter's Ridge Offsite Sewer. This junction box has an outlet for Project #2 that upgraded the capacity of the Hunter's Ridge Offsite Sewer to handle future City of Melissa loads.

Project #2: Trinity River Sewer & Hunter's Ridge Offsite Parallel (Already Constructed)

Prior to this project, the existing Hunter's Ridge Offsite Sewer was not designed to drain most of the future wastewater flows from the extensive dense development expected near US-75. This sanitary sewer drains the remainder of the Throckmorton Creek / Trinity River Basin and follows the same route as the Hunter's Ridge Offsite Sewer. At designated locations, a junction box was installed in the place of a manhole on the Trinity River Sewer and replaced an existing manhole on the Hunter's Ridge Offsite Sewer. These junction boxes balance the loads between the interceptors and serve as designated collector points for outside flows via stubouts in the sides.

This interceptor connects to the North Texas Municipal Water District's Honey Creek Sewer line after being metered through a Parshall flume and the wastewater flow continues to the Wilson Creek Regional Wastewater Treatment Plant.

Project #3: Stiff Creek Force Main and Lift Station

The Stiff Creek Force Main and Lift Station, approximately 8,200 LF of force main with a 6.9 MGD lift station, will carry wastewater from the Stiff Creek Basin into the neighboring Clemmons Creek Basin to the west, where it will become a gravity line after the line crosses the ridge separating the two basins. When the line approaches Clemmons Creek, it will connect to the North Creek Offsite Sewer Line already in place there.

Project #4: Stiff Creek Gravity Interceptor

Because there is no existing central collection system for wastewater in the Stiff Creek Basin and little development, installing a gravity line here to route to the lift station is straightforward. This gravity line will serve the future residential development in this area and connect to the Stiff Creek Lift Station.

Project #5a: Fitzhugh Gravity Sewer Line South of 121 (Already Constructed)

This wastewater line is the main interceptor for wastewater through the Old Town and some future industrial/residential areas of Melissa. This line bored under State Highway 121 and retired the lift station there. South of SH121 it continues south and downhill in the basin until it meets up with the North Creek Offsite Sewer.

Project #5b: Fitzhugh Gravity Sewer Line North of 121

This wastewater line is the main interceptor for wastewater through the Old Town and some future industrial/residential areas of Melissa. This line will replace the main trunk of the Wastewater Collection and Transmission Facilities through downtown, and will flow into the already completed Project #5b.

Project #6: Clemmons Sewer Line Expansion

This project consists of wastewater lines ranging from 18" to 42" in size and approximately 21,000 LF. Clemmons Creek runs southward directly through the middle of Melissa's development boundaries. A moderately sized gravity sewer line runs through here (North Creek Offsite Sewer), and it is sufficient to serve the basin for the expected development in the area. However, starting downhill and south of Melissa's development boundary, it flattens out and decreases in size, greatly limiting its capacity. Also, the Stiff Creek Force Main will drain into here, and a parallel line will be required to carry the additional flow. Further down the line, the Fitzhugh Gravity Sewer will connect as well. For the North Creek Offsite Sewer to provide adequate sewer service over the next 10 years, it must be upgraded with this parallel line. This sewer project is of particular importance, as it allows full sewer service to be provided to the Fitzhugh Branch, Clemmons Creek, and Stiff Creek basins.

Project #7: Davis Road Gravity Sewer Interceptor

This project consists of approximately 5,500 LF of 12" wastewater line that ties into Project #2. The area to be served by this line is at the junction of State Highway 5, State Highway 121, and US-75, and is anticipated to be a major commercial, mixed use, and high density residential area. This sewer line will allow development right at this major transportation hub to drain to the Trinity River and Hunter's Ridge Offsite Sewers.

Project #8: Fannin Road to Telephone Road Sewer Interceptor

This project consists of approximately 6,200 LF of 12" wastewater line that ties into Project #2. The sub-basin this line will serve forms the heart of the rectangle enclosed by State Highway 5, Telephone Road, Melissa Road, and Davis Road (with US-75 running north-south through the middle). Like the area served by Project #7, this area promises a good deal of residential and commercial development. This wastewater interceptor will retire the Fannin Road Lift Station.

Project #9: 2015 Wastewater Impact Fee Update

Based on projected future infrastructure needs, a Wastewater Impact Fee Update was completed to determine how much of the infrastructure costs may be recovered by the City. The cost of the engineering fees for the Impact Fee Update may be recovered by the City.

Project #10: 2018 Wastewater Master Plan Update

The Wastewater Master Plan will need to be updated to continue to provide sufficient water service for the City's growth needs. The cost of the engineering fees for the Impact Fee Update may be recovered by the City.

Project #11: 2020 Wastewater Impact Fee Update

Based on projected future infrastructure needs, a Wastewater Impact Fee Update will need to be completed to determine how much of the infrastructure costs may be recovered by the City. The cost of the engineering fees for the Impact Fee Update may be recovered by the City.

Project #12: Future Public Works Maintenance Facility Land Acquisition

This project will establish City-owned space for a future public works facility in addition to the direct water supply improvements this facility will provide. The cost of this project is split evenly between water, wastewater, and transportation since all three types of infrastructure will receive benefit from this facility.

Project #13: Public Works Maintenance Facility

A growing water and sewer system and road network will require the construction of a Public Works Facility, north of downtown Melissa, to ensure that the City water and wastewater utilities and roads will be kept in good repair. It is not in the scope of this Impact Fee Study to determine or estimate the costs of equipment that will be stored and maintained here, but only to list the estimated cost of the facility itself. The cost of this project is split evenly between water, wastewater, and transportation since all three types of infrastructure will receive benefit from this facility.

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 2.9.

Table 2.9 Wastewater Service Unit Consumption Calculation

Year	Population	Residential Units (3.35 persons/unit)	Water Usage Average Day Demand (MGD)	Consumption per Service Unit (GPD)
2006	3,036	906	0.15	169
2007	3,812	1,138	0.27	236
2008	4,248	1,268	0.35	278
2009	4,549	1,358	0.55	402
2010	4,753	1,419	0.68	478
2011	5,169	1,543	0.79	511
2012	5,532	1,651	0.69	416
2013	6,112	1,824	0.41	224
2014	7,755	2,315	0.61	264
2015	8,919	2,662	0.94	354
Average Consumption per Service Unit				333

The City's historic average usage of 333 gallons per service unit is considerably less than the usage projected based on the growth demands provided in the 2015 Comprehensive Plan and the 2009 Wastewater Impact Fee Report. These flow projections assume 380 gallons per service unit, which is 80% of the historical water usage service unit. There are numerous possible explanations for the variance in the historic data versus the flow projections:

- There are typically more inaccuracies associated with measuring wastewater flow.
- The historic data represents a large number of dry years which results in lower wastewater demands, whereas the flow projections focus on wet weather events.
- The flow projections might be over projecting demands.

After evaluating the data available and weighing the possible explanations for the variations in the projected demands versus historic demands, it was decided to use the projected flow demand of 380 gallons per day.

Based on the City's 10-year growth projections and the resulting wastewater flow projections, wastewater service will be required for an additional 9,760 service units. The calculation is as follows:

- A service unit, which is a unit of development that discharges approximately 380 gallons per day (GPD), is a typical residential connection that uses a 3/4-inch meter. Table 2.10 outlines the future wastewater discharge projections and its relationship to the additional service units projected for the next 10-years.

Table 2.10 Wastewater 10-year Additional Service Unit Calculation

Year	Average Day Flow (MGD)	Service Unit Demand (GPD)	Service Units
2015	1.10	380	2,897
2025	4.81	380	12,657
10-year Additional Service Units			9,760

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 2.11 Wastewater 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$	7,517,100
Debt Service	$	4,164,978
Recoverable Impact Fee CIP Costs w/Debt Service	$	11,682,078
50 Percent Reduction	$	(5,841,039)
Maximum Recoverable Cost for Impact Fee	$	5,841,039

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

$$\text{Impact fee per service unit} = \frac{\$5,841,039}{9,760}$$

$$\text{Impact fee per service unit} = \$598$$

Therefore, the maximum assessable impact fee per service unit is $598.

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 2.12, Service Unit Equivalency Table for Commonly Used Meters.

Table 2.12 Wastewater Service Unit Equivalency Table for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (gpm)**	Service Unit Equivalent	Maximum Assessable Fee Wastewater ($)
5/8"x 3/4" PD	10	0.67	$398.67
3/4" PD	15	1	$598.00
1" PD	25	1.67	$996.67
1 1/2" PD	50	3.33	$1,993.33
2" PD	80	5.33	$3,189.33
2" Compound	80	5.33	$3,189.33
2" Turbine	160	10.67	$6,378.67
3" Compound	175	11.67	$6,976.67
3" Turbine	350	23.33	$13,953.33
4" Compound	300	20.00	$11,960.00
4" Turbine	650	43.33	$25,913.33
6" Compound	675	45.00	$26,910.00
6" Turbine	1,400	93.33	$55,813.33
8" Compound	900	60.00	$35,880.00
8" Turbine	2,400	160.00	$95,680.00
10" Turbine	3,500	233.33	$139,533.33

**PD = Positive Displacement Meter (typical residential meter)*
***Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-15. Turbine and Compound meter flows are based on Class II (in-line) meters.*

Appendix

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Water Impact Fee Capital Improvements
Project Cost and 10-Year Recoverable Cost

Proj. #	Description	2015 Required Capacity (Percent Utilization)	2025 Required Capacity (Percent Utilization)	2015-2025 Required Capacity (Percent Utilization)	2025 Projected Recoverable Cost	*Total Project Cost	*2009 Impact Fee
1	Project 1 - South Water Take Point (Under Construction)	39%	100%	61%	$ 2,433,900	$ 3,990,000	$ 2,828,909
2	Project 2 - US-75 Southwest Bore	0%	27%	27%	$ 237,600	$ 880,000	$ 364,589
3	Project 3 - West Side Low Pressure Plane Expansion	0%	27%	27%	$ 1,274,400	$ 4,720,000	$ 3,275,287
4	Project 4 - Northwest Tower and Lines	0%	23%	23%	$ 2,447,200	$ 10,640,000	$ 5,151,449
5	Project 5 - Fannin Distribution Line	0%	27%	27%	$ 216,000	$ 800,000	$ 332,989
6	Project 6 - Southwest Water Mains	0%	27%	27%	$ 1,422,900	$ 5,270,000	$ 2,481,202
7	Project 7 - Southwest Tower	0%	21%	21%	$ 1,728,300	$ 8,230,000	$ 5,525,850
8	Project 8 - Berry Road Line Upgrade and Industrial Line	0%	27%	27%	$ 531,900	$ 1,970,000	$ 1,003,728
9	Project 9 - FM 2933 Main (Under Construction)	0%	27%	27%	$ 442,800	$ 1,640,000	$ 1,329,033
10a	Project 10a - North Water Tap and Pump Facility	0%	33%	33%	$ 4,042,500	$ 12,250,000	$ 7,334,310
10b	Project 10b - Future Public Works Facility Land Acquisition	0%	30%	30%	$ 74,000	$ 246,667	$ 255,000
11	Project 11 - North Facility to Downtown Connection	0%	27%	27%	$ 656,100	$ 2,430,000	$ 908,237
12	Project 12 - US-75 Melissa Road Bore (Bore Already Constructed)	0%	27%	27%	$ 691,200	$ 2,560,000	$ 661,623
13	Project 13 - US-75 Throckmorton Road Bore	0%	27%	27%	$ 367,200	$ 1,360,000	$ 529,176
14a	Project 14a - County Road 365 Line	0%	27%	27%	$ 356,400	$ 1,320,000	$ 665,978
14b	Project 14b - Public Works Maintenance Facility	0%	30%	30%	$ 1,207,000	$ 4,023,333	$ 6,028,220
15	Project 15 - Northwest Transmission Line	0%	27%	30%	$ 1,236,000	$ 4,120,000	$ 2,025,838
16	Project 16 - East Water Facility	0%	21%	30%	$ 3,225,000	$ 10,750,000	$ 29,578,112
17	Project 17 - East Water Facility Transmission Lines	0%	27%	30%	$ 2,190,000	$ 7,300,000	$ 3,711,458
18	Project 18 - East Water Facility NTMWD Connection	0%	27%	27%	$ 2,254,500	$ 8,350,000	-
19	2015 Water Impact Fee Update	0%	100%	100%	$ 22,000	$ 22,000	$ 102,000
20	2018 Water Master Plan	0%	100%	100%	$ 150,000	$ 150,000	-
21	2020 Water Impact Fee Update	0%	100%	100%	$ 50,000	$ 50,000	$ 102,000
	Total			*Before Financing	**$ 27,256,900**	**$ 93,072,000**	$ 74,194,988
			After Financing:	**55%**	**$ 42,359,052**	**$ 144,640,135**	$ 120,000,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 1 - South Water Take Point (Under Construction)**	**Sheet:**	**1**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by City Engineer	1	LS	$3,290,000.00	$ 3,290,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	3,290,000
Contingency:			
Eng/Survey/CCA Fees:	20%	$	658,000
Bond Issuance	1%	$	39,480
Total:		$	3,990,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 2 - US-75 Southwest Bore**	**Sheet:**	**2**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 17,400.00	$ 17,400
2	16" Water Line	1,000	LF	$ 160.00	$ 160,000
3	Trench Safety	600	LF	$ 2.00	$ 1,200
4	Seed, Fertilizer and Erosion Control	600	LF	$ 5.00	$ 3,000
5	Concrete Pavement Repair (LF)	80	LF	$ 50.00	$ 4,000
6	16" Gate Valve (1 per 3,000 lf of pipe)	1	EA	$ 12,000.00	$ 12,000
7	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	1	LF	$ 6,500.00	$ 6,500
8	Bore with 30" Steel Casing	400	EA	$ 900.00	$ 360,000
9	Connect to Existing Water Line	2	EA	$ 10,000.00	$ 20,000
10	Combination 2" Air Release/Vacuum Valve & Assembly	1	EA	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	594,100
Contingency:	25%	$	148,525
Eng/Survey/CCA Fees:	20%	$	118,820
Bond Issuance	1%	$	8,614
Total:		$	880,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 3 - West Side Low Pressure Plane Expansion**	**Sheet:**	**3**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 93,800.00	$ 93,800
2	12" Water Line	17,500	LF	$ 110.00	$ 1,925,000
3	16" Water Line	2,400	EA	$ 160.00	$ 384,000
4	Trench Safety	19,400	LF	$ 2.00	$ 38,800
5	Seed, Fertilizer and Erosion Control	19,300	LF	$ 5.00	$ 96,500
6	Concrete Pavement Repair (LF)	100	LF	$ 50.00	$ 5,000
7	12" Gate Valve (1 per 2,000 lf of pipe)	9	EA	$ 7,000.00	$ 63,000
8	16" Gate Valve (1 per 3,000 lf of pipe)	1	EA	$ 12,000.00	$ 12,000
9	12" Pressure Reducing Valve	3	EA	$ 20,000.00	$ 60,000
10	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	10	LF	$ 6,500.00	$ 65,000
11	Bore with 24" Steel Casing	500	EA	$ 750.00	$ 375,000
12	Connect to Existing Water Line	5	EA	$ 10,000.00	$ 50,000
13	Combination 2" Air Release/Vacuum Valve & Assembly	5	EA	$ 10,000.00	$ 50,000

Basis for Cost Projection:

- ☐ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	3,218,100
Contingency:	25%	$	804,525
Eng/Survey/CCA Fees:	20%	$	643,620
Bond Issuance	1%	$	46,662
Total:		$	4,720,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 4 - Northwest Tower and Lines**	**Sheet:**	**4**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 211,600.00	$ 211,600
2	2 MG elevated storage tank				
2.a	Yard Piping	1	LS	$ 120,000.00	$ 120,000
2.b	Site Work	1	LS	$ 400,000.00	$ 400,000
2.c	2 MG elevated storage tank including Excavation	1	LS	$ 2,900,000.00	$ 2,900,000
2.d	Tank Appurtenances	1	LS	$ 900,000.00	$ 900,000
2.g	SCADA and Electrical	1	LS	$ 140,000.00	$ 140,000
			2 MG elevated storage tank Total:		$ 4,460,000
3	18" Water Line	4,000	LF	$ 180.00	$ 720,000
4	24" Water Line	5,000	LF	$ 220.00	$ 1,100,000
5	Trench Safety	8,900	LF	$ 2.00	$ 17,800
6	Seed, Fertilizer and Erosion Control	8,900	LF	$ 5.00	$ 44,500
7	Concrete Pavement Repair (LF)	100	LF	$ 50.00	$ 5,000
8	Easement Acquisition (20' width)	2.3	AC	$ 20,000.00	$ 46,000
9	20" Gate Valve (1 per 3,000 lf of pipe)	2	EA	$ 18,000.00	$ 36,000
10	24" Gate Valve (1 per 3,000 lf of pipe)	2	EA	$ 25,000.00	$ 50,000
11	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	5	LF	$ 6,500.00	$ 32,500
12	Bore with 36" Steel Casing	500	EA	$ 1,000.00	$ 500,000
13	Connect to Existing Water Line	2	EA	$ 10,000.00	$ 20,000
14	Combination 2" Air Release/Vacuum Valve & Assembly	2	EA	$ 10,000.00	$ 20,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	7,263,400
Contingency:	25%	$	1,815,850
Eng/Survey/CCA Fees:	20%	$	1,452,680
Bond Issuance	1%	$	105,319
Total:		$	10,640,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 5 - Fannin Distribution Line**	**Sheet:**	**5**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 15,800.00	$ 15,800
2	12" Water Line	3,000	LF	$ 110.00	$ 330,000
3	Trench Safety	3,000	LF	$ 2.00	$ 6,000
4	Seed, Fertilizer and Erosion Control	400	LF	$ 5.00	$ 2,000
5	Concrete Pavement Repair (LF)	2,600	LF	$ 50.00	$ 130,000
6	12" Gate Valve (1 per 2,000 lf of pipe)	2	EA	$ 7,000.00	$ 14,000
7	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	2	LF	$ 6,500.00	$ 13,000
8	Connect to Existing Water Line	2	EA	$ 10,000.00	$ 20,000
9	Combination 2" Air Release/Vacuum Valve & Assembly	1	EA	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	540,800
Contingency:	25%	$	135,200
Eng/Survey/CCA Fees:	20%	$	108,160
Bond Issuance	1%	$	7,842
Total:		$	800,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 6 - Southwest Water Mains**	**Sheet:**	**6**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 104,700.00	$ 104,700
2	12" Water Line	9,950	LF	$ 110.00	$ 1,094,500
3	20" Water Line	9,400	LF	$ 190.00	$ 1,786,000
4	Trench Safety	19,350	LF	$ 2.00	$ 38,700
5	Seed, Fertilizer and Erosion Control	16,350	LF	$ 5.00	$ 81,750
6	Concrete Pavement Repair (LF)	3,000	LF	$ 50.00	$ 150,000
7	Easement Acquisition (20' width)	4.3	AC	$ 20,000.00	$ 86,400
8	12" Gate Valve (1 per 2,000 lf of pipe)	5	EA	$ 7,000.00	$ 35,000
9	20" Gate Valve (1 per 3,000 lf of pipe)	4	EA	$ 18,000.00	$ 72,000
10	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	10	LF	$ 6,500.00	$ 65,000
11	Connect to Existing Water Line	4	EA	$ 10,000.00	$ 40,000
12	Combination 2" Air Release/Vacuum Valve & Assembly	4	EA	$ 10,000.00	$ 40,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	3,594,050
Contingency:	25%	$	898,513
Eng/Survey/CCA Fees:	20%	$	718,810
Bond Issuance	1%	$	52,114
Total:		$	5,270,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 7 - Southwest Tower**	**Sheet:**	**7**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 163,500.00	$ 163,500
2	3 MG elevated storage tank				
2.a	Yard Piping	1	LS	$ 200,000.00	$ 200,000
2.b	Site Work	1	LS	$ 500,000.00	$ 500,000
2.c	3 MG elevated storage tank including Excavation	1	LS	$ 3,600,000.00	$ 3,600,000
2.d	Tank Appurtenances	1	LS	$ 1,000,000.00	$ 1,000,000
2.g	SCADA and Electrical	1	LS	$ 150,000.00	$ 150,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	5,613,500
Contingency:	25%	$	1,403,375
Eng/Survey/CCA Fees:	20%	$	1,122,700
Bond Issuance	1%	$	81,396
Total:		$	8,230,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 8 - Berry Road Line Upgrade and Industrial Line**	**Sheet:**	**8**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 39,100.00	$ 39,100
2	12" Water Line	3,700	LF	$ 110.00	$ 407,000
3	14" Water Line	1,150	EA	$ 140.00	$ 161,000
4	16" Water Line	3,400	EA	$ 160.00	$ 544,000
5	Trench Safety	8,250	LF	$ 2.00	$ 16,500
6	Seed, Fertilizer and Erosion Control	8,150	LF	$ 5.00	$ 40,750
7	Concrete Pavement Repair (LF)	100	LF	$ 50.00	$ 5,000
8	12" Gate Valve (1 per 2,000 lf of pipe)	2	EA	$ 7,000.00	$ 14,000
9	14" Gate Valve (1 per 2,000 lf of pipe)	1	EA	$ 7,000.00	$ 7,000
10	16" Gate Valve (1 per 3,000 lf of pipe)	2	EA	$ 12,000.00	$ 24,000
11	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	5	LF	$ 6,500.00	$ 32,500
12	Connect to Existing Water Line	3	EA	$ 10,000.00	$ 30,000
13	Combination 2" Air Release/Vacuum Valve & Assembly	2	EA	$ 10,000.00	$ 20,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	1,340,850
Contingency:	25%	$	335,213
Eng/Survey/CCA Fees:	20%	$	268,170
Bond Issuance	1%	$	19,442
Total:		$	1,970,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 9 - FM 2933 Main (Under Construction)**	**Sheet:**	**9**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by City Engineer	1	LS	$1,350,000.00	$ 1,350,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	1,350,000
Contingency:			
Eng/Survey/CCA Fees:	20%	$	270,000
Bond Issuance	1%	$	16,200
Total:		$	1,640,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 10a - North Water Tap and Pump Facility**	**Sheet:**	**10**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 243,600.00	$ 243,600
2	5 MG Ground Level Storage Tank and 16,000 gpm Pump Staition				
2.a	Yard Piping	1	LS	$ 600,000.00	$ 600,000
2.b	Site Work	1	LS	$ 1,100,000.00	$ 1,100,000
2.c	5 MG Ground Tank including Excavation	1	LS	$ 2,400,000.00	$ 2,400,000
2.d	Pump Station Building	1	LS	$ 1,500,000.00	$ 1,500,000
2.e	8000 gpm Pump and Motor	3	EA	$ 350,000.00	$ 1,050,000
2.f	Pump Station Mechanical Appurtenances	1	LS	$ 420,000.00	$ 420,000
2.g	Electrical and Instrumentation	1	LS	$ 900,000.00	$ 900,000
2.h	Plumbing and HVAC	1	LS	$ 150,000.00	$ 150,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	8,363,600
Contingency:	25%	$	2,090,900
Eng/Survey/CCA Fees:	20%	$	1,672,720
Bond Issuance	1%	$	121,272
Total:		$	12,250,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 10b - Future Public Works Facility Land Acquisition**	**Sheet:**	**10**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Land Acquisition for Future Public Works Facility	1	LS	$ 500,000.00	$ 500,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	500,000
Contingency:	25%	$	125,000
Eng/Survey/CCA Fees:	20%	$	100,000
Bond Issuance	1%	$	7,250
***Total:**		$	740,000

*This project is to be evenly split between the roadway, water, and wastewater impact fee calculation

Total for Roadway:	33%	$	246,667
Total for Water:	33%	$	246,667
Total for Wastewater:	33%	$	246,667

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 11 - North Facility to Downtown Connection**	**Sheet:**	**11**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 48,300.00	$ 48,300
2	24" Water Line	6,200	LF	$ 220.00	$ 1,364,000
3	Trench Safety	6,200	LF	$ 2.00	$ 12,400
4	Seed, Fertilizer and Erosion Control	6,150	LF	$ 5.00	$ 30,750
5	Concrete Pavement Repair (LF)	50	LF	$ 50.00	$ 2,500
6	Easement Acquisition (20' width)	2.8	AC	$ 20,000.00	$ 57,000
7	24" Gate Valve (1 per 3,000 lf of pipe)	3	EA	$ 25,000.00	$ 75,000
8	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	4	LF	$ 6,500.00	$ 26,000
9	Connect to Existing Water Line	2	EA	$ 10,000.00	$ 20,000
10	Combination 2" Air Release/Vacuum Valve & Assembly	2	EA	$ 10,000.00	$ 20,000

Basis for Cost Projection:

√	No Design Completed
	Preliminary Design
	Final Design

Subtotal:		$	1,655,950
Contingency:	25%	$	413,988
Eng/Survey/CCA Fees:	20%	$	331,190
Bond Issuance	1%	$	24,011
Total:		$	2,430,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 12 - US-75 Melissa Road Bore (Bore Already Constructed)**	**Sheet:**	**12**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 54,600.00	$ 54,600
2	20" Water Line	2,500	LF	$ 190.00	$ 475,000
3	Trench Safety	2,100	LF	$ 2.00	$ 4,200
4	Seed, Fertilizer and Erosion Control	1,600	LF	$ 5.00	$ 8,000
5	Concrete Pavement Repair (LF)	100	LF	$ 50.00	$ 5,000
6	Easement Acquisition (20' width)	1.1	AC	$ 20,000.00	$ 23,000
7	24" Gate Valve (1 per 3,000 lf of pipe)	1	EA	$ 25,000.00	$ 25,000
8	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	2	LF	$ 6,500.00	$ 13,000
9	Bore with 36" Steel Casing (Price from City Engineer)	400	LF	$ 3,085.00	$ 1,234,000
10	Connect to Existing Water Line	2	EA	$ 10,000.00	$ 20,000
11	Combination 2" Air Release/Vacuum Valve & Assembly	1	EA	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	1,871,800
Contingency:	15%	$	280,770
Eng/Survey/CCA Fees:	20%	$	374,360
Bond Issuance	1%	$	25,269
Total:		$	2,560,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 13 - US-75 Throckmorton Road Bore**	**Sheet:**	**13**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 27,000.00	$ 27,000
2	24" Water Line	1,000	LF	$ 220.00	$ 220,000
3	Trench Safety	600	LF	$ 2.00	$ 1,200
4	Seed, Fertilizer and Erosion Control	100	LF	$ 5.00	$ 500
5	Concrete Pavement Repair (LF)	100	LF	$ 50.00	$ 5,000
6	Easement Acquisition (20' width)	0.5	AC	$ 20,000.00	$ 9,200
7	24" Gate Valve (1 per 3,000 lf of pipe)	1	EA	$ 25,000.00	$ 25,000
8	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	1	LF	$ 6,500.00	$ 6,500
9	Bore with 42" Steel Casing	400	EA	$ 1,500.00	$ 600,000
10	Connect to Existing Water Line	2	EA	$ 10,000.00	$ 20,000
11	Combination 2" Air Release/Vacuum Valve & Assembly	1	EA	$ 10,000.00	$ 10,000

Basis for Cost Projection:

√	No Design Completed
	Preliminary Design
	Final Design

Subtotal:		$	924,400
Contingency:	25%	$	231,100
Eng/Survey/CCA Fees:	20%	$	184,880
Bond Issuance	1%	$	13,404
Total:		$	1,360,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 14a - County Road 365 Line**	**Sheet:**	**14**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 26,200.00	$ 26,200
2	12" Water Line	6,400	LF	$ 110.00	$ 704,000
3	Trench Safety	6,400	LF	$ 2.00	$ 12,800
4	Seed, Fertilizer and Erosion Control	6,000	LF	$ 5.00	$ 30,000
5	Concrete Pavement Repair (LF)	400	LF	$ 50.00	$ 20,000
6	12" Gate Valve (1 per 2,000 lf of pipe)	4	EA	$ 7,000.00	$ 28,000
7	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	4	LF	$ 6,500.00	$ 26,000
8	Connect to Existing Water Line	6	EA	$ 5,000.00	$ 30,000
9	Combination 2" Air Release/Vacuum Valve & Assembly	2	EA	$ 10,000.00	$ 20,000

Basis for Cost Projection:

√	No Design Completed
	Preliminary Design
	Final Design

Subtotal:		$	897,000
Contingency:	25%	$	224,250
Eng/Survey/CCA Fees:	20%	$	179,400
Bond Issuance	1%	$	13,007
Total:		$	1,320,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 14b - Public Works Maintenance Facility**	**Sheet:**	**14**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 240,000.00	$ 240,000
2	Public Works Facility	40,000	SF	$ 200.00	$ 8,000,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$ 8,240,000
Contingency:	25%	$ 2,060,000
Eng/Survey/CCA Fees:	20%	$ 1,648,000
Bond Issuance	1%	$ 119,480
Total:		$ 12,070,000

*This project is to be evenly split between the roadway, water, and wastewater impact fee calculation

Total for Roadway:	33%	$ 4,023,333
Total for Water:	33%	$ 4,023,333
Total for Wastewater:	33%	$ 4,023,333

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 15 - Northwest Transmission Line**	**Sheet:**	**15**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 81,800.00	$ 81,800
2	24" Water Line	8,200	LF	$ 220.00	$ 1,804,000
3	30" Water Line	2,200	LF	$ 250.00	$ 550,000
4	Trench Safety	10,400	LF	$ 2.00	$ 20,800
5	Seed, Fertilizer and Erosion Control	10,200	LF	$ 5.00	$ 51,000
6	Concrete Pavement Repair (LF)	200	LF	$ 50.00	$ 10,000
7	Easement Acquisition (20' width)	4.8	AC	$ 20,000.00	$ 95,600
8	24" Gate Valve (1 per 3,000 lf of pipe)	3	EA	$ 25,000.00	$ 75,000
9	30" Gate Valve (1 per 3,000 lf of pipe)	1	EA	$ 30,000.00	$ 30,000
9	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	6	LF	$ 6,500.00	$ 39,000
10	Connect to Existing Water Line	2	EA	$ 5,000.00	$ 10,000
11	Combination 2" Air Release/Vacuum Valve & Assembly	4	EA	$ 10,000.00	$ 40,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	2,807,200
Contingency:	25%	$	701,800
Eng/Survey/CCA Fees:	20%	$	561,440
Bond Issuance	1%	$	40,704
Total:		$	4,120,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 16 - East Water Facility**	**Sheet:**	**16**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 213,600.00	$ 213,600
2	4 MG Ground Level Storage Tank and 10,000 gpm Pump Staition				
2.a	Yard Piping	1	LS	$ 500,000.00	$ 500,000
2.b	Site Work	1	LS	$ 1,000,000.00	$ 1,000,000
2.c	4 MG Ground Tank including Excavation	1	LS	$ 2,000,000.00	$ 2,000,000
2.d	Pump Station Building	1	LS	$ 1,400,000.00	$ 1,400,000
2.e	4000 gpm Pump and Motor	3	EA	$ 250,000.00	$ 750,000
2.f	Pump Station Mechanical Appurtenances	1	LS	$ 420,000.00	$ 420,000
2.g	Electrical and Instrumentation	1	LS	$ 900,000.00	$ 900,000
2.h	Plumbing and HVAC	1	LS	$ 150,000.00	$ 150,000

Basis for Cost Projection:

√	No Design Completed
	Preliminary Design
	Final Design

Subtotal:		$	7,333,600
Contingency:	25%	$	1,833,400
Eng/Survey/CCA Fees:	20%	$	1,466,720
Bond Issuance	1%	$	106,337
Total:		$	10,750,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 17 - East Water Facility Transmission Lines**	**Sheet:**	**17**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 145,200.00	$ 145,200
2	18" Water Line	2,900	LF	$ 180.00	$ 522,000
3	36" Water Line	12,500	LF	$ 300.00	$ 3,750,000
4	Trench Safety	15,400	LF	$ 2.00	$ 30,800
5	Seed, Fertilizer and Erosion Control	15,200	LF	$ 5.00	$ 76,000
6	Concrete Pavement Repair (LF)	200	LF	$ 50.00	$ 10,000
7	Easement Acquisition (20' width)	7.1	AC	$ 20,000.00	$ 141,500
8	18" Gate Valve (1 per 3,000 lf of pipe)	1	EA	$ 12,000.00	$ 12,000
9	36" Gate Valve (1 per 3,000 lf of pipe)	5	EA	$ 35,000.00	$ 175,000
9	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	8	LF	$ 6,500.00	$ 52,000
10	Connect to Existing Water Line	2	EA	$ 5,000.00	$ 10,000
11	Combination 2" Air Release/Vacuum Valve & Assembly	6	EA	$ 10,000.00	$ 60,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	4,984,500
Contingency:	25%	$	1,246,125
Eng/Survey/CCA Fees:	20%	$	996,900
Bond Issuance	1%	$	72,275
Total:		$	7,300,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Water**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 18 - East Water Facility NTMWD Connection**	**Sheet:**	**18**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 165,900.00	$ 165,900
2	24" Water Line	16,600	LF	$ 220.00	$ 3,652,000
3	Trench Safety	16,200	LF	$ 2.00	$ 32,400
4	Seed, Fertilizer and Erosion Control	15,700	LF	$ 5.00	$ 78,500
5	Concrete Pavement Repair (LF)	100	LF	$ 50.00	$ 5,000
6	Easement Acquisition (20' width)	7.6	AC	$ 20,000.00	$ 152,500
7	24" Gate Valve (1 per 3,000 lf of pipe)	6	EA	$ 25,000.00	$ 150,000
8	Fire Hydrant Assembly (1 per 2,000 lf of pipe)	9	LF	$ 6,500.00	$ 58,500
9	Bore with 42" Steel Casing	400	EA	$ 1,500.00	$ 600,000
10	Connect to Existing Water Line	1	EA	$ 10,000.00	$ 10,000
11	NTMWD Delivery Site	1	EA	$ 750,000.00	$ 750,000
12	Combination 2" Air Release/Vacuum Valve & Assembly	4	EA	$ 10,000.00	$ 40,000

Basis for Cost Projection:

- [√] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	5,694,800
Contingency:	25%	$	1,423,700
Eng/Survey/CCA Fees:	20%	$	1,138,960
Bond Issuance	1%	$	82,575
Total:		$	8,350,000

Wastewater Impact Fee Capital Improvements
Project Cost and 10-Year Recoverable Cost

Proj. #	Description	2015 Required Capacity (Percent Utilization)	2025 Required Capacity (Percent Utilization)	2015-2025 Required Capacity (Percent Utilization)	2025 Projected Recoverable Cost	*Total Project Cost	*2009 Impact Fee
1	Project 1 - Throckmorton Creek Sewer (Already Constructed)	2%	17%	15%	$ 483,000	$ 3,220,000	$ 3,209,958
2	Project 2 - Trinity River Sewer and Hunter's Ridge Offsite Parallel (Already Constructed)	2%	17%	15%	$ 819,000	$ 5,460,000	$ 9,434,039
3	Project 3 - Stiff Creek Force Main and Lift Station	0%	16%	16%	$ 1,187,200	$ 7,420,000	$ 2,989,967
4	Project 4 - Stiff Creek Gravity Interceptor	0%	16%	16%	$ 731,200	$ 4,570,000	$ 2,582,938
5a	Project 5a - Fitzhugh Gravity Sewer Line (South of 121) (Already Constructed)	2%	17%	15%	$ 400,500	$ 2,670,000	$ 2,986,276
5b	Project 5b - Fitzhugh Gravity Sewer Line (North of 121)	0%	16%	16%	$ 292,800	$ 1,830,000	
6	Project 6 - Clemmons Sewer Line Expansion	0%	16%	16%	$ 1,513,600	$ 9,460,000	$ 6,617,697
7	Project 7 - Davis Road Gravity Sewer Interceptor	0%	16%	16%	$ 300,800	$ 1,880,000	$ 926,501
8	Project 8 - Fannin Road to Telephone Road Sewer Interceptor	0%	16%	16%	$ 336,000	$ 2,100,000	$ 743,415
9	2015 Wastewater Impact Fee Update	0%	100%	100%	$ 22,000	$ 22,000	$ 102,000
10	2018 Wastewater Master Plan Update	0%	100%	100%	$ 100,000	$ 100,000	
11	2020 Wastewater Impact Fee Update	0%	100%	100%	$ 50,000	$ 50,000	
12	**Future Public Works Facility Land Acquisition	0%	30%	30%	$ 74,000	$ 246,667	$ 255,000
13	**Public Works Maintenance Facility	0%	30%	30%	$ 1,207,000	$ 4,023,333	$ 6,028,220
	Total			*Before Financing	**$ 7,517,100**	**$ 43,052,000**	$ 35,876,011
	**See OPCC under the Water Projects for description		**After Financing:**	**55%**	**$ 11,682,078**	**$ 66,905,698**	$ 47,055,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 1 - Throckmorton Creek Sewer (Already Constructed)**	**Sheet:**	**1**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by City Engineer	1	LS	$ 2,650,000	$ 2,650,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	2,650,000
Contingency:	0%	$	-
Eng/Survey/CCA Fees:	20%	$	530,000
Bond Issuance	1%	$	31,800
Total:		$	3,220,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 2 - Trinity River Sewer and Hunter's Ridge Offsite Parallel (Already Constructed)**	**Sheet:**	**2**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by City Engineer	1	LS	$ 4,500,000	$ 4,500,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	4,500,000
Contingency:	0%	$	-
Eng/Survey/CCA Fees:	20%	$	900,000
Bond Issuance	1%	$	54,000
Total:		$	5,460,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title: **Project 3 - Stiff Creek Force Main and Lift Station** **Sheet:** **3**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 147,500.00	$ 147,500
2	20" Wastewater Force Main	8,200	LF	$ 225.00	$ 1,845,000
3	Bore with 36" Steel Casing	300	LF	$ 800.00	$ 240,000
4	6.9 MGD (4800 gpm) Lift Station				
4.a	2400 gpm Submersible Pump and Motor	3	EA	$ 150,000.00	$ 450,000
4.b	Cast in Place Concrete Wetwell and Excavation	1	LS	$ 300,000.00	$ 300,000
4.c	Site Grading	1	LS	$ 50,000.00	$ 50,000
4.d	Concrete Driveway	1	LS	$ 25,000.00	$ 25,000
4.e	Landscaping	1	LS	$ 25,000.00	$ 25,000
4.f	30" Yard Piping	250	LF	$ 450.00	$ 112,500
4.g	Mech Piping, Control Valves, Isolcation Valves in Wetwell	1	LS	$ 250,000.00	$ 250,000
4.h	Electrical Building	1	LS	$ 300,000.00	$ 300,000
4.i	Power	1	LS	$ 150,000.00	$ 150,000
4.j	Scada/Programming	1	LS	$ 75,000.00	$ 75,000
4.j	Generator	1	LS	$ 350,000.00	$ 350,000
4.k	Masonry Fencing	500	LF	$ 150.00	$ 75,000
4.l	Site Acquisition	1	LS	$ 100,000.00	$ 100,000
4.m	Variable Frequency Drives	2	EA	$ 125,000.00	$ 250,000
4.n	Soft Starters	1	EA	$ 50,000.00	$ 50,000
				Lift Station Total:	$ 2,562,500
5	5' Manhole (21" - 30" Main)	3	EA	$ 12,000.00	$ 36,000
6	Bypass Pumping	1	LS	$ 50,000.00	$ 50,000
7	Seeding, Fertilizer & Erosion Control	8,150	LF	$ 5.00	$ 40,750
8	Concrete Pavement Repair	50	LF	$ 50.00	$ 2,500
9	Easement Acquisition (20' width)	3.8	AC	$ 20,000.00	$ 75,300
10	Trench Safety	8,200	LF	$ 2.00	$ 16,400
11	TV Inspection	8,200	LF	$ 1.00	$ 8,200
12	4" Air Release/Vacuum Valve and Vault	2	EA	$ 20,000.00	$ 40,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	5,064,150
Contingency:	25%	$	1,266,038
Eng/Survey/CCA Fees:	20%	$	1,012,830
Bond Issuance	1%	$	73,430
Total:		$	7,420,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title: **Project 4 - Stiff Creek Gravity Interceptor** **Sheet:** **4**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 90,900.00	$ 90,900
2	12" Wastewater Main	3,500	LF	$ 130.00	$ 455,000
3	15" Wastewater Main	2,900	LF	$ 140.00	$ 406,000
4	18" Wastewater Main	3,500	LF	$ 150.00	$ 525,000
5	21" Wastewater Main	3,400	LF	$ 175.00	$ 595,000
6	33" Wastewater Main	1,800	LF	$ 275.00	$ 495,000
7	4' Manhole (8" - 18" Main)	9	EA	$ 9,000.00	$ 81,000
8	5' Manhole (21" - 30" Main)	9	EA	$ 12,000.00	$ 108,000
9	6' Manhole (33" - 48" Main)	3	EA	$ 15,000.00	$ 45,000
10	Bypass Pumping	1	LS	$ 50,000.00	$ 50,000
11	Seeding, Fertilizer & Erosion Control	14,900	LF	$ 5.00	$ 74,500
12	Concrete Pavement Repair	200	LF	$ 50.00	$ 10,000
13	Easement Acquisition (20' width)	6.9	AC	$ 20,000.00	$ 138,700
14	Trench Safety	15,100	LF	$ 2.00	$ 30,200
15	TV Inspection	15,100	LF	$ 1.00	$ 15,100

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	3,119,400
Contingency:	25%	$	779,850
Eng/Survey/CCA Fees:	20%	$	623,880
Bond Issuance	1%	$	45,231
Total:		$	4,570,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 5a - Fitzhugh Gravity Sewer Line (South of 121) (Already Constructed)**	**Sheet:**	**5**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by City Engineer	1	LS	$ 2,200,000	$ 2,200,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	2,200,000
Contingency:	0%	$	-
Eng/Survey/CCA Fees:	20%	$	440,000
Bond Issuance	1%	$	26,400
Total:		$	2,670,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 5b - Fitzhugh Gravity Sewer Line (North of 121)**	**Sheet:**	**5**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 39,000.00	$ 39,000
2	12" Wastewater Main	680	LF	$ 130.00	$ 88,400
3	15" Wastewater Main	600	LF	$ 140.00	$ 84,000
4	18" Wastewater Main	5,600	LF	$ 150.00	$ 840,000
5	4' Manhole (8" - 18" Main)	8	EA	$ 9,000.00	$ 72,000
6	Bypass Pumping	1	LS	$ 50,000.00	$ 50,000
7	Seeding, Fertilizer & Erosion Control	5,880	LF	$ 5.00	$ 29,400
8	Concrete Pavement Repair	1,000	LF	$ 50.00	$ 50,000
9	Easement Acquisition (20' width)	3.2	AC	$ 20,000.00	$ 63,200
10	Trench Safety	6,880	LF	$ 2.00	$ 13,760
11	TV Inspection	6,880	LF	$ 1.00	$ 6,880

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	1,336,640
Contingency:	15%	$	200,496
Eng/Survey/CCA Fees:	20%	$	267,328
Bond Issuance	1%	$	18,045
Total:		$	1,830,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 6 - Clemmons Sewer Line Expansion**	**Sheet:**	**6**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 188,100.00	$ 188,100
2	18" Wastewater Main	800	LF	$ 150.00	$ 120,000
3	21" Wastewater Main	3,000	LF	$ 175.00	$ 525,000
4	24" Wastewater Main	200	LF	$ 200.00	$ 40,000
5	27" Wastewater Main	7,100	LF	$ 225.00	$ 1,597,500
6	30" Wastewater Main	1,900	LF	$ 250.00	$ 475,000
7	36" Wastewater Main	1,600	LF	$ 300.00	$ 480,000
8	39" Wastewater Main	1,400	LF	$ 325.00	$ 455,000
9	42" Wastewater Main	5,000	LF	$ 350.00	$ 1,750,000
10	4' Manhole (8" - 18" Main)	11	EA	$ 9,000.00	$ 99,000
11	5' Manhole (21" - 30" Main)	11	EA	$ 12,000.00	$ 132,000
12	6' Manhole (33" - 48" Main)	11	EA	$ 15,000.00	$ 165,000
13	Bypass Pumping	1	LS	$ 50,000.00	$ 50,000
14	Seeding, Fertilizer & Erosion Control	20,600	LF	$ 5.00	$ 103,000
15	Concrete Pavement Repair	400	LF	$ 50.00	$ 20,000
16	Easement Acquisition (20' width)	9.6	AC	$ 20,000.00	$ 192,900
17	Trench Safety	21,000	LF	$ 2.00	$ 42,000
18	TV Inspection	21,000	LF	$ 1.00	$ 21,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	6,455,500
Contingency:	25%	$	1,613,875
Eng/Survey/CCA Fees:	20%	$	1,291,100
Bond Issuance	1%	$	93,605
Total:		$	9,460,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title:	**Project 7 - Davis Road Gravity Sewer Interceptor**	**Sheet:**	**7**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 37,300.00	$ 37,300
2	12" Wastewater Main	5,500	LF	$ 130.00	$ 715,000
3	Bore with 24" Steel Casing	400	EA	$ 700.00	$ 280,000
4	4' Manhole (8" - 18" Main)	11	EA	$ 9,000.00	$ 99,000
5	Bypass Pumping	1	LS	$ 50,000.00	$ 50,000
6	Seeding, Fertilizer & Erosion Control	5,400	LF	$ 5.00	$ 27,000
7	Concrete Pavement Repair	100	LF	$ 50.00	$ 5,000
8	Easement Acquisition (20' width)	2.5	AC	$ 20,000.00	$ 50,600
9	Trench Safety	5,500	LF	$ 2.00	$ 11,000
10	TV Inspection	5,500	LF	$ 1.00	$ 5,500

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	1,280,400
Contingency:	25%	$	320,100
Eng/Survey/CCA Fees:	20%	$	256,080
Bond Issuance	1%	$	18,566
Total:		$	1,880,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

H&F Consulting, Inc.

Client:	**City of Melissa**	**Date:**	**8/3/2015**
Project:	**Impact Fees: Wastewater**	**Prepared By:**	**CPI**
KHA No.:	**064474601**	**Checked By:**	**TLS**

Title: **Project 8 - Fannin Road to Telephone Road Sewer Interceptor** **Sheet:** **8**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization/Bonds/Insurance	1	LS	$ 41,700.00	$ 41,700
2	12" Wastewater Main	6,600	LF	$ 130.00	$ 858,000
3	Bore with 24" Steel Casing	400	EA	$ 700.00	$ 280,000
4	4' Manhole (8" - 18" Main)	9	EA	$ 9,000.00	$ 81,000
5	Bypass Pumping	1	LS	$ 50,000.00	$ 50,000
6	Seeding, Fertilizer & Erosion Control	6,500	LF	$ 5.00	$ 32,500
7	Concrete Pavement Repair	100	LF	$ 50.00	$ 5,000
8	Easement Acquisition (20' width)	3.0	AC	$ 20,000.00	$ 60,700
9	Trench Safety	6,600	LF	$ 2.00	$ 13,200
10	TV Inspection	6,600	LF	$ 1.00	$ 6,600

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$	1,428,700
Contingency:	25%	$	357,175
Eng/Survey/CCA Fees:	20%	$	285,740
Bond Issuance	1%	$	20,716
Total:		$	2,100,000

City of Melissa, Texas

H&F CONSULTING, INC.

Kimley»Horn