



GARLAND

AGENDA

REGULAR MEETING OF THE CITY COUNCIL

City of Garland
Council Chambers, City Hall
200 North Fifth Street
Garland, Texas
November 15, 2016
7:00 p.m.

The City Council extends to each visitor a sincere welcome. We value your interest in your community and your participation in the meetings of this governing body. Regular meetings of the City Council are held the 1st and 3rd Tuesdays of each month, beginning at 7:00 p.m.; the City Council meets regularly in work sessions at 6:00 p.m. the Monday preceding each regular meeting.

The Garland City Hall and Council Chambers are wheelchair accessible. Special parking is available on the east side of City Hall and on Austin & State Street west of City Hall. Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services must contact the City Secretary's Office at (972) 205-2404 at least two working days prior to the meeting so that appropriate arrangements can be made. **BRILLE IS NOT AVAILABLE.**

CITY COUNCIL GOALS 2020

(Adopted by Resolution No. 9402 on December 20, 2005)

- Sustainable quality development and redevelopment
- Financially stable government with tax base that supports community needs
- Defends rightful powers of municipalities
- Fully informed and engaged citizenry
- Consistent delivery of reliable City services
- Safe, family-friendly neighborhoods
- Embrace diversity

MAYORAL PROCLAMATIONS, RECOGNITIONS AND ANNOUNCEMENTS

The Mayor may present proclamations and recognize attendees or award winners, and may make announcements regarding upcoming City events and matters of interest to citizens. There will be no Council deliberations or votes on these matters.

CONSENT AGENDA

All items under this section are recommended for approval by a single motion of Council, without discussion. Council has been briefed on these items at a previous work session and approval of the consent agenda authorizes the City Manager to implement each item. The Mayor will announce the agenda and provide an opportunity for members of the audience and the City Council to request that an item be removed and considered separately.

1. Consider approval of the minutes of the November 1, 2016 Regular Meeting.
2. Consider approval of the following bids:
 - a. Sewer Jet Trucks Bid No. 0047-17

Rush Truck Center \$322,171.17

This request is to purchase two Sewer Jet Trucks to be used by the Wastewater Collection Department in their daily operations.
 - b. CCTV Van Bid No. 0048-17

Chastang Ford \$39,973.00
CUES, Inc. 209,035.71
TOTAL \$249,008.71

This request is to purchase one CCTV Van and all necessary mounted equipment to be used by the Wastewater Collection Department in their daily operations.
 - c. Queing Road and Solid Waste Disposal Bid No. 6159-16
Convenience Center

LD Kemp Excavating, Inc.

\$235,000.00

The purpose of this Change Order is to construct an approximately 2,000-foot queuing road and a Solid Waste Disposal Convenience Center (SWDCC) within the permit boundary at Hinton Landfill. The additional queuing road is necessary to alleviate traffic congestion caused by solid waste collection vehicles attempting to enter the Landfill facility from Elm Grove Road. In addition, the Texas Commission on Environmental Quality has requested the City of Garland to address this issue by submitting a site permit modification request to construct an additional queuing road that will resolve the backup of vehicles on a public road. The proposed SWDCC will be constructed near the Hinton Scale house and used primarily as a safe and convenient disposal area for customers operating noncommercial vehicles such as cars and pickup trucks. The SWDCC will prevent these type of vehicular traffic from delivering solid waste directly to the active landfill disposal working area used by large commercial solid waste collection vehicles. This project was funded in the 2016 CIP as part of the Construction of Waste Cell #7.

d. Design Services for Broadway, Syracuse, and Intrepid Water Improvements

Bid No. 0078-17

Civil Consulting Group, PLLC

\$186,918.00

This request is to provide surveying and engineering services for the design of approximately 3,000 LF of 8" water line along Broadway Boulevard from Wynn Joyce Road to Marilee Drive, 1,200 LF 8" water line along Syracuse Drive from Vandebilt Drive to End, and 900 LF of 8" water line along Intrepid Drive from Hilltop Drive to Inwood Drive.

e. New Police Vehicles

Bid No. 0005-17

Freedom Chevrolet

\$347,600.00

Caldwell Country Chevrolet

308,992.00

TOTAL

\$656,592.00

This request is to purchase seventeen new Chevrolet Malibus and eleven new Chevrolet Tahoes to be used by the Police Department in their daily operations.

- 3. A public hearing was previously conducted for the following zoning case. Council approved the request and instructed staff to bring forth the following ordinance for consideration.**

a. Zoning File Z 16-34, Steven Chen (District 2)

Consider an ordinance amending the Garland Development Code of the City of Garland, by approving a change in zoning from Planned Development (PD) District 75-13 for Retail Uses to Community Retail (CR) District on a 0.67-acre tract of land located at 313 Castle Drive. Providing for conditions, restrictions, and regulations; providing a penalty under the provisions of Sec. 10.05 of the Code of Ordinances of the City of Garland; providing a Savings Clause and a Severability Clause; and providing an effective date.

4. Consider a resolution approving and funding the 2016-2017 Cycle 1 Neighborhood Vitality Staff Initiated Special Projects.

Council is requested to adopt the Neighborhood Vitality Staff-Initiated Special Projects resolution.

5. Consider an ordinance authorizing the issuance of "City of Garland, Texas, General Obligation Refunding Bonds, Series 2016"; specifying the terms and features of said bonds; levying a continuing direct annual ad valorem tax for the payment of said bonds; providing for the redemption of certain outstanding obligations of the City; and resolving other matters incident and related to the issuance, sale, payment and delivery of said bonds, including the approval and execution of a Paying Agent/Registrar Agreement, a Purchase Agreement and an Escrow Agreement, and the approval and distribution of a Preliminary Official Statement and an Official Statement, and providing an effective date.

Council is requested to approve the sale of General Obligation Refunding Bonds, Series 2016.

6. Consider an ordinance authorizing the issuance of "City of Garland, Texas, Water and Sewer System Revenue Refunding Bonds, Series 2016"; pledging net revenues of the City's Water and Sewer System to the security of and the payment of the principal of and interest on said bonds; specifying the terms and conditions of such bonds; resolving other matters incident and related to the issuance, payment, security, sale and delivery of said bonds, including the approval and execution of a Paying Agent/Registrar Agreement, a Purchase Agreement and an Escrow Agreement; and the approval and distribution of a Preliminary Official Statement and an Official Statement; and providing an effective date.

Council is requested to approve the sale of Water and Sewer System Revenue Refunding Bonds, Series 2016.

7. **Consider an ordinance authorizing the issuance of "City of Garland, Texas, Electric Utility System Revenue Refunding Bonds, Series 2016A", pledging the net revenues of the City's electric utility system to the payment of the principal of and interest on said bonds; specifying the terms and conditions of such bonds; resolving other matters incident and related to the issuance, payment, security, sale and delivery of said bonds, including the approval and execution of a Paying Agent/Registrar Agreement, a Purchase Agreement and an Escrow Agreement, and the approval and distribution of a Preliminary Official Statement and an Official Statement, and providing an effective date.**

Council is requested to approve the sale of Electric Utility System Revenue Refunding Bonds, Series 2016A.

8. **Consider an ordinance authorizing the issuance of "City of Garland, Texas, Electric Utility System Revenue Refunding Bonds, Series 2016B", pledging the net revenues of the City's electric utility system to the payment of the principal of and interest on said bonds; specifying the terms and conditions of such bonds; resolving other matters incident and related to the issuance, payment, security, sale and delivery of said bonds, including the approval and execution of a Paying Agent/Registrar Agreement and a Purchase Agreement; and the approval and distribution of a Preliminary Official Statement and an Official Statement, and providing an effective date.**

Council is requested to approve the sale of Electric Utility System Revenue Refunding Bonds, Series 2016B.

ITEMS FOR INDIVIDUAL CONSIDERATION

Speaker Regulations:

Anyone wishing to speak for, against, or on agenda items must fill out a speaker card and give it to the City Secretary before speaking (cards are located at the entrance to the Council Chambers). The Mayor will recognize speakers; he may impose a time limit and may provide for rebuttal. All comments and testimony are to be presented from the podium.

9. **Hold a public hearing on:**
 - a. **Consider the application of Westwood Professional Services, requesting approval of 1) a change in zoning from Community Retail (CR) District to Planned Development for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District. The property is located at 3341 West Campbell Road. (File No. Z 16-17, District 1)**

Being a 2.0128-acre tract of land situated in the D. Crumpacker Survey, Abstract

No. 258, Dallas County, Texas; said tract being all of Lot 2RR and part of Lot 1RR, Block 1, Jupiter Road Apartments, an addition to the City of Garland, Texas according to the plat recorded in Volume 87026, Page 4129 of the Deed Records of Dallas County, Texas; said tract also being all of that certain tract of land described as Property No. 6 in Deed to Mohammed I Jetpuri and Farida Yasmin Jetpuri recorded in County Clerk's File No. 200900262023 of the Official Public Records of Dallas County, Texas. This property is located at 3341 West Campbell Road.

10. Roadway and Water Impact Fees

Council is requested to consider the 2016 Water and Roadway Impact Fee Study: Land Use Assumptions, Roadway and Water Impact Fee CIP, and Maximum Fee.

11. Citizen comments.

Persons wishing to address issues not on the agenda may have three minutes to address Council at this time. Council is prohibited from discussing any item not posted according to the Texas Open Meetings Act.

12. Adjourn.

All Regular Council meetings are broadcast live on CGTV, Time Warner Cable Channel 16, and Verizon FIOS TV 44. Meetings are rebroadcast at 9:00 a.m. and 7:00 p.m. on Wednesday-Sunday and at 7:30 p.m. on Thursday. Live streaming and on-demand videos of the meetings are also available online at www.garlandtx.gov. Copies of the meetings can be purchased through the City Secretary's Office – audio CD's are \$1 each and DVD's are \$3 each.



**GARLAND
CITY COUNCIL ITEM SUMMARY SHEET**

City Council Regular Session Agenda

Agenda Item 1.

Meeting Date: November 15, 2016

Item Title: Minutes November 1, 2016

Submitted By: Rene Dowl, City Secretary

Summary of Request/Problem

Consider approval of the minutes of the November 1, 2016 Regular Meeting.

Recommendation/Action Requested and Justification

Attachments

Minutes November 1, 2016

The City Council of the City of Garland convened in regular session at 7:00 p.m. on Tuesday, November 1, 2016, in the Goldie Locke Room at The Duckworth Building, 217 North Fifth Street, Garland, Texas, with the following members present:

COUNCIL PRESENT:

Mayor	Douglas Athas
Mayor Pro Tem	Scott LeMay
Council Member	David Gibbons
Council Member	Anita Goebel
Council Member	Stephen Stanley
Council Member	B. J. Williams
Council Member	Rich Aubin
Council Member	Lori Dodson
Council Member	James Cahill

STAFF PRESENT:

City Manager	Bryan L. Bradford
City Attorney	Brad Neighbor
City Secretary	Eloyce René Dowl

CALL TO ORDER:

The meeting was called to order by Mayor Douglas Athas. Council Member B. J. Williams led the pledge and invocation.

CEREMONIALS:

State Representatives Angie Chen Button and Cindy Burkett presented recognitions to former Council Members Tim Campbell and Billy Mack Williams.

Mayor Athas recognized scouts from Pack 1062 and Troop 861.

CONSENT AGENDA:

All items marked with asterisks (**) on the Consent Agenda were voted on at the beginning of the meeting. Mayor Athas read those items into the record. Motion was made by Council Member B. J. Williams to approve the Consent Agenda as presented, seconded by Council Member Goebel, to approve items 1, 2a, 2b, 2c, and 3a. Motion carried, 9 ayes, 0 nays.

1. APPROVED**

Approval of the Minutes of the October 18, 2016 Regular Meeting.

2a. APPROVED**

Bid No. 5288-15 awarded to Black & Veatch in the amount of \$45,980.00 for Professional Engineering Services for an Autotransformer.

The purpose of this Change Order is to provide additional professional engineering services related to the Gibbons Creek Reactive Support CIP project. The original project included TMPA Gibbons Creek Substation Autotransformer #1 replacement and Autotransformer #3 removal. This Change Order provides additional conduits and junction boxes for security equipment and includes a study to determine the best path to move the new transformer into place.

2b. APPROVED**

Bid No. 6982-16 awarded to Electrical Power Products in the amount of \$185,892.00, with an optional contingency of \$31,875.00, for a total bid of \$217,767.00 for the Swindell Substation Relay Panels and Junction Boxes.

This request is to purchase relay panels and junction boxes needed for the construction of the Swindell Substation. Due to the complex nature of the project, an optional contingency is included for any additional design changes or materials that may be required.

2c. APPROVED**

Bid No. 7006-16 awarded to Lyon Construction in the amount of \$185,000.00, with an optional contingency of \$15,000.00, for a total bid of \$200,000.00 for the New Home Construction at 4809 Crestpoint.

3a. APPROVED**

Ordinance No. 6866 amending the Garland Development Code of the City of Garland by approving a Specific Use Provision for a Restaurant, Drive-Through on a 1.706-acre tract of land zoned Community Retail (CR) District at 2435 West Miller Road providing for conditions, restrictions, and regulations; providing a penalty under the provisions of Sec. 10.05 of the Code of Ordinances of the City of Garland; providing a Savings Clause and a Severability Clause; and providing an effective date. (File No. Z 16-29, The Dimension Group, District 8)

4a. APPROVED

Consider the application of Steven Chen, requesting approval of a Change in Zoning from Planned Development (PD)

District 75-13 for Retail Uses, District to Community Retail (CR) District. The property is located at 313 Castle Drive (File No. Z 16-34, District 2)

Being a 0.67-acre tract of land located at 313 Castle Drive and being situated in the F. W. Whitefield Survey, Abstract No. 1594 in the City of Garland, Dallas County, Texas. The applicant requests approval of a Change in Zoning from Planned Development (PD) District 75-13 for Retail Uses established for the development of a Sonic Restaurant with Drive-Through to Community Retail (CR) District for the development of a 2,659 square-foot “dine-in” restaurant.

Mayor Athas opened the public hearing at 7:20 p.m. The speaker on this item was Kira Wauwie, Principal Planner. Motion was made by Council Member Goebel to approve the application based on staff and Plan Commission recommendation, seconded by Council Member Aubin, to close the hearing at 7:28 p.m. Motion carried, 9 ayes, 0 nays.

5. APPOINTED

A nomination was presented by Mayor Pro Tem LeMay. A vote was cast and the following nominee was appointed with 9 ayes, 0 nays:

- Dylan Hedrick – Plan Commission

6. CITIZEN COMMENTS: Sandra Brown

7. ADJOURN:

There being no further business to come before the City Council, Mayor Athas adjourned the meeting at 7:33 p.m.

CITY OF GARLAND, TEXAS

/s/ Douglas Athas, Mayor

/s/ Eloyce René Dowl, City Secretary



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. a.

Meeting Date: November 15, 2016

Item Title: Sewer Jet Trucks

Submitted By: Terry Anglin, Fleet Services Director

PURCHASE JUSTIFICATION:

The purpose of this contract is to purchase two (2) Sewer Jet Trucks to be used by the Wastewater Collection Department in their daily operations. These trucks are being provided by Rush Truck Center through the BuyBoard Purchasing Cooperative Contract 430-13.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
Rush Truck Center		\$322,171.17
TOTAL:		\$322,171.17

Basis for Award: Cooperative Purchase

Fiscal Impact

Total Project/Account:	\$930,979
Expended/Encumbered to Date:	278,066
Balance:	\$652,913
This Item:	322,171
Proposed Balance:	\$330,742
Account #:	444-4122-9009
Fund/Agency/Project – Description and Comments:	
<u>Wastewater Collection - Equipment Replacement Fund</u>	
Sewer Truck	\$194,398.17
Sewer Truck	127,373.00
Buyboard Fee	<u>400.00</u>
TOTAL	\$322,171.17

Attachments

Bid Recap
Executive Summary

Fiscal Reference:

Budget Type: Operating Budget
Fiscal Year: 2016-17
Document Location: C-42

Budget Director Approval:	Approval Date:
Ron Young	11/02/2016
Purchasing Director Approval:	Approval Date:
Gary L. Holcomb	10/31/2016

CITY OF GARLAND - BID RECAP SHEET OPENED: 10/31/16 REQ. NO. PR 37109 BID NO. 0047-17 PAGE: 1 of 1 BUYER: T. Smith			Rush Truck Center								
ITEM	QTY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1	1	ea.	New, 2017 Peterbilt Model 337 Jetter Truck and Paccar PX-9 Diesel with Pipehunter unit including all features and options per quote	\$194,398.17	\$194,398.17						
2	1	ea.	New, 2017 Ford F-550 Jetter Truck, 6.7 L, V-8 Diesel, with Pipehunter unit, power windows and door locks and all options and features per quote	\$127,373.00	\$127,373.00						
3	1	Lt.	BuyBoard Fee	\$400.00	\$400.00						
			TOTAL GROSS PRICE	\$322,171.17							
			CASH DISCOUNT								
			TOTAL NET PRICE	\$322,171.17							
			F.O.B.	DELIVERED		DELIVERED		DELIVERED		DELIVERED	
			DELIVERY								
NEXT LOW:			N/A # IonWave Notifications		All bids submitted for the designated project are reflected on this bid tab sheet. However, the listing of a bid on this sheet should not be construed as a comment on the responsiveness of such bid or as any indication that the city accepts such bid as responsive. <u>The City will notify the successful bidder upon award of the contract and, according to the law, all bids received will be available for inspection at that time.</u>						
LOW: _____			N/A # IonWave HUBS								
SAVINGS: _____ \$0.00			N/A # Direct Contact HUBS								
			N/A # HUBS Responded								



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 0047-17
Sewer Jet Trucks

Recommended Vendor:
Rush Truck Center

Total Recommended Award:
\$322,171.17

Basis for Award:
Cooperative Purchase

Purpose:
The purpose of this contract is to purchase two (2) Sewer Jet Trucks to be used by the Wastewater Collection Department in their daily operations.

Evaluation:
These trucks are being provided by Rush Truck Center through the BuyBoard Purchasing Cooperative Contract 430-13.

Recommendation:
Staff recommends awarding the contract for these Sewer Jet Trucks to Rush Truck Center.

Funding Information:
444-4122-9009

Department Director:
Terry Anglin, Fleet Director, 972-205-3524



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. b.

Meeting Date: November 15, 2016

Item Title: CCTV Van

Submitted By: Terry Anglin, Fleet Services Director

PURCHASE JUSTIFICATION:

The purpose of this contract is to purchase one (1) CCTV Van and all necessary mounted equipment to be used by the Wastewater Collection Department in their daily operations. This van is being purchased from Chastang Ford through the Houston Galveston Area Council (HGAC) Purchasing Cooperative Contract AM10-16. CUES, Inc., will supply and mount the equipment for the van through the HGAC Purchasing Cooperative Contract SC01-15.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
Chastang Ford		\$ 39,973.00
CUES, Inc.		209,035.71
TOTAL:		\$249,008.71

Basis for Award: Cooperative Purchase

Fiscal Impact

Total Project/Account:	\$930,979
Expended/Encumbered to Date:	600,237
Balance:	\$330,742
This Item:	249,009
Proposed Balance:	\$81,733
Account #:	444-4123-9009
Fund/Agency/Project – Description and Comments:	
<u>Wastewater Collection - Equipment Replacement Fund</u>	
CCTV Van	\$ 39,973.00
CCTV Equipment	<u>209,035.71</u>
TOTAL	\$249,008.71

Attachments

Bid Recap
Executive Summary

Fiscal Reference:

Budget Type: Operating Budget
Fiscal Year: 2016-17
Document Location: C-42

Budget Director Approval:	Approval Date:
Ron Young	11/02/2016
Purchasing Director Approval:	Approval Date:
Gary L. Holcomb	11/02/2016



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 0048-17
CCTV Van

Recommended Vendor:

Chastang Ford	\$ 39,973.00
CUES, Inc.	\$209,035.71

Total Recommended Award:
\$249,008.71

Basis for Award:
Cooperative Purchase

Purpose:
The purpose of this contract is to purchase one (1) CCTV Van and all necessary mounted equipment to be used by the Wastewater Collection Department in their daily operations.

Evaluation:
This van is being purchased from Chastang Ford through the Houston Galveston Area Council (HGAC) Purchasing Cooperative Contract AM10-16. CUES, Inc., will supply and mount the equipment for the van through the HGAC Purchasing Cooperative Contract SC01-15.

Recommendation:
Staff recommends awarding the contract for this van and equipment to Chastang Ford and CUES, Inc.

Funding Information:
444-4123-9009

Department Director:
Terry Anglin, Fleet Director, 972-205-3524



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. c.

Meeting Date: November 15, 2016

Item Title: Queuing Road and Solid Waste Disposal Convenience Center

Submitted By: Lonnie Banks, Managing Director

PURCHASE JUSTIFICATION:

The purpose of this Change Order is to construct an approximately 2,000-foot queuing road and a Solid Waste Disposal Convenience Center (SWDCC) within the permit boundary at Hinton Landfill. The additional queuing road is necessary to alleviate traffic congestion caused by solid waste collection vehicles attempting to enter the Landfill facility from Elm Grove Road. In addition, the Texas Commission on Environmental Quality has requested the City of Garland to address this issue by submitting a site permit modification request to construct an additional queuing road that will resolve the backup of vehicles on a public road. The proposed SWDCC will be constructed near the Hinton Scale house and used primarily as a safe and convenient disposal area for customers operating noncommercial vehicles such as cars and pickup trucks. The SWDCC will prevent these types of vehicles from delivering solid waste directly to the active landfill disposal working area used by large commercial solid waste collection vehicles. This project was funded in the 2016 CIP as part of the Construction of Waste Cell #7.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
LD Kemp Excavating, Inc.	All	\$235,000.00
TOTAL:		\$235,000.00

Basis for Award: Change Order

Fiscal Impact

Total Project/Account:	\$3,400,000
Expended/Encumbered to Date:	\$2,577,491
Balance:	\$822,509
This Item:	\$235,000

Proposed Balance: \$587,509
Account #: 635-1609-1715716-7111
Fund/Agency/Project – Description and Comments:
EWS Disposal (Landfill) CIP / Construction of Waste Cell #7

Attachments

Bid Recap 6159-16
Executive Summary

Fiscal Reference:

Budget Type: CIP
Fiscal Year: 2016
Document Location: Page EW03

Budget Director	Approval Date:
Approval:	11/03/2016
Ron Young	
Purchasing Director	Approval Date:
Approval:	11/03/2016
Gary L. Holcomb	

[illegible]



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 6159-16
Queuing Road and Solid Waste Disposal Convenience Center

Recommended Vendor:

LD Kemp Excavating, Inc.

Total Recommended Award:

\$235,000.00

Basis for Award:

Change Order

Purpose:

The purpose of this Change Order is to construct an approximately 2,000-foot queuing road and a Solid Waste Disposal Convenience Center (SWDCC) within the permit boundary at Hinton Landfill. The additional queuing road is necessary to alleviate traffic congestion caused by solid waste collection vehicles attempting to enter the Landfill facility from Elm Grove Road. In addition, the Texas Commission on Environmental Quality has requested the City of Garland to address this issue by submitting a site permit modification request to construct an additional queuing road that will resolve the backup of vehicles on a public road. The proposed SWDCC will be constructed near the Hinton Scale house and used primarily as a safe and convenient disposal area for customers operating noncommercial vehicles such as cars and pickup trucks. The SWDCC will prevent these type of vehicular traffic from delivering solid waste directly to the active landfill disposal working area used by large commercial solid waste collection vehicles. This project was funded in the 2016 CIP as part of the Construction of Waste Cell #7.

Evaluation:

LD Kemp Excavating, Inc., was awarded the contract for Construction of Cell #7 at the February 16, 2016, City Council Meeting. Utilizing the existing contractor to complete the additional queuing road and SWDCC construction will reduce the cost of construction by eliminating the contractor's mobilization cost. This Change Order represents a 9.5% increase to the original awarded amount of \$2,510,416.50.

Recommendation:

Staff recommends the approval of Change Order to LD Kemp Excavating, Inc.

Funding Information:

635-1609-1715716-7111

Department Director:

Lonnie R. Banks, Environmental Waste Services, 972-205-3424



**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. d.

Meeting Date: November 15, 2016

Item Title: Design Services for Broadway, Syracuse, and Intrepid Water Improvements

Submitted By: Michael Polocek, Engineering Director

PURCHASE JUSTIFICATION:

The purpose of this contract is to provide surveying and engineering services for the design of approximately 3,000 LF of 8" water line along Broadway Boulevard from Wynn Joyce Road to Marilee Drive, 1,200 LF of 8" water line along Syracuse Drive from Vanderbilt Drive to End, and 900 LF of 8" water line along Intrepid Drive from Hilltop Drive to Inwood Drive.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
Civil Consulting Group, PLLC	All	\$186,918.00
TOTAL:		\$186,918.00

Basis for Award: Most Qualified

Fiscal Impact

Total Project/Account: \$7,893,560
Expended/Encumbered to Date: 2,362,636
Balance: \$5,530,924
This Item: 186,918
Proposed Balance: \$5,344,006
Account #: 220-4049-3019000-7101 and 220-4049-3019100-7101

Fund/Agency/Project – Description and Comments:

Water CIP / Transmission Mains and Distribution Lines - Design for Transmission Mains and Distribution Lines along Broadway and Syracuse

Attachments

Bid Recap

Executive Summary

Location Map

Fiscal Reference:

Budget Type: CIP

Fiscal Year: 2016

Document Location: Pages W01 and W02

Budget Director

Approval:

Ron Young

Approval Date:

11/02/2016

Purchasing Director

Approval:

Gary L. Holcomb

Approval Date:

10/31/2016



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 0078-17
Design Services for Broadway, Syracuse, and Intrepid Water Improvements

Recommended Vendor:

Civil Consulting Group, PLLC

Total Recommended Award:

\$186,918.00

Basis for Award:

Most Qualified

Purpose:

The purpose of this contract is to provide surveying and engineering services for the design of: approximately 3,000 LF of 8" waterline along Broadway Boulevard from Wynn Joyce Road to Marilee Drive; 1,200 LF of 8" waterline along Syracuse Drive from Vanderbilt Drive to End; and 900 LF of 8" waterline along Intrepid Drive from Hilltop Drive to Inwood Drive.

Evaluation:

Civil Consulting Group, PLLC was selected as the most qualified firm for this project from the short list of engineers evaluated and ranked by the published criteria in RFQ 3617-13.

Recommendation:

Staff recommends award of the professional services contract to Civil Consulting Group, PLLC.

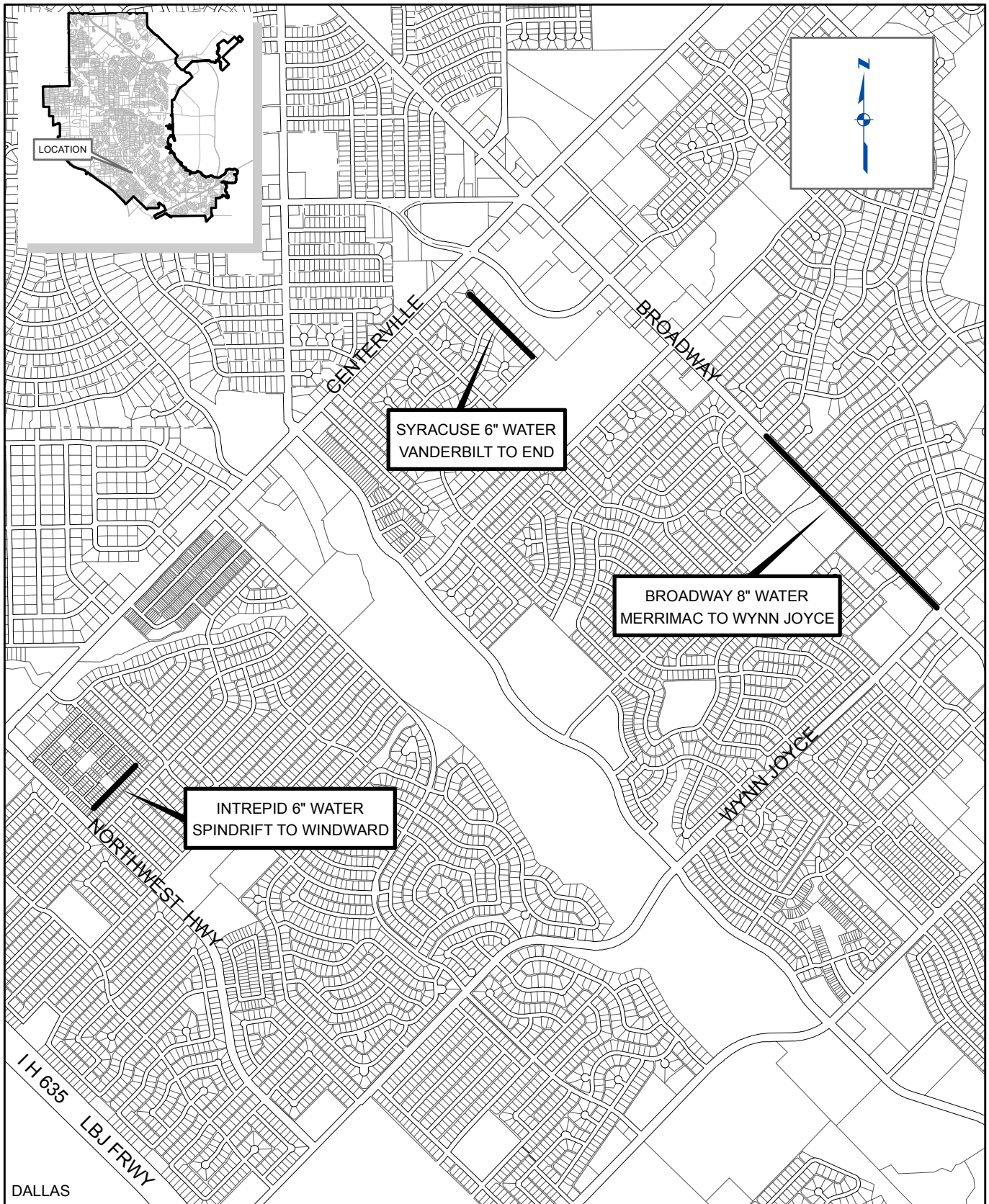
Funding Information:

220-4049-3019000-7101 - \$112,150.80

220-4049-3019100-7101 - \$ 74,767.20

Department Director:

Michael C. Polocek, P.E., Director of Engineering, 972-205-2170



BROADWAY, SYRACUSE & INTREPID WATER IMPROVEMENTS

Scale: NTS
File: Brdwy.mxd
Date: 10/27/2016
Drawn: jmk

SHEET
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**GARLAND
PURCHASING REPORT**

City Council Regular Session Agenda

Agenda Item 2. e.

Meeting Date: November 15, 2016

Item Title: New Police Vehicles

Submitted By: Terry Anglin, Fleet Services Director

PURCHASE JUSTIFICATION:

The purpose of this contract is to purchase seventeen (17) new Chevrolet Malibus and eleven (11) new Chevrolet Tahoes to be used by the Police Department in their daily operations.

AWARD RECOMMENDATION:

<u>Vendor</u>	<u>Item</u>	<u>Amount</u>
Freedom Chevrolet		\$347,600.00
Caldwell Country Chevrolet		308,992.00
TOTAL:		\$656,592.00

Basis for Award: Straight Low Bid

Fiscal Impact

Total Project/Account: \$1,682,125
Expended/Encumbered to Date: 63,572
Balance: \$1,618,553
This Item: 656,592
Proposed Balance: \$961,961
Account #: 100-1255-9009 and 444-1245-9009

Fund/Agency/Project – Description and Comments:

Police Department - School Resource Program

3 Chevrolet Tahoes \$ 94,800.00

Equipment Replacement Fund

8 Chevrolet Tahoes \$252,800.00

17 Chevrolet Malibus 308,992.00

TOTAL \$656,592.00

Attachments

Bid Recap
Executive Summary

Fiscal Reference:

Budget Type: Operating Budget
Fiscal Year: 2016-17
Document Location: Pages C-42 and D-103

Budget Director Approval:	Approval Date:
Ron Young	11/02/2016
Purchasing Director Approval:	Approval Date:
Gary L. Holcomb	11/02/2016



GARLAND
PURCHASING EXECUTIVE SUMMARY

Bid 0005-17
New Police Vehicles

Recommended Vendor:

Freedom Chevrolet	\$347,600.00
Caldwell Country Chevrolet	\$308,992.00

Total Recommended Award:
\$656,592.00

Basis for Award:
Straight Low Bid

Purpose:

The purpose of this contract is to purchase seventeen (17) new Chevrolet Malibus and eleven (11) new Chevrolet Tahoes to be used by the Police Department in their daily operations.

Evaluation:

Requests for bids were issued in accordance with Purchasing procedures. Four (4) bids were received, with Caldwell Country Chevrolet submitting the lowest bid meeting specifications for the Malibus and Freedom Chevrolet submitting the lowest bid meeting specifications for the Tahoes.

Recommendation:

Staff recommends awarding the contract for the Malibus to Caldwell Country Chevrolet and the Tahoes to Freedom Chevrolet.

Funding Information:

2016-17 Police Department and Equipment Replacement Fund

Department Director:

Terry Anglin, Fleet Director, 972-205-3524



**GARLAND
CITY COUNCIL ITEM SUMMARY SHEET**

City Council Regular Session Agenda

Agenda Item 3. a.

Meeting Date: November 15, 2016

Item Title: Z 16-34 Steven Chen (District 2)

Submitted By: Isaac Williams, Development Planner

Summary of Request/Problem

Zoning Ordinance Z 16-34 Steven Chen

Recommendation/Action Requested and Justification

Consider adoption of attached ordinance.

Attachments

Z 16-34 Steven Chen Ordinance

Z 16-34 Steven Chen Attachments

ORDINANCE NO.

AN ORDINANCE AMENDING THE GARLAND DEVELOPMENT CODE OF THE CITY OF GARLAND, TEXAS, BY APPROVING A CHANGE IN ZONING FROM PLANNED DEVELOPMENT (PD) DISTRICT 75-13 FOR RETAIL USES TO COMMUNITY RETAIL (CR) DISTRICT ON A 0.67-ACRE TRACT OF LAND LOCATED AT 313 CASTLE DRIVE. PROVIDING FOR CONDITIONS, RESTRICTIONS, AND REGULATIONS; PROVIDING A PENALTY UNDER THE PROVISIONS OF SEC. 10.05 OF THE CODE OF ORDINANCES OF THE CITY OF GARLAND, TEXAS; PROVIDING A SAVINGS CLAUSE AND A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, at its regular meeting held on the 10th day of October, 2016, the City Plan Commission did consider and make recommendations on a certain request for zoning change made by **Steven Chen**; and

WHEREAS, The City Council, after determining all legal requirements of notice and hearing have been met, has further determined the following amendment to the zoning laws would provide for and would be in the best interest of the health, safety, morals, and general welfare:

Now, therefore, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GARLAND, TEXAS, that:

Section 1.

The Garland Development Code is hereby amended by approving a Change in Zoning from Planned Development (PD) District 75-13 for Retail Uses to Community Retail (CR) District.

Section 2.

Development shall be in conformance with the conditions, restrictions, and regulations set forth in the Garland Development Code.

Section 3.

Ordinance No. 6773, as amended, shall remain in full force and effect, save and except as amended by this Ordinance.

Section 4.

Violation of this Ordinance shall be a misdemeanor punishable in accordance with Section 10.05 of the Code of Ordinances, City of Garland, Texas.

Section 5.

This Ordinance shall become and be effective on and after its adoption and publication as required by law.

PASSED AND APPROVED this _____ day of _____, 2016.

THE CITY OF GARLAND, TEXAS

By:

Mayor

ATTEST:

City Secretary

Published:

EXHIBIT A

LEGAL DESCRIPTION

Zoning File Z 16-34

BEING A 0.67 acre tract of land located at 313 Castle Drive and being situated in the F.W. WHITEFIELD SURVEY, Abstract no. 1594 in the City of Garland, Dallas County, Texas



**GARLAND
CITY COUNCIL ITEM SUMMARY SHEET**

City Council Regular Session Agenda

Agenda Item 4.

Meeting Date: November 15, 2016

Item Title: Neighborhood Vitality Staff-Initiated Special Projects

Submitted By: Scott Bollinger, Neighborhood Resource Manager

Summary of Request/Problem

Council was briefed at the November 1st Work Session regarding the following Neighborhood Vitality Staff-Initiated Special Projects:

1. Chandler Heights Project: Ewing Circle and Cedar Circle Enhancements and Activation
2. New World Crime Watch Project: Armstrong Park Enhancements
3. Town North Village Project: Corridor Enhancement and Beautification

The Community Services Committee has previously reviewed these projects and has recommended approval. Council directed that a Resolution be brought forward to fund these projects.

Recommendation/Action Requested and Justification

Consider adoption of attached resolution.

Attachments

Neighborhood Vitality Staff-Initiated Special Projects Resolution

RESOLUTION NO. _____

**A RESOLUTION APPROVING AND FUNDING THE 2016-2017 CYCLE 1
NEIGHBORHOOD VITALITY STAFF INITIATED SPECIAL PROJECTS.**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GARLAND,
TEXAS:**

Section 1

The Neighborhood Vitality Staff Initiated Special Projects attached hereto as Exhibit A and incorporated herein by reference, is hereby adopted and approved. These funds will be appropriated as part of the annual Capital Improvement Program.

Section 2

That this resolution shall be and become effective immediately upon and after its adoption and approval.

PASSED AND APPROVED this the 15th day of November, 2016.

THE CITY OF GARLAND, TEXAS

BY: _____
Mayor

ATTEST:

City Secretary

EXHIBIT A

2016-17 NEIGHBORHOOD VITALITY STAFF INITIATED SPECIAL
PROJECTS
Cycle 1

Neighborhood	Project	Fund Request	Council District
Chandler Heights	Ewing Circle and Cedar Circle Enhancements and Activation	\$55,000	2
New World	Armstrong Park Enhancements with Fitness Equipment, Lighting, and a Butterfly Garden	\$55,000	5
Town North Village	Corridor Enhancement and Beautification through new landscaping, irrigation, decorative metal panels, educational signage, lighting, and repainting of the screen wall.	\$108,500	6



GARLAND
CITY COUNCIL ITEM SUMMARY SHEET

City Council Regular Session Agenda

Agenda Item 5.

Meeting Date: November 15, 2016

Item Title: Consider an ordinance authorizing the issuance of "City of Garland, Texas, General Obligation Refunding Bonds, Series 2016"

Submitted By: Matt Watson, Finance Director

Summary of Request/Problem

At the November 1, 2016 Work Session, Council considered authorizing a refunding of \$34,870,000 of General Obligation Refunding Bonds (GO), Series 2007A and \$10,655,000 of Certificates of Obligation (CO), Series 2007. The purpose of the refunding transaction is to achieve future debt service savings of approximately \$4.9 million.

Recommendation/Action Requested and Justification

Approve the sale of General Obligation Refunding Bonds, Series 2016.



**GARLAND
CITY COUNCIL ITEM SUMMARY SHEET**

City Council Regular Session Agenda

Agenda Item 6.

Meeting Date: November 15, 2016

Item Title: Consider an ordinance authorizing the issuance of "City of Garland, Texas, Water and Sewer System Revenue Refunding Bonds, Series 2016"

Submitted By: Matt Watson, Finance Director

Summary of Request/Problem

At the November 1, 2016 Work Session, Council considered authorizing a refunding of \$18,520,000 of Water and Sewer Utility Revenue Bonds, Series 2007. The purpose of the refunding transaction is to achieve future debt service savings of approximately \$2.9 million.

Recommendation/Action Requested and Justification

Approve the sale of Water and Sewer System Revenue Refunding Bonds, Series 2016.



GARLAND
CITY COUNCIL ITEM SUMMARY SHEET

City Council Regular Session Agenda

Agenda Item 7.

Meeting Date: November 15, 2016

Item Title: Consider an ordinance authorizing the issuance of "City of Garland, Texas, Electric Utility System Revenue Refunding Bonds, Series 2016A"

Submitted By: Matt Watson, Finance Director

Summary of Request/Problem

At the November 1, 2016 Work Session, Council considered authorizing a refunding of \$13,325,000 of Electric Utility System Revenue Bonds, Series 2007. The purpose of the refunding transaction is to achieve future debt service savings of approximately \$2.2 million.

Recommendation/Action Requested and Justification

Approve the sale of Electric Utility System Revenue Refunding Bonds, Series 2016A.



GARLAND
CITY COUNCIL ITEM SUMMARY SHEET

City Council Regular Session Agenda

Agenda Item 8.

Meeting Date: November 15, 2016

Item Title: Consider an ordinance authorizing the issuance of "City of Garland, Texas, Electric Utility System Revenue Refunding Bonds, Series 2016B"

Submitted By: Matt Watson, Finance Director

Summary of Request/Problem

At the November 1, 2016 Work Session, Council considered authorizing a refunding of approximately \$40 million of Electric Utility System Commercial Paper Notes, Series 2014 with Electric Utility System Revenue Refunding Bonds. The purpose of this transaction is to refund a portion of variable rate commercial paper notes with fixed rate long-term debt.

Recommendation/Action Requested and Justification

Approve the sale of Electric Utility System Revenue Refunding Bonds, Series 2016B.



GARLAND PLANNING REPORT

City Council Regular Session Agenda

Agenda Item 9. a.

Meeting Date: November 15, 2016

Item Title: Z 16-17 Westwood Professional Services (District 1)

Submitted By: Isaac Williams, Development Planner

REQUEST

Approval of 1) a change in zoning from Community Retail (CR) District to Planned Development for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District.

OWNER

Mohammed and Farida Jetpuri

PLAN COMMISSION RECOMMENDATION

On October 24, 2016, the Plan Commission by a vote of six (6) to three (3) recommended approval of 1) a change in zoning from Community Retail (CR) District to a Planned Development (PD) for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District.

STAFF RECOMMENDATION

Approval of 1) a change in zoning from Community Retail (CR) District to a Planned Development (PD) for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District for 50 years.

BACKGROUND

The applicant proposes the development of a self-storage facility containing 490 units. The subject site is zoned Community Retail (CR) District which permits self-storage facilities with Specific Use Provision (SUP) approval. However, the Garland Development Code (GDC) establishes standards for certain land uses that apply to the uses regardless of the zoning district in which they are located; a Self-Storage Facility (mini-warehouse) is such a use. Specifically, a Self-Storage Facility (mini-warehouse) is required to provide perimeter fencing, automatic gates and a management living quarters. The applicant proposes a Planned Development and Detail Plan in conjunction with the SUP request to modify these use standards.

The subject site is located at 3441 West Campbell Road. A portion of the property is the current location of K-9 University (Pet Care/Play facility use). The K-9 University portion of the property is not part of the proposed Planned Development; K-9 University is expected to remain at the current location.

The applicant, in response to the neighborhood concerns related to the scale of the proposed facility,, revised the request by decreasing the number of storage units to 490 and reducing a majority of the height on Building A (most adjacent to Big Springs Elementary) from thirty-five (35) feet to twenty-seven (27) feet.

SITE DATA

The subject property contains approximately 2.013 acres with approximately 366 linear feet of frontage along West Campbell Road. The site will only be accessed from West Campbell Road via an existing 25 foot mutual access easement. The subject site and the K-9 University will require a subsequent replat to establish separate lots.

USE OF PROPERTY UNDER CURRENT ZONING

The Community Retail (CR) District is intended to accommodate a variety of retail, service, and business establishments that may or may not be designed in a shopping center configuration. The district may be used as a transition district between lower intensity retail or office uses and more intense uses. The Community Retail (CR) District is generally appropriate along major transportation corridors but is generally not appropriate in proximity to low density residential districts without significant buffering and screening features.

CONSIDERATIONS

1. Detail Plan and Specific Use Provision: The applicant requests a Planned Development, Detail Plan and Specific Use Provision to develop 2.013 acres with two (2), two-story self-storage buildings. Building B contains the majority self-storage units. Building A provides storage units and the 1,200 square-foot office area and rental center that will provide the sale of packing, storage and moving supplies. The site will provide tenant only, key-controlled entry to exterior doors and elevators between the hours of 6 am and 10 pm; access to the office and rental center is between 9 am-6 pm weekdays, 9 am-5 pm on Saturday, and 1 pm-5 pm on Sunday.

The site will be accessed from West Campbell Road through an access drive shared with K-9 University. The proposed development provides twenty-four parking spaces to accommodate self-storage unit tenants. The site meets the parking requirement set by Section 2.51 of the GDC.

Self-Storage Facilities must provide security features as special standards of development. Section 2.52 (A) (16) requires that Self-Storage Facilities must have continuous video surveillance of the premises, a minimum eight-foot tall perimeter security fencing, automatic gates (except that exterior solid walls of storage unit buildings may serve as the required perimeter screening provided the building walls meet applicable distance, material, signage, and residential adjacency requirements) and management personnel living on the premises at all times. The Detail Plan and SUP reflect compliance with the perimeter screening; however, the development deviates from providing automatic gates, and permanent on-site management personnel. The automatic gate requirement system is a feature with the purpose of providing security for the site. The

applicant indicates that security of the site will be adequate through the design of the facility specifically with restricted access through controlled keypad-entry and security alarm systems.

Additionally, the subject site is developed with an approximately 325-foot access drive from West Campbell Road. The drive provides the only access to K-9 University located in the rear of the site behind Building A. It is evident that the placement of the automatic gate across the access drive would unnecessarily encumber patrons of K-9 University and may introduce effects detrimental to the establishment. Staff concurs with the development of the self-storage without the access gate.

The applicant intends to deviate from the requirement of management personnel living on premise at all times. The applicant states that the self-storage industry has shifted away from on premise management. The applicant suggests the shift is due largely in part to technological improvements, specifically video surveillance which diminishes the benefit of resident managers. The applicant attributes the decline in resident management to the competitive nature of the industry, stating that if the "potential management labor pool is limited to only those candidates who also need or wish to live on-site, the employment options are severely reduced and the owner is denied the opportunity to employ more competent management personnel." In accordance with the reasons stated by the applicant, Staff has no objection to developing the Self-Storage Facility without the management personnel living on-site.

The applicant seeks approval of a Specific Use Provision for a period of fifty (50) years.

2. Screening and Landscape: The Screening and Landscape Standards require the proposed development to provide a 15-foot landscape buffer containing one large tree for every 30 linear feet of landscape buffer along West Campbell Road. The site's landscape buffer is required to provide twelve (12) large canopy trees; the landscape plan reflects twelve Shumard Oak trees within the landscape buffer along West Campbell Road. The site must also dedicate at least five (5) percent of the parking area with parking lot screening and landscaping. The parking area must be screened from West Campbell Road with a continuous row of 24" shrubs, and must also contain one large tree or three small trees for every ten parking spaces. The required parking spaces must be no further than sixty-five (65) feet from a required tree. The Landscape Plan as proposed conforms to these requirements.

The Screening and Landscape Standards also require screening of six (6) feet in height that may be constructed as a masonry wall, earthen berm or live screening between non-residential developments and residential districts. The subject site is immediately south of a residential district and is required to provide screening along this portion of the site. To meet this requirement the applicant has incorporated a six-foot high masonry and vegetative screening along the northern portion of the site. The Landscape Plan also reflects a row of twelve (12) large canopy trees adjacent to the front (south) of Buildings A and B. Advantage Storage intends to utilize the solid exterior walls of Building A and Building B as the required perimeter screening. The applicant has integrated intermittent plantings of Crape Myrtle and Red Bud trees to soften the solid, less articulated western wall of Building B and the eastern wall of Building A.

3. Exterior Elevations: The proposed facades consist of primarily masonry materials (brick

and stucco) with intermittent articulations along the buildings fronting West Campbell Road. The street-facing buildings utilize varying material colors and styles coupled with several wall articulations to create a unique aesthetic which contributes to the surrounding area. The application of the articulations, masonry materials and color provides visual depth and is consistent with the City's goal to create aesthetically pleasing and quality environments.

- a. The Community Retail (CR) District contains a maximum building height of 35 feet. The original designs of the proposed buildings were at or slightly under the maximum height. However, after reconsideration, the buildings were redesigned. The northernmost eight-four (84) feet of the eastern elevation and all of the northern-most portion of the north elevation of Building A were lowered from thirty-five (35) feet to twenty-three (23) feet. The western and southern (street-facing) elevations were lowered to twenty-seven (27) feet.
 - b. The southern (street-facing) elevation of Building B was slightly increased from a maximum building height of thirty (30) feet to thirty-one (31) feet. All other elevations on Building B contain varying heights of roof portions between twenty-three (23) and thirty-one (31) feet.
4. Signage: The applicant proposes to construct a multi-tenant monument sign for K-9 University and Advantage Storage. The proposed sign will be located at the entrance of the site. The monument sign is to be faced with brick and/or stone veneer in colors that match the colors employed on the main buildings. Attached signage may not be located on the western wall of Building B or the eastern wall of Building A as these buildings are utilized as perimeter screening. However, all other sides of the buildings could have signage.

COMPREHENSIVE PLAN

The Future Land Use Map of the Envision Garland Plan recommends Neighborhood Centers for the subject property. Neighborhood Centers serve the needs of the nearby residents and are compatible in a neighborhood setting. They offer a mix of shops, services, amenities and gathering places, are primarily non-residential uses, but may include a small proportion of residential use in a vertical mixed-use development; the overall area, scale and architectural style should blend with adjacent residential areas and should strive to incorporate mobility options: by foot, bicycle, transit and private automobile. The request represents a use consistent with the service element of the Neighborhood Center land use category.

COMPATIBILITY OF REQUEST WITH SURROUNDING ZONING AND LAND USES

The property to the west of the subject property is zoned Community Retail (CR) District and is developed with a multi-tenant shopping center. The properties to the northwest and east are zoned Single Family-7 (SF-7) District and Agriculture (AG) District and are developed with a church and school, respectively. Properties to the south across Campbell Road are zoned within a Planned Development and developed with single-family homes. Although the proposed use does not mimic the scale found in the surrounding area, the scale is consistent with the zoning district. The distance between the subject site and the residential development to the south is greater than 150 feet. That distance along with the elimination of fenestration in the upper portions of the buildings and the proposed tree plantings adjacent to the building help to mitigate potential negative effects of the building scale.

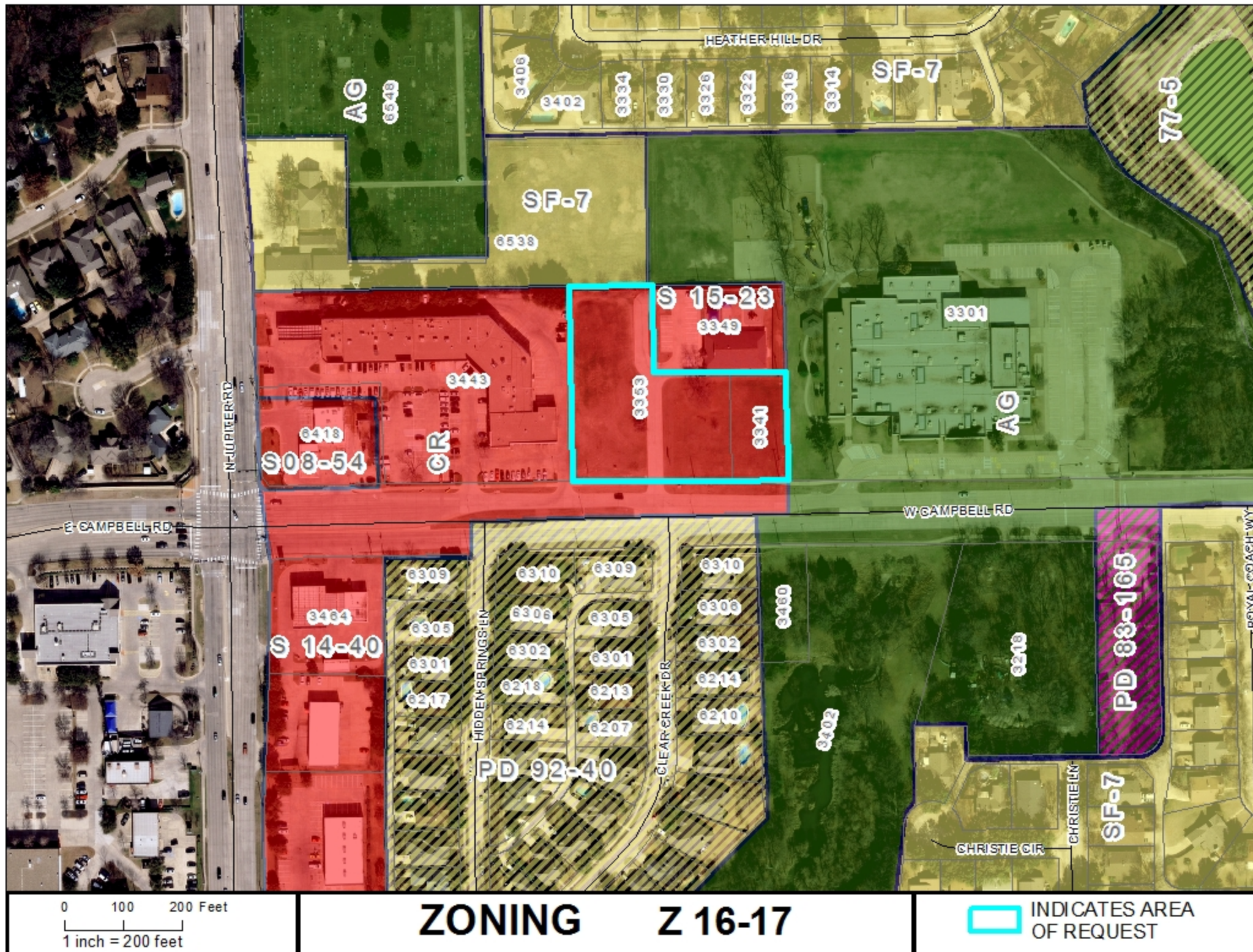
Additionally, Self-Storage Facilities typically generate less traffic than more intense non-residential uses; therefore, the use may be functionally nonintrusive to adjacent residential and non-residential uses.

Attachments

Z 16-17 Westwood Professional Services Attachments

Z 16-17 Westwood Professional Services Responses

Applicant Presentation



PLANNED DEVELOPMENT CONDITIONS

ZONING FILE Z 16-17

3341 W Campbell Road

- I. Statement of Purpose:** The purpose of this Planned Development District is to permit the development of a Self-Storage Facility (mini-warehouse) on the subject property subject to conditions.
- II. Statement of Effect:** This Planned Development shall not affect any regulation found in the Garland Development Code, Ordinance No. 6773, as amended prior to adoption of this ordinance, except as specifically provided herein.
- III. General Regulations:** All regulations of the Community Retail (CR) District set forth in Chapter 2 of the Garland Development Code, Ordinance 6773, are included by reference and shall apply, except as otherwise specified by this ordinance.
- IV. Development Plans:**
 - A. Detail Plan:** Development shall be in general conformance with the Detail Plan set forth in Exhibit C; however, in the event of conflict between the Detail Plan and the following written conditions, the written conditions shall prevail.
- V. Specific Regulations:**
 - A. Permitted Uses:** No uses shall be permitted except for a Self-Storage Facility (mini-warehouse).
 - B. Screening and Landscaping:** Screening and landscaping shall be provided as reflected on Exhibit D. In lieu of a six (6) foot tall screening constructed as a masonry wall, earthen berm or live screening, the west facing wall of Building "B," and the east facing wall of Building "A" shall serve as perimeter screening. All tree plantings shall be as reflected on Exhibit D.
 - C. Building Elevations:** The building elevations shall be in general conformance with Exhibit E.
 - D. Signage:** Attached signage shall be located as shown in Exhibit E. The development shall contain one (1) multi-tenant monument sign for the identification of K-9 University and Advantage Storage, in conformance with Chapter 4, Article 5 of the Garland Development Code.

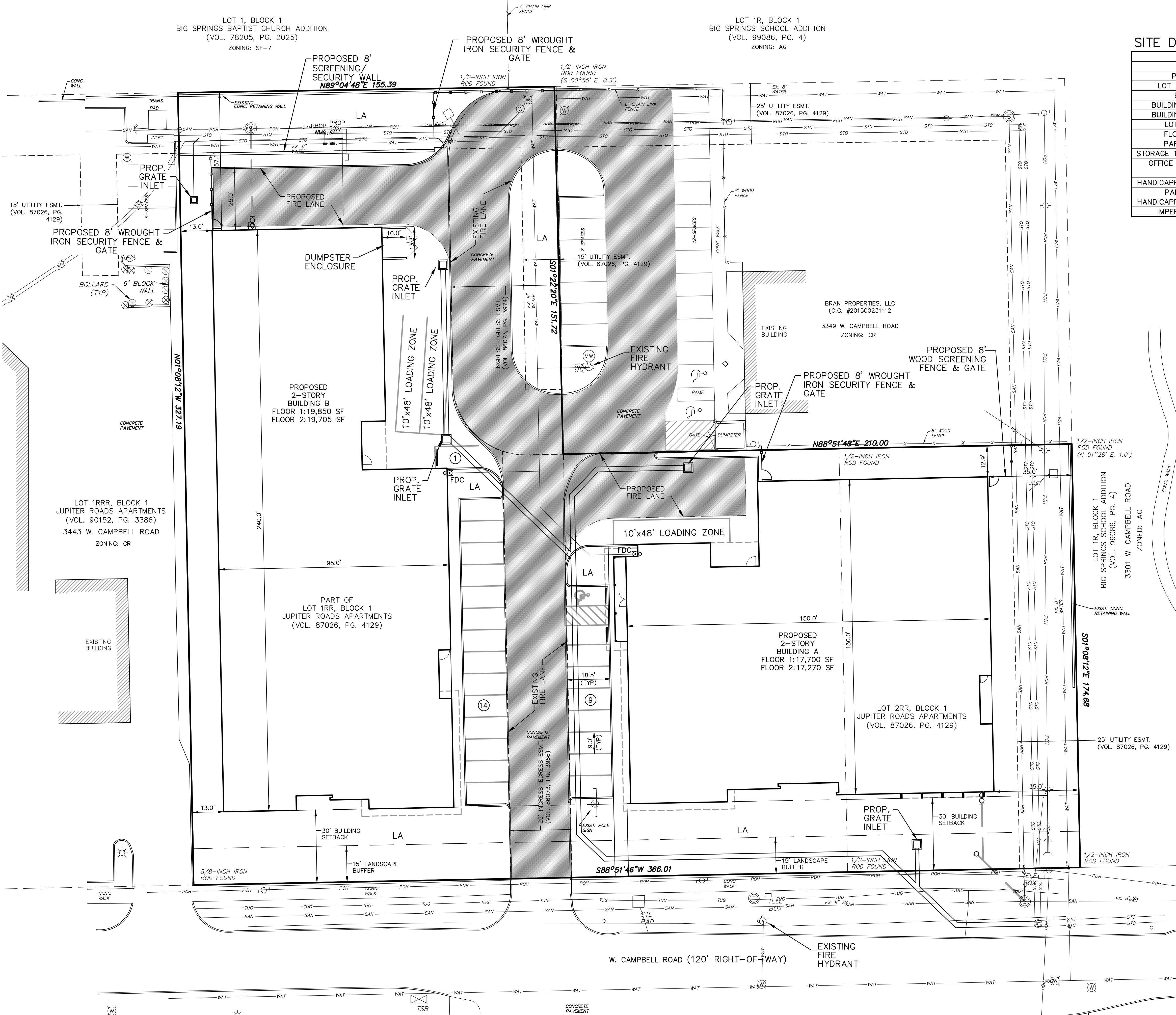
SPECIFIC USE PROVISION CONDITIONS

ZONING FILE Z 16-17

3341 W Campbell Road

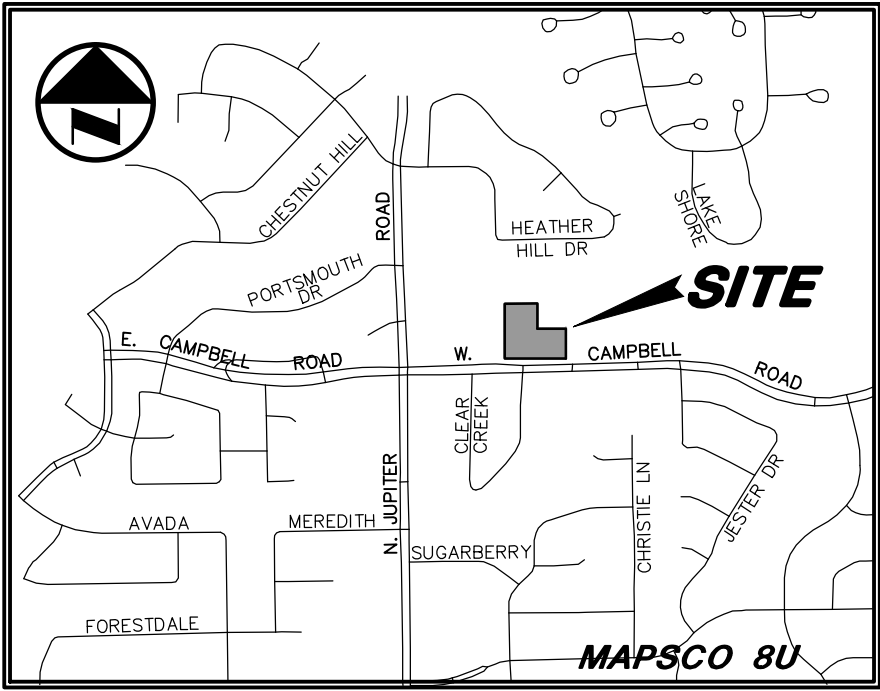
- I. Statement of Purpose:** The purpose of this Specific Use Provision is to permit the development of Self-Storage Facility (mini-warehouse).
- II. Statement of Effect:** This Specific Use Provision shall not affect any regulation found in the Garland Development Code, Ordinance No. 6773, as amended prior to adoption of this ordinance, except as specifically provided herein.
- III. General Regulations:** All regulations of the Community Retail (CR) District set forth in Chapter 2 of the Garland Development Code, Ordinance 6773, are included by reference and shall apply, except as otherwise specified by this ordinance.
- IV. Specific Regulations:**
- A. Specific Use Provision: The Specific Use Provision shall be effective for a period of 50 years.
- B. Hours of Operation: The self-storage facility shall provide tenant only, key controlled entry to exterior doors and elevators between the hours of 6am and 10pm.

WILLIAMS 03/15/2016 - 9:01AM
N:\008657\DWG\0008657SP.DWG
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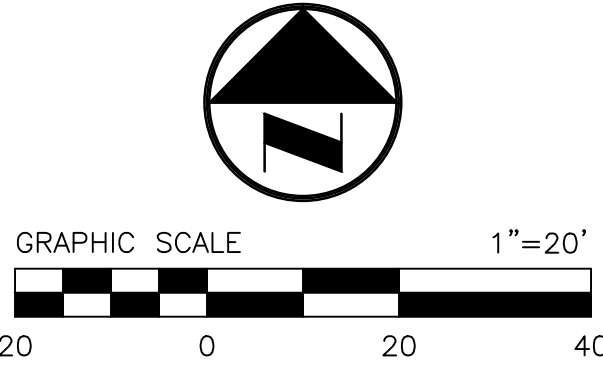


SITE DATA SUMMARY TABLE

ITEM	LOT 1RR & 2RR
ZONING	CR W/SUP
PROPOSED USE	SELF STORAGE FACILITY
LOT AREA (SF/ACRES)	87,676/2.013
BUILDING (SF)	74,525
BUILDING "A" HEIGHT (FT)	27.0 FEET
BUILDING "B" HEIGHT (FT)	31.7 FEET
LOT COVERAGE (%)	42.8%
FLOOR AREA RATIO	0.85:1
PARKING REQUIRED:	
STORAGE 1/25 UNITS (500 UNITS)	20 SPACES
OFFICE 1/300 SF (1200 SF)	4 SPACES
TOTAL	24 SPACES
HANDICAPPED PARKING REQUIRED	1 SPACE
PARKING PROVIDED	24 SPACES
HANDICAPPED PARKING PROVIDED	1 SPACE
IMPERVIOUS AREA (SF)	61,718



VICINITY MAP
NOT TO SCALE



LEGEND

	ELECTRIC METER
	POWER POLE
	LIGHT STANDARD
	WATER METER
	WATER VALVE
	FIRE HYDRANT
	FIRE DEPARTMENT CONNECTION
	CLEAN OUT
	STORM MANHOLE
	SANITARY MANHOLE
	GAS METER
	TRAFFIC SIGNAL CONTROL
	TRAFFIC SIGNAL POLE
	TRAFFIC SIGN
	TELEPHONE BOX
	TV BOX
	FLAG POLE
	LANDSCAPE AREA
	PROPERTY LINE
	O.H. POWER LINES
	U/G TELEPHONE LINES
	U/G WATER LINE
	U/G STORM LINE
	U/G SANITARY SEWER LINE
	FENCE
	CONTROLLING MONUMENT
	5/8-INCH IRON ROD WITH "FOGUE ENG & DEV" CAP SET
	FIRE LANE

NOTE:
ALL DIMENSIONS ARE FROM BACK OF CURB TO BACK OF CURB, UNLESS OTHERWISE NOTED.

CAUTION!!! BEFORE YOU DIG...
UNDERGROUND UTILITIES ARE LOCATED IN THIS AREA. 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTACT LINE LOCATES FOR FRANCHISE UTILITY INFO. CALL BEFORE YOU DIG:
NATIONAL 811 DIGGING NUMBER
TEXAS EXCAVATION SAFETY SYSTEM (TESS) 1-800-344-8377
TEXAS ONE CALL SYSTEMS 1-800-245-4545
LONE STAR NOTIFICATION CENTER 1-800-669-8344 EXT. 5
NTMWD CONTACT LINE LOCATES 972-442-5405
(IT IS THE CONTRACTOR'S RESPONSIBILITY FOR VERIFYING LOCATION & ELEVATION OF ALL EXISTING UTILITIES).
NOTE: IF UTILITY RELOCATIONS ARE SCHEDULED, IN-PROGRESS OR COMPLETE, CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR & PROJECT MANAGER IMMEDIATELY IF FRANCHISE UTILITIES ARE FOUND TO BE IN CONFLICT WITH PROPOSED CONSTRUCTION.

FRANCHISE UTILITY NOTES:
1. GARLAND POWER & LIGHT - MR. JOE ENNA - (972) 205-3467
2. TXU - MR. CHRIS DULANEY - (972) 396-6324
3. NTMWD - MR. BOB QUINN - (972) 442-5405
4. ATMOS ENERGY - MR. JOE CAPAZUELA - (972) 485-6234
5. VERIZON - MR. SHUN HOLDER - (972) 578-3339
6. COMCAST - MR. STEVE WALKER - (972) 877-5612

BENCH MARK LIST:

BENCHMARK #1
GPS 111, 2" BRASS DISK STAMPED 111 IS LOCATED ON TRAFFIC BOX PAD, APPROX. 41' E OF N. JUPITER RD. C/L AND APPROX. 55' S. OF INT. OF HEATHERHILL DR & N. JUPITER RD.
ELEVATION = 555.03

BENCHMARK #2
SQUARE CUT IN TOP OF CURB AT THE SW COR. OF PARKING AREA, 107 FEET SOUTH OF THE NORTHERLY MOST NE COR. OF SUBJECT PROPERTY.
ELEVATION = 565.85

ZONING CASE Z 16-17
CITY CASE NO. 160329-1

DETAIL PLAN

ADVANTAGE SELF STORAGE
BLOCK 1, LOT 2RR AND PART OF LOT 1RR
JUPITER ROAD APARTMENTS
CITY OF GARLAND, TEXAS

SHEET NO.

C1.01

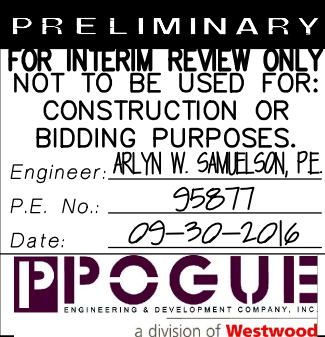
DEVELOPER

ADVANTAGE SELF STORAGE
2600 ELDORADO PARKWAY, SUITE 110
MCKINNEY, TEXAS 75070
MR. RICK JONES
(927) 547-0236 PHONE

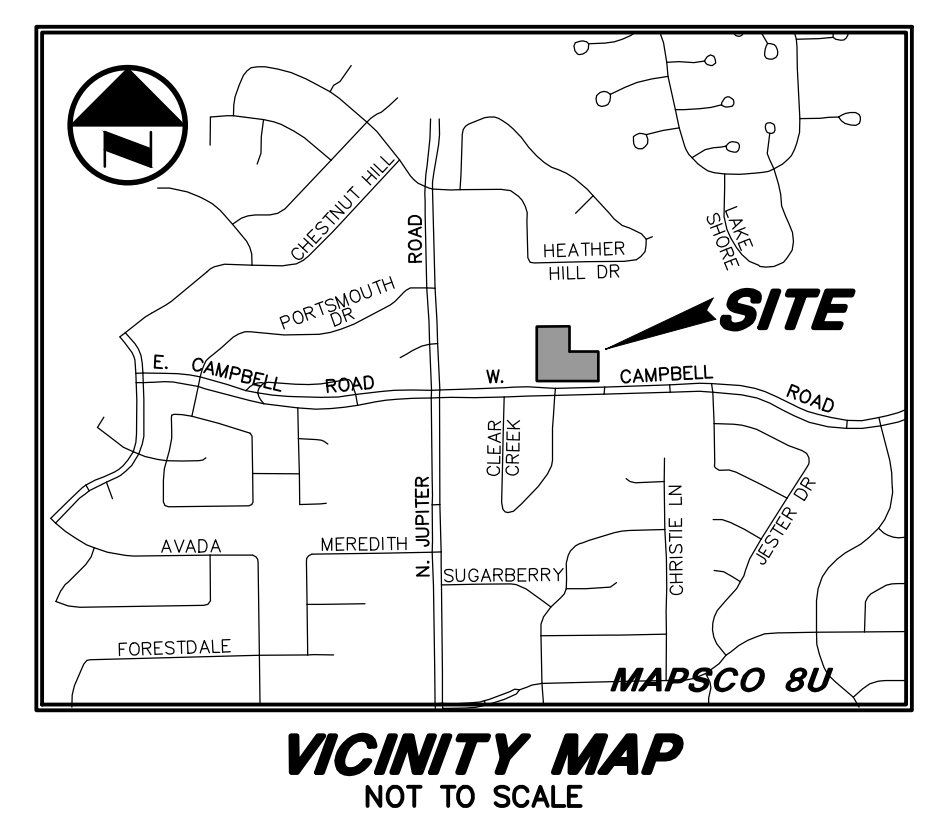
PROJECT INFORMATION

ADVANTAGE SELF STORAGE
BLOCK 1, LOT 2RR AND PART OF LOT 1RR
JUPITER ROAD APARTMENTS
CITY OF GARLAND, TEXAS
EXISTING ZONING: CR-COMMUNITY RETAIL
PROPOSED ZONING: CR W/SUP

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF ARLYN W. SAMUELSON, P.E. 95871 ON 09-30-2016. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.



DWG NO: 0008657SP.DWG



1. CONTRACTOR SHALL CONTACT UNDERGROUND UTILITY LOCATORS TO VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY PLANTS OR LANDSCAPE MATERIAL.
2. ACTUAL LOCATION OF PLANT MATERIAL IS SUBJECT TO FIELD AND SITE CONDITIONS.
3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
4. ALL SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO SUBMISSION OF ANY BID AND/OR QUOTE BY THE LANDSCAPE CONTRACTOR.
5. CONTRACTOR SHALL PROVIDE ONE YEAR GUARANTEE OF ALL PLANT MATERIALS. THE GUARANTEE BEGINS ON THE DATE OF THE LANDSCAPE ARCHITECT'S OR OWNER'S WRITTEN ACCEPTANCE OF THE INITIAL PLANTING. REPLACEMENT PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE COMMENCING UPON PLANTING.
6. ALL PLANTS TO BE SPECIMEN GRADE, REGIONALLY-GROWN AND/OR HARDY. SPECIMEN GRADE SHALL ADHERE TO, BUT IS NOT LIMITED BY, THE FOLLOWING STANDARDS:
ALL PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, SCARS, ETC.
ALL PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES.
ALL PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES.
ALL PLANTS SHALL HAVE HEAVY, HEALTHY BRANCHING AND LEAFING.
CONIFEROUS TREES SHALL HAVE AN ESTABLISHED MAIN LEADER AND A HEIGHT TO WIDTH RATIO OF NO LESS THAN 5:3.
7. PLANTS TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
8. PLANTS TO BE INSTALLED AS PER CITY & ANSI STANDARD PLANTING PRACTICES. CITY STANDARDS OVERRIDE OTHER NOTES, UNLESS APPROVED OTHERWISE.
9. PLANTS SHALL BE IMMEDIATELY PLANTED UPON ARRIVAL AT SITE. PROPERLY HEEL-IN MATERIALS IF NECESSARY; TEMPORARY ONLY.
10. PRIOR TO PLANTING, FIELD VERIFY THAT THE ROOT COLLAR/ROOT FLAIR IS LOCATED AT THE TOP OF THE BALLED & BURLAP TREE. IF THIS IS NOT THE CASE, SOIL SHALL BE REMOVED DOWN TO THE ROOT COLLAR/ROOT FLAIR. WHEN THE BALLED & BURLAP TREE IS PLANTED, THE ROOT COLLAR/ROOT FLAIR SHALL BE EVEN OR SLIGHTLY ABOVE FINISHED GRADE.
11. OPEN TOP OF BURLAP ON BB MATERIALS; REMOVE POT ON POTTED PLANTS; SPLIT AND BREAK APART PEAT POTS.
12. PRUNE PLANTS AS NECESSARY - PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
13. WRAP ALL SMOOTH-BARKED TREES - FASTEN TOP AND BOTTOM. REMOVE BY APRIL 1ST.
14. STAKING OF TREES AS REQUIRED; REPOSITION, PLUMB AND STAKE IF NOT PLUMB AFTER ONE YEAR.
15. THE NEED FOR SOIL AMENDMENTS SHALL BE DETERMINED UPON SITE SOIL CONDITIONS PRIOR TO PLANTING AND PER CONTRACTORS COST. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT FOR OF ANY SOIL AMENDMENTS ADDED.
16. TOPSOIL AND PLANTING SOIL TO ADHERE TO INDUSTRY STANDARDS AND FREE OF ROOTS, ROCKS LARGER THAN ONE INCH, SUBSOIL DEBRIS, AND LARGE WEEDS UNLESS SPECIFIED OTHERWISE. MINIMUM 4" DEPTH TOPSOIL FOR ALL LAWN GRASS AREAS AND 12" DEPTH PLANTING SOIL FOR TREE, SHRUBS, AND PERENNIALS. SCARIFY AND LOOSEN COMPACTED SUBGRADE UNDER PLANTING BEDS, BELOW PLANTING SOIL.
17. MULCH TO BE AT ALL TREE, SHRUB, PERENNIAL, AND MAINTENANCE AREAS. TREE, SHRUB, AND PERENNIAL PLANTING BEDS SHALL HAVE 4" DEPTH OF SHREDDED HARDWOOD MULCH. SHREDDED HARDWOOD MULCH TO BE USED AROUND ALL PLANTS WITHIN TRUCK AREAS. MULCH TO BE FREE OF DELETERIOUS MATERIAL, AND COLOR TO BE RED, OR AS DIRECTED BY OWNER PRIOR TO INSTALLATION.
18. EDGING TO BE COMMERCIAL GRADE STEEL EDGING, AS INDICATED. EDGING SHALL BE PLACED WITH SMOOTH CURVES AND STAKED WITH METAL SPIKES NO GREATER THAN 4 FOOT ON CENTER WITH BASE OF TOP BEAD AT GRADE, FOR MOWERS TO CUT ABOVE WITHOUT DAMAGE. UTILIZE CURBS AND SIDEWALKS FOR EDGING WHERE POSSIBLE.
19. ALL DISTURBED AREAS TO BE SODDED, UNLESS OTHERWISE NOTED. SOD TO BE REGIONALLY GROWN BERMUDA, FREE OF LAWN WEEDS. ALL TOPSOIL AREAS TO BE RAKED TO REMOVE DEBRIS AND ENSURE DRAINAGE. SLOPES OF 3:1 OR GREATER SHALL BE STAKED. SEED AS SPECIFIED, AS REQUIRED. IF NOT INDICATED ON LANDSCAPE PLAN, SEE EROSION CONTROL PLAN.
20. PROVIDE IRRIGATION TO ALL PLANTED AREAS AS INDICATED. SEE IRRIGATION PLAN FOR DETAILS.
21. CONTRACTOR SHALL PROVIDE NECESSARY WATERING OF PLANT MATERIALS UNTIL THE PLANT IS FULLY ESTABLISHED. OWNER WILL NOT PROVIDE WATER FOR CONTRACTOR.
22. REPAIR, REPLACE, OR PROVIDE SOD/SEED AS REQUIRED FOR ANY DISTURBED AREAS ADJACENT TO THE SITE DISTURBED DURING CONSTRUCTION.
23. REPAIR ALL DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO COST TO OWNER.
24. REPLACE SOD IN AREA BETWEEN SOUTH PROPERTY LINE AND R.O.W.
25. MULCH AREA AROUND SHRUBS INSIDE EDGER
26. ALL LANDSCAPED AREAS SHALL HAVE FULLY AUTOMATED UNDERGROUND IRRIGATION SYSTEM AS INSTALLED BY A LICENSED LANDSCAPE IRRIGATION CONTRACTOR.
27. LAWN AREAS SHALL BE COVERED WITH SOLID BERMUDA SOD.
28. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM TREE CALIPER MEASUREMENT HEIGHT ABOVE GRADE AS REQUIRED BY CITY.
29. PLANT SIZE, TYPE, AND CONDITION SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE.
30. CONTRACTOR RESPONSIBLE FOR MAINTENANCE OF ALL PLANT MATERIAL UNTIL PROJECT ACCEPTANCE.
31. CONTRACTOR TO PROVIDE OWNER WITH PREFERRED MAINTENANCE SCHEDULE OF ALL PLANTS AND LAWNS.
32. MAINTAIN/PROTECT VISIBILITY TRIANGLE WITH PLANT MATERIAL PER CITY STANDARDS AT ALL ENTRANCES TO SITE.
33. CONTRACTOR RESPONSIBLE FOR LOCATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO TELEPHONE, TELECABLE, ELECTRIC, GAS, WATER AND SEWER, ANY DAMAGE TO UTILITIES TO BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER.
34. AT TIME OF PLAN PREPARATION, SEASONAL PLANT AVAILABILITY CANNOT BE DETERMINED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE AND RESERVE ALL B&B PLANTS WHEN AVAILABLE IN CASE ACTUAL INSTALLATION OCCURS DURING THE OFF-SEASON. PURCHASE AND HOLD B&B PLANTS FOR LATE SEASON INSTALLATION.
35. TURF AND GROUND COVER PLANTED IN REQUIRED LANDSCAPE AREA SHALL ATTAIN 100 PERCENT COVERAGE WITHIN ONE YEAR OF PLANTING.

NOTE: TOTAL TREES REQUIRED = 35 TOTAL SHRUBS REQUIRED = 96
TOTAL TREES PROVIDED = 56 TOTAL SHRUBS PROVIDED = 125

QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.

	SHRUBS		SOD
	EDGER		ORNAMENTAL TREES
	CANOPY TREES		PERENNIAL PLANTER BED

ADVANTAGE SELF STORAGE
BLOCK 1, LOT 2RR AND PART OF LOT 1RR
JUPITER ROAD APARTMENTS
CITY OF GARLAND, TEXAS

**SHEET
NO.**

L1.01

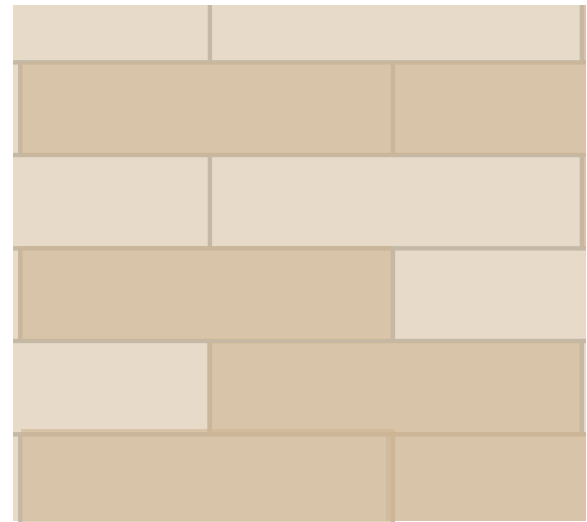
DWG NO: 0008657LANDSCAPE PLAN.DWG

P O C U L
ENGINEERING & DEVELOPMENT COMPANY, INC.

a division of **Westwood**

1512 BRAY CENTRAL DRIVE
SUITE 100
MCKINNEY, TEXAS 75069
TX BOARD PROF. ENGINEERS, CERT. #11756; TX BOARD PROF. LAND SURVEYING, CERT. #102430

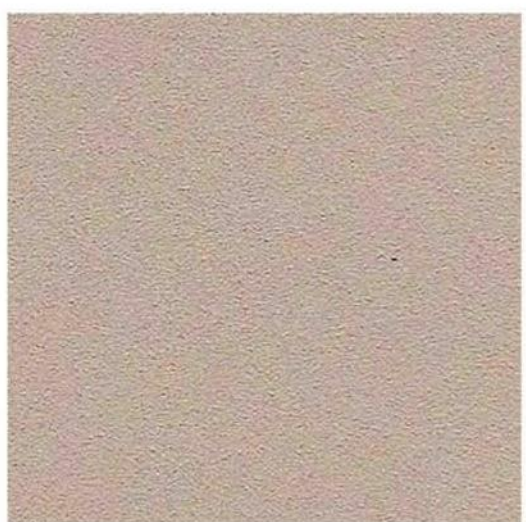
(214) 437-4640 PHONE
(888) 937-5150 TOLL FREE
WWW.WESTWOODPS.COM



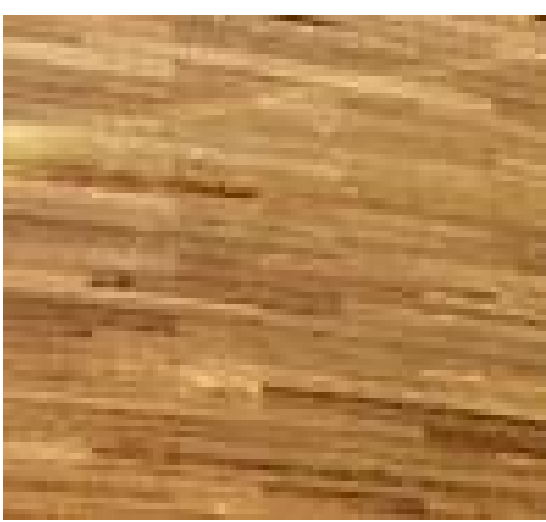
FIBER CEMENT PANELS:
VARIABLE PAINTED COLORS,
BY JAMES HARDIE



BRICK: CHARCOAL, BY ACME



STUCCO: #106 PEARLASH

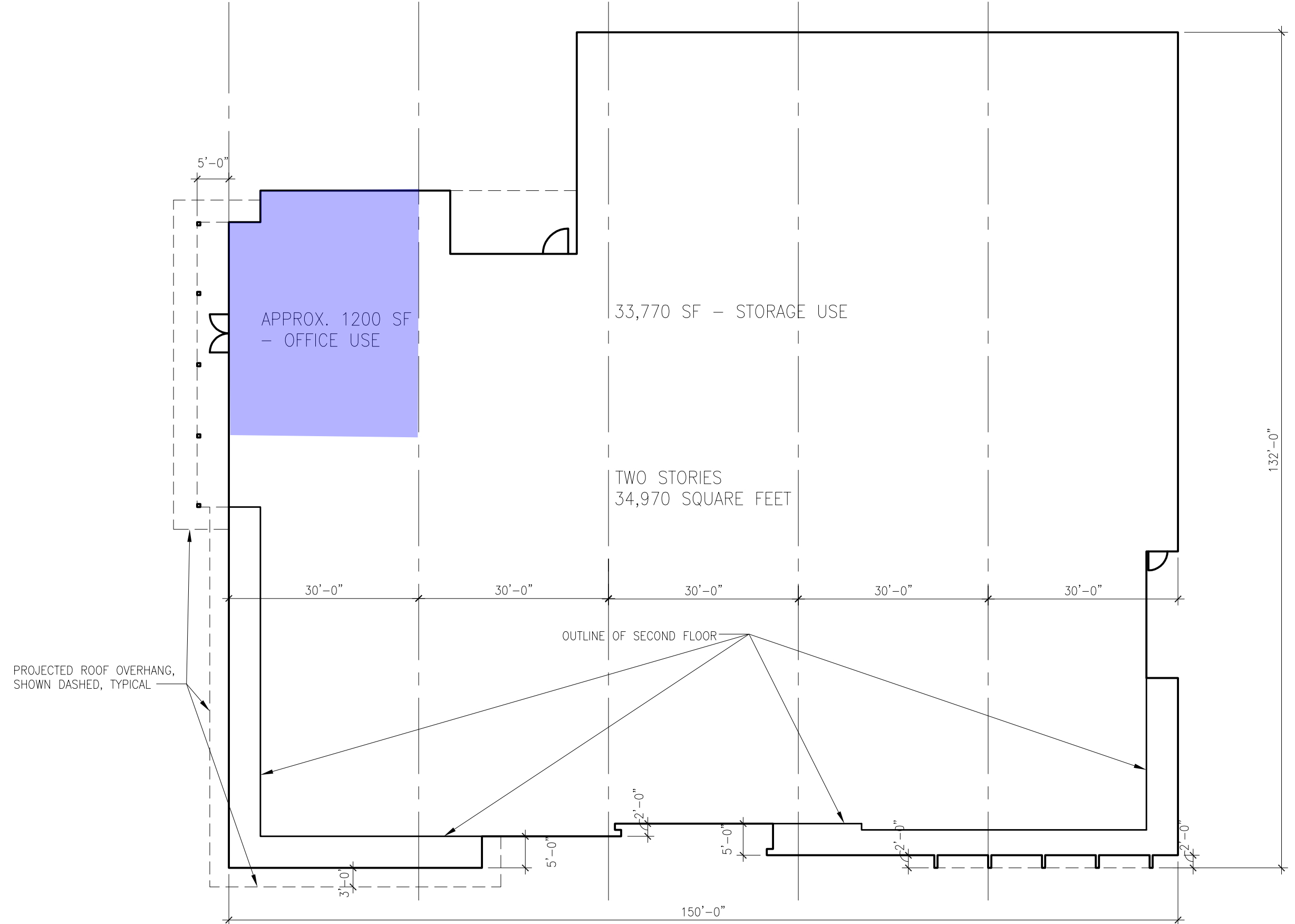


FIBER CEMENT PLANKS:
VARIABLE STAINED COLORS,
BY JAMES HARDIE

← 28'-0" →



ATTACHED INTERNALLY LIT SIGN
LOCATION AS SHOWN ON ELEVATIONS



BUILDING A - CONCEPT FLOOR PLAN
SCALE: 1/16" = 1'-0"

ZONING CASE Z 16-17

building A plan & elevations - REVISED 09.29.16

**SCHEMATIC
DESIGN
REVIEW**
NOT FOR REGULATORY
APPROVAL, PERMITTING, OR
CONSTRUCTION

davidbaca
STUDIO

Advantage Storage - Garland
Campbell Road, Garland, Texas



PROJECT NUMBER
1614
DATE
09.29.16
SHEET NUMBER
SP-1

e david@davidbacastudio.com

5866

5800

75090

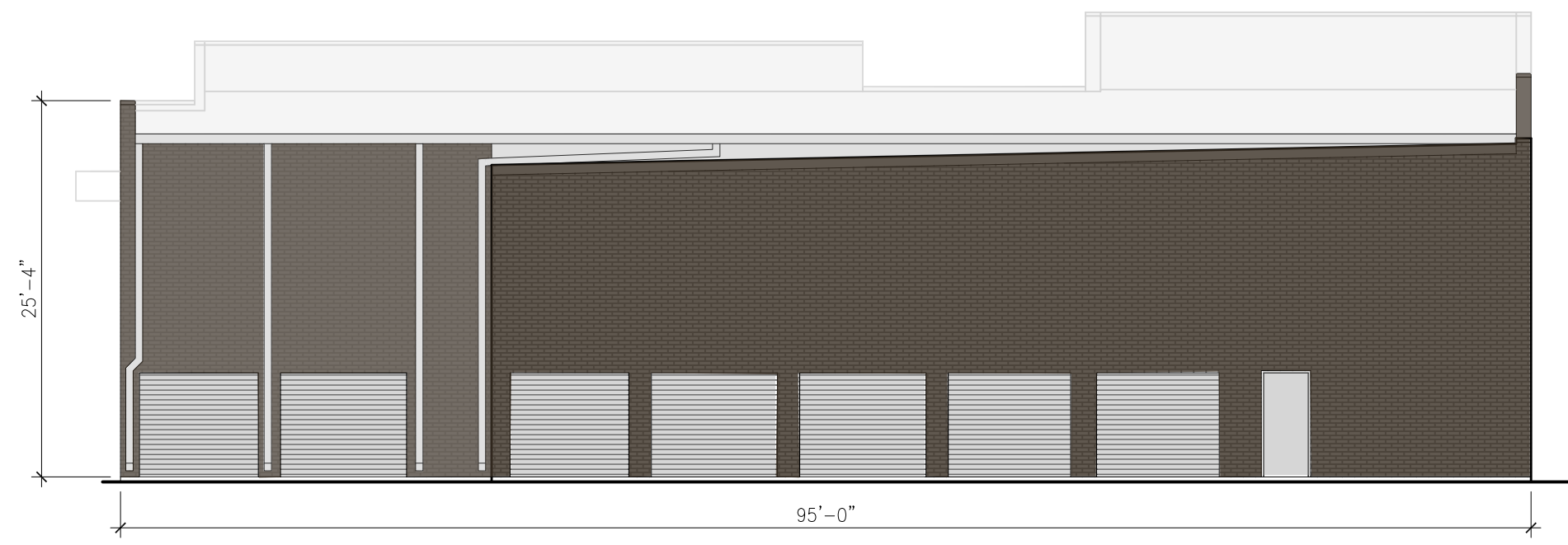
TEXAS

500A,

SHERMAN,

100 NORTH TRAVIS STREET, NO.

Garland, Texas



EXTERIOR WALL FINISH MATERIALS - NORTH FACADE			
BRICK	100%	1607 SF	
STUCCO	0%	00 SF	
FIBER CEMENT	0%	00 SF	
	100%	1607 SF	

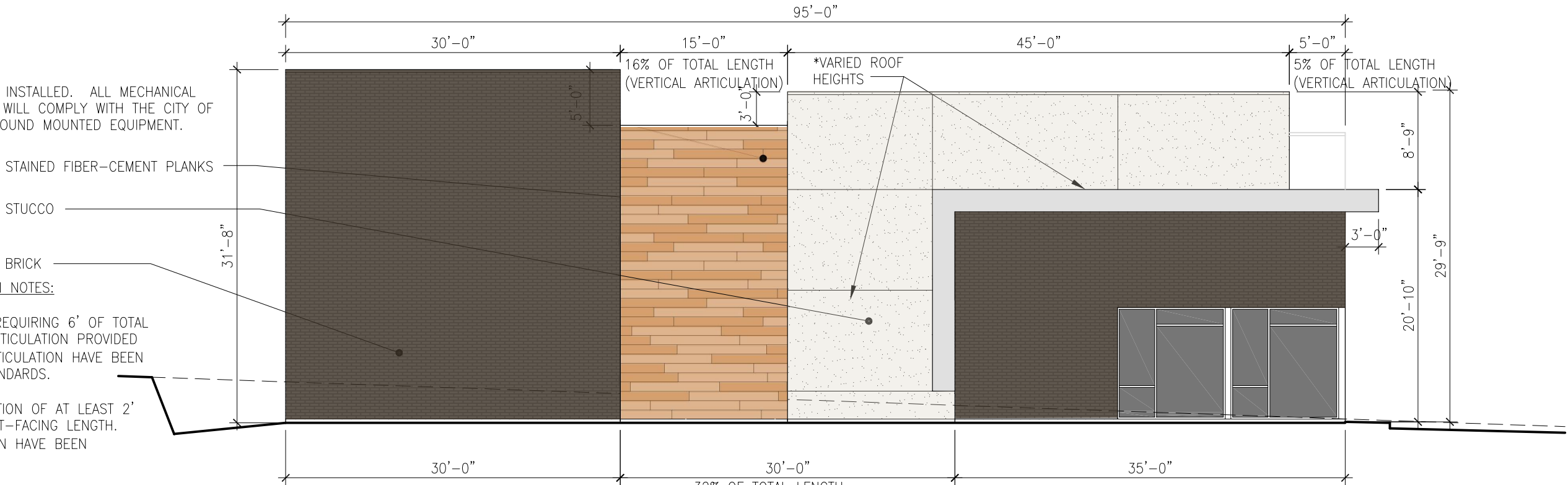
BUILDING B - NORTH FACADE
SCALE: 3/32" = 1'-0"

GENERAL BUILDING DESIGN NOTES:

1. NO ROOF MOUNTED EQUIPMENT WILL BE INSTALLED. ALL MECHANICAL EQUIPMENT WILL BE GROUND MOUNTED AND WILL COMPLY WITH THE CITY OF GARLAND SCREENING REQUIREMENTS FOR GROUND MOUNTED EQUIPMENT.

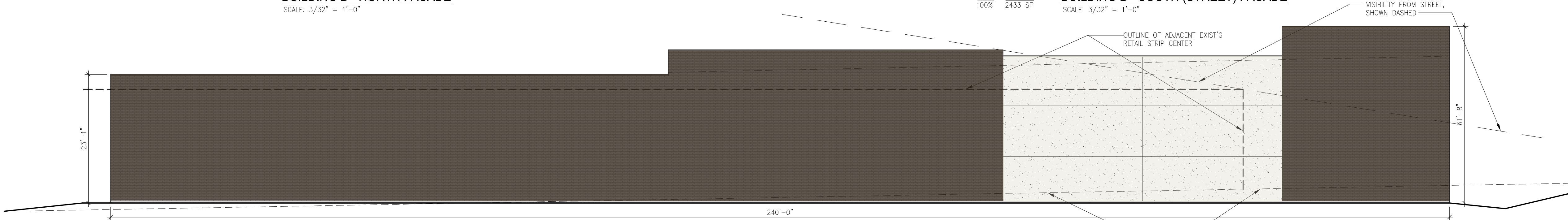
SUPPLEMENTAL STREET FACADE ARTICULATION NOTES:

1. TOTAL STREET-FACING LENGTH IS 90', REQUIRING 6' OF TOTAL VERTICAL ARTICULATION. TOTAL VERTICAL ARTICULATION PROVIDED IS 14' DIVIDED BETWEEN TWO AREAS OF ARTICULATION HAVE BEEN PROVIDED TO MEET THE ARCHITECTURAL STANDARDS.
2. THREE AREAS OF HORIZONTAL ARTICULATION OF AT LEAST 2' OF DEPTH ARE REQUIRED, BASED ON STREET-FACING LENGTH. FOUR AREAS OF 2' MIN. DEPTH ARTICULATION HAVE BEEN PROVIDED.



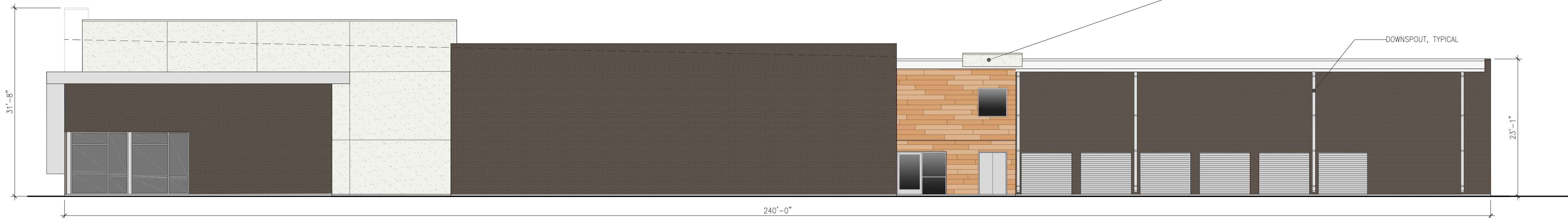
EXTERIOR WALL FINISH MATERIALS - SOUTH FACADE			
BRICK	57%	1379 SF	
STUCCO	27%	662 SF	
FIBER CEMENT	16%	392 SF	
	100%	2433 SF	

BUILDING B - SOUTH (STREET) FACADE
SCALE: 3/32" = 1'-0"



EXTERIOR WALL FINISH MATERIALS - WEST FACADE			
BRICK	79%	4800 SF	
STUCCO	21%	1275 SF	
FIBER CEMENT	0%	00 SF	
	100%	6075 SF	

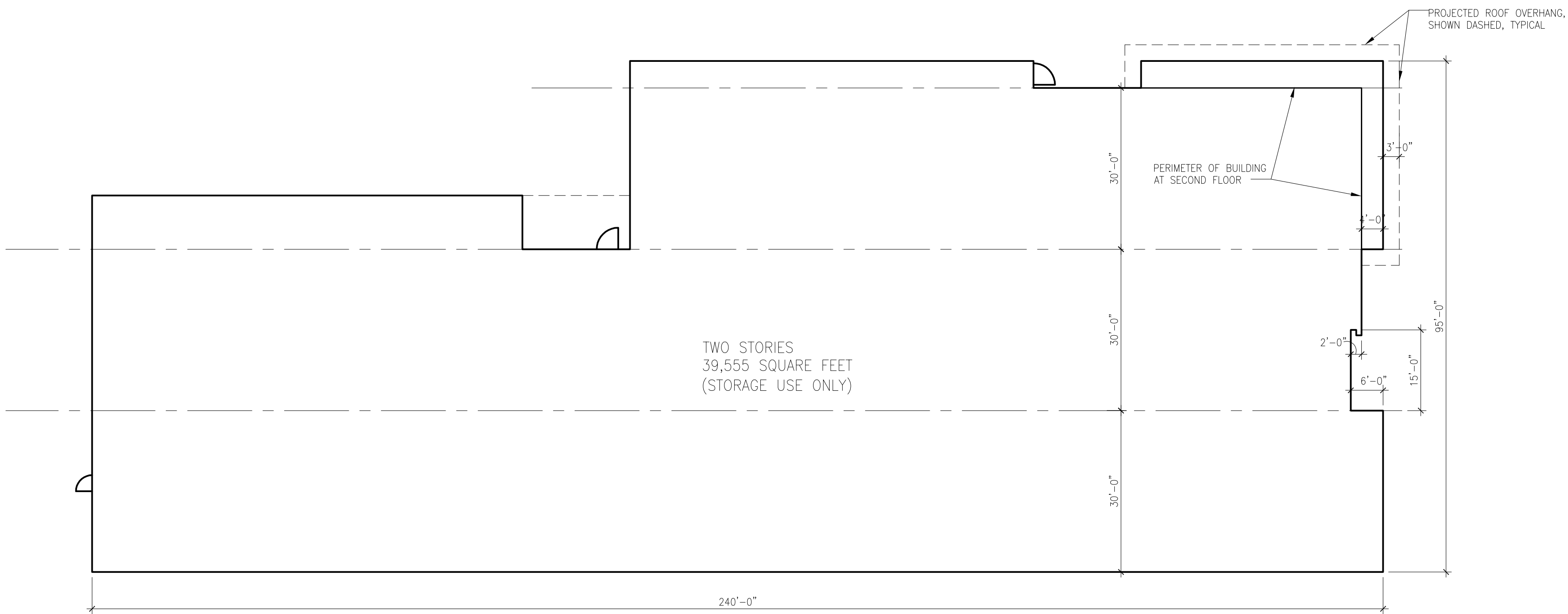
BUILDING B - WEST FACADE
SCALE: 3/32" = 1'-0"



EXTERIOR WALL FINISH MATERIALS - EAST FACADE			
BRICK	76%	3818 SF	
STUCCO	19%	935 SF	
FIBER CEMENT	5%	293 SF	
	100%	5046 SF	

BUILDING B - EAST FACADE
SCALE: 3/32" = 1'-0"

ARCHITECTURAL ELEMENTS
AWNINGS
DISPLAY WINDOWS
PORTICOS
VARIED ROOF HEIGHTS
OUTDOOR BENCHES - SEE SITE PLAN
PLANTERS - SEE SITE PLAN



TWO STORIES
39,555 SQUARE FEET
(STORAGE USE ONLY)

BUILDING B - CONCEPT FLOOR PLAN
SCALE: 1/16" = 1'-0"

ZONING CASE Z 16-17

Exhibit E

building B plan & elevations - REVISED 09.29.16

**SCHEMATIC
DESIGN
REVIEW**
NOT FOR REGULATORY
APPROVAL, PERMITTING, OR
CONSTRUCTION

davidbaca
STUDIO

Advantage Storage - Garland
Campbell Road, Garland, Texas



PROJECT NUMBER
1614
DATE
09.29.16
SHEET NUMBER
SP-2

100 NORTH TRAVIS STREET, NO. 500A, SHERMAN, TEXAS 75090

903 893 5800

903 893 5866

david@davidbacastudio.com

REPORT & MINUTES

P.C. Meeting, October 24, 2016

Consideration of the application of Westwood Professional Services, requesting approval of 1) a change in zoning from Community Retail (CR) District to Planned Development for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District. This property is located at 3341 West Campbell Road. (District 1) (File Z 16-17) (This item was postponed from the October 10, 2016 Plan Commission meeting.)

Representing the applicant Rick Jones, 6606 Meadow Road, presented an overview of the request and provided additional information regarding additional attempts to contact property owners, traffic flow, security access/surveillance, and the decision for this site location.

Commissioner Fisher provided additional information regarding the requirements for this request, size of the facility and use for the area to Garland citizens.

Chairman Roberts elaborated on the height of the requested building and uses allowed by right.

Residents speaking in opposition:

Jeanie Curto, 6301 Clear Creek Drive
Carl Vickery 6122 Clear Creek Drive
Lynn Jackson, 6102 Clear Creek Drive

Concerns were raised regarding the type of request for the area, height of the building, possible hazardous materials being stored, and potential rise in crime.

Motion was made by Commissioner Welborn, seconded by Commissioner Moore to close the public hearing and open the case for discussion.
Motion carried: 9 Ayes, 0 Nays.

Commissioner Welborn and Dalton spoke against the request due to the number of existing storage facilities in the area and the impact of a two-story structure in this location.

Commissioner Fisher spoke in support of the request and regulations for uses allowed by right.

Commissioner Luckie spoke in favor of and thanked Mr. Jones for his effort and willingness to work with the property owners regarding their concerns.

Motion was made by Commissioner Fisher, seconded by Commissioner Luckie to close the Public Hearing and **approve** the request and amend Condition E to only regulate the hours of operation. **Motion carried: 6** Ayes, **3** Nays by Commissioner Dalton, O'Hara and Welborn.

0 100 200 Feet
1 inch = 200 feet

ZONING Z 16-17

INDICATES AREA
OF REQUEST

E-CAMPBELL-RD

N-JUPITER-RD

HEATHER-HILL-DR

W-CAMPBELL-RD

ROYAL-COACH-WY

AG
6548

SF-7
(6538)

S 15-23
(3349)

S 08-54
6418

CR

3443

3353

3341

AG

3301

S 14-40

3464

6309

6305

6301

6217

HIDDEN-SPRINGS-LN

PD 92-40

6310

6309

~~6305~~

~~6301~~

~~6218~~

~~6214~~

6207

6310

~~6305~~

~~6301~~

~~6218~~

~~6214~~

~~6207~~

3460

3402

3218

SF-7

PD 83-165

CHRISTIE-CIR

CHRISTIE-LN

O = IN FAVOR
X = AGAINST

DANA D. HUFFMAN
ATTORNEY AT LAW

August 18, 2016

Chuck Bratt
K-9 University
3949 W. Campbell Road
Garland, Texas 75048

City of Garland
Planning and Community Development
Attention: Mr. Will Guerin, AICP, CNU-A, Director of Planning
800 Main Street
Garland, TX 75046

Re: Advantage Storage Proposed Development
Campbell Road, Garland Texas

Mr. Guerin,

I am the attorney for K-9 University located at 3949 W. Campbell, Garland, Texas. After reviewing Advantage's proposed development plans for their site located on the north side of Campbell Road west of Firestone Auto Care and east of Big Spring Elementary School and meeting with my client, please accept this letter as our indication that we have no objection to their proposed use and encourage the Planning and Zoning Commission and City Council to approve their request, subject to K-9 reaching an acceptable written agreement regarding the monument sign with Advantage Storage.

Regards,



Dana D. Huffman
Attorney for K-9 University, Inc.

7 16-17



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, June 27, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Westwood Professional Services**, requesting approval of a Specific Use Provision for a Self-Storage Facility (mini-warehouse). The property is shown on the enclosed sketch and is described as follows:

Being a 2.0128 acre tract of land situated in the D. Crumpacker Survey, Abstract No. 258, Dallas County, Texas; said tract being all of Lot 2RR and part of Lot 1RR, Block 1, Jupiter Road Apartments, an addition to the City of Garland, Texas according to the plat recorded in Volume 87026, Page 4129 of the Deed Records of Dallas County, Texas; said tract also being all of that certain tract of land described as Property No. 6 in Deed to Mohammed I Jetpuri and Farida Yasmin Jetpuri recorded in County Clerk's File No. 200900262023 of the Official Public Records of Dallas County, Texas. The subject property is located at 3341 W Campbell Road. (District 1)

Note: The applicant requests approval of a Specific Use Provision for the development of two multi-story self-storage buildings containing 650 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to **City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474**. Should you have any questions, please contact Isaac Williams at 972-205-2445.

(Please Check One Below)

☒ I am in favor of the request.

☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

*This property has been sitting NOT DEVELOPED for Long time
The Campbell Road NEED To Look Nicely developed; This type of
Development with high quality is NEEDED VERY MUCH on Campbell*
(Please complete the following information)

Your Property Address

3353 & 3341 Campbell Road Garland

Printed Name

905 TROEN CIRCLE Richardson

Tx

75081

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

M. J. Jetpuri
Signature

Landowner
Title

Date: *6-22-2016*



GARLAND

July 28, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, August 8, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Westwood Professional Services**, requesting approval of 1) a Planned Development for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (Mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District. The property is shown on the enclosed sketch and is described as follows:

Being a 2.0128 acre tract of land situated in the D. Crumpacker Survey, Abstract No. 258, Dallas County, Texas; said tract being all of Lot 2RR and part of Lot 1RR, Block 1, Jupiter Road Apartments, an addition to the City of Garland, Texas according to the plat recorded in Volume 87026, Page 4129 of the Deed Records of Dallas County, Texas; said tract also being all of that certain tract of land described as Property No. 6 in Deed to Mohammed I Jetpuri and Farida Yasmin Jetpuri recorded in County Clerk's File No. 200900262023 of the Official Public Records of Dallas County, Texas. The subject property is located at 3341 W Campbell Road. (District 1)

Note: The applicant requests approval of a Planned Development, a Detail Plan and a Specific Use Provision for the development of two multi-story self-storage buildings containing 633 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to **City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474**. Should you have any questions, please contact Isaac Williams at 972-205-2445.

(Please Check One Below)

☒ I am in favor of the request.

☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

THIS DEVELOPMENT WILL HELP COMMUNITY AND THE
CITY VERY MUCH. WE SHOULD KEEP DEVELOPING THE
CITY WITH GOOD PROJECTS LIKE THIS.

(Please complete the following information)

Your Property Address

MOHAMMED I. JETPURI

Printed Name

905 TROON CIRCLE

Address

Richardson

City, State

Texas

3341

W. Campbell

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Mohammed I Jetpuri

Signature

LAND OWNER

Title

Date: 8-4-2016

Allmendinger, Tracy

From: Sandra Garza <betib00p@yahoo.com>
Sent: Monday, June 27, 2016 12:43 PM
To: Williams, Isaac
Subject: Oppose Self Storage facility
Attachments: NotoStorageonCampbell.pdf

Please see my attached form opposing the multi-story self storage on Campbell.

Thanks.
Sandra Garza



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P O BOX 469002
GARLAND TX 75046-9002

HEARING DATE/TIME Plan Commission June 27, 2016 – 7 00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner

A public hearing will be held by the Plan Commission of the City of Garland, Texas at 7 00 P M Monday June 27, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building 217 North Fifth Street to consider the application of **Westwood Professional Services** requesting approval of a Specific Use Provision for a Self-Storage Facility (mini-warehouse) The property is shown on the enclosed sketch and is described as follows

Being a 2.0128 acre tract of land situated in the D Crumpacker Survey Abstract No. 258 Dallas County, Texas said tract being all of Lot 2RR and part of Lot 1RR, Block 1, Jupiter Road Apartments, an addition to the City of Garland, Texas according to the plat recorded in Volume 87026, Page 4129 of the Deed Records of Dallas County, Texas, said tract also being all of that certain tract of land described as Property No. 6 in Deed to Mohammed I Jetpuri and Farida Yasmin Jetpuri recorded in County Clerk's File No. 200900262023 of the Official Public Records of Dallas County, Texas. The subject property is located at 3341 W Campbell Road (District 1)

Note: The applicant requests approval of a Specific Use Provision for the development of two multi-story self-storage buildings containing 650 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474. Should you have any questions please contact Isaac Williams at 972-205-2445

(Please Check One Below)

☐ I am in favor of the request

☒ I am opposed to the request

Please include any comments you wish to provide supporting your position in the space provided below

(Please complete the following information)

Your Property Address

Printed Name Sandra Garza
16306 Hidden Springs Ln. Garland, TX 75044
Address City, State Zip

The above statements reflect my (our) opinion regarding the proposed request(s)

Signature [Signature] Title _____
Date June 27, 2016



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

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Note: The applicant requests approval of a Specific Use Provision for the development of two multi-story self-storage buildings containing 650 units.

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

This would be an eyesore to our lovely area. And believe would lower our property value. No one wants to look out over their fence and see a multi level storage facility. Also too close to elementary school traffic concerns there.

Your Property Address

3334 Heather Hill Dr.

Garland Tx 75044

Printed Name

Justin R. Johnson

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Justin R. Johnson

home owner

Signature

Title

Date: 6-26-2016

6-26-2016-27

**GARLAND**

July 28, 2016

HEARING DATE/TIME: Plan Commission: August 8, 2016 - 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, August 8, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Westwood Professional Services**, requesting approval of 1) a Planned Development for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (Mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District. The property is shown on the enclosed sketch and is described as follows:

Being a 2.0128 acre tract of land situated in the D. Crumpacker Survey, Abstract No. 258, Dallas County, Texas, said tract being all of Lot 2RR and part of Lot 1RR, Block 1, Jupiter Road Apartments, an addition to the City of Garland, Texas according to the plat recorded in Volume 87026, Page 4129 of the Deed Records of Dallas County, Texas; said tract also being all of that certain tract of land described as Property No. 6 in Deed to Mohammed I Jetpuri and Farida Yasmin Jetpuri recorded in County Clerk's File No. 200900262023 of the Official Public Records of Dallas County, Texas. The subject property is located at 3341 W Campbell Road. (District 1)

Note: The applicant requests approval of a Planned Development, a Detail Plan and a Specific Use Provision for the development of two multi-story self-storage buildings containing 633 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to **City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002** or by fax to **972-205-2474**. Should you have any questions, please contact Isaac Williams at 972-205-2445.

(Please Check One Below)

☒ I am in favor of the request.
☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

(Please complete the following information)

Your Property Address

Printed Name Heather Hill Dr Garland, TX 75044
Address City, State Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature [Signature] Title Owner
Date: 8-3-16



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

That plot of land is much higher in elevation than our street, Heather Hill. That means a multi-story building could be seen above our house by our whole neighborhood. That property is right behind our house.

Your Property Address

3330

Printed Name

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Janet Miller

homeowner

Signature

Title

Date: *June 24, 2016*

Come Look!

**I just got this notice Wed, June 22.*

You need to give more notice to more people

Since it would be so tall. There's one

tiny Zoning Prop. Sign that can't be seen well.

**It's also higher than Big Springs Elen K-9 Univ. + everything around it!*

Allmendinger, Tracy

From: Janet Miller <mill3330@tx.rr.com>
Sent: Saturday, June 25, 2016 6:32 AM
To: Williams, Isaac
Cc: Janet Miller
Subject: Meeting June 27
Attachments: Storage Units Plan Commission June 2016.pdf

Mr. Williams,

I am sending this form (attached) that I just mailed in since there was not much notice. I just received the form in the mail on Wednesday (envelope says it was mailed by City of Garland on 6/20/16) and the form is due by meeting time on Monday, 27th. That's not enough notice, especially since it's summer vacation time. Also, I drove by and there's only one small sign facing Campbell that can not be seen by cars driving by. Also, there's only one sign on one side of the property in question. What about the other side next to Firestone? No sign there. How many people were mailed this notice? More people need to be notified since the storage units in questions would be so high. That property, especially the part near Firestone, is such a high elevation that a multi-level structure there could be seen by so many people in our neighborhood as well as the Spring Park South neighborhood. The base of the structure near Firestone would be higher than the roof at Big Springs Elementary!!!

Come to our alley and look.
Please see attachment.

So... more notices to more people, more time for citizens to respond, and more signs!

Long time Garland resident,
Janet Miller
3330 Heather Hill Dr.
972-414-1617



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Opposed to a 2 story building

(Please complete the following information)

Your Property Address

3322 Heather Hill Drive

Printed Name

GRACE SMART

Address

3322 Heather Hill Dr

City, State

Garland TX

Zip

75044

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date:

Grace & Smart

6/24/16

Title

Owner of property



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

CONGESTION + TRAFFIC WILL GREATLY INCREASE
PARKING IS INADEQUATE
(Please complete the following information)

Your Property Address

3402 HEATHER HILL

Printed Name

ROBERT MANSELL

GARLAND TX

75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Robert K Mansell

Homeowner

Signature

Title

Date: 6-25-16

JUN 27 2016 1:57



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

July 28, 2016

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below

See attached

(Please complete the following information)

Your Property Address

Randall S. + Cynthia Fletcher

Printed Name

3326 Heather Hill Dr. Garland TX

Address

City, State

75044

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Cynthia S. Fletcher

Signature

Date: 8-8-16

Homeowner

Title

8/8/16

Re: File: Z 16-17 Westwood Professional Services

Dear Planning Commission:

I am writing to voice my opposition and concerns on the request of Westwood Professional Services to construct a multi level self storage facility in the area along Campbell Road near Jupiter. I am opposed to the request and have concerns for several reasons.

1. My home is located directly behind the area labeled S 15-23 on the sketch. The area from Big Spring Elementary (3301) towards Jupiter Road is elevated compared to the residential homes located on Heather Hill Drive. As I look out my back door, the property labeled S 15-23 (or K-9 University) is 8 ft. or more higher than my property. Westwood Professional Services, aka Advantage Storage, is proposing building a 3 story complex on the property shown as 3353 and 3341. Taking into consideration this higher property elevation, this would be equivalent to a 4 story building behind my, and my neighbors' homes.
2. Noise concerns – Proposed exterior units face north and east. The homes on Heather Hill Drive will get all of the noise from the garage type doors, cars, doors slamming on the exterior units since our homes are on the north side of the proposed building.
3. Spring and summer of 2015 we had a record amount of rainfall and flooding to our neighborhood and Big Spring Elementary playground/schoolyard. We believe the addition of all the concrete and less area for drainage could potentially cause drainage and flooding issues for our neighborhood and school.
4. If I Google "self storage near me", there are 8 self storage sites within 5 miles of my address. Does northwest Garland/east Richardson really need another self storage facility? Are these 8 facilities so full that another one must be built to satisfy the demand?

Advantage Storage sent me a package showing their proposed facility. In it is a listing of some of their properties in the area. Of the 9 storage facilities, Advantage has chosen sites in areas developed for larger businesses and away from neighborhoods in Craig Ranch, McKinney, Frisco, Las Colinas, Parkwood. The facility in Allen adjoins a neighborhood, however the facility is one story with the exception of the building housing the offices and all garage type exterior doors face the opposite direction from the homes.

Please keep our neighborhood and surrounding neighborhoods just that, family neighborhoods. Please do not allow this tall building to be built in our community and in our

backyards. This is our neighborhood, our homes. This is not downtown or industrial/business areas where multi-story structures should be located. The businesses that are located along this stretch of Campbell Road and Jupiter are small community based one story structures. Firestone generates some noise, but it was there when I bought my home so I cannot complain about that. I am not opposed to people trying to do business, but please not at the expense of our homes. Would you want a 4 story building built in your neighborhood? Neither do I.

Please say "no". There are plenty more appropriate sites available for their business. If the Planning Commission feels it must consider their request, please place a requirement that it be kept to a single story structure.

Thank you,

Cynthia Fletcher
Homeowner
3326 Heather Hill Drive
Garland, TX 75044



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

I am opposed due to traffic, lower property values and higher crime area.

(Please complete the following information)

Your Property Address

Donna Elkins Reese

Printed Name

6306 Clear Creek Dr, Garland TX 75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Donna Elkins Reese

homeowner

Signature

Title

Date: 7/12/16



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

July 28, 2016

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

(Please complete the following information)

Your Property Address

Donna Elkins Reese

Printed Name

6306 Clear Creek Dr

Address

Garland TX

City, State

75044

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Donna Elkins Reese

Signature

Title

Date: 8/5/16



GARLAND

July 28, 2016

HEARING DATE/TIME Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.



☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Proposed use is too close to neighborhood elementary school and would tower over it.

Proposed use is inappropriate for this primarily residential area. A multi-story building for any purpose would be a blight on the neighborhood and will lower home values.

(Please complete the following information)

Your Property Address

Joseph Simeon May

Printed Name

6213 Clear Creek Dr

Garland TX

75044-3652

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature
Date

Joseph Simeon May
8-22-2016

Title

Homeowner

Why weren't we notified of the hearing being scheduled for Aug. 22?!



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

July 28, 2016

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 46-17

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, August 8, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Westwood Professional Services**, requesting approval of 1) a Planned Development for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (mini-warehouse), and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District. The property is shown on the enclosed sketch and is described as follows:

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Concerned with the value of my home going down along with traffic congestion.

(Please complete the following information)

Your Property Address

Printed Name

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date:

Title

Jennifer Ross
8-22-16

Home Owner



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Storage facilities traditionally bring down the value of nearby homes. West of Jupiter on Campbell is a Richardson welcome sign + plantings in the median. East of Jupiter on Campbell are 2 gas stations, a strip mall, and a storage facility. Two story buildings would make them the tallest + most noticed buildings around.

Propose Shiloh + Campbell (Please complete the following information)

Your Property Address

Chris + Jeanie Curto

Printed Name

6301 Clear Creek Dr

Garland, TX

75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Jeanie Curto

Signature

Title

Date:

6/22/16



GARLAND

July 28, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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Note: The applicant requests approval of a Planned Development, a Detail Plan and a Specific Use Provision for the development of two multi-story self-storage buildings containing 633 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to **City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474**. Should you have any questions, please contact Isaac Williams at 972-205-2445.

(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

The three story building on the elevated property will make the building stand out even more. Question the safety in proximity to school as well as integrity of retaining wall by school. Negative impact on entrance into Garland from Richardson on Campbell Rd.

Your Property Address

Jeanie + Chris Curto

Printed Name

6301 Clear Creek Dr

Garland, TX

75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Jeanie Curto

Home owner

Signature

Title

Date:

8/22/16



GARLAND

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, June 27, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Westwood Professional Services**, requesting approval of a Specific Use Provision for a Self-Storage Facility (mini-warehouse). The property is shown on the enclosed sketch and is described as follows:

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

We currently have excessive traffic in the morning + evenings. To avoid 1920 traffic morning and evening drivers travel East + West on Campbell Rd. This type of Commercial building is out of character of our neighborhood (2 story), plus we have a school just 100' from this building. Additional traffic as a result of 650 units is unacceptable.

(Please complete the following information)

Your Property Address

6210 Clear Creek Dr.

Printed Name

JOHN P. Schlenker

Garland, TX

75044

Address

6210 Clear Creek Dr.

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature
Date

6/26/16

Director NRB

Title

Father/Husband/Grandfather



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

This would bring too much traffic & latency to a residential area that is quiet.

(Please complete the following information)

Your Property Address

Tina Mootz

Printed Name

6302 Clear Creek Dr Garland

Address

City, State

75044

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Tina Mootz

Signature

Title

Date: *6-27-16*

Allmendinger, Tracy

From: Simeon May <simeon@thechurchnetwork.com>
Sent: Monday, June 27, 2016 11:36 AM
To: Williams, Isaac
Subject: File Z: 16-17
Attachments: Opposition to File Z 16-17.pdf

Importance: High

Mr. Williams, I have faxed you the attached letter, but thought I should email it as well.

What's the procedure for being able to speak before the Plan Commission tonight?

Thank you.

Joseph Simeon May
6213 Clear Creek Dr
Garland, TX 75044-3652



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

- ☐ I am in favor of the request.
- ☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

This area is primarily residential with some retail plus the neighborhood school. A multi-story building for any purpose would be a blight on the neighborhood and will lower home values.

(Please complete the following information)

Your Property Address

Joseph Simeon May

Printed Name

6213 Clear Creek Dr

Garland, TX 75044-3652

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date:

Joseph Simeon May
6-27-2016

Title

Homeowner

**GARLAND**

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

We do not want the storage buildings in our neighborhood.

There would be a negative impact on property values. It would increase traffic, coming in and out all hours of the day and night.

(Please complete the following information)

Your Property Address

6214 Clear Creek Drive - Shana and Chris Becker

Printed Name

Garland

Texas

75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Shana Becker

homeowner

Signature

Title

Date:

6/27/16

pg. 2

- * It would mean an increase in the number of large trucks in the area.
- * There is not a need for more self-storage in the area. There are several other facilities close by.
- * It is not appropriate for a residential area right next to a school.
- * Elementary school students are walking ~~pas~~ by this site to get to and from school and it would increase the traffic they face by 650 customers.
- * A large 2 story industrial Building(s) would be out of character for the area.
- * It would not provide additional jobs and provides limited benefit to the area.

Shana Becker

6214 Clear Creek Dr. Garland TX 75044



GARLAND

July 28, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☒ I am in favor of the request.

☐ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Applicant has said they will work with us to provide access to
our property.

(Please complete the following information)

Your Property Address

Greg Oppenheir - Big Spring Baptist Church

Printed Name

6538 N. Jupiter Rd

Address

Garland Tx

City, State

75046

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Gregory Oppenheir

Signature

Date: 8/8/16

Pastor

Title

Outside the Notification Area



A family, a home, a church...

BIG SPRINGS
BAPTIST CHURCH

June 20, 2016

Big Spring Baptist Church
6538 North Jupiter Road
Garland, Texas 75044

City of Garland
Planning and Community Development
Attention: Mr. Will Guerin, AICP, CNU-A, Director of Planning
800 Main Street
Garland, TX 75046

Re: Advantage Storage Proposed Development
Campbell Road, Garland Texas

Mr. Guerin,

I am the pastor of Big Spring Baptist Church located at 6538 North Jupiter Road, Garland, Texas. After reviewing Advantage's proposed development plans for their site located on the north side of Campbell Road west of Firestone Auto Care and east of Big Spring Elementary School, please accept this letter as our indication that we have no objection to their proposed use and encourage the Planning and Zoning Commission and City Council to approve their request.

Regards,

Greg Oppenhuis, Pastor

Big Springs Baptist Church

6538 N. Jupiter Rd. • Garland, Texas 75044

bigspringsbaptistchurch@gmail.com • 972-495-4575

www.bigspringsbc.org

816-17

Outside the Notification Area



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request. — **VERY OPPOSED !! TERRIBLE FOR RESIDENTS!**

Please include any comments you wish to provide supporting your position in the space provided below.

Too close to elementary school! The subdivisions on Campbell Rd will be greatly devalued. Please do not allow this to happen to your voters!

(Please complete the following information)

Your Property Address

Cheryl Dowling

Printed Name

6206 Clear Creek Dr. Garland, TX, 75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Cheryl Dowling

Signature

Title

Date:

6/27/2016

Storage facility should be in a industrial/ large business area such as Jupiter Rd. What an

Outside the Notification Area

August 22, 2016

City of Garland
Planning Department
P.O. Box 469002

ATTN: Isaac Williams

RE: Westwood Professional Services – File: Z 16-17

Dear Mr. Williams,

The purpose of this letter is to clearly articulate my opposition to the Self-Storage Facility proposal.
(Campbell at Jupiter)

The following outlines why:

- First and foremost is the safety of the children at Big Springs Elementary – they should not be subjected to what takes place at a self-storage facility.
- Crime / Theft – I have used self-storage for many years while in the catering business. My facility was broken into. The criminal element is not what is needed by a school.
- Hazardous Chemicals – I have driven by many units and seen unauthorized storage of many items. Even though against the policy, people still store un-authorized items. An out-of-control fire could easily spread to the school.
- Businesses operating out of storage units. Both legal and illegal.

Do we not have enough storage units just down the road on Shiloh? Are they not being expanded?

I have lived in my neighborhood 17 years in December. I would love to see development of the property that would enhance the neighborhood. A Self-Storage unit is definitely not what I have envisioned. How about a small business, a restaurant, a library?

Thank you for your consideration.

Sincerely,



Richard E. Wood
6117 Clear Creek Drive
Garland, TX 75044



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

I am concerned about the amount of car, and people, traffic this storage unit will bring right next to my child's school. Spring Park Area is primarily residential

(Please complete the following information)

Your Property Address

SHEILA EDDINGS

Printed Name

7014 CLEAR SPRINGS Pkwy

Address

GARLAND, TX

City, State

75044

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Sheila T Eddings

Signature

Title

Date: *6-27-16*

there are security concerns with a storage facility. we are adamantly opposed to this business bldg.

Outside the Notification Area



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: June 27, 2016 -- 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Once the development of the corner of 5th and Campbell occurs together with the multi-family on the 600s, Campbell at Clear Creek will be overrun.

Please include any comments you wish to provide supporting your position in the space provided below.

Mini storage facilities are not suitable for single family neighborhoods.

(Please complete the following information)

Your Property Address

Thomas P. Jackson

Printed Name

6102 Clear Creek St. Garland, TX 75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date:

Title

Outside the Notification Area

2016-06-27 21:20:00



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request. **THIS WILL DEVALUE OUR RESIDENTIAL PROPERTY**

Please include any comments you wish to provide supporting your position in the space provided below.

Already heavy traffic road on Campbell at this spot. Impossible to enter exit neighborhood at rush hour. Only one westbound entrance to our neighborhood.

Two Story Industrial occupancy inappropriate for area, proximity to grade school and small children

Your Property Address

6206 CLEAR CREEK, GARLAND, TX 75044

Printed Name

DONALL DOWLING

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Donall Dowling

Signature

Title

Date:

6/27/2016

*• THIS CHEAPENS THE TELECOM PARKWAY IN GARLAND
SMALL COMMERCIAL MORE APPROPRIATE. LOOK AT RICHARDSON
ACROSS JUPITER WITH MEDIAN LANDSCAPING ETC...*

Outside the Notification Area



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 - 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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Note: The applicant requests approval of a Specific Use Provision for the development of two multi-story self-storage buildings containing 850 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to **City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002** or by fax to **972-205-2474**. Should you have any questions, please contact Isaac Williams at 972-205-2445

(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

please do not allow this storage to be built. It's already hard to get out of our neighborhood.
 ② *campbell traffic is already heavy. it would be an eye sore.*
 ④ *Storage units are often targets of theft/crime.*

(Please complete the following information)

Your Property Address

Printed Name

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date:

Title

Outside the Notification Area



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME Plan Commission June 27, 2016 - 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, June 27, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Westwood Professional Services** requesting approval of a Specific Use Provision for a Self-Storage Facility (mini-warehouse). The property is shown on the enclosed sketch and is described as follows:

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Note: The applicant requests approval of a Specific Use Provision for the development of two multi-story self-storage buildings containing 650 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to **City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002** or by fax to 972-205-2474. Should you have any questions, please contact Isaac Williams at 972-205-2445.

(Please Check One Below)

- ☐ I am in favor of the request
☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

We live in the area and I work next door to this site. It will be an eyesore and there are plenty in the area.
(Please complete the following information)

Your Property Address

James Morris

Printed Name

3102 Castle Rock Ln Garland TX 75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date

6/27/16

Title



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

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(Please Check One Below)

☐ I am in favor of the request

☒ I am opposed to the request

Please include any comments you wish to provide supporting your position in the space provided below.

We live in this area and conduct business. There is no need for a storage facility here. This is surrounded by one family homes and there is no need for it.

(Please complete the following information)

Your Property Address

Stacy Morris

Printed Name

3102 Castle Rock Ln. Garland, Tx. 75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s)

Stacy Morris

Mrs.

Signature

Title

Date 6/27/2016

Outside the Notification Area



GARLAND

June 17, 2016

HEARING DATE/TIME: Plan Commission June 27, 2016 - 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Your Property Address

Andrew Carter

Printed Name

3417

Address

75044

2p

The above information is true and correct.

Signature

Date

Outside the Notification Area

Allmendinger, Tracy

From: Crystal Carel <crystalcarel@gmail.com>
Sent: Friday, June 24, 2016 8:53 PM
To: Williams, Isaac
Subject: Zoning change reply

Hi Mr. Williams,

I am a resident in the Creekbend addition. The neighborhood right behind where a proposed zoning change is being heard upcoming on Monday in which I was not informed by the city but on social media. We have a family with young children and loved moving to our neighborhood due to the privacy and ease to get to places we frequent. There is a zoning change for a possible storage facility by the K-9 university on Campbell. The location would be directly beside the elementary school. Already there are back up issues on Campbell during the school year. With adding a multi level storage facility, I would expect even more traffic and accidents. There are no other 2 level buildings on the road and this facility would stand out like an eye sore being multi level and right next to the school. We already have a Jiffy Lube moving in by the Kroger which will increase traffic and lower values - even though 1 block away there are 3 automotive shops and an automotive retail store. It seems like slowly we are building up the nice area we have near Jupiter/Shiloh & Campbell with places to get immediate money but not think about long term investment into the community and the lifestyle. This addition would greatly affect our home value and we will strongly consider moving to another location and out of Garland specifically due to the sprawl of the mega businesses. It would be lovely if the lot was to be used to have a mom/pop retail shop, coffee shop, daycare, or a restaurant and supporting Garland instead of an eye sore that will be multi level and be easily overlooking the school and playground daily. I am unhappy that the city did not reach out to all citizens in the 75044 or local social media sites to inform of a change. I have learned about it from a neighbor on social media and went to look at the sign myself which was hard to see. I strongly suggest you drive by the location to view how small of the space is and the surrounding area of the school, tire shop, and neighborhood it would back up to. This neighborhood is mostly made of up original homeowners who are aging and new families like ours who have small children. Without having notice we'll be unable to attend the hearing, but we would like you to hear our voice and vote for not allowing the zoning change.

Sincerely,
Crystal Carel and family
3437 Heather Hill Dr
Garland, TX 75044

Allmendinger, Tracy

From: David Grant <jdavegrant@gmail.com>
Sent: Monday, June 27, 2016 10:27 AM
To: Williams, Isaac
Subject: File Z 16-17
Attachments: a86475ca42121aa9663a1ae8e4f958ab.jpg.max800.jpg

Dear Isaac,

Regarding the application in the attached image for File Z 16-17. I would like you to know as a resident of the Camelot neighborhood and a parent of a child at Big Springs Elementary, I am opposed to building a large multi level storage facility next to the school. It will not only be an eye sore for the neighborhood, but for our kids while they are in school and using the fields and playgrounds.

Please deny this request or at the very least keep the building to a single story facility, with proper tree coverage lining the site to limit the view from the school.

Best Regards,
James Grant
2909 Spring Brook Dr
Garland, TX 75044

Outside the Notification Area

Allmendinger, Tracy

From: Kathy Warzyk <kwarzyk@gmail.com>
Sent: Monday, June 27, 2016 1:38 PM
To: Williams, Isaac
Subject: LIVE AT 5610 GALAXIE AND I AM OPPOSED TO ANOTHER STORAGE FACILITY NEAR CAMELOT ! THEY ARE ALL AROUND HERE. THANK YOU KATHY WARZYK

Outside the Notification Area

Allmendinger, Tracy

From: Cory Keist <themana@gmail.com>
Sent: Monday, June 27, 2016 4:21 PM
To: Williams, Isaac
Subject: Westwood Professional Services Application
Attachments: Storage_Facility_Vote.pdf

As a Resident who lives in the neighborhood directly south of the proposed change I was surprised I was not notified of the vote on the provision. I did not hear about it until the afternoon of the hearing from a concerned neighbor. I cannot attend the meeting this evening but wanted to voice my strong opposition to this provision. Attached is the letter with my opposition and signature.

Thank you for your time,

Cory Keist
5718 Townshire Rd
Garland, Tx 75044



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

I am opposed to this zoning due to the out of place nature of the new build and the increase of an already busy traffic area.
(Please complete the following information)

Your Property Address

6100 Clear Creek Dr

Printed Name

Deana Jullie

Garland TX

75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Deana Jullie

Signature

Title

Date: *6-27-16*

Outside the Notification Area



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

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(Please Check One Below)

- ☐ I am in favor of the request.
- ☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Traffic It is almost impossible for us to get out of
our neighborhood now, We would be able to at all with this.
There is a elementary school right next door to this land. This could not
 (Please complete the following information) be safe!!!

Your Property Address

Hope Logan

Printed Name

6114 Clear Creek Dr Garland TX 75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Hope Logan

Signature

Title

Date: 6-27-16

Outside the Notification Area



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

HEARING DATE/TIME: Plan Commission: June 27, 2016 – 7:00 PM

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

1. Traffic on this corner is already terrible in the mornings. 2. There is no other 2 story or multi-story retail on this corner. 3. The location next to the school seems poorly thought out. 4. Such a development does not fit the character of our neighborhood.

(Please complete the following information)

Your Property Address

Levi J Concoran

Printed Name

6134 Clear Creek Dr

Address

Garland, TX

City, State

75044

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date:

June 27, 2016

owner
Title

Outside the Notification Area

**GARLAND**

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

HEARING DATE/TIME: Plan Commission: June 27, 2016 -- 7:00 PM

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(Please Check One Below)

☐ I am in favor of the request.☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

I don't feel a storage unit next to an elementary school would be a good environment for children walking to school.

(Please complete the following information)

Your Property Address

Tim Neal

Printed Name

6118 Clear Creek Dr. Garland

Address

City, State

75044

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Tim Neal

Signature

Title

Date: June 27, 2016

Outside the Notification Area

Allmendinger, Tracy

From: Stacy Blanchard <Stacy.Blanchard@Yardi.Com>
Sent: Monday, June 27, 2016 2:13 PM
To: Williams, Isaac
Subject: Garland Notive/Letter for Multi-Storage Buildings on Campbell - Hearing tonight
Attachments: doc16242720160627125743.pdf

Hello there,

I wanted to fax this to you since I can't make the meeting.

Please take our comments into consideration.

Thanks,
Stacy Blanchard
214-914-2664
6101 Hidden Springs Ln
Garland, TX 75044

Stacy Blanchard | Senior Account Executive, Multifamily Clients, Central United States
toll free 800.390.7625 x 4866 | local 972.419.4866
stacy.blanchard@yardi.com | www.yardi.com

Outside the Notification Area



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

please do not allow this storage to be built. It's already hard to get out of our neighborhood.
 ② traffic is already heavy - it would be an eye sore -
 ④ storage units are often targets of theft/crime.

(Please complete the following information)

Your Property Address

Printed Name

6001 Hidden Springs Ln Garland TX 75044

Address

City, State

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date:

Title

Stacy Blanchard
6-27-16

homeowner

Outside the Notification Area

Allmendinger, Tracy

From: Greg Wakefield <greg@wiscontrol.com>
Sent: Monday, June 27, 2016 4:48 PM
To: Williams, Isaac
Subject: Plan Commission Opposition form.
Attachments: G Wakefield 6618 Lake Shore Dr.pdf

Dear Sirs,

Please see attached.

Best regards,

Greg Wakefield

Wakefield Inspection Services, Inc.
800 E. Campbell Rd Suite 337
Richardson, TX 75081
Tel: 972-690-9015
Fax: 972-690-7042
Skype: wiscotton

The content of this message and attached file (where relevant) are confidential and/or privileged and are for the intended recipient only. If you are not the intended recipient, any unauthorised review, use, re-transmission, dissemination, copying, disclosure or other use of, or taking of any action in reliance upon this information is strictly prohibited. If you receive this message in error please contact the sender immediately and then delete this e-mail from your system. Any attachment with this message should be checked for viruses before it is opened. Wakefield Inspection Services cannot be held responsible for any failure by the recipient to test for viruses before opening any attachments.

Outside the Notification Area



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

June 17, 2016

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Placing a storage facility next to a Elementry school would place hundreds of

~~Children in certain danger and in my opinion would be incredibly unacceptable.~~

(Please complete the following information)

Your Property Address **6618 Lake Shore Dr, Garland TX 75044**

Printed Name **Greg Wakefield**

Address City, State Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Greg Wakefield President

Signature Date: **6/27/16** Title

Outside the Notification Area



GARLAND

June 17, 2016

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below:

This facility will be extremely close to an elementary school with 650 somewhat transient people moving in.

Your Property Address

Printed Name

Address

City, State

Zip

The above statement reflects my (our) opinion regarding the proposed request(s).

Signature

Date

Title

I am
Strongly
Opposed!

Outside the Notification Area

d3ghdtgvse7ejc.cloudfront.net



GARLAND

June 17, 2016

HEARING DATE/TIME Plan Commission, June 27, 2016 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, June 27, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Westwood Professional Services** requesting approval of a Specific Use Provision for a Self-Storage Facility (mini-waterhouse). The property is shown on the enclosed sketch and is described as follows:

Being a 2.0128 acre tract of land situated in the D. Crumpacker Survey, Abstract No. 256, Dallas County, Texas, said tract being all of Lot 2HR and part of Lot 1HR, Block 1, Jupiter Road Apartments, an addition to the City of Garland, Texas according to the plat recorded in Volume 87028, Page 4129 of the Deed Records of Dallas County, Texas, said tract also being all of that certain tract of land described as Property No. 6 in Deed to Mohammed I. Jelpuri and Farida Yasmin Jelpuri recorded in County Clerk's File No. 200602262023 of the Official Public Records of Dallas County, Texas. The subject property is located at 3341 W Campbell Road (District 1).

Note: The applicant requests approval of a Specific Use Provision for the development of two multi-story self-storage buildings containing 650 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below listed section and return to **City of Garland, Planning Department, P.O. Box 468002, Garland, TX 75046-8002** or by fax to 972-206-2474. Should you have any questions, please contact Isaac Williams at 972-206-2445.

(Please Check One Below)

☐ I am in favor of the request.☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

Too close to elementary school!

(Please complete the following information)

Your Property Address

3446 Heather Hill Dr Garland TX 75044

Printed Name

Cathy A. Lassiter

Address

City/State

Zip

The above statement(s) reflect my own opinion regarding the proposed request(s).

Cathy A. Lassiter

Homeowner

Signature

Title

Date

6/29/2016



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

July 28, 2016

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

Dear Property Owner:

A public hearing will be held by the Plan Commission of the City of Garland, Texas, at 7:00 P.M. Monday, August 8, 2016, in the Goldie Locke Room of the Duckworth Utility Services Building, 217 North Fifth Street, to consider the application of **Westwood Professional Services**, requesting approval of 1) a Planned Development for Community Retail Uses, 2) a Detail Plan for a Self-Storage Facility (Mini-warehouse) and 3) a Specific Use Provision for a Self-Storage Facility (mini-warehouse) on property zoned Community Retail (CR) District. The property is shown on the enclosed sketch and is described as follows:

Being a 2.0128 acre tract of land situated in the D. Crumpacker Survey, Abstract No. 258, Dallas County, Texas; said tract being all of Lot 2RR and part of Lot 1RR, Block 1, Jupiter Road Apartments, an addition to the City of Garland, Texas according to the plat recorded in Volume 87026, Page 4129 of the Deed Records of Dallas County, Texas; said tract also being all of that certain tract of land described as Property No. 6 in Deed to Mohammed I Jetpuri and Farida Yasmin Jetpuri recorded in County Clerk's File No. 200900262023 of the Official Public Records of Dallas County, Texas. The subject property is located at 3341 W Campbell Road. (District 1)

Note: The applicant requests approval of a Planned Development, a Detail Plan and a Specific Use Provision for the development of two multi-story self-storage buildings containing 633 units.

To convey any concerns or opinions regarding the aforementioned request, please complete the below-listed section and return to City of Garland, Planning Department, P.O. Box 469002, Garland, TX 75046-9002 or by fax to 972-205-2474. Should you have any questions, please contact Isaac Williams at 972-205-2445.

(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

- SAFETY OF CHILDREN AT SCHOOL
- CRIME / THEFT - / HAZARDOUS CHEMICALS
- BUSINESS BEING RUN OUT OF STORAGE

(Please complete the following information)

Your Property Address

6117 CLEAR CREEK DRIVE

Printed Name

GARLAND TX

Address

City, State

75044

Zip

The above statements reflect my (our) opinion regarding the proposed request(s).

Richard E Wood

Signature

Date: 8/22/16

Title

Outside the Notification Area



GARLAND

CITY OF GARLAND
PLANNING DEPARTMENT
P.O. BOX 469002
GARLAND, TX 75046-9002

July 28, 2016

HEARING DATE/TIME: Plan Commission: August 8, 2016 – 7:00 PM

APPLICANT: Westwood Professional Services

File: Z 16-17

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(Please Check One Below)

☐ I am in favor of the request.

☒ I am opposed to the request.

Please include any comments you wish to provide supporting your position in the space provided below.

(Please complete the following information)

Your Property Address

6129 Clear Creek Dr

Printed Name

MURAD ABDULREHMAN

Address

6129 CLEAR CREEK DR

City, State

GARLAND, TX

Zip

75044

The above statements reflect my (our) opinion regarding the proposed request(s).

Signature

Date:

MURAD

8/22/2016

Title

Allmendinger, Tracy

From: Dianna Lawrence <Dianna.Lawrence@questcare.net>
Sent: Monday, June 27, 2016 3:43 PM
To: Williams, Isaac
Subject: File Z 16-17 Opposition
Attachments: Scan0016.pdf

Please vote NO!

Dianna Lawrence

Allmendinger, Tracy

From: jblgarland <jblgarland@aol.com>
Sent: Monday, June 27, 2016 5:32 PM
To: Williams, Isaac
Subject: File z 16-17

I am opposed to the planned multi level storage facility next to Big Springs Elementary school. Pleas vote no tonight.

Powered by Cricket Wireless

Allmendinger, Tracy

From: dave.miller@longwaveinc.com
Sent: Monday, June 27, 2016 6:54 AM
To: Williams, Isaac
Subject: 27 June Plan Commission Meeting re Westwood Professional Services Self-Storage Facility

I live in the Creekbend neighborhood directly behind where the Westwood Professional Services Self-Storage Facility is being considered.

I want you to know that I am violently opposed to authorization of this facility.

This proposed building would be both an eye sore and a danger to the area.

Individuals who use the facility would have access to the comings and goings of not only the Creekbend neighborhood, but Big Springs Elementary school as well.

I feel certain the planning commission would not want to put children who attend Big Springs in harm's way.

Dave Miller

Allmendinger, Tracy

From: Pat Brassfield <brassfield_1@icloud.com>
Sent: Saturday, June 25, 2016 8:39 AM
To: Williams, Isaac
Subject: Zoning for storage building

I live in the neighborhood just north of this property and strongly oppose the building. Pat Brassfield

Sent from my iPhone



Proposed Garland Storage Facility
3341 West Campbell Road

ADVANTAGE STORAGE

ADVANTAGE SELF STORAGE, INC.

- Local Storage Developer and Operator Since 1996
- Advantage Develops, Constructs and Operates each of their facilities
- 30 New Storage Developments in DFW
- Focus on Highest Quality Developments in very restrictive locations
- Currently own and manage 30 facilities comprised of 16,000 units and 2,000,000 NRSF



1980



2016



Advantage Storage – Parkwood Blvd., the shops at Legacy, Plano

LOCATION

ADVANTAGE
STORAGE



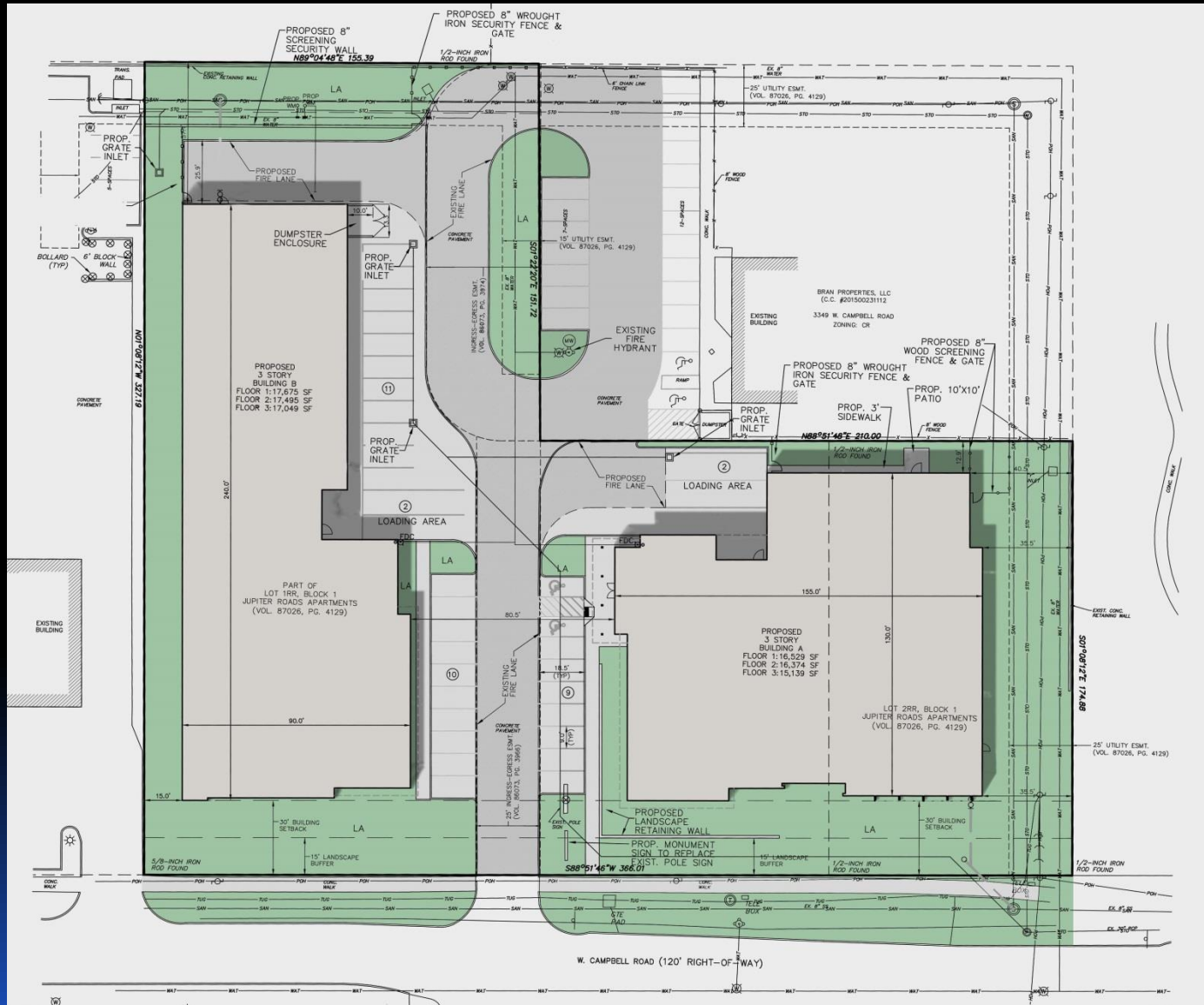
SITE

ADVANTAGE
STORAGE

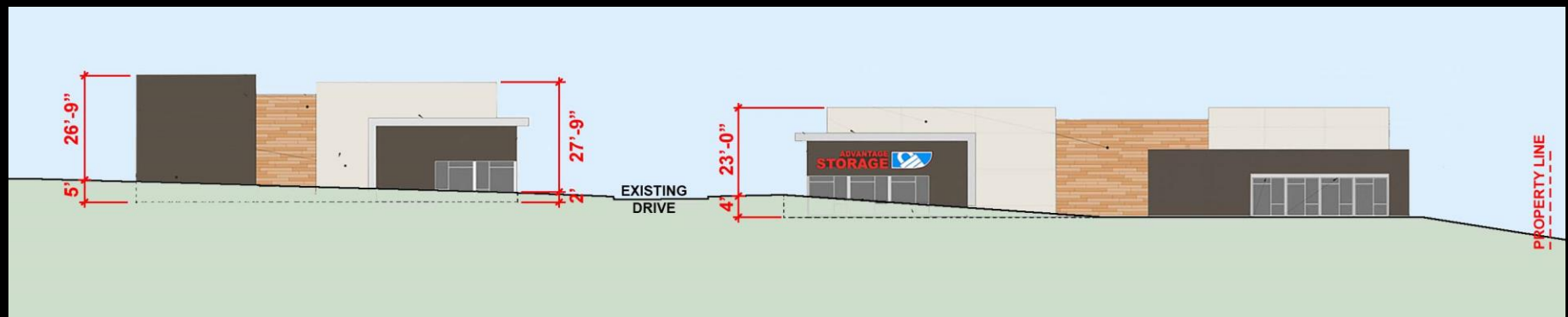


SITE

ADVANTAGE
STORAGE



BUILDING HEIGHT & STREET ELEVATION



CAMPBELL ROAD STREET ELEVATION

ARCHITECTURE

ADVANTAGE
STORAGE



PROPOSED FACILITY

- **State-of-the-art facility**
- **Enclosed storage within two, two-level buildings**
- **All loading from rear facing loading areas**

3 Stories

100,260 Gross SF

76,400 Net Rentable SF

620 Units

2 Stories

74,525 Gross SF

57,975 Net Rentable SF

490 Units

EXISTING CR ZONING

Provides for the following uses by right

- Transit Station / Bus Stop
- Parking / Multi-level garage
- Veterinary / Small Animal Clinic
- Auto Leasing
- **Automobile Repair (minor)**
- **Tire Store**
- Equipment Leasing/Rental
- Laundry / Cleaners with drive through
- Office, General
- **Office, Medical / Dental**
- Pet Store / Supplies
- Pharmacy
- **Convenience Store**
- **Retail Store**
- **Restaurant(s)**
- Landscape Nursery
- Hotel / Motel
- Home Improvement Center
- Hardware Store
- Grocery Store
- Furniture Store
- Financial Institution / Bank
- Call Center
- Retail Bakery
- Post Office
- School
- Day Care
- Church
- Commercial Amusement (indoor)
- Civic Club / Fraternal Lodge
- Indoor Athletics Event Facility
- **Health / Fitness Club**
- Theater (small scale)

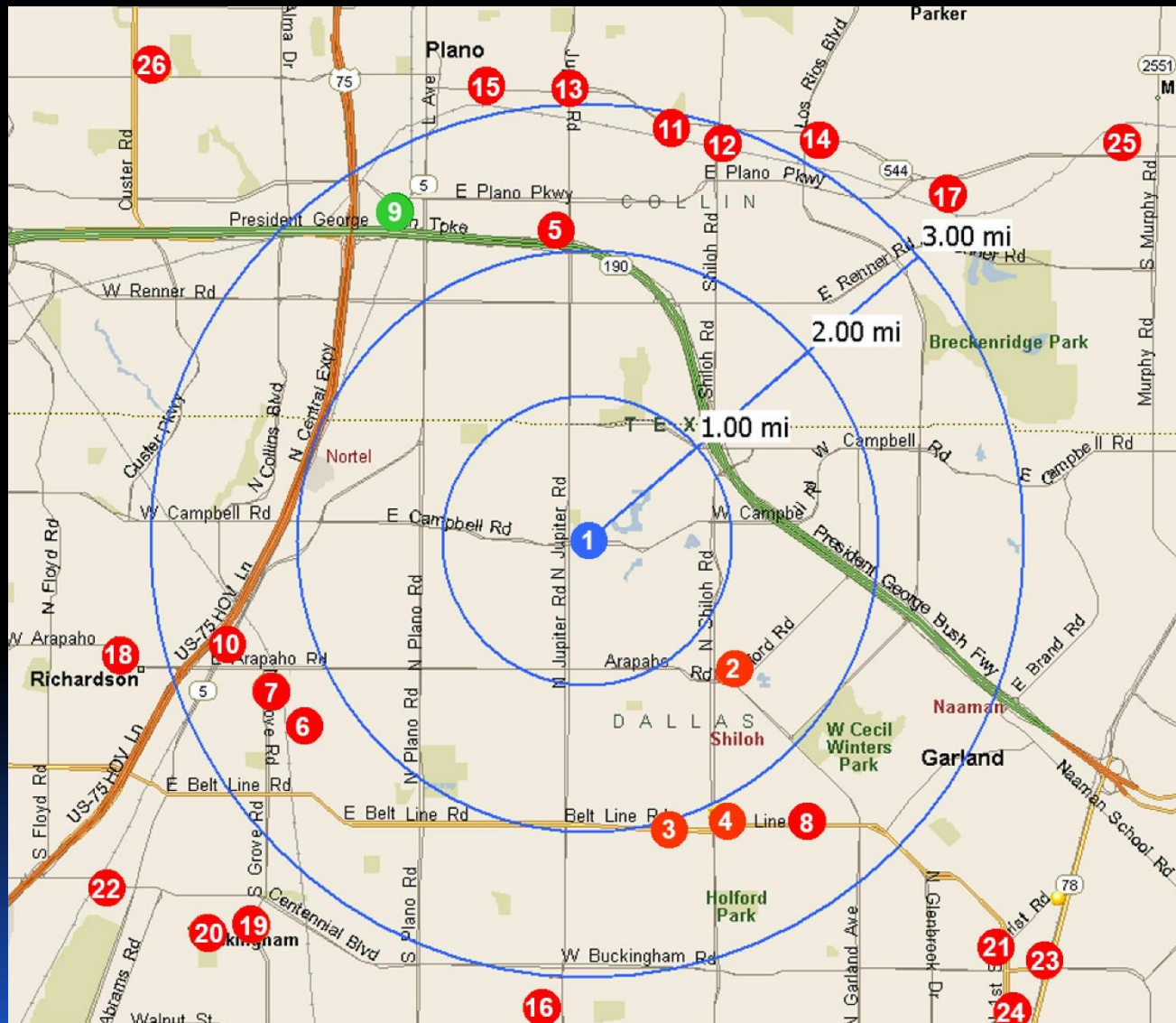
PROPOSED USE



- **Storage is a needed neighborhood service to support community residents**
- **High quality architecture consistent with CR commercial district standards**
- **Storage produces very low traffic (approx. 50 cars per day)**
- **Approval is specific to proposed facility, site plan and building architecture.**

EXISTING STORAGE SUPPLY

ADVANTAGE
STORAGE



DEMAND vs. SUPPLY



SELF STORAGE SUPPLY / DEMAND EVALUATION SQUARE FOOT PER CAPITA

OVERALL PROJECT DATA			
	Mark	Dist	Total
Proposed Advantage Storage	1		57,975 SF
Cube Smart	2	1.3	72,400 SF
Extra Space	3	2.1	68,500 SF
Uncle Bobs	4	2.1	74,000 SF
Securlock	5	2.1	76,800 SF
Wee Willie Storage	6	2.4	22,500 SF
A Mini Storage	7	2.4	34,400 SF
All American Storage	8	2.5	20,000 SF
Entitled Land for Storage (Shawn Valk)	9	2.7	100,000 SF
Public Storage (including remote site)	10	2.7	71,900 SF
AAA Public Storage	11	2.9	65,000 SF
In Self Storage (Formerly Assured)	12	2.9	34,400 SF
Public Storage	13	2.9	62,000 SF
Uhaul	14	3.1	60,000 SF
Alden Storage	15	3.1	50,000 SF
A1 Absolute Storage	16	3.2	72,400 SF
Extra Space (Formerly Assured)	17	3.4	68,400 SF
Metro Plex Storage	18	3.4	48,800 SF
Public Storage	19	3.4	62,500 SF
Life Storage	20	3.5	68,700 SF
U-Stor	21	4.0	50,000 SF
Uncle Bobs	22	4.1	70,000 SF
Public Storage	23	4.2	62,000 SF
Cube Smart	24	4.3	68,000 SF
Store More	25	4.6	84,200 SF
Security Storage	26	4.6	72,800 SF
Total SF Storage			1,597,675 SF

SELF STORAGE SUPPLY / DEMAND :

Estimated Population
Applicable Storage Supply (Including Proposed Subject)
Rentable Square Feet Per Capita
Storage Demand
Storage Demand per Dallas Average (7.71 SF per capita)
Indicated Excess Demand (Demand - Supply)
Calculated Static Occupancy (Demand / Supply)

PORTION APPLICABLE	PORTION APPLICABLE	PORTION APPLICABLE
1-Mile Radius Market Area	2-Mile Radius Market Area	3-Mile Radius Market Area
100% 57,975 SF	100% 57,975 SF 100% 72,400 SF	100% 57,975 SF 100% 72,400 SF 100% 68,500 SF 100% 74,000 SF 100% 76,800 SF 100% 22,500 SF 100% 34,400 SF 100% 20,000 SF 100% 100,000 SF 100% 71,900 SF 100% 65,000 SF 100% 34,400 SF 100% 62,000 SF
57,975 SF	130,375 SF	759,875 SF
13,454	41,241	95,798
57,975 SF	130,375 SF	759,875 SF
4.3 SF	3.2 SF	7.9 SF
103,731 SF	317,970 SF	738,602 SF
45,756 SF	187,595 SF	(21,273) SF
179%	244%	97%

PLANNED DEVELOPMENT DISTRICT REQUEST ADDITIONAL CONDITIONS

- **Limit hours of operation from 6am to 10pm**
- **Prohibit outside storage of any kind**
- **Prohibit commercial truck rental**
- **A multi-tenant monument sign conforming to GDC will replace existing pole sign for K-9 University**
- **By subsequent plat, Advantage will provide cross access to church**
- **No controlled access gate required as per GDC guidelines**
- **No resident managers required as per GDC guidelines**

CONTROLLED ACCESS GATE

- 1. Is impossible in this instance because it would limit access to an existing business via mutual access drive**
- 2. Is commonly not used on urban, multi-story facilities**

EXAMPLES:



Advantage Storage
6720 Parkwood, Plano, Texas



No access gate

EXAMPLES:



Advantage Storage
6500 West Plano Parkway, Plano, Texas

No access gate

EXAMPLES:



Advantage Storage
10410 Northwest Hwy, Dallas, Texas



No access gate

EXAMPLES:



Cube Smart Storage
6831 W. Northwest Hwy, Dallas, Texas



No access gate

EXAMPLES:



Extra Space Storage
5701 Northwest Hwy, Dallas, Texas



No access gate

RESIDENT MANAGERS

- Industry has moved away from resident managers
- National Storage Operators do not provide residences on new developments
- Advantage employs resident manager on only 6 of 28 facilities they currently operate

Why?

- Security benefit antiquated by technology
- Very competitive industry demands talented, sales oriented management
- Resident requirement severely limits number of management prospects and greatly reduces quality of personnel

ADVANTAGE PROMISED:



Legacy Drive and Warren Parkway
Stonebriar, Frisco, Texas

ADVANTAGE DELIVERED:



Legacy Drive and Warren Parkway
Stonebriar, Frisco, Texas

ADVANTAGE PROMISED:



State Highway 121 at Craig Ranch
McKinney, Texas

ADVANTAGE DELIVERED:



State Highway 121 at Craig Ranch
McKinney, Texas

ADVANTAGE PROMISED:



NORTHWEST HIGHWAY (NORTH) ELEVATION CONCEPT

10410 Northwest Hwy
Dallas, Texas

ADVANTAGE DELIVERED:



10410 Northwest Hwy
Dallas, Texas

Thank You





GARLAND POLICY REPORT

City Council Regular Session Agenda

Agenda Item 10.

Meeting Date: November 15, 2016

Item Title: Roadway and Water Impact Fees

Submitted By: Will Guerin, Planning Director

Council Goal: Sustainable Quality Development and Redevelopment

ISSUE

Public hearing to consider approval of Land Use Assumptions, Roadway and Water Impact Fee Capital Improvement Plan, and a Maximum Roadway and Water Impact Fee.

OPTIONS

In addition to reviewing the land use assumptions and Capital Improvement Plan that staff will present, the City Council may choose to adopt a new water and roadway impact fee amount.

Regarding the water impact fee, staff suggests that the Council consider the maximum proposed water impact fee per the study which is \$593 per service unit (5/8" meter equivalent) and would generally remain on the lower end of water impact fee rates in comparison to other cities within the region, or 50% of the proposed maximum rate which is \$296.50. The current water impact fee for a 5/8" meter size is \$25.

Currently, there are eighteen (18) Roadway Impact Fee Services Areas from the previous Roadway Impact Fee Study. Based on changes in state law the 2016 Roadway Impact Fee Study is recommending four (4) service areas. Staff suggests setting a consistent roadway impact fee citywide. For example, for a new single-family house, 50% of the maximum of Service Area A, which is the lowest fee amount of the four proposed service areas, would equate to \$2,528. In four of the existing service areas the current maximum roadway impact fee for a single-family residence is \$1,995. Further information regarding fee options can be found in Consideration 4 below. Staff suggests the following options regarding the roadway impact fee for the Council to consider:

1. Set the maximum proposed roadway impact fee per the impact fee study.
2. Set a 25% increase of current rates.
3. Set 50% of maximum proposed fee for Residential, 25% of maximum fee for Non-Residential.
4. Set 60% of maximum proposed fee for Residential, 15% for Industrial, 45% for Other Non-Residential.
5. Set 50% of maximum proposed fee for Residential, 10% for Industrial, 35% for Other Non-Residential.

BACKGROUND

The City of Garland interviewed and selected Kimley-Horn Associates for a study on the City of Garland's roadway and water impact fees. Section 395.052 of the Texas Local Government Code mandates periodic updates to the land use assumptions and capital improvements plan for a political subdivision imposing an impact fee.

During the October 3, 2016 City Council meeting, the Council set the public hearing for November 15, 2016 to review and consider the land use assumptions, roadway and water impact fee Capital Improvement Plan, and a maximum roadway and water impact fee. The final approval, however, will be considered at the December 6, 2016 regular Council meeting when a draft impact fee ordinance is brought forward—should the Council proceed.

CONSIDERATION

1. Impact fees are a one-time fee assessed to recover infrastructure costs required to serve new development. The City of Garland currently assesses impact fees for roadways and water. The purpose of this impact fee study is, per the Texas Local Government Code, to provide an analysis which formulates land use assumptions from which to base any needed impact fee changes, and to recommend a maximum water and roadway impact fee to the Capital Improvements Advisory Committee (CIAC) and the City Council.
2. Chapter 395 of the Texas Local Government Code requires a Capital Improvements Advisory Committee (CIAC) be appointed to provide comments on proposed amendments to the impact fees, land use assumptions and capital improvements plan upon which calculation of the impact fee is based. Per the current impact fee ordinance, the Plan Commission serves as the Capital Improvements Advisory Committee (CIAC). It is common for municipalities to appoint their Planning Commissions as the acting CIAC.
3. The CIAC has reviewed the impact fee study. While there is no formal recommendation from the Committee, comments can be reviewed by viewing the October 24, 2016 Plan Commission meeting video on the City of Garland website. To summarize, however, the Committee unanimously voted to pass along the study for Council consideration. One comment included concern about pursuing a blanket city-wide fee that may not be appropriate in certain areas needing redevelopment, and possibly to consider incentives for certain areas such as downtown. Another comment was that an appropriate balance is needed in the fee structure in order to stay competitive and avoid an overly high rate. Committee comments have also been recorded in the meeting minutes.
4. The below table lists how some of the fee options compare with one another as well as with the current rates. Further information can be found in the attached presentation slides and study.

Land Use	Current Rates	25% Increase of Current Rates	50% Residential 25% Non-Res	50% Residential 10% Industrial 35% Other Non-Res Slight Decrease of Current Rate	60% Residential 15% Industrial 45% Other Non-Res Slight Increase of Current Rate
Single Family	\$1,995	\$2,493.75	\$2,528	\$2,528	\$3,034
Industrial (100,000 sq.ft)	\$74,200	\$95,750	\$150,156	\$60,062	\$90,093
Retail (10,000 sq. ft)	\$27,860	\$34,825	\$17,689	\$24,778	\$31,857

5. The final impact fee ordinance adoption will be considered at the December 6, 2016 regular meeting.

Attachments

Kimley-Horn Associates Presentation
Roadway Impact Fee Study Final Draft
Water Impact Fee Study Final Draft



GARLAND

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Roadway and Water

Impact Fee Overview

Pete Kelly; Anthony Samarripas

Council Meeting

November 15, 2016

Kimley»Horn

Overview

- Where are we?
- Impact Fee Basics
- Service Areas
- Maximum Fee Results
- Comparisons
- Collection Options
- Advisory Committee Comments
- Today's Actions



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Where are we?

- Establish Council/Advisory Committee (CIAC)
 - Workshop Advisory Meeting
 - Draft Impact Fee Report – August 2016
 - Final Impact Fee Report – September 2016
 - Set Public Hearing
 - Advertise Public Hearing
 - Advisory Committee Meeting for Comments
 - Council Public Hearing
 - Public Comments
 - Ordinance Adoption
- October 2016
- November 2016
- December 6th

You Are Here



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Impact Fee Basics

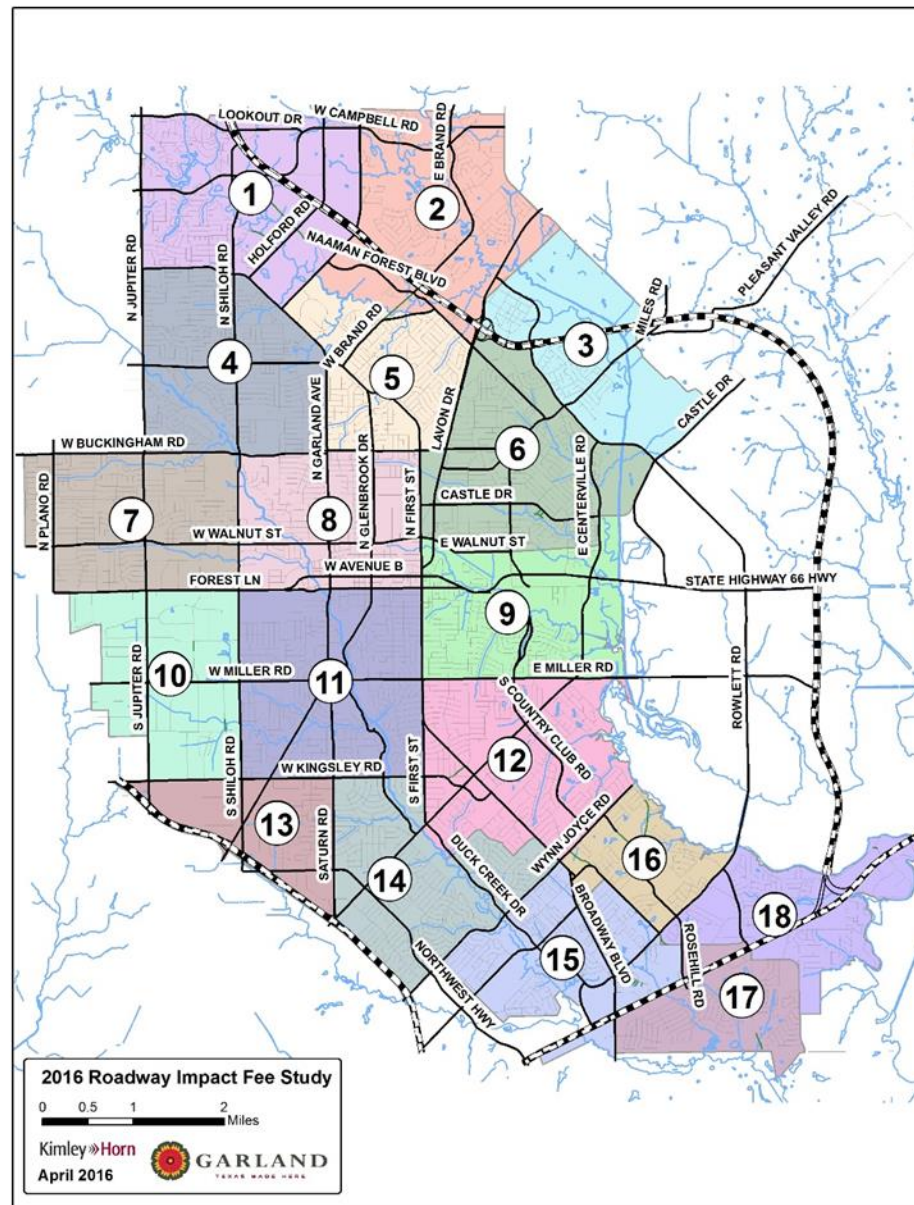
- What Are They?
 - **One-time** fee assessed to recover infrastructure costs required to serve **new development**
 - Governed by Chapter 395 of the Texas LGC
- Why impact fees?
 - Provides an additional funding tool for infrastructure systems
 - Adds flexibility in allocating where funds are used



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Existing Roadway Service Areas



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2016 Roadway Impact Fee Study

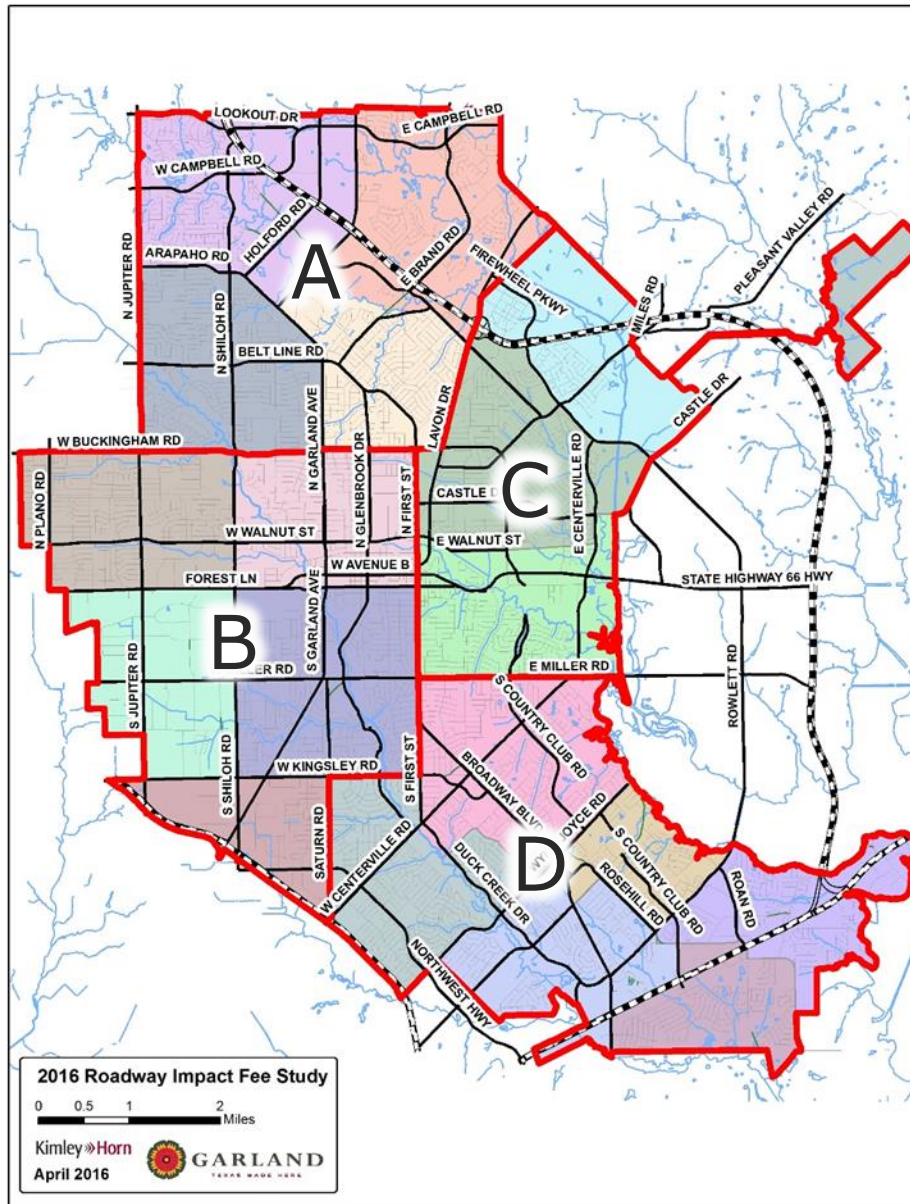
0 0.5 1 2 Miles

Kimley  Horn

April 2016

 GARLAND

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Kimley»»Horn

Water Service Area



GAR
TEXAS

Kimley»Horn

Maximum Fee Results

- Why Calculate the “Maximum Assessable” Impact Fee?
 - Engineer Provides Maximum Allowable
 - Credit Calculation Discounts Maximum Allowable
 - City Council Establishes Actual
- Once the Impact Fee is Calculated, Can It Be Charged Immediately?
 - Procedures (Chapter 395, Subchapter C)



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Roadway Maximum Impact Fee Results

Determine the max assessable fee per service unit

$$\text{Impact Fee Per Service Unit} = \frac{\text{Recoverable Cost of the CIP (\$)}}{\text{New Service Units}}$$

Service Area	A	B	C	D
10-Year Cost	\$32,090,045	\$24,781,968	\$28,927,845	\$21,141,890
Credit for Ad Valorem Taxes (from Chapter 395)	\$(269,345)	\$(77,232)	\$(85,047)	\$(88,284)
Recoverable Cost of CIP	\$31,820,700	\$24,704,735	\$28,842,799	\$21,053,606
Vehicle-Miles	30,833	11,872	10,840	14,170
Max Impact Fee per Service Unit	\$1,032 per Veh-Mi	\$2,081 per Veh-Mi	\$2,661 per Veh-Mi	\$1,486 per Veh-Mi

Water Impact Fee Update Based on Staff Comments

- Adjustment of existing vs proposed projects
- Finalized interest rate to be used for debt
- Included project inadvertently left of previous list



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Water Maximum Impact Fee Results

Determine the max assessable fee per service unit

Impact Fee Per Service Unit = $\frac{\text{Recoverable Cost of the CIP (\$)}}{\text{New Service Units}}$	
Service Area	City Limits
10-Year Cost	\$3,883,452
Percent of Fee Recoverable (from Chapter 395)	50%
Recoverable Cost of CIP	\$1,941,726
New Service Units (GPD)	3,270
Max Impact Fee per Service Unit (5/8" x 3/4" meter)	\$593

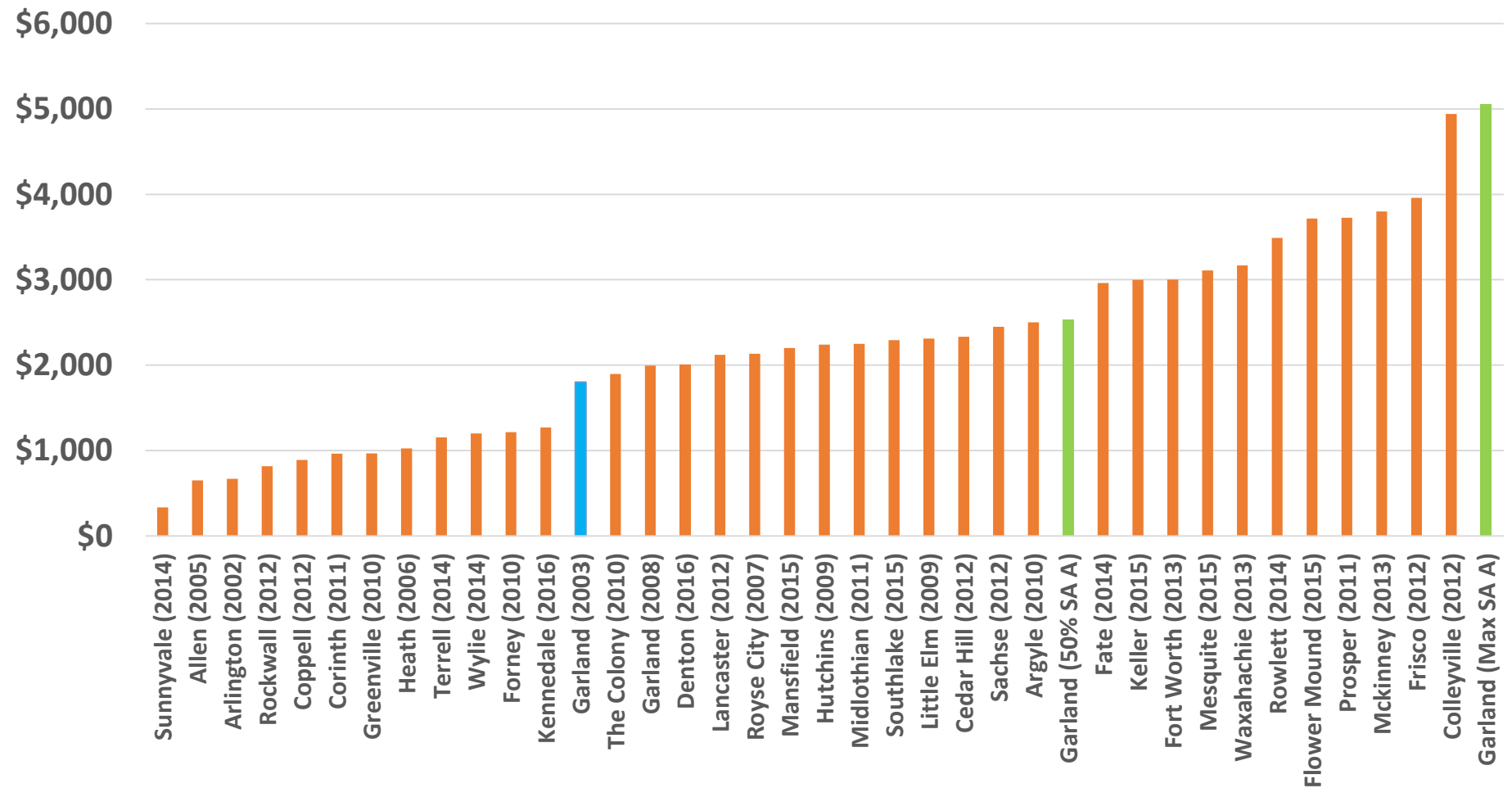


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Comparison to other DFW Cities

Roadway Impact Fees Comparison - Single Family



Note: the City of Plano does not have impact fees

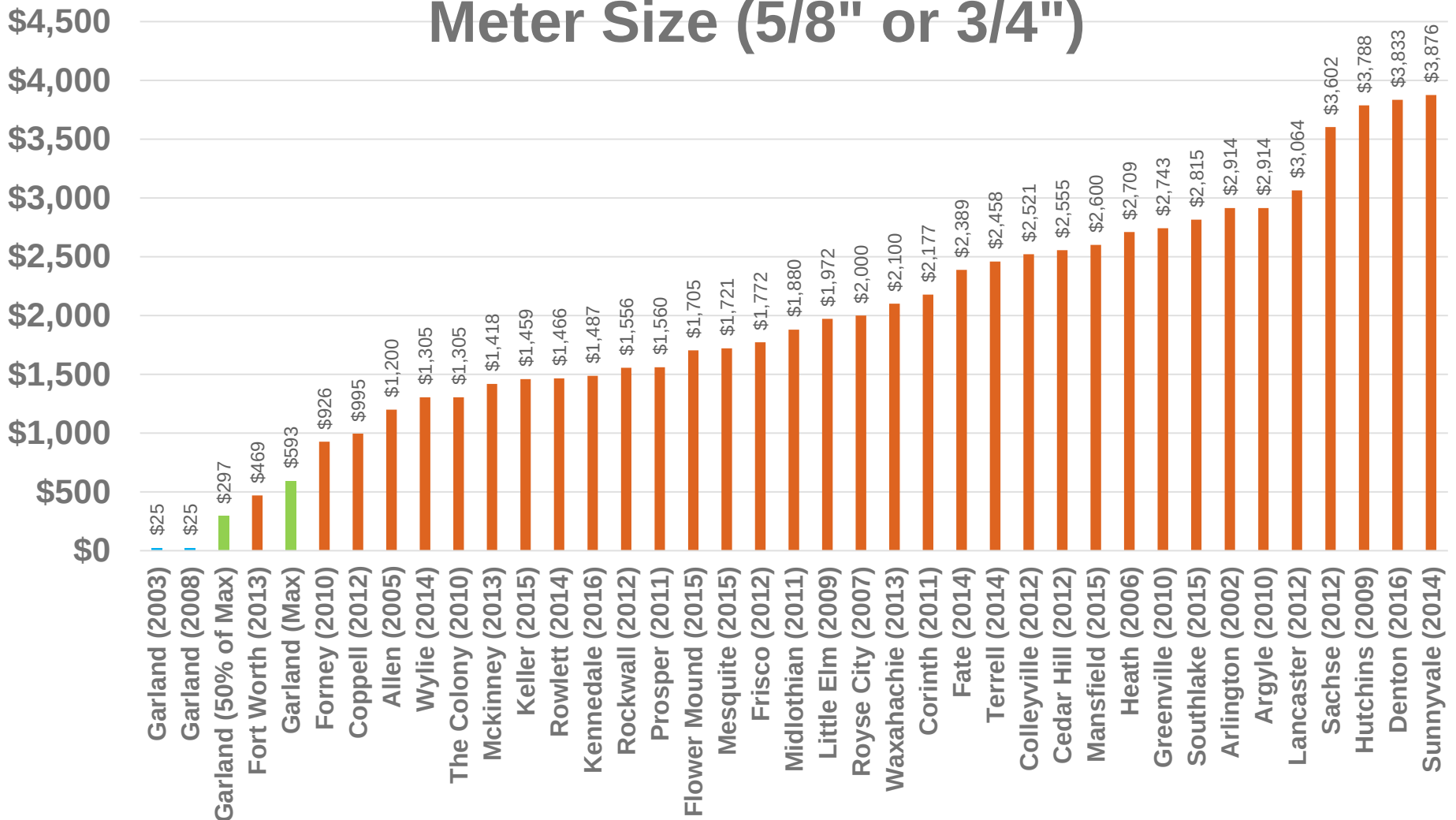


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Kimley»Horn

Comparison to other DFW Cities

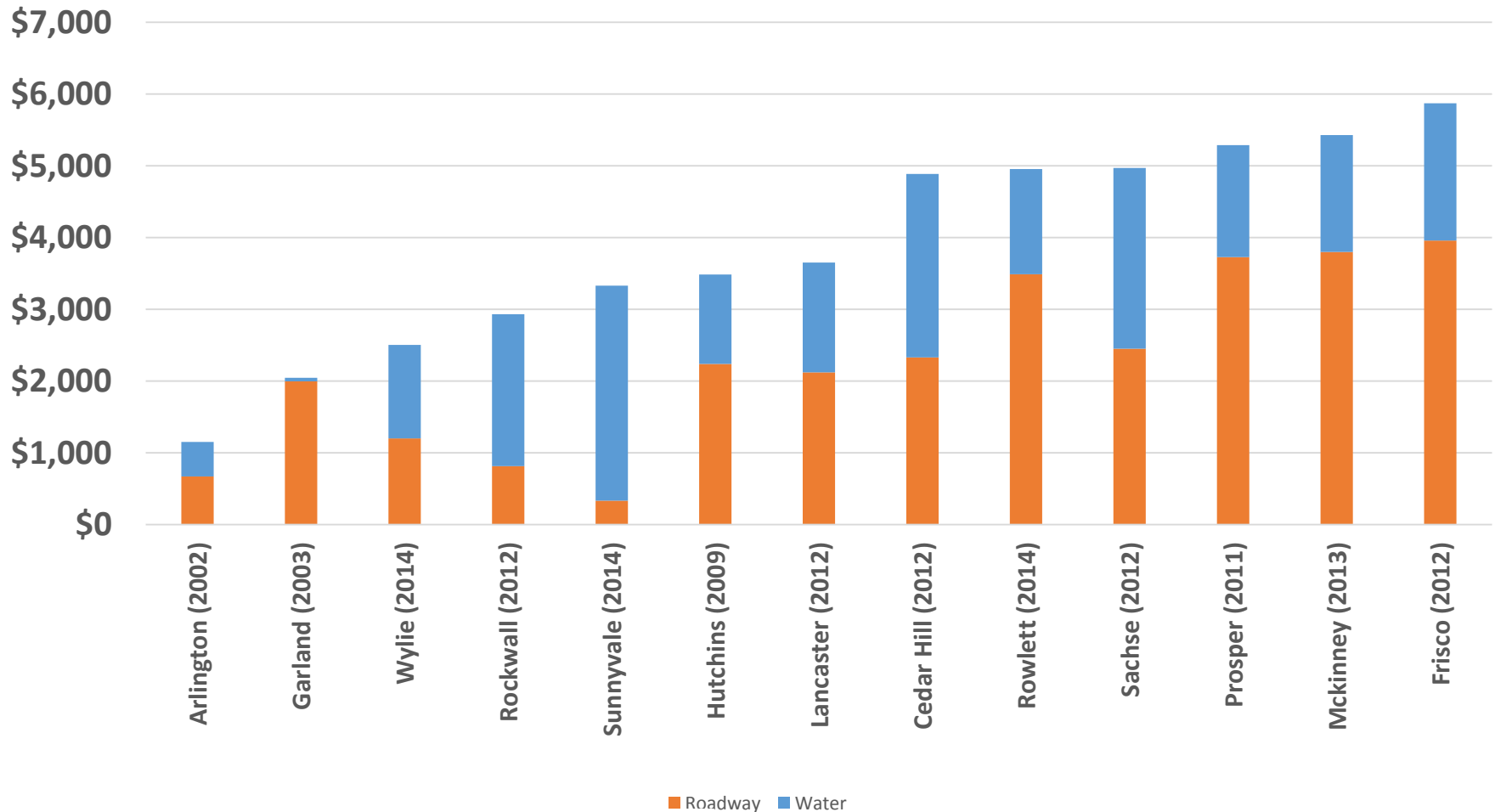
Water Impact Fees Comparison - Smallest Meter Size (5/8" or 3/4")



Note: the City of Plano does not have impact fees

Comparison to other DFW Cities

Roadway + Water Impact Fee Comparison - Single Family



Note: the City of Plano does not have impact fees

Maximum Fee Service Area Comparison – Single Family (Roadway)

Current Service Area	Adopted Collection Rate	Proposed Service Area	Maximum Fee Roadway		Proposed Collection Rate
			100% of Max	50% of Max	
1	\$1,815.45	A	\$5,057	\$2,528	TBD Set by Council
2	\$900.60				
4	\$837.90				
5	\$179.55				
7	\$1,045.95	B	\$10,197	\$5,098	TBD Set by Council
8	\$1,995.00				
10	\$729.60				
11	\$1,995.00				
13	\$621.30	C	\$13,309	\$6,519	TBD Set by Council
3	\$1,744.20				
6	\$732.45				
9	\$820.80	D	\$7,281	\$3,641	TBD Set by Council
12	\$1,043.10				
14	\$1,006.05				
15	\$1,995.00				
16	\$347.70				
17	\$1,151.40				
18	\$1,995.00				



100,000 Sq. Ft. Industrial

City	Roadway	Water (2" Meter)	Wastewater (2" Meter)	Total
Garland (Current)	\$74,200 max \$43,301 average	\$72.50	n/a	\$74,272.50 max \$43,373.50
Grand Prairie	\$0	\$13,688 - \$28,936	\$4,344 - \$10,064	\$18,032 - \$39,000
Irving	\$0	\$0	\$0	\$0
Plano	\$0	\$0	\$0	\$0
Rowlett	\$67,000	\$11,728	\$11,016	\$90,444
Mesquite	\$125,874	\$13,768	\$7,352	\$146,994
Richardson	\$0	\$0	\$0	\$0
Sasche	\$235,657	\$20,173.57	\$14,861.47	\$270,692
Garland (Max - A)	\$600,624	\$4,744	\$0	\$605,368
Garland (50% Rdwy Max – A)	\$300,312	\$4,744	\$0	\$305,056
Garland (12.5% MAX TODAY Rdwy Max – A)	\$75,078	\$4,744	\$0	\$79,822
Garland (7% AVERAGE TODAY Rdwy Max – A)	\$42,043	\$4,744	\$0	\$46,787



10,000 Sq. Ft. Retail

City	Roadway	Water (2" Meter)	Wastewater (2" Meter)	Total
Garland (Current)	\$27,860 max \$16,258 average	\$72.50	n/a	\$27,932.50 max \$16,330.50 average
Grand Prairie	\$0	\$13,688 - \$28,936	\$4,344 - \$10,064	\$18,032 - \$39,000
Irving	\$0	\$0	\$0	\$0
Plano	\$0	\$0	\$0	\$0
Rowlett	\$27,535	\$11,728	\$11,016	\$50,279
Mesquite	\$20,435	\$13,768	\$7,352	\$41,555
Richardson	\$0	\$0	\$0	\$0
Sasche	\$29,822.10	\$20,173.57	\$14,861.47	\$64,857.14
Garland (Max - A)	\$70,795	\$4,744	\$0	\$75,539
Garland (50% Rdwy Max – A)	\$35,398	\$4,744	\$0	\$40,142
Garland (39.3% MAX TODAY Rdwy Max – A)	\$27,822	\$4,744	\$0	\$32,566
Garland (22% AVERAGE TODAY Rdwy Max – A)	\$15,575	\$4,744	\$0	\$20,319

Fee Considerations

- Set Consistent Fee Across City
- Vary by land use
 - Residential
 - Non-Residential
 - Retail
 - Industrial



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Water Impact Fee Options

Land Use	Current Rates	Max Rates	50% Max Rates	Sunset
5/8" Meter Single Family	\$25.00	\$593	\$297	\$0
2" Meter Commercial	\$72.50	\$4,744	\$2,372	\$0



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Roadway Fee Options

Land Use	Current Rates	25% Increase of Current Rates	50% Residential 25% Non-Res	50% Residential 10% Industrial 35% Other Non-Res Slight Decrease of Current Rate	60% Residential 15% Industrial 45% Other Non-Res Slight Increase of Current Rate
Single Family	\$1,995	\$2,493.75	\$2,528	\$2,528	\$3,034
Industrial (100,000 sq.ft)	\$74,200	\$95,750	\$150,156	\$60,062	\$90,093
Retail (10,000 sq. ft)	\$27,860	\$34,825	\$17,689	\$24,778	\$31,857



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Advisory Committee Comments

- Unanimous Approval to Pass Study Along
- Keep Garland's Fees Competitive
- Consider incentives for certain areas such as downtown



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Today's Request

- Hold and Continue Public Meeting
- Provide Recommendation on the Study
- Provide Recommend on Collection Rate
- Ordinance will be brought on December 6th
- Public Hearing Closed on December 6th



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Garland Impact Fee Next Steps

- Establish Council/Advisory Committee (CIAC)
 - Workshop Advisory Meeting
 - Draft Impact Fee Report – August 2016
 - Final Impact Fee Report – September 2016
 - Set Public Hearing
 - Advertise Public Hearing
 - Advisory Committee Meeting for Comments
 - Council Public Hearing
 - Public Comments
 - Ordinance Adoption
- October 2016
- November 2016
- December 6th

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CITY OF GARLAND, TEXAS ROADWAY IMPACT FEE STUDY FINAL DRAFT



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October
2016

Prepared for the City of Garland

Prepared by:

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TBPE Firm Registration Number: F-928

Project Number: 063551021

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EXECUTIVE SUMMARY

Introduction

Impact Fees are a mechanism for funding the public infrastructure necessitated by new development. Across the country, they are used to fund police and fire facilities, parks, schools, roads and utilities. In Texas, the legislature has allowed their use for water, wastewater, roadway and drainage facilities. Historically, they have been used to fund public water, wastewater, and roadway improvements in the City of Garland. The focus of this study is on roadway impact fees.

In the most basic terms, impact fees are meant to recover the incremental cost of the impact of each new unit of development creating new infrastructure needs. In the case of roadway impact fees, the infrastructure need is the increased capacity on arterial and collector roadways that serve the overall transportation system. The purpose of the 2016 Roadway Impact Fee Study is to identify the fee per unit of new development necessary to fund these improvements in accordance with the enabling legislation, Chapter 395 of the Texas Local Government Code.

Impact Fee Basics

Roadway Impact Fees are determined by several key variables, each described below in greater detail.

Impact Fee Study

The primary purpose of the 2016 Roadway Impact Fee Study is to determine the maximum impact fee per unit of new development chargeable as allowed by the state law. This determination is not a recommendation; the actual fee amount ultimately assessed is at the discretion of the Garland City Council, so long as it does not exceed the maximum assessable allowed by law. The study looks at a period of 10 years to project new growth and corresponding capacity needs, as required by state law. The study (and corresponding maximum fees) must be restudied at least every five years. However, the study can be updated at any time to accommodate significant changes in any of the key variables of the impact fee equation.

Service Areas

A Service Area is a geographic area within which a unique maximum impact fee is determined. All fees collected within the Service Area must be spent on eligible improvements within the same Service Area. For Roadway Impact Fees, the Service Area may not exceed 6 miles. From 2003-2016, there were 18 existing service areas. As a result of this study, these 18 service areas were aggregated into 4 larger service areas following the 6-mile limit. A map of the Service Areas can be found on Page 6.

In defining the Service Area boundaries, the project team considered the corporate boundary, required size limit, adjacent land uses, and topography. Since each Service Area has a unique maximum impact fee, the per-unit maximum fee for an identical land use will vary from one Service Area to the next. For this reason, the team contained areas of uniform land use within the same Service Area boundary where possible.

Land Use Assumptions

The maximum Roadway Impact Fee determination is required to be based on the projected growth and corresponding capacity needs in a ten year window. This study considers the years 2016-2026.

To project future development in the ten year window, growth assumptions were made based on the demographic projections developed for the ongoing Garland Water and Wastewater Master Plan. Research of historical building permits was performed to compare the projected ten year growth against historical data.

Roadway Impact Fee Capital Improvement Plan (CIP)

The Roadway Impact Fee CIP is distinct and separate from the City's traditional Capital Improvements Plan. The Roadway Impact Fee CIP is simply the list of projects eligible for funding through impact fees. Only those capacity improvements included in the City's adopted Thoroughfare Plan are included in the Roadway Impact Fee CIP. Capacity improvements may include the addition of lanes, intersection improvements, or the extension of a new road. Resurfacing or other maintenance activities do not qualify as capacity improvements under impact fee law in Texas.

Only the projects listed in the Roadway Impact Fee CIP are eligible to utilize impact fee funds. In order to optimize future flexibility, all capacity improvement projects included in the Master Thoroughfare Plan are included in the Roadway Impact Fee CIP and will be eligible to utilize impact fee funds. Only the costs associated with providing the additional capacity necessitated by 10-years of growth can be used to calculate the maximum impact fee.

In order to calculate the maximum impact fee, the total cost of the Roadway Impact Fee CIP at build-out was reduced to account for:

- The portion of new capacity that will address existing needs, and
- The portion of new capacity that will not be necessitated until beyond the 10-year growth window.

A ratio that compares 10 years' demand for capacity to the net supply of capacity (total new capacity in the Roadway Impact Fee CIP minus existing needs) can be calculated. This ratio, which may not exceed 100%, is then applied to the cost of the net capacity supplied. The result is a determination of the costs attributable to the next 10 years' growth, which is then used to calculate the maximum impact fee in accordance with state law. The result is known as the cost of the Roadway Impact Fee CIP Attributable to Growth (i.e. recoverable portion of the Roadway Impact Fee CIP):

Service Areas	A	B	C	D
Cost of Roadway Impact Fee CIP Attributable to Growth and Financing	\$ 32,090,045	\$ 24,781,968	\$ 28,927,845	\$ 21,141,890

Service Units

The impact fee law defines a service unit as follows: "Service Unit means 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."

The 2016 Roadway Impact Fee Study defines a *service unit* as the number of vehicle-miles. Based on the City's 10-year growth projections the associated demand (consumption) values for each service area are as follows in terms of vehicle-miles:



Service Areas	A	B	C	D
Total Growth (2016 - 2026) in Vehicle-Miles	30,833	11,872	10,840	14,170

Impact Fee Calculation

The maximum impact fee allowable in each of the five service areas is then calculated by dividing the Roadway Impact Fee CIP Attributable to Growth by the number of vehicle-miles in the corresponding Service Area in the above table. This calculation is performed for each service area individually; each service area has a stand-alone Roadway Impact Fee CIP and 10-year growth projection.

Below is the listing of the 2016 Roadway Impact Fee Study's Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile):

Service Areas	A	B	C	D
2016 Roadway Impact Fee Study Maximum Assessable Fee Per Vehicle-Mile	\$ 1,032	\$ 2,081	\$ 2,661	\$ 1,486

Chapter 395 Required Adoption Process

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of Roadway Impact Fees. A Capital Improvement Advisory Committee (CIAC) is required to review the Land Use Assumptions and Roadway Impact Fees CIP used in calculating the maximum fee, and to provide the Committee's findings for consideration by the City Council. This CIAC also reviews the Roadway Impact Fee ordinance and provides its findings to the City Council. The composition of the CIAC is required to adequately represent the building and development communities. For this study, the Plan Commission serves as the CIAC. The City Council then conducts a first public hearing on the Land Use Assumptions and Roadway Impact Fee CIP and a second public hearing on the Roadway Impact Fee Ordinance.

Following policy adoption, the CIAC is tasked with advising the City Council of the need to update the Land Use Assumptions or the Roadway Impact Fee CIP at any time within five years of adoption. Finally, the CIAC oversees the proper administration of the Impact Fee, once in place, and advises the Council as necessary.

Collection and Use of Transportation Impact Fees

Roadway Impact fees are assessed when a final plat is recorded. The assessment defines the impact of each unit at the time of platting, according to land use, and may not exceed the maximum impact fee allowed by law. Roadway Impact Fees are collected when a building permit is issued.

Therefore, funds are not collected until development-impacts are introduced to the transportation system. Funds collected within a service area can be used only within the same service area. Finally, fees must be utilized within 10 years of collection, or must be refunded with interest.

I. INTRODUCTION

Chapter 395 of the Texas Local Government Code describes the procedure political subdivisions must follow in order to create and implement impact fees. Senate Bill 243 (SB 243) amended Chapter 395 in 2001 to define an Impact Fee as “a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development.”

The City retained Kimley-Horn and Associates, Inc. to provide professional transportation engineering services for the 2016 Roadway Impact Fee Study. This report includes details of the Roadway Impact Fee calculation methodology in accordance with Chapter 395, the applicable Land Use Assumptions, development of the Roadway Impact Fee Capital Improvements Plan, and the Land Use Equivalency Table.

This report references two of the basic inputs to the Roadway Impact Fee:

- 1) **Land Use Assumptions** (Pg. 3)
- 2) **Roadway Impact Fee Capital Improvements Plan (CIP)** (Pg. 8)

Information from these Land Use Assumptions and Roadway Impact Fee CIP is used extensively throughout the remainder of the report.

There is a detailed discussion of the methodology for the computation of impact fees. This discussion is broken into two components:

- 1) **Computation Method for Roadway Impact Fees** (Pg. 17)
- 2) **Roadway Impact Fee Calculation** (Pg. 33)

The components of the **Computation Method for Roadway Impact Fee** include development of:

- Service Areas (Pg. 17)
- Service Units (Pg. 17)
- Cost Per Service Unit (Pg. 19)
- Roadway Impact Fee CIP Costing Methodology (Pg. 19)
- Summary of Roadway Impact Fee CIP Costs (Pg. 23)
- Service Unit Calculation (Pg. 28)

The Roadway Impact Fee is then calculated as:

- Maximum Assessable Impact Fee Per Service Unit (Pg. 33)
- Service Unit Demand Per Unit of Development (Pg. 37)

This report also includes a section concerning the **Plan for Financing and the Ad Valorem Tax Credit**. This plan details the maximum assessable impact fee per service unit the City of Garland 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.

II. LAND USE ASSUMPTIONS

A. Purpose and Overview

In order to assess an impact fee, Land Use Assumptions must be developed to provide the basis for residential 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 development in the service area. The land use assumptions are then used in determining the need and timing of transportation improvements to serve future development.

Information from the following sources was compiled to complete the land use assumptions:

- Dallas County Appraisal District (DCAD)
- Envision Garland Future Land Use Plan and Map
- Envision Garland 2030 Comprehensive Plan
- Ongoing Water and Wastewater Master Plan Update
- Centerville Marketplace Revitalization Strategy – Final Report
- Forest-Jupiter Transit-Oriented Redevelopment Plan
- City of Garland staff
- Historic Building Permit Data

The Land Use Assumptions include the following components:

- **Land Use Assumptions Methodology** – An overview of the general methodology used to generate the land use assumptions.
- **Roadway Impact Fee Service Areas** – Explanation of the division of Garland into service areas for transportation facilities.
- **Residential and Employment**– Data on residential and employment growth within the service area over the next ten years (2016 – 2026).
- **Land Use Assumptions Summary** – A synopsis of the land use assumptions.

The residential and employment estimates and projections were compiled in accordance with the following categories:

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

Employment: Square feet of building area based on three (3) different classifications. Each classification has unique trip making characteristics.

Retail: Land use activities which provide for the retail sale of goods which primarily serve households and whose location choice is oriented toward the household sector, such as grocery stores and restaurants.

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

Basic: Land use activities that produce goods and services such as those which are exported outside of the local economy, such as manufacturing, construction, transportation, wholesale, trade, warehousing, and other industrial uses.

These broader categories are used in the development of the assumptions for impact fees; however, expanded classifications used in the assessment of impact fees are found in the Land Use / Vehicle-Mile Equivalency Table (Pg. 39).

B. Land Use Assumptions Methodology

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

- Character, type, density, and quantity of existing development;
- Current zoning;
- Growth trends;
- Location of vacant land;
- Physical restrictions (i.e. flood plains, railroads); and
- Physical development capacity of Garland.

Existing residential and employment estimates were obtained using DCAD parcel data and an aerial survey of existing development.

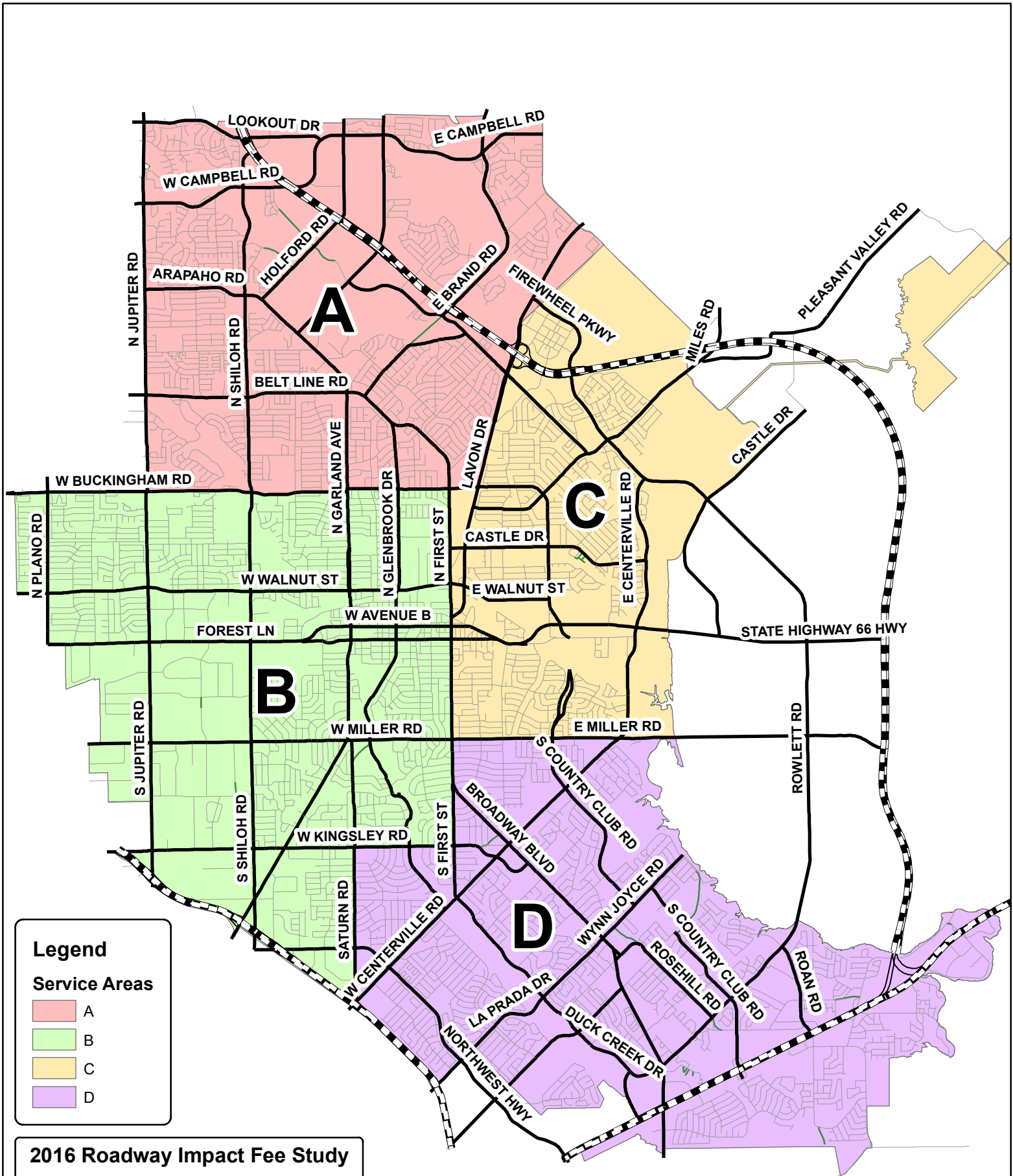
For the remaining undeveloped areas, assumptions based upon the City's Future Land Use Plan were used to estimate the ultimate buildout of residential and employment development. To project future development in the ten-year window, the known developing areas identified in the City's adopted planning documents and projections in the ongoing Water and Wastewater Master Plan were used as a basis to estimate the residential and employment development expected to occur by the year 2026.

Research of historical building permits was performed to compare the projected growth of these known developments with previous growth trends in the City of Garland over the last ten years. During the last ten years, approximately 3,107 residential units and 7 million square feet of employment were developed. It is projected that the next ten years of development will be reasonably close to these estimates.

C. Roadway Impact Fee Service Areas

The geographic boundary of the proposed impact fee service areas for transportation facilities is shown in **Exhibit 1**. The City of Garland is currently divided into 18 service areas. As part of this study, it is proposed to group the existing 18 service areas into four (4) larger service areas, each based upon the six (6) mile limit, as required in Chapter 395 (explained on Pg. 17). For roadway facilities, the service areas as required by state law are limited to areas within the current corporate limits. Therefore, areas within the extraterritorial jurisdiction (ETJ) are excluded from this study.

It should be noted that at locations where service area boundaries follow a City thoroughfare facility, the proposed boundary is intended to follow the centerline of the roadway, unless otherwise noted. In cases where a service area boundary follows the City Limits, only those portions of the transportation facility within the City Limits are included in the service area.





D. Residential and Employment

Residential and Employment estimates for the base year (2016) were performed based upon a survey of the existing land uses and aerial verification. Ten-year growth projections were prepared based upon the City's adopted planning documents, coordination with City staff, and the ongoing Water and Wastewater Master Plan.

E. Land Use Assumptions Summary

Table 1 summarizes the residential and employment 10-year growth projections. The growth is shown by service area and displays the groupings of the existing service areas into the proposed service areas. The projected growth over the next ten years is reasonable compared to the historical growth over the previous ten years, as described in the Land Use Assumptions Methodology (Pg. 4).

Table 1. Residential and Employment 10-Year Growth Projections

Proposed Service Area	Previous Service Areas	Single Family	Multi-Family	Basic	Service	Retail
		Dwelling Units	Dwelling Units	Sq. Ft.	Sq. Ft.	Sq. Ft.
A	1, 2, 4, 5	896	523	412,000	1,613,000	1,172,000
B	7, 8, 10, 11, 13	281	467	513,000	489,000	251,000
C	3, 6, 9	518	298	152,000	378,000	457,000
D	12, 14, 15, 16, 17, 18	689	310	185,000	437,000	710,000
Subtotal		2,384	1,598	1,262,000	2,917,000	2,590,000
Total		3,982		6,769,000		

III. ROADWAY IMPACT FEE CAPITAL IMPROVEMENTS PLAN

Development of a 10-year Roadway Impact Fee Capital Improvement Plan is required per Chapter 395 of the Texas local Government Code. The current Garland Master Thoroughfare Plan was used as the basis for this Roadway Impact Fee CIP, in addition to the ongoing Bottleneck Study. The Roadway Impact Fee CIP includes arterial and collector class roadway facilities that serve the overall transportation system, as well as major intersection improvements. All of the facilities identified are included in the current mobility plan map.

The proposed Roadway Impact Fee CIP is listed in **Tables 2.A – 2.D** and mapped in **Exhibits 2.A – 2.D**. The tables show the length of each project as well as the facility's Thoroughfare Plan classification. The Roadway Impact Fee CIP was developed in conjunction with input from City of Garland staff and represents those projects that will be needed to accommodate the growth projected in the Land Use Assumptions section of this report.

Table 2.A. 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area A

Proj. #	IF Class	Roadway	Limits	Length (mi)	% In Service Area
A-1	B (1/3)	Arapaho Rd (1)	Elm Ridge Ln to Shiloh Rd	0.77	100%
A-2	B (1/3)	Arapaho Rd (2)	Shiloh Rd to N. Garland Ave	0.68	100%
A-3	C1	Brand Rd (1)	Bellaire Rd to Belt Line Rd	0.64	100%
A-4	C1	Brand Rd (2)	Naaman Forest Blvd to West Brand Rd	0.47	100%
A-5	C1	Brand Rd (3)	Murfield Rd to PGBT N Frontage Rd	0.56	100%
A-6	B (1/3)	Campbell Rd (1)	N. Jupiter Rd to Shiloh Rd	1.06	100%
A-7	B (1/3)	Campbell Rd (2)	Shiloh Rd to PGBT S Frontage Rd	0.41	100%
A-8	B (1/3)	Campbell Rd (3)	Lookout Dr to PGBT N Frontage Rd	0.59	100%
A-9	B (1/3)	Campbell Rd (4)	Lookout Dr to N. Garland Ave	0.64	100%
A-10	B (1/3)	Campbell Rd (5)	N. Garland Ave to Water Oak Dr	0.52	100%
A-11	B	Campbell Rd (6)	Water Oak Dr to Murphy Rd	1.24	100%
A-12	D1	Ferris Rd	Campbell Rd to Holford Rd	0.36	100%
A-13	A	Firewheel Parkway (1)	Lavon Dr to 530' E of Lavon Dr	0.10	100%
A-14	D1	Holford Rd (1)	Naaman Forest (Future) to Arapaho Rd	0.75	100%
A-15	C2	Holford Rd (2)	PGBT S Frontage Rd to Naaman Forest (Future)	0.33	100%
A-16	C2	Holford Rd (3)	N City Limits to PGBT N Frontage Rd	0.99	100%
A-17	B (1/3)	Lookout Dr (1)	Courtside Dr to Spring Dr	0.11	50%
A-18	B (1/3)	Lookout Dr (2)	Spring Dr to PGBT S Frontage Rd	0.80	50%
A-19	B (1/3)	Lookout Dr (3)	PGBT N Frontage Rd to Campbell Rd	0.72	100%
A-20	F	Mapleridge (1)	Shiloh Rd to Mapleridge Dr	0.09	100%
A-21	F	Mapleridge (2)	Mapleridge Dr (Existing) to Holford Rd	0.36	100%
A-22	B (1/3)	Garland Ave (1)	N City Limits to PGBT N Frontage Rd	1.29	100%
A-23	B (1/3)	Garland Ave (2)	Arapaho Rd to PGBT S Frontage Rd	1.14	100%
A-24	B-S (1/3)	Garland Ave (3)	Arapaho Rd to Belt Line Rd	0.79	100%
A-25	B (1/3)	Garland Ave (4)	Belt Line Rd to Buckingham Rd	0.97	100%
A-26	B (1/3)	Shiloh Rd (1)	PGBT S Frontage Rd to Campbell Rd	0.37	100%
A-27	B (1/3)	Shiloh Rd (2)	Campbell Rd to north bridge end	0.41	100%
A-28	B (1/3)	Shiloh Rd (3)	Collins Blvd to Arapaho Rd	0.59	100%
A-29	B (1/3)	Shiloh Rd (4)	Arapaho Rd to Belt Line Rd	1.03	100%
A-30	B (1/3)	Shiloh Rd (5)	Belt Line Rd to Buckingham Rd	0.96	100%
A-31	D1	Naaman Forest Blvd	W. Naaman Forest Blvd. to E. Naaman Forest Blvd.	0.33	100%
A-32	D1	Naaman School Rd	Brand Rd to Lavon Dr	0.88	100%
A-33	D1	Naaman Forest Blvd	Ranger to Brand Rd	0.26	100%
I-1		Shiloh Rd and Campbell Rd	Extend WB RT lane		100%
I-2		Arapaho Rd and Shiloh Rd	Add NB and SB RT lanes		100%
I-3		Apollo Rd and Garland Ave	Add EB RT Lane		100%
I-4		Wagon Wheel Rd and Garland Ave	WB RT Lane		100%
I-5		Belt Line Rd and Garland Ave	WB RT Lane		100%
I-6		Belt Line Rd and Shiloh Rd	EB RT Lane		100%
I-7		Buckingham Rd and Plano Rd	NB RT Lane, EB and WB Dual LT Lanes		100%
I-8		Shiloh Rd and Buckingham Rd	Add dual lefts WB, NB, and SB		50%

Note: The 10-Year Roadway Impact Fee CIP is not in a prioritized order.

Projects starting with "I-" are intersection improvements as identified by the ongoing Bottleneck Study

Table 2.B. 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area B

Proj. #	IF Class	Roadway	Limits	Length (mi)	% In Service Area
B-1	E	Kings Rd	Marquis Dr to Kings Rd (Existing)	0.10	100%
B-2	E	Leon Rd (1)	Shiloh Rd to S. Garland Ave	0.18	100%
B-3	E	Leon Rd (2)	Leon Rd (Existing) to Millay Blvd (Future)	0.04	100%
B-4	E	Marketplace ext (1)	Towngate Blvd to Northwest Hwy	0.26	100%
B-5	E	Marketplace ext (2)	Pendleton Dr to Marketplace Dr	0.13	100%
B-6	E	Millay Blvd (Future)	Leon Rd to Millay Blvd (Existing)	0.22	100%
B-7	B (1/3)	Shiloh Rd (6)	Buckingham Rd to W Walnut St	1.00	100%
B-8	B	Shiloh Rd (7)	W Walnut St to Forest Ln	0.50	100%
B-9	B	Shiloh Rd (8)	Forest Ln to Miller Rd	1.01	100%
B-10	B	Shiloh Rd (9)	Miller Rd to Kingsley Rd	1.07	100%
B-11	B	Shiloh Rd (10)	Kingsley Rd to McCree Rd	0.50	100%
B-12	B	Shiloh Rd (11)	Garland Ave to IH-635 WBFR	0.29	100%
B-13	F	New road east of Industrial Ln	Kingsley Rd to McCree Rd	0.50	100%
B-14	D2	Saturn Rd	Saturn Rd (Existing) to Miller Rd	0.31	100%
B-15	E	Sherwin	Sherwin St (Existing) to Wood Dr	0.13	100%
I-9		Plano Rd and Walnut St	NB an SB RT Lane		100%
I-10		Forest Ln and Jupiter Rd	EB and NB RT Lane, NB Dual LT Lanes		100%
I-11		Forest Ln and Shiloh Rd	SB and NB RT Lanes, Dual NB LT Lanes		100%
I-12		Avenue B (SH 78) and First St	SB RT Lane		100%
I-13		Avenue D and First St	EB RT Lane, EB Dual LT Lanes		100%
I-15		Jupiter Rd and Miller Rd	SB RT Lane		100%
I-16		Miller Rd and Shiloh Rd	SB RT Lane		100%
I-17		Garland Ave and Miller Rd	SB, EB, and WB RT Lanes		100%
I-18		Glenbrook Dr and Miller Rd	EB and WB LT Lanes		100%
I-19		First St and Miller Rd	Add EB RT & NB, SB Dual Lefts		33%
I-20		Broadway Blvd and First St	Triple LT from NB First St		50%
I-21		Jupiter Rd and Kingsley Rd	WB RT Lane		100%
I-22		Garland Ave and Kingsley Rd	NB RT Lane		100%
I-24		Garland Ave and McCree Rd / Shiloh Rd	SWB Dual LT Lanes		100%

Note: The 10-Year Roadway Impact Fee CIP is not in a prioritized order.

Projects starting with "I-" are intersection improvements as identified by the ongoing Bottleneck Study

Table 2.C. 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area C

Proj. #	IF Class	Roadway	Limits	Length (mi)	% In Service Area
C-1	D1	Castle Dr (1)	N. First St to Lavon Dr	0.15	100%
C-2	D1	Castle Dr (2)	Lavon Dr to Mars Dr	0.38	100%
C-3	E	Castle Dr (3)	Mars Dr to Country Club Rd	0.46	100%
C-4	E	Castle Dr (4)	Country Club Rd to Centerville Rd	1.05	100%
C-5	E	Castle Dr (5)	2660' south of Firewheel Pkwy to Firewheel Pkwy	0.50	50%
C-6	E	Castle Dr (6)	Firewheel Pkwy to Miles Rd	0.84	50%
C-7	D2	Crist Rd	Lavon Dr to Naaman School Rd	0.62	100%
C-8	A	Firewheel Parkway (2)	530' E of Lavon Dr to 310' S of Town Center Blvd	0.77	100%
C-9	C1	Pleasant Valley Rd (1)	Creek Meadow Ln to Miles Rd	0.50	100%
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	50%
C-11	C1	Pleasant Valley Rd (2)	Firewheel Pkwy to Creek Meadow Ln	0.58	100%
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	50%
I-14		Centerville Rd and SH 66	Add dual LT lanes NB and WB		100%
I-19		First St and Miller Rd	Add EB RT & NB, SB Dual Lefts		33%

Note: The 10-Year Roadway Impact Fee CIP is not in a prioritized order.

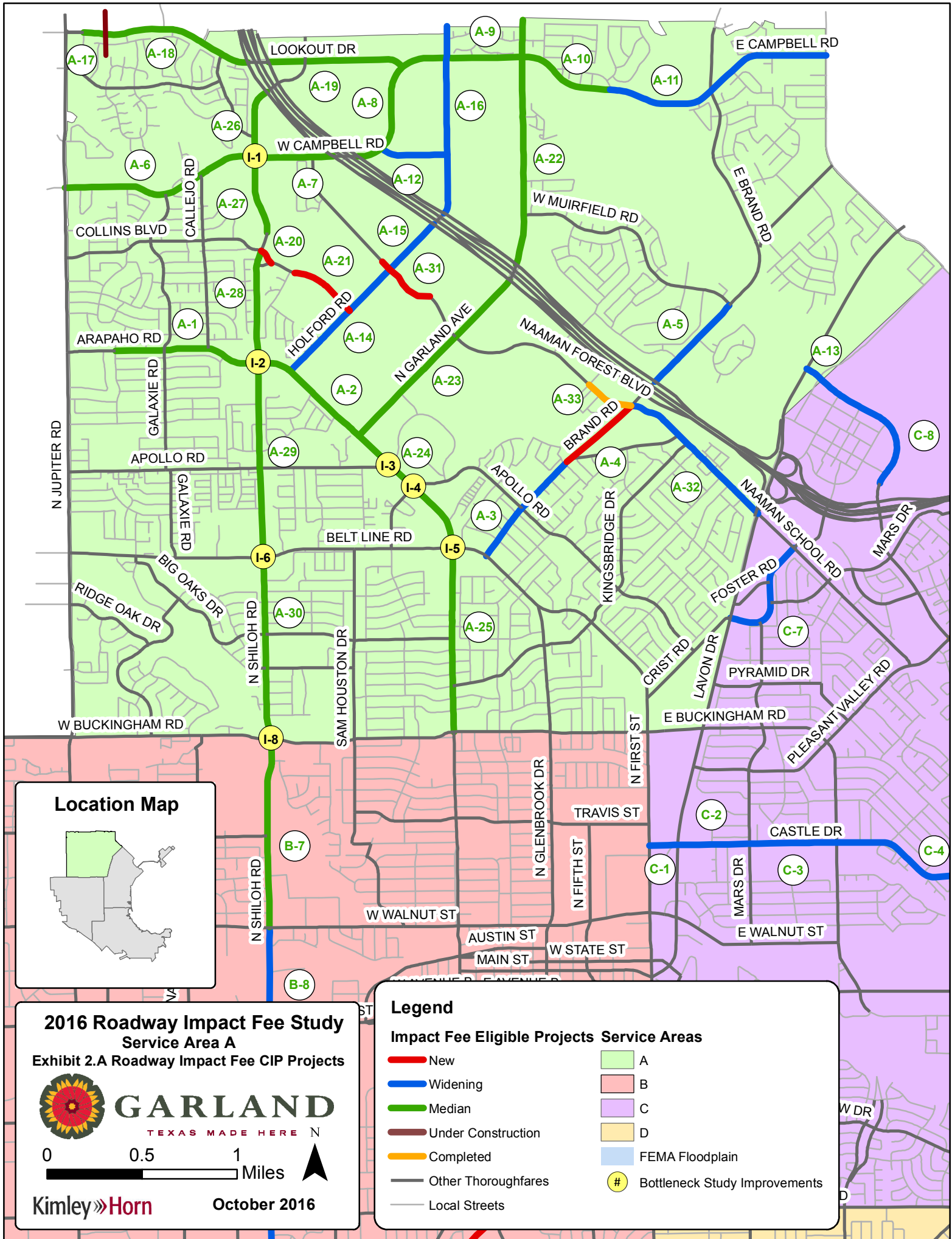
Projects starting with "I-" are intersection improvements as identified by the ongoing Bottleneck Study

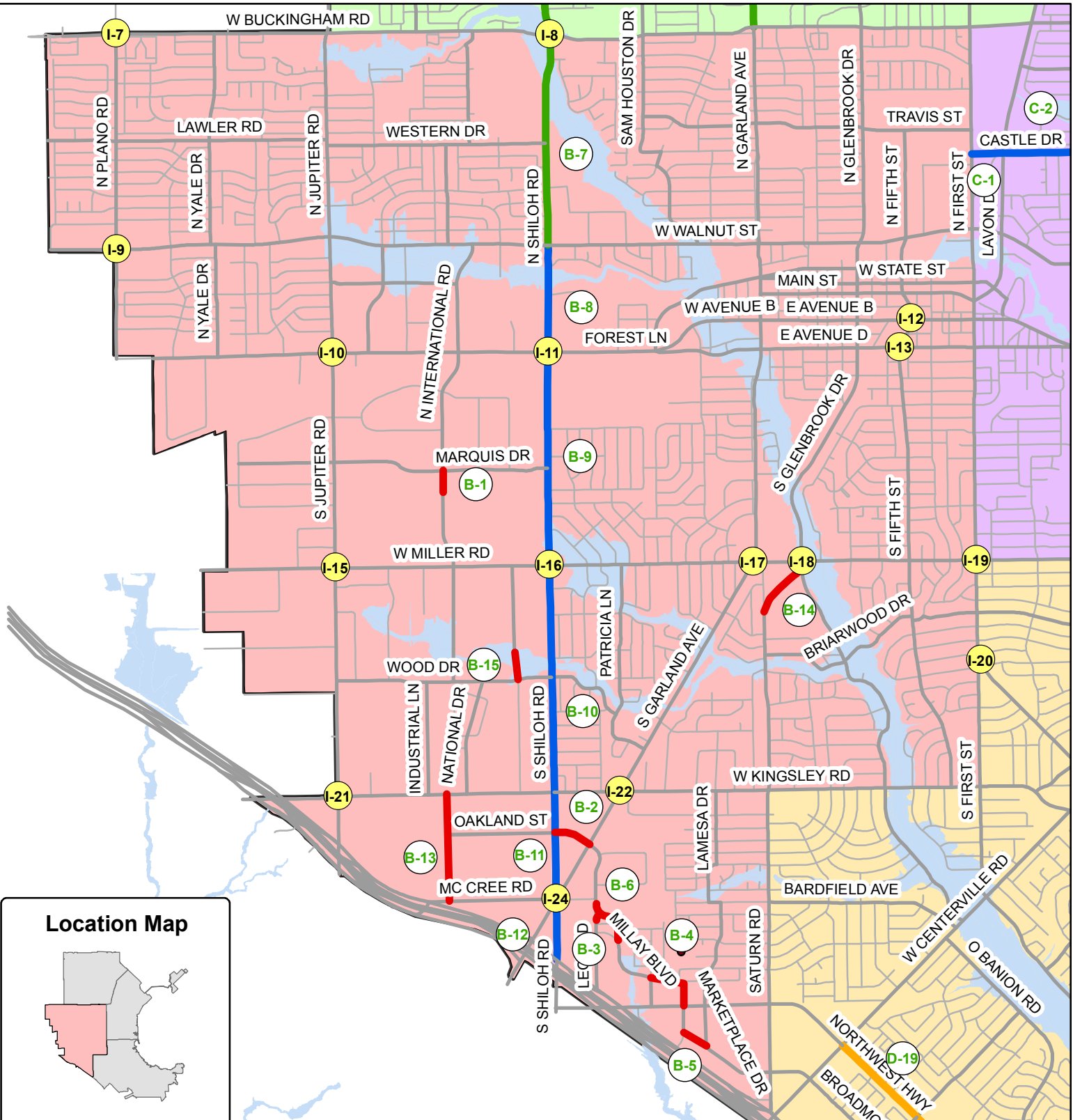
Table 2.D. 10-Year Roadway Impact Fee Capital Improvements Plan – Service Area D

Proj. #	IF Class	Roadway	Limits	Length (mi)	% In Service Area
D-1	S	Bobtown Rd (1)	Rowlett Rd to Bobtown Rd (Existing)	0.17	100%
D-2	E-S	Bobtown Rd (2)	Bobtown Rd (Future) to Waterhouse Blvd	0.34	100%
D-3	E	Bobtown Rd (3)	400' S of High Dr to Lyons Rd	0.38	100%
D-4	E	Bobtown Rd (4)	Lyons Rd to South City Limits	0.50	50%
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	50%
D-6	F	E. Oates Rd (Future)	Country Club Rd to E. Oates Rd (Existing)	0.58	100%
D-7	B (1/3)	La Prada Dr	IH 635 E frontage road to Northwest Hwy	0.32	50%
D-8	E	Locust Grove Rd	290' E of Oceanport Dr to East City Limits	0.54	100%
D-9	B	Lyons Rd (1)	Bobtown Rd to Guthrie Rd	0.61	100%
D-10	B	Lyons Rd (2)	Guthrie Rd to Lyons Rd (Future)	0.17	100%
D-11	B	Lyons Rd (Future) (3)	Lyons Rd to South City Limits	0.23	100%
D-12	F	Rosehill Rd (1)	Rosehill Rd (Existing) to Wynn Joyce Rd	0.30	100%
D-13	B (1/3)	Rosehill Rd (2)	Bobtown Rd to IH 30 N loop	0.29	100%
D-14	A (1/3)	Rowlett Rd (1)	Broadway Blvd to Rosehill Rd	0.70	100%
D-15	A (1/3)	Rowlett Rd (2)	Rosehill Rd to Roan Rd	0.99	100%
D-16	A	Rowlett Rd (3)	Roan Rd to City Limits	0.30	100%
D-17	B (1/3)	S. Country Club Rd	Rowlett Rd to Bobtown Rd	0.33	100%
D-18	E	Zion Rd	Locust Grove Rd to Bobtown Rd	0.20	100%
D-19	B	Northwest Hwy	Centerville Rd to La Prada Dr	1.22	100%
D-20	E	Dairy Rd	Celeste Rd to Broadway Blvd	0.49	100%
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	50%
I-19		First St and Miller Rd	Add EB RT & NB, SB Dual Lefts		33%
I-20		Broadway Blvd and First St	Triple LT from NB First St		50%
I-23		Broadway Blvd and Centerville Rd	Dual Lefts SWB, NEB and NWB		100%
I-25		Broadway Blvd and Rowlett Rd	Add EB RT Lane		100%
I-26		Broadway Blvd and IH-30 EBFR	Dual NB RT Lanes		100%

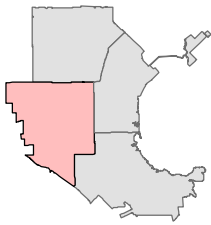
Note: The 10-Year Roadway Impact Fee CIP is not in a prioritized order.

Projects starting with "I-" are intersection improvements as identified by the ongoing Bottleneck Study





Location Map



2016 Roadway Impact Fee Study Service Area B Exhibit 2.B Impact Fee CIP Projects



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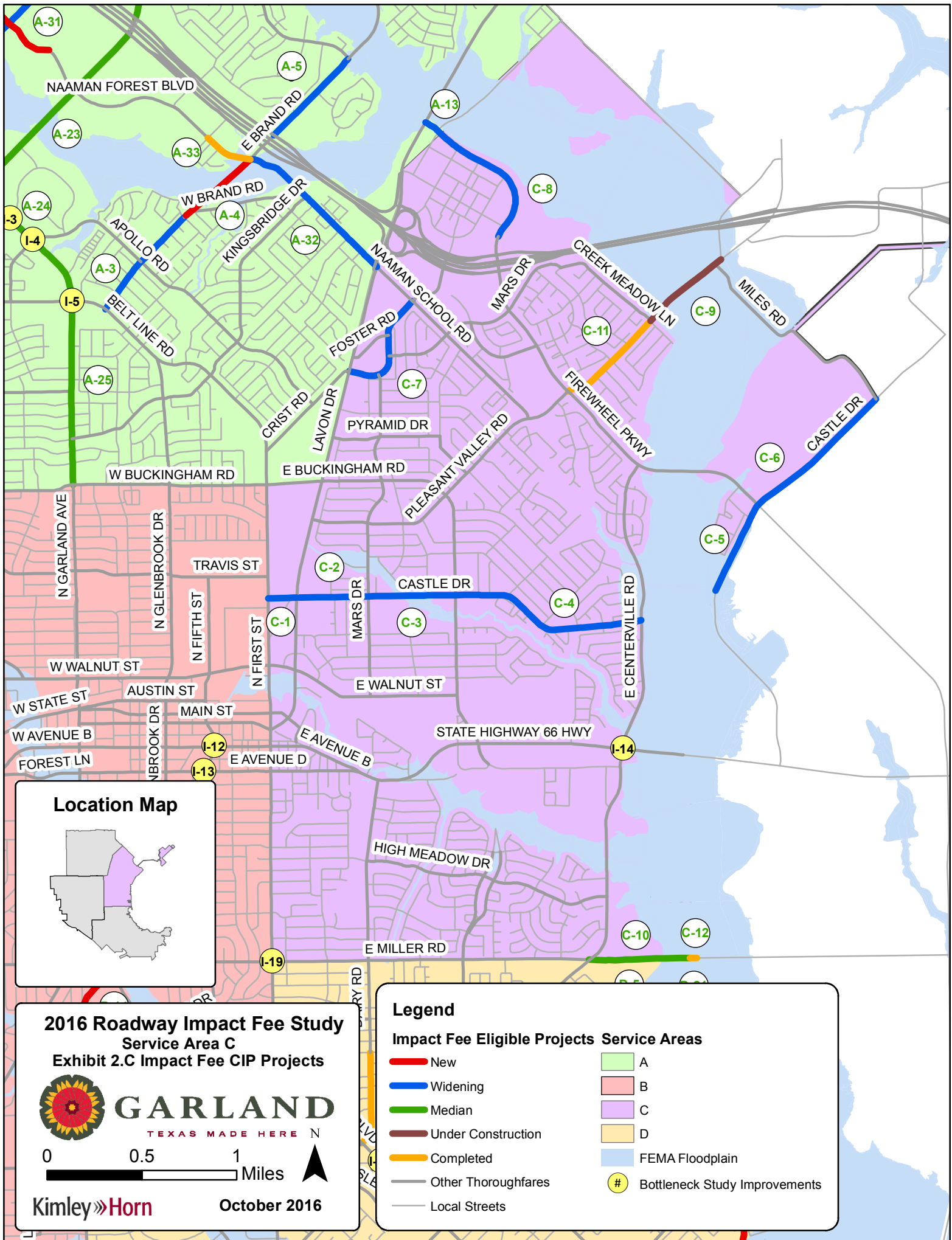
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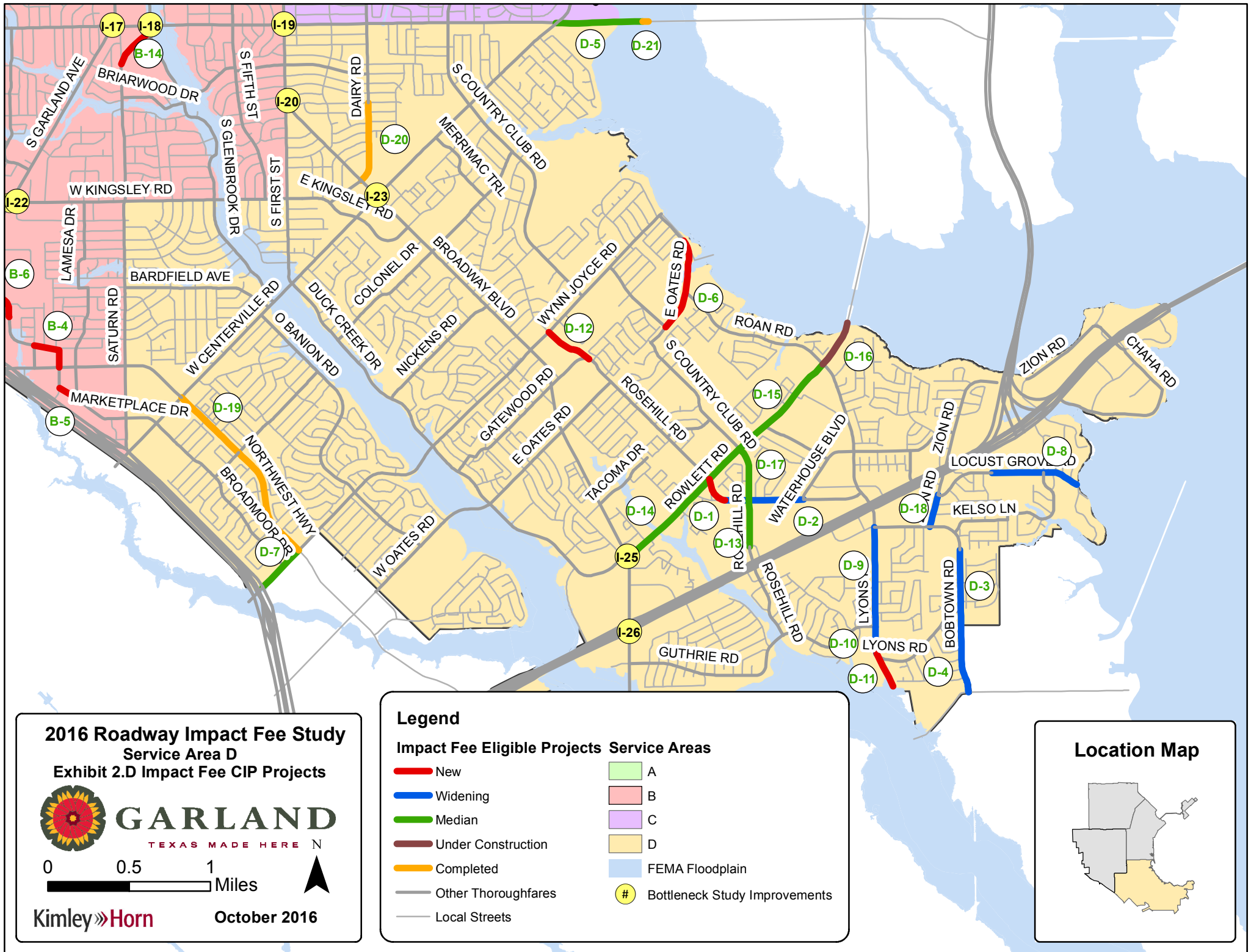
October 2016

Legend

Impact Fee Eligible Projects Service Areas

- New
- Widening
- Median
- Under Construction
- Completed
- Other Thoroughfares
- Local Streets
- A
- B
- C
- D
- FEMA Floodplain
- # Bottleneck Study Improvements

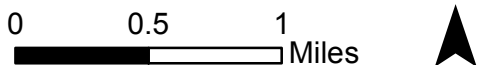




2016 Roadway Impact Fee Study
Service Area D
Exhibit 2.D Impact Fee CIP Projects



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October 2016

Legend

Impact Fee Eligible Projects		Service Areas	
	New		A
	Widening		B
	Median		C
	Under Construction		D
	Completed		FEMA Floodplain
	Other Thoroughfares		Bottleneck Study Improvements
	Local Streets		

Location Map



IV.COMPUTATION METHOD FOR ROADWAY IMPACT FEES

A. Service Areas

The four (4) service areas used in the 2016 Roadway Impact Fee Study are shown in **Exhibit 1**. These service areas cover the entire corporate area of the City of Garland. 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.”

B. Service Units

The “service unit” is a measure of consumption or use of the capital facilities by new development. In other words, it is the unit of measure used in the 2016 Roadway Impact Fee Study to quantify the supply and demand for roads in the City. For transportation purposes, the service unit is defined as a vehicle-mile. 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 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 Garland Thoroughfare Plan (see **Appendix B**).

Total Vehicle-Miles of Demand: Based on the 10-year growth projections (Pg. 32). The demand is equal to PM Trip Rate (trips) * Trip Length (miles).

The capacity values used in the 2016 Roadway Impact Fee Study are based upon Thoroughfare Capacity Criteria published by the North Central Texas Council of Governments (NCTCOG) and applied to City of Garland thoroughfare standards. **Tables 3A** and **3B** show the service volumes as a function of the facility classification and type.

Table 3A. Service Volumes for Proposed Facilities
 (used in Appendix B – Roadway Impact Fee CIP Service Units of Supply)

Facility Classification	Median Configuration	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
A (Regional Arterial)	Divided	750
A-C (Urban One-Way Couplet)	Divided	750
B (Regional Arterial)	Divided	750
C1, C2 (Minor Arterial)	Divided	650
D1 (Major Collector)	Divided	650
D2 (Major Collector)	Undivided	650
D3 (Major Collector)	Undivided	550
E (Minor Collector)	Undivided	550
F (Minor Collector)	Undivided	425

Table 3B. Service Volumes for Existing Facilities
 (used in Appendix C – Existing Roadway 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
2U	Two lane undivided	425
2D	Two lane divided	550
3U	Three lane undivided (two-way, left-turn lane)	550
4U	Four lane undivided	550
4D	Four lane divided	650
5U	Five lane undivided (two-way, left-turn lane)	700
6U	Six Lane Undivided	725
6D	Six lane divided	750
7U	Seven lane undivided (two-way, left-turn lane)	725

C. Cost Per Service Unit

A fundamental step in the impact fee process is to establish the cost for each service unit. In the case of the Roadway Impact Fee, this is the cost for each vehicle-mile of travel. Thus, it is the cost to construct a roadway (lane-mile) needed to accommodate a vehicle-mile of travel. The cost per service unit is calculated for each service area based on the roadway projects within that service area.

The second component of the cost per service unit is the determination of 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.

D. Roadway Impact Fee CIP Costing Methodology

All of the project costs for an arterial or collector facility which serves the overall transportation system are eligible to be included in the Roadway Impact Fee Capital Improvements 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 improvements plan who is not an employee of the political subdivision."

The engineer's opinion of the probable costs of the projects in the Roadway Impact Fee 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 cost for location specific items such as bridges, highway ramps, drainage structures, and any other

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 A-26 is in Service Area A and is the 26th 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 Thoroughfare Plan classification of the roadway. For example, A represents regional arterial roads. An A Impact Fee Class means the entire roadway is to be constructed. Additional classifications are utilized in cases where a portion of the facility currently exists and the road is only to be widened. The following notations are used for these projects:
 - “(1/2)” for facilities where half the facility still needs to be constructed;
 - “(1/3)” for future six-lane regional arterial facilities where two additional median lanes are needed
- Ultimate Class – The functional classification on Garland’s Master Thoroughfare 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. In some cases the project is partially located in the ETJ.
- 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, and 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. The construction pay items for impact fee CIP roads are shown below:

- Unclassified street excavation
- Concrete pavement
- Lime Stabilized Subgrade
- Curb
- Sidewalk
- Turn lanes and median openings

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, five percent (5%) mobilizations, and two percent (2%) preparation of right-of-way to determine the construction cost total.

5. Summary of Cost and Allowances

To determine the total Impact Fee Project Cost, sixteen percent (16%) of the construction cost total is added for engineering, surveying, and testing.

Percentages are also allotted ROW/easement acquisition. ROW/easement acquisition was based on whether the project was an existing alignment or future alignment. For an existing alignment, the ROW/easement acquisition cost was provided an allotment equal to 10% of the construction cost total. For a new alignment, the ROW/easement acquisition cost was equal to 20% of the construction cost total. 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 then the Construction Cost Total plus engineering, surveying, testing, and inspection; plus ROW/easement acquisition; and minus roadway escrow agreements.

E. Summary of Roadway Impact Fee CIP Costs

Tables 4.A – 4.D are the 10-Year Roadway Impact Fee CIP project lists for each service area with planning level project costs. Individual project cost worksheets can be seen in **Appendix A**, Conceptual Level Project Cost Projections. It should be noted that these tables reflect only conceptual-level opinions or assumptions regarding the portions of future project costs that are recoverable through impact fees. Actual project costs are likely to change with time and are dependent on market and economic conditions that cannot be predicted.

The Roadway Impact Fee CIP establishes the list of projects for which Impact Fees may be utilized. Projects not included in the Roadway Impact Fee CIP are not eligible to receive impact fee funding. The cost projections utilized in this study should not be utilized for the City's construction CIP.

**Table 4.A – 10-Year Roadway Impact Fee CIP
with Conceptual Level Cost Projections – Service Area A**

Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Cost in Service Area
A-1	B (1/3)	Arapaho Rd (1)	Elm Ridge Ln to Shiloh Rd	0.77	100%	\$ 1,383,000
A-2	B (1/3)	Arapaho Rd (2)	Shiloh Rd to N. Garland Ave	0.68	100%	\$ 1,210,000
A-3	C1	Brand Rd (1)	Bellaire Rd to Belt Line Rd	0.64	100%	\$ 4,092,000
A-4	C1	Brand Rd (2)	Naaman Forest Blvd to West Brand Rd	0.47	100%	\$ 8,172,000
A-5	C1	Brand Rd (3)	Murfield Rd to PGBT N Frontage Rd	0.56	100%	\$ 3,590,000
A-6	B (1/3)	Campbell Rd (1)	N. Jupiter Rd to Shiloh Rd	1.06	100%	\$ 1,901,000
A-7	B (1/3)	Campbell Rd (2)	Shiloh Rd to PGBT S Frontage Rd	0.41	100%	\$ 740,000
A-8	B (1/3)	Campbell Rd (3)	Lookout Dr to PGBT N Frontage Rd	0.59	100%	\$ 1,065,000
A-9	B (1/3)	Campbell Rd (4)	Lookout Dr to N. Garland Ave	0.64	100%	\$ 1,150,000
A-10	B (1/3)	Campbell Rd (5)	N. Garland Ave to Water Oak Dr	0.52	100%	\$ 929,000
A-11	B	Campbell Rd (6)	Water Oak Dr to Murphy Rd	1.24	100%	\$ 11,065,000
A-12	D1	Ferris Rd	Campbell Rd to Holford Rd	0.36	100%	\$ 2,258,000
A-13	A	Firewheel Parkway (1)	Lavon Dr to 530' E of Lavon Dr	0.10	100%	\$ 824,000
A-14	D1	Holford Rd (1)	Naaman Forest (Future) to Arapaho Rd	0.75	100%	\$ 5,347,000
A-15	C2	Holford Rd (2)	PGBT S Frontage Rd to Naaman Forest (Future)	0.33	100%	\$ 2,717,000
A-16	C2	Holford Rd (3)	N City Limits to PGBT N Frontage Rd	0.99	100%	\$ 8,118,000
A-17	B (1/3)	Lookout Dr (1)	Courtside Dr to Spring Dr	0.11	50%	\$ 100,500
A-18	B (1/3)	Lookout Dr (2)	Spring Dr to PGBT S Frontage Rd	0.80	50%	\$ 714,000
A-19	B (1/3)	Lookout Dr (3)	PGBT N Frontage Rd to Campbell Rd	0.72	100%	\$ 1,107,000
A-20	F	Mapleridge (1)	Shiloh Rd to Mapleridge Dr	0.09	100%	\$ 384,000
A-21	F	Mapleridge (2)	Mapleridge Dr (Existing) to Holford Rd	0.36	100%	\$ 3,513,000
A-22	B (1/3)	Garland Ave (1)	N City Limits to PGBT N Frontage Rd	1.29	100%	\$ 2,313,000
A-23	B (1/3)	Garland Ave (2)	Arapaho Rd to PGBT S Frontage Rd	1.14	100%	\$ 2,044,000
A-24	B-S (1/3)	Garland Ave (3)	Arapaho Rd to Belt Line Rd	0.79	100%	\$ 1,421,000
A-25	B (1/3)	Garland Ave (4)	Belt Line Rd to Buckingham Rd	0.97	100%	\$ 1,732,000
A-26	B (1/3)	Shiloh Rd (1)	PGBT S Frontage Rd to Campbell Rd	0.37	100%	\$ 657,000
A-27	B (1/3)	Shiloh Rd (2)	Campbell Rd to north bridge end	0.41	100%	\$ 733,000
A-28	B (1/3)	Shiloh Rd (3)	Collins Blvd to Arapaho Rd	0.59	100%	\$ 1,065,000
A-29	B (1/3)	Shiloh Rd (4)	Arapaho Rd to Belt Line Rd	1.03	100%	\$ 1,836,000
A-30	B (1/3)	Shiloh Rd (5)	Belt Line Rd to Buckingham Rd	0.96	100%	\$ 1,714,000
A-31	D1	Naaman Forest Blvd	W. Naaman Forest Blvd. to E. Naaman Forest Blvd.	0.33	100%	\$ 2,079,000
A-32	D1	Naaman School Rd	Brand Rd to Lavon Dr	0.88	100%	\$ 6,047,000
A-33	D1	Naaman Forest Blvd	Ranger to Brand Rd	0.26	100%	\$ 3,904,483
I-1		Shiloh Rd and Campbell Rd	Extend WB RT lane		100%	\$ 634,000
I-2		Arapaho Rd and Shiloh Rd	Add NB and SB RT lanes		100%	
I-3		Apollo Rd and Garland Ave	Add EB RT Lane		100%	
I-4		Wagon Wheel Rd and Garland Ave	WB RT Lane		100%	
I-5		Belt Line Rd and Garland Ave	WB RT Lane		100%	
I-6		Belt Line Rd and Shiloh Rd	EB RT Lane		100%	
I-7		Buckingham Rd and Plano Rd	NB RT Lane, EB and WB Dual LT Lanes		100%	
I-8		Shiloh Rd and Buckingham Rd	Add dual lefts WB, NB, and SB		50%	
Service Area Project Cost Subtotal						\$ 86,558,983
2016 Roadway Impact Fee Study Cost Per Service Area						\$ 15,840
Total Cost in SERVICE AREA A						\$ 86,574,823

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

**Table 4.B – 10-Year Roadway Impact Fee CIP
with Conceptual Level Cost Projections – Service Area B**

Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Cost in Service Area
B-1	E	Kings Rd	Marquis Dr to Kings Rd (Existing)	0.10	100%	\$ 551,000
B-2	E	Leon Rd (1)	Shiloh Rd to S. Garland Ave	0.18	100%	\$ 959,000
B-3	E	Leon Rd (2)	Leon Rd (Existing) to Millay Blvd (Future)	0.04	100%	\$ 212,000
B-4	E	Marketplace ext (1)	Towngate Blvd to Northwest Hwy	0.26	100%	\$ 1,398,000
B-5	E	Marketplace ext (2)	Pendleton Dr to Marketplace Dr	0.13	100%	\$ 666,000
B-6	E	Millay Blvd (Future)	Leon Rd to Millay Blvd (Existing)	0.22	100%	\$ 1,180,000
B-7	B (1/3)	Shiloh Rd (6)	Buckingham Rd to W Walnut St	1.00	100%	\$ 1,784,000
B-8	B	Shiloh Rd (7)	W Walnut St to Forest Ln	0.50	100%	\$ 4,590,000
B-9	B	Shiloh Rd (8)	Forest Ln to Miller Rd	1.01	100%	\$ 8,552,000
B-10	B	Shiloh Rd (9)	Miller Rd to Kingsley Rd	1.07	100%	\$ 9,087,000
B-11	B	Shiloh Rd (10)	Kingsley Rd to McCree Rd	0.50	100%	\$ 4,129,000
B-12	B	Shiloh Rd (11)	Garland Ave to IH-635 WBFR	0.29	100%	\$ 2,368,000
B-13	F	New road east of Industrial Ln	Kingsley Rd to McCree Rd	0.50	100%	\$ 2,260,000
B-14	D2	Saturn Rd	Saturn Rd (Existing) to Miller Rd	0.31	100%	\$ 2,215,000
B-15	E	Sherwin	Sherwin St (Existing) to Wood Dr	0.13	100%	\$ 2,432,000
I-9		Plano Rd and Walnut St	NB and SB RT Lane		100%	\$ 379,000
I-10		Forest Ln and Jupiter Rd	EB and NB RT Lane, NB Dual LT Lanes		100%	
I-11		Forest Ln and Shiloh Rd	SB and NB RT Lanes, Dual NB LT Lanes		100%	
I-12		Avenue B (SH 78) and First St	SB RT Lane		100%	
I-13		Avenue D and First St	EB RT Lane, EB Dual LT Lanes		100%	
I-15		Jupiter Rd and Miller Rd	SB RT Lane		100%	
I-16		Miller Rd and Shiloh Rd	SB RT Lane		100%	
I-17		Garland Ave and Miller Rd	SB, EB, and WB RT Lanes		100%	
I-18		Glenbrook Dr and Miller Rd	EB and WB LT Lanes		100%	
I-19		First St and Miller Rd	Add EB RT & NB, SB Dual Lefts		33%	
I-20		Broadway Blvd and First St	Triple LT from NB First St		50%	
I-21		Jupiter Rd and Kingsley Rd	WB RT Lane		100%	
I-22		Garland Ave and Kingsley Rd	NB RT Lane		100%	
I-24		Garland Ave and McCree Rd / Shiloh Rd	SWB Dual LT Lanes		100%	
Service Area Project Cost Subtotal						\$ 42,762,000
2016 Roadway Impact Fee Study Cost Per Service Area						\$ 15,840
Total Cost in SERVICE AREA B						\$ 42,777,840

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



**Table 4.C – 10-Year Roadway Impact Fee CIP
with Conceptual Level Cost Projections – Service Area C**

Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Cost in Service Area
C-1	D1	Castle Dr (1)	N. First St to Lavon Dr	0.15	100%	\$ 953,000
C-2	D1	Castle Dr (2)	Lavon Dr to Mars Dr	0.38	100%	\$ 2,390,000
C-3	E	Castle Dr (3)	Mars Dr to Country Club Rd	0.46	100%	\$ 2,424,000
C-4	E	Castle Dr (4)	Country Club Rd to Centerville Rd	1.05	100%	\$ 5,536,000
C-5	E	Castle Dr (5)	2660' south of Firewheel Pkwy to Firewheel Pkwy	0.50	50%	\$ 1,329,500
C-6	E	Castle Dr (6)	Firewheel Pkwy to Miles Rd	0.84	50%	\$ 2,216,500
C-7	D2	Crist Rd	Lavon Dr to Naaman School Rd	0.62	100%	\$ 4,436,000
C-8	A	Firewheel Parkway (2)	530' E of Lavon Dr to 310' S of Town Center Blvd	0.77	100%	\$ 6,292,000
C-9	C1	Pleasant Valley Rd (1)	Creek Meadow Ln to Miles Rd	0.50	100%	\$ 10,773,000
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	50%	\$ 477,500
C-11	C1	Pleasant Valley Rd (2)	Firewheel Pkwy to Creek Meadow Ln	0.58	100%	\$ 3,603,239
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	50%	\$ 1,371,942
I-14	Centerville Rd and SH 66		Add dual LT lanes NB and WB		100%	\$ 141,000
I-19	First St and Miller Rd		Add EB RT & NB, SB Dual Lefts		33%	
Service Area Project Cost Subtotal						\$ 41,943,681
2016 Roadway Impact Fee Study Cost Per Service Area						\$ 15,840
Total Cost in SERVICE AREA C						\$ 41,959,520

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

**Table 4.D – 10-Year Roadway Impact Fee CIP
with Conceptual Level Cost Projections – Service Area D**

Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Cost in Service Area
D-1	S	Bobtown Rd (1)	Rowlett Rd to Bobtown Rd (Existing)	0.17	100%	\$ 929,000
D-2	E-S	Bobtown Rd (2)	Bobtown Rd (Future) to Waterhouse Blvd	0.34	100%	\$ 1,779,000
D-3	E	Bobtown Rd (3)	400' S of High Dr to Lyons Rd	0.38	100%	\$ 1,995,000
D-4	E	Bobtown Rd (4)	Lyons Rd to South City Limits	0.50	50%	\$ 1,327,000
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	50%	\$ 477,500
D-6	F	E. Oates Rd (Future)	Country Club Rd to E. Oates Rd (Existing)	0.58	100%	\$ 3,219,000
D-7	B (1/3)	La Prada Dr	IH 635 E frontage road to Northwest Hwy	0.32	50%	\$ 283,500
D-8	E	Locust Grove Rd	290' E of Oceanport Dr to East City Limits	0.54	100%	\$ 2,859,000
D-9	B	Lyons Rd (1)	Bobtown Rd to Guthire Rd	0.61	100%	\$ 5,014,000
D-10	B	Lyons Rd (2)	Guthire Rd to Lyons Rd (Future)	0.17	100%	\$ 1,366,000
D-11	B	Lyons Rd (Future) (3)	Lyons Rd to South City Limits	0.23	100%	\$ 2,811,000
D-12	F	Rosehill Rd (1)	Rosehill Rd (Existing) to Wynn Joyce Rd	0.30	100%	\$ 1,364,000
D-13	B (1/3)	Rosehill Rd (2)	Bobtown Rd to IH 30 N loop	0.29	100%	\$ 513,000
D-14	A (1/3)	Rowlett Rd (1)	Broadway Blvd to Rosehill Rd	0.70	100%	\$ 1,254,000
D-15	A (1/3)	Rowlett Rd (2)	Rosehill Rd to Roan Rd	0.99	100%	\$ 1,781,000
D-16	A	Rowlett Rd (3)	Roan Rd to City Limits	0.30	100%	\$ 2,486,000
D-17	B (1/3)	S. Country Club Rd	Rowlett Rd to Bobtown Rd	0.33	100%	\$ 599,000
D-18	E	Zion Rd	Locust Grove Rd to Bobtown Rd	0.20	100%	\$ 1,075,000
D-19	B	Northwest Hwy	Centerville Rd to La Prada Dr	1.22	100%	\$ 2,904,782
D-20	E	Dairy Rd	Celeste Rd to Broadway Blvd	0.49	100%	\$ 3,597,758
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	50%	\$ 1,371,942
I-19	First St and Miller Rd		Add EB RT & NB, SB Dual Lefts		33%	\$ 236,000
I-20	Broadway Blvd and First St		Triple LT from NB First St		50%	
I-23	Broadway Blvd and Centerville Rd		Dual Lefts SWB, NEB and NWB		100%	
I-25	Broadway Blvd and Rowlett Rd		Add EB RT Lane		100%	
I-26	Broadway Blvd and IH-30 EBFR		Dual NB RT Lanes		100%	
Service Area Project Cost Subtotal						\$ 39,242,482
2016 Roadway Impact Fee Study Cost Per Service Area						\$ 15,840
Total Cost in SERVICE AREA D						\$ 39,258,321

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

F. Service Unit Calculation

The basic service unit for the computation of Garland's Roadway Impact Fees is the vehicle-mile of travel during the afternoon peak-hour (as explained on Pg. 17). 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 2016 to 2026 is based upon projected changes in residential units and employment for the period. In order to determine this growth, estimates of residential units, basic employment, service employment, and retail employment for 2016 were made, along with growth projections for each of these demographic statistics through 2026. The Land Use Assumptions section of this report details the growth estimates used for impact fee determination.

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

For non-residential land uses, the process is similar. The Land Use Assumptions section of this report provides existing and projected number of building square footages for three (3) categories of employment – 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 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 three sources – the *ITE Trip Generation Manual, 9th Edition*, the National Household Travel Survey performed by the FHWA, and NCTCOG. The *ITE 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. For example, a stop at a nearby supermarket on the way home from work does not create a new trip onto the roadway network. 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 trip generation rates 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 National Household Travel Survey (NHTS) conducted by the Federal Highway Administration (FHWA). A dataset for the Dallas-Fort Worth (DFW) area was pulled from the NHTS to estimate trip lengths in Garland. Trip lengths for some land uses were adjusted based on trip length information obtained from NCTCOG.

The computation of the *transportation demand factor* is based on the following equation:

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

$$\text{where...} L_{\max} = \min(L * OD \text{ or } 6)$$

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%)

The maximum trip length was limited to six (6) miles based on the maximum trip length within each service area. Chapter 395 of the Texas Local Government Code allows for a service area of six (6) miles, and the service areas within Garland are closely approximated with a six (6) mile 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 Roadway 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 Garland to both residential and non-residential land uses. To avoid counting these trips twice 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, and the total trip is only counted once.

Table 5 shows the derivation of the *Transportation Demand Factor* for the residential land uses and the three (3) non-residential land use categories. The values utilized for all variables shown in the *transportation demand factor* equation are also shown in the table.

Table 5. Transportation Demand Factor Calculations

Variable	Residential	Basic	Service	Retail
T	1.00	0.97	1.49	3.71
P_b	0%	0%	0%	34%
L	9.79	14.65	14.65	5.60
L_{max} *	4.90	6.00	6.00	2.80
TDF	4.90	5.82	8.94	6.86
* L _{max} is less than 6 miles for residential and retail land uses; therefore this lower trip length is used for calculating the TDF for these land uses.				

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%)

The application of the demographic projections and the *transportation demand factors* are presented in the 10-Year Growth Projections in **Table 7**. This table shows the total vehicle-miles by service area for the years 2016 and 2026. These estimates and projections lead to the Vehicle-Miles of Travel for both 2016 and 2026.

Table 6. 10-Year Growth Projections

2016- 2026 Growth Projections¹

SERVICE AREA	RESIDENTIAL VEHICLE-MILES				NON-RESIDENTIAL SQUARE FEET ⁵			TRANS. DEMAND FACTOR ⁶			NON-RESIDENTIAL VEHICLE-MILES ¹⁰			TOTAL VEHICLE MILES ¹¹		
	Single Family Units	Trip Rate TDF ²	Multi-Family Units	Trip Rate TDF ³	VEHICLE MILES ⁴	BASIC	SERVICE	RETAIL	BASIC ⁷	SERVICE ⁸	RETAIL ⁹	BASIC	SERVICE		RETAIL	TOTAL
A	896	1.00	523	0.62	5,975	412,000	1,613,000	1,172,000	0.97	1.49	3.71	2,398	14,420	8,040	24,858	30,833
B	281	4.90	467	3.03	2,792	513,000	489,000	251,000	5.82	8.94	6.86	2,986	4,372	1,722	9,080	11,872
C	518		298		3,441	152,000	378,000	457,000				885	3,379	3,135	7,399	10,840
D	689		310		4,315	185,000	437,000	710,000				1,077	3,907	4,871	9,855	14,170
Totals	2,384		1,598		16,524	1,262,000	2,917,000	2,590,000				7,346	26,078	17,768	51,192	67,716

VEHICLE-MILES OF INCREASE (2016 - 2026)

SERVICE AREA	VEH-MILES
A	30,833
B	11,872
C	10,840
D	14,170

Notes:

- ¹ From City of Garland 2016 Land Use Assumptions for Roadway Impact Fees
- ² Transportation Demand Factor for each Service Area (from LUVMET) using Single Family Detached Housing land use and trip generation rate
- ³ Transportation Demand Factor for each Service Area (from LUVMET) using Apartment/Multi-family land use and trip generation rate
- ⁴ Calculated by multiplying TDF by the number of dwelling units
- ⁵ From City of Garland 2016 Land Use Assumptions for Roadway Impact Fees
- ⁶ Trip generation rate and Transportation Demand Factors from LUVMET for each land use
- ⁷ 'Basic' corresponds to General Light Industrial land use and trip generation rate
- ⁸ 'Service' corresponds to General Office land use and trip generation rate
- ⁹ 'Retail' corresponds to Shopping Center land use and trip generation rate
- ¹⁰ Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use
- ¹¹ Residential plus non-residential vehicle-mile totals for each Service Area

V. ROADWAY 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 Roadway Impact Fee CIP costs for the service area divided by the growth in travel attributable to new development projected to occur within the 10-year period. A majority of the components of this calculation have been described and presented in previous sections of this report. The purpose of this section is to document the computation for each service area and to demonstrate that the guidelines provided by Chapter 395 of the Texas Local Government Code have been addressed. **Table 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. The calculation of the maximum assessable impact fee is shown in **Table 8**.

Table 7. Maximum Assessable Roadway Impact Fee Computation

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

Each project identified in the 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	<i>Total Vehicle-Miles of Existing Demand</i>	A measure of the amount of traffic currently using the roadway facilities upon which capacity is being added. (from Appendix B – CIP Units of Supply)
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A number of facilities identified in the 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	<i>Total Vehicle-Miles of Existing Deficiencies</i>	Number of vehicle-miles of travel that are not accommodated by the existing roadway system (from Appendix C – Existing Roadway Facilities Inventory)
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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 Roadway Impact Fee CIP – will have these additional trips removed from the calculation.

4	<i>Net Amount of Vehicle-Miles of Capacity Added</i>	A measurement of the amount of vehicle-miles added by the Roadway Impact Fee CIP that will not be utilized by existing demand (Line 1 – Line 2 – Line 3)
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This calculation identifies the portion of the Roadway Impact Fee CIP (in vehicle-miles) that may be recoverable through the collection of impact fees.

5	<i>Total Cost of the Roadway Impact Fee CIP within the Service Area</i>	The total cost of the projects within each service area (from Table 5: 10-Year Roadway Impact Fee Capital Improvements Plan with Conceptual Level Cost Opinions)
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This line simply identifies the total cost of all of the projects identified in each service area.

6	<i>Cost of Net Capacity Supplied</i>	The total Roadway Impact Fee CIP cost (Line 5) prorated by the ratio of Net Capacity Added (Line 4) to Total Capacity Added (Line 1). $[(\text{Line 4} / \text{Line 1}) * (\text{Line 5})]$
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Using the ratio of vehicle-miles added by the Roadway Impact Fee CIP available to serve future growth to the total vehicle-miles added, the total cost of the CIP is reduced to the amount available for future growth (i.e. excluding existing usage and deficiencies).

7	<i>Cost to Meet Existing Needs and Usage</i>	The difference between the Total Cost of the Roadway Impact Fee CIP (Line 5) and the Cost of the Net Capacity supplied (Line 6). (Line 5 – Line 6)
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This line is provided for information purposes only – it is to present the portion of the total cost of the Roadway Impact Fee CIP that is required to meet existing demand.

8	<i>Total Vehicle-Miles of New Demand over Ten Years</i>	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 7)
----------	---	---

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

9	<i>Percent of Capacity Added Attributable to New Growth</i>	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	<i>Chapter 395 Check</i>	

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

11	<i>Cost of Roadway Impact Fee CIP Attributable to New Growth</i>	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).
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This value is the total Roadway 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.

B. Plan for Financing and the Ad Valorem Tax Credit

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

- (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 plan is summarized, as prepared by NewGen Strategies in **Appendix D** and **Appendix E**, Plan for Awarding the Transportation Impact Fee Credit. The following table summarizes the portions of **Table 8** that utilize this credit calculation.

Line	Title	Description
12	<i>Financing Costs</i>	(from Appendix D – Plan for Awarding the Transportation Impact Fee Credit)
13	<i>Interest Earnings + Principal Paid on Existing Debt</i>	(from Appendix D – Plan for Awarding the Transportation Impact Fee Credit)
14	<i>Existing Impact Fee Fund Balance</i>	(from Appendix D – Plan for Awarding the Transportation Impact Fee Credit)
15	<i>Cost of the Roadway Impact Fee CIP and Financing Attributable to New Growth</i>	The sum of the Cost of Capacity Added Attributable to New Growth, Financing Costs, and Interest Earnings. (Line 11 + Line 12 + Line 13 + Line 14)
16	<i>Pre-Credit Maximum Fee Per Service Unit</i>	Found by dividing the Cost of the TIP and Financing Attributable to New Growth (Line 15) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8). (Line 15 / Line 8)
17	<i>Credit for Ad Valorem Taxes</i>	A credit for the portion of ad valorem taxes projected to be generated by the new service units, as per Section 395.014 of the Local Government Code. (from Appendix D – Plan for Awarding the Transportation Impact Fee Credit)
18	<i>Recoverable Cost of the Roadway Impact Fee CIP and Financing</i>	The difference between the Cost of the TIP and Financing Attributable to New Growth (Line 15) and the Credit for Ad Valorem Taxes (Line 17). (Line 15 + Line 17)
19	<i>Maximum Assessable Fee Per Service Unit</i>	Found by dividing the Recoverable Cost of the TIP and Financing (Line 18) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8). (Line 18 / Line 8)

Table 8. Maximum Assessable Roadway Impact Fee

SERVICE AREA:		A	B	C	D
1	TOTAL VEH-MI OF CAPACITY ADDED BY THE ROADWAY IMPACT FEE CIP (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, APPENDIX B)	110,133	27,381	21,086	33,845
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, APPENDIX B)	27,386	9,268	3,783	6,736
3	TOTAL VEH-MI OF EXISTING DEFICIENCIES (FROM EXISTING ROADWAY FACILITIES INVENTORY, APPENDIX C)	305	4,758	1,591	28
4	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2 - LINE 3)	82,442	13,355	15,712	27,081
5	TOTAL COST OF THE ROADWAY IMPACT FEE CIP WITHIN SERVICE AREA (FROM TABLES 4A TO 4E)	\$ 86,574,823	\$ 42,776,840	\$ 41,959,520	\$ 39,258,321
6	COST OF NET CAPACITY SUPPLIED (LINE 4 / LINE 1) * (LINE 5)	\$ 64,807,111	\$ 20,864,274	\$ 31,265,673	\$ 31,412,457
7	COST TO MEET EXISTING NEEDS AND USAGE (LINE 5 - LINE 6)	\$ 21,767,712	\$ 21,912,566	\$ 10,693,847	\$ 7,845,864
8	TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (FROM TABLE 7 AND LAND USE ASSUMPTIONS)	30,833	11,872	10,840	14,170
9	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 8 / LINE 4)	37.3%	88.8%	68.9%	52.3%
10	IF LINE 8 > LINE 4, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE	37.3%	88.8%	68.9%	52.3%
11	COST OF ROADWAY IMPACT FEE CIP ATTRIBUTABLE TO GROWTH (LINE 6 * LINE 10)	\$ 24,173,052	\$ 18,527,475	\$ 21,542,049	\$ 16,428,715
12	FINANCING COSTS (FROM APPENDIX D)	\$ 10,530,329	\$ 8,175,922	\$ 9,115,235	\$ 6,799,841
13	INTEREST EARNINGS + PRINCIPAL PAID ON EXISTING DEBT (FROM APPENDIX D)	\$ (1,354,039)	\$ (1,012,470)	\$ (1,227,386)	\$ (973,044)
14	EXISTING IMPACT FEE FUND BALANCE (FROM APPENDIX D)	\$ (1,259,298)	\$ (908,960)	\$ (502,053)	\$ (1,113,622)
15	COST OF THE ROADWAY IMPACT FEE CIP AND FINANCING ATTRIBUTABLE TO NEW GROWTH (LINE 11 + LINE 12 + LINE 13 + LINE 14)	\$ 32,090,045	\$ 24,781,968	\$ 28,927,845	\$ 21,141,890
16	PRE-CREDIT MAXIMUM FEE PER SERVICE UNIT (LINE 15 / LINE 8)	\$ 1,041	\$ 2,087	\$ 2,669	\$ 1,492
17	CREDIT FOR AD VALOREM TAXES (FROM APPENDIX D)	\$ (269,345)	\$ (77,232)	\$ (85,047)	\$ (88,284)
18	RECOVERABLE COST OF ROADWAY IMPACT FEE CIP AND FINANCING (LINE 15 + LINE 17)	\$ 31,820,700	\$ 24,704,735	\$ 28,842,799	\$ 21,053,606
19	MAXIMUM ASSESSABLE FEE PER SERVICE UNIT (LINE 18 / LINE 8)	\$ 1,032	\$ 2,081	\$ 2,661	\$ 1,486



C. Service Unit Demand Per Unit of Development

The Roadway Impact Fee is determined by multiplying the impact fee rate by the number of service units projected for the proposed development. For this purpose, the City will utilize the Land Use/Vehicle-Mile Equivalency Table (LUVMET), presented in **Table 9**. This table lists the predominant land uses that may occur within the City of Garland. 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 local uses are found in this table. The descriptions for each land use are presented in **Table 10**. 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 is 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 in **Table 9**, 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 definitive source of the trip generation and pass-by statistics is the *ITE Trip Generation Manual, 9th Edition*, the latest edition. 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. However, for land uses not contained within the 9th Edition of the *ITE Trip Generation Manual*, an alternative service unit demand could be calculated by completing a trip generation study based on the procedure identified in the *ITE Trip Generation Handbook*.

To convert vehicle trips to vehicle-miles, it is necessary to multiply trips by trip length. The trip length values are based on a DFW subset of the NHTS performed by the FHWA, and on trip length information from 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 six (6) miles, the maximum trip length used for calculation is

reduced to six (6) miles. This reduction, as discussed previously, limits the maximum trip length to the approximate size of the service areas.

The remaining column in the LUVMET shows the vehicle-miles per development unit. This number is the product of the trip rate and the maximum trip length. This number, previously referred to as the *Transportation Demand Factor*, is used in the impact fee 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 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	NHTS Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev-Unit
PORT AND TERMINAL											
Truck Terminal	030	Acre	6.55			6.55	14.65	50%	7.33	6.00	39.30
INDUSTRIAL											
General Light Industrial	110	1,000 SF GFA	0.97			0.97	14.65	50%	7.33	6.00	5.82
General Heavy Industrial	120	1,000 SF GFA	0.68			0.68	14.65	50%	7.33	6.00	4.08
Industrial Park	130	1,000 SF GFA	0.85			0.85	14.65	50%	7.33	6.00	5.10
Warehousing	150	1,000 SF GFA	0.32			0.32	14.65	50%	7.33	6.00	1.92
Mini-Warehouse	151	1,000 SF GFA	0.26			0.26	14.65	50%	7.33	6.00	1.56
RESIDENTIAL											
Single-Family Detached Housing	210	Dwelling Unit	1.00			1.00	9.79	50%	4.90	4.90	4.90
Apartment/Multi-family	220	Dwelling Unit	0.62			0.62	9.79	50%	4.90	4.90	3.03
Residential Condominium/Townhome	230	Dwelling Unit	0.52			0.52	9.79	50%	4.90	4.90	2.55
Mobile Home Park / Manufactured Housing	240	Dwelling Unit	0.59			0.59	9.79	50%	4.90	4.90	2.89
Senior Adult Housing-Detached	251	Dwelling Unit	0.27			0.27	9.79	50%	4.90	4.90	1.32
Senior Adult Housing-Attached	252	Dwelling Unit	0.25			0.25	9.79	50%	4.90	4.90	1.22
Assisted Living	254	Beds	0.22			0.22	9.79	50%	4.90	4.90	1.08
LODGING											
Hotel	310	Room	0.60			0.60	6.43	50%	3.22	3.22	1.93
Motel / Other Lodging Facilities	320	Room	0.47			0.47	6.43	50%	3.22	3.22	1.51
RECREATIONAL											
Golf Driving Range	432	Tee	1.25			1.25	7.86	50%	3.93	3.93	4.91
Golf Course	430	Acre	0.30			0.30	7.86	50%	3.93	3.93	1.18
Recreational Community Center	495	1,000 SF GFA	2.74			2.74	7.86	50%	3.93	3.93	10.77
Ice Skating Rink	465	1,000 SF GFA	2.36			2.36	7.86	50%	3.93	3.93	9.27
Miniature Golf Course	431	Hole	0.33			0.33	7.86	50%	3.93	3.93	1.30
Multiplex Movie Theater	445	Screens	13.64			13.64	7.86	50%	3.93	3.93	53.61
Racquet / Tennis Club	491	Court	3.35			3.35	7.86	50%	3.93	3.93	13.17
INSTITUTIONAL											
Church	560	1,000 SF GFA	0.55			0.55	8.31	50%	4.16	4.16	2.29
Day Care Center	565	1,000 SF GFA	12.34	44%	B	6.91	3.49	50%	1.75	1.75	12.06
Primary/Middle School (1-8)	522	Students	0.16			0.16	3.49	50%	1.75	1.75	0.28
High School	530	Students	0.13			0.13	3.49	50%	1.75	1.75	0.23
Junior / Community College	540	Students	0.12			0.12	10.44	50%	5.22	5.22	0.63
University / College	550	Students	0.17			0.17	10.44	50%	5.22	5.22	0.89
MEDICAL											
Clinic	630	1,000 SF GFA	5.18			5.18	9.85	50%	4.93	4.93	25.51
Hospital	610	1,000 SF GFA	0.93			0.93	9.85	50%	4.93	4.93	4.58
Nursing Home	620	Beds	0.22			0.22	9.85	50%	4.93	4.93	1.08
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	4.72	30%	B	3.30	9.85	50%	4.93	4.93	16.25
OFFICE											
Corporate Headquarters Building	714	1,000 SF GFA	1.41			1.41	14.65	50%	7.33	6.00	8.46
General Office Building	710	1,000 SF GFA	1.49			1.49	14.65	50%	7.33	6.00	8.94
Medical-Dental Office Building	720	1,000 SF GFA	3.57			3.57	9.85	50%	4.93	4.93	17.58
Single Tenant Office Building	715	1,000 SF GFA	1.74			1.74	14.65	50%	7.33	6.00	10.44
Office Park	750	1,000 SF GFA	1.48			1.48	14.65	50%	7.33	6.00	8.88

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (August 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 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	NHTS Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev-Unit
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	4.16
Automobile Parts Sales	843	1,000 SF GFA	5.98	43%	A	3.41	4.45	50%	2.23	2.23	7.59
Gasoline/Service Station	944	Vehicle Fueling Position	13.87	42%	A	8.04	1.20	50%	0.60	0.60	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	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	3.66
New Car Sales	841	1,000 SF GFA	2.62	20%	B	2.10	4.45	50%	2.23	2.23	4.67
Quick Lubrication Vehicle Shop	941	Servicing Positions	5.19	40%	B	3.11	4.45	50%	2.23	2.23	6.92
Self-Service Car Wash	947	Stall	5.54	40%	B	3.32	1.20	50%	0.60	0.60	1.99
Automated Car Wash	948	Stall	14.12	40%	B	8.47		50%	0.00	0.00	0.00
Tire Store	848	1,000 SF GFA	4.15	28%	A	2.99	4.45	50%	2.23	2.23	6.65
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	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	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	17.03
Quality Restaurant	931	1,000 SF GFA	7.49	44%	A	4.19	6.07	50%	3.04	3.04	12.72
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	29.08
Other Retail											
Free-Standing Discount Store	815	1,000 SF GFA	4.98	30%	C	3.49	5.60	50%	2.80	2.80	9.77
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	5.60	50%	2.80	2.80	13.61
Home Improvement Superstore	862	1,000 SF GFA	2.33	48%	A	1.21	5.60	50%	2.80	2.80	3.39
Pharmacy/Drugstore w/o Drive-Thru Window	880	1,000 SF GFA	8.40	53%	A	3.95	5.60	50%	2.80	2.80	11.06
Pharmacy/Drugstore w/ Drive-Thru Window	881	1,000 SF GFA	9.91	49%	A	5.05	5.60	50%	2.80	2.80	14.14
Shopping Center	820	1,000 SF GLA	3.71	34%	A	2.45	5.60	50%	2.80	2.80	6.86
Supermarket	850	1,000 SF GFA	9.48	36%	A	6.07	5.60	50%	2.80	2.80	17.00
Toy/Children's Superstore	864	1,000 SF GFA	4.99	30%	B	3.49	5.60	50%	2.80	2.80	9.77
Department Store	875	1,000 SF GFA	1.87	30%	B	1.31	5.60	50%	2.80	2.80	3.67
SERVICES											
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	4.45	50%	2.23	2.23	16.20
Drive-In Bank	912	Drive-in Lanes	33.24	47%	A	17.62	4.45	50%	2.23	2.23	39.20
Hair Salon	918	1,000 SF GLA	1.45	30%	B	1.02	4.45	50%	2.23	2.23	2.27

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (August 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 10 - Land Use Descriptions

Land Use Category	ITE Land Use Code	Land Use Description
PORT AND TERMINAL		
Truck Terminal	030	Point of good transfer between trucks or between trucks and rail
INDUSTRIAL		
General Light Industrial	110	Emphasis on activities other than manufacturing; typically employing fewer than 500 workers
General Heavy Industrial	120	Primary activity is conversion of raw materials or parts into finished products
Industrial Park	130	Area containing a number of industries or related facilities
Warehousing	150	Devoted to storage of materials but may include office and maintenance areas
Mini-Warehouse	151	Facilities with a number of units rented to others for the storage of goods
RESIDENTIAL		
Single-Family Detached Housing	210	Single-family detached homes on individual lots
Apartment/Multi-family	220	At least 4 rental dwelling units per building
Residential Condominium/Townhome	230	Single-family ownership units that have at least one other single-family owned unit within the same building
Senior Adult Housing-Detached	251	Consists of detached independent living developments that include amenities such as golf courses and swimming pools
Senior Adult Housing-Attached	252	Consists of attached independent living developments that include limited social or recreation services
Assisted Living	254	Residential settings that provide either routine general protective oversight or assistance with activities.
LODGING		
Hotel	310	Lodging facilities that typically have on-site restaurants, lounges, meeting and/or banquet rooms, or other retail shops and services
Motel / Other Lodging Facilities	320	Lodging facilities that may have small on-site restaurant or buffet area but little or no meeting space
RECREATIONAL		
Golf Driving Range	432	Facilities with driving tees for practice; may provide individual or group lessons; may have prop shop and/or refreshment facilities
Golf Course	430	May include municipal courses and private country clubs; may have driving ranges, pro shops, and restaurant/banquet facilities
Recreational Community Center	495	Category includes racquet clubs, health/fitness clubs, can include facilities such as YMCA's
Ice Skating Rink	465	Rinks for ice skating and related sports; may contain spectator areas and refreshment facilities
Miniature Golf Course	431	One or more individual putting courses; category should not be used when part of a larger entertainment center(with batting cages, video game centers, etc)
Multiplex Movie Theater	445	Movie theater with audience seating, minimum of ten screens, lobby, and refreshment area.
Racquet / Tennis Club	491	Indoor or outdoor facilities specifically designed for playing tennis
INSTITUTIONAL		
Church	560	Churches and houses of worship
Day Care Center	565	Generally includes facilities for care of pre-school aged children, generally includes classrooms, offices, eating areas, and playgrounds
Primary/Middle School (1-8)	522	Serves students who have not yet entered high school
High School	530	Serves students who have completed middle or junior high school
Junior / Community College	540	Two-year junior, community, or technical colleges
University / College	550	Four-year universities or colleges that may or may not offer graduate programs
MEDICAL		
Clinic	630	Facilities with limited diagnostic and outpatient care
Hospital	610	Medical and surgical facilities with overnight accommodations
Nursing Home	620	Rest and convalescent homes with residents who do little or no driving
Animal Hospital/Veterinary Clinic	640	Rest and convalescent homes with residents who do little or no driving
OFFICE		
Corporate Headquarters Building	714	Office building housing corporate headquarters of a single company or organization
General Office Building	710	Office buildings which house multiple tenants
Medical-Dental Office Building	720	Multi-tenant building with offices for physicians and/or dentists
Single Tenant Office Building	715	Single tenant office buildings other than corporate headquarters
Office Park	750	Office buildings (typically low-rise) in a campus setting and served by a common roadway system



Table 1 (Cont'd). Land Use Descriptions

Land Use Category	ITE Land Use Code	Land Use Description
COMMERCIAL		
Automobile Related		
Automobile Care Center	942	Automobile repair and servicing including stereo installations and upholstery
Automobile Parts Sales	843	Retail sale of auto parts but no on-site vehicle repair
Gasoline/Service Station	944	Gasoline sales without convenience store or car wash; may include repair
Gasoline/Service Station w/ Conv Market	945	Gasoline sales with convenience store where the primary business is gasoline sales
Gasoline/Service Station w/ Conv Market and Car Wash	946	Gasoline sales with convenience store and car washes where the primary business is gasoline sales
New Car Sales	841	New car dealerships, typically with automobile servicing, part sales, and used car sales
Quick Lubrication Vehicle Shop	941	Primary business is to perform oil changes and fluid/filter changes with other repair services not provided
Self-Service Car Wash	947	Has stalls for driver to park and wash the vehicle
Tire Store	848	Primary business is sales and installation of tires; usually do not have large storage or warehouse area
Dining		
Fast Food Restaurant with Drive-Thru Window	934	High-turnover fast food restaurant for carry-out and eat-in customers with a drive-thru window
Fast Food Restaurant without Drive-Thru Window	933	High-turnover fast food restaurant for carry-out and eat-in customers, but without a drive-thru window
High Turnover (Sit-Down) Restaurant	932	Restaurants with turnover rates less than one hour; typically includes moderately-priced chain restaurants
Quality Restaurant	931	Restaurants with turnover rates of one hour or longer; typically require reservations
Coffee/Donut Shop with Drive-Thru Window	937	Coffee and Donut restaurants with drive-through windows, hold long store hours and have limited indoor seating
Other Retail		
Free-Standing Discount Store	815	Category includes free-standing stores with off-street parking; typically offer a variety of products and services with long store hours
Nursery (Garden Center)	817	Building with a yard of planting or landscape stock; may have office, storage, shipping or greenhouse facilities
Home Improvement Superstore	862	Warehouse-type facilities offering a large variety of products and services including lumber, tool, paint, lighting, and fixtures, among other items.
Pharmacy/Drugstore w/o Drive-Thru Window	880	Facilities that primarily sell prescription and non-prescription drugs without a drive-through window
Pharmacy/Drugstore w/ Drive-Thru Window	881	Facilities that primarily sell prescription and non-prescription drugs with a drive-through window
Shopping Center	820	Integrated group of commercial establishments; planning, owned, and managed as a unit
Supermarket	850	Primary business is sale of groceries, food, and household cleaning items; may include photo, pharmacy, video rental, and/or ATM
Toy/Children's Superstore	864	Businesses specializing in child-oriented merchandise
Department Store	875	Free-standing stores that specialize in the sale of apparel, footwear, bedding, home products, jewelry, etc.
SERVICES		
Walk-In Bank	911	Banks with their own parking lots, no drive-in lanes but contain non-drive-through ATMs
Drive-In Bank	912	Banking facilities to conduct financial transactions from the vehicle; also usually apart of walk-in bank
Hair Salon	918	Facilities that specialize in cosmetic and beauty services including hair cutting and styling

VI. SAMPLE CALCULATIONS

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

Example 1:

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

Roadway Impact Fee Calculation Steps – Example 1	
Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 10 [Land Use – Vehicle-Mile Equivalency Table]</i> Development Type: 1 Dwelling Unit of Single-Family Detached Housing Number of Development Units: 1 Dwelling Unit Veh-Mi Per Development Unit: 4.90
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile)
	<i>From Table 9, Line 14 [Maximum Assessable Fee Per Service Unit]</i> Service Area A: \$1,032
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 1 * 4.90 * \$1,032 Maximum Assessable Impact Fee = \$5,057

Example 2:

Development Type – 125,000 square foot Home Improvement Superstore in Service Area D

Roadway Impact Fee Calculation Steps – Example 2	
Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	<i>From Table 10 [Land Use – Vehicle-Mile Equivalency Table]</i> 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 (Vehicle-Mile)
	<i>From Table 9, Line 14 [Maximum Assessable Fee Per Service Unit]</i> Service Area D: \$1,486
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 * \$1,486 Maximum Assessable Impact Fee = \$1,011,491

VII. ADOPTION AND ADMINISTRATION OF ROADWAY IMPACT FEES

A. Adoption Process

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of Roadway Impact Fees. A Capital Improvement Advisory Committee (CIAC) is required to review the Land Use Assumptions and Roadway Impact Fees CIP used in calculating the maximum fee, and to provide the Committee's findings for consideration by the City Council. This CIAC also reviews the Roadway Impact Fee ordinance and provides its findings to the City Council. The composition of the CIAC is required to adequately represent the building and development communities. The City Council then conducts a first public hearing on the Land Use Assumptions and Roadway Impact Fee CIP and a second public hearing on the Roadway Impact Fee Ordinance.

Following policy adoption, the CIAC is tasked with advising the City Council of the need to update the Land Use Assumptions or the Roadway Impact Fees CIP at any time within five years of adoption. Finally, the CIAC oversees the proper administration of the Impact Fee, once in place, and advises the Council as necessary.

B. Collection and Use of Transportation Impact Fees

Roadway Impact fees are assessed when a final plat is recorded. The assessment defines the impact of each unit at the time of platting, according to land use, and may not exceed the maximum impact fee allowed by law. Roadway Impact Fees are collected when a building permit is issued. Therefore, funds are not collected until development-impacts are introduced to the transportation system. Funds collected within a service area can be used only within the same service area. Finally, fees must be utilized within 10 years of collection, or must be refunded with interest.



VIII. CONCLUSIONS

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

This report establishes the maximum allowable Roadway Impact Fee that could be assessed by the City of Garland, as shown in the previously referenced **Table 8**.

This document serves as a guide to the assessment of Roadway Impact Fees pertaining to future development, and the City's need for transportation improvements to accommodate that growth. Following the public hearing process, the City Council may establish an impact fee amount to be collected, up to the calculated maximum and establish the Roadway Impact Fee Ordinance accordingly.

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

Below is the listing of the 2016 Roadway Impact Fee Study's Maximum Assessable Impact Fee Per Service Unit (Vehicle-Mile):

Service Areas	A	B	C	D
2016 Roadway Impact Fee Study Maximum Assessable Fee Per Vehicle-Mile	\$ 1,032	\$ 2,081	\$ 2,661	\$ 1,486

APPENDICES

A. Conceptual Level Project Cost Projections

SERVICE AREA A
SERVICE AREA B
SERVICE AREA C
SERVICE AREA D

B. Roadway Impact Fee CIP Service Units of Supply

C. Existing Roadway Facilities Inventory

D. Plan for Awarding the Transportation Impact Fee Credit Summary

E. Plan for Awarding the Transportation Impact Fee Credit Supporting Exhibits

Appendix A – Conceptual Level Project Cost Projections

City of Garland - 2016 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area A

#	IF Class	Project	Limits		Status	Percent in Service Area	Project Cost	Total Cost in Service Area
			From	To				
A-1	B (1/3)	Arapaho Rd (1)	Elm Ridge Ln	Shiloh Rd	Median	100	\$ 1,383,000	\$ 1,383,000
A-2	B (1/3)	Arapaho Rd (2)	Shiloh Rd	N. Garland Ave	Median	100	\$ 1,210,000	\$ 1,210,000
A-3	C1	Brand Rd (1)	Bellaire Rd	Belt Line Rd	Widening	100	\$ 4,092,000	\$ 4,092,000
A-4	C1	Brand Rd (2)	Naaman Forest Blvd	West Brand Rd	New	100	\$ 8,172,000	\$ 8,172,000
A-5	C1	Brand Rd (3)	Murfield Rd	PGBT N Frontage Rd	Widening	100	\$ 3,590,000	\$ 3,590,000
A-6	B (1/3)	Campbell Rd (1)	N. Jupiter Rd	Shiloh Rd	Median	100	\$ 1,901,000	\$ 1,901,000
A-7	B (1/3)	Campbell Rd (2)	Shiloh Rd	PGBT S Frontage Rd	Median	100	\$ 740,000	\$ 740,000
A-8	B (1/3)	Campbell Rd (3)	Lookout Dr	PGBT N Frontage Rd	Median	100	\$ 1,065,000	\$ 1,065,000
A-9	B (1/3)	Campbell Rd (4)	Lookout Dr	N. Garland Ave	Median	100	\$ 1,150,000	\$ 1,150,000
A-10	B (1/3)	Campbell Rd (5)	N. Garland Ave	Water Oak Dr	Median	100	\$ 929,000	\$ 929,000
A-11	B	Campbell Rd (6)	Water Oak Dr	Murphy Rd	Widening	100	\$ 11,065,000	\$ 11,065,000
A-12	D1	Ferris Rd	Campbell Rd	Holford Rd	Widening	100	\$ 2,258,000	\$ 2,258,000
A-13	A	Firewheel Parkway (1)	Lavon Dr	530' E of Lavon Dr	Widening	100	\$ 824,000	\$ 824,000
A-14	D1	Holford Rd (1)	Naaman Forest (Future)	Arapaho Rd	Widening	100	\$ 5,347,000	\$ 5,347,000
A-15	C2	Holford Rd (2)	PGBT S Frontage Rd	Naaman Forest (Future)	Widening	100	\$ 2,717,000	\$ 2,717,000
A-16	C2	Holford Rd (3)	N City Limits	PGBT N Frontage Rd	Widening	100	\$ 8,118,000	\$ 8,118,000
A-17	B (1/3)	Lookout Dr (1)	Courtside Dr	Spring Dr	Median	50	\$ 201,000	\$ 100,500
A-18	B (1/3)	Lookout Dr (2)	Spring Dr	PGBT S Frontage Rd	Median	50	\$ 1,428,000	\$ 714,000
A-19	B (1/3)	Lookout Dr (3)	PGBT N Frontage Rd	Campbell Rd	Median	100	\$ 1,107,000	\$ 1,107,000
A-20	F	Mapleridge (1)	Shiloh Rd	Mapleridge Dr	New	100	\$ 384,000	\$ 384,000
A-21	F	Mapleridge (2)	Mapleridge Dr (Existing)	Holford Rd	New	100	\$ 3,513,000	\$ 3,513,000
A-22	B (1/3)	Garland Ave (1)	N City Limits	PGBT N Frontage Rd	Median	100	\$ 2,313,000	\$ 2,313,000
A-23	B (1/3)	Garland Ave (2)	Arapaho Rd	PGBT S Frontage Rd	Median	100	\$ 2,044,000	\$ 2,044,000
A-24	B-S (1/3)	Garland Ave (3)	Arapaho Rd	Belt Line Rd	Median	100	\$ 1,421,000	\$ 1,421,000
A-25	B (1/3)	Garland Ave (4)	Belt Line Rd	Buckingham Rd	Median	100	\$ 1,732,000	\$ 1,732,000
A-26	B (1/3)	Shiloh Rd (1)	PGBT S Frontage Rd	Campbell Rd	Median	100	\$ 657,000	\$ 657,000
A-27	B (1/3)	Shiloh Rd (2)	Campbell Rd	north bridge end	Median	100	\$ 733,000	\$ 733,000
A-28	B (1/3)	Shiloh Rd (3)	Collins Blvd	Arapaho Rd	Median	100	\$ 1,065,000	\$ 1,065,000
A-29	B (1/3)	Shiloh Rd (4)	Arapaho Rd	Belt Line Rd	Median	100	\$ 1,836,000	\$ 1,836,000
A-30	B (1/3)	Shiloh Rd (5)	Belt Line Rd	Buckingham Rd	Median	100	\$ 1,714,000	\$ 1,714,000
A-31	D1	Naaman Forest Blvd	W. Naaman Forest Blvd.	E. Naaman Forest Blvd.	New	100	\$ 2,079,000	\$ 2,079,000
A-32	D1	Naaman School Rd	Brand Rd	Lavon Dr	Widening	100	\$ 6,047,000	\$ 6,047,000
A-33	D1	Naaman Forest Blvd	Ranger	Brand Rd	Completed	100	\$ 3,904,483	\$ 3,904,483
TOTAL							\$ 86,739,483	\$ 85,924,983

Bottleneck Study Improvements - Service Area A

#	Intersection	Improvement(s)	Percent in Service Area	Total Project Cost in Service Area	10-Year Growth Cost in Service Area
I-1	Shiloh Rd and Campbell Rd	Extend WB RT lane	100%	\$ 2,625,000.00	\$ 634,000.00
I-2	Arapaho Rd and Shiloh Rd	Add NB and SB RT lanes	100%		
I-3	Apollo Rd and Garland Ave	Add EB RT Lane	100%		
I-4	Wagon Wheel Rd and Garland Ave	WB RT Lane	100%		
I-5	Belt Line Rd and Garland Ave	WB RT Lane	100%		
I-6	Belt Line Rd and Shiloh Rd	EB RT Lane	100%		
I-7	Buckingham Rd and Plano Rd	NB RT Lane, EB and WB Dual LT Lanes	100%		
I-8	Shiloh Rd and Buckingham Rd	Add dual lefts WB, NB, and SB	50%		

NOTE: These 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 Garland. These 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 Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-1
Name:	Arapaho Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Elm Ridge Ln to Shiloh Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	4,075			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	5,886	cy	\$ 8.00	\$ 47,089
210	6" Lime Stabilization Subgrade	11,319	sy	\$ 2.60	\$ 29,431
310	Street Cut Paving Concrete - Class C Construct	10,414	sy	\$ 70.00	\$ 728,972
410	Curb 6" Integral	8,150	lf	\$ 1.95	\$ 15,893
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	926	sy	\$ 70.00	\$ 64,830
Paving Construction Cost Subtotal:					\$ 886,214
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 44,311
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 26,586
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 35,449
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 106,346
				Paving and Allowance Subtotal:	\$ 992,559
				Construction Contingency:	10% \$ 99,256
				Mobilization	5% \$ 49,628
				Prep ROW	5% \$ 49,628
				Construction Cost TOTAL:	\$ 1,192,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,192,000
Engineering/Survey/Testing:		16%	\$ 190,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,383,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-2
Name:	Arapaho Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Shiloh Rd to N. Garland Ave			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,565			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	5,149	cy	\$ 8.00	\$ 41,196
210	6" Lime Stabilization Subgrade	9,903	sy	\$ 2.60	\$ 25,747
310	Street Cut Paving Concrete - Class C Construct	9,111	sy	\$ 70.00	\$ 637,739
410	Curb 6" Integral	7,130	lf	\$ 1.95	\$ 13,904
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	810	sy	\$ 70.00	\$ 56,716
Paving Construction Cost Subtotal: \$					775,301
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 38,765
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 23,259
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 31,012
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	93,036
Paving and Allowance Subtotal:				\$	868,337
Construction Contingency:				10%	\$ 86,834
Mobilization				5%	\$ 43,417
Prep ROW				5%	\$ 43,417
Construction Cost TOTAL: \$					1,043,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,043,000
Engineering/Survey/Testing:		16%	\$ 166,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,210,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-3
Name:	Brand Rd (1)	This project consists of the reconstruction of the existing facility as a four lane divided minor arterial		
Limits:	Bellaire Rd to Belt Line Rd			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	3,375			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	9,750	cy	\$ 8.00	\$ 78,000
207	6" Lime Stabilization Subgrade	19,125	sy	\$ 2.60	\$ 49,725
307	Street Cut Paving Concrete - Class C Construct	18,750	sy	\$ 70.00	\$ 1,312,500
407	Curb 6" Integral	13,500	lf	\$ 1.95	\$ 26,325
507	Sidwalk 4" Class A Construct	4,500	sy	\$ 43.00	\$ 193,500
607	Turn Lanes and Median Openings	1,552	sy	\$ 70.00	\$ 108,639
Paving Construction Cost Subtotal:					\$ 1,768,689
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 88,434
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 53,061
√	Roadway Drainage	Standard Internal System		30%	\$ 530,607
√	Illumination			6%	\$ 106,121
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 53,061
√	Sewer	Minor Adjustments		2%	\$ 35,374
√	Landscaping and Irrigation			4%	\$ 70,748
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 937,405
Paving and Allowance Subtotal:				\$	2,706,094
Construction Contingency:				10%	\$ 270,609
Mobilization				5%	\$ 135,305
Prep ROW				5%	\$ 135,305
Construction Cost TOTAL:				\$	3,248,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,248,000
Engineering/Survey/Testing:		16%	\$ 519,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 324,800
Impact Fee Project Cost TOTAL:			\$ 4,092,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-4
Name:	Brand Rd (2)	This project consists of the construction of a new four lane divided minor arterial		
Limits:	Naaman Forest Blvd to West Brand Rd			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	2,500			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	7,222	cy	\$ 8.00	\$ 57,778
207	6" Lime Stabilization Subgrade	14,167	sy	\$ 2.60	\$ 36,833
307	Street Cut Paving Concrete - Class C Construct	13,889	sy	\$ 70.00	\$ 972,222
407	Curb 6" Integral	10,000	lf	\$ 1.95	\$ 19,500
507	Sidwalk 4" Class A Construct	3,333	sy	\$ 43.00	\$ 143,333
607	Turn Lanes and Median Openings	1,150	sy	\$ 70.00	\$ 80,473
Paving Construction Cost Subtotal:					\$ 1,310,140
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	65,507
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	39,304
✓	Roadway Drainage	Standard Internal System	30%	\$	393,042
✓	Illumination		6%	\$	78,608
✓	Special Drainage Structures	Bridge Crossing	0%	\$	3,400,000
✓	Water	Minor Adjustments	3%	\$	39,304
✓	Sewer	Minor Adjustments	2%	\$	26,203
✓	Landscaping and Irrigation		4%	\$	52,406
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	4,094,374
Paving and Allowance Subtotal:				\$	5,404,514
Construction Contingency:				10%	\$ 540,451
Mobilization				5%	\$ 270,226
Prep ROW				5%	\$ 270,226
Construction Cost TOTAL:				\$	6,486,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 6,486,000
Engineering/Survey/Testing:		16%	\$ 1,037,760
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 648,600
Impact Fee Project Cost TOTAL:			\$ 8,172,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-5
Name:	Brand Rd (3)	This project consists of the reconstruction of the existing facility as a four lane divided minor arterial		
Limits:	Murfield Rd to PGBT N Frontage Rd			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	2,960			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	8,551	cy	\$ 8.00	\$ 68,409
207	6" Lime Stabilization Subgrade	16,773	sy	\$ 2.60	\$ 43,611
307	Street Cut Paving Concrete - Class C Construct	16,444	sy	\$ 70.00	\$ 1,151,111
407	Curb 6" Integral	11,840	lf	\$ 1.95	\$ 23,088
507	Sidwalk 4" Class A Construct	3,947	sy	\$ 43.00	\$ 169,707
607	Turn Lanes and Median Openings	1,361	sy	\$ 70.00	\$ 95,281
Paving Construction Cost Subtotal:					\$ 1,551,206
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 77,560
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 46,536
√	Roadway Drainage	Standard Internal System		30%	\$ 465,362
√	Illumination			6%	\$ 93,072
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 46,536
√	Sewer	Minor Adjustments		2%	\$ 31,024
√	Landscaping and Irrigation			4%	\$ 62,048
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 822,139
				Paving and Allowance Subtotal:	\$ 2,373,345
				Construction Contingency:	10% \$ 237,335
				Mobilization	5% \$ 118,667
				Prep ROW	5% \$ 118,667
				Construction Cost TOTAL:	\$ 2,849,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,849,000
Engineering/Survey/Testing:		16%	\$ 455,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 284,900
Impact Fee Project Cost TOTAL:			\$ 3,590,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-6
Name:	Campbell Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	N. Jupiter Rd to Shiloh Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,605			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	8,096	cy	\$ 8.00	\$ 64,769
210	6" Lime Stabilization Subgrade	15,569	sy	\$ 2.60	\$ 40,481
310	Street Cut Paving Concrete - Class C Construct	14,324	sy	\$ 70.00	\$ 1,002,672
410	Curb 6" Integral	11,210	lf	\$ 1.95	\$ 21,860
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,274	sy	\$ 70.00	\$ 89,170
Paving Construction Cost Subtotal:					\$ 1,218,952
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	60,948
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	36,569
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	48,758
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	146,274
Paving and Allowance Subtotal:					\$ 1,365,226
Construction Contingency:				10%	\$ 136,523
Mobilization				5%	\$ 68,261
Prep ROW				5%	\$ 68,261
Construction Cost TOTAL:					\$ 1,639,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,639,000
Engineering/Survey/Testing:		16%	\$ 262,240
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,901,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-7
Name:	Campbell Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Shiloh Rd to PGBT S Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,180			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	3,149	cy	\$ 8.00	\$ 25,191
210	6" Lime Stabilization Subgrade	6,056	sy	\$ 2.60	\$ 15,744
310	Street Cut Paving Concrete - Class C Construct	5,571	sy	\$ 70.00	\$ 389,978
410	Curb 6" Integral	4,360	lf	\$ 1.95	\$ 8,502
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	495	sy	\$ 70.00	\$ 34,682
Paving Construction Cost Subtotal:					\$ 474,097
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 23,705
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 14,223
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 18,964
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 56,892
				Paving and Allowance Subtotal:	\$ 530,989
				Construction Contingency:	10% \$ 53,099
				Mobilization	5% \$ 26,549
				Prep ROW	5% \$ 26,549
				Construction Cost TOTAL:	\$ 638,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 638,000
Engineering/Survey/Testing:		16%	\$ 102,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 740,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-8
Name:	Campbell Rd (3)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Lookout Dr to PGBT N Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,140			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,536	cy	\$ 8.00	\$ 36,284
210	6" Lime Stabilization Subgrade	8,722	sy	\$ 2.60	\$ 22,678
310	Street Cut Paving Concrete - Class C Construct	8,024	sy	\$ 70.00	\$ 561,711
410	Curb 6" Integral	6,280	lf	\$ 1.95	\$ 12,246
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	714	sy	\$ 70.00	\$ 49,955
Paving Construction Cost Subtotal:					\$ 682,874
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 34,144
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 20,486
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 27,315
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 81,945
Paving and Allowance Subtotal:				\$	764,819
Construction Contingency:				10%	\$ 76,482
Mobilization				5%	\$ 38,241
Prep ROW				5%	\$ 38,241
Construction Cost TOTAL:				\$	918,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 918,000
Engineering/Survey/Testing:		16%	\$ 146,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,065,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-9
Name:	Campbell Rd (4)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Lookout Dr to N. Garland Ave			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,390			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,897	cy	\$ 8.00	\$ 39,173
210	6" Lime Stabilization Subgrade	9,417	sy	\$ 2.60	\$ 24,483
310	Street Cut Paving Concrete - Class C Construct	8,663	sy	\$ 70.00	\$ 606,433
410	Curb 6" Integral	6,780	lf	\$ 1.95	\$ 13,221
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	770	sy	\$ 70.00	\$ 53,932
Paving Construction Cost Subtotal: \$					737,243
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 36,862
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 22,117
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 29,490
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	88,469
Paving and Allowance Subtotal:				\$	825,712
Construction Contingency:				10%	\$ 82,571
Mobilization				5%	\$ 41,286
Prep ROW				5%	\$ 41,286
Construction Cost TOTAL:				\$	991,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 991,000
Engineering/Survey/Testing:		16%	\$ 158,560
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,150,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-10
Name:	Campbell Rd (5)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	N. Garland Ave to Water Oak Dr			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,740			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	3,958	cy	\$ 8.00	\$ 31,662
210	6" Lime Stabilization Subgrade	7,611	sy	\$ 2.60	\$ 19,789
310	Street Cut Paving Concrete - Class C Construct	7,002	sy	\$ 70.00	\$ 490,156
410	Curb 6" Integral	5,480	lf	\$ 1.95	\$ 10,686
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	623	sy	\$ 70.00	\$ 43,591
Paving Construction Cost Subtotal: \$					595,884
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 29,794
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 17,877
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 23,835
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	71,506
Paving and Allowance Subtotal:				\$	667,390
Construction Contingency:				10%	\$ 66,739
Mobilization				5%	\$ 33,369
Prep ROW				5%	\$ 33,369
Construction Cost TOTAL: \$					801,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 801,000
Engineering/Survey/Testing:		16%	\$ 128,160
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 929,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-11
Name:	Campbell Rd (6)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Water Oak Dr to Murphy Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	6,545			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	25,453	cy	\$ 8.00	\$ 203,622
209	6" Lime Stabilization Subgrade	50,178	sy	\$ 2.60	\$ 130,464
309	Street Cut Paving Concrete - Class C Construct	49,451	sy	\$ 70.00	\$ 3,461,578
409	Curb 6" Integral	26,180	lf	\$ 1.95	\$ 51,051
509	Sidwalk 4" Class A Construct	8,727	sy	\$ 43.00	\$ 375,247
609	Turn Lanes and Median Openings	2,415	sy	\$ 70.00	\$ 169,030
Paving Construction Cost Subtotal:					\$ 4,390,991
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	219,550
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	131,730
✓	Roadway Drainage	Standard Internal System	30%	\$	1,317,297
✓	Illumination		6%	\$	263,459
✓	Special Drainage Structures	Bridge Crossing	0%	\$	600,000
✓	Water	Minor Adjustments	3%	\$	131,730
✓	Sewer	Minor Adjustments	2%	\$	87,820
✓	Landscaping and Irrigation		4%	\$	175,640
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	2,927,225
Paving and Allowance Subtotal:				\$	7,318,216
Construction Contingency:				10%	\$ 731,822
Mobilization				5%	\$ 365,911
Prep ROW				5%	\$ 365,911
Construction Cost TOTAL:				\$	8,782,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 8,782,000
Engineering/Survey/Testing:		16%	\$ 1,405,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 878,200
Impact Fee Project Cost TOTAL:			\$ 11,065,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-12
Name:	Ferris Rd	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	Campbell Rd to Holford Rd			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	1,885			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	5,446	cy	\$ 8.00	\$ 43,564
203	6" Lime Stabilization Subgrade	10,682	sy	\$ 2.60	\$ 27,772
303	Street Cut Paving Concrete - Class C Construct	10,472	sy	\$ 70.00	\$ 733,056
403	Curb 6" Integral	7,540	lf	\$ 1.95	\$ 14,703
503	Sidwalk 4" Class A Construct	2,513	sy	\$ 43.00	\$ 108,073
603	Turn Lanes and Median Openings	695	sy	\$ 70.00	\$ 48,682
Paving Construction Cost Subtotal:					\$ 975,850
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	48,793
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	29,276
✓	Roadway Drainage	Standard Internal System	30%	\$	292,755
✓	Illumination		6%	\$	58,551
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	29,276
✓	Sewer	Minor Adjustments	2%	\$	19,517
✓	Landscaping and Irrigation		4%	\$	39,034
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	517,201
Paving and Allowance Subtotal:					\$ 1,493,051
Construction Contingency:				10%	\$ 149,305
Mobilization				5%	\$ 74,653
Prep ROW				5%	\$ 74,653
Construction Cost TOTAL:					\$ 1,792,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,792,000
Engineering/Survey/Testing:		16%	\$ 286,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 179,200
Impact Fee Project Cost TOTAL:			\$ 2,258,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-13
Name:	Firewheel Parkway (1)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Lavon Dr to 530' E of Lavon Dr			
Impact Fee Class:	A			
Ultimate Class:	Regional Arterial			
Length (lf):	530			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
111	Unclassified Street Excavation	2,061	cy	\$ 8.00	\$ 16,489
211	6" Lime Stabilization Subgrade	4,063	sy	\$ 2.60	\$ 10,565
311	Street Cut Paving Concrete - Class C Construct	4,004	sy	\$ 70.00	\$ 280,311
411	Curb 6" Integral	2,120	lf	\$ 1.95	\$ 4,134
511	Sidwalk 4" Class A Construct	707	sy	\$ 43.00	\$ 30,387
611	Turn Lanes and Median Openings	201	sy	\$ 70.00	\$ 14,060
Paving Construction Cost Subtotal:					\$ 355,945
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 17,797
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 10,678
√	Roadway Drainage	Standard Internal System		30%	\$ 106,784
√	Illumination			6%	\$ 21,357
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 10,678
√	Sewer	Minor Adjustments		2%	\$ 7,119
√	Landscaping and Irrigation			4%	\$ 14,238
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 188,651
				Paving and Allowance Subtotal:	\$ 544,596
				Construction Contingency:	10% \$ 54,460
				Mobilization	5% \$ 27,230
				Prep ROW	5% \$ 27,230
				Construction Cost TOTAL:	\$ 654,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 654,000
Engineering/Survey/Testing:		16%	\$ 104,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 65,400
Impact Fee Project Cost TOTAL:			\$ 824,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-14
Name:	Holford Rd (1)	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	Naaman Forest (Future) to Arapaho Rd			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	3,960			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	11,440	cy	\$ 8.00	\$ 91,520
203	6" Lime Stabilization Subgrade	22,440	sy	\$ 2.60	\$ 58,344
303	Street Cut Paving Concrete - Class C Construct	22,000	sy	\$ 70.00	\$ 1,540,000
403	Curb 6" Integral	15,840	lf	\$ 1.95	\$ 30,888
503	Sidwalk 4" Class A Construct	5,280	sy	\$ 43.00	\$ 227,040
603	Turn Lanes and Median Openings	1,461	sy	\$ 70.00	\$ 102,270
Paving Construction Cost Subtotal:					\$ 2,050,062
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 102,503
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 61,502
√	Roadway Drainage	Standard Internal System		30%	\$ 615,019
√	Illumination			6%	\$ 123,004
√	Special Drainage Structures	Bridge Crossing		0%	\$ 400,000
√	Water	Minor Adjustments		3%	\$ 61,502
√	Sewer	Minor Adjustments		2%	\$ 41,001
√	Landscaping and Irrigation			4%	\$ 82,002
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,486,533
				Paving and Allowance Subtotal:	\$ 3,536,595
				Construction Contingency:	10% \$ 353,659
				Mobilization	5% \$ 176,830
				Prep ROW	5% \$ 176,830
				Construction Cost TOTAL:	\$ 4,244,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,244,000
Engineering/Survey/Testing:		16%	\$ 679,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 424,400
Impact Fee Project Cost TOTAL:			\$ 5,347,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-15
Name:	Holford Rd (2)	This project consists of the reconstruction of the existing facility as a four lane divided minor arterial		
Limits:	PGBT S Frontage Rd to Naaman Forest (Futur			
Impact Fee Class:	C2			
Ultimate Class:	Minor Arterial			
Length (lf):	1,750			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	6,806	cy	\$ 8.00	\$ 54,444
208	6" Lime Stabilization Subgrade	13,417	sy	\$ 2.60	\$ 34,883
308	Street Cut Paving Concrete - Class C Construct	13,222	sy	\$ 70.00	\$ 925,556
408	Curb 6" Integral	7,000	lf	\$ 1.95	\$ 13,650
508	Sidwalk 4" Class A Construct	2,333	sy	\$ 43.00	\$ 100,333
608	Turn Lanes and Median Openings	646	sy	\$ 70.00	\$ 45,195
Paving Construction Cost Subtotal:					\$ 1,174,062
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 58,703
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 35,222
√	Roadway Drainage	Standard Internal System		30%	\$ 352,219
√	Illumination			6%	\$ 70,444
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 35,222
√	Sewer	Minor Adjustments		2%	\$ 23,481
√	Landscaping and Irrigation			4%	\$ 46,962
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 622,253
				Paving and Allowance Subtotal:	\$ 1,796,314
				Construction Contingency:	10% \$ 179,631
				Mobilization	5% \$ 89,816
				Prep ROW	5% \$ 89,816
				Construction Cost TOTAL:	\$ 2,156,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,156,000
Engineering/Survey/Testing:		16%	\$ 344,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 215,600
Impact Fee Project Cost TOTAL:			\$ 2,717,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-16
Name:	Holford Rd (3)	This project consists of the reconstruction of the existing facility as a four lane divided minor arterial		
Limits:	N City Limits to PGBT N Frontage Rd			
Impact Fee Class:	C2			
Ultimate Class:	Minor Arterial			
Length (lf):	5,230			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	20,339	cy	\$ 8.00	\$ 162,711
208	6" Lime Stabilization Subgrade	40,097	sy	\$ 2.60	\$ 104,251
308	Street Cut Paving Concrete - Class C Construct	39,516	sy	\$ 70.00	\$ 2,766,089
408	Curb 6" Integral	20,920	lf	\$ 1.95	\$ 40,794
508	Sidwalk 4" Class A Construct	6,973	sy	\$ 43.00	\$ 299,853
608	Turn Lanes and Median Openings	1,930	sy	\$ 70.00	\$ 135,069
Paving Construction Cost Subtotal:					\$ 3,508,767
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 175,438
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 105,263
√	Roadway Drainage	Standard Internal System		30%	\$ 1,052,630
√	Illumination			6%	\$ 210,526
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 105,263
√	Sewer	Minor Adjustments		2%	\$ 70,175
√	Landscaping and Irrigation			4%	\$ 140,351
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,859,647
				Paving and Allowance Subtotal:	\$ 5,368,414
				Construction Contingency:	10% \$ 536,841
				Mobilization	5% \$ 268,421
				Prep ROW	5% \$ 268,421
				Construction Cost TOTAL:	\$ 6,443,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 6,443,000
Engineering/Survey/Testing:		16%	\$ 1,030,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 644,300
Impact Fee Project Cost TOTAL:			\$ 8,118,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
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Project Information:		Description:	Project No.	A-17
Name:	Lookout Dr (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Courtside Dr to Spring Dr			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	590			
Service Area(s):	A,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	852	cy	\$ 8.00	\$ 6,818
210	6" Lime Stabilization Subgrade	1,639	sy	\$ 2.60	\$ 4,261
310	Street Cut Paving Concrete - Class C Construct	1,508	sy	\$ 70.00	\$ 105,544
410	Curb 6" Integral	1,180	lf	\$ 1.95	\$ 2,301
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	134	sy	\$ 70.00	\$ 9,386
Paving Construction Cost Subtotal: \$					128,311
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 6,416
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 3,849
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 5,132
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	15,397
Paving and Allowance Subtotal:				\$	143,708
Construction Contingency:				10%	\$ 14,371
Mobilization				5%	\$ 7,185
Prep ROW				5%	\$ 7,185
Construction Cost TOTAL: \$					173,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 173,000
Engineering/Survey/Testing:		16%	\$ 27,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 201,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-18
Name:	Lookout Dr (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Spring Dr to PGBT S Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	4,210			
Service Area(s):	A,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	6,081	cy	\$ 8.00	\$ 48,649
210	6" Lime Stabilization Subgrade	11,694	sy	\$ 2.60	\$ 30,406
310	Street Cut Paving Concrete - Class C Construct	10,759	sy	\$ 70.00	\$ 753,122
410	Curb 6" Integral	8,420	lf	\$ 1.95	\$ 16,419
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	957	sy	\$ 70.00	\$ 66,977
Paving Construction Cost Subtotal:					\$ 915,573
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	45,779
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	27,467
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	36,623
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	109,869
Paving and Allowance Subtotal:					\$ 1,025,442
Construction Contingency:			10%	\$	102,544
Mobilization			5%	\$	51,272
Prep ROW			5%	\$	51,272
Construction Cost TOTAL:					\$ 1,231,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,231,000
Engineering/Survey/Testing:		16%	\$ 196,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,428,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-19
Name:	Lookout Dr (3)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	PGBT N Frontage Rd to Campbell Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,785			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	5,467	cy	\$ 8.00	\$ 43,738
210	6" Lime Stabilization Subgrade	10,514	sy	\$ 2.60	\$ 27,336
310	Street Cut Paving Concrete - Class C Construct	9,673	sy	\$ 70.00	\$ 677,094
410	Curb 6" Integral	7,570	lf	\$ 1.95	\$ 14,762
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	860	sy	\$ 70.00	\$ 60,216
Paving Construction Cost Subtotal:					\$ 823,146
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	41,157
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	24,694
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	32,926
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	98,777
Paving and Allowance Subtotal:					\$ 921,923
Construction Contingency:			10%	\$	92,192
Mobilization			5%	\$	46,096
Prep ROW			5%	\$	46,096
Construction Cost TOTAL:					\$ 1,107,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,107,000
Engineering/Survey/Testing:		16%	\$ 177,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,284,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-20
Name:	Mapleridge (1)	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Shiloh Rd to Mapleridge Dr			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	450			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	1,000	cy	\$ 8.00	\$ 8,000
201	6" Lime Stabilization Subgrade	1,950	sy	\$ 2.60	\$ 5,070
301	Street Cut Paving Concrete - Class C Construct	1,850	sy	\$ 70.00	\$ 129,500
401	Curb 6" Integral	900	lf	\$ 1.95	\$ 1,755
501	Sidwalk 4" Class A Construct	400	sy	\$ 43.00	\$ 17,200
601	Turn Lanes and Median Openings	32	sy	\$ 70.00	\$ 2,231
Paving Construction Cost Subtotal:					\$ 163,756
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	4,913
✓	Roadway Drainage	Standard Internal System	30%	\$	49,127
✓	Illumination		6%	\$	9,825
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	4,913
✓	Sewer	Minor Adjustments	2%	\$	3,275
✓	Landscaping and Irrigation		4%	\$	6,550
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	78,603
Paving and Allowance Subtotal:					\$ 242,359
Construction Contingency:				10%	\$ 24,236
Mobilization				5%	\$ 12,118
Prep ROW				1%	\$ 2,424
Construction Cost TOTAL:					\$ 282,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 282,000
Engineering/Survey/Testing:		16%	\$ 45,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 56,400
Impact Fee Project Cost TOTAL:			\$ 384,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-21
Name:	Mapleridge (2)	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Mapleridge Dr (Existing) to Holford Rd			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	1,905			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	4,233	cy	\$ 8.00	\$ 33,867
201	6" Lime Stabilization Subgrade	8,255	sy	\$ 2.60	\$ 21,463
301	Street Cut Paving Concrete - Class C Construct	7,832	sy	\$ 70.00	\$ 548,217
401	Curb 6" Integral	3,810	lf	\$ 1.95	\$ 7,430
501	Sidwalk 4" Class A Construct	1,693	sy	\$ 43.00	\$ 72,813
601	Turn Lanes and Median Openings	135	sy	\$ 70.00	\$ 9,446
Paving Construction Cost Subtotal:					\$ 693,235
Major Construction Component Allowances**:					
	Item Description	Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 20,797
√	Roadway Drainage	Standard Internal System		30%	\$ 207,970
√	Illumination			6%	\$ 41,594
√	Special Drainage Structures	Bridge Crossing		0%	\$ 1,200,000
√	Water	Minor Adjustments		3%	\$ 20,797
√	Sewer	Minor Adjustments		2%	\$ 13,865
√	Landscaping and Irrigation			4%	\$ 27,729
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,532,753
				Paving and Allowance Subtotal:	\$ 2,225,987
				Construction Contingency:	10% \$ 222,599
				Mobilization	5% \$ 111,299
				Prep ROW	1% \$ 22,260
				Construction Cost TOTAL:	\$ 2,583,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,583,000
Engineering/Survey/Testing:		16%	\$ 413,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 516,600
Impact Fee Project Cost TOTAL:			\$ 3,513,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-22
Name:	Garland Ave (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	N City Limits to PG&T N Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	6,820			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	9,851	cy	\$ 8.00	\$ 78,809
210	6" Lime Stabilization Subgrade	18,944	sy	\$ 2.60	\$ 49,256
310	Street Cut Paving Concrete - Class C Construct	17,429	sy	\$ 70.00	\$ 1,220,022
410	Curb 6" Integral	13,640	lf	\$ 1.95	\$ 26,598
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,550	sy	\$ 70.00	\$ 108,500
Paving Construction Cost Subtotal:					\$ 1,483,185
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 74,159
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 44,496
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 59,327
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 177,982
				Paving and Allowance Subtotal:	\$ 1,661,167
				Construction Contingency:	10% \$ 166,117
				Mobilization	5% \$ 83,058
				Prep ROW	5% \$ 83,058
				Construction Cost TOTAL:	\$ 1,994,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,994,000
Engineering/Survey/Testing:		16%	\$ 319,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,313,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-23
Name:	Garland Ave (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Arapaho Rd to PGBT S Frontage Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	6,025			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	8,703	cy	\$ 8.00	\$ 69,622
210	6" Lime Stabilization Subgrade	16,736	sy	\$ 2.60	\$ 43,514
310	Street Cut Paving Concrete - Class C Construct	15,397	sy	\$ 70.00	\$ 1,077,806
410	Curb 6" Integral	12,050	lf	\$ 1.95	\$ 23,498
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,369	sy	\$ 70.00	\$ 95,852
Paving Construction Cost Subtotal:					\$ 1,310,291
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 65,515
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 39,309
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 52,412
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 157,235
				Paving and Allowance Subtotal:	\$ 1,467,526
				Construction Contingency:	10% \$ 146,753
				Mobilization	5% \$ 73,376
				Prep ROW	5% \$ 73,376
				Construction Cost TOTAL:	\$ 1,762,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,762,000
Engineering/Survey/Testing:		16%	\$ 281,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 2,044,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-24
Name:	Garland Ave (3)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Arapaho Rd to Belt Line Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	4,190			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	6,052	cy	\$ 8.00	\$ 48,418
210	6" Lime Stabilization Subgrade	11,639	sy	\$ 2.60	\$ 30,261
310	Street Cut Paving Concrete - Class C Construct	10,708	sy	\$ 70.00	\$ 749,544
410	Curb 6" Integral	8,380	lf	\$ 1.95	\$ 16,341
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	952	sy	\$ 70.00	\$ 66,659
Paving Construction Cost Subtotal:					\$ 911,223
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	45,561
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	27,337
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	36,449
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	109,347
Paving and Allowance Subtotal:				\$	1,020,570
Construction Contingency:				10%	\$ 102,057
Mobilization				5%	\$ 51,029
Prep ROW				5%	\$ 51,029
Construction Cost TOTAL:				\$	1,225,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,225,000
Engineering/Survey/Testing:		16%	\$ 196,000
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,421,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-25
Name:	Garland Ave (4)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Belt Line Rd to Buckingham Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,105			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	7,374	cy	\$ 8.00	\$ 58,991
210	6" Lime Stabilization Subgrade	14,181	sy	\$ 2.60	\$ 36,869
310	Street Cut Paving Concrete - Class C Construct	13,046	sy	\$ 70.00	\$ 913,228
410	Curb 6" Integral	10,210	lf	\$ 1.95	\$ 19,910
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,160	sy	\$ 70.00	\$ 81,216
Paving Construction Cost Subtotal:					\$ 1,110,214
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 55,511
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 33,306
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 44,409
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 133,226
				Paving and Allowance Subtotal:	\$ 1,243,439
				Construction Contingency:	10% \$ 124,344
				Mobilization	5% \$ 62,172
				Prep ROW	5% \$ 62,172
				Construction Cost TOTAL:	\$ 1,493,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,493,000
Engineering/Survey/Testing:		16%	\$ 238,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,732,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-26
Name:	Shiloh Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	PGBT S Frontage Rd to Campbell Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	1,935			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	2,795	cy	\$ 8.00	\$ 22,360
210	6" Lime Stabilization Subgrade	5,375	sy	\$ 2.60	\$ 13,975
310	Street Cut Paving Concrete - Class C Construct	4,945	sy	\$ 70.00	\$ 346,150
410	Curb 6" Integral	3,870	lf	\$ 1.95	\$ 7,547
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	440	sy	\$ 70.00	\$ 30,784
Paving Construction Cost Subtotal:					\$ 420,816
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 21,041
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 12,624
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 16,833
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 50,498
				Paving and Allowance Subtotal:	\$ 471,313
				Construction Contingency:	10% \$ 47,131
				Mobilization	5% \$ 23,566
				Prep ROW	5% \$ 23,566
				Construction Cost TOTAL:	\$ 566,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 566,000
Engineering/Survey/Testing:		16%	\$ 90,560
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 657,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-27
Name:	Shiloh Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Campbell Rd to north bridge end			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,160			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	3,120	cy	\$ 8.00	\$ 24,960
210	6" Lime Stabilization Subgrade	6,000	sy	\$ 2.60	\$ 15,600
310	Street Cut Paving Concrete - Class C Construct	5,520	sy	\$ 70.00	\$ 386,400
410	Curb 6" Integral	4,320	lf	\$ 1.95	\$ 8,424
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	491	sy	\$ 70.00	\$ 34,364
Paving Construction Cost Subtotal: \$					469,748
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 23,487
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 14,092
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 18,790
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	56,370
Paving and Allowance Subtotal:				\$	526,117
Construction Contingency:				10%	\$ 52,612
Mobilization				5%	\$ 26,306
Prep ROW				5%	\$ 26,306
Construction Cost TOTAL:				\$	632,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 632,000
Engineering/Survey/Testing:		16%	\$ 101,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 733,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-28
Name:	Shiloh Rd (3)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Collins Blvd to Arapaho Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,140			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,536	cy	\$ 8.00	\$ 36,284
210	6" Lime Stabilization Subgrade	8,722	sy	\$ 2.60	\$ 22,678
310	Street Cut Paving Concrete - Class C Construct	8,024	sy	\$ 70.00	\$ 561,711
410	Curb 6" Integral	6,280	lf	\$ 1.95	\$ 12,246
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	714	sy	\$ 70.00	\$ 49,955
Paving Construction Cost Subtotal:					\$ 682,874
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 34,144
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 20,486
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 27,315
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 81,945
Paving and Allowance Subtotal:				\$	764,819
Construction Contingency:				10%	\$ 76,482
Mobilization				5%	\$ 38,241
Prep ROW				5%	\$ 38,241
Construction Cost TOTAL:				\$	918,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 918,000
Engineering/Survey/Testing:		16%	\$ 146,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,065,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-29
Name:	Shiloh Rd (4)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Arapaho Rd to Belt Line Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,415			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	7,822	cy	\$ 8.00	\$ 62,573
210	6" Lime Stabilization Subgrade	15,042	sy	\$ 2.60	\$ 39,108
310	Street Cut Paving Concrete - Class C Construct	13,838	sy	\$ 70.00	\$ 968,683
410	Curb 6" Integral	10,830	lf	\$ 1.95	\$ 21,119
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,231	sy	\$ 70.00	\$ 86,148
Paving Construction Cost Subtotal:					\$ 1,177,631
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	58,882
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	35,329
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	47,105
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	141,316
Paving and Allowance Subtotal:					\$ 1,318,947
Construction Contingency:				10%	\$ 131,895
Mobilization				5%	\$ 65,947
Prep ROW				5%	\$ 65,947
Construction Cost TOTAL:					\$ 1,583,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,583,000
Engineering/Survey/Testing:		16%	\$ 253,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,836,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-30
Name:	Shiloh Rd (5)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Belt Line Rd to Buckingham Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,055			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	7,302	cy	\$ 8.00	\$ 58,413
210	6" Lime Stabilization Subgrade	14,042	sy	\$ 2.60	\$ 36,508
310	Street Cut Paving Concrete - Class C Construct	12,918	sy	\$ 70.00	\$ 904,283
410	Curb 6" Integral	10,110	lf	\$ 1.95	\$ 19,715
510	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,149	sy	\$ 70.00	\$ 80,420
Paving Construction Cost Subtotal:					\$ 1,099,340
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	54,967
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	32,980
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	43,974
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	131,921
Paving and Allowance Subtotal:					\$ 1,231,261
Construction Contingency:				10%	\$ 123,126
Mobilization				5%	\$ 61,563
Prep ROW				5%	\$ 61,563
Construction Cost TOTAL:					\$ 1,478,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,478,000
Engineering/Survey/Testing:		16%	\$ 236,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,714,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-31
Name:	Naaman Forest Blvd	This project consists of the construction of a new four lane divided major collector		
Limits:	W. Naaman Forest Blvd. to E. Naaman Forest			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	1,720			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	4,969	cy	\$ 8.00	\$ 39,751
203	6" Lime Stabilization Subgrade	9,747	sy	\$ 2.60	\$ 25,341
303	Street Cut Paving Concrete - Class C Construct	9,556	sy	\$ 70.00	\$ 668,889
403	Curb 6" Integral	6,880	lf	\$ 1.95	\$ 13,416
503	Sidwalk 4" Class A Construct	2,293	sy	\$ 43.00	\$ 98,613
603	Turn Lanes and Median Openings	635	sy	\$ 70.00	\$ 44,420
Paving Construction Cost Subtotal:					\$ 890,431
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 26,713
√	Roadway Drainage	Standard Internal System		30%	\$ 267,129
√	Illumination			6%	\$ 53,426
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 26,713
√	Sewer	Minor Adjustments		2%	\$ 17,809
√	Landscaping and Irrigation			4%	\$ 35,617
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 427,407
				Paving and Allowance Subtotal:	\$ 1,317,838
				Construction Contingency:	10% \$ 131,784
				Mobilization	5% \$ 65,892
				Prep ROW	1% \$ 13,178
				Construction Cost TOTAL:	\$ 1,529,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,529,000
Engineering/Survey/Testing:		16%	\$ 244,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 305,800
Impact Fee Project Cost TOTAL:			\$ 2,079,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-32
Name:	Naaman School Rd	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	Brand Rd to Lavon Dr			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	4,670			
Service Area(s):	A			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	13,491	cy	\$ 8.00	\$ 107,929
203	6" Lime Stabilization Subgrade	26,463	sy	\$ 2.60	\$ 68,805
303	Street Cut Paving Concrete - Class C Construct	25,944	sy	\$ 70.00	\$ 1,816,111
403	Curb 6" Integral	18,680	lf	\$ 1.95	\$ 36,426
503	Sidewalk 4" Class A Construct	6,227	sy	\$ 43.00	\$ 267,747
603	Turn Lanes and Median Openings	1,723	sy	\$ 70.00	\$ 120,606
Paving Construction Cost Subtotal:					\$ 2,417,624
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	120,881
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	72,529
✓	Roadway Drainage	Standard Internal System	30%	\$	725,287
✓	Illumination		6%	\$	145,057
✓	Special Drainage Structures	Minor Stream Crossing	0%	\$	300,000
✓	Water	Minor Adjustments	3%	\$	72,529
✓	Sewer	Minor Adjustments	2%	\$	48,352
✓	Landscaping and Irrigation		4%	\$	96,705
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,581,341
Paving and Allowance Subtotal:					\$ 3,998,964
Construction Contingency:				10%	\$ 399,896
Mobilization				5%	\$ 199,948
Prep ROW				5%	\$ 199,948
Construction Cost TOTAL:					\$ 4,799,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,799,000
Engineering/Survey/Testing:		16%	\$ 767,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 479,900
Impact Fee Project Cost TOTAL:			\$ 6,047,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	A-33
Name:	Naaman Forest Blvd	This completed project consists of the widening of Naaman Forest Boulevard to a four lane divided major collector. The total cost of this project is \$3,904,483.		
Limits:	Ranger to Brand Rd			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	1,363			
Service Area(s):	A			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 3,904,483	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	I-1:I-8
Name:	Bottleneck Study Improvements	This project consists of intersection improvements identified in the ongoing Bottleneck study. The total cost of these improvements in Service Area A is estimated to be \$2,625,000. The cost attributable to projected growth in Service Area A (24%) is \$634,000.		
Limits:	N/A			
Impact Fee Class:	N/A			
Ultimate Class:	N/A			
Length (If):	N/A			
Service Area(s):	A			

Impact Fee Project Cost Summary			
Impact Fee Project Cost TOTAL:			\$ 634,000

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City of Garland - 2016 Roadway Impact Fee Study
Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area B

#	IF Class	Project	Limits		Status	Percent in Service Area	Project Cost	Total Cost in Service Area
			From	To				
B-1	E	Kings Rd	Marquis Dr	Kings Rd (Existing)	New	100	\$ 551,000	\$ 551,000
B-2	E	Leon Rd (1)	Shiloh Rd	S. Garland Ave	New	100	\$ 959,000	\$ 959,000
B-3	E	Leon Rd (2)	Leon Rd (Existing)	Millay Blvd (Future)	New	100	\$ 212,000	\$ 212,000
B-4	E	Marketplace ext (1)	Towngate Blvd	Northwest Hwy	New	100	\$ 1,398,000	\$ 1,398,000
B-5	E	Marketplace ext (2)	Pendleton Dr	Marketplace Dr	New	100	\$ 666,000	\$ 666,000
B-6	E	Millay Blvd (Future)	Leon Rd	Millay Blvd (Existing)	New	100	\$ 1,180,000	\$ 1,180,000
B-7	B (1/3)	Shiloh Rd (6)	Buckingham Rd	W Walnut St	Median	100	\$ 1,784,000	\$ 1,784,000
B-8	B	Shiloh Rd (7)	W Walnut St	Forest Ln	Widening	100	\$ 4,590,000	\$ 4,590,000
B-9	B	Shiloh Rd (8)	Forest Ln	Miller Rd	Widening	100	\$ 8,552,000	\$ 8,552,000
B-10	B	Shiloh Rd (9)	Miller Rd	Kingsley Rd	Widening	100	\$ 9,087,000	\$ 9,087,000
B-11	B	Shiloh Rd (10)	Kingsley Rd	McCree Rd	Widening	100	\$ 4,129,000	\$ 4,129,000
B-12	B	Shiloh Rd (11)	Garland Ave	IH-635 WBFR	Widening	100	\$ 2,368,000	\$ 2,368,000
B-13	F	New road east of Industrial Ln	Kingsley Rd	McCree Rd	New	100	\$ 2,260,000	\$ 2,260,000
B-14	D2	Saturn Rd	Saturn Rd (Existing)	Miller Rd	New	100	\$ 2,215,000	\$ 2,215,000
B-15	E	Sherwin	Sherwin St (Existing)	Wood Dr	New	100	\$ 2,432,000	\$ 2,432,000
TOTAL							\$ 13,404,000	\$ 42,383,000

Bottleneck Study Improvements - Service Area B

#	Intersection	Improvement(s)	Percent in Service Area	Total Project Cost in Service Area	10-Year Growth Cost in Service Area
I-9	Plano Rd and Walnut St	NB an SB RT Lane	100%	\$ 9,205,000.00	\$ 378,000.00
I-10	Forest Ln and Jupiter Rd	EB and NB RT Lane, NB Dual LT Lanes	100%		
I-11	Forest Ln and Shiloh Rd	SB and NB RT Lanes, Dual NB LT Lanes	100%		
I-12	Avenue B (SH 78) and First St	SB RT Lane	100%		
I-13	Avenue D and First St	EB RT Lane, EB Dual LT Lanes	100%		
I-15	Jupiter Rd and Miller Rd	SB RT Lane	100%		
I-16	Miller Rd and Shiloh Rd	SB RT Lane	100%		
I-17	Garland Ave and Miller Rd	SB, EB, and WB RT Lanes	100%		
I-18	Glenbrook Dr and Miller Rd	EB and WB LT Lanes	100%		
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts	33%		
I-20	Broadway Blvd and First St	Triple LT from NB First St	50%		
I-21	Jupiter Rd and Kingsley Rd	WB RT Lane	100%		
I-22	Garland Ave and Kingsley Rd	NB RT Lane	100%		
I-24	Garland Ave and McCree Rd / Shiloh Rd	SWB Dual LT Lanes	100%		

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-1
Name:	Kings Rd	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Marquis Dr to Kings Rd (Existing)			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	545			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	1,453	cy	\$ 8.00	\$ 11,627
202	6" Lime Stabilization Subgrade	2,846	sy	\$ 2.60	\$ 7,400
302	Street Cut Paving Concrete - Class C Construct	2,725	sy	\$ 70.00	\$ 190,750
402	Curb 6" Integral	1,090	lf	\$ 1.95	\$ 2,126
502	Sidwalk 4" Class A Construct	484	sy	\$ 43.00	\$ 20,831
602	Turn Lanes and Median Openings	39	sy	\$ 70.00	\$ 2,702
Paving Construction Cost Subtotal: \$					235,435
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 7,063
√	Roadway Drainage	Standard Internal System		30%	\$ 70,631
√	Illumination			6%	\$ 14,126
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 7,063
√	Sewer	Minor Adjustments		2%	\$ 4,709
√	Landscaping and Irrigation			4%	\$ 9,417
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	113,009
				Paving and Allowance Subtotal: \$	348,444
				Construction Contingency: 10%	\$ 34,844
				Mobilization 5%	\$ 17,422
				Prep ROW 1%	\$ 3,484
				Construction Cost TOTAL: \$	405,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 405,000
Engineering/Survey/Testing:		16%	\$ 64,800
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 81,000
Impact Fee Project Cost TOTAL:			\$ 551,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-2
Name:	Leon Rd (1)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Shiloh Rd to S. Garland Ave			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	950			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	2,533	cy	\$ 8.00	\$ 20,267
202	6" Lime Stabilization Subgrade	4,961	sy	\$ 2.60	\$ 12,899
302	Street Cut Paving Concrete - Class C Construct	4,750	sy	\$ 70.00	\$ 332,500
402	Curb 6" Integral	1,900	lf	\$ 1.95	\$ 3,705
502	Sidwalk 4" Class A Construct	844	sy	\$ 43.00	\$ 36,311
602	Turn Lanes and Median Openings	67	sy	\$ 70.00	\$ 4,710
Paving Construction Cost Subtotal:					\$ 410,392
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 12,312
√	Roadway Drainage	Standard Internal System		30%	\$ 123,118
√	Illumination			6%	\$ 24,624
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 12,312
√	Sewer	Minor Adjustments		2%	\$ 8,208
√	Landscaping and Irrigation			4%	\$ 16,416
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 196,988
Paving and Allowance Subtotal:				\$	607,380
Construction Contingency:				10%	\$ 60,738
Mobilization				5%	\$ 30,369
Prep ROW				1%	\$ 6,074
Construction Cost TOTAL:				\$	705,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 705,000
Engineering/Survey/Testing:		16%	\$ 112,800
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 141,000
Impact Fee Project Cost TOTAL:			\$ 959,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-3
Name:	Leon Rd (2)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Leon Rd (Existing) to Millay Blvd (Future)			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	210			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	560	cy	\$ 8.00	\$ 4,480
202	6" Lime Stabilization Subgrade	1,097	sy	\$ 2.60	\$ 2,851
302	Street Cut Paving Concrete - Class C Construct	1,050	sy	\$ 70.00	\$ 73,500
402	Curb 6" Integral	420	lf	\$ 1.95	\$ 819
502	Sidwalk 4" Class A Construct	187	sy	\$ 43.00	\$ 8,027
602	Turn Lanes and Median Openings	15	sy	\$ 70.00	\$ 1,041
Paving Construction Cost Subtotal: \$					90,718
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 2,722
✓	Roadway Drainage	Standard Internal System		30%	\$ 27,215
✓	Illumination			6%	\$ 5,443
	Special Drainage Structures	None Anticipated		0%	\$ -
✓	Water	Minor Adjustments		3%	\$ 2,722
✓	Sewer	Minor Adjustments		2%	\$ 1,814
✓	Landscaping and Irrigation			4%	\$ 3,629
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	43,545
Paving and Allowance Subtotal:				\$	134,263
Construction Contingency:				10%	\$ 13,426
Mobilization				5%	\$ 6,713
Prep ROW				1%	\$ 1,343
Construction Cost TOTAL:				\$	156,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 156,000
Engineering/Survey/Testing:		16%	\$ 24,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 31,200
Impact Fee Project Cost TOTAL:			\$ 212,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-4
Name:	Marketplace ext (1)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Towngate Blvd to Northwest Hwy			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,385			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	3,693	cy	\$ 8.00	\$ 29,547
202	6" Lime Stabilization Subgrade	7,233	sy	\$ 2.60	\$ 18,805
302	Street Cut Paving Concrete - Class C Construct	6,925	sy	\$ 70.00	\$ 484,750
402	Curb 6" Integral	2,770	lf	\$ 1.95	\$ 5,402
502	Sidwalk 4" Class A Construct	1,231	sy	\$ 43.00	\$ 52,938
602	Turn Lanes and Median Openings	98	sy	\$ 70.00	\$ 6,867
Paving Construction Cost Subtotal:					\$ 598,308
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 17,949
√	Roadway Drainage	Standard Internal System		30%	\$ 179,493
√	Illumination			6%	\$ 35,899
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 17,949
√	Sewer	Minor Adjustments		2%	\$ 11,966
√	Landscaping and Irrigation			4%	\$ 23,932
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 287,188
				Paving and Allowance Subtotal:	\$ 885,497
				Construction Contingency:	10% \$ 88,550
				Mobilization	5% \$ 44,275
				Prep ROW	1% \$ 8,855
				Construction Cost TOTAL:	\$ 1,028,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,028,000
Engineering/Survey/Testing:		16%	\$ 164,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 205,600
Impact Fee Project Cost TOTAL:			\$ 1,398,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-5
Name:	Marketplace ext (2)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Pendleton Dr to Marketplace Dr			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	660			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	1,760	cy	\$ 8.00	\$ 14,080
202	6" Lime Stabilization Subgrade	3,447	sy	\$ 2.60	\$ 8,961
302	Street Cut Paving Concrete - Class C Construct	3,300	sy	\$ 70.00	\$ 231,000
402	Curb 6" Integral	1,320	lf	\$ 1.95	\$ 2,574
502	Sidewalk 4" Class A Construct	587	sy	\$ 43.00	\$ 25,227
602	Turn Lanes and Median Openings	47	sy	\$ 70.00	\$ 3,273
Paving Construction Cost Subtotal: \$					285,115
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 8,553
√	Roadway Drainage	Standard Internal System		30%	\$ 85,534
√	Illumination			6%	\$ 17,107
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 8,553
√	Sewer	Minor Adjustments		2%	\$ 5,702
√	Landscaping and Irrigation			4%	\$ 11,405
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	136,855
				Paving and Allowance Subtotal: \$	421,969
				Construction Contingency: 10%	\$ 42,197
				Mobilization 5%	\$ 21,098
				Prep ROW 1%	\$ 4,220
				Construction Cost TOTAL: \$	490,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 490,000
Engineering/Survey/Testing:		16%	\$ 78,400
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 98,000
Impact Fee Project Cost TOTAL:			\$ 666,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-6
Name:	Millay Blvd (Future)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Leon Rd to Millay Blvd (Existing)			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,170			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	3,120	cy	\$ 8.00	\$ 24,960
202	6" Lime Stabilization Subgrade	6,110	sy	\$ 2.60	\$ 15,886
302	Street Cut Paving Concrete - Class C Construct	5,850	sy	\$ 70.00	\$ 409,500
402	Curb 6" Integral	2,340	lf	\$ 1.95	\$ 4,563
502	Sidwalk 4" Class A Construct	1,040	sy	\$ 43.00	\$ 44,720
602	Turn Lanes and Median Openings	83	sy	\$ 70.00	\$ 5,801
Paving Construction Cost Subtotal:					\$ 505,430
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 15,163
√	Roadway Drainage	Standard Internal System		30%	\$ 151,629
√	Illumination			6%	\$ 30,326
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 15,163
√	Sewer	Minor Adjustments		2%	\$ 10,109
√	Landscaping and Irrigation			4%	\$ 20,217
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 242,607
Paving and Allowance Subtotal:				\$	748,037
Construction Contingency:				10%	\$ 74,804
Mobilization				5%	\$ 37,402
Prep ROW				1%	\$ 7,480
Construction Cost TOTAL:				\$	868,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 868,000
Engineering/Survey/Testing:		16%	\$ 138,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 173,600
Impact Fee Project Cost TOTAL:			\$ 1,180,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-7
Name:	Shiloh Rd (6)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Buckingham Rd to W Walnut St			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,260			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	7,598	cy	\$ 8.00	\$ 60,782
210	6" Lime Stabilization Subgrade	14,611	sy	\$ 2.60	\$ 37,989
310	Street Cut Paving Concrete - Class C Construct	13,442	sy	\$ 70.00	\$ 940,956
410	Curb 6" Integral	10,520	lf	\$ 1.95	\$ 20,514
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	1,195	sy	\$ 70.00	\$ 83,682
Paving Construction Cost Subtotal: \$					1,143,922
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 57,196
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 34,318
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 45,757
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	137,271
Paving and Allowance Subtotal:				\$	1,281,193
Construction Contingency:				10%	\$ 128,119
Mobilization				5%	\$ 64,060
Prep ROW				5%	\$ 64,060
Construction Cost TOTAL: \$					1,538,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,538,000
Engineering/Survey/Testing:		16%	\$ 246,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,784,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-8
Name:	Shiloh Rd (7)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	W Walnut St to Forest Ln			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	2,665			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	10,364	cy	\$ 8.00	\$ 82,911
209	6" Lime Stabilization Subgrade	20,432	sy	\$ 2.60	\$ 53,122
309	Street Cut Paving Concrete - Class C Construct	20,136	sy	\$ 70.00	\$ 1,409,489
409	Curb 6" Integral	10,660	lf	\$ 1.95	\$ 20,787
509	Sidewalk 4" Class A Construct	3,553	sy	\$ 43.00	\$ 152,793
609	Turn Lanes and Median Openings	983	sy	\$ 70.00	\$ 68,826
Paving Construction Cost Subtotal:					\$ 1,787,928
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 89,396
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 53,638
√	Roadway Drainage	Standard Internal System		30%	\$ 536,378
√	Illumination			6%	\$ 107,276
√	Special Drainage Structures	Minor Stream Crossing		0%	\$ 300,000
√	Water	Minor Adjustments		3%	\$ 53,638
√	Sewer	Minor Adjustments		2%	\$ 35,759
√	Landscaping and Irrigation			4%	\$ 71,517
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,247,602
				Paving and Allowance Subtotal:	\$ 3,035,530
				Construction Contingency:	10% \$ 303,553
				Mobilization	5% \$ 151,777
				Prep ROW	5% \$ 151,777
				Construction Cost TOTAL:	\$ 3,643,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,643,000
Engineering/Survey/Testing:		16%	\$ 582,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 364,300
Impact Fee Project Cost TOTAL:			\$ 4,590,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-9
Name:	Shiloh Rd (8)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Forest Ln to Miller Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	5,315			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	20,669	cy	\$ 8.00	\$ 165,356
209	6" Lime Stabilization Subgrade	40,748	sy	\$ 2.60	\$ 105,946
309	Street Cut Paving Concrete - Class C Construct	40,158	sy	\$ 70.00	\$ 2,811,044
409	Curb 6" Integral	21,260	lf	\$ 1.95	\$ 41,457
509	Sidewalk 4" Class A Construct	7,087	sy	\$ 43.00	\$ 304,727
609	Turn Lanes and Median Openings	1,961	sy	\$ 70.00	\$ 137,264
Paving Construction Cost Subtotal:					\$ 3,565,793
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 178,290
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 106,974
√	Roadway Drainage	Standard Internal System		30%	\$ 1,069,738
√	Illumination			6%	\$ 213,948
√	Special Drainage Structures	Minor Stream Crossing		0%	\$ 200,000
√	Water	Minor Adjustments		3%	\$ 106,974
√	Sewer	Minor Adjustments		2%	\$ 71,316
√	Landscaping and Irrigation			4%	\$ 142,632
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 2,089,870
				Paving and Allowance Subtotal:	\$ 5,655,664
				Construction Contingency:	10% \$ 565,566
				Mobilization	5% \$ 282,783
				Prep ROW	5% \$ 282,783
				Construction Cost TOTAL:	\$ 6,787,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 6,787,000
Engineering/Survey/Testing:		16%	\$ 1,085,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 678,700
Impact Fee Project Cost TOTAL:			\$ 8,552,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-10
Name:	Shiloh Rd (9)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Miller Rd to Kingsley Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	5,660			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	22,011	cy	\$ 8.00	\$ 176,089
209	6" Lime Stabilization Subgrade	43,393	sy	\$ 2.60	\$ 112,823
309	Street Cut Paving Concrete - Class C Construct	42,764	sy	\$ 70.00	\$ 2,993,511
409	Curb 6" Integral	22,640	lf	\$ 1.95	\$ 44,148
509	Sidewalk 4" Class A Construct	7,547	sy	\$ 43.00	\$ 324,507
609	Turn Lanes and Median Openings	2,088	sy	\$ 70.00	\$ 146,174
Paving Construction Cost Subtotal: \$					3,797,251
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 189,863
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 113,918
√	Roadway Drainage	Standard Internal System		30%	\$ 1,139,175
√	Illumination			6%	\$ 227,835
√	Special Drainage Structures	Minor Stream Crossing		0%	\$ 200,000
√	Water	Minor Adjustments		3%	\$ 113,918
√	Sewer	Minor Adjustments		2%	\$ 75,945
√	Landscaping and Irrigation			4%	\$ 151,890
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	2,212,543
Paving and Allowance Subtotal:				\$	6,009,794
Construction Contingency:				10%	\$ 600,979
Mobilization				5%	\$ 300,490
Prep ROW				5%	\$ 300,490
Construction Cost TOTAL:				\$	7,212,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 7,212,000
Engineering/Survey/Testing:		16%	\$ 1,153,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 721,200
Impact Fee Project Cost TOTAL:			\$ 9,087,000

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City of Garland
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Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-11
Name:	Shiloh Rd (10)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Kingsley Rd to McCree Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	2,660			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	10,344	cy	\$ 8.00	\$ 82,756
209	6" Lime Stabilization Subgrade	20,393	sy	\$ 2.60	\$ 53,023
309	Street Cut Paving Concrete - Class C Construct	20,098	sy	\$ 70.00	\$ 1,406,844
409	Curb 6" Integral	10,640	lf	\$ 1.95	\$ 20,748
509	Sidwalk 4" Class A Construct	3,547	sy	\$ 43.00	\$ 152,507
609	Turn Lanes and Median Openings	981	sy	\$ 70.00	\$ 68,697
Paving Construction Cost Subtotal:					\$ 1,784,574
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 89,229
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 53,537
√	Roadway Drainage	Standard Internal System		30%	\$ 535,372
√	Illumination			6%	\$ 107,074
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 53,537
√	Sewer	Minor Adjustments		2%	\$ 35,691
√	Landscaping and Irrigation			4%	\$ 71,383
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 945,824
				Paving and Allowance Subtotal:	\$ 2,730,398
				Construction Contingency:	10% \$ 273,040
				Mobilization	5% \$ 136,520
				Prep ROW	5% \$ 136,520
				Construction Cost TOTAL:	\$ 3,277,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,277,000
Engineering/Survey/Testing:		16%	\$ 524,320
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 327,700
Impact Fee Project Cost TOTAL:			\$ 4,129,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-12
Name:	Shiloh Rd (11)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Garland Ave to IH-635 WBFR			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	1,525			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	5,931	cy	\$ 8.00	\$ 47,444
209	6" Lime Stabilization Subgrade	11,692	sy	\$ 2.60	\$ 30,398
309	Street Cut Paving Concrete - Class C Construct	11,522	sy	\$ 70.00	\$ 806,556
409	Curb 6" Integral	6,100	lf	\$ 1.95	\$ 11,895
509	Sidwalk 4" Class A Construct	2,033	sy	\$ 43.00	\$ 87,433
609	Turn Lanes and Median Openings	563	sy	\$ 70.00	\$ 39,384
Paving Construction Cost Subtotal:					\$ 1,023,111
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 51,156
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 30,693
√	Roadway Drainage	Standard Internal System		30%	\$ 306,933
√	Illumination			6%	\$ 61,387
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 30,693
√	Sewer	Minor Adjustments		2%	\$ 20,462
√	Landscaping and Irrigation			4%	\$ 40,924
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 542,249
				Paving and Allowance Subtotal:	\$ 1,565,360
				Construction Contingency:	10% \$ 156,536
				Mobilization	5% \$ 78,268
				Prep ROW	5% \$ 78,268
				Construction Cost TOTAL:	\$ 1,879,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,879,000
Engineering/Survey/Testing:		16%	\$ 300,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 187,900
Impact Fee Project Cost TOTAL:			\$ 2,368,000

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City of Garland
2016 Roadway Impact Fee Study
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Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-13
Name:	New road east of Industrial Ln	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Kingsley Rd to McCree Rd			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	2,660			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	5,911	cy	\$ 8.00	\$ 47,289
201	6" Lime Stabilization Subgrade	11,527	sy	\$ 2.60	\$ 29,969
301	Street Cut Paving Concrete - Class C Construct	10,936	sy	\$ 70.00	\$ 765,489
401	Curb 6" Integral	5,320	lf	\$ 1.95	\$ 10,374
501	Sidwalk 4" Class A Construct	2,364	sy	\$ 43.00	\$ 101,671
601	Turn Lanes and Median Openings	188	sy	\$ 70.00	\$ 13,189
Paving Construction Cost Subtotal:					\$ 967,981
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	29,039
✓	Roadway Drainage	Standard Internal System	30%	\$	290,394
✓	Illumination		6%	\$	58,079
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	29,039
✓	Sewer	Minor Adjustments	2%	\$	19,360
✓	Landscaping and Irrigation		4%	\$	38,719
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	464,631
Paving and Allowance Subtotal:					\$ 1,432,612
Construction Contingency:				10%	\$ 143,261
Mobilization				5%	\$ 71,631
Prep ROW				1%	\$ 14,326
Construction Cost TOTAL:					\$ 1,662,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,662,000
Engineering/Survey/Testing:		16%	\$ 265,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 332,400
Impact Fee Project Cost TOTAL:			\$ 2,260,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-14
Name:	Saturn Rd	This project consists of the construction of a new four lane w/ center turn major collector		
Limits:	Saturn Rd (Existing) to Miller Rd			
Impact Fee Class:	D2			
Ultimate Class:	Major Collector			
Length (lf):	1,615			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	5,742	cy	\$ 8.00	\$ 45,938
205	6" Lime Stabilization Subgrade	11,305	sy	\$ 2.60	\$ 29,393
305	Street Cut Paving Concrete - Class C Construct	10,946	sy	\$ 70.00	\$ 766,228
405	Curb 6" Integral	3,230	lf	\$ 1.95	\$ 6,299
505	Sidwalk 4" Class A Construct	2,153	sy	\$ 43.00	\$ 92,593
605	Turn Lanes and Median Openings	114	sy	\$ 70.00	\$ 8,008
Paving Construction Cost Subtotal:					\$ 948,458
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	28,454
✓	Roadway Drainage	Standard Internal System	30%	\$	284,537
✓	Illumination		6%	\$	56,907
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	28,454
✓	Sewer	Minor Adjustments	2%	\$	18,969
✓	Landscaping and Irrigation		4%	\$	37,938
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	455,260
Paving and Allowance Subtotal:				\$	1,403,718
Construction Contingency:				10%	\$ 140,372
Mobilization				5%	\$ 70,186
Prep ROW				1%	\$ 14,037
Construction Cost TOTAL:				\$	1,629,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,629,000
Engineering/Survey/Testing:		16%	\$ 260,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 325,800
Impact Fee Project Cost TOTAL:			\$ 2,215,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	B-15
Name:	Sherwin	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Sherwin St (Existing) to Wood Dr			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	690			
Service Area(s):	B			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	1,840	cy	\$ 8.00	\$ 14,720
202	6" Lime Stabilization Subgrade	3,603	sy	\$ 2.60	\$ 9,369
302	Street Cut Paving Concrete - Class C Construct	3,450	sy	\$ 70.00	\$ 241,500
402	Curb 6" Integral	1,380	lf	\$ 1.95	\$ 2,691
502	Sidwalk 4" Class A Construct	613	sy	\$ 43.00	\$ 26,373
602	Turn Lanes and Median Openings	49	sy	\$ 70.00	\$ 3,421
Paving Construction Cost Subtotal:					\$ 298,074
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 8,942
√	Roadway Drainage	Standard Internal System		30%	\$ 89,422
√	Illumination			6%	\$ 17,884
√	Special Drainage Structures	Bridge Crossing		0%	\$ 1,100,000
√	Water	Minor Adjustments		3%	\$ 8,942
√	Sewer	Minor Adjustments		2%	\$ 5,961
√	Landscaping and Irrigation			4%	\$ 11,923
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,243,076
Paving and Allowance Subtotal:				\$	1,541,150
Construction Contingency:				10%	\$ 154,115
Mobilization				5%	\$ 77,057
Prep ROW				1%	\$ 15,411
Construction Cost TOTAL:				\$	1,788,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,788,000
Engineering/Survey/Testing:		16%	\$ 286,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 357,600
Impact Fee Project Cost TOTAL:			\$ 2,432,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	I-9:I-24
Name:	Bottleneck Study Improvements	This project consists of intersection improvements identified in the ongoing Bottleneck study. The total cost of these improvements in Service Area B is estimated to be \$9,205,000. The cost attributable to projected growth in Service Area B (4%) is \$379,000.		
Limits:	N/A			
Impact Fee Class:	N/A			
Ultimate Class:	N/A			
Length (If):	N/A			
Service Area(s):	B			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 379,000	

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City of Garland - 2016 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area C

#	IF Class	Project	Limits		Status	Percent in Service Area	Project Cost	Total Cost in Service Area
			From	To				
C-1	D1	Castle Dr (1)	N. First St	Lavon Dr	Widening	100	\$ 953,000	\$ 953,000
C-2	D1	Castle Dr (2)	Lavon Dr	Mars Dr	Widening	100	\$ 2,390,000	\$ 2,390,000
C-3	E	Castle Dr (3)	Mars Dr	Country Club Rd	Widening	100	\$ 2,424,000	\$ 2,424,000
C-4	E	Castle Dr (4)	Country Club Rd	Centerville Rd	Widening	100	\$ 5,536,000	\$ 5,536,000
C-5	E	Castle Dr (5)	2660' south of Firewheel Pkwy	Firewheel Pkwy	Widening	50	\$ 2,659,000	\$ 1,329,500
C-6	E	Castle Dr (6)	Firewheel Pkwy	Miles Rd	Widening	50	\$ 4,433,000	\$ 2,216,500
C-7	D2	Crist Rd	Lavon Dr	Naaman School Rd	Widening	100	\$ 4,436,000	\$ 4,436,000
C-8	A	Firewheel Parkway (2)	530' E of Lavon Dr	310' S of Town Center Blvd	Widening	100	\$ 6,292,000	\$ 6,292,000
C-9	C1	Pleasant Valley Rd (1)	Creek Meadow Ln	Miles Rd	Under Construction	100	\$ 10,773,000	\$ 10,773,000
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd	2,815' E of Centerville Rd	Median	50	\$ 955,000	\$ 477,500
C-11	C1	Pleasant Valley Rd (2)	Firewheel Pkwy	Creek Meadow Ln	Completed	100	\$ 3,603,239	\$ 3,603,239
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd	East City Limits	Completed	50	\$ 2,743,883	\$ 1,371,942
TOTAL							\$ 47,198,122	\$ 41,802,681

Bottleneck Study Improvements - Service Area C

#	Intersection	Improvement(s)	Percent in Service Area	Total Project Cost in Service Area	10-Year Growth Cost in Service Area
I-14	Centerville Rd and SH 66	Add dual LT lanes NB and WB	100%	\$ 1,030,000	\$ 141,000
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts	33%		

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-1
Name:	Castle Dr (1)	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	N. First St to Lavon Dr			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	795			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	2,297	cy	\$ 8.00	\$ 18,373
203	6" Lime Stabilization Subgrade	4,505	sy	\$ 2.60	\$ 11,713
303	Street Cut Paving Concrete - Class C Construct	4,417	sy	\$ 70.00	\$ 309,167
403	Curb 6" Integral	3,180	lf	\$ 1.95	\$ 6,201
503	Sidwalk 4" Class A Construct	1,060	sy	\$ 43.00	\$ 45,580
603	Turn Lanes and Median Openings	293	sy	\$ 70.00	\$ 20,531
Paving Construction Cost Subtotal: \$					411,565
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 20,578
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 12,347
√	Roadway Drainage	Standard Internal System		30%	\$ 123,470
√	Illumination			6%	\$ 24,694
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 12,347
√	Sewer	Minor Adjustments		2%	\$ 8,231
√	Landscaping and Irrigation			4%	\$ 16,463
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	218,130
Paving and Allowance Subtotal:				\$	629,695
Construction Contingency:				10%	\$ 62,970
Mobilization				5%	\$ 31,485
Prep ROW				5%	\$ 31,485
Construction Cost TOTAL:				\$	756,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 756,000
Engineering/Survey/Testing:		16%	\$ 120,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 75,600
Impact Fee Project Cost TOTAL:			\$ 953,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-2
Name:	Castle Dr (2)	This project consists of the reconstruction of the existing facility as a four lane divided major collector		
Limits:	Lavon Dr to Mars Dr			
Impact Fee Class:	D1			
Ultimate Class:	Major Collector			
Length (lf):	1,995			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	5,763	cy	\$ 8.00	\$ 46,107
203	6" Lime Stabilization Subgrade	11,305	sy	\$ 2.60	\$ 29,393
303	Street Cut Paving Concrete - Class C Construct	11,083	sy	\$ 70.00	\$ 775,833
403	Curb 6" Integral	7,980	lf	\$ 1.95	\$ 15,561
503	Sidwalk 4" Class A Construct	2,660	sy	\$ 43.00	\$ 114,380
603	Turn Lanes and Median Openings	736	sy	\$ 70.00	\$ 51,522
Paving Construction Cost Subtotal:					\$ 1,032,796
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	51,640
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	30,984
✓	Roadway Drainage	Standard Internal System	30%	\$	309,839
✓	Illumination		6%	\$	61,968
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	30,984
✓	Sewer	Minor Adjustments	2%	\$	20,656
✓	Landscaping and Irrigation		4%	\$	41,312
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	547,382
Paving and Allowance Subtotal:					\$ 1,580,178
Construction Contingency:				10%	\$ 158,018
Mobilization				5%	\$ 79,009
Prep ROW				5%	\$ 79,009
Construction Cost TOTAL:					\$ 1,897,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,897,000
Engineering/Survey/Testing:		16%	\$ 303,520
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 189,700
Impact Fee Project Cost TOTAL:			\$ 2,390,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-3
Name:	Castle Dr (3)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Mars Dr to Country Club Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,425			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	6,467	cy	\$ 8.00	\$ 51,733
202	6" Lime Stabilization Subgrade	12,664	sy	\$ 2.60	\$ 32,926
302	Street Cut Paving Concrete - Class C Construct	12,125	sy	\$ 70.00	\$ 848,750
402	Curb 6" Integral	4,850	lf	\$ 1.95	\$ 9,458
502	Sidwalk 4" Class A Construct	2,156	sy	\$ 43.00	\$ 92,689
602	Turn Lanes and Median Openings	172	sy	\$ 70.00	\$ 12,024
Paving Construction Cost Subtotal:					\$ 1,047,580
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	52,379
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	31,427
✓	Roadway Drainage	Standard Internal System	30%	\$	314,274
✓	Illumination		6%	\$	62,855
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	31,427
✓	Sewer	Minor Adjustments	2%	\$	20,952
✓	Landscaping and Irrigation		4%	\$	41,903
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	555,217
Paving and Allowance Subtotal:					\$ 1,602,797
Construction Contingency:				10%	\$ 160,280
Mobilization				5%	\$ 80,140
Prep ROW				5%	\$ 80,140
Construction Cost TOTAL:					\$ 1,924,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,924,000
Engineering/Survey/Testing:		16%	\$ 307,840
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 192,400
Impact Fee Project Cost TOTAL:			\$ 2,424,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-4
Name:	Castle Dr (4)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Country Club Rd to Centerville Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	5,540			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	14,773	cy	\$ 8.00	\$ 118,187
202	6" Lime Stabilization Subgrade	28,931	sy	\$ 2.60	\$ 75,221
302	Street Cut Paving Concrete - Class C Construct	27,700	sy	\$ 70.00	\$ 1,939,000
402	Curb 6" Integral	11,080	lf	\$ 1.95	\$ 21,606
502	Sidwalk 4" Class A Construct	4,924	sy	\$ 43.00	\$ 211,751
602	Turn Lanes and Median Openings	392	sy	\$ 70.00	\$ 27,469
Paving Construction Cost Subtotal:					\$ 2,393,234
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 119,662
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 71,797
√	Roadway Drainage	Standard Internal System		30%	\$ 717,970
√	Illumination			6%	\$ 143,594
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 71,797
√	Sewer	Minor Adjustments		2%	\$ 47,865
√	Landscaping and Irrigation			4%	\$ 95,729
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,268,414
				Paving and Allowance Subtotal:	\$ 3,661,648
				Construction Contingency:	10% \$ 366,165
				Mobilization	5% \$ 183,082
				Prep ROW	5% \$ 183,082
				Construction Cost TOTAL:	\$ 4,394,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,394,000
Engineering/Survey/Testing:		16%	\$ 703,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 439,400
Impact Fee Project Cost TOTAL:			\$ 5,536,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-5
Name:	Castle Dr (5)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	2660' south of Firewheel Pkwy to Firewheel Pk			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,660			
Service Area(s):	C,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	7,093	cy	\$ 8.00	\$ 56,747
202	6" Lime Stabilization Subgrade	13,891	sy	\$ 2.60	\$ 36,117
302	Street Cut Paving Concrete - Class C Construct	13,300	sy	\$ 70.00	\$ 931,000
402	Curb 6" Integral	5,320	lf	\$ 1.95	\$ 10,374
502	Sidwalk 4" Class A Construct	2,364	sy	\$ 43.00	\$ 101,671
602	Turn Lanes and Median Openings	188	sy	\$ 70.00	\$ 13,189
Paving Construction Cost Subtotal:					\$ 1,149,098
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	57,455
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	34,473
✓	Roadway Drainage	Standard Internal System	30%	\$	344,729
✓	Illumination		6%	\$	68,946
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	34,473
✓	Sewer	Minor Adjustments	2%	\$	22,982
✓	Landscaping and Irrigation		4%	\$	45,964
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	609,022
Paving and Allowance Subtotal:					\$ 1,758,120
Construction Contingency:				10%	\$ 175,812
Mobilization				5%	\$ 87,906
Prep ROW				5%	\$ 87,906
Construction Cost TOTAL:					\$ 2,110,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,110,000
Engineering/Survey/Testing:		16%	\$ 337,600
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 211,000
Impact Fee Project Cost TOTAL:			\$ 2,659,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-6
Name:	Castle Dr (6)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Firewheel Pkwy to Miles Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	4,435			
Service Area(s):	C,ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	11,827	cy	\$ 8.00	\$ 94,613
202	6" Lime Stabilization Subgrade	23,161	sy	\$ 2.60	\$ 60,217
302	Street Cut Paving Concrete - Class C Construct	22,175	sy	\$ 70.00	\$ 1,552,250
402	Curb 6" Integral	8,870	lf	\$ 1.95	\$ 17,297
502	Sidwalk 4" Class A Construct	3,942	sy	\$ 43.00	\$ 169,516
602	Turn Lanes and Median Openings	314	sy	\$ 70.00	\$ 21,990
Paving Construction Cost Subtotal:					\$ 1,915,883
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 95,794
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 57,476
√	Roadway Drainage	Standard Internal System		30%	\$ 574,765
√	Illumination			6%	\$ 114,953
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 57,476
√	Sewer	Minor Adjustments		2%	\$ 38,318
√	Landscaping and Irrigation			4%	\$ 76,635
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,015,418
				Paving and Allowance Subtotal:	\$ 2,931,301
				Construction Contingency:	10% \$ 293,130
				Mobilization	5% \$ 146,565
				Prep ROW	5% \$ 146,565
				Construction Cost TOTAL:	\$ 3,518,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,518,000
Engineering/Survey/Testing:		16%	\$ 562,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 351,800
Impact Fee Project Cost TOTAL:			\$ 4,433,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-7
Name:	Crist Rd	This project consists of the reconstruction of the existing facility as a four lane w/ center turn major collector		
Limits:	Lavon Dr to Naaman School Rd			
Impact Fee Class:	D2			
Ultimate Class:	Major Collector			
Length (lf):	3,265			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	11,609	cy	\$ 8.00	\$ 92,871
205	6" Lime Stabilization Subgrade	22,855	sy	\$ 2.60	\$ 59,423
305	Street Cut Paving Concrete - Class C Construct	22,129	sy	\$ 70.00	\$ 1,549,061
405	Curb 6" Integral	6,530	lf	\$ 1.95	\$ 12,734
505	Sidwalk 4" Class A Construct	4,353	sy	\$ 43.00	\$ 187,193
605	Turn Lanes and Median Openings	231	sy	\$ 70.00	\$ 16,189
Paving Construction Cost Subtotal:					\$ 1,917,471
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	95,874
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	57,524
✓	Roadway Drainage	Standard Internal System	30%	\$	575,241
✓	Illumination		6%	\$	115,048
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	57,524
✓	Sewer	Minor Adjustments	2%	\$	38,349
✓	Landscaping and Irrigation		4%	\$	76,699
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	1,016,260
Paving and Allowance Subtotal:					\$ 2,933,731
Construction Contingency:				10%	\$ 293,373
Mobilization				5%	\$ 146,687
Prep ROW				5%	\$ 146,687
Construction Cost TOTAL:					\$ 3,521,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,521,000
Engineering/Survey/Testing:		16%	\$ 563,360
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 352,100
Impact Fee Project Cost TOTAL:			\$ 4,436,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-8
Name:	Firewheel Parkway (2)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	530' E of Lavon Dr to 310' S of Town Center Bl			
Impact Fee Class:	A			
Ultimate Class:	Regional Arterial			
Length (lf):	4,050			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
111	Unclassified Street Excavation	15,750	cy	\$ 8.00	\$ 126,000
211	6" Lime Stabilization Subgrade	31,050	sy	\$ 2.60	\$ 80,730
311	Street Cut Paving Concrete - Class C Construct	30,600	sy	\$ 70.00	\$ 2,142,000
411	Curb 6" Integral	16,200	lf	\$ 1.95	\$ 31,590
511	Sidwalk 4" Class A Construct	5,400	sy	\$ 43.00	\$ 232,200
611	Turn Lanes and Median Openings	1,535	sy	\$ 70.00	\$ 107,440
Paving Construction Cost Subtotal:					\$ 2,719,960
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 135,998
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 81,599
√	Roadway Drainage	Standard Internal System		30%	\$ 815,988
√	Illumination			6%	\$ 163,198
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 81,599
√	Sewer	Minor Adjustments		2%	\$ 54,399
√	Landscaping and Irrigation			4%	\$ 108,798
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,441,579
				Paving and Allowance Subtotal:	\$ 4,161,539
				Construction Contingency:	10% \$ 416,154
				Mobilization	5% \$ 208,077
				Prep ROW	5% \$ 208,077
				Construction Cost TOTAL:	\$ 4,994,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 4,994,000
Engineering/Survey/Testing:		16%	\$ 799,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 499,400
Impact Fee Project Cost TOTAL:			\$ 6,292,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-9
Name:	Pleasant Valley Rd (1)	This project consists of the construction of a new four lane divided minor arterial		
Limits:	Creek Meadow Ln to Miles Rd			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	2,615			
Service Area(s):	C			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	7,554	cy	\$ 8.00	\$ 60,436
207	6" Lime Stabilization Subgrade	14,818	sy	\$ 2.60	\$ 38,528
307	Street Cut Paving Concrete - Class C Construct	14,528	sy	\$ 70.00	\$ 1,016,944
407	Curb 6" Integral	10,460	lf	\$ 1.95	\$ 20,397
507	Sidwalk 4" Class A Construct	3,487	sy	\$ 43.00	\$ 149,927
607	Turn Lanes and Median Openings	1,203	sy	\$ 70.00	\$ 84,175
Paving Construction Cost Subtotal:					\$ 1,370,407
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 41,112
√	Roadway Drainage	Standard Internal System		30%	\$ 411,122
√	Illumination			6%	\$ 82,224
√	Special Drainage Structures	Bridge Crossing		0%	\$ 4,800,000
√	Water	Minor Adjustments		3%	\$ 41,112
√	Sewer	Minor Adjustments		2%	\$ 27,408
√	Landscaping and Irrigation			4%	\$ 54,816
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 5,457,795
				Paving and Allowance Subtotal:	\$ 6,828,202
				Construction Contingency:	10% \$ 682,820
				Mobilization	5% \$ 341,410
				Prep ROW	1% \$ 68,282
				Construction Cost TOTAL:	\$ 7,921,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 7,921,000
Engineering/Survey/Testing:		16%	\$ 1,267,360
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 1,584,200
Impact Fee Project Cost TOTAL:			\$ 10,773,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-10,D-5
Name:	E. Miller Rd	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Centerville Rd to 2,815' E of Centerville Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,815			
Service Area(s):	C,D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,066	cy	\$ 8.00	\$ 32,529
210	6" Lime Stabilization Subgrade	7,819	sy	\$ 2.60	\$ 20,331
310	Street Cut Paving Concrete - Class C Construct	7,194	sy	\$ 70.00	\$ 503,572
410	Curb 6" Integral	5,630	lf	\$ 1.95	\$ 10,979
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	640	sy	\$ 70.00	\$ 44,784
Paving Construction Cost Subtotal: \$					612,194
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
✓	Traffic Control	Construction Phase Traffic Control		5%	\$ 30,610
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 18,366
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
✓	Landscaping and Irrigation			4%	\$ 24,488
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	73,463
Paving and Allowance Subtotal:				\$	685,658
Construction Contingency:				10%	\$ 68,566
Mobilization				5%	\$ 34,283
Prep ROW				5%	\$ 34,283
Construction Cost TOTAL:				\$	823,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 823,000
Engineering/Survey/Testing:		16%	\$ 131,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 955,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-11
Name:	Pleasant Valley Rd (2)	This completed project consisted of widening the previously existing facility to a 4 lane divided minor arterial. The total cost of the project was \$5,372,133, of which the City contributed \$3,603,239		
Limits:	Firewheel Pkwy to Creek Meadow Ln			
Impact Fee Class:	C1			
Ultimate Class:	Minor Arterial			
Length (lf):	3,075			
Service Area(s):	C			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 3,603,239	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-12,D-21
Name:	Miller Rd Bridge	This completed project consisted of widening the existing bridge to a 6 lane divided regional arterial. The total cost of the project was \$24,710,481, of which the City contributed \$2,743,883		
Limits:	2,815' E of Centerville Rd to East City Limits			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	194			
Service Area(s):	C,D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 2,743,883	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	I-14,I-19
Name:	Bottleneck Study Improvements	This project consists of intersection improvements identified in the ongoing Bottleneck study. The total cost of these improvements in Service Area C is estimated to be \$1,030,000. The cost attributable to projected growth in Service Area C (14%) is \$141,000.		
Limits:	N/A			
Impact Fee Class:	N/A			
Ultimate Class:	N/A			
Length (If):	N/A			
Service Area(s):	C			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 141,000	

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City of Garland - 2016 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees
Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area D

#	IF Class	Project	Limits		Status	Percent in Service Area	Project Cost	Total Cost in Service Area
			From	To				
D-1	S	Bobtown Rd (1)	Rowlett Rd	Bobtown Rd (Existing)	New	100	\$ 929,000	\$ 929,000
D-2	E-S	Bobtown Rd (2)	Bobtown Rd (Future)	Waterhouse Blvd	Widening	100	\$ 1,779,000	\$ 1,779,000
D-3	E	Bobtown Rd (3)	400' S of High Dr	Lyons Rd	Widening	100	\$ 1,995,000	\$ 1,995,000
D-4	E	Bobtown Rd (4)	Lyons Rd	South City Limits	Widening	50	\$ 2,654,000	\$ 1,327,000
C-10,D-5	B (1/3)	E. Miller Rd	Centerville Rd	2,815' E of Centerville Rd	Median	50	\$ 955,000	\$ 477,500
D-6	F	E. Oates Rd (Future)	Country Club Rd	E. Oates Rd (Existing)	New	100	\$ 3,219,000	\$ 3,219,000
D-7	B (1/3)	La Prada Dr	IH 635 E frontage road	Northwest Hwy	Median	50	\$ 567,000	\$ 283,500
D-8	E	Locust Grove Rd	290' E of Oceanport Dr	East City Limits	Widening	100	\$ 2,859,000	\$ 2,859,000
D-9	B	Lyons Rd (1)	Bobtown Rd	Guthrie Rd	Widening	100	\$ 5,014,000	\$ 5,014,000
D-10	B	Lyons Rd (2)	Guthrie Rd	Lyons Rd (Future)	Widening	100	\$ 1,366,000	\$ 1,366,000
D-11	B	Lyons Rd (Future) (3)	Lyons Rd	South City Limits	New	100	\$ 2,811,000	\$ 2,811,000
D-12	F	Rosehill Rd (1)	Rosehill Rd (Existing)	Wynn Joyce Rd	New	100	\$ 1,364,000	\$ 1,364,000
D-13	B (1/3)	Rosehill Rd (2)	Bobtown Rd	IH 30 N loop	Median	100	\$ 513,000	\$ 513,000
D-14	A (1/3)	Rowlett Rd (1)	Broadway Blvd	Rosehill Rd	Median	100	\$ 1,254,000	\$ 1,254,000
D-15	A (1/3)	Rowlett Rd (2)	Rosehill Rd	Roan Rd	Median	100	\$ 1,781,000	\$ 1,781,000
D-16	A	Rowlett Rd (3)	Roan Rd	City Limits	Under Construction	100	\$ 2,486,000	\$ 2,486,000
D-17	B (1/3)	S. Country Club Rd	Rowlett Rd	Bobtown Rd	Median	100	\$ 599,000	\$ 599,000
D-18	E	Zion Rd	Locust Grove Rd	Bobtown Rd	Widening	100	\$ 1,075,000	\$ 1,075,000
D-19	B	Northwest Hwy	Centerville Rd	La Prada Dr	Completed	100	\$ 2,904,782	\$ 2,904,782
D-20	E	Dairy Rd	Celeste Rd	Broadway Blvd	Completed	100	\$ 3,597,758	\$ 3,597,758
C-12,D-21	B	Miller Rd Bridge	2,815' E of Centerville Rd	East City Limits	Completed	50	\$ 2,743,883	\$ 1,371,942
TOTAL							\$ 42,466,423	\$ 39,006,482

Bottleneck Study Improvements - Service Area D

#	Intersection	Improvement(s)	Percent in Service Area	Total Project Cost in Service Area	10-Year Growth Cost in Service Area
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts	33%	\$ 2,630,000	\$ 236,000
I-20	Broadway Blvd and First St	Triple LT from NB First St	50%		
I-23	Broadway Blvd and Centerville Rd	Dual Lefts SWB, NEB and NWB	100%		
I-25	Broadway Blvd and Rowlett Rd	Add EB RT Lane	100%		
I-26	Broadway Blvd and IH-30 EBFR	Dual NB RT Lanes	100%		

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-1
Name:	Bobtown Rd (1)	This project consists of the construction of a new four lane undivided minor collector		
Limits:	Rowlett Rd to Bobtown Rd (Existing)			
Impact Fee Class:	E			
Ultimate Class:	Special Functional Classification			
Length (lf):	920			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	2,453	cy	\$ 8.00	\$ 19,627
202	6" Lime Stabilization Subgrade	4,804	sy	\$ 2.60	\$ 12,492
302	Street Cut Paving Concrete - Class C Construct	4,600	sy	\$ 70.00	\$ 322,000
402	Curb 6" Integral	1,840	lf	\$ 1.95	\$ 3,588
502	Sidwalk 4" Class A Construct	818	sy	\$ 43.00	\$ 35,164
602	Turn Lanes and Median Openings	65	sy	\$ 70.00	\$ 4,562
Paving Construction Cost Subtotal:					\$ 397,432
Major Construction Component Allowances**:					
	Item Description	Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 11,923
√	Roadway Drainage	Standard Internal System		30%	\$ 119,230
√	Illumination			6%	\$ 23,846
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 11,923
√	Sewer	Minor Adjustments		2%	\$ 7,949
√	Landscaping and Irrigation			4%	\$ 15,897
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 190,768
				Paving and Allowance Subtotal:	\$ 588,200
				Construction Contingency:	10% \$ 58,820
				Mobilization	5% \$ 29,410
				Prep ROW	1% \$ 5,882
				Construction Cost TOTAL:	\$ 683,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 683,000
Engineering/Survey/Testing:		16%	\$ 109,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 136,600
Impact Fee Project Cost TOTAL:			\$ 929,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-2
Name:	Bobtown Rd (2)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Bobtown Rd (Future) to Waterhouse Blvd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,780			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	4,747	cy	\$ 8.00	\$ 37,973
202	6" Lime Stabilization Subgrade	9,296	sy	\$ 2.60	\$ 24,168
302	Street Cut Paving Concrete - Class C Construct	8,900	sy	\$ 70.00	\$ 623,000
402	Curb 6" Integral	3,560	lf	\$ 1.95	\$ 6,942
502	Sidwalk 4" Class A Construct	1,582	sy	\$ 43.00	\$ 68,036
602	Turn Lanes and Median Openings	126	sy	\$ 70.00	\$ 8,826
Paving Construction Cost Subtotal:					\$ 768,945
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	38,447
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	23,068
✓	Roadway Drainage	Standard Internal System	30%	\$	230,684
✓	Illumination		6%	\$	46,137
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	23,068
✓	Sewer	Minor Adjustments	2%	\$	15,379
✓	Landscaping and Irrigation		4%	\$	30,758
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	407,541
Paving and Allowance Subtotal:					\$ 1,176,486
Construction Contingency:				10%	\$ 117,649
Mobilization				5%	\$ 58,824
Prep ROW				5%	\$ 58,824
Construction Cost TOTAL:					\$ 1,412,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,412,000
Engineering/Survey/Testing:		16%	\$ 225,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 141,200
Impact Fee Project Cost TOTAL:			\$ 1,779,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-3
Name:	Bobtown Rd (3)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	400' S of High Dr to Lyons Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,995			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	5,320	cy	\$ 8.00	\$ 42,560
202	6" Lime Stabilization Subgrade	10,418	sy	\$ 2.60	\$ 27,088
302	Street Cut Paving Concrete - Class C Construct	9,975	sy	\$ 70.00	\$ 698,250
402	Curb 6" Integral	3,990	lf	\$ 1.95	\$ 7,781
502	Sidwalk 4" Class A Construct	1,773	sy	\$ 43.00	\$ 76,253
602	Turn Lanes and Median Openings	141	sy	\$ 70.00	\$ 9,892
Paving Construction Cost Subtotal:					\$ 861,823
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	43,091
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	25,855
✓	Roadway Drainage	Standard Internal System	30%	\$	258,547
✓	Illumination		6%	\$	51,709
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	25,855
✓	Sewer	Minor Adjustments	2%	\$	17,236
✓	Landscaping and Irrigation		4%	\$	34,473
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	456,766
Paving and Allowance Subtotal:				\$	1,318,590
Construction Contingency:				10%	\$ 131,859
Mobilization				5%	\$ 65,929
Prep ROW				5%	\$ 65,929
Construction Cost TOTAL:				\$	1,583,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,583,000
Engineering/Survey/Testing:		16%	\$ 253,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 158,300
Impact Fee Project Cost TOTAL:			\$ 1,995,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-4
Name:	Bobtown Rd (4)	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Lyons Rd to South City Limits			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,655			
Service Area(s):	D, ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	7,080	cy	\$ 8.00	\$ 56,640
202	6" Lime Stabilization Subgrade	13,865	sy	\$ 2.60	\$ 36,049
302	Street Cut Paving Concrete - Class C Construct	13,275	sy	\$ 70.00	\$ 929,250
402	Curb 6" Integral	5,310	lf	\$ 1.95	\$ 10,355
502	Sidwalk 4" Class A Construct	2,360	sy	\$ 43.00	\$ 101,480
602	Turn Lanes and Median Openings	188	sy	\$ 70.00	\$ 13,164
Paving Construction Cost Subtotal:					\$ 1,146,938
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	57,347
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	34,408
✓	Roadway Drainage	Standard Internal System	30%	\$	344,081
✓	Illumination		6%	\$	68,816
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	34,408
✓	Sewer	Minor Adjustments	2%	\$	22,939
✓	Landscaping and Irrigation		4%	\$	45,878
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	607,877
Paving and Allowance Subtotal:					\$ 1,754,815
Construction Contingency:				10%	\$ 175,481
Mobilization				5%	\$ 87,741
Prep ROW				5%	\$ 87,741
Construction Cost TOTAL:					\$ 2,106,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,106,000
Engineering/Survey/Testing:		16%	\$ 336,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 210,600
Impact Fee Project Cost TOTAL:			\$ 2,654,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	C-10,D-5
Name:	E. Miller Rd	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Centerville Rd to 2,815' E of Centerville Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	2,815			
Service Area(s):	C,D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	4,066	cy	\$ 8.00	\$ 32,529
210	6" Lime Stabilization Subgrade	7,819	sy	\$ 2.60	\$ 20,331
310	Street Cut Paving Concrete - Class C Construct	7,194	sy	\$ 70.00	\$ 503,572
410	Curb 6" Integral	5,630	lf	\$ 1.95	\$ 10,979
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	640	sy	\$ 70.00	\$ 44,784
Paving Construction Cost Subtotal:					\$ 612,194
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 30,610
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 18,366
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 24,488
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 73,463
Paving and Allowance Subtotal:				\$	685,658
Construction Contingency:				10%	\$ 68,566
Mobilization				5%	\$ 34,283
Prep ROW				5%	\$ 34,283
Construction Cost TOTAL:				\$	823,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 823,000
Engineering/Survey/Testing:		16%	\$ 131,680
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 955,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-6
Name:	E. Oates Rd (Future)	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Country Club Rd to E. Oates Rd (Existing)			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	3,045			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	6,767	cy	\$ 8.00	\$ 54,133
201	6" Lime Stabilization Subgrade	13,195	sy	\$ 2.60	\$ 34,307
301	Street Cut Paving Concrete - Class C Construct	12,518	sy	\$ 70.00	\$ 876,283
401	Curb 6" Integral	6,090	lf	\$ 1.95	\$ 11,876
501	Sidwalk 4" Class A Construct	2,707	sy	\$ 43.00	\$ 116,387
601	Turn Lanes and Median Openings	216	sy	\$ 70.00	\$ 15,098
Paving Construction Cost Subtotal:					\$ 1,108,084
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	None Anticipated	0%	\$	-
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	33,243
✓	Roadway Drainage	Standard Internal System	30%	\$	332,425
✓	Illumination		6%	\$	66,485
✓	Special Drainage Structures	Bridge Crossing	0%	\$	400,000
✓	Water	Minor Adjustments	3%	\$	33,243
✓	Sewer	Minor Adjustments	2%	\$	22,162
✓	Landscaping and Irrigation		4%	\$	44,323
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	931,880
Paving and Allowance Subtotal:					\$ 2,039,964
Construction Contingency:				10%	\$ 203,996
Mobilization				5%	\$ 101,998
Prep ROW				1%	\$ 20,400
Construction Cost TOTAL:					\$ 2,367,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,367,000
Engineering/Survey/Testing:		16%	\$ 378,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 473,400
Impact Fee Project Cost TOTAL:			\$ 3,219,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-7
Name:	La Prada Dr	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	IH 635 E frontage road to Northwest Hwy			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	1,670			
Service Area(s):	D, ETJ			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	2,412	cy	\$ 8.00	\$ 19,298
210	6" Lime Stabilization Subgrade	4,639	sy	\$ 2.60	\$ 12,061
310	Street Cut Paving Concrete - Class C Construct	4,268	sy	\$ 70.00	\$ 298,744
410	Curb 6" Integral	3,340	lf	\$ 1.95	\$ 6,513
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	380	sy	\$ 70.00	\$ 26,568
Paving Construction Cost Subtotal: \$					363,185
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 18,159
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 10,896
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 14,527
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	43,582
Paving and Allowance Subtotal:				\$	406,767
Construction Contingency:				10%	\$ 40,677
Mobilization				5%	\$ 20,338
Prep ROW				5%	\$ 20,338
Construction Cost TOTAL:				\$	489,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 489,000
Engineering/Survey/Testing:		16%	\$ 78,240
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 567,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-8
Name:	Locust Grove Rd	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	290' E of Oceanport Dr to East City Limits			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,860			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	7,627	cy	\$ 8.00	\$ 61,013
202	6" Lime Stabilization Subgrade	14,936	sy	\$ 2.60	\$ 38,832
302	Street Cut Paving Concrete - Class C Construct	14,300	sy	\$ 70.00	\$ 1,001,000
402	Curb 6" Integral	5,720	lf	\$ 1.95	\$ 11,154
502	Sidewalk 4" Class A Construct	2,542	sy	\$ 43.00	\$ 109,316
602	Turn Lanes and Median Openings	203	sy	\$ 70.00	\$ 14,181
Paving Construction Cost Subtotal: \$					1,235,496
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 61,775
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 37,065
√	Roadway Drainage	Standard Internal System		30%	\$ 370,649
√	Illumination			6%	\$ 74,130
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 37,065
√	Sewer	Minor Adjustments		2%	\$ 24,710
√	Landscaping and Irrigation			4%	\$ 49,420
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	654,813
				Paving and Allowance Subtotal: \$	1,890,309
				Construction Contingency: 10%	\$ 189,031
				Mobilization 5%	\$ 94,515
				Prep ROW 5%	\$ 94,515
				Construction Cost TOTAL: \$	2,269,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,269,000
Engineering/Survey/Testing:		16%	\$ 363,040
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 226,900
Impact Fee Project Cost TOTAL:			\$ 2,859,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-9
Name:	Lyons Rd (1)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Bobtown Rd to Guthrie Rd			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	3,230			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	12,561	cy	\$ 8.00	\$ 100,489
209	6" Lime Stabilization Subgrade	24,763	sy	\$ 2.60	\$ 64,385
309	Street Cut Paving Concrete - Class C Construct	24,404	sy	\$ 70.00	\$ 1,708,311
409	Curb 6" Integral	12,920	lf	\$ 1.95	\$ 25,194
509	Sidwalk 4" Class A Construct	4,307	sy	\$ 43.00	\$ 185,187
609	Turn Lanes and Median Openings	1,192	sy	\$ 70.00	\$ 83,417
Paving Construction Cost Subtotal:					\$ 2,166,983
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 108,349
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 65,009
√	Roadway Drainage	Standard Internal System		30%	\$ 650,095
√	Illumination			6%	\$ 130,019
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 65,009
√	Sewer	Minor Adjustments		2%	\$ 43,340
√	Landscaping and Irrigation			4%	\$ 86,679
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 1,148,501
				Paving and Allowance Subtotal:	\$ 3,315,483
				Construction Contingency:	10% \$ 331,548
				Mobilization	5% \$ 165,774
				Prep ROW	5% \$ 165,774
				Construction Cost TOTAL:	\$ 3,979,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 3,979,000
Engineering/Survey/Testing:		16%	\$ 636,640
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 397,900
Impact Fee Project Cost TOTAL:			\$ 5,014,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-10
Name:	Lyons Rd (2)	This project consists of the reconstruction of the existing facility as a six lane divided regional arterial		
Limits:	Guthrie Rd to Lyons Rd (Future)			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	880			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	3,422	cy	\$ 8.00	\$ 27,378
209	6" Lime Stabilization Subgrade	6,747	sy	\$ 2.60	\$ 17,541
309	Street Cut Paving Concrete - Class C Construct	6,649	sy	\$ 70.00	\$ 465,422
409	Curb 6" Integral	3,520	lf	\$ 1.95	\$ 6,864
509	Sidwalk 4" Class A Construct	1,173	sy	\$ 43.00	\$ 50,453
609	Turn Lanes and Median Openings	325	sy	\$ 70.00	\$ 22,727
Paving Construction Cost Subtotal:					\$ 590,385
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	29,519
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	17,712
✓	Roadway Drainage	Standard Internal System	30%	\$	177,116
✓	Illumination		6%	\$	35,423
	Special Drainage Structures	None Anticipated	0%	\$	-
✓	Water	Minor Adjustments	3%	\$	17,712
✓	Sewer	Minor Adjustments	2%	\$	11,808
✓	Landscaping and Irrigation		4%	\$	23,615
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	312,904
Paving and Allowance Subtotal:					\$ 903,290
Construction Contingency:				10%	\$ 90,329
Mobilization				5%	\$ 45,164
Prep ROW				5%	\$ 45,164
Construction Cost TOTAL:					\$ 1,084,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,084,000
Engineering/Survey/Testing:		16%	\$ 173,440
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 108,400
Impact Fee Project Cost TOTAL:			\$ 1,366,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-11
Name:	Lyons Rd (Future) (3)	This project consists of the construction of a new six lane divided regional arterial		
Limits:	Lyons Rd to South City Limits			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	1,190			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	4,628	cy	\$ 8.00	\$ 37,022
209	6" Lime Stabilization Subgrade	9,123	sy	\$ 2.60	\$ 23,721
309	Street Cut Paving Concrete - Class C Construct	8,991	sy	\$ 70.00	\$ 629,378
409	Curb 6" Integral	4,760	lf	\$ 1.95	\$ 9,282
509	Sidwalk 4" Class A Construct	1,587	sy	\$ 43.00	\$ 68,227
609	Turn Lanes and Median Openings	439	sy	\$ 70.00	\$ 30,733
Paving Construction Cost Subtotal:					\$ 798,362
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 23,951
√	Roadway Drainage	Standard Internal System		30%	\$ 239,509
√	Illumination			6%	\$ 47,902
√	Special Drainage Structures	Bridge Crossing		0%	\$ 600,000
√	Water	Minor Adjustments		3%	\$ 23,951
√	Sewer	Minor Adjustments		2%	\$ 15,967
√	Landscaping and Irrigation			4%	\$ 31,934
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 983,214
				Paving and Allowance Subtotal:	\$ 1,781,576
				Construction Contingency:	10% \$ 178,158
				Mobilization	5% \$ 89,079
				Prep ROW	1% \$ 17,816
				Construction Cost TOTAL:	\$ 2,067,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 2,067,000
Engineering/Survey/Testing:		16%	\$ 330,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 413,400
Impact Fee Project Cost TOTAL:			\$ 2,811,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-12
Name:	Rosehill Rd (1)	This project consists of the construction of a new two lane undivided minor collector		
Limits:	Rosehill Rd (Existing) to Wynn Joyce Rd			
Impact Fee Class:	F			
Ultimate Class:	Minor Collector			
Length (lf):	1,605			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
101	Unclassified Street Excavation	3,567	cy	\$ 8.00	\$ 28,533
201	6" Lime Stabilization Subgrade	6,955	sy	\$ 2.60	\$ 18,083
301	Street Cut Paving Concrete - Class C Construct	6,598	sy	\$ 70.00	\$ 461,883
401	Curb 6" Integral	3,210	lf	\$ 1.95	\$ 6,260
501	Sidwalk 4" Class A Construct	1,427	sy	\$ 43.00	\$ 61,347
601	Turn Lanes and Median Openings	114	sy	\$ 70.00	\$ 7,958
Paving Construction Cost Subtotal:					\$ 584,064
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 17,522
√	Roadway Drainage	Standard Internal System		30%	\$ 175,219
√	Illumination			6%	\$ 35,044
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 17,522
√	Sewer	Minor Adjustments		2%	\$ 11,681
√	Landscaping and Irrigation			4%	\$ 23,363
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 280,351
				Paving and Allowance Subtotal:	\$ 864,415
				Construction Contingency:	10% \$ 86,441
				Mobilization	5% \$ 43,221
				Prep ROW	1% \$ 8,644
				Construction Cost TOTAL:	\$ 1,003,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,003,000
Engineering/Survey/Testing:		16%	\$ 160,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 200,600
Impact Fee Project Cost TOTAL:			\$ 1,364,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-13
Name:	Rosehill Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Bobtown Rd to IH 30 N loop			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	1,510			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	2,181	cy	\$ 8.00	\$ 17,449
210	6" Lime Stabilization Subgrade	4,194	sy	\$ 2.60	\$ 10,906
310	Street Cut Paving Concrete - Class C Construct	3,859	sy	\$ 70.00	\$ 270,122
410	Curb 6" Integral	3,020	lf	\$ 1.95	\$ 5,889
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	343	sy	\$ 70.00	\$ 24,023
Paving Construction Cost Subtotal:					\$ 328,388
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 16,419
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 9,852
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 13,136
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 39,407
				Paving and Allowance Subtotal:	\$ 367,795
				Construction Contingency:	10% \$ 36,780
				Mobilization	5% \$ 18,390
				Prep ROW	5% \$ 18,390
				Construction Cost TOTAL:	\$ 442,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 442,000
Engineering/Survey/Testing:		16%	\$ 70,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 513,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-14
Name:	Rowlett Rd (1)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Broadway Blvd to Rosehill Rd			
Impact Fee Class:	A (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	3,695			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
112	Unclassified Street Excavation	5,337	cy	\$ 8.00	\$ 42,698
212	6" Lime Stabilization Subgrade	10,264	sy	\$ 2.60	\$ 26,686
312	Street Cut Paving Concrete - Class C Construct	9,443	sy	\$ 70.00	\$ 660,994
412	Curb 6" Integral	7,390	lf	\$ 1.95	\$ 14,411
512	Sidewalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
0	Turn Lanes and Median Openings	840	sy	\$ 70.00	\$ 58,784
Paving Construction Cost Subtotal: \$					803,573
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 40,179
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 24,107
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 32,143
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal: \$	96,429
Paving and Allowance Subtotal:				\$	900,002
Construction Contingency:				10%	\$ 90,000
Mobilization				5%	\$ 45,000
Prep ROW				5%	\$ 45,000
Construction Cost TOTAL: \$					1,081,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,081,000
Engineering/Survey/Testing:		16%	\$ 172,960
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,254,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-15
Name:	Rowlett Rd (2)	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Rosehill Rd to Roan Rd			
Impact Fee Class:	A (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	5,250			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
112	Unclassified Street Excavation	7,583	cy	\$ 8.00	\$ 60,667
212	6" Lime Stabilization Subgrade	14,583	sy	\$ 2.60	\$ 37,917
312	Street Cut Paving Concrete - Class C Construct	13,417	sy	\$ 70.00	\$ 939,167
412	Curb 6" Integral	10,500	lf	\$ 1.95	\$ 20,475
512	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
0	Turn Lanes and Median Openings	1,193	sy	\$ 70.00	\$ 83,523
Paving Construction Cost Subtotal:					\$ 1,141,748
Major Construction Component Allowances**:					
Item Description		Notes	Allowance	Item Cost	
✓	Traffic Control	Construction Phase Traffic Control	5%	\$	57,087
✓	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities	3%	\$	34,252
	Roadway Drainage	None Anticipated	0%	\$	-
	Illumination		0%	\$	-
	Special Drainage Structures	None Anticipated	0%	\$	-
	Water	None Anticipated	0%	\$	-
	Sewer	None Anticipated	0%	\$	-
✓	Landscaping and Irrigation		4%	\$	45,670
	Miscellaneous:		\$0	\$	-
**Allowances based on % of Paving Construction Cost Subtotal			Allowance Subtotal:	\$	137,010
Paving and Allowance Subtotal:					\$ 1,278,757
Construction Contingency:			10%	\$	127,876
Mobilization			5%	\$	63,938
Prep ROW			5%	\$	63,938
Construction Cost TOTAL:					\$ 1,535,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,535,000
Engineering/Survey/Testing:		16%	\$ 245,600
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 1,781,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-16
Name:	Rowlett Rd (3)	This project consists of the construction of a new six lane divided regional arterial		
Limits:	Roan Rd to City Limits			
Impact Fee Class:	A			
Ultimate Class:	Regional Arterial			
Length (lf):	1,585			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
111	Unclassified Street Excavation	6,164	cy	\$ 8.00	\$ 49,311
211	6" Lime Stabilization Subgrade	12,152	sy	\$ 2.60	\$ 31,594
311	Street Cut Paving Concrete - Class C Construct	11,976	sy	\$ 70.00	\$ 838,289
411	Curb 6" Integral	6,340	lf	\$ 1.95	\$ 12,363
511	Sidwalk 4" Class A Construct	2,113	sy	\$ 43.00	\$ 90,873
611	Turn Lanes and Median Openings	601	sy	\$ 70.00	\$ 42,048
Paving Construction Cost Subtotal:					\$ 1,064,478
Major Construction Component Allowances**:					
	Item Description	Notes		Allowance	Item Cost
	Traffic Control	None Anticipated		0%	\$ -
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 31,934
√	Roadway Drainage	Standard Internal System		30%	\$ 319,343
√	Illumination			6%	\$ 63,869
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 31,934
√	Sewer	Minor Adjustments		2%	\$ 21,290
√	Landscaping and Irrigation			4%	\$ 42,579
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 510,950
				Paving and Allowance Subtotal:	\$ 1,575,428
				Construction Contingency:	10% \$ 157,543
				Mobilization	5% \$ 78,771
				Prep ROW	1% \$ 15,754
				Construction Cost TOTAL:	\$ 1,828,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 1,828,000
Engineering/Survey/Testing:		16%	\$ 292,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	20%	\$ 365,600
Impact Fee Project Cost TOTAL:			\$ 2,486,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-17
Name:	S. Country Club Rd	This project consists of the construction of the median lanes to complete the six lane divided regional arterial		
Limits:	Rowlett Rd to Bobtown Rd			
Impact Fee Class:	B (1/3)			
Ultimate Class:	Regional Arterial			
Length (lf):	1,765			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	2,549	cy	\$ 8.00	\$ 20,396
210	6" Lime Stabilization Subgrade	4,903	sy	\$ 2.60	\$ 12,747
310	Street Cut Paving Concrete - Class C Construct	4,511	sy	\$ 70.00	\$ 315,739
410	Curb 6" Integral	3,530	lf	\$ 1.95	\$ 6,884
510	Sidwalk 4" Class A Construct	0	sy	\$ 43.00	\$ -
610	Turn Lanes and Median Openings	401	sy	\$ 70.00	\$ 28,080
Paving Construction Cost Subtotal:					\$ 383,845
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 19,192
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 11,515
	Roadway Drainage	None Anticipated		0%	\$ -
	Illumination			0%	\$ -
	Special Drainage Structures	None Anticipated		0%	\$ -
	Water	None Anticipated		0%	\$ -
	Sewer	None Anticipated		0%	\$ -
√	Landscaping and Irrigation			4%	\$ 15,354
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 46,061
Paving and Allowance Subtotal:				\$	429,906
Construction Contingency:				10%	\$ 42,991
Mobilization				5%	\$ 21,495
Prep ROW				5%	\$ 21,495
Construction Cost TOTAL:				\$	516,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 516,000
Engineering/Survey/Testing:		16%	\$ 82,560
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	\$ -
Impact Fee Project Cost TOTAL:			\$ 599,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-18
Name:	Zion Rd	This project consists of the reconstruction of the existing facility as a four lane undivided minor collector		
Limits:	Locust Grove Rd to Bobtown Rd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	1,075			
Service Area(s):	D			

Roadway Construction Cost Projection					
No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	2,867	cy	\$ 8.00	\$ 22,933
202	6" Lime Stabilization Subgrade	5,614	sy	\$ 2.60	\$ 14,596
302	Street Cut Paving Concrete - Class C Construct	5,375	sy	\$ 70.00	\$ 376,250
402	Curb 6" Integral	2,150	lf	\$ 1.95	\$ 4,193
502	Sidwalk 4" Class A Construct	956	sy	\$ 43.00	\$ 41,089
602	Turn Lanes and Median Openings	76	sy	\$ 70.00	\$ 5,330
Paving Construction Cost Subtotal:					\$ 464,391
Major Construction Component Allowances**:					
Item Description		Notes		Allowance	Item Cost
√	Traffic Control	Construction Phase Traffic Control		5%	\$ 23,220
√	Pavement Markings/Signs/Posts	Includes Striping/Signs for Bicycle Facilities		3%	\$ 13,932
√	Roadway Drainage	Standard Internal System		30%	\$ 139,317
√	Illumination			6%	\$ 27,863
	Special Drainage Structures	None Anticipated		0%	\$ -
√	Water	Minor Adjustments		3%	\$ 13,932
√	Sewer	Minor Adjustments		2%	\$ 9,288
√	Landscaping and Irrigation			4%	\$ 18,576
	Miscellaneous:			\$0	\$ -
**Allowances based on % of Paving Construction Cost Subtotal				Allowance Subtotal:	\$ 246,127
				Paving and Allowance Subtotal:	\$ 710,518
				Construction Contingency:	10% \$ 71,052
				Mobilization	5% \$ 35,526
				Prep ROW	5% \$ 35,526
				Construction Cost TOTAL:	\$ 853,000

Impact Fee Project Cost Summary			
Item Description	Notes:	Allowance	Item Cost
Construction:		-	\$ 853,000
Engineering/Survey/Testing:		16%	\$ 136,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	10%	\$ 85,300
Impact Fee Project Cost TOTAL:			\$ 1,075,000

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-19
Name:	Northwest Hwy	This completed project consisted of widening the existing facility to a six lane divided regional arterial. The total cost of this project was \$5,654,782, of which the City contributed \$2,904,782.		
Limits:	Centerville Rd to La Prada Dr			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	6,437			
Service Area(s):	D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 2,904,782	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	D-20
Name:	Dairy Rd	This completed project consists of widening the facility to a three lane undivided minor collector. The City cost of this project is \$3,597,758.		
Limits:	Celeste Rd to Broadway Blvd			
Impact Fee Class:	E			
Ultimate Class:	Minor Collector			
Length (lf):	2,611			
Service Area(s):	D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 3,597,758	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 9/13/2016

Project Information:		Description:	Project No.	C-12,D-21
Name:	Miller Rd Bridge	This completed project consisted of widening the existing bridge to a 6 lane divided regional arterial. The total cost of the project was \$24,710,481, of which the City contributed \$2,743,883		
Limits:	2,815' E of Centerville Rd to East City Limits			
Impact Fee Class:	B			
Ultimate Class:	Regional Arterial			
Length (lf):	194			
Service Area(s):	C,D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 2,743,883	

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City of Garland
2016 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
 updated: 9/13/2016

Project Information:		Description:	Project No.	I-19:I-26
Name:	Bottleneck Study Improvements	This project consists of intersection improvements identified in the ongoing Bottleneck study. The total cost of these improvements in Service Area D is estimated to be \$2,630,000. The cost attributable to projected growth in Service Area D (8%) is \$236,000.		
Limits:	N/A			
Impact Fee Class:	N/A			
Ultimate Class:	N/A			
Length (If):	N/A			
Service Area(s):	D			

Impact Fee Project Cost Summary	
Impact Fee Project Cost TOTAL: \$ 236,000	

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Appendix B – Roadway Impact Fee CIP Service Units of Supply

City of Garland - 2016 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area A

9/14/2016

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
A-1	Arapaho Rd (1)	Elm Ridge Ln to Shiloh Rd	0.77	6	B (1/3)	2,365	100%	900	4168	1825	2,343	\$ 1,383,000	\$ 1,383,000
A-2	Arapaho Rd (2)	Shiloh Rd to N. Garland Ave	0.68	6	B (1/3)	2,143	100%	900	3646	1447	2199	\$ 1,210,000	\$ 1,210,000.00
A-3	Brand Rd (1)	Bellaire Rd to Belt Line Rd	0.64	6	C1	737	100%	900	3452	471	2981	\$ 4,092,000	\$ 4,092,000.00
A-4	Brand Rd (2)	Naaman Forest Blvd to West Brand Rd	0.47	6	C1	New	100%	900	2557	0	2,557	\$ 8,172,000	\$ 8,172,000
A-5	Brand Rd (3)	Murfield Rd to PGBT N Frontage Rd	0.56	6	C1	911	100%	900	3027	511	2,516	\$ 3,590,000	\$ 3,590,000
A-6	Campbell Rd (1)	N. Jupiter Rd to Shiloh Rd	1.06	6	B (1/3)	1,645	100%	900	5732	1746	3,986	\$ 1,901,000	\$ 1,901,000
A-7	Campbell Rd (2)	Shiloh Rd to PGBT S Frontage Rd	0.41	6	B (1/3)	1,489	100%	900	2230	615	1,615	\$ 740,000	\$ 740,000
A-8	Campbell Rd (3)	Lookout Dr to PGBT N Frontage Rd	0.59	6	B (1/3)	789	100%	900	3211	469	2,742	\$ 1,065,000	\$ 1,065,000
A-9	Campbell Rd (4)	Lookout Dr to N. Garland Ave	0.64	6	B (1/3)	1,550	100%	900	3467	995	2,472	\$ 1,150,000	\$ 1,150,000
A-10	Campbell Rd (5)	N. Garland Ave to Water Oak Dr	0.52	6	B (1/3)	1,071	100%	900	2802	556	2,246	\$ 929,000	\$ 929,000
A-11	Campbell Rd (6)	Water Oak Dr to Murphy Rd	1.24	6	B	1,071	100%	900	6694	1328	5,366	\$ 11,065,000	\$ 11,065,000
A-12	Ferris Rd	Campbell Rd to Holford Rd	0.36	6	D1	New	100%	900	1928	0	1,928	\$ 2,258,000	\$ 2,258,000
A-13	Firewheel Parkway (1)	Lavon Dr to 530' E of Lavon Dr	0.10	6	A	1,129	100%	925	557	113	444	\$ 824,000	\$ 824,000
A-14	Holford Rd (1)	Naaman Forest (Future) to Arapaho Rd	0.75	6	D1	327	100%	900	4050	245	3805	\$ 5,347,000	\$ 5,347,000.00
A-15	Holford Rd (2)	PGBT S Frontage Rd to Naaman Forest (Future)	0.33	6	C2	327	100%	900	1790	108	1682	\$ 2,717,000	\$ 2,717,000.00
A-16	Holford Rd (3)	N City Limits to PGBT N Frontage Rd	0.99	6	C2	102	100%	900	5349	101	5,248	\$ 8,118,000	\$ 8,118,000
A-17	Lookout Dr (1)	Courtside Dr to Spring Dr	0.11	6	B (1/3)	324	50%	900	302	18	284	\$ 201,000	\$ 100,500
A-18	Lookout Dr (2)	Spring Dr to PGBT S Frontage Rd	0.80	6	B (1/3)	324	50%	900	2153	129	2,024	\$ 1,428,000	\$ 714,000
A-19	Lookout Dr (3)	PGBT N Frontage Rd to Campbell Rd	0.72	6	B (1/3)	1,550	100%	900	3871	1111	2,760	\$ 1,107,000	\$ 1,107,000
A-20	Mapleridge (1)	Shiloh Rd to Mapleridge Dr	0.09	2	F	New	100%	525	89	0	89	\$ 384,000	\$ 384,000
A-21	Mapleridge (2)	Mapleridge Dr (Existing) to Holford Rd	0.36	2	F	New	100%	525	379	0	379	\$ 3,513,000	\$ 3,513,000
A-22	Garland Ave (1)	N City Limits to PGBT N Frontage Rd	1.29	6	B (1/3)	1,103	100%	900	6975	1425	5,550	\$ 2,313,000	\$ 2,313,000
A-23	Garland Ave (2)	Arapaho Rd to PGBT S Frontage Rd	1.14	6	B (1/3)	2,322	100%	900	6162	2650	3,512	\$ 2,044,000	\$ 2,044,000
A-24	Garland Ave (3)	Arapaho Rd to Belt Line Rd	0.79	6	B-S (1/3)	2,353	100%	900	4285	1867	2,418	\$ 1,421,000	\$ 1,421,000
A-25	Garland Ave (4)	Belt Line Rd to Buckingham Rd	0.97	6	B (1/3)	1,852	100%	900	5221	1791	3,430	\$ 1,732,000	\$ 1,732,000
A-26	Shiloh Rd (1)	PGBT S Frontage Rd to Campbell Rd	0.37	6	B (1/3)	1,500	100%	900	1979	550	1,429	\$ 657,000	\$ 657,000
A-27	Shiloh Rd (2)	Campbell Rd to north bridge end	0.41	6	B (1/3)	1,698	100%	900	2209	695	1,514	\$ 733,000	\$ 733,000
A-28	Shiloh Rd (3)	Collins Blvd to Arapaho Rd	0.59	6	B (1/3)	1,949	100%	900	3211	1159	2,052	\$ 1,065,000	\$ 1,065,000
A-29	Shiloh Rd (4)	Arapaho Rd to Belt Line Rd	1.03	6	B (1/3)	2,059	100%	900	5538	2112	3,426	\$ 1,836,000	\$ 1,836,000
A-30	Shiloh Rd (5)	Belt Line Rd to Buckingham Rd	0.96	6	B (1/3)	2,299	100%	900	5170	2201	2,969	\$ 1,714,000	\$ 1,714,000
A-31	Naaman Forest Blvd	W. Naaman Forest Blvd. to E. Naaman Forest Blvd.	0.33	6	D1	New	100%	900	1759	0	1,759	\$ 2,079,000	\$ 2,079,000
A-32	Naaman School Rd	Brand Rd to Lavon Dr	0.88	6	D1	1,080	100%	900	4776	955	3,821	\$ 6,047,000	\$ 6,047,000
A-33	Naaman Forest Blvd	Ranger to Brand Rd	0.26	6	D1	749	100%	900	1394	193	1,201	\$ 3,904,483	\$ 3,904,483
I-1	Shiloh Rd and Campbell Rd	Extend WB RT lane										\$ 634,000	\$ 634,000
I-2	Arapaho Rd and Shiloh Rd	Add NB and SB RT lanes											
I-3	Apollo Rd and Garland Ave	Add EB RT Lane											
I-4	Wagon Wheel Rd and Garland Ave	WB RT Lane											
I-5	Belt Line Rd and Garland Ave	WB RT Lane											
I-6	Belt Line Rd and Shiloh Rd	EB RT Lane											
I-7	Buckingham Rd and Plano Rd	NB RT Lane, EB and WB Dual LT Lanes											
I-8	Shiloh Rd and Buckingham Rd	Add dual lefts WB, NB, and SB											
SUBTOTAL									110,133	27,386	82,747	\$ 87,373,483	\$ 86,558,983

2016 Roadway Impact Fee Study Cost Per Service Area \$ 15,840

TOTAL COST IN SERVICE AREA A \$ 86,574,823

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% in Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280]. If minimal traffic is anticipated on an existing roadway, an average volume based on roadways of similar class was used.

City of Garland - 2016 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area B

9/14/2016

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
B-1	Kings Rd	Marquis Dr to Kings Rd (Existing)	0.10	4	E	New	100%	525	217	0	217	\$ 551,000	\$ 551,000
B-2	Leon Rd (1)	Shiloh Rd to S. Garland Ave	0.18	4	E	New	100%	525	378	0	378	\$ 959,000	\$ 959,000.00
B-3	Leon Rd (2)	Leon Rd (Existing) to Millay Blvd (Future)	0.04	4	E	New	100%	525	84	0	84	\$ 212,000	\$ 212,000
B-4	Marketplace ext (1)	Towngate Blvd to Northwest Hwy	0.26	4	E	New	100%	525	551	0	551	\$ 1,398,000	\$ 1,398,000
B-5	Marketplace ext (2)	Pendleton Dr to Marketplace Dr	0.13	4	E	New	100%	525	263	0	263	\$ 666,000	\$ 666,000
B-6	Millay Blvd (Future)	Leon Rd to Millay Blvd (Existing)	0.22	4	E	New	100%	525	465	0	465	\$ 1,180,000	\$ 1,180,000
B-7	Shiloh Rd (6)	Buckingham Rd to W Walnut St	1.00	6	B (1/3)	2,448	100%	900	5380	2,439	2,941	\$ 1,784,000	\$ 1,784,000
B-8	Shiloh Rd (7)	W Walnut St to Forest Ln	0.50	6	B	2,133	100%	900	2726	1,077	1,649	\$ 4,590,000	\$ 4,590,000
B-9	Shiloh Rd (8)	Forest Ln to Miller Rd	1.01	6	B	2,240	100%	900	5436	2,255	3,181	\$ 8,552,000	\$ 8,552,000
B-10	Shiloh Rd (9)	Miller Rd to Kingsley Rd	1.07	6	B	1,969	100%	900	5789	2,111	3,678	\$ 9,087,000	\$ 9,087,000
B-11	Shiloh Rd (10)	Kingsley Rd to McCree Rd	0.50	6	B	1,681	100%	900	2720	847	1,873	\$ 4,129,000	\$ 4,129,000
B-12	Shiloh Rd (11)	Garland Ave to IH-635 WBFR	0.29	6	B	1,867	100%	900	1560	539	1,021	\$ 2,368,000	\$ 2,368,000
B-13	New road east of Industrial Ln	Kingsley Rd to McCree Rd	0.50	2	F	New	100%	525	529	0	529	\$ 2,260,000	\$ 2,260,000
B-14	Saturn Rd	Saturn Rd (Existing) to Miller Rd	0.31	4	D2	New	100%	825	1009	0	1,009	\$ 2,215,000	\$ 2,215,000
B-15	Sherwin	Sherwin St (Existing) to Wood Dr	0.13	4	E	New	100%	525	274	0	274	\$ 2,432,000	\$ 2,432,000
I-9	Plano Rd and Walnut St	NB an SB RT Lane										\$ 378,000	\$ 378,000
I-10	Forest Ln and Jupiter Rd	EB and NB RT Lane, NB Dual LT Lanes											
I-11	Forest Ln and Shiloh Rd	SB and NB RT Lanes, Dual NB LT Lanes											
I-12	Avenue B (SH 78) and First St	SB RT Lane											
I-13	Avenue D and First St	EB RT Lane, EB Dual LT Lanes											
I-15	Jupiter Rd and Miller Rd	SB RT Lane											
I-16	Miller Rd and Shiloh Rd	SB RT Lane											
I-17	Garland Ave and Miller Rd	SB, EB, and WB RT Lanes											
I-18	Glenbrook Dr and Miller Rd	EB and WB LT Lanes											
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts											
I-20	Broadway Blvd and First St	Triple LT from NB First St											
I-21	Jupiter Rd and Kingsley Rd	WB RT Lane											
I-22	Garland Ave and Kingsley Rd	NB RT Lane											
I-24	Garland Ave and McCree Rd / Shiloh Rd	SWB Dual LT Lanes											
SUBTOTAL									27,381	9,268	18,113	\$ 42,761,000	\$ 42,761,000

2016 Roadway Impact Fee Study Cost Per Service Area \$ 15,840

TOTAL COST IN SERVICE AREA B \$ 42,776,840

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280]. If minimal traffic is anticipated on an existing roadway, an average volume based on roadways of similar class was used.

City of Garland - 2016 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area C

9/14/2016

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
C-1	Castle Dr (1)	N. First St to Lavon Dr	0.15	6	D1	237	100%	900	813	36	777	\$ 953,000	\$ 953,000
C-2	Castle Dr (2)	Lavon Dr to Mars Dr	0.38	6	D1	561	100%	900	2040	212	1828	\$ 2,390,000	\$ 2,390,000.00
C-3	Castle Dr (3)	Mars Dr to Country Club Rd	0.46	4	E	378	100%	525	964	174	790	\$ 2,424,000	\$ 2,424,000.00
C-4	Castle Dr (4)	Country Club Rd to Centerville Rd	1.05	4	E	510	100%	525	2203	535	1,668	\$ 5,536,000	\$ 5,536,000
C-5	Castle Dr (5)	2660' south of Firewheel Pkwy to Firewheel Pkwy	0.50	4	E	206	50%	525	529	52	477	\$ 2,659,000	\$ 1,329,500
C-6	Castle Dr (6)	Firewheel Pkwy to Miles Rd	0.84	4	E	418	50%	525	882	176	706	\$ 4,433,000	\$ 2,216,500
C-7	Crist Rd	Lavon Dr to Naaman School Rd	0.62	4	D2	500	100%	825	2041	309	1,732	\$ 4,436,000	\$ 4,436,000
C-8	Firewheel Parkway (2)	530' E of Lavon Dr to 310' S of Town Center Blvd	0.77	6	A	1,450	100%	925	4257	1,112	3,145	\$ 6,292,000	\$ 6,292,000
C-9	Pleasant Valley Rd (1)	Creek Meadow Ln to Miles Rd	0.50	6	C1	796	100%	900	2674	394	2,280	\$ 10,773,000	\$ 10,773,000
C-10,D-5	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	6	B (1/3)	1,122	50%	900	1439	299	1,140	\$ 955,000	\$ 477,500
C-11	Pleasant Valley Rd (2)	Firewheel Pkwy to Creek Meadow Ln	0.58	6	C1	796	100%	900	3145	464	2,681	\$ 3,603,239	\$ 3,603,239
C-12,D-21	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	6	B	1,063	50%	900	99	20	79	\$ 2,743,883	\$ 1,371,942
I-14	Centerville Rd and SH 66	Add dual LT lanes NB and WB										\$ 141,000	\$ 141,000
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts											
SUBTOTAL									21,086	3,783	17,303	\$ 47,339,122	\$ 41,943,681

2016 Roadway Impact Fee Study Cost Per Service Area \$ 15,840

TOTAL COST IN SERVICE AREA C \$ 41,959,521

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280]. If minimal traffic is anticipated on an existing roadway, an average volume based on roadways of similar class was used.

City of Garland - 2016 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area D

9/14/2016

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL ¹	VEH-MI TOTAL DEMAND PK-HR ²	EXCESS CAPACITY PK-HR VEH-MI ³	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
D-1	Bobtown Rd (1)	Rowlett Rd to Bobtown Rd (Existing)	0.17	2	S	New	100%	525	183	0	183	\$ 929,000	\$ 929,000.00
D-2	Bobtown Rd (2)	Bobtown Rd (Future) to Waterhouse Blvd	0.34	0	E-S	367	100%	0	0	124	-124	\$ 1,779,000	\$ 1,779,000.00
D-3	Bobtown Rd (3)	400' S of High Dr to Lyons Rd	0.38	4	E	541	100%	525	793	204	589	\$ 1,995,000	\$ 1,995,000.00
D-4	Bobtown Rd (4)	Lyons Rd to South City Limits	0.50	4	E	541	50%	525	528	136	392	\$ 2,654,000	\$ 1,327,000.00
C-10,D-5	E. Miller Rd	Centerville Rd to 2,815' E of Centerville Rd	0.53	6	B (1/3)	1,122	50%	900	1439	299	1,140	\$ 955,000	\$ 477,500
D-6	E. Oates Rd (Future)	Country Club Rd to E. Oates Rd (Existing)	0.58	2	F	New	100%	525	606	0	606	\$ 3,219,000	\$ 3,219,000
D-7	La Prada Dr	IH 635 E frontage road to Northwest Hwy	0.32	6	B (1/3)	1,145	50%	900	854	181	673	\$ 567,000	\$ 283,500
D-8	Locust Grove Rd	290' E of Oceanport Dr to East City Limits	0.54	4	E	284	100%	525	1138	154	984	\$ 2,859,000	\$ 2,859,000
D-9	Lyons Rd (1)	Bobtown Rd to Guthrie Rd	0.61	6	B	509	100%	900	3303	311	2,992	\$ 5,014,000	\$ 5,014,000
D-10	Lyons Rd (2)	Guthrie Rd to Lyons Rd (Future)	0.17	6	B	161	100%	900	900	27	873	\$ 1,366,000	\$ 1,366,000
D-11	Lyons Rd (Future) (3)	Lyons Rd to South City Limits	0.23	6	B	New	100%	900	1217	0	1,217	\$ 2,811,000	\$ 2,811,000
D-12	Rosehill Rd (1)	Rosehill Rd (Existing) to Wynn Joyce Rd	0.30	2	F	667	100%	525	319	203	116	\$ 1,364,000	\$ 1,364,000
D-13	Rosehill Rd (2)	Bobtown Rd to IH 30 N loop	0.29	6	B (1/3)	667	100%	900	1544	191	1,353	\$ 513,000	\$ 513,000
D-14	Rowlett Rd (1)	Broadway Blvd to Rosehill Rd	0.70	6	A (1/3)	1,492	100%	925	3884	1044	2,840	\$ 1,254,000	\$ 1,254,000
D-15	Rowlett Rd (2)	Rosehill Rd to Roan Rd	0.99	6	A (1/3)	1,111	100%	925	5518	1105	4,413	\$ 1,781,000	\$ 1,781,000
D-16	Rowlett Rd (3)	Roan Rd to City Limits	0.30	6	A	1,999	100%	925	1666	600	1,066	\$ 2,486,000	\$ 2,486,000
D-17	S. Country Club Rd	Rowlett Rd to Bobtown Rd	0.33	6	B (1/3)	324	100%	900	1805	108	1,697	\$ 599,000	\$ 599,000
D-18	Zion Rd	Locust Grove Rd to Bobtown Rd	0.20	4	E	423	100%	525	428	86	342	\$ 1,075,000	\$ 1,075,000
D-19	Northwest Hwy	Centerville Rd to La Prada Dr	1.22	6	B	1,362	100%	900	6583	1660	4,923	\$ 2,904,782	\$ 2,904,782
D-20	Dairy Rd	Celeste Rd to Broadway Blvd	0.49	4	E	570	100%	525	1038	282	756	\$ 3,597,758	\$ 3,597,758
C-12,D-21	Miller Rd Bridge	2,815' E of Centerville Rd to East City Limits	0.04	6	B	1,122	50%	900	99	21	78	\$ 2,743,883	\$ 1,371,942
I-19	First St and Miller Rd	Add EB RT & NB, SB Dual Lefts										\$ 236,000	\$ 236,000
I-20	Broadway Blvd and First St	Triple LT from NB First St											
I-23	Broadway Blvd and Centerville Rd	Dual Lefts SWB, NEB and NWB											
I-25	Broadway Blvd and Rowlett Rd	Add EB RT Lane											
I-26	Broadway Blvd and IH-30 EBFR	Dual NB RT Lanes											
SUBTOTAL									33,845	6,736	27,109	\$ 42,702,423	\$ 39,242,482

2016 Roadway Impact Fee Study Cost Per Service Area \$ 15,840

TOTAL COST IN SERVICE AREA D \$ 39,258,322

1. Veh-Mi Supply Pk-Hr Total = [Length (mi)] * [Exist Lanes] * [Veh-Mi Capacity Pk-Hr Per Ln] * [% in Service Area]

2. Veh-Mi Demand Pk-Hr Total = [Length (mi)] * [PM Peak Hour Vol] * [% In Service Area]

3. Excess Capacity Pk-Hr Veh-Mi = [Veh-Mi Supply Pk-Hr Total] - [Veh-Mi Demand Pk-Hr Total]

Note: Mileage lengths are shown as rounded to the nearest 0.01. Actual calculations were performed using exact mileage length [Length (ft) / 5,280]. If minimal traffic is anticipated on an existing roadway, an average volume based on roadways of similar class was used.

Appendix C – Existing Roadway Facilities Inventory

City of Garland - 2016 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area A

9/14/2016

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					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
Apollo Rd	Brand	Kingsbridge Dr	3533	0.67	1	1	2U	Minor Collector	F	151	151	100%	525	525	351	351	101	101	250	250		
Apollo Rd	Arapaho Rd	W Brand Rd	3585	0.68	1	1	2U	Minor Collector	F	265	240	100%	525	525	356	356	180	163	176	193		
Apollo Rd	Kingsbridge Dr	Crist	2872	0.54	1	1	2U	Minor Collector	F	151	151	100%	525	525	286	286	82	82	204	204		
Apollo Rd	N. Jupiter	Galaxie Rd	2705	0.51	1	1	3U	Minor Collector	F	243	223	100%	575	575	295	295	124	114	171	181		
Apollo Rd	Shiloh Rd	Arapaho Rd	3651	0.69	1	1	3U	Minor Collector	F	301	283	100%	575	575	398	398	208	196	190	202		
Apollo Rd	Galaxie Road	Shiloh Rd	2616	0.50	1	1	3U	Minor Collector	F	283	246	100%	575	575	285	285	140	122	145	163		
Arapaho Rd	Callejo Rd	Shiloh Rd	1495	0.28	2	2	4D	Regional Arterial	B	1,144	1,221	100%	900	900	510	510	324	346	186	164		
Arapaho Rd	Holford Rd	N. Garland	2618	0.50	2	2	4D	Regional Arterial	B	1,050	1,093	100%	900	900	893	893	521	542	372	351		
Arapaho Rd	Elm Ridge Ln	Galaxie Rd	1355	0.26	2	2	4D	Regional Arterial	B	1,125	1,195	100%	900	900	462	462	289	307	173	155		
Arapaho Rd	Galaxie Rd	Callejo Rd	1226	0.23	2	2	4D	Regional Arterial	B	1,144	1,221	100%	900	900	418	418	266	284	152	134		
Arapaho Rd	Shiloh Rd	Holford Rd	947	0.18	2	2	4D	Regional Arterial	B	1,050	1,093	100%	900	900	323	323	188	196	135	127		
Arapaho Rd	N. Jupiter	Elm Ridge Ln	1340	0.25	3	3	6D	Regional Arterial	B	1,125	1,195	100%	925	925	704	704	286	303	418	401		
Bettline Rd	Kingsbridge Dr	Crist	2722	0.52	3	3	6D	Regional Arterial	B	888	858	100%	925	925	1,431	1,431	458	442	973	989		
Bettline Rd	Galaxie Rd	N. Shiloh Rd	2448	0.46	3	3	6D	Regional Arterial	B	1,291	1,277	100%	925	925	1,287	1,287	599	592	688	695		
Bettline Rd	Apollo Rd	N. Garland Ave	1706	0.32	3	3	6D	Regional Arterial	B	1,033	1,035	100%	925	925	897	897	334	332	563	563		
Bettline Rd	W Brand Rd	N. Glenbrook	1999	0.38	3	3	6D	Regional Arterial	B	1,144	1,097	100%	925	925	1,051	1,051	433	415	618	636		
Bettline Rd	N. Jupiter	Galaxie Rd	1852	0.35	3	3	6D	Regional Arterial	B	1,358	1,374	100%	925	925	973	973	476	482	497	491		
Bettline Rd	Big Oaks Dr	Galaxie Rd	1097	0.21	3	3	6D	Regional Arterial	B	1,358	1,374	100%	925	925	577	577	282	285	295	292		
Bettline Rd	N. Shiloh	Sam Houston Dr	2562	0.49	3	3	6D	Regional Arterial	B	1,121	1,101	100%	925	925	1,347	1,347	544	534	803	813		
Bettline Rd	Sam Houston Dr	Apollo Rd	1035	0.20	3	3	6D	Regional Arterial	B	1,033	1,035	100%	925	925	544	544	202	203	342	341		
Bettline Rd	N. Garland Ave	W Brand Rd	971	0.18	3	3	6D	Regional Arterial	B	1,144	1,097	100%	925	925	510	510	210	202	300	308		
Bettline Rd	N. Glenbrook	Kingsbridge Dr	1636	0.31	3	3	6D	Regional Arterial	B	888	858	100%	925	925	860	860	275	266	585	594		
Big Oaks	Diamond Oaks Dr	Shiloh Rd	3121	0.59	1	1	2U	Minor Collector	F	42	45	100%	525	525	310	310	25	27	285	283		
Big Oaks	Laurel Oaks Dr	Diamond Oaks Dr	1647	0.31	1	1	2U	Minor Collector	F	265	240	100%	525	525	164	164	83	75	81	89		
Clear Springs	Lookout	Shiloh	2721	0.52	1	1	2U	Minor Collector	F	265	240	100%	525	525	271	271	137	124	134	147		
Collins	Callejo Rd	Shiloh Rd	1720	0.33	1	1	2U	Minor Collector	F	265	240	100%	525	525	171	171	86	78	85	93		
Collins	N. Jupiter	Galaxie Rd	2463	0.47	1	1	2U	Minor Collector	F	265	240	100%	525	525	245	245	124	112	121	133		
Collins	Galaxie Rd	Callejo Rd	1463	0.28	1	1	2U	Minor Collector	F	265	240	100%	525	525	145	145	73	67	72	79		
Crist Rd	Bettline	SH 78	3242	0.61	2	2	4U	Minor Collector	E	523	552	100%	525	525	645	645	321	339	324	306		
Diamond Oaks Dr	Ridge Oak Dr	Buckingham Rd	3434	0.65	1	1	2U	Minor Collector	F	71	79	100%	525	525	341	341	46	51	295	290		
Diamond Oaks Dr	Big Oaks Dr	Ridge Oak Dr	1953	0.37	1	1	2U	Minor Collector	F	265	240	100%	525	525	194	194	98	89	96	105		
Brand Rd	Campbell Rd	Provence Blvd	4533	0.86	1	1	2U	Special Functional Classification	S	247	228	100%	525	525	451	451	212	196	239	255		
Brand Rd	Muirfield Rd	PGBT	2960	0.56	1	1	2U	Special Functional Classification	S	481	430	100%	525	525	294	294	270	241	24	53		
Brand Rd	North City Limits	Campbell Rd	1763	0.33	1	1	2U	Special Functional Classification	S	132	139	100%	525	525	175	175	44	46	131	129		
Brand Rd	Talley Rd	Muirfield Dr	2106	0.40	1	1	2U	Special Functional Classification	S	265	240	100%	525	525	209	209	106	96	103	113		
Brand Rd	PGBT Frontage Road	PGBT Frontage Road	456	0.09	3	3	6D	Minor Arterial	C1	1,460	1,485	100%	925	925	240	240	126	128	114	112		
Brand Rd	PGBT	Naaman Forest Blvd	336	0.06	3	3	6D	Minor Arterial	C1	1,460	1,485	100%	925	925	177	177	93	95	84	83		
E. Buckingham Rd	First St	375' E of First St	477	0.09	3	3	6D	Regional Arterial	B	1,418	1,336	50%	925	925	125	125	64	60	61	65		
E. Buckingham Rd	375' E of First St	Lavon Dr	1065	0.20	3	3	7U	Regional Arterial	B	1,418	1,336	50%	925	925	280	280	143	135	137	145		
Campbell Rd	Brand Rd	City Limits	3574	0.68	1	1	2U	Regional Arterial	B	426	411	100%	525	525	355	355	288	278	67	77		
Campbell Rd	Water Oak	Murphy	2970	0.56	1	1	2U	Regional Arterial	B	532	539	100%	525	525	295	295	299	303	-4	-8	4	8
Ferris Rd	Campbell	Holford	1883	0.36	1	1	2U	Major Collector	D1	265	240	100%	525	525	187	187	95	86	92	101		
Galaxie	Apollo Rd	Sweet Gum St	2056	0.39	1	1	2D	Minor Collector	F	265	240	100%	575	575	224	224	103	93	121	131		
Galaxie	Campbell Rd	Collins Blvd	1514	0.29	1	1	2U	Minor Collector	F	265	240	100%	525	525	151	151	76	69	75	82		
Galaxie	Collins Blvd	Arapaho Rd	3242	0.61	1	1	2U	Minor Collector	F	265	240	100%	525	525	322	322	163	147	159	175		
Galaxie	Sweet Gum St	Belt Line Rd	422	0.08	1	1	2U	Minor Collector	F	265	240	100%	525	525	42	42	21	19	21	23		
Galaxie	Arapaho Rd	Apollo Rd	3328	0.63	1	1	3U	Minor Collector	F	202	124	100%	575	575	362	362	127	78	235	284		
Holford Rd	Campbell Rd	310' S of Campbell Rd	240	0.05	1	1	2D	Minor Arterial	C2	55	47	100%	575	575	26	26	3	2	24	24		
Holford Rd	275' N of PGBT N frontage road	PGBT N frontage road	230	0.04	1	1	2D	Minor Arterial	C2	55	47	100%	575	575	25	25	2	2	23	23		
Holford Rd	200' N of Arapaho Rd	Arapaho Rd	243	0.05	1	1	2D	Major Collector	D1	183	144	100%	575	575	26	26	8	7	18	19		
Holford Rd	Naaman Forest (Future)	200' N of Arapaho Rd	3718	0.70	1	1	2U	Major Collector	D1	183	144	100%	525	525	370	370	129	101	241	269		
Holford Rd	310' S of Campbell Rd	Ferris Rd	2456	0.47	1	1	2U	Minor Arterial	C2	55	47	100%	525	525	244	244	26	22	218	222		
Holford Rd	North City Limits	Campbell	877	0.17	1	1	2U	Minor Arterial	C2	265	240	100%	525	525	87	87	44	40	43	47		
Holford Rd	Ferris	275' N of PGBT N frontage road	1426	0.27	1	1	2U	Minor Arterial	C2	55	47	100%	525	525	142	142	15	13	127	129		
Holford Rd	PGBT S frontage road	Naaman Forest (Future)	1748	0.33	1	1	2U	Minor Arterial	C2	183	144	100%	525	525	174	174	61	48	113	126		
Holford Rd	PGBT N frontage road	PGBT S frontage road	427	0.08	3	3	6D	Minor Arterial	C2	1,460	1,485	100%	925	925	224	224	118	120	106	104		
Homestead	Sam Houston Dr	N. Garland Ave	2717	0.51	1	1	2U	Minor Collector	F	265	240	100%	525	525	270	270	136	124	134	147		
Homestead	Shiloh	Sam Houston Dr	2498	0.47	1	1	2U	Minor Collector	F	265	240	100%	525	525	248	248	125	114	123	134		
Kingsbridge	Apollo Rd	Naaman School Rd	4837	0.92	1	1	2U	Minor Collector	F	103	50	100%	525	525	481	481	9					

Service Area A Continued

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
Lookout Dr	Spring Dr	Clear Springs Pkwy	3441	0.65	2	2	4D	Regional Arterial	B	151	173	100%	900	900	1,173	1,173	98	113	1,075	1,060		
Lookout Dr	PGBT N frontage road	Telecom	1021	0.19	2	2	4D	Regional Arterial	B	780	770	100%	900	900	348	348	151	149	197	199		
Lookout Dr	Clear Springs Pkwy	PGBT S frontage road	769	0.15	2	2	4D	Regional Arterial	B	151	173	100%	900	900	262	262	22	25	240	237		
Lookout Dr	Courtside Dr	Spring Dr	591	0.11	3	3	6D	Regional Arterial	B	151	173	100%	925	925	311	311	17	19	294	292		
Lookout Dr	PGBT S frontage road	PGBT N frontage rd	583	0.11	3	3	6D	Regional Arterial	B	1,460	1,485	100%	925	925	306	306	161	164	145	142		
Lookout Dr	N. Jupiter	Courtside Dr	513	0.10	3	3	6D	Regional Arterial	B	151	173	100%	925	925	270	270	15	17	255	253		
Mapleridge Dr	E of Shiloh Rd	End of Mapleridge Dr	729	0.14	1	1	2U	Minor Collector	F	265	240	100%	525	525	72	72	37	33	35	39		
N. First Street	Crist	Buckingham Rd	940	0.18	3	3	6D	Regional Arterial	B	1,080	1,179	100%	925	925	494	494	192	210	302	284		
N. Garland Ave	E. Naaman Forest	Arapaho	3843	0.73	2	2	4D	Regional Arterial	B	1,010	1,312	100%	900	900	1,310	1,310	735	955	575	355		
N. Garland Ave	Homestead Pl	Buckingham Rd	2604	0.49	2	2	4D	Regional Arterial	B	965	887	100%	900	900	888	888	476	437	412	451		
N. Garland Ave	Wagon Wheel Rd	Belt Line Rd	2105	0.40	2	2	4D	Regional Arterial	B-S	1,242	1,111	100%	900	900	718	718	495	443	223	275		
N. Garland Ave	North City Limits	Campbell Rd	1027	0.19	2	2	4D	Regional Arterial	B	489	488	100%	900	900	350	350	95	95	255	255		
N. Garland Ave	Campbell Rd	Muirfield Dr	4394	0.83	2	2	4D	Regional Arterial	B	555	548	100%	900	900	1,498	1,498	462	456	1,036	1,042		
N. Garland Ave	Muirfield Dr	PGBT Frontage Road	1400	0.27	2	2	4D	Regional Arterial	B	548	548	100%	900	900	477	477	147	145	330	332		
N. Garland Ave	South PGBT Frontage Road	E. Naaman Forest	2183	0.41	2	2	4D	Regional Arterial	B	1,010	1,312	100%	900	900	744	744	418	542	326	202		
N. Garland Ave	Garland Ave	Apollo Rd	1211	0.23	2	2	4D	Regional Arterial	B-S	1,242	1,111	100%	900	900	413	413	285	255	128	158		
N. Garland Ave	Apollo Rd	Wagon Wheel Rd	876	0.17	2	2	4D	Regional Arterial	B-S	1,242	1,111	100%	900	900	299	299	206	184	93	115		
N. Garland Ave	Belt Line Rd	Homestead Pl	2503	0.47	2	2	4D	Regional Arterial	B	965	887	100%	900	900	853	853	457	420	396	433		
N. Garland Ave	North PGBT Frontage Road	South PGBT Frontage Road	475	0.09	3	3	6D	Regional Arterial	B	1,460	1,485	100%	925	925	250	250	131	134	119	116		
N. Glenbrook Dr	Beltline	Kingsbridge Dr	1118	0.21	2	2	4D	Major Collector	D1	275	256	100%	900	900	381	381	58	54	323	327		
N. Glenbrook Dr	Kingsbridge Dr	Buckingham Rd	2415	0.46	2	2	4D	Major Collector	D1	275	256	100%	900	900	823	823	126	117	697	706		
Jupiter Rd	North City Limits	Springpark Wy	1513	0.29	3	3	6D	Regional Arterial	B	1,374	1,732	50%	925	925	398	398	197	248	201	150		
Jupiter Rd	Springpark Wy	W. Campbell Rd	3329	0.63	3	3	6D	Regional Arterial	B	1,374	1,732	50%	925	925	875	875	433	546	442	329		
Jupiter Rd	W. Campbell Rd	Collins Blvd	1945	0.37	3	3	6D	Regional Arterial	B	1,848	1,546	50%	925	925	511	511	340	285	171	226		
Jupiter Rd	Collins Blvd	Arapaho Rd	2632	0.50	3	3	6D	Regional Arterial	B	1,848	1,546	50%	925	925	692	692	461	385	231	307		
Jupiter Rd	Arapaho Rd	Apollo Rd	3321	0.63	3	3	6D	Regional Arterial	B	1,713	1,582	50%	925	925	873	873	539	498	334	375		
Jupiter Rd	Apollo Rd	Belt Line Rd	2260	0.43	3	3	6D	Regional Arterial	B	1,713	1,582	50%	925	925	594	594	367	339	227	255		
Jupiter Rd	Belt Line Rd	Ridge Oak Dr	1432	0.27	3	3	6D	Regional Arterial	B	1,713	1,582	50%	925	925	376	376	232	215	144	161		
Jupiter Rd	Ridge Oak Dr	W. Buckingham Rd	3697	0.70	3	3	6D	Regional Arterial	B	1,713	1,582	50%	925	925	972	972	600	554	372	418		
N. Shiloh Rd	Campbell Rd	bridge end	2160	0.41	2	2	4D	Regional Arterial	B	868	830	100%	900	900	736	736	355	340	381	396		
N. Shiloh Rd	Rich Oak Dr	Buckingham Rd	1985	0.38	1	1	4D	Regional Arterial	B	1,175	1,124	100%	900	900	338	338	442	423	-104	-85	104	85
N. Shiloh Rd	Homestead Pl	Richoak Dr	947	0.18	2	2	4D	Regional Arterial	B	1,175	1,124	100%	900	900	323	323	211	202	112	121		
N. Shiloh Rd	Belt Line Rd	Homestead Pl	2125	0.40	2	2	4D	Regional Arterial	B	1,175	1,124	100%	900	900	724	724	473	452	251	272		
N. Shiloh Rd	Apollo Rd	Belt Line Rd	2498	0.47	2	2	4D	Regional Arterial	B	1,041	1,018	100%	900	900	852	852	493	482	359	370		
N. Shiloh Rd	Arapaho Rd	Apollo Rd	2917	0.55	2	2	4D	Regional Arterial	B	943	936	100%	900	900	994	994	521	517	473	477		
N. Shiloh Rd	Mapleridge Dr	Arapaho Rd	2726	0.52	2	2	4D	Regional Arterial	B	1,021	928	100%	900	900	929	929	527	479	402	450		
N. Shiloh Rd	Collins Blvd	Mapleridge Dr	415	0.08	2	2	4D	Regional Arterial	B	1,021	928	100%	900	900	141	141	80	73	61	68		
N. Shiloh Rd	Clear Springs Pkwy	Campbell Rd	579	0.11	2	2	4D	Regional Arterial	B	752	748	100%	900	900	197	197	82	82	115	115		
N. Shiloh Rd	PGBT S frontage rd	Clear Springs Pkwy	1359	0.26	2	2	4D	Regional Arterial	B	752	748	100%	900	900	463	463	194	193	269	270		
N. Shiloh Rd	bridge end	Collins Blvd	537	0.10	2	2	4D	Regional Arterial	B	868	830	100%	900	900	183	183	88	84	95	99		
N. Shiloh Rd	PGBT N frontage road	PGBT S frontage road	409	0.08	3	3	6D	Regional Arterial	B	1,460	1,485	100%	925	925	215	215	113	115	102	100		
E. Naaman Forest	N. Garland Ave	E. Brand Rd	5700	1.08	2	2	4D	Major Collector	D1	409	340	100%	900	900	1,943	1,943	442	367	1,501	1,576		
W. Naaman Forest	Campbell Rd	Naaman Forest (Future)	1225	0.23	2	2	4D	Major Collector	D1	780	770	100%	900	900	418	418	181	179	237	239		
E. Naaman Forest	Naaman Forest (Future)	N. Garland Ave	1344	0.25	2	2	4D	Major Collector	D1	780	770	100%	900	900	458	458	199	196	259	262		
Naaman School Rd	Kingsbridge Dr	Lavon Dr	2780	0.53	1	1	2U	Major Collector	D1	642	438	100%	525	525	276	276	338	231	-62	45	62	
Naaman School Rd	E. Brand Rd	W. Brand Rd	1566	0.30	1	1	2U	Major Collector	D1	642	438	100%	525	525	156	156	190	130	-34	26	34	
Naaman School Rd	W. Brand Rd	Kingsbridge Dr	326	0.06	1	1	2U	Major Collector	D1	642	438	100%	525	525	32	32	40	27	-8	5	8	
Richoak	Shiloh Rd	Sam Houston Dr	2440	0.46	1	1	2U	Minor Collector	F	265	240	100%	525	525	243	243	122	111	121	132		
Richoak	Fulton	Shiloh Rd	492	0.09	1	1	2U	Minor Collector	F	265	240	100%	525	525	49	49	25	22	24	27		
Ridge Oak	N. Jupiter	160' of Jupiter Rd	581	0.11	1	1	2D	Minor Collector	F	60	52	100%	575	575	63	63	7	6	56	57		
Ridge Oak	160' E of Jupiter Rd	Diamond Oaks Dr	2009	0.38	1	1	2U	Minor Collector	F	60	52	100%	525	525	200	200	23	20	177	180		
Sam Houston/Meadowcrest	Beltline	Homestead Pl	2542	0.48	1	1	2U	Minor Collector	F	201	242	100%	525	525	253	253	97	117	156	136		
Sam Houston/Meadowcrest	Homestead Pl	Richoak Dr	763	0.14	1	1	2U	Minor Collector	F	201	242	100%	525	525	76	76	29	35	47	41		
Sam Houston/Meadowcrest	Richoak Dr	Buckingham Rd	1989	0.38	1	1	4D	Minor Collector	F	201	242	100%	900	900	339	339	76	91	263	248		
Springpark Way	N. Jupiter	Clear Springs Pkwy	4535	0.86	2	2	4D	Major Collector	D1	69	75	100%	900	900	1,546	1,546	59	64	1,487	1,482		
Talley Rd	Providence Blvd	City Limits	3095	0.59	1	1	2U	Minor Collector	F	82	74	100%	525	525	308	308	48	43	260	265		
Telecom Pkwy	Lookout Dr	PGBT N frontage road																				

City of Garland - 2016 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

9/14/2016

Service Area B

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
Austin	Garland	Glenbrook Dr	2,434	0.46	1	1	2U	Minor Collector	E	135	120	100%	525	525	242	62	55	180	187			
Austin	Glenbrook Dr	N. Fifth	1,109	0.21	1	1	2U	Minor Collector	E	135	120	100%	525	525	110	28	25	82	85			
Lamesa/Bardfield	Barfield Avenue	Northwest Fwy	2,974	0.56	1	1	2U	Minor Collector	F	64	64	100%	525	525	296	36	36	260	260			
Brookside	Meadowcrest	W. Walnut	2,800	0.53	1	1	2U	Minor Collector	F	45	45	100%	525	525	278	278	24	24	255	255		
E. Avenue B	S Garland Ave	S Glenbrook Dr	2,406	0.46	4	0	4D	Urban One-way Couplet	A-C	0	1,614	100%	900	900	1,640	0	0	735	1,640	-735	735	
E. Avenue B	S Glenbrook Dr	S Fifth St	1,338	0.25	4	0	4D	Urban One-way Couplet	A-C	0	1,593	100%	900	900	912	0	0	404	912	-404	404	
E. Avenue B	S Fifth St	S First St	1,578	0.30	4	0	4D	Urban One-way Couplet	A-C	0	1,594	100%	900	900	1,076	0	0	476	1,076	-476	476	
E. Avenue D	S Garland Ave	S Glenbrook Dr	2,402	0.45	0	4	4D	Urban One-way Couplet	A-C	1,784	0	100%	900	900	0	1,638	812	0	-812	1,638	812	
E. Avenue D	S Glenbrook Dr	S Fifth St	1,049	0.20	0	4	4D	Urban One-way Couplet	A-C	1,625	0	100%	900	900	0	715	323	0	-323	715	323	
E. Avenue D	S Fifth St	S First St	1,867	0.35	0	4	4D	Urban One-way Couplet	A-C	1,704	0	100%	900	900	0	1,273	603	0	-603	1,273	603	
Edgewood	N Barnes Dr	N International Rd	1,832	0.35	1	1	2U	Minor Collector	F	135	120	100%	525	525	182	47	42	135	141			
Edgewood	S. Jupiter	N Barnes Dr	1,316	0.25	1	1	2U	Minor Collector	F	135	120	100%	525	525	131	34	30	97	101			
Forest Ln	Forest Ln	Marion Dr	1,134	0.21	0	3	6D	Urban One-way Couplet	A-C	1,360	0	100%	925	925	0	596	292	0	-292	596	292	
Forest Ln	Marion Dr	S Garland Ave	1,546	0.29	0	4	4D	Urban One-way Couplet	A-C	1,360	0	100%	900	900	0	1,054	398	0	-398	1,054	398	
Forest Ln	Shiloh Rd	W Avenue B/D	2,690	0.51	3	3	6D	Regional Arterial	A	1,421	1,430	100%	925	925	1,414	1,414	724	729	690	685		
Forest Ln	Shepherd	Jupiter Rd	4,467	0.85	3	3	6D	Regional Arterial	A	1,929	1,921	100%	925	925	2,348	2,348	1,632	1,625	716	723		
Forest Ln	Jupiter Rd	International Rd	3,139	0.59	3	3	6D	Regional Arterial	A	1,550	1,526	100%	925	925	1,650	1,650	921	907	728	743		
Forest Ln	International Rd	Shiloh Rd	2,228	0.42	3	3	6D	Regional Arterial	A	1,523	1,511	100%	925	925	1,171	1,171	643	638	528	533		
Goodwin/Potomac	Buckingham	Western	2,930	0.55	1	1	2U	Minor Collector	F	127	127	100%	525	525	291	291	70	70	221	221		
Industrial Ln	Wood	W. Kingsley	2,810	0.53	1	1	2U	Minor Collector	E	88	90	100%	525	525	279	279	47	48	233	232		
Kings	Kings (Future)	Miller	1,897	0.36	1	1	2U	Minor Collector	E	135	120	100%	525	525	189	189	49	43	140	146		
Lamesa/Bardfield	Kingsley	Barfield Avenue	2,915	0.55	1	1	2U	Minor Collector	F	64	64	100%	525	525	290	290	35	35	255	255		
Lawler Rd	N Yale Dr	N. Jupiter Rd	2,935	0.56	1	1	2U	Minor Collector	F	195	173	100%	525	525	292	292	108	96	183	196		
Lawler Rd	West City Limits	N Plano Rd	1,703	0.32	1	1	2U	Minor Collector	F	135	120	100%	525	525	169	44	39	126	131			
Lawler Rd	N. Plano Rd	N. Yale Dr	2,320	0.44	1	1	2U	Minor Collector	F	195	173	100%	525	525	231	231	86	76	145	155		
Leon Rd	S. Garland Ave	S of McCree Rd	1,699	0.30	1	1	2U	Major Collector	D2	417	243	100%	525	525	160	127	74	33	86			
Leon Rd	S of McCree Rd	IH 635	2,124	0.40	1	1	3U	Minor Collector	E	417	243	100%	575	575	231	231	168	98	64	104		
Lonnecker Dr	W. Miller	1000' N of Wood Dr	2,036	0.39	1	1	2U	Minor Collector	E	26	29	100%	525	525	202	202	10	11	192	191		
Lonnecker Dr	1000' N of Wood Dr	Wood Dr	832	0.16	1	1	2U	Minor Collector	E	26	29	100%	525	525	83	83	4	5	79	78		
Main St	Glenbrook Dr	Fifth St	1,136	0.22	1	1	2U	Minor Collector	E	248	285	100%	525	525	113	113	53	61	60	52		
Main St	Fifth St	First St	1,821	0.18	1	1	3U	Minor Collector	E	273	343	100%	575	575	104	104	49	62	55	42		
Main St	Garland	Glenbrook Dr	2,414	0.45	1	1	3U	Minor Collector	E	279	275	100%	575	575	1,571	1,571	762	751	809	819		
Marketplace	Northwest Hwy	Saturn Rd	2,834	0.68	1	1	3U	Major Collector	D2	182	176	100%	575	575	394	394	125	121	269	273		
Marquis Dr	Miller Park Dr	Jupiter Rd	2,383	0.27	1	1	2U	Minor Collector	E	135	120	100%	525	525	144	144	37	33	107	111		
Marquis Dr	S. Jupiter	N International Rd	2,767	0.52	1	1	4U	Minor Collector	E	118	133	100%	525	525	275	275	62	70	213	205		
Marquis Dr	N International Rd	Shiloh Rd	2,624	0.50	1	1	4U	Minor Collector	E	103	111	100%	525	525	261	261	51	55	210	206		
Maydelle	Western	W Walnut St	2,490	0.47	1	1	2U	Minor Collector	F	135	120	100%	525	525	248	248	64	57	184	191		
McCree Rd	IH 635	S. Garland	3,179	0.60	1	1	2U	Minor Collector	F	135	114	100%	525	525	316	316	81	69	235	247		
Sam Houston/Meadowcrest	Sam Houston Dr	Nash St	525	0.10	1	1	2U	Minor Collector	F	135	120	100%	525	525	52	52	13	12	39	40		
Millay	Leon	Towngate	1,437	0.27	1	1	2U	Major Collector	D2	135	120	100%	525	525	143	143	37	33	106	110		
Barnes	Edgewood Dr	Forest Ln	1,854	0.35	1	1	2U	Minor Collector	F	135	120	100%	525	525	184	184	47	42	137	142		
Barnes	W Walnut St	Edgewood Dr	935	0.18	1	1	2U	Minor Collector	F	135	120	100%	525	525	93	93	24	21	69	72		
N. Fifth Street	Austin St	W State St	367	0.07	2	1	2U	Minor Collector	E	120	135	100%	525	525	73	36	8	9	65	27		
N. Fifth Street	W. Walnut	Austin St	783	0.15	1	2	3U	Minor Collector	E	120	135	100%	575	575	85	171	18	20	67	151		
N. Fifth Street	Travis	W. Walnut	2,660	0.50	2	2	4U	Minor Collector	E	37	40	100%	525	525	529	529	19	20	510	509		
N. Fifth Street	W State St	Main	248	0.05	2	2	4U	Minor Collector	E	120	135	100%	525	525	49	49	6	6	44	43		
N. First Street	Buckingham Rd	Travis St	2,562	0.49	3	3	6D	Regional Arterial	B	940	901	50%	925	925	673	673	228	219	445	455		
N. First Street	W. Walnut	W State St	1,339	0.25	3	3	6D	Regional Arterial	B	1,254	1,211	50%	925	925	352	352	159	154	193	198		
N. First Street	Travis St	Castle Dr	598	0.11	3	3	6D	Regional Arterial	B	940	901	100%	925	925	314	314	106	102	208	212		
N. First Street	Castle Dr	Walnut St	1,864	0.35	3	3	6D	Regional Arterial	B	1,108	957	50%	925	925	490	490	196	169	294	321		
N. First Street	W. State St	Main St	462	0.09	3	3	6D	Regional Arterial	B	1,254	1,211	50%	925	925	121	121	55	53	67	68		
N. Garland Ave	Travis St	Walnut St	3,005	0.57	3	3	6D	Regional Arterial	B	927	1,019	100%	925	925	1,579	1,579	528	580	1,052	999		
N. Garland Ave	Buckingham Rd	Travis St	2,396	0.45	3	3	6D	Regional Arterial	B	927	1,019	100%	925	925	1,259	1,259	421	462	839	797		
N. Garland Ave	Walnut St	Austin St	844	0.16	3	3	6D	Regional Arterial	B	1,257	1,297	100%	925	925	444	444	201	207	243	236		
N. Garland Ave	Main St	Austin St	419	0.08	3	3	6D	Regional Arterial	B	1,257	1,297	100%	925	925	220	220	100	103	120	117		
N. Glenbrook Dr	W Walnut St	Austin St	649	0.12	1	1	3U	Major Collector	D3	298	267	100%	575	575	71	71	37	33	34	38		
N. Glenbrook Dr	Austin St	Main St	618	0.12	1	1	3U	Major Collector	D3	298	267	100%	575	575	67	67	35	31	32	36		
N. Glenbrook Dr	Travis St	W Walnut St	2,883	0.55	2	2	4D	Major Collector	D1	514	488	100%	900	900	983	983	281	266	702	716		
N. Glenbrook Dr	Buckingham Rd	Travis St	2,519	0.48	2	2	4D	Major Collector	D1	514	488	100%	900	900	859	859	245	233	614	626		
International Rd	Forest Ln	Marquis	3,074	0.58	1	1	4U	Minor Collector	E	85	77	100%	525	525	306	306	49	45	256	261		
International Rd	W. Walnut	Edgewood Dr	1,095	0.21	1	1	4U	Minor Collector	E	112	110	100%	525	525	109	109	23	23	86	86		
International Rd	Edgewood Dr	Forest Ln	1,697	0.32	2	2	4U	Minor Collector	E	112	110	100%	525	525	337	337	36	35	301	302		
Jupiter Rd	Western Dr	Walnut St	2,277	0.43																		

Service Area B Continued

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴		
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB			
National	Wood	Kingsley	2,864	0.54	1	1	2U	Minor Collector	E	135	120	100%	525	525	285	285	73	65	212	220			
Northwest Highway	Marketplace Dr	Saturn Rd	1,606	0.30	3	3	6D	Regional Arterial	B	1,341	1,031	100%	925	925	844	844	408	314	436	530			
Northwest Highway	Pendleton Dr	Marketplace Dr	540	0.10	3	3	6D	Regional Arterial	B	1,471	1,644	100%	925	925	284	284	150	168	133	116			
Northwest Highway	Towngate Blvd	Pendleton Dr	808	0.15	3	3	6D	Minor Collector	E	1,471	1,644	100%	925	925	425	425	225	250	200	173			
Northwest Highway	LBJ E road	Towngate Blvd	728	0.14	3	3	6D	Minor Collector	E	1,471	1,644	100%	925	925	383	383	203	227	180	156			
Northwest Highway	City Limits	LBJ E Road	1,646	0.31	3	3	6D	Minor Collector	E	1,415	1,415	100%	925	925	865	865	441	441	424	424			
Patricia	W end of Oakland St	S Shiloh Rd	2,671	0.51	1	1	2U	Minor Collector	F	135	120	100%	525	525	266	266	68	61	197	205			
	Miller	Garland	5,201	0.99	1	1	2U	Minor Collector	F	135	120	100%	525	525	517	517	133	118	384	399			
	Pendleton Drive	Northwest Fwy	Center	671	0.13	1	1	2U	Major Collector	D2	135	120	100%	525	525	67	67	17	15	50	51		
	N. Fifth Street	Avenue D	W. Miller	5,312	1.01	1	1	2U	Minor Collector	E	199	189	100%	525	525	528	528	200	190	328	338		
	S. Fifth Street	W Daugherty Dr	W Kingsley Rd	4,343	0.82	1	1	2U	Minor Collector	F	135	120	100%	525	525	432	432	111	99	321	333		
	S. Fifth Street	W. Miller	Daugherty Dr	1,505	0.29	1	1	2U	Minor Collector	F	135	120	100%	525	525	150	150	38	34	111	115		
	N. Fifth Street	Main	Avenue B	722	0.14	2	2	4U	Minor Collector	E	120	135	100%	525	525	144	144	16	18	127	125		
	N. Fifth Street	Avenue B	Avenue D	758	0.14	2	2	4U	Minor Collector	E	120	135	100%	525	525	151	151	17	19	134	131		
	S. First Street	Broadway	Kingsley Rd	3,154	0.60	2	2	4D	Major Collector	D1	980	1,080	50%	900	900	538	538	293	323	245	215		
	S. First Street	E Avenue D	E Miller Rd	5,311	1.01	3	3	6D	Regional Arterial	B	2,182	2,058	50%	925	925	1,396	1,396	1,097	1,035	298	361		
S. First Street	Main St	W Avenue B	465	0.09	3	3	6D	Regional Arterial	B	2,111	2,128	50%	925	925	122	122	93	94	29	28			
S. First Street	W Avenue B	E Avenue D	694	0.13	3	3	6D	Regional Arterial	B	1,415	1,415	50%	925	925	182	182	93	93	89	89			
N. Garland Ave	W Avenue B	W Avenue D	721	0.14	2	2	5U	Regional Arterial	B	904	1,432	100%	850	850	232	232	123	196	109	37			
N. Garland Ave	Main	W Avenue B	654	0.12	2	2	5U	Regional Arterial	B	945	1,030	100%	850	850	211	211	117	128	94	83			
S. Garland Ave	Shiloh Rd	IH 635	2,453	0.46	3	3	6D	Regional Arterial	B	1,104	790	100%	925	925	1,289	1,289	513	367	776	922			
S. Garland Ave	W Avenue F	W Miller Rd	4,558	0.86	3	3	6D	Regional Arterial	B	1,257	1,344	100%	925	925	2,396	2,396	1,085	1,160	1,310	1,235			
S. Garland Ave	W Miller Rd	Patricia Ln	5,388	1.02	3	3	6D	Regional Arterial	B	1,315	1,370	100%	925	925	2,832	2,832	1,342	1,398	1,490	1,434			
S. Garland Ave	Patricia Ln	W Kingsley Rd	1,222	0.23	3	3	6D	Regional Arterial	B	1,315	1,370	100%	925	925	642	642	304	317	338	325			
S. Garland Ave	W Kingsley Rd	Leon Rd	1,531	0.29	3	3	6D	Regional Arterial	B	1,177	1,439	100%	925	925	805	805	341	417	463	387			
S. Garland Ave	Leon Rd	Shiloh Rd	1,586	0.30	3	3	6D	Regional Arterial	B	1,177	1,439	100%	925	925	834	834	354	432	480	401			
S. Garland Ave	Pt on S Glenbrook Dr	Avenue D	787	0.15	3	3	6D	Regional Arterial	B	1,257	1,344	100%	925	925	414	414	187	200	226	213			
S. Glenbrook Dr	Pt on S Glenbrook Dr	Pt on S Glenbrook Dr	1,218	0.23	1	1	2D	Major Collector	D3	212	217	100%	575	575	133	133	49	50	84	83			
S. Glenbrook Dr	W. Miller	Briarwood Dr	2,766	0.52	1	1	2U	Minor Collector	F	154	90	100%	525	525	275	275	81	47	194	228			
S. Glenbrook Dr	Briarwood Dr	W Kingsley Rd	3,816	0.72	1	1	2U	Minor Collector	F	154	90	100%	525	525	379	379	111	65	268	314			
S. Glenbrook Dr	Avenue B	Avenue D	687	0.13	1	1	3U	Major Collector	D3	301	303	100%	575	575	75	75	39	39	36	35			
S. Glenbrook Dr	Avenue D	Pt on S Glenbrook Dr	3,529	0.67	1	1	3U	Major Collector	D3	212	217	100%	575	575	384	384	142	145	243	239			
S. Glenbrook Dr	Main	Avenue B	675	0.13	1	1	3U	Major Collector	D3	301	303	100%	575	575	74	74	38	39	35	35			
S. Glenbrook Dr	Pt on S Glenbrook Dr	W. Miller	1,066	0.20	1	1	3U	Major Collector	D3	212	217	100%	575	575	116	116	43	44	73	72			
Jupiter Rd	Wood Dr	W Kingsley Rd	2,887	0.55	3	3	6D	Regional Arterial	B	1,609	1,527	50%	925	925	759	759	440	417	319	341			
Jupiter Rd	Edgewood Dr	Forest Ln	1,765	0.33	3	3	6D	Regional Arterial	B	1,491	1,502	100%	925	925	928	928	498	502	429	426			
Jupiter Rd	Forest Ln	Marquis Dr	2,724	0.52	3	3	6D	Regional Arterial	B	1,411	1,326	100%	925	925	1,432	1,432	728	684	704	748			
Jupiter Rd	Marquis Dr	W Miller Rd	2,633	0.50	3	3	6D	Regional Arterial	B	1,556	1,607	100%	925	925	1,384	1,384	776	801	608	582			
Jupiter Rd	W Miller Rd	Wood Dr	2,814	0.53	3	3	6D	Regional Arterial	B	1,515	1,412	100%	925	925	1,479	1,479	807	753	675	726			
Jupiter Rd	W Kingsley Rd	IH 635	1,941	0.37	3	3	6D	Regional Arterial	B	1,740	1,657	100%	925	925	1,020	1,020	640	609	380	411			
S. Shiloh Rd	McCree Rd	IH 635	2,811	0.53	2	2	4D	Regional Arterial	B	986	881	100%	900	900	958	958	525	469	433	489			
S. Shiloh Rd	Forest Ln	Marquis Dr	2,893	0.55	2	2	4D	Regional Arterial	B	1,184	1,056	100%	900	900	986	986	649	579	338	408			
S. Shiloh Rd	Marquis Dr	W Miller Rd	2,423	0.46	2	2	4D	Regional Arterial	B	1,138	1,062	100%	900	900	826	826	522	487	304	339			
S. Shiloh Rd	W Miller Rd	Wood Dr	2,782	0.53	2	2	4D	Regional Arterial	B	1,033	936	100%	900	900	948	948	544	493	404	455			
S. Shiloh Rd	Wood Dr	W Kingsley Rd	2,875	0.54	2	2	4D	Regional Arterial	B	971	898	100%	900	900	980	980	529	489	451	491			
S. Shiloh Rd	W Kingsley Rd	Oakland St	1,021	0.19	2	2	4D	Regional Arterial	B	865	816	100%	900	900	348	348	167	158	181	190			
S. Shiloh Rd	Oakland St	McCree Rd	1,638	0.31	2	2	4D	Regional Arterial	B	865	816	100%	900	900	558	558	268	253	290	305			
Sam Houston/Meadowcrest	Buckingham Rd	Travis St	2,030	0.38	1	1	2U	Minor Collector	F	110	116	100%	525	525	202	202	42	45	160	157			
Sam Houston/Meadowcrest	Travis St	Meadowcrest Dr	873	0.17	1	1	2U	Minor Collector	F	135	120	100%	525	525	87	87	22	20	64	67			
Saturn Rd	S of Miller Rd	W. Kingsley	4,444	0.84	1	1	3U	Major Collector	D2	467	423	100%	575	575	484	484	393	356	91	128			
Sherwin	Miller	Sherwin (Future)	2,163	0.41	1	1	2U	Minor Collector	E	135	120	100%	525	525	215	215	55	49	160	166			
Towngate	Northwest Hwy	Millay	739	0.14	2	2	4D	Minor Collector	E	995	935	100%	900	900	252	252	139	131	113	121			
Travis	Sam Houston	Garland Ave	2,892	0.55	1	1	2U	Minor Collector	F	135	120	100%	525	525	288	288	74	66	214	222			
Travis	Garland Ave	Sylvan Dr	1,500	0.28	1	1	2U	Minor Collector	F	135	120	100%	525	525	149	149	38	34	111	115			
Travis	Sylvan Dr	N Glenbrook Dr	1,181	0.22	1	1	2U	Minor Collector	F	135	120	100%	525	525	117	117	30	27	87	91			
Travis	N Glenbrook Dr	Fifth St	1,049	0.20	1	1	2U	Minor Collector	F	135	120	100%	525	525	104	104	27	24	77	80			
Travis	Fifth St	First St	1,664	0.32	1	1	2U	Minor Collector	F	135	120	100%	525	525	165	165	43	38	123	128			
W. Avenue B	Forest	S. Garland	2,875	0.54	3	0	6D	Urban One-way Couplet	A-C	0	1,275	100%	925	925									

Service Area B Continued

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					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
W. Miller Rd	West City Limits	S. Jupiter	3,358	0.64	3	3	6D	Regional Arterial	B	1,075	1,158	100%	925	925	1,765	1,765	684	736	1,081	1,028		
W. Miller Rd	S. Jupiter	430' E of S Jupiter Rd	624	0.12	3	3	6D	Regional Arterial	B	906	900	100%	925	925	328	328	107	106	221	222		
State	Forest	Garland	3,618	0.69	1	1	2U	Minor Collector	E	190	190	100%	525	525	360	360	130	130	230	230		
State	Fifth St	First St	1,801	0.34	1	1	2U	Minor Collector	F	135	135	120%	525	525	215	215	55	55	160	160		
State	Garland	Glenbrook Dr	2,588	0.49	1	1	2U	Minor Collector	F	135	120	100%	525	525	257	257	66	59	191	199		
State	Glenbrook Dr	Fifth St	1,113	0.21	1	1	2U	Minor Collector	F	135	120	120%	525	525	133	133	34	30	99	102		
W. Walnut St	West City Limits	Plano Rd	1,641	0.31	2	2	4D	Regional Arterial	B	1,104	902	100%	900	900	559	559	343	280	216	279		
W. Walnut St	Fifth St	First St	1,677	0.32	2	2	4D	Major Collector	D1	707	712	100%	900	900	572	572	225	226	347	346		
W. Walnut St	Plano Rd	Purdue Dr	1,362	0.26	2	2	4D	Major Collector	D2	961	994	100%	900	900	464	464	248	256	216	208		
W. Walnut St	Forest Crest Dr	Jupiter Rd	1,505	0.29	2	2	4D	Major Collector	D2	1,056	1,022	100%	900	900	513	513	301	291	212	222		
W. Walnut St	Jupiter Rd	Barnes Dr	1,339	0.25	2	2	4D	Major Collector	D2	844	878	100%	900	900	456	456	214	223	242	234		
W. Walnut St	435' west of Shiloh Rd	Shiloh Rd	529	0.10	2	2	4D	Major Collector	D2	844	878	100%	900	900	180	180	85	88	96	92		
W. Walnut St	Shiloh Rd	Muriel Dr	1,662	0.31	2	2	4D	Major Collector	D2	1,003	999	100%	900	900	567	567	316	314	251	252		
W. Walnut St	Rita Dr	Brookside Dr	819	0.16	2	2	4D	Major Collector	D2	1,003	999	100%	900	900	279	279	156	155	124	124		
W. Walnut St	550' west of Garland Ave	N. Garland Ave	687	0.13	2	2	4D	Major Collector	D2	1,003	999	100%	900	900	234	234	131	130	104	104		
W. Walnut St	N. Garland Ave	Glenbrook Dr	2,508	0.48	2	2	4D	Major Collector	D1	790	775	100%	900	900	855	855	375	368	480	487		
W. Walnut St	Glenbrook Dr	Fifth St	1,167	0.22	2	2	4D	Major Collector	D1	995	935	100%	900	900	398	398	220	207	178	191		
W. Walnut St	Brookside Dr	550' west of Garland Ave	835	0.16	2	2	5U	Major Collector	D2	1,003	999	100%	850	850	269	269	159	158	110	111		
W. Walnut St	Purdue Dr	Yale Dr	993	0.19	2	2	5U	Major Collector	D2	961	994	100%	850	850	320	320	181	187	139	133		
W. Walnut St	Yale Dr	Forest Crest Dr	1,474	0.28	2	2	5U	Major Collector	D2	1,056	1,022	100%	850	850	475	475	295	285	180	189		
W. Walnut St	Barnes Dr	International Rd	2,244	0.43	2	2	5U	Major Collector	D2	844	878	100%	850	850	723	723	359	373	364	349		
W. Walnut St	International Rd	435' west of Shiloh Rd	1,350	0.26	2	2	5U	Major Collector	D2	844	878	100%	850	850	435	435	216	224	219	210		
W. Walnut St	Muriel Dr	Rita Dr	1,263	0.24	2	2	5U	Major Collector	D2	1,003	999	100%	850	850	407	407	240	239	167	168		
Western	Jupiter	Maydelle Ln	2,958	0.56	1	1	2U	Minor Collector	F	135	120	100%	525	525	294	294	76	67	218	227		
Western	Maydelle Ln	Goodwin Dr	593	0.11	1	1	2U	Minor Collector	F	135	120	100%	525	525	59	59	15	13	44	45		
Western	Goodwin Dr	Shiloh	1,894	0.36	1	1	2U	Minor Collector	F	135	120	100%	525	525	188	188	48	43	140	145		
Wood	Jupiter	Lonnecker Dr	2,924	0.55	1	1	2U	Minor Collector	F	135	120	100%	525	525	291	291	75	66	216	224		
Wood	Lonnecker Dr	160' W of Market St	1,413	0.27	1	1	2U	Minor Collector	F	135	120	100%	525	525	140	140	36	32	104	108		
Wood	160' W of Market St	Shiloh	1,043	0.20	1	1	2U	Minor Collector	F	135	120	100%	525	525	104	104	27	24	77	80		
SUBTOTAL			355,531	69.42											94,743	94,928	45,329	44,104	49,415	50,824	2,449	2,309
															189,672		89,433		100,239		4,758	

City of Garland - 2016 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area C

9/14/2016

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					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
Castle Dr	Lavon Dr	Mars	1,994	0.38	1	1	2U	Major Collector	D1	275	285	100%	525	525	198	198	104	104	94	90		
Castle Dr	Toyah Creek Ln	Centerville	2,871	0.54	1	1	2U	Minor Collector	E	255	252	100%	525	525	285	285	139	137	147	148		
Castle Dr	Firewheel Pkwy	Miles	4,434	0.84	1	1	2U	Minor Collector	E	220	198	50%	525	525	220	220	92	83	128	137		
Castle Dr	Dexham Rd	Firewheel Pkwy	2,658	0.50	1	1	2U	Minor Collector	E	100	106	50%	525	525	132	132	25	27	107	105		
Castle Dr	N. First	Lavon Dr	793	0.15	1	1	2U	Major Collector	D1	114	123	100%	525	525	79	79	17	18	62	60		
Castle Dr	Mars	Country Club Rd	2,424	0.46	1	1	2U	Minor Collector	E	197	181	100%	525	525	241	241	90	83	151	158		
Castle Dr	Country Club Rd	Toyah Creek Ln	2,669	0.51	1	1	2U	Minor Collector	E	252	258	100%	525	525	265	265	127	130	138	135		
Commerce St	SH 66	Hebron	667	0.13	1	2	3U	Minor Arterial	C1	255	252	100%	575	575	73	145	32	32	40	113		
Crist Rd	Mars Dr	Naaman School Rd	1,770	0.34	1	1	2U	Major Collector	D2	239	261	100%	525	525	176	176	80	87	96	89		
Crist Rd	Lavon Dr	Mars Dr	1,493	0.28	1	1	2U	Major Collector	D2	239	261	100%	525	525	148	148	68	74	81	75		
Crist Rd	PGBT S frontage road	PGBT N frontage road	269	0.05	2	2	4D	Major Collector	D2	710	740	100%	900	900	92	92	36	38	56	54		
Crist Rd	Naaman School	PGBT S frontage rd	1,425	0.27	2	2	5U	Major Collector	D2	257	336	100%	850	850	459	459	69	91	389	368		
Crosslands	Mars	Firewheel	2,427	0.46	1	1	2U	Minor Collector	F	190	196	100%	525	525	241	241	87	90	154	152		
Dairy Rd	SH 66	E. Miller	5,043	0.96	2	2	4U	Minor Collector	E	544	468	100%	525	525	1,003	520	447	483	556			
E. Avenue B	S. First St	Merge with Ave D	2,645	0.50	4	0	4D	Urban One-way Couplet	A-C	0	1,416	100%	900	900	1,803	0	0	709	1,803	-709		709
E. Avenue D	S. First St	Merge with Ave B	2,483	0.47	0	4	4D	Urban One-way Couplet	A-C	1,352	0	100%	900	900	0	1,693	636	0	-636	1,693	636	
E. Buckingham Rd	Mars Dr	Pleasant Valley	1,926	0.36	2	2	4D	Regional Arterial	B	932	1,006	100%	900	900	657	657	340	367	317	290		
E. Buckingham Rd	Lavon Dr	Mars Dr	1,659	0.31	2	2	4D	Regional Arterial	B	932	1,006	100%	900	900	566	566	293	316	273	249		
E. Centerville Rd	Hwy 66	High Meadow Dr	4,205	0.80	3	3	6D	Regional Arterial	B	1,225	1,202	100%	925	925	2,210	2,210	976	957	1,234	1,253		
E. Centerville Rd	Firewheel Pkwy	Castle Dr	4,529	0.86	3	3	6D	Regional Arterial	B	723	666	100%	925	925	2,380	2,380	620	571	1,760	1,809		
E. Centerville Rd	Castle Dr	Hwy 66	3,687	0.70	3	3	6D	Regional Arterial	B	892	838	100%	925	925	1,938	1,938	623	585	1,315	1,353		
E. Centerville Rd	High Meadow Dr	E Miller Rd	1,933	0.37	3	3	6D	Regional Arterial	B	1,225	1,202	100%	925	925	1,016	1,016	448	440	567	576		
E. Walnut St	N. First	Walnut Cir E	408	0.08	2	2	4D	Minor Collector	E	710	740	100%	900	900	139	139	55	57	84	82		
E. Walnut St	Mars Dr	N. Country Club	2,419	0.46	2	2	4U	Minor Collector	E	512	486	100%	525	525	481	481	235	223	246	258		
E. Walnut St	Walnut Cir E	Lavon Dr	340	0.06	2	2	4U	Minor Collector	E	510	500	100%	525	525	68	68	33	32	35	35		
E. Walnut St	Lavon Dr	Mars Dr	2,292	0.43	2	2	4U	Minor Collector	E	487	547	100%	525	525	456	456	203	237	253	218		
Firewheel Parkway	Lavon Dr	S of Town Center Blvd	4,583	0.87	2	2	4U	Regional Arterial	A	710	740	100%	900	900	1,562	1,562	616	642	946	920		
Firewheel Parkway	E Centerville Rd	Castle Dr	3,697	0.70	3	3	6D	Regional Arterial	A	1,108	1,073	100%	925	925	1,943	1,943	776	751	1,167	1,192		
Firewheel Parkway	PGBT N frontage road	PGBT S frontage road	451	0.09	3	3	6D	Regional Arterial	A	1,250	1,295	100%	925	925	237	237	107	111	130	126		
Firewheel Parkway	PGBT S frontage road	Mars Dr	1,136	0.22	3	3	6D	Regional Arterial	A	1,167	1,133	100%	925	925	597	597	251	244	346	353		
Firewheel Parkway	Mars Dr	Crosslands Dr	1,264	0.24	3	3	6D	Regional Arterial	A	1,028	1,286	100%	925	925	664	664	246	308	418	356		
Firewheel Parkway	Crosslands Dr	Pleasant Valley Rd	1,553	0.29	3	3	6D	Regional Arterial	A	1,028	1,286	100%	925	925	816	816	302	378	514	438		
Firewheel Parkway	Pleasant Valley Rd	E Centerville Rd	2,834	0.54	3	3	6D	Regional Arterial	A	1,450	1,423	100%	925	925	1,489	1,489	778	764	711	726		
Firewheel Parkway	S of Town Center Blvd	PGBT N frontage road	527	0.10	3	3	6D	Regional Arterial	A	513	616	100%	925	925	277	277	51	61	226	215		
Foster	SH 78	Crist	1,231	0.23	1	1	2U	Minor Collector	F	190	195	100%	525	525	122	122	44	45	78	77		
Garvon St	State St	Avenue A	419	0.08	1	1	2U	Minor Collector	E	190	195	100%	525	525	42	42	15	15	27	26		
State Highway 78 (Lavon)	Castle Dr	E Walnut St	2,016	0.38	3	3	6D	Regional Arterial	A	1,347	1,584	100%	925	925	1,060	1,060	514	605	545	455		
State Highway 78 (Lavon)	E Buckingham Rd	Pleasant Valley Rd	1,100	0.21	3	3	6D	Regional Arterial	A	1,563	1,609	100%	925	925	578	578	326	335	253	243		
State Highway 78 (Lavon)	Pleasant Valley Rd	Castle Dr	2,225	0.42	3	3	6D	Regional Arterial	A	1,563	1,609	100%	925	925	1,169	1,169	659	678	511	491		
State Highway 78 (Lavon)	E Walnut St	W. State St	1,388	0.26	3	3	6D	Regional Arterial	A	1,473	1,463	100%	925	925	729	729	387	385	342	345		
State Highway 78 (Lavon)	W. State St	First St	588	0.11	3	3	6D	Regional Arterial	A	1,473	1,463	100%	925	925	309	309	164	163	145	146		
Mars Dr	Crist	Naaman School	1,801	0.34	1	1	2U	Minor Collector	F	190	195	100%	525	525	179	179	65	67	114	113		
Mars Dr	Firewheel Pkwy	Valley Creek	1,349	0.26	1	1	2U	Minor Collector	E	190	195	100%	525	525	134	134	49	50	86	84		
Mars Dr	Naaman School	Firewheel Pkwy	1,958	0.37	1	1	4U	Minor Collector	E	510	500	100%	525	525	195	195	189	185	6	9		
Meandering	Pyramid	Pleasant Valley	1,344	0.25	1	1	2U	Minor Collector	F	190	195	100%	525	525	134	134	48	50	85	84		
Miles Rd	Pleasant Valley	Castle	6,406	1.21	1	1	2U	Minor Collector	F	24	24	50%	525	525	318	318	15	15	304	304		
N. Country Club Rd	Castle Dr	E Walnut St	2,788	0.53	2	2	4D	Minor Arterial	C1	659	669	100%	900	900	950	950	348	353	602	597		
N. Country Club Rd	Pleasant Valley Rd	Castle Dr	2,854	0.54	2	2	4D	Minor Arterial	C1	655	655	100%	900	900	973	973	354	354	619	619		
N. Country Club Rd	Walnut	S.H. 66	1,501	0.28	2	2	4D	Minor Arterial	C1	836	911	100%	900	900	512	512	238	259	274	253		
Naaman School Rd	Mars Dr	Pleasant Valley Rd	3,283	0.62	2	2	4D	Major Collector	D1	367	374	100%	900	900	1,119	1,119	228	233	891	887		
Naaman School Rd	Crist Rd	Mars Dr	1,333	0.25	2	2	4D	Major Collector	D1	710	740	100%	900	900	454	454	179	187	275	268		
Naaman School Rd	Lavon Dr	Crist Rd	1,376	0.26	2	2	5U	Major Collector	D2	255	335	100%	850	850	443	443	66	67	377	356		
Pleasant Valley Rd	Mars Dr	Country Club Rd	2,493	0.47	1	1	2U	Minor Collector	F	190	195	100%	525	525	248	248	90	92	158	156		
Pleasant Valley Rd	Lavon Dr	Mars Dr	1,550	0.29	1	1	2U	Minor Collector	F	190	195	100%	525	525	154	154	56	57	98	97		
Pleasant Valley Rd	City Limits	Creek Meadow Ln	2,614	0.50	1	1	2U-R	Minor Arterial	C1	384	412	100%	150	150	74	74	190	204	-116	-130	116	130
Pleasant Valley Rd	Creek Meadow Ln	Firewheel Pkwy	3,076	0.58	2	2	4D	Minor Arterial	C1	384	412	100%	900	900	1,049	1,049	224	240	825	809		
Pleasant Valley Rd	Naaman School Rd	Pyramid Dr	2,338	0.44	2	2	4D	Minor Arterial	C1	710	740	100%	900	900	797	797	314	328	483	469		
Pleasant Valley Rd	Firewheel Pkwy	Naaman School Rd	1,374	0.26	2	2	4D	Minor Arterial	C1	760	764	100%	900	900	468	468	198	199	271	270		
Pleasant Valley Rd	Pyramid Dr	Buckingham Rd	843	0.16	2	2	4D	Minor Arterial	C1	710	740	100%	900	900	287	287	113	118	174	169		
Pyramid	SH 78	Meandering	3,004	0.57	1	1	2U	Minor Collector	F	190	195	100%	525	525	299	299	108	111	191	188		
S. Country Club Rd	Mill Crossing	E. Miller	5,684	1.08	2	2	4D	Minor Arterial	C1	236	178	100%	900	900	1,938	1,938	254	192	1,684	1,746		
State Highway 66	S. Country Club	Centerville Rd	4,034	0.76	3	3	6D	Regional Arterial	A	1,458	1,475	100%	925	925	2,120	2,120	1,114	1,127	1,006	993		
State Highway 66	Avenue B	Dairy Rd	552	0.10	3	3	6D	Regional Arterial	A	1,345	1,348	100%	925	925	290	290	141	141	150	149		
State Highway 66	Dairy Rd	Davidson Dr	885	0.17	3	3	6D	Regional Arterial	A	1,296	1,375	100%	925	925	465	465	217	230	248	235		
State Highway 66	Hebron Dr	Commerce St	576	0.11	3	3	6D	Regional Arterial	A	1,296	1,375	100%	925	925	303	303	141	150	161	153		

City of Garland - 2016 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

9/14/2016

Service Area D

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE 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		
Bartfield	Saturn	Centerville	4,840	0.92	1	1	2U	Minor Collector	F	66	66	100%	525	525	481	61	61	421	421		
Bass Pro	Zion	Chaha	698	0.13	1	1	2U	Minor Collector	F	26	30	100%	525	525	69	3	4	66	65		
Bass Pro	Zion	Chaha	363	0.07	1	1	2U	Minor Collector	F	465	188	100%	525	525	36	32	13	4	23		
Birchwood	Northwest Fwy	O'Banion	3,679	0.70	1	1	2U	Minor Collector	F	195	165	100%	525	525	366	366	136	115	230	251	
Birchwood	Broadmoor Dr	Northwest Fwy	1,102	0.21	1	1	2U-R	Minor Collector	F	50	50	100%	150	150	31	31	10	10	21	21	
Bobtown Rd	Rosehill Rd	Waterhouse Blvd	1,778	0.34	1	1	2U	Minor Collector	E-S	199	168	100%	525	525	177	177	67	57	110	120	
Bobtown Rd	Lyons	South City Limits	2,657	0.50	1	1	2U	Minor Collector	E	274	267	100%	525	525	264	264	138	134	126	130	
Bobtown Rd	E of Rosehill Rd	Rosehill Rd	780	0.15	1	1	2U	Minor Collector	E-S	165	130	100%	525	525	78	78	24	19	53	58	
Bobtown Rd	400' S of High Dr	Lyons Rd	1,996	0.38	1	1	3U	Minor Collector	E	274	267	100%	575	575	217	217	104	101	114	116	
Bobtown Rd	Lyons Rd	Zion Rd	1,792	0.34	1	1	3U	Minor Collector	E	274	267	100%	575	575	195	195	93	91	102	105	
Bobtown Rd	Zion Rd	400' S of High Dr	1,460	0.28	1	1	3U	Minor Collector	E	274	267	100%	575	575	159	159	76	74	83	85	
Bobtown Rd	Waterhouse Blvd	Roan	1,915	0.36	2	2	4U	Minor Collector	E-S	199	168	100%	525	525	381	381	72	61	309	320	
Bobtown Rd	Roan	Lyons	600	0.11	2	2	6D	Regional Arterial	B	330	309	100%	925	925	210	210	38	35	173	175	
Bobtown Rd	Lyons	Lyons	431	0.08	2	2	6D	Regional Arterial	B	741	766	100%	925	925	151	151	60	63	91	88	
Bobtown Rd	IH 30 N frontage road	IH 30 S frontage rd	218	0.04	3	3	6D	Regional Arterial	B	330	309	100%	925	925	115	115	14	13	101	102	
Broadmoor Dr	La Prada	La Prada	3,693	0.70	1	1	2U	Minor Collector	F	156	128	100%	525	525	367	367	109	90	258	278	
Broadmoor Dr	Delray Dr	Birchwood Dr	1,261	0.24	1	1	2U	Minor Collector	F	156	128	100%	525	525	125	125	37	31	88	95	
Broadmoor Dr	W. Centerville	N of Chevy Chase Dr	575	0.11	1	1	3U	Minor Collector	E	156	128	100%	575	575	63	63	17	14	46	49	
Broadmoor Dr	N of Chevy Chase Dr	Delray Dr	742	0.14	1	1	3U	Minor Collector	F	156	128	100%	575	575	81	81	22	18	59	63	
Broadway Blvd	Gateway Rd	E Oates Rd	1,532	0.29	3	3	6D	Regional Arterial	B	1,441	1,539	100%	925	925	805	805	418	447	387	359	
Broadway Blvd	Duck Creek/Rowlett Rd	IH 30 N frontage Rd	2,075	0.39	3	3	6D	Regional Arterial	B	2,033	1,979	100%	925	925	1,091	1,091	799	778	292	313	
Broadway Blvd	Guthrie Rd	South City Limits	1,489	0.28	3	3	6D	Regional Arterial	B	1,156	1,163	100%	925	925	783	783	326	328	457	455	
Broadway Blvd	S. First	Dairy Rd	3,510	0.66	3	3	6D	Regional Arterial	B	1,125	1,092	100%	925	925	1,845	1,845	748	726	1,097	1,119	
Broadway Blvd	E Oates Rd	Tacoma Dr	2,661	0.50	3	3	6D	Regional Arterial	B	1,500	1,606	100%	925	925	1,399	1,399	756	809	643	589	
Broadway Blvd	Dairy Rd	Centerville Rd	722	0.14	3	3	6D	Regional Arterial	B	1,125	1,092	100%	925	925	379	379	154	149	226	230	
Broadway Blvd	Centerville Rd	Kingsley Rd	1,430	0.27	3	3	6D	Regional Arterial	B	1,694	1,720	100%	925	925	746	746	456	463	291	284	
Broadway Blvd	Colonel Dr	Kingsley Rd	1,114	0.21	3	3	6D	Regional Arterial	B	1,694	1,720	100%	925	925	585	585	357	363	228	223	
Broadway Blvd	Colonel Dr	Nickens Rd	2,506	0.47	3	3	6D	Regional Arterial	B	1,624	1,658	100%	925	925	1,317	1,317	771	787	546	530	
Broadway Blvd	Nickens Rd	Wynn Joyce Rd	2,005	0.38	3	3	6D	Regional Arterial	B	1,535	1,579	100%	925	925	1,054	1,054	583	600	471	454	
Broadway Blvd	Wynn Joyce Rd	Gateway Rd	1,405	0.27	3	3	6D	Regional Arterial	B	1,441	1,539	100%	925	925	738	738	383	410	355	329	
Broadway Blvd	Tacoma Dr	Rowlett Rd	1,942	0.37	3	3	6D	Regional Arterial	B	1,500	1,606	100%	925	925	1,021	1,021	552	591	469	430	
Broadway Blvd	IH 30 N frontage road	IH 30 S frontage rd	363	0.07	3	3	6D	Regional Arterial	B	1,430	1,445	100%	925	925	191	191	98	99	92	91	
Broadway Blvd	IH 30 S frontage road	Guthrie Rd	1,007	0.19	3	3	6D	Regional Arterial	B	1,562	1,496	100%	925	925	529	529	298	285	231	244	
Chaha Rd	Bass Pro	Lake Hubbard Pkwy	1,794	0.34	1	1	2U	Minor Collector	F	160	138	100%	525	525	178	178	54	47	124	131	
Colonel Dr	Broadway	S. Country Club	4,204	0.80	1	1	2U	Minor Collector	F	116	128	100%	525	525	418	418	92	102	326	316	
Colonel Dr	Duck Creek	Broadway	4,250	0.80	2	2	4D	Major Collector	D1	182	183	100%	900	900	1,449	1,449	146	147	1,302	1,302	
Dairy Rd	Celeste Dr	Broadway	2,611	0.49	1	1	3U	Minor Collector	E	284	286	100%	575	575	284	284	140	141	144	143	
Dairy Rd	E. Miller	Daugherty Dr	1,636	0.31	1	1	4U	Minor Collector	E	284	286	100%	525	525	163	163	88	89	75	74	
Dairy Rd	Daugherty Dr	Celeste Dr	933	0.18	1	1	4U	Minor Collector	E	284	286	100%	525	525	93	93	50	51	43	42	
Duck Creek Rd	E Oates Rd	Broadway Blvd	5,492	1.04	2	2	4D	Minor Arterial	C1	670	617	100%	900	900	1,872	1,872	697	642	1,175	1,230	
Duck Creek Rd	Red Wood Dr	E Oates Rd	1,481	0.28	2	2	4D	Minor Arterial	C1	638	639	100%	900	900	505	505	179	179	326	326	
Duck Creek Rd	Colonel Dr	Nickens Rd	2,620	0.50	2	2	4D	Minor Arterial	C1	635	624	100%	900	900	893	893	315	310	578	584	
Duck Creek Rd	E. Centerville	Colonel Dr	2,389	0.45	2	2	4D	Minor Arterial	C1	658	695	100%	900	900	814	814	298	314	517	500	
Duck Creek Rd	La Prada Dr	Red Wood Dr	1,207	0.23	2	2	4D	Minor Arterial	C1	638	639	100%	900	900	411	411	146	146	266	265	
Duck Creek Rd	Nickens Rd	La Prada Dr	2,082	0.39	2	2	4D	Minor Arterial	C1	610	551	100%	900	900	710	710	241	217	469	493	
E. Kingsley Rd	W Centerville Rd	Broadway Blvd	2,119	0.40	2	2	4D	Major Collector	D1	585	560	100%	900	900	722	722	235	225	488	498	
E. Kingsley Rd	S. First	350' E of S First St	482	0.09	2	2	4D	Major Collector	D1	476	469	100%	900	900	164	164	43	43	121	122	
E. Kingsley Rd	Honeysuckle Dr	W Centerville Rd	1,290	0.24	2	2	4D	Major Collector	D1	476	469	100%	900	900	440	440	116	115	323	325	
E. Kingsley Rd	350' E of S First St	Honeysuckle Dr	672	0.13	2	2	5U	Major Collector	D1	476	469	100%	850	850	216	216	61	60	156	157	
E. Miller Rd	S Country Club Rd	Centerville Rd	3,506	0.66	2	2	4D	Minor Arterial	C1	435	415	50%	900	900	598	598	144	138	453	460	
E. Miller Rd	S. First	Dairy	2,680	0.51	2	2	4D	Major Collector	D1	588	559	50%	900	900	457	457	149	142	308	315	
E. Miller Rd	Centerville Rd	East City Limits	3,008	0.57	2	2	4D	Regional Arterial	B	571	551	50%	900	900	513	513	163	157	350	356	
E. Miller Rd	Dairy	S Country Club Rd	2,634	0.50	2	2	4D	Minor Arterial	C1	535	528	50%	900	900	449	449	133	132	316	317	
E. Oates Rd	Broadway	Rosehill	2,260	0.43	1	1	2U	Major Collector	D1-S	123	127	100%	525	525	225	225	53	54	172	170	
E. Oates Rd	Wynn Joyce	E. Oates (Future)	1,138	0.22	1	1	3U	Minor Collector	F	230	225	100%	575	575	124	124	50	48	74	75	
E. Oates Rd	Duck Creek	Broadway	3,321	0.63	2	2	4D	Minor Arterial	C1	468	362	100%	900	900	1,132	1,132	294	228	838	904	
Oak Tree/Redwood/Gateway	Duck Creek	Broadway	4,253	0.81	1	1	2U	Minor Collector	F	195	165	100%	525	525	423	423	157	133	266	290	
Gateway Dr	Broadway	Rosehill	358	0.07	1	1	3U	Minor Collector	F	230	225	100%	575	575	39	39	16	15	23	24	
Guthrie Rd	Broadway Blvd	Rosehill Rd	5,862	1.11	1	1	4U	Minor Collector	E	111	116	100%	525	525	583	583	123	129	460	454	
Guthrie Rd	Rosehill Rd	Lyons Rd	3,364	0.64	1	1	4U	Minor Collector	E	92	83	100%	525	525	334	334	59	53	276	282	
Hayman Dr	Rowlett Rd	Waterhouse	2,302	0.44	1	1	2U	Minor Collector	F	138	157	100%	525	525	229	229	60	68	169	160	
Kelso	Bobtown	Meadow Vista Ln	1,																		

Service Area D

9/14/2016

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL ¹		VEH-MI DEMAND PK-HR TOTAL ²		EXCESS CAPACITY PK-HR VEH-MI ³		EXISTING DEFICIENCIES PK-HR VEH-MI ⁴	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		
Kelso	Kelso Ln	Kelso Ln	197	0.04	1	1	2U	Minor Collector	F	195	165	100%	525	525	20	20	7	6	12	13		
Merrimac	Centerville	Colonel	2,637	0.50	1	1	2U	Minor Collector	F	195	165	100%	525	525	262	262	97	82	165	180		
Nickens Rd	Duck Creek	Broadway	4,334	0.82	1	1	2U	Minor Collector	F	170	154	100%	525	525	431	431	140	126	291	305		
Northwest Highway	Birchwood Dr	La Prada Dr	3,859	0.73	3	3	6D	Regional Arterial	B	697	665	100%	925	925	2,028	2,028	509	486	1,519	1,542		
Northwest Highway	W. Centerville	Birchwood Dr	2,579	0.49	3	3	6D	Regional Arterial	B	653	689	100%	925	925	1,355	1,355	319	337	1,036	1,019		
Northwest Highway	Saturn Rd	Centerville Rd	2,209	0.42	3	3	6D	Regional Arterial	B	1,203	1,179	100%	925	925	1,161	1,161	503	493	658	668		
O'Banion Rd	W. Centerville	Birchwood Dr	2,594	0.49	1	1	2U	Minor Collector	F	269	287	100%	525	525	258	258	132	141	126	117		
O'Banion Rd	Birchwood Dr	La Prada Dr	4,918	0.93	1	1	2U	Minor Collector	F	137	136	100%	525	525	489	489	128	127	361	362		
O'Banion Rd	La Prada Dr	W. Oates	2,773	0.53	1	1	2U	Minor Collector	F	127	121	100%	525	525	276	276	67	64	209	212		
Peninsula Way	Locust Grove	Hollow Bend	1,880	0.36	1	1	2U	Minor Collector	F	195	165	100%	525	525	187	187	69	59	118	128		
Roan Rd	E. Oates (Future)	Rowlett Rd	5,282	1.00	2	2	4D	Major Collector	D1	84	115	100%	900	900	1,801	1,801	84	115	1,717	1,686		
Roan Rd	Rowlett Rd	Waterhouse Blvd	3,058	0.58	2	2	4D	Arterial	C2-S	741	766	100%	900	900	1,043	1,043	429	444	613	599		
Roan Rd	Waterhouse Blvd	Bobtown Rd	1,388	0.26	2	2	4D	Arterial	C2-S	741	766	100%	900	900	473	473	195	201	278	272		
Rosehill Rd	Columbine Dr	Rowlett Rd	2,516	0.48	1	1	2U	Minor Collector	F	381	327	100%	525	525	250	250	182	156	69	94		
Rosehill Rd	E Oates Rd	Hopewell Dr	618	0.12	1	1	2U	Minor Collector	F	381	327	100%	525	525	61	61	45	38	17	23		
Rosehill Rd	Gateway	E Oates Rd	2,253	0.43	1	1	3U	Minor Collector	F	230	225	100%	575	575	245	245	98	96	147	149		
Rosehill Rd	Hopewell	Columbine Dr	1,359	0.26	1	1	3U	Minor Collector	F	381	327	100%	575	575	148	148	98	84	50	64		
Rosehill Rd	Bobtown	IH 30 N loop	1,510	0.29	2	2	4D	Regional Arterial	B	333	334	100%	900	900	515	515	95	96	420	419		
National	IH 30 S loop	Guthrie Rd	2,018	0.38	1	1	4U	Minor Collector	E	270	285	100%	525	525	201	201	103	109	97	92		
Rosehill Rd	IH 30 N loop	IH 30 S frontage road	711	0.13	2	2	4U	Regional Arterial	B	307	307	100%	525	525	141	141	41	41	100	100		
National	IH 30 S frontage road	IH 30 S loop	398	0.08	2	2	4U	Minor Collector	E	255	265	100%	525	525	79	79	19	20	60	59		
Rowlett Rd	S Country Club Rd	Roan Rd	3,866	0.73	2	2	4D	Regional Arterial	A	567	544	100%	900	900	1,318	1,318	415	398	903	920		
Rowlett Rd	Broadway	Rosehill Rd	3,696	0.70	2	2	4D	Regional Arterial	A	820	672	100%	900	900	1,260	1,260	574	470	686	790		
Rowlett Rd	Rosehill Rd	S Country Club Rd	1,384	0.26	2	2	4D	Regional Arterial	A	567	544	100%	900	900	472	472	149	143	323	329		
Rowlett Rd	Roan Rd	City Limits	1,583	0.30	2	2	4D	Regional Arterial	A	952	1,047	100%	900	900	540	540	285	314	254	226		
S. Country Club Rd	Wynn Joyce	Rowlett Rd	1,430	0.27	1	1	2U	Minor Collector	F	195	165	100%	525	525	142	142	53	45	89	98		
S. Country Club Rd	E Oates Rd	Rowlett Rd	4,570	0.87	1	1	2U	Minor Collector	F	104	110	100%	525	525	454	454	90	95	364	359		
S. Country Club Rd	Wynn Joyce	Rowlett Rd	1,254	0.24	1	1	2U	Minor Collector	F	195	165	100%	525	525	125	125	46	39	78	86		
S. Country Club Rd	E Oates Rd	E of E Oates Rd	701	0.13	1	1	2U	Minor Collector	F	195	165	100%	525	525	70	70	26	22	44	48		
S. Country Club Rd	Rowlett Rd	Bobtown	1,763	0.33	2	2	4D	Regional Arterial	B	169	155	100%	900	900	601	601	56	52	545	549		
S. Country Club Rd	E. Miller	E. Centerville	2,881	0.55	2	2	4D	Minor Arterial	C1	231	225	100%	900	900	982	982	126	123	856	859		
S. First Street	Kingsley Rd	Centerville Rd	2,780	0.53	2	2	4D	Major Collector	D1	1,009	1,062	100%	900	900	948	948	531	559	416	389		
S. First Street	W. Miller Rd	W. Daugherty Dr	1,299	0.25	3	3	6D	Regional Arterial	B	2,037	2,059	50%	925	925	341	341	251	253	91	88		
S. First Street	Daugherty Dr	S First St	1,208	0.23	3	3	6D	Regional Arterial	B	2,037	2,059	50%	925	925	317	317	233	236	84	82		
S. Glenbrook Dr	W. Kingsley Rd	W. Centerville Rd	4,027	0.76	1	1	2U	Minor Collector	F	195	165	100%	525	525	400	400	149	126	252	275		
Saturn Rd	Northwest Hwy	Marketplace Dr	1,699	0.32	2	2	4D	Minor Arterial	C1	439	336	50%	900	900	290	290	71	54	219	236		
Saturn Rd	Marketplace Dr	IH 635	1,006	0.19	2	2	4D	Minor Arterial	C1	439	336	50%	900	900	171	171	42	32	130	139		
Saturn Rd	Mayfield Ave	Northwest Hwy	855	0.16	2	2	4D	Major Collector	D2	838	801	50%	900	900	146	146	68	65	78	81		
Saturn Rd	Susannah Dr	Mayfield Ave	954	0.18	2	2	4U	Major Collector	D2	838	801	50%	525	525	95	95	76	72	19	22		
Saturn Rd	W. Kingsley	Susannah Dr	3,529	0.67	2	2	5U	Major Collector	D2	838	801	50%	850	850	568	568	280	268	288	300		
Centerville Rd	O'Banion Rd	Northwest Pkwy	3,722	0.70	3	3	6D	Regional Arterial	B	1,976	2,060	100%	925	925	1,956	1,956	1,393	1,452	563	504		
Centerville Rd	E Miller Rd	S Country Club Rd	3,890	0.74	3	3	6D	Regional Arterial	B	1,197	1,152	100%	925	925	2,044	2,044	882	849	1,163	1,196		
Centerville Rd	S Country Club Rd	Merrimac Trl	1,516	0.29	3	3	6D	Regional Arterial	B	1,395	1,326	100%	925	925	797	797	401	381	396	416		
Centerville Rd	Merrimac Trl	Broadway Blvd	2,697	0.51	3	3	6D	Regional Arterial	B	1,395	1,326	100%	925	925	1,417	1,417	713	677	705	740		
Centerville Rd	Broadway Blvd	E Kingsley Rd	947	0.18	3	3	6D	Regional Arterial	B	1,402	1,308	100%	925	925	498	498	251	235	246	263		
Centerville Rd	E Kingsley Rd	Duck Creek Dr	3,001	0.57	3	3	6D	Regional Arterial	B	1,402	1,308	100%	925	925	1,577	1,577	797	743	780	834		
Centerville Rd	Duck Creek Dr	S Glenbrook Dr	837	0.16	3	3	6D	Regional Arterial	B	2,277	2,285	100%	925	925	440	440	361	362	79	78		
Centerville Rd	S Glenbrook Dr	Bardfield Ave	245	0.05	3	3	6D	Regional Arterial	B	2,277	2,285	100%	925	925	129	129	106	106	23	23		
Centerville Rd	Bardfield Ave	O'Banion Rd	353	0.07	3	3	6D	Regional Arterial	B	2,277	2,285	100%	925	925	186	186	152	153	33	33		
Centerville Rd	Northwest Pkwy	Broadmoor Dr	1,162	0.22	3	3	6D	Regional Arterial	B	1,679	1,752	100%	925	925	611	611	370	386	241	225		
Centerville Rd	Broadmoor Dr	LBJ Fwy	1,291	0.24	3	3	6D	Regional Arterial	B	2,016	2,289	100%	925	925	679	679	493	560	186	119		
Centerville Rd	LBJ Fwy	IH 635 S frontage road	657	0.12	3	3	6D	Regional Arterial	B	1,430	1,445	100%	925	925	345	345	178	180	167	165		
W. Kingsley Rd	Saturn Rd	S Glenbrook Dr	2,905	0.55	2	2	4D	Major Collector	D1	888	876	50%	900	900	495	495	244	241	251	254		
W. Kingsley Rd	S Glenbrook Dr	S Fifth St	1,651	0.31	2	2	4D	Major Collector	D1	888	876	50%	900	900	281	281	139	137	143	144		
W. Kingsley Rd	S Fifth St	S First St	720	0.14	2	2	4D	Major Collector	D1	888	876	50%	900	900	123	123	61	60	62	63		
W. Oates Rd	O'Banion	Duck Creek	2,744	0.52	2	2	4D	Minor Arterial	C1	752	653	100%	900	900	935	935	391	339	545	596		
W. Oates Rd	City Limits	O'Banion	2,083	0.39	2	2	4D	Minor Arterial	C1	796	715	100%	900	900	710	710	314	282	396	428		
Waterhouse	Bobtown	Hayman	1,553	0.29	1	1	2U	Minor Collector	F	1												

**Appendix D – Plan for Awarding the
Transportation Impact Fee Credit Summary**
(as prepared by NewGen Strategies.)

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area A

Recoverable Impact Fee CIP Costs	\$ 24,173,052	Line 11, Max Fee Calculation Table
Principal Paid on Existing Debt Funded Project Costs	(80,054)	Page 4 of Appendix E - Service Area A
Financing Costs	10,530,329	See Detail Below
Existing Fund Balance	(1,259,298)	Page 1 of Appendix E - Service Area A
Interest Earnings	(1,273,984)	Page 5 of Appendix E - Service Area A
Pre Credit Recoverable Cost for Impact Fee	\$ 32,090,045	Sum of Above
Credit for Ad Valorem Revenues	(269,345)	Page 8 of Appendix E - Service Area A
Maximum Recoverable Cost for Impact Fee	\$ 31,820,700	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area A column, line 11 on the Max Fee Calculation Table.

Principal Paid on Existing Debt Funded Project Costs:

Represents the portion of principal already paid for existing debt funded projects from a detailed project funding list and debt service schedules provided by the City. (Page 4 of Appendix E - Service Area A)

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. It is assumed 80% of the new impact fee project costs will be funded through new debt issues (Page 7 of Appendix E - Service Area A). Interest costs are derived from forecasted debt issues.

New Annual Debt Service	\$ 28,384,994	(Page 3 of Appendix E - Service Area A)
Existing Annual Debt Service	1,650,403	(Page 3 of Appendix E - Service Area A)
Principal Component	(19,505,068)	(Page 4 of Appendix E - Service Area A)
Financing Costs	<u>\$ 10,530,329</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E - Service Area A.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.451% annual interest rate based on the City's GO Interest and Sinking Fund yield as of June 30, 2016. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues.
Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 5 of Appendix E - Service Area A.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 8 of Appendix E - Service Area A.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area B

Recoverable Impact Fee CIP Costs	\$ 18,527,475	Line 11, Max Fee Calculation Table
Principal Paid on Existing Debt Funded Project Costs	-	Page 4 of Appendix E - Service Area B
Financing Costs	8,175,922	See Detail Below
Existing Fund Balance	(908,960)	Page 1 of Appendix E - Service Area B
Interest Earnings	(1,012,470)	Page 5 of Appendix E - Service Area B
Pre Credit Recoverable Cost for Impact Fee	\$ 24,781,968	Sum of Above
Credit for Ad Valorem Revenues	(77,232)	Page 8 of Appendix E - Service Area B
Maximum Recoverable Cost for Impact Fee	\$ 24,704,735	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area B column, line 11 on the Max Fee Calculation Table.

Principal Paid on Existing Debt Funded Project Costs:

After review of a detailed project funding list provided by City Staff, there have been no prior debt payments for projects included in the impact fee CIP for this area. (Page 4 of Appendix E - Service Area B)

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. It is assumed 80% of the new impact fee project costs will be funded through new debt issues (Page 7 of Appendix E - Service Area B). Interest costs are derived from forecasted debt issues.

New Annual Debt Service	\$ 22,985,230	(Page 3 of Appendix E - Service Area B)
Principal Component	(14,809,308)	(Page 4 of Appendix E - Service Area B)
Financing Costs	<u>\$ 8,175,922</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E - Service Area B.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.451% annual interest rate based on the City's GO Interest and Sinking Fund yield as of June 30, 2016. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues.
Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 5 of Appendix E - Service Area B.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 8 of Appendix E - Service Area B.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area C

Recoverable Impact Fee CIP Costs	\$ 21,542,049	Line 11, Max Fee Calculation Table
Principal Paid on Existing Debt Funded Project Costs	(157,544)	Page 4 of Appendix E - Service Area C
Financing Costs	9,115,235	See Detail Below
Existing Fund Balance	(502,053)	Page 1 of Appendix E - Service Area C
Interest Earnings	(1,069,842)	Page 5 of Appendix E - Service Area C
Pre Credit Recoverable Cost for Impact Fee	\$ 28,927,845	Sum of Above
Credit for Ad Valorem Revenues	(85,047)	Page 8 of Appendix E - Service Area C
Maximum Recoverable Cost for Impact Fee	\$ 28,842,799	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area C column, line 11 on the Max Fee Calculation Table.

Principal Paid on Existing Debt Funded Project Costs:

Represents the portion of principal already paid for existing debt funded projects from a detailed project funding list and debt service schedules provided by the City. (Page 4 of Appendix E - Service Area C)

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. It is assumed 80% of the new impact fee project costs will be funded through new debt issues (Page 7 of Appendix E - Service Area C). Interest costs are derived from forecasted debt issues.

New Annual Debt Service	\$ 23,557,919	(Page 3 of Appendix E - Service Area C)
Existing Annual Debt Service	2,473,171	(Page 3 of Appendix E - Service Area C)
Principal Component	(16,915,855)	(Page 4 of Appendix E - Service Area C)
Financing Costs	<u>\$ 9,115,235</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E - Service Area C.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.451% annual interest rate based on the City's GO Interest and Sinking Fund yield as of June 30, 2016. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues.
Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 5 of Appendix E - Service Area C.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 8 of Appendix E - Service Area C.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area D

Recoverable Impact Fee CIP Costs	\$ 16,428,715	Line 11, Max Fee Calculation Table
Principal Paid on Existing Debt Funded Project Costs	(184,293)	Page 4 of Appendix E - Service Area D
Financing Costs	6,799,841	See Detail Below
Existing Fund Balance	(1,113,622)	Page 1 of Appendix E - Service Area D
Interest Earnings	(788,751)	Page 5 of Appendix E - Service Area D
Pre Credit Recoverable Cost for Impact Fee	\$ 21,141,890	Sum of Above
Credit for Ad Valorem Revenues	(88,284)	Page 8 of Appendix E - Service Area D
Maximum Recoverable Cost for Impact Fee	\$ 21,053,606	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area D column, line 11 on the Max Fee Calculation Table.

Principal Paid on Existing Debt Funded Project Costs:

Represents the portion of principal already paid for existing debt funded projects from a detailed project funding list and debt service schedules provided by the City. (Page 4 of Appendix E - Service Area D)

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. It is assumed 80% of the new impact fee project costs will be funded through new debt issues (Page 7 of Appendix E - Service Area D). Interest costs are derived from forecasted debt issues.

New Annual Debt Service	\$ 16,289,926	(Page 3 of Appendix E - Service Area D)
Existing Annual Debt Service	3,508,652	(Page 3 of Appendix E - Service Area D)
Principal Component	(12,998,737)	(Page 4 of Appendix E - Service Area D)
Financing Costs	<u>\$ 6,799,841</u>	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs. Reference is page 1 of Appendix E - Service Area D.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.451% annual interest rate based on the City's GO Interest and Sinking Fund yield as of June 30, 2016. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues.
Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 5 of Appendix E - Service Area D.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources. Reference is page 8 of Appendix E - Service Area D.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

**Appendix E – Plan for Awarding the
Transportation Impact Fee Credit Supporting Exhibits**
(as prepared by NewGen Strategies.)

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area A

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	0.451%
Annual Service Unit Growth ⁽²⁾	3,083
Existing Fund Balance ⁽³⁾	1,259,298
Portion of Projects Funded by Existing Debt ⁽³⁾	\$ 1,296,765
Non-debt Funded New Project Cost ⁽⁴⁾	4,587,929
New Project Cost Funded Through New Debt ⁽⁵⁾	18,288,358
Total Recoverable Project Cost⁽⁶⁾	\$ 24,173,052

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁷⁾</u>	<u>Interest⁽⁸⁾</u>	<u>Term</u>
1	\$ 1,828,836	3.02%	20
2	1,828,836	3.77%	20
3	1,828,836	4.02%	20
4	1,828,836	4.27%	20
5	1,828,836	4.52%	20
6	1,828,836	4.77%	20
7	1,828,836	5.02%	20
8	1,828,836	5.27%	20
9	1,828,836	5.52%	20
10	1,828,836	5.77%	20
Total	\$ 18,288,358		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽⁹⁾</u>
1	\$ 1,715,722
2	2,287,629
3	2,287,629
4	2,287,629
5	2,287,629
6	2,287,629
7	2,287,629
8	2,287,629
9	2,287,629
10	2,859,536
Total	\$ 22,876,287

(1) Current Yield for GO Interest and Sinking Fund as of June 30, 2016

(2) Derived from the 10-year Growth Projections Report, Table 7

(3) Totals provided by City Staff on September 23, 2016

(4) Assumes 20% of new project costs funded through sources other than debt unless otherwise specified

(5) Assumes 80% of new project costs funded through new debt issues unless otherwise specified

(6) Line 11 of the Max Fee Table Report

(7) Assumes new debt issued in equal annual amounts

(8) Estimated interest cost provided by City's Financial Advisor on September 28, 2016

(9) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent fully in tenth year; Non-debt funded capital expenditures made in equal annual amounts

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area A

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 123,154	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 123,154
2	123,154	131,843	-	-	-	-	-	-	-	-	254,996
3	123,154	131,843	134,807	-	-	-	-	-	-	-	389,804
4	123,154	131,843	134,807	137,806	-	-	-	-	-	-	527,610
5	123,154	131,843	134,807	137,806	140,838	-	-	-	-	-	668,447
6	123,154	131,843	134,807	137,806	140,838	143,902	-	-	-	-	812,350
7	123,154	131,843	134,807	137,806	140,838	143,902	146,999	-	-	-	959,349
8	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	-	-	1,109,478
9	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	-	1,262,768
10	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
11	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
12	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
13	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
14	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
15	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
16	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
17	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
18	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
19	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
20	123,154	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,419,250
21	-	131,843	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,296,096
22	-	-	134,807	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,164,253
23	-	-	-	137,806	140,838	143,902	146,999	150,129	153,290	156,482	1,029,446
24	-	-	-	-	140,838	143,902	146,999	150,129	153,290	156,482	891,640
25	-	-	-	-	-	143,902	146,999	150,129	153,290	156,482	750,802
26	-	-	-	-	-	-	146,999	150,129	153,290	156,482	606,900
27	-	-	-	-	-	-	-	150,129	153,290	156,482	459,901
28	-	-	-	-	-	-	-	-	153,290	156,482	309,772
29	-	-	-	-	-	-	-	-	-	156,482	156,482
	\$ 2,463,078	\$ 2,636,852	\$ 2,696,147	\$ 2,756,117	\$ 2,816,752	\$ 2,878,046	\$ 2,939,990	\$ 3,002,576	\$ 3,065,796	\$ 3,129,642	\$ 28,384,994

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service⁽¹⁾	Annual Capital Expenditures⁽²⁾	Annual Bond Proceeds⁽²⁾	Existing Annual Debt Service⁽³⁾	Annual Credit⁽⁴⁾	Total Expense
1	\$ 123,154	\$ 1,715,722	\$ (1,828,836)	\$ 91,112	\$ (1,006)	\$ 100,146
2	254,996	2,287,629	(1,828,836)	108,941	(3,401)	819,330
3	389,804	2,287,629	(1,828,836)	108,830	(6,956)	950,471
4	527,610	2,287,629	(1,828,836)	108,814	(11,783)	1,083,433
5	668,447	2,287,629	(1,828,836)	108,889	(17,907)	1,218,222
6	812,350	2,287,629	(1,828,836)	108,925	(25,351)	1,354,716
7	959,349	2,287,629	(1,828,836)	108,807	(34,135)	1,492,814
8	1,109,478	2,287,629	(1,828,836)	108,834	(44,293)	1,632,812
9	1,262,768	2,287,629	(1,828,836)	108,839	(55,846)	1,774,554
10	1,419,250	2,859,536	(1,828,836)	105,432	(68,666)	2,486,716
11	1,419,250	-	-	105,443	-	1,524,693
12	1,419,250	-	-	105,504	-	1,524,754
13	1,419,250	-	-	61,925	-	1,481,175
14	1,419,250	-	-	62,072	-	1,481,322
15	1,419,250	-	-	61,929	-	1,481,179
16	1,419,250	-	-	62,112	-	1,481,361
17	1,419,250	-	-	62,052	-	1,481,302
18	1,419,250	-	-	61,942	-	1,481,192
19	1,419,250	-	-	-	-	1,419,250
20	1,419,250	-	-	-	-	1,419,250
21	1,296,096	-	-	-	-	1,296,096
22	1,164,253	-	-	-	-	1,164,253
23	1,029,446	-	-	-	-	1,029,446
24	891,640	-	-	-	-	891,640
25	750,802	-	-	-	-	750,802
26	606,900	-	-	-	-	606,900
27	459,901	-	-	-	-	459,901
28	309,772	-	-	-	-	309,772
29	156,482	-	-	-	-	156,482
	\$ 28,384,994	\$ 22,876,287	\$ (18,288,358)	\$ 1,650,403	\$ (269,345)	\$ 34,353,982

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

III. Summary of Principal Paid to Date for Existing Debt⁽³⁾

	Principal Paid on Issuance <u>2005</u>	Principal Paid on Debt <u>2008</u>	Principal Paid on Debt <u>2011</u>	Principal Paid on Debt <u>2015</u>	Total Principal Paid to Date
2005	-	-	-	-	-
2006	-	-	-	-	-
2007	-	-	-	-	-
2008	-	-	-	-	-
2009	-	874	-	-	874
2010	-	1,243	-	-	1,243
2011	-	1,313	-	-	1,313
2012	-	1,888	-	-	1,888
2013	-	1,975	-	-	1,975
2014	-	2,068	8,096	-	10,164
2015	-	2,148	8,096	12,620	22,863
2016	-	2,254	8,096	29,383	39,733
	\$ -	\$ 13,764	\$ 24,287	\$ 42,003	\$ 80,054

IV. Summary of Debt Financing

Existing Debt Funded Project Costs ⁽⁵⁾	\$ 1,296,765
-Less Principal Paid to Date	80,054
Outstanding Debt Principal	1,216,710
New Project Costs Debt Principal ⁽⁵⁾	18,288,358
Principal Component	\$ 19,505,068

(1) Appendix E - Service Area A, Page 2

(2) Appendix E - Service Area A, Page 1

(3) Prior Debt Funding Provided by City Staff

(4) Appendix E - Service Area A, Page 8

(5) Appendix E - Service Area A, Page 1

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area A

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 1,259,298
1	\$ 1,032	3,083	\$ 3,182,070	\$ 100,146	\$ 3,081,924	\$ 12,629	4,353,851
2	1,032	3,083	3,182,070	819,330	2,362,740	24,964	6,741,555
3	1,032	3,083	3,182,070	950,471	2,231,599	35,437	9,008,591
4	1,032	3,083	3,182,070	1,083,433	2,098,637	45,361	11,152,589
5	1,032	3,083	3,182,070	1,218,222	1,963,848	54,727	13,171,164
6	1,032	3,083	3,182,070	1,354,716	1,827,354	63,523	15,062,041
7	1,032	3,083	3,182,070	1,492,814	1,689,256	71,739	16,823,036
8	1,032	3,083	3,182,070	1,632,812	1,549,258	79,365	18,451,660
9	1,032	3,083	3,182,070	1,774,554	1,407,516	86,391	19,945,567
10	1,032	3,083	3,182,070	2,486,716	695,354	91,523	20,732,443
11	-	-	-	1,524,693	(1,524,693)	90,065	19,297,815
12	-	-	-	1,524,754	(1,524,754)	83,595	17,856,656
13	-	-	-	1,481,175	(1,481,175)	77,193	16,452,674
14	-	-	-	1,481,322	(1,481,322)	70,861	15,042,214
15	-	-	-	1,481,179	(1,481,179)	64,500	13,625,535
16	-	-	-	1,481,361	(1,481,361)	58,111	12,202,285
17	-	-	-	1,481,302	(1,481,302)	51,692	10,772,675
18	-	-	-	1,481,192	(1,481,192)	45,245	9,336,728
19	-	-	-	1,419,250	(1,419,250)	38,908	7,956,386
20	-	-	-	1,419,250	(1,419,250)	32,683	6,569,819
21	-	-	-	1,296,096	(1,296,096)	26,707	5,300,431
22	-	-	-	1,164,253	(1,164,253)	21,280	4,157,457
23	-	-	-	1,029,446	(1,029,446)	16,429	3,144,440
24	-	-	-	891,640	(891,640)	12,171	2,264,971
25	-	-	-	750,802	(750,802)	8,522	1,522,690
26	-	-	-	606,900	(606,900)	5,499	921,289
27	-	-	-	459,901	(459,901)	3,118	464,506
28	-	-	-	309,772	(309,772)	1,396	156,131
29	-	-	-	156,482	(156,482)	351	(0)
			\$ 31,820,700	\$ 34,353,982		\$ 1,273,984	

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area A

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.1368	1.0000	3,083	3,505	\$ 100,146	\$ 113,849
2	28	1.1317	1.0000	3,083	3,489	819,330	927,261
3	27	1.1267	1.0000	3,083	3,474	950,471	1,070,848
4	26	1.1216	1.0000	3,083	3,458	1,083,433	1,215,170
5	25	1.1166	1.0000	3,083	3,443	1,218,222	1,360,213
6	24	1.1115	1.0000	3,083	3,427	1,354,716	1,505,825
7	23	1.1066	1.0000	3,083	3,412	1,492,814	1,651,877
8	22	1.1016	1.0000	3,083	3,397	1,632,812	1,798,680
9	21	1.0966	1.0000	3,083	3,381	1,774,554	1,946,044
10	20	1.0917	1.0000	3,083	3,366	2,486,716	2,714,785
11	19	1.0868	1.0000	-	-	1,524,693	1,657,057
12	18	1.0819	1.0000	-	-	1,524,754	1,649,683
13	17	1.0771	1.0000	-	-	1,481,175	1,595,338
14	16	1.0722	1.0000	-	-	1,481,322	1,588,333
15	15	1.0674	1.0000	-	-	1,481,179	1,581,049
16	14	1.0626	1.0000	-	-	1,481,361	1,574,145
17	13	1.0579	1.0000	-	-	1,481,302	1,567,014
18	12	1.0531	1.0000	-	-	1,481,192	1,559,863
19	11	1.0484	1.0000	-	-	1,419,250	1,487,920
20	10	1.0437	1.0000	-	-	1,419,250	1,481,240
21	9	1.0390	1.0000	-	-	1,296,096	1,346,634
22	8	1.0343	1.0000	-	-	1,164,253	1,204,219
23	7	1.0297	1.0000	-	-	1,029,446	1,060,004
24	6	1.0251	1.0000	-	-	891,640	913,985
25	5	1.0205	1.0000	-	-	750,802	766,163
26	4	1.0159	1.0000	-	-	606,900	616,536
27	3	1.0113	1.0000	-	-	459,901	465,105
28	2	1.0068	1.0000	-	-	309,772	311,871
29	1	1.0023	1.0000	-	-	156,482	156,835
				34,352		\$ 34,353,982	\$ 36,887,546

Total Escalated Expense for Entire Period	\$ 36,887,546
Total Escalated Service Units	34,352
Impact Fee for Service Area A	\$ 1,032

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area A

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee Project No. ⁽¹⁾</u>	<u>Total Project Cost ⁽¹⁾</u>	<u>Percent in Service Area ⁽¹⁾</u>	<u>Cost in Service Area⁽¹⁾</u>	<u>Impact Fee Recoverable Cost⁽²⁾</u>	<u>Debt Funded⁽³⁾</u>	<u>Existing</u>	<u>Proposed</u>	<u>Non-Debt Funded⁽³⁾</u>	<u>Impact Fee Recoverable Cost</u>
Arapaho Rd (1)	A-1	\$ 1,383,000	100%	\$ 1,383,000	\$ 385,973	\$ -	\$ 308,778	\$ 77,195	\$ 385,973	
Arapaho Rd (2)	A-2	1,210,000	100%	1,210,000	337,691	-	270,153	67,538	337,691	
Brand Rd (1)	A-3	4,092,000	100%	4,092,000	1,142,011	-	913,609	228,402	1,142,011	
Brand Rd (2)	A-4	8,172,000	100%	8,172,000	2,280,673	-	1,824,538	456,135	2,280,673	
Brand Rd (3)	A-5	3,590,000	100%	3,590,000	1,001,911	-	801,529	200,382	1,001,911	
Campbell Rd (1)	A-6	1,901,000	100%	1,901,000	530,538	-	424,431	106,108	530,538	
Campbell Rd (2)	A-7	740,000	100%	740,000	206,522	-	165,218	41,304	206,522	
Campbell Rd (3)	A-8	1,065,000	100%	1,065,000	297,224	-	237,779	59,445	297,224	
Campbell Rd (4)	A-9	1,150,000	100%	1,150,000	320,946	-	256,757	64,189	320,946	
Campbell Rd (5)	A-10	929,000	100%	929,000	259,269	-	207,415	51,854	259,269	
Campbell Rd (6)	A-11	11,065,000	100%	11,065,000	3,088,063	-	2,470,450	617,613	3,088,063	
Ferris Rd	A-12	2,258,000	100%	2,258,000	630,171	-	504,137	126,034	630,171	
Firewheel Parkway (1)	A-13	824,000	100%	824,000	229,965	-	183,972	45,993	229,965	
Holford Rd (1)	A-14	5,347,000	100%	5,347,000	1,492,261	-	1,193,809	298,452	1,492,261	
Holford Rd (2)	A-15	2,717,000	100%	2,717,000	758,271	-	606,617	151,654	758,271	
Holford Rd (3)	A-16	8,118,000	100%	8,118,000	2,265,602	-	1,812,482	453,120	2,265,602	
Lookout Dr (1)	A-17	201,000	50%	100,500	28,048	-	22,438	5,610	28,048	
Lookout Dr (2)	A-18	1,428,000	50%	714,000	199,266	-	159,413	39,853	199,266	
Lookout Dr (3)	A-19	1,107,000	100%	1,107,000	308,946	-	247,157	61,789	308,946	
Mapleridge (Future) (1)	A-20	384,000	100%	384,000	107,168	-	85,735	21,434	107,168	
Mapleridge (Future) (2)	A-21	3,513,000	100%	3,513,000	980,421	-	784,337	196,084	980,421	
Garland Ave (1)	A-22	2,313,000	100%	2,313,000	645,521	-	516,417	129,104	645,521	
Garland Ave (2)	A-23	2,044,000	100%	2,044,000	570,447	-	456,358	114,089	570,447	
Garland Ave (3)	A-24	1,421,000	100%	1,421,000	396,578	-	317,262	79,316	396,578	
Garland Ave (4)	A-25	1,732,000	100%	1,732,000	483,373	-	386,699	96,675	483,373	
Shiloh Rd (1)	A-26	657,000	100%	657,000	183,358	-	146,686	36,672	183,358	
Shiloh Rd (2)	A-27	733,000	100%	733,000	204,568	-	163,655	40,914	204,568	
Shiloh Rd (3)	A-28	1,065,000	100%	1,065,000	297,224	-	237,779	59,445	297,224	
Shiloh Rd (4)	A-29	1,836,000	100%	1,836,000	512,398	-	409,918	102,480	512,398	
Shiloh Rd (5)	A-30	1,714,000	100%	1,714,000	478,350	-	382,680	95,670	478,350	
Naaman Forest Blvd	A-31	2,079,000	100%	2,079,000	580,215	207,086	298,503	74,626	580,215	
Naaman School Rd	A-32	6,047,000	100%	6,047,000	1,687,620	-	1,350,096	337,524	1,687,620	
Naaman Forest Blvd	A-33	3,904,483	100%	3,904,483	1,089,678	1,089,678	-	-	1,089,678	
Bottleneck Study Improvements - Service Area A	Various	634,000	100%	634,000	176,939	-	141,551	35,388	176,939	
Study Costs		15,840	100%	15,840	15,840	-	-	15,840	15,840	
Total		\$ 87,389,323		\$ 86,574,823	\$ 24,173,052	\$ 1,296,765	\$ 18,288,358	\$ 4,587,929	\$ 24,173,052	

(1) 2016 Roadway Impact Fee Study As Assigned to Service Area, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area A

2016 Vehicle Miles (All Service Areas) ⁽¹⁾	653,797
Ten Year Growth in Vehicle Miles (Service Area A) ⁽²⁾	30,833
	<u>10 years</u>
Annual Growth in Vehicle Miles	3,083

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	\$ 214,266	\$ 363,937	\$ 498,634	\$ 636,423	\$ 777,336	\$ 921,274	\$ 1,068,156	\$ 1,218,312	\$ 1,371,607	\$ 1,524,682	\$ 8,594,628
2016 Vehicle Miles plus Service Area A Growth	656,881	659,964	663,047	666,131	669,214	672,297	675,380	678,464	681,547	684,630	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	\$ 0.33	\$ 0.55	\$ 0.75	\$ 0.96	\$ 1.16	\$ 1.37	\$ 1.58	\$ 1.80	\$ 2.01	\$ 2.23	
Annual Growth in Service Area A Vehicle Miles (Cumulative)	3,083	6,167	9,250	12,333	15,417	18,500	21,583	24,666	27,750	30,833	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	\$ 1,006	\$ 3,401	\$ 6,956	\$ 11,783	\$ 17,907	\$ 25,351	\$ 34,135	\$ 44,293	\$ 55,846	\$ 68,666	\$ 269,345
Credit Amount	\$ 269,345										

(1) Engineer's calculation

(2) Line 8 of the Max Fee Table Report

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area B

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	0.451%
Annual Service Unit Growth ⁽²⁾	1,187
Existing Fund Balance ⁽³⁾	908,960
Non-debt Funded New Project Cost ⁽⁴⁾	3,718,167
New Project Cost Funded Through New Debt ⁽⁵⁾	14,809,308
Total Recoverable Project Cost⁽⁶⁾	\$ 18,527,475

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁷⁾</u>	<u>Interest⁽⁸⁾</u>	<u>Term</u>
1	\$ 1,480,931	3.02%	20
2	1,480,931	3.77%	20
3	1,480,931	4.02%	20
4	1,480,931	4.27%	20
5	1,480,931	4.52%	20
6	1,480,931	4.77%	20
7	1,480,931	5.02%	20
8	1,480,931	5.27%	20
9	1,480,931	5.52%	20
10	1,480,931	5.77%	20
Total	\$ 14,809,308		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽⁹⁾</u>
1	\$ 1,389,561
2	1,852,748
3	1,852,748
4	1,852,748
5	1,852,748
6	1,852,748
7	1,852,748
8	1,852,748
9	1,852,748
10	2,315,934
Total	\$ 18,527,475

(1) Current Yield for GO Interest and Sinking Fund as of June 30, 2016

(2) Derived from the 10-year Growth Projections Report, Table 7

(3) Totals provided by City Staff on September 23, 2016

(4) Assumes 20% of new project costs funded through sources other than debt unless otherwise specified

(5) Assumes 80% of new project costs funded through new debt issues unless otherwise specified

(6) Line 11 of the Max Fee Table Report

(7) Assumes new debt issued in equal annual amounts

(8) Estimated interest cost provided by City's Financial Advisor on September 28, 2016

(9) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent fully in tenth year; Non-debt funded capital expenditures made in equal annual amounts

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area B

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 99,726	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 99,726
2	99,726	106,762	-	-	-	-	-	-	-	-	206,488
3	99,726	106,762	109,163	-	-	-	-	-	-	-	315,650
4	99,726	106,762	109,163	111,591	-	-	-	-	-	-	427,241
5	99,726	106,762	109,163	111,591	114,046	-	-	-	-	-	541,287
6	99,726	106,762	109,163	111,591	114,046	116,527	-	-	-	-	657,814
7	99,726	106,762	109,163	111,591	114,046	116,527	119,035	-	-	-	776,849
8	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	-	-	898,418
9	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	-	1,022,547
10	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
11	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
12	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
13	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
14	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
15	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
16	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
17	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
18	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
19	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
20	99,726	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,149,262
21	-	106,762	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	1,049,536
22	-	-	109,163	111,591	114,046	116,527	119,035	121,569	124,129	126,714	942,774
23	-	-	-	111,591	114,046	116,527	119,035	121,569	124,129	126,714	833,611
24	-	-	-	-	114,046	116,527	119,035	121,569	124,129	126,714	722,021
25	-	-	-	-	-	116,527	119,035	121,569	124,129	126,714	607,975
26	-	-	-	-	-	-	119,035	121,569	124,129	126,714	491,448
27	-	-	-	-	-	-	-	121,569	124,129	126,714	372,412
28	-	-	-	-	-	-	-	-	124,129	126,714	250,843
29	-	-	-	-	-	-	-	-	-	126,714	126,714
	\$ 1,994,519	\$ 2,135,235	\$ 2,183,251	\$ 2,231,812	\$ 2,280,913	\$ 2,330,546	\$ 2,380,706	\$ 2,431,387	\$ 2,482,580	\$ 2,534,280	\$ 22,985,230

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service⁽¹⁾	Annual Capital Expenditures⁽²⁾	Annual Bond Proceeds⁽²⁾	Existing Annual Debt Service⁽³⁾	Annual Credit⁽⁴⁾	Total Expense
1	\$ 99,726	\$ 1,389,561	\$ (1,480,931)	\$ -	\$ (181)	\$ 8,175
2	206,488	1,852,748	(1,480,931)	-	(747)	577,557
3	315,650	1,852,748	(1,480,931)	-	(1,710)	685,757
4	427,241	1,852,748	(1,480,931)	-	(3,081)	795,977
5	541,287	1,852,748	(1,480,931)	-	(4,870)	908,233
6	657,814	1,852,748	(1,480,931)	-	(7,090)	1,022,541
7	776,849	1,852,748	(1,480,931)	-	(9,750)	1,138,915
8	898,418	1,852,748	(1,480,931)	-	(12,864)	1,257,371
9	1,022,547	1,852,748	(1,480,931)	-	(16,442)	1,377,922
10	1,149,262	2,315,934	(1,480,931)	-	(20,497)	1,963,769
11	1,149,262	-	-	-	-	1,149,262
12	1,149,262	-	-	-	-	1,149,262
13	1,149,262	-	-	-	-	1,149,262
14	1,149,262	-	-	-	-	1,149,262
15	1,149,262	-	-	-	-	1,149,262
16	1,149,262	-	-	-	-	1,149,262
17	1,149,262	-	-	-	-	1,149,262
18	1,149,262	-	-	-	-	1,149,262
19	1,149,262	-	-	-	-	1,149,262
20	1,149,262	-	-	-	-	1,149,262
21	1,049,536	-	-	-	-	1,049,536
22	942,774	-	-	-	-	942,774
23	833,611	-	-	-	-	833,611
24	722,021	-	-	-	-	722,021
25	607,975	-	-	-	-	607,975
26	491,448	-	-	-	-	491,448
27	372,412	-	-	-	-	372,412
28	250,843	-	-	-	-	250,843
29	126,714	-	-	-	-	126,714
	\$ 22,985,230	\$ 18,527,475	\$ (14,809,308)	\$ -	\$ (77,232)	\$ 26,626,165

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

III. Summary of Principal Paid to Date for Existing Debt⁽³⁾

The projects related to this area have not been previously funded with debt.

IV. Summary of Debt Financing

Existing Debt Funded Project Costs ⁽⁵⁾	\$	-
-Less Principal Paid to Date		-
Outstanding Debt Principal		-
New Project Costs Debt Principal ⁽⁵⁾		14,809,308
Principal Component	\$	14,809,308

(1) Appendix E - Service Area B, Page 2

(2) Appendix E - Service Area B, Page 1

(3) Not applicable for this service area

(4) Appendix E - Service Area B, Page 8

(5) Appendix E - Service Area B, Page 1

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area B

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 908,960
1	\$ 2,081	1,187	\$ 2,470,474	\$ 8,175	\$ 2,462,298	\$ 9,652	3,380,910
2	2,081	1,187	2,470,474	577,557	1,892,916	19,516	5,293,343
3	2,081	1,187	2,470,474	685,757	1,784,717	27,898	7,105,957
4	2,081	1,187	2,470,474	795,977	1,674,497	35,824	8,816,278
5	2,081	1,187	2,470,474	908,233	1,562,241	43,284	10,421,803
6	2,081	1,187	2,470,474	1,022,541	1,447,933	50,267	11,920,003
7	2,081	1,187	2,470,474	1,138,915	1,331,558	56,762	13,308,323
8	2,081	1,187	2,470,474	1,257,371	1,213,103	62,756	14,584,182
9	2,081	1,187	2,470,474	1,377,922	1,092,552	68,238	15,744,972
10	2,081	1,187	2,470,474	1,963,769	506,705	72,152	16,323,829
11	-	-	-	1,149,262	(1,149,262)	71,029	15,245,596
12	-	-	-	1,149,262	(1,149,262)	66,166	14,162,501
13	-	-	-	1,149,262	(1,149,262)	61,281	13,074,521
14	-	-	-	1,149,262	(1,149,262)	56,375	11,981,634
15	-	-	-	1,149,262	(1,149,262)	51,446	10,883,818
16	-	-	-	1,149,262	(1,149,262)	46,494	9,781,051
17	-	-	-	1,149,262	(1,149,262)	41,521	8,673,310
18	-	-	-	1,149,262	(1,149,262)	36,525	7,560,574
19	-	-	-	1,149,262	(1,149,262)	31,507	6,442,819
20	-	-	-	1,149,262	(1,149,262)	26,466	5,320,023
21	-	-	-	1,049,536	(1,049,536)	21,627	4,292,114
22	-	-	-	942,774	(942,774)	17,231	3,366,571
23	-	-	-	833,611	(833,611)	13,303	2,546,264
24	-	-	-	722,021	(722,021)	9,855	1,834,099
25	-	-	-	607,975	(607,975)	6,901	1,233,024
26	-	-	-	491,448	(491,448)	4,453	746,029
27	-	-	-	372,412	(372,412)	2,525	376,142
28	-	-	-	250,843	(250,843)	1,131	126,430
29	-	-	-	126,714	(126,714)	284	(0)
			\$ 24,704,735	\$ 26,626,165		\$ 1,012,470	

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area B

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.1368	1.0000	1,187	1,350	\$ 8,175	\$ 9,294
2	28	1.1317	1.0000	1,187	1,344	577,557	653,640
3	27	1.1267	1.0000	1,187	1,338	685,757	772,608
4	26	1.1216	1.0000	1,187	1,332	795,977	892,761
5	25	1.1166	1.0000	1,187	1,326	908,233	1,014,093
6	24	1.1115	1.0000	1,187	1,320	1,022,541	1,136,598
7	23	1.1066	1.0000	1,187	1,314	1,138,915	1,260,270
8	22	1.1016	1.0000	1,187	1,308	1,257,371	1,385,100
9	21	1.0966	1.0000	1,187	1,302	1,377,922	1,511,082
10	20	1.0917	1.0000	1,187	1,296	1,963,769	2,143,875
11	19	1.0868	1.0000	-	-	1,149,262	1,249,033
12	18	1.0819	1.0000	-	-	1,149,262	1,243,425
13	17	1.0771	1.0000	-	-	1,149,262	1,237,842
14	16	1.0722	1.0000	-	-	1,149,262	1,232,285
15	15	1.0674	1.0000	-	-	1,149,262	1,226,752
16	14	1.0626	1.0000	-	-	1,149,262	1,221,244
17	13	1.0579	1.0000	-	-	1,149,262	1,215,761
18	12	1.0531	1.0000	-	-	1,149,262	1,210,303
19	11	1.0484	1.0000	-	-	1,149,262	1,204,869
20	10	1.0437	1.0000	-	-	1,149,262	1,199,459
21	9	1.0390	1.0000	-	-	1,049,536	1,090,459
22	8	1.0343	1.0000	-	-	942,774	975,137
23	7	1.0297	1.0000	-	-	833,611	858,356
24	6	1.0251	1.0000	-	-	722,021	740,115
25	5	1.0205	1.0000	-	-	607,975	620,413
26	4	1.0159	1.0000	-	-	491,448	499,250
27	3	1.0113	1.0000	-	-	372,412	376,626
28	2	1.0068	1.0000	-	-	250,843	252,543
29	1	1.0023	1.0000	-	-	126,714	127,000
				13,227		\$ 26,626,165	\$ 28,560,194

Total Escalated Expense for Entire Period	\$ 28,560,194
Total Escalated Service Units	13,227
Impact Fee for Service Area B	\$ 2,081

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area B

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee Project No.⁽¹⁾</u>	<u>Total Project Cost⁽¹⁾</u>	<u>Percent in Service Area⁽¹⁾</u>	<u>Cost in Service Area⁽¹⁾</u>	<u>Impact Fee Recoverable Cost⁽²⁾</u>	<u>Debt Funded⁽³⁾</u>		<u>Non-Debt Funded⁽³⁾</u>	<u>Impact Fee Recoverable Cost</u>
						<u>Existing</u>	<u>Proposed</u>		
Kings Rd (Future)	B-1	\$ 551,000	100%	\$ 551,000	\$ 238,533	\$ -	\$ 190,826	\$ 47,707	\$ 238,533
Leon Rd (1)	B-2	959,000	100%	959,000	415,160	-	332,128	83,032	415,160
Leon Rd (2)	B-3	212,000	100%	212,000	91,777	-	73,421	18,355	91,777
Marketplace ext (1)	B-4	1,398,000	100%	1,398,000	605,207	-	484,166	121,041	605,207
Marketplace ext (2)	B-5	666,000	100%	666,000	288,318	-	230,654	57,664	288,318
Millay Blvd (Future)	B-6	1,180,000	100%	1,180,000	510,833	-	408,666	102,167	510,833
Shiloh Rd (6)	B-7	1,784,000	100%	1,784,000	772,310	-	617,848	154,462	772,310
Shiloh Rd (7)	B-8	4,590,000	100%	4,590,000	1,987,054	-	1,589,643	397,411	1,987,054
Shiloh Rd (8)	B-9	8,552,000	100%	8,552,000	3,702,240	-	2,961,792	740,448	3,702,240
Shiloh Rd (9)	B-10	9,087,000	100%	9,087,000	3,933,847	-	3,147,078	786,769	3,933,847
Shiloh Rd (10)	B-11	4,129,000	100%	4,129,000	1,787,483	-	1,429,986	357,497	1,787,483
Shiloh Rd (11)	B-12	2,368,000	100%	2,368,000	1,025,129	-	820,103	205,026	1,025,129
New road east of Industrial Ln	B-13	2,260,000	100%	2,260,000	978,375	-	782,700	195,675	978,375
Saturn Rd (Future)	B-14	2,215,000	100%	2,215,000	958,894	-	767,115	191,779	958,894
Sherwin (Future)	B-15	2,432,000	100%	2,432,000	1,052,835	-	842,268	210,567	1,052,835
Bottleneck Study Improvements - Service Area B	Various	378,000	100%	378,000	163,640	-	130,912	32,728	163,640
Study Costs		15,840	100%	15,840	15,840	-	-	15,840	15,840
Total		\$ 42,776,840		\$ 42,776,840	\$ 18,527,475	\$ -	\$ 14,809,308	\$ 3,718,167	\$ 18,527,475

(1) 2016 Roadway Impact Fee Study As Assigned to Service Area, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area B

2016 Vehicle Miles (All Service Areas) ⁽¹⁾	653,797
Ten Year Growth in Vehicle Miles (Service Area B) ⁽²⁾	11,872
	<u>10 years</u>
Annual Growth in Vehicle Miles	1,187

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	\$ 99,726	\$ 206,488	\$ 315,650	\$ 427,241	\$ 541,287	\$ 657,814	\$ 776,849	\$ 898,418	\$ 1,022,547	\$ 1,149,262	\$ 6,095,282
2016 Vehicle Miles plus Service Area B Growth	654,984	656,172	657,359	658,546	659,733	660,920	662,108	663,295	664,482	665,669	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	\$ 0.15	\$ 0.31	\$ 0.48	\$ 0.65	\$ 0.82	\$ 1.00	\$ 1.17	\$ 1.35	\$ 1.54	\$ 1.73	
Annual Growth in Service Area B Vehicle Miles (Cumulative)	1,187	2,374	3,562	4,749	5,936	7,123	8,310	9,498	10,685	11,872	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	\$ 181	\$ 747	\$ 1,710	\$ 3,081	\$ 4,870	\$ 7,090	\$ 9,750	\$ 12,864	\$ 16,442	\$ 20,497	\$ 77,232
Credit Amount	\$ 77,232										

(1) Engineer's calculation

(2) Line 8 of the Max Fee Table Report

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area C

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	0.451%
Annual Service Unit Growth ⁽²⁾	1,084
Existing Fund Balance ⁽³⁾	502,053
Portion of Projects Funded by Existing Debt ⁽³⁾	\$ 1,895,110
Non-debt Funded New Project Cost ⁽⁴⁾	4,468,650
New Project Cost Funded Through New Debt ⁽⁵⁾	15,178,290
Total Recoverable Project Cost⁽⁶⁾	\$ 21,542,049

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁷⁾</u>	<u>Interest⁽⁸⁾</u>	<u>Term</u>
1	\$ 1,517,829	3.02%	20
2	1,517,829	3.77%	20
3	1,517,829	4.02%	20
4	1,517,829	4.27%	20
5	1,517,829	4.52%	20
6	1,517,829	4.77%	20
7	1,517,829	5.02%	20
8	1,517,829	5.27%	20
9	1,517,829	5.52%	20
10	1,517,829	5.77%	20
Total	\$ 15,178,290		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽⁹⁾</u>
1	\$ 1,473,520
2	1,964,694
3	1,964,694
4	1,964,694
5	1,964,694
6	1,964,694
7	1,964,694
8	1,964,694
9	1,964,694
10	2,455,867
Total	\$ 19,646,939

(1) Current Yield for GO Interest and Sinking Fund as of June 30, 2016

(2) Derived from the 10-year Growth Projections Report, Table 7

(3) Totals provided by City Staff on September 23, 2016

(4) Assumes 20% of new project costs funded through sources other than debt unless otherwise specified

(5) Assumes 80% of new project costs funded through new debt issues unless otherwise specified

(6) Line 11 of the Max Fee Table Report

(7) Assumes new debt issued in equal annual amounts

(8) Estimated interest cost provided by City's Financial Advisor on September 28, 2016

(9) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent fully in tenth year; Non-debt funded capital expenditures made in equal annual amounts

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area C

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 102,211	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 102,211
2	102,211	109,422	-	-	-	-	-	-	-	-	211,632
3	102,211	109,422	111,882	-	-	-	-	-	-	-	323,515
4	102,211	109,422	111,882	114,371	-	-	-	-	-	-	437,886
5	102,211	109,422	111,882	114,371	116,887	-	-	-	-	-	554,773
6	102,211	109,422	111,882	114,371	116,887	119,431	-	-	-	-	674,204
7	102,211	109,422	111,882	114,371	116,887	119,431	122,001	-	-	-	796,205
8	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	-	-	920,803
9	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	-	1,048,025
10	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
11	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
12	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
13	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
14	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
15	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
16	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
17	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
18	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
19	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
20	102,211	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,177,896
21	-	109,422	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	1,075,685
22	-	-	111,882	114,371	116,887	119,431	122,001	124,598	127,222	129,871	966,263
23	-	-	-	114,371	116,887	119,431	122,001	124,598	127,222	129,871	854,381
24	-	-	-	-	116,887	119,431	122,001	124,598	127,222	129,871	740,010
25	-	-	-	-	-	119,431	122,001	124,598	127,222	129,871	623,123
26	-	-	-	-	-	-	122,001	124,598	127,222	129,871	503,692
27	-	-	-	-	-	-	-	124,598	127,222	129,871	381,691
28	-	-	-	-	-	-	-	-	127,222	129,871	257,093
29	-	-	-	-	-	-	-	-	-	129,871	129,871
	\$ 2,044,214	\$ 2,188,436	\$ 2,237,648	\$ 2,287,419	\$ 2,337,743	\$ 2,388,613	\$ 2,440,023	\$ 2,491,966	\$ 2,544,435	\$ 2,597,423	\$ 23,557,919

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service⁽¹⁾	Annual Capital Expenditures⁽²⁾	Annual Bond Proceeds⁽²⁾	Existing Annual Debt Service⁽³⁾	Annual Credit⁽⁴⁾	Total Expense
1	\$ 102,211	\$ 1,473,520	\$ (1,517,829)	\$ 143,934	\$ (407)	\$ 201,429
2	211,632	1,964,694	(1,517,829)	145,060	(1,179)	802,379
3	323,515	1,964,694	(1,517,829)	144,744	(2,318)	912,807
4	437,886	1,964,694	(1,517,829)	144,702	(3,838)	1,025,614
5	554,773	1,964,694	(1,517,829)	144,940	(5,753)	1,140,825
6	674,204	1,964,694	(1,517,829)	144,923	(8,069)	1,257,923
7	796,205	1,964,694	(1,517,829)	144,798	(10,796)	1,377,072
8	920,803	1,964,694	(1,517,829)	144,833	(13,950)	1,498,551
9	1,048,025	1,964,694	(1,517,829)	132,776	(17,361)	1,610,304
10	1,177,896	2,455,867	(1,517,829)	132,710	(21,376)	2,227,269
11	1,177,896	-	-	132,769	-	1,310,665
12	1,177,896	-	-	132,840	-	1,310,736
13	1,177,896	-	-	130,521	-	1,308,417
14	1,177,896	-	-	130,831	-	1,308,727
15	1,177,896	-	-	130,529	-	1,308,425
16	1,177,896	-	-	130,914	-	1,308,810
17	1,177,896	-	-	130,789	-	1,308,685
18	1,177,896	-	-	130,557	-	1,308,453
19	1,177,896	-	-	-	-	1,177,896
20	1,177,896	-	-	-	-	1,177,896
21	1,075,685	-	-	-	-	1,075,685
22	966,263	-	-	-	-	966,263
23	854,381	-	-	-	-	854,381
24	740,010	-	-	-	-	740,010
25	623,123	-	-	-	-	623,123
26	503,692	-	-	-	-	503,692
27	381,691	-	-	-	-	381,691
28	257,093	-	-	-	-	257,093
29	129,871	-	-	-	-	129,871
	\$ 23,557,919	\$ 19,646,939	\$ (15,178,290)	\$ 2,473,171	\$ (85,047)	\$ 30,414,693

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

III. Summary of Principal Paid to Date for Existing Debt⁽³⁾

	Principal Paid on Issuance <u>2005</u>	Principal Paid on Debt <u>2008</u>	Principal Paid on Debt <u>2011</u>	Principal Paid on Debt <u>2015</u>	Total Principal Paid to Date
2005	1,408	-	-	-	1,408
2006	4,625	-	-	-	4,625
2007	4,876	-	-	-	4,876
2008	5,128	-	-	-	5,128
2009	5,379	7	-	-	5,386
2010	5,630	10	-	-	5,640
2011	5,932	11	-	-	5,942
2012	6,234	15	-	-	6,249
2013	6,585	16	-	-	6,601
2014	6,937	17	396	-	7,350
2015	7,289	17	396	26,599	34,302
2016	7,691	18	396	61,932	70,038
	\$ 67,714	\$ 110	\$ 1,189	\$ 88,531	\$ 157,544

IV. Summary of Debt Financing

Existing Debt Funded Project Costs ⁽⁵⁾	\$ 1,895,110
-Less Principal Paid to Date	157,544
Outstanding Debt Principal	1,737,565
New Project Costs Debt Principal ⁽⁵⁾	15,178,290
Principal Component	\$ 16,915,855

(1) Appendix E - Service Area C, Page 2

(2) Appendix E - Service Area C, Page 1

(3) Prior Debt Funding Provided by City Staff

(4) Appendix E - Service Area C, Page 8

(5) Appendix E - Service Area C, Page 1

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area C

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 502,053
1	\$ 2,661	1,084	\$ 2,884,280	\$ 201,429	\$ 2,682,851	\$ 8,314	3,193,218
2	2,661	1,084	2,884,280	802,379	2,081,901	19,096	5,294,215
3	2,661	1,084	2,884,280	912,807	1,971,473	28,323	7,294,011
4	2,661	1,084	2,884,280	1,025,614	1,858,666	37,087	9,189,764
5	2,661	1,084	2,884,280	1,140,825	1,743,455	45,377	10,978,597
6	2,661	1,084	2,884,280	1,257,923	1,626,356	53,181	12,658,134
7	2,661	1,084	2,884,280	1,377,072	1,507,208	60,487	14,225,829
8	2,661	1,084	2,884,280	1,498,551	1,385,729	67,283	15,678,841
9	2,661	1,084	2,884,280	1,610,304	1,273,975	73,584	17,026,401
10	2,661	1,084	2,884,280	2,227,269	657,011	78,271	17,761,683
11	-	-	-	1,310,665	(1,310,665)	77,150	16,528,167
12	-	-	-	1,310,736	(1,310,736)	71,586	15,289,018
13	-	-	-	1,308,417	(1,308,417)	66,003	14,046,604
14	-	-	-	1,308,727	(1,308,727)	60,399	12,798,276
15	-	-	-	1,308,425	(1,308,425)	54,770	11,544,621
16	-	-	-	1,308,810	(1,308,810)	49,115	10,284,925
17	-	-	-	1,308,685	(1,308,685)	43,434	9,019,674
18	-	-	-	1,308,453	(1,308,453)	37,728	7,748,949
19	-	-	-	1,177,896	(1,177,896)	32,292	6,603,345
20	-	-	-	1,177,896	(1,177,896)	27,125	5,452,574
21	-	-	-	1,075,685	(1,075,685)	22,165	4,399,054
22	-	-	-	966,263	(966,263)	17,661	3,450,451
23	-	-	-	854,381	(854,381)	13,635	2,609,705
24	-	-	-	740,010	(740,010)	10,101	1,879,796
25	-	-	-	623,123	(623,123)	7,073	1,263,746
26	-	-	-	503,692	(503,692)	4,564	764,617
27	-	-	-	381,691	(381,691)	2,588	385,514
28	-	-	-	257,093	(257,093)	1,159	129,580
29	-	-	-	129,871	(129,871)	292	0
			\$ 28,842,799	\$ 30,414,693		\$ 1,069,842	

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area C

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.1368	1.0000	1,084	1,232	\$ 201,429	\$ 228,991
2	28	1.1317	1.0000	1,084	1,227	802,379	908,077
3	27	1.1267	1.0000	1,084	1,221	912,807	1,028,414
4	26	1.1216	1.0000	1,084	1,216	1,025,614	1,150,321
5	25	1.1166	1.0000	1,084	1,210	1,140,825	1,273,795
6	24	1.1115	1.0000	1,084	1,205	1,257,923	1,398,236
7	23	1.1066	1.0000	1,084	1,200	1,377,072	1,523,802
8	22	1.1016	1.0000	1,084	1,194	1,498,551	1,650,781
9	21	1.0966	1.0000	1,084	1,189	1,610,304	1,765,922
10	20	1.0917	1.0000	1,084	1,183	2,227,269	2,431,543
11	19	1.0868	1.0000	-	-	1,310,665	1,424,448
12	18	1.0819	1.0000	-	-	1,310,736	1,418,129
13	17	1.0771	1.0000	-	-	1,308,417	1,409,265
14	16	1.0722	1.0000	-	-	1,308,727	1,403,270
15	15	1.0674	1.0000	-	-	1,308,425	1,396,648
16	14	1.0626	1.0000	-	-	1,308,810	1,390,786
17	13	1.0579	1.0000	-	-	1,308,685	1,384,410
18	12	1.0531	1.0000	-	-	1,308,453	1,377,949
19	11	1.0484	1.0000	-	-	1,177,896	1,234,889
20	10	1.0437	1.0000	-	-	1,177,896	1,229,344
21	9	1.0390	1.0000	-	-	1,075,685	1,117,629
22	8	1.0343	1.0000	-	-	966,263	999,433
23	7	1.0297	1.0000	-	-	854,381	879,742
24	6	1.0251	1.0000	-	-	740,010	758,555
25	5	1.0205	1.0000	-	-	623,123	635,871
26	4	1.0159	1.0000	-	-	503,692	511,689
27	3	1.0113	1.0000	-	-	381,691	386,010
28	2	1.0068	1.0000	-	-	257,093	258,835
29	1	1.0023	1.0000	-	-	129,871	130,164
				12,077		\$ 30,414,693	\$ 32,706,948

Total Escalated Expense for Entire Period	\$ 32,706,948
Total Escalated Service Units	12,077
Impact Fee for Service Area C	\$ 2,661

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area C

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee Project No.⁽¹⁾</u>	<u>Total Project Cost⁽¹⁾</u>	<u>Percent in Service Area⁽¹⁾</u>	<u>Cost in Service Area⁽¹⁾</u>	<u>Impact Fee Recoverable Cost⁽²⁾</u>	<u>Debt Funded⁽³⁾</u>		<u>Non-Debt Funded⁽³⁾</u>	<u>Impact Fee Recoverable Cost</u>
						<u>Existing</u>	<u>Proposed</u>		
Castle Dr (1)	C-1	\$ 953,000	100%	\$ 953,000	\$ 489,096	\$ -	\$ 391,277	\$ 97,819	\$ 489,096
Castle Dr (2)	C-2	2,390,000	100%	2,390,000	1,226,589	-	981,271	245,318	1,226,589
Castle Dr (3)	C-3	2,424,000	100%	2,424,000	1,244,038	-	995,230	248,808	1,244,038
Castle Dr (4)	C-4	5,536,000	100%	5,536,000	2,841,169	-	2,272,935	568,234	2,841,169
Castle Dr (5)	C-5	2,659,000	50%	1,329,500	682,322	-	545,858	136,464	682,322
Castle Dr (6)	C-6	4,433,000	50%	2,216,500	1,137,545	-	910,036	227,509	1,137,545
Crist Rd	C-7	4,436,000	100%	4,436,000	2,276,631	-	1,821,304	455,326	2,276,631
Firewheel Parkway (2)	C-8	6,292,000	100%	6,292,000	3,229,161	-	2,583,329	645,832	3,229,161
Pleasant Valley Rd (1)	C-9	10,773,000	100%	10,773,000	5,528,887	-	4,423,109	1,105,777	5,528,887
E. Miller Rd	C-10,D-5	955,000	50%	477,500	245,061	-	196,049	49,012	245,061
Pleasant Valley Rd (2)	C-11	3,603,239	100%	3,603,239	1,849,243	1,822,042	-	27,202	1,849,243
Miller Rd Bridge	C-12,D-21	2,743,883	50%	1,371,942	704,104	73,068	-	631,036	704,104
Bottleneck Study Improvements - Service Area C		141,000	100%	141,000	72,364	-	57,891	14,473	72,364
Study Costs		15,840	100%	15,840	15,840	-	-	15,840	15,840
Total		\$ 47,354,962		\$ 41,959,521	\$ 21,542,049	\$ 1,895,110	\$ 15,178,290	\$ 4,468,650	\$ 21,542,049

(1) 2016 Roadway Impact Fee Study As Assigned to Service Area, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area C

2016 Vehicle Miles (All Service Areas) ⁽¹⁾	653,797
Ten Year Growth in Vehicle Miles (Service Area C) ⁽²⁾	10,840
	<u>10 years</u>
Annual Growth in Vehicle Miles	1,084

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	\$ 246,145	\$ 356,693	\$ 468,259	\$ 582,588	\$ 699,713	\$ 819,127	\$ 941,003	\$ 1,065,636	\$ 1,180,801	\$ 1,310,606	\$ 7,670,569
2016 Vehicle Miles plus Service Area C Growth	654,881	655,965	657,049	658,133	659,217	660,301	661,385	662,469	663,553	664,637	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	\$ 0.38	\$ 0.54	\$ 0.71	\$ 0.89	\$ 1.06	\$ 1.24	\$ 1.42	\$ 1.61	\$ 1.78	\$ 1.97	
Annual Growth in Service Area C Vehicle Miles (Cumulative)	1,084	2,168	3,252	4,336	5,420	6,504	7,588	8,672	9,756	10,840	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	\$ 407	\$ 1,179	\$ 2,318	\$ 3,838	\$ 5,753	\$ 8,069	\$ 10,796	\$ 13,950	\$ 17,361	\$ 21,376	\$ 85,047
Credit Amount	\$ 85,047										

(1) Engineer's calculation

(2) Line 8 of the Max Fee Table Report

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area D

I. General Assumptions

Annual Interest Rate on Deposits ⁽¹⁾	0.451%
Annual Service Unit Growth ⁽²⁾	1,417
Existing Fund Balance ⁽³⁾	1,113,622
Portion of Projects Funded by Existing Debt ⁽³⁾	\$ 2,687,484
Non-debt Funded New Project Cost ⁽⁴⁾	3,245,686
New Project Cost Funded Through New Debt ⁽⁵⁾	10,495,546
Total Recoverable Project Cost⁽⁶⁾	\$ 16,428,715

II. New Debt Issues Assumptions

<u>Year</u>	<u>Principal⁽⁷⁾</u>	<u>Interest⁽⁸⁾</u>	<u>Term</u>
1	\$ 1,049,555	3.02%	20
2	1,049,555	3.77%	20
3	1,049,555	4.02%	20
4	1,049,555	4.27%	20
5	1,049,555	4.52%	20
6	1,049,555	4.77%	20
7	1,049,555	5.02%	20
8	1,049,555	5.27%	20
9	1,049,555	5.52%	20
10	1,049,555	5.77%	20
Total	\$ 10,495,546		

III. Capital Expenditure Assumptions

<u>Year</u>	<u>Annual Capital Expenditures⁽⁹⁾</u>
1	\$ 1,030,592
2	1,374,123
3	1,374,123
4	1,374,123
5	1,374,123
6	1,374,123
7	1,374,123
8	1,374,123
9	1,374,123
10	1,717,654
Total	\$ 13,741,231

(1) Current Yield for GO Interest and Sinking Fund as of June 30, 2016

(2) Derived from the 10-year Growth Projections Report, Table 7

(3) Totals provided by City Staff on September 23, 2016

(4) Assumes 20% of new project costs funded through sources other than debt unless otherwise specified

(5) Assumes 80% of new project costs funded through new debt issues unless otherwise specified

(6) Line 11 of the Max Fee Table Report

(7) Assumes new debt issued in equal annual amounts

(8) Estimated interest cost provided by City's Financial Advisor on September 28, 2016

(9) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent fully in tenth year; Non-debt funded capital expenditures made in equal annual amounts

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area D

I. New Debt Service Detail

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>	<u>Series 3</u>	<u>Series 4</u>	<u>Series 5</u>	<u>Series 6</u>	<u>Series 7</u>	<u>Series 8</u>	<u>Series 9</u>	<u>Series 10</u>	<u>Total Annual New Debt Service</u>
1	\$ 70,677	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 70,677
2	70,677	75,663	-	-	-	-	-	-	-	-	146,340
3	70,677	75,663	77,365	-	-	-	-	-	-	-	223,705
4	70,677	75,663	77,365	79,086	-	-	-	-	-	-	302,791
5	70,677	75,663	77,365	79,086	80,826	-	-	-	-	-	383,617
6	70,677	75,663	77,365	79,086	80,826	82,584	-	-	-	-	466,201
7	70,677	75,663	77,365	79,086	80,826	82,584	84,362	-	-	-	550,563
8	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	-	-	636,721
9	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	-	724,692
10	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
11	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
12	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
13	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
14	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
15	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
16	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
17	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
18	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
19	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
20	70,677	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	814,496
21	-	75,663	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	743,819
22	-	-	77,365	79,086	80,826	82,584	84,362	86,158	87,972	89,804	668,156
23	-	-	-	79,086	80,826	82,584	84,362	86,158	87,972	89,804	590,791
24	-	-	-	-	80,826	82,584	84,362	86,158	87,972	89,804	511,705
25	-	-	-	-	-	82,584	84,362	86,158	87,972	89,804	430,880
26	-	-	-	-	-	-	84,362	86,158	87,972	89,804	348,295
27	-	-	-	-	-	-	-	86,158	87,972	89,804	263,933
28	-	-	-	-	-	-	-	-	87,972	89,804	177,776
29	-	-	-	-	-	-	-	-	-	89,804	89,804
	\$ 1,413,541	\$ 1,513,268	\$ 1,547,298	\$ 1,581,714	\$ 1,616,512	\$ 1,651,688	\$ 1,687,237	\$ 1,723,155	\$ 1,759,436	\$ 1,796,077	\$ 16,289,926

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service⁽¹⁾	Annual Capital Expenditures⁽²⁾	Annual Bond Proceeds⁽²⁾	Existing Annual Debt Service⁽³⁾	Annual Credit⁽⁴⁾	Total Expense
1	\$ 70,677	\$ 1,030,592	\$ (1,049,555)	\$ 200,319	\$ (586)	\$ 251,448
2	146,340	1,374,123	(1,049,555)	200,676	(1,498)	670,088
3	223,705	1,374,123	(1,049,555)	200,218	(2,739)	745,754
4	302,791	1,374,123	(1,049,555)	200,178	(4,323)	823,214
5	383,617	1,374,123	(1,049,555)	200,499	(6,262)	902,422
6	466,201	1,374,123	(1,049,555)	200,496	(8,559)	982,707
7	550,563	1,374,123	(1,049,555)	200,293	(11,222)	1,064,203
8	636,721	1,374,123	(1,049,555)	200,340	(14,267)	1,147,363
9	724,692	1,374,123	(1,049,555)	190,489	(17,511)	1,222,240
10	814,496	1,717,654	(1,049,555)	190,434	(21,319)	1,651,711
11	814,496	-	-	190,521	-	1,005,017
12	814,496	-	-	190,622	-	1,005,119
13	814,496	-	-	190,347	-	1,004,844
14	814,496	-	-	190,799	-	1,005,295
15	814,496	-	-	190,359	-	1,004,855
16	814,496	-	-	190,921	-	1,005,417
17	814,496	-	-	190,738	-	1,005,235
18	814,496	-	-	190,400	-	1,004,896
19	814,496	-	-	-	-	814,496
20	814,496	-	-	-	-	814,496
21	743,819	-	-	-	-	743,819
22	668,156	-	-	-	-	668,156
23	590,791	-	-	-	-	590,791
24	511,705	-	-	-	-	511,705
25	430,880	-	-	-	-	430,880
26	348,295	-	-	-	-	348,295
27	263,933	-	-	-	-	263,933
28	177,776	-	-	-	-	177,776
29	89,804	-	-	-	-	89,804
	\$ 16,289,926	\$ 13,741,231	\$ (10,495,546)	\$ 3,508,652	\$ (88,284)	\$ 22,955,979

City of Garland 2016 Roadway Impact Fee Study
Capital Improvement Plan for Impact Fees
Appendix E - Impact Fee Calculation Assumptions

III. Summary of Principal Paid to Date for Existing Debt⁽³⁾

	Principal Paid on Issuance <u>2005</u>	Principal Paid on Debt <u>2008</u>	Principal Paid on Debt <u>2011</u>	Principal Paid on Debt <u>2015</u>	Total Principal Paid to Date
2005	1,147	-	-	-	1,147
2006	3,769	-	-	-	3,769
2007	3,974	-	-	-	3,974
2008	4,179	-	-	-	4,179
2009	4,384	-	-	-	4,384
2010	4,588	-	-	-	4,588
2011	4,834	-	-	-	4,834
2012	5,080	-	-	-	5,080
2013	5,367	-	-	-	5,367
2014	5,653	-	-	-	5,653
2015	5,940	-	-	38,791	44,731
2016	6,268	-	-	90,319	96,587
	\$ 55,183	\$ -	\$ -	\$ 129,110	\$ 184,293

IV. Summary of Debt Financing

Existing Debt Funded Project Costs ⁽⁵⁾	\$ 2,687,484
-Less Principal Paid to Date	184,293
Outstanding Debt Principal	2,503,191
New Project Costs Debt Principal ⁽⁵⁾	10,495,546
Principal Component	\$ 12,998,737

- (1) Appendix E - Service Area D, Page 2
(2) Appendix E - Service Area D, Page 1
(3) Prior Debt Funding Provided by City Staff
(4) Appendix E - Service Area D, Page 8
(5) Appendix E - Service Area D, Page 1

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area D

<u>Year</u>	<u>Impact Fee</u>	<u>Service Units</u>	<u>Impact Fee Revenue</u>	<u>Annual Expenses</u>	<u>Sub-Total</u>	<u>Accumulated Interest</u>	<u>Estimated Fund Balance</u>
Initial							\$ 1,113,622
1	\$ 1,486	1,417	\$ 2,105,361	\$ 251,448	\$ 1,853,913	\$ 9,203	2,976,738
2	1,486	1,417	2,105,361	670,088	1,435,273	16,662	4,428,672
3	1,486	1,417	2,105,361	745,754	1,359,607	23,039	5,811,318
4	1,486	1,417	2,105,361	823,214	1,282,146	29,100	7,122,565
5	1,486	1,417	2,105,361	902,422	1,202,939	34,835	8,360,339
6	1,486	1,417	2,105,361	982,707	1,122,654	40,237	9,523,229
7	1,486	1,417	2,105,361	1,064,203	1,041,157	45,298	10,609,684
8	1,486	1,417	2,105,361	1,147,363	957,998	50,010	11,617,692
9	1,486	1,417	2,105,361	1,222,240	883,121	54,387	12,555,200
10	1,486	1,417	2,105,361	1,651,711	453,649	57,647	13,066,496
11	-	-	-	1,005,017	(1,005,017)	56,664	12,118,142
12	-	-	-	1,005,119	(1,005,119)	52,386	11,165,410
13	-	-	-	1,004,844	(1,004,844)	48,090	10,208,656
14	-	-	-	1,005,295	(1,005,295)	43,774	9,247,135
15	-	-	-	1,004,855	(1,004,855)	39,439	8,281,718
16	-	-	-	1,005,417	(1,005,417)	35,083	7,311,385
17	-	-	-	1,005,235	(1,005,235)	30,708	6,336,858
18	-	-	-	1,004,896	(1,004,896)	26,313	5,358,275
19	-	-	-	814,496	(814,496)	22,329	4,566,108
20	-	-	-	814,496	(814,496)	18,756	3,770,368
21	-	-	-	743,819	(743,819)	15,327	3,041,876
22	-	-	-	668,156	(668,156)	12,212	2,385,932
23	-	-	-	590,791	(590,791)	9,428	1,804,570
24	-	-	-	511,705	(511,705)	6,985	1,299,849
25	-	-	-	430,880	(430,880)	4,891	873,860
26	-	-	-	348,295	(348,295)	3,156	528,721
27	-	-	-	263,933	(263,933)	1,789	266,577
28	-	-	-	177,776	(177,776)	801	89,602
29	-	-	-	89,804	(89,804)	202	0
			\$ 21,053,606	\$ 22,955,979		\$ 788,751	

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area D

<u>Year</u>	<u>Number of Years to End of Period</u>	<u>Future Value Escalation</u>		<u>Annual Service Units</u>		<u>Annual Expense</u>	
		<u>Interest Rate Factor</u>	<u>Recovery Fee Factor</u>	<u>Actual</u>	<u>Escalated</u>	<u>Actual</u>	<u>Escalated</u>
1	29	1.1368	1.0000	1,417	1,611	\$ 251,448	\$ 285,855
2	28	1.1317	1.0000	1,417	1,604	670,088	758,359
3	27	1.1267	1.0000	1,417	1,597	745,754	840,203
4	26	1.1216	1.0000	1,417	1,589	823,214	923,311
5	25	1.1166	1.0000	1,417	1,582	902,422	1,007,605
6	24	1.1115	1.0000	1,417	1,575	982,707	1,092,321
7	23	1.1066	1.0000	1,417	1,568	1,064,203	1,177,597
8	22	1.1016	1.0000	1,417	1,561	1,147,363	1,263,917
9	21	1.0966	1.0000	1,417	1,554	1,222,240	1,340,355
10	20	1.0917	1.0000	1,417	1,547	1,651,711	1,803,198
11	19	1.0868	1.0000	-	-	1,005,017	1,092,266
12	18	1.0819	1.0000	-	-	1,005,119	1,087,472
13	17	1.0771	1.0000	-	-	1,004,844	1,082,293
14	16	1.0722	1.0000	-	-	1,005,295	1,077,918
15	15	1.0674	1.0000	-	-	1,004,855	1,072,609
16	14	1.0626	1.0000	-	-	1,005,417	1,068,390
17	13	1.0579	1.0000	-	-	1,005,235	1,063,400
18	12	1.0531	1.0000	-	-	1,004,896	1,058,269
19	11	1.0484	1.0000	-	-	814,496	853,906
20	10	1.0437	1.0000	-	-	814,496	850,072
21	9	1.0390	1.0000	-	-	743,819	772,822
22	8	1.0343	1.0000	-	-	668,156	691,092
23	7	1.0297	1.0000	-	-	590,791	608,328
24	6	1.0251	1.0000	-	-	511,705	524,529
25	5	1.0205	1.0000	-	-	430,880	439,695
26	4	1.0159	1.0000	-	-	348,295	353,825
27	3	1.0113	1.0000	-	-	263,933	266,920
28	2	1.0068	1.0000	-	-	177,776	178,980
29	1	1.0023	1.0000	-	-	89,804	90,006
				15,788		\$ 22,955,979	\$ 24,725,516

Total Escalated Expense for Entire Period	\$ 24,725,516
Total Escalated Service Units	15,788
Impact Fee for Service Area D	\$ 1,486

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees

Appendix E - Impact Fee Calculation Assumptions

Service Area D

<u>Impact Fee Project Name⁽¹⁾</u>	<u>Impact Fee Project No.⁽¹⁾</u>	<u>Total Project Cost⁽¹⁾</u>	<u>Percent in Service Area⁽¹⁾</u>	<u>Cost in Service Area⁽¹⁾</u>	<u>Impact Fee Recoverable Cost⁽²⁾</u>	<u>Debt Funded⁽³⁾</u>		<u>Non-Debt Funded⁽³⁾</u>	<u>Impact Fee Recoverable Cost</u>
						<u>Existing</u>	<u>Proposed</u>		
Bobtown Rd (1)	D-1	\$ 929,000	100%	\$ 929,000	\$ 388,547	\$ -	\$ 310,838	\$ 77,709	\$ 388,547
Bobtown Rd (2)	D-2	1,779,000	100%	1,779,000	744,053	-	595,243	148,811	744,053
Bobtown Rd (3)	D-3	1,995,000	100%	1,995,000	834,394	-	667,515	166,879	834,394
Bobtown Rd (4)	D-4	2,654,000	50%	1,327,000	555,008	-	444,006	111,002	555,008
E. Miller Rd	C-10,D-5	955,000	50%	477,500	199,711	-	159,769	39,942	199,711
E. Oates Rd (Future)	D-6	3,219,000	100%	3,219,000	1,346,323	-	1,077,058	269,265	1,346,323
La Prada Dr	D-7	567,000	50%	283,500	118,572	-	94,857	23,714	118,572
Locust Grove Rd	D-8	2,859,000	100%	2,859,000	1,195,755	-	956,604	239,151	1,195,755
Lyons Rd (1)	D-9	5,014,000	100%	5,014,000	2,097,068	-	1,677,654	419,414	2,097,068
Lyons Rd (2)	D-10	1,366,000	100%	1,366,000	571,319	-	457,055	114,264	571,319
Lyons Rd (Future) (3)	D-11	2,811,000	100%	2,811,000	1,175,680	-	940,544	235,136	1,175,680
Rosehill Rd (1)	D-12	1,364,000	100%	1,364,000	570,483	-	456,386	114,097	570,483
Rosehill Rd (2)	D-13	513,000	100%	513,000	214,558	-	171,647	42,912	214,558
Rowlett Rd (1)	D-14	1,254,000	100%	1,254,000	524,476	-	419,581	104,895	524,476
Rowlett Rd (2)	D-15	1,781,000	100%	1,781,000	744,890	-	595,912	148,978	744,890
Rowlett Rd (3)	D-16	2,486,000	100%	2,486,000	1,039,751	-	831,801	207,950	1,039,751
S. Country Club Rd	D-17	599,000	100%	599,000	250,527	-	200,422	50,105	250,527
Zion Rd	D-18	1,075,000	100%	1,075,000	449,611	-	359,689	89,922	449,611
Northwest Hwy	D-19	2,904,782	100%	2,904,782	1,214,903	1,214,903	-	-	1,214,903
Dairy Rd	D-20	3,597,758	100%	3,597,758	1,504,735	1,413,035	-	91,701	1,504,735
Miller Rd Bridge	C-12,D-21	2,743,883	50%	1,371,942	573,804	59,546	-	514,258	573,804
Bottleneck Study Improvements - Service Area D	Various	236,000	100%	236,000	98,705	-	78,964	19,741	98,705
Study Costs		15,840	100%	15,840	15,840	-	-	15,840	15,840
Total		\$ 42,718,263		\$ 39,258,322	\$ 16,428,715	\$ 2,687,484	\$ 10,495,546	\$ 3,245,686	\$ 16,428,715

(1) 2016 Roadway Impact Fee Study As Assigned to Service Area, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

City of Garland 2016 Roadway Impact Fee Study

Capital Improvement Plan for Impact Fees Appendix E - Impact Fee Calculation Assumptions Service Area D

2016 Vehicle Miles (All Service Areas) ⁽¹⁾	653,797
Ten Year Growth in Vehicle Miles (Service Area D) ⁽²⁾	14,170
	<u>10 years</u>
Annual Growth in Vehicle Miles	1,417

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	\$ 270,996	\$ 347,017	\$ 423,924	\$ 502,969	\$ 584,116	\$ 666,697	\$ 750,856	\$ 837,061	\$ 915,182	\$ 1,004,931	\$ 6,303,748
2016 Vehicle Miles plus Service Area D Growth	655,214	656,631	658,048	659,465	660,882	662,300	663,717	665,134	666,551	667,968	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	\$ 0.41	\$ 0.53	\$ 0.64	\$ 0.76	\$ 0.88	\$ 1.01	\$ 1.13	\$ 1.26	\$ 1.37	\$ 1.50	
Annual Growth in Service Area D Vehicle Miles (Cumulative)	1,417	2,834	4,251	5,668	7,085	8,502	9,919	11,336	12,753	14,170	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	\$ 586	\$ 1,498	\$ 2,739	\$ 4,323	\$ 6,262	\$ 8,559	\$ 11,222	\$ 14,267	\$ 17,511	\$ 21,319	\$ 88,284
Credit Amount	\$ 88,284										

(1) Engineer's calculation

(2) Line 8 of the Max Fee Table Report

CITY OF GARLAND, TEXAS WATER IMPACT FEE STUDY FINAL DRAFT



GARLAND

TEXAS MADE HERE

October
2016

Prepared for the City of Garland

Prepared by:

Kimley-Horn and Associates, Inc.

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Dallas, TX 75251

Phone 972-770-1300

TBPE Firm Registration Number: F-928

Project Number: 063551021

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Appendices

- Appendix A: Finance and Capacity Calculations
 A1: Additional Service Unit & Capacity Calculations

EXECUTIVE SUMMARY

This study was performed to update the City of Garland's (City) water system impact fees. The implementation of an impact fee is a way to shift a portion of the burden of paying for new facilities onto new development.

Capital Improvements to elements of the water system, including storage facilities, pumping facilities, and the distribution network itself, were provided by the City. Population and land use projections were developed by Freese and Nichols, Inc.

Generally, new water infrastructure is designed beyond the 10-year requirements of the Impact Fee; however, Texas' impact fee law (Chapter 395 of the *Local Government Code*) only allows recovery of costs to serve the 10-year planning period. A portion of the remaining costs past the 10-year window may be recovered as a result of impact fee updates in the future.

The impact fee law defines a service unit as "a standardized measure of consumption, use, generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years". For the purpose of this report, the City defines a service unit as a unit of development that consumes the amount of water requiring a standard 5/8" x 3/4" meter. For developments that require a different size meter, a service unit equivalent has been determined as a multiplier of the 5/8" x 3/4" meter based on its required operating capacity. These service unit equivalency factors and associated maximum assessable impact fees are shown in Table 1.

After analysis of the City's 10-year growth projections and the associated demand values, 3,270 additional service units will need water by the year 2026. Based on these additional service units and recoverable costs calculated from the City's Capital Improvements Plan, the City may assess a maximum of \$593 per service unit. Support and calculations for these results are included in the following report.

Table 1: Maximum Assessable Water Impact Fee for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Fee (\$)
5/8"x 3/4" PD	10	1	593
3/4" PD	15	1.5	890
1" PD	25	2.5	1,483
1 1/2" PD	50	5	2,965
2" PD	80	8	4,744
2" Compound	80	8	4,744
2" Turbine	160	16	9,488
3" Compound	175	17.5	10,378
3" Turbine	350	35	20,755
4" Compound	300	30	17,790
4" Turbine	650	65	38,545
6" Compound	675	67.5	40,028
6" Turbine	1,400	140	83,020
8" Compound	900	90	53,370
8" Turbine	2,400	240	142,320
10" Turbine	3,500	350	207,550

* PD = Positive Displacement Meter (Typical Residential Meter)

** Operating capacities obtained from American Water Works (AWWA) C-700, C-701 & C-702

Introduction

The City contracted Kimley-Horn and Associates, Inc. (Kimley-Horn) to update the existing water impact fee. The most recent water impact fee update was completed by Water Resources Management, LP in November, 2003. The purpose of the report is to satisfy the requirements of the law and provide the City with an updated impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the Local Government Code.

(a) The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:

(1) a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;



- (2) *an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;*
- (3) *a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform the professional engineering services in this state;*
- (4) *a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, and industrial;*
- (5) *the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;*
- (6) *the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and*
- (7) *a plan for awarding:*
 - (A) *a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or*
 - (B) *in the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan.*

The impact fees are based on recommended capital improvements and the population growth projections provided by the City.

The study process involved the following two tasks:

1. IMPACT FEE CAPITAL IMPROVEMENTS PLAN

This task involved developing cost projections for the capital improvement projects that the City has identified to be built in the 10-year planning window. It also involved estimating the utilized capacity of the existing and proposed capital improvement projects to determine their 10-year recoverable cost.

2. IMPACT FEE ANALYSIS AND REPORT

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

Water Service Area

The build-out service area boundary for the City's water system is shown on the enclosed Water System Service Area Map (Exhibit 1). This area encompasses almost all the land within the City's limits and includes approximately 35,900 acres.

Water System Definitions

The following terms are used throughout this report.

Capital Improvements Plan (CIP)

Recommended improvement to the water distribution system based on growth and water demand projections.

Demand (Consumption)

Volume of water used for a given time period, typically measured in million gallons per day (mgd) or gallons per minute (gpm).

EST

Elevated Storage Tank

gpd

Gallons per day

GST

Ground Storage Tank

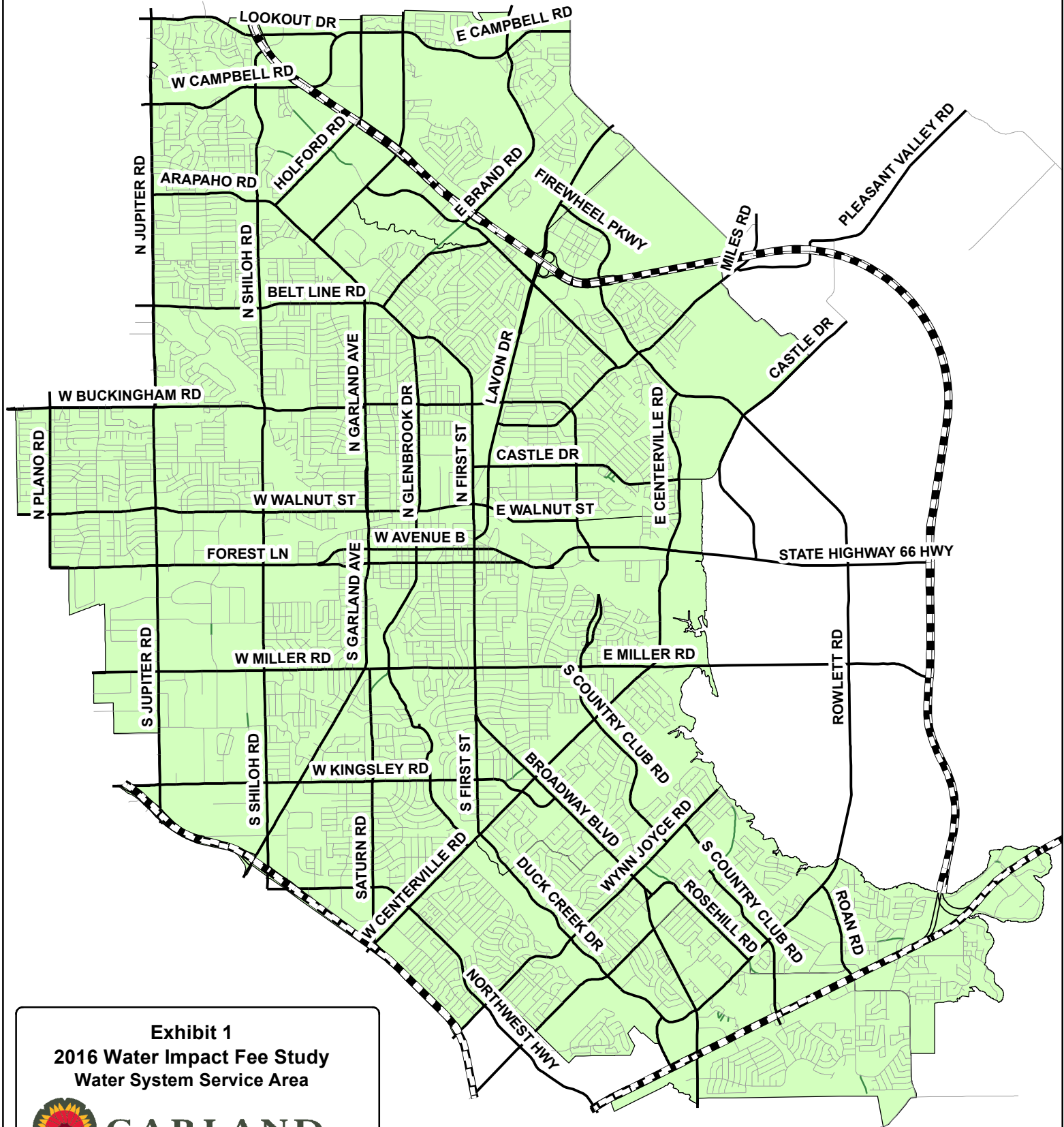


Exhibit 1
2016 Water Impact Fee Study
Water System Service Area



GARLAND
 TEXAS MADE HERE

0 0.5 1 2
 Miles



Kimley»Horn

October 2016

Legend

 Water system Service Area

EXISTING WATER DISTRIBUTION SYSTEM

Infrastructure Eligible for Impact Fees

There is some existing City water system infrastructure which has additional capacity to serve future growth within the City's service area. A portion of the cost of this infrastructure is eligible for recoverable cost in the updated impact fee. Table 2 shows the recoverable cost of the projects that were determined to be eligible for impact fee consideration. These projects are also illustrated in Exhibit 2. The recoverable cost is calculated by multiplying the 2026-2016 capacity utilization percentage by the total project cost.

Table 2: Project Costs for Existing Infrastructure Eligible for Impact Fees

Project No.	Existing Improvement Description	2016 Capacity (% Utilization)	2026 Capacity (% Utilization)	2026 - 2016 Capacity (% Utilization)	Total Project Cost*	2026 Projected Recoverable Cost*
1	Water Line - Firewheel Mall (190 to Lavon)	81%	85%	4%	\$ 542,360	\$ 21,694
2	Pump Station - Broadway Improvements	81%	85%	4%	\$ 5,429,318	\$ 217,173
3	Water Line - Centerville to Pleasant Valley	81%	85%	4%	\$ 4,596,873	\$ 183,875
4	Water Line - Commerce Water Tower to Centerville	81%	85%	4%	\$ 623,561	\$ 24,942
5	Water Lines - Along Naaman Forest & Along Bunker Hill	81%	85%	4%	\$ 1,397,000	\$ 55,880
6	Water Line - Wynn Joyce to Wendell Way	81%	85%	4%	\$ 500,000	\$ 20,000
7	Water Lines - Along Commerce & Along Eastgate Dr	81%	85%	4%	\$ 1,500,000	\$ 60,000
8	Elevated Tank - Commerce Water Tower	81%	85%	4%	\$ 4,978,939	\$ 199,158
9	Water Line - Lawler to Forest along Yale	81%	85%	4%	\$ 814,373	\$ 32,575
10	Water Line - Fifth to under RR tracks along Austin St	81%	85%	4%	\$ 513,000	\$ 20,520
11	Water Lines - Along Fifth St & State St	81%	85%	4%	\$ 1,613,000	\$ 64,520
12	Pump Station - Apollo Northside Improvements	81%	85%	4%	\$ 6,555,322	\$ 262,213
13	Water Line - Centerville to La Prada along Northwest Hwy	81%	85%	4%	\$ 1,760,000	\$ 70,400
14	Water Line - Wendell Way to Rowlett Road	81%	85%	4%	\$ 2,800,000	\$ 112,000
15	Elevated Tank - Southwest Garland Water Tower	81%	85%	4%	\$ 21,376,000	\$ 855,040
16	Water Line - Firewheel to Miles Rd along Pleasant Valley	81%	85%	4%	\$ 700,000	\$ 28,000
TOTAL					\$ 55,699,746	\$ 2,227,990

* Does not include financing costs.

WATER IMPACT FEE CAPITAL IMPROVEMENTS PLAN

The City of Garland identified a list of projects that will be required to supply water to the City's customers in the future. Eight (8) projects are determined eligible for recoverable cost through impact fee over the next 10 years. These impact fee capital improvement projects are summarized in Table 3 and illustrated in Exhibit 2.

Exhibit 2 2016 Water Impact Fee Study Impact Fee CIP Projects



GARLAND
TEXAS MADE HERE

0 0.5 1 2 Miles

Kimley»Horn

October 2016

Legend

- Water Service Area
- FEMA Floodplain

Water Pipes

- Existing
- Proposed

Water Tanks

- Existing
- Proposed

Pump Stations

- Existing
- Proposed

Impact Fee CIP Projects

1. Water Line - Firewheel Mall (190 to Lavon)
2. Pump Station - Broadway Improvements
3. Water Line - Centerville to Pleasant Valley
4. Water Line - Commerce Water Tower to Centerville
5. Water Lines - Along Naaman Forest & Along Bunker Hill
6. Water Line - Wynn Joyce to Wendell Way
7. Water Lines - Along Commerce & Along Eastgate Dr
8. Elevated Tank - Commerce Water Tower
9. Water Line - Lawler to Forest along Yale
10. Water Line - Fifth to under RR tracks along Austin St
11. Water Lines - Along Fifth St & State St
12. Pump Station - Apollo Northside Improvements
13. Water Line - Centerville to La Prada along Northwest Hwy
14. Water Line - Wendell Way to Rowlett Road
15. Elevated Tank - Southwest Garland Water Tower
16. Water Line - Firewheel to Miles Rd along Pleasant Valley
17. Water Line - 635 to Kingsley along Shiloh Rd
18. Water Line - Rosehill to I-30 along Bobtown
19. Water Line - 190 to Muirfield along Brand
20. Water Line - Rowlett Rd to Bobtown along Country Club
21. Water Line - Campbell along 190 along Naaman Forest
22. Elevated Tank - East Zone Water Tower
23. Pump Station - Firewheel Pump Station Expansion

Table 3: Estimated Project Costs for
Proposed Capital Improvement Projects

Project No.	Proposed Improvement Description	2016 Capacity (% Utilization)	2026 Capacity (% Utilization)	2026 - 2016 Capacity (% Utilization)	Estimated Total Project	2026 Projected Recoverable Cost
17	Water Line - 635 to Kingsley along Shiloh Rd	81%	85%	4%	\$1,000,000	\$ 40,000
18	Water Line - Rosehill to I-30 along Bobtown	81%	85%	4%	\$1,200,000	\$ 48,000
19	Water Line - 190 to Muirfield along Brand	81%	85%	4%	\$500,000	\$ 20,000
20	Water Line - Rowlett Rd to Bobtown along Country Club	81%	85%	4%	\$1,000,000	\$ 40,000
21	Water Line - Campbell along 190 along Naaman Forest	81%	85%	4%	\$130,000	\$ 5,200
22	Elevated Tank - East Zone Water Tower	81%	85%	4%	\$7,000,000	\$ 280,000
23	Pump Station - Firewheel PS Expansion	81%	85%	4%	\$8,000,000	\$ 320,000
24	Water Master Plan Update	0%	100%	100%	\$550,000	\$ 550,000
Total Project Cost					\$19,380,000	\$ 1,303,200
*Financing Cost					\$ 10,852,800	\$ 729,792
TOTAL					\$30,232,800	\$ 2,032,992

*Includes 20-year simple interest loan @ 4.7% APR

WATER IMPACT FEE CALCULATION

In accordance with Chapter 395 of the *Local Government Code*, the City defines a service unit based on historical water usage over the last 10 years as compared to the estimated residential units. The residential unit is the development type that typically uses a 5/8" x 3/4" meter. The measure of the consumption per service unit is based on a 5/8" x 3/4" meter and the data shown in Table 4.

Table 4: Service Unit Consumption Calculation

Year	Population	Service Units (3.08 persons/unit)	Water Usage Average Day Demand (MGD)	Consumption per Service Unit (GPD)
2006	222,432	72,218	36.18	501
2007	224,988	73,048	30.69	420
2008	226,144	73,423	35.76	486
2009	225,865	73,333	31.57	430
2010	226,876	73,661	35.72	485
2011	231,596	75,194	36.67	488
2012	233,623	75,852	31.97	420
2013	234,694	76,199	29.06	381
2014	235,597	76,493	26.17	342
2015	236,897	76,915	27.24	354
10-Year Average Consumption per Service Unit:				431

* Water Usage Source: City of Garland

* Population Source: Freese and Nichols

Additional Service Unit and Water Impact Fee Calculation

According to the City's 10-year growth projections and corresponding water demand projections, water service will be required for an additional 3,270 service units. The calculation is summarized below:

- A service unit, which is a unit of development that consumes approximately 431 GPD, is a typical residential connection that uses a 5/8" x 3/4" meter. Table 5 details the future water demand projections and how it effects the service units projected for the next 10 years.

Table 5: 10-Year Additional Service Units Calculation

Year	Average Day Demand (MGD)	Service Unit Demand (GPD)	Service Units
2016	27.24	431	63,234
2026	28.65	431	66,504
10-Year Additional Service Units			3,270

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 do a financial analysis to determine the credit value, law requires them to reduce the recoverable cost by 50 percent. The City has decided to forgo the financial analysis and reduce the recoverable cost by 50 percent. The maximum recoverable cost for impact fee is shown in Table 6.

Table 6: Recoverable Cost Breakdown

Water System Facility	Total Project Cost	2026 Recoverable Cost
Existing Bond Projects	\$ 55,699,746	\$ 2,227,990
Proposed Capital Improvement Projects	\$ 30,232,800	\$ 2,032,992
Planning Expenses - Water Impact Fee	\$ 36,594	\$ 36,594
Existing Water Impact Fee Fund Balance	\$ (414,123)	\$ (414,123)
Totals	\$ 85,555,017	\$ 3,883,452

The impact fee per service unit is calculated as follows:

- Assessable Cost = 50% of Recoverable Cost = \$1,941,726
- Impact fee per service unit = $\frac{\text{Assessable Cost}}{\text{Additional service units}}$

- Impact fee per service unit = $\frac{\$1,941,726}{3,270} = \593

Therefore, the maximum assessable impact fee per service unit is \$593.

For developments that require a different size meter, a service unit equivalent has been determined as a multiplier of the 5/8" x 3/4" meter based on its required operating capacity. The maximum impact fee that could be assessed for other meter sizes is based on the values shown in Table 7.

Table 7: Service Unit Equivalency Table for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Fee (\$)
5/8"x 3/4" PD	10	1	593
3/4" PD	15	1.5	890
1" PD	25	2.5	1,483
1 1/2" PD	50	5	2,965
2" PD	80	8	4,744
2" Compound	80	8	4,744
2" Turbine	160	16	9,488
3" Compound	175	17.5	10,378
3" Turbine	350	35	20,755
4" Compound	300	30	17,790
4" Turbine	650	65	38,545
6" Compound	675	67.5	40,028
6" Turbine	1,400	140	83,020
8" Compound	900	90	53,370
8" Turbine	2,400	240	142,320
10" Turbine	3,500	350	207,550

* PD = Positive Displacement Meter (Typical Residential Meter)

** Operating capacities obtained from American Water Works (AWWA) C-700, C-701 & C-702

Appendix A – Capacity Calculations

Table A1: Additional Service Unit & Capacity Calculations

10-Year Additional Service Units Calculation

Year	Average Day Demand (MGD)	Service Unit Demand (GPD)	Service Units	Capacity
2016	27.24	431	63,234	81%
2026	28.65	431	66,504	85%
Buildout	33.55	431	77,878	100%
10-Year Additional Service Units			3,270	