



City of Franklin

109 3rd Ave S
Franklin, TN 37064
(615)791-3217

Meeting Agenda

Work Session

Tuesday, July 10, 2018

5:00 PM

Board Room

Call to Order

Citizen Comments

WORKSESSION DISCUSSION ITEMS

1. **18-0672** Community Development Block Grant (CDBG) Program Update FY17-18

Sponsors: Chris Bridgewater, Tom Marsh and Kathleen Sauseda

Attachments: CDBG Summary Report to BOMA 2018Jul10 - tm v2 (003).pdf

 New-Rehabbed Units Summary - FY14 - FY18 - rev 7.5.2018.pdf

2. [18-0678](#) Discussion Regarding The Development Of A Name And Distinctive Brand Identity For The Southeast Municipal Complex Property.

Sponsors: Lisa Clayton

Attachments: [SEMC Name & Logo Design Development](#)

3. [18-0591](#) Consideration of Event Permit for Franklin Classic 5K/10K benefitting Mercy Community Healthcare in Downtown on September 3, 2018 (7/10/18 WS)

Sponsors: Deb Faulkner

Attachments: [Franklin Classic 2018 REVISED APP](#)

4. [18-0607](#) *Consideration of a Resolution No. 2018-01 Awarding the Construction Contract (COF Contract No. 2017-0264) to Kiewit Infrastructure South Co. in the Amount of \$132,380,000.00 With the Addition of the Alternate of A Jet Mixing System in the Equalization Basin in the Amount of \$510,000.00 for the Water Reclamation Facility Modifications and Expansion Project for a Total Recommended Project Amount of \$132,890,000 (6/26/18 WS).

Sponsors: Eric Stuckey, Mark Hilty and Michelle Hatcher

Attachments: [2018-01 RES Kiewit Award WRF with bid award letter](#)

[20180625_PPT_Re-Bid Contingent Award Presentation \(CLEAN\)_V5](#)

Legislative History

6/26/18 Work Session referred to the Work Session

5. [18-0608](#) Consideration of Professional Services Agreement (COF Contract No. 2018-0143) with CDM Smith, Incorporated for Construction Administration and Inspection Services for the Water Reclamation Facility Upgrades Project in the Amount of \$11,677,396.00 (07/10/18 WS)
- Sponsors:** Michelle Hatcher
- Attachments:** [2018-0143 PSA with CDM SMITH WRF Upgrades with Attachment A.Law App](#)
6. [18-0632](#) *Consideration of Amendment No. 1 to the Professional Services Agreement (COF Contract No. 2017-0276) with C&T Engineering and Inspection, LLC for the Goose Creek Inn Sanitary Sewer Extension Project in an Amount Not-to-Exceed \$33,810.00 (Deferred from 6/28/18 CIC)
- Sponsors:** Michelle Hatcher and Patricia McNeese
- Attachments:** [COF 2017-0276 C and T Amnd 1 with attachment.Law Approved](#)
7. [18-0515](#) *Consideration of Amendment No. 6 to the Professional Services Agreement (COF Contract No. 2012-0183) with Smith Seckman Reid, Inc. (SSR) for the Water Treatment Plant (WTP) Modifications Project in an Amount Not-to-Exceed \$21,900. (Deferred from 6/28/18 CIC)
- Sponsors:** Michelle Hatcher and Patricia McNeese
- Attachments:** [COF 2012-0183 Amnd 6 SSR WTP with attachment.Law Approved](#)
8. [18-0606](#) *Consideration of a Professional Services Agreement with Bowker & Associates, Incorporated, Consulting Engineers (COF Contract No. 2018-0140), for a Comprehensive Assessment of Odor Emissions and Their Control in the Franklin, TN Wastewater Collection and Treatment System in an Amount Not-to-Exceed \$40,740.00. (Deferred from 6/28/18 CIC)
- Sponsors:** Michelle Hatcher
- Attachments:** [Bowker Associates](#)
[Law approved_Bowker and Assoc. Inc. Consulting Eng_with Attachment A.Law](#)
9. [18-0671](#) *Consideration of Contract No. 2018-0152 for Donation Agreement with Barry Alexander Automotive, LLC., valued in the amount of \$285,658.13 (Contract No. 2018-0152)
- Sponsors:** Shauna Billingsley
- Attachments:** [COF Contract 2018-0152 Donation Standard Form Agreement \(over \\$25k\) - fin](#)
10. [18-0659](#) Consideration of Contract No. 2018-0146 with Thomson Reuters For Westlaw Online Legal Research Subscription (Contract No. 2018-0146) (07/10/18 WS)
- Sponsors:** Shauna Billingsley
- Attachments:** [COF Contract No. 2018-0146 Thomson Reuters Westlaw Renewal.pdf](#)

11. [18-0681](#) *Consideration of Resolution 2018-55, "A Resolution Awarding the Construction Contract (COF Contract No. 2018-0052) to Renascent, Inc. in the Amount of \$30,829.16 for the Demolition of Structures Located at 403 and 405 Hillsboro Road".
- Sponsors:** Brad Wilson and Paul Holzen
- Attachments:** [Res 2018-55 - Hill Property Demo.Law Approved.pdf](#)
12. [18-0680](#) *Consideration of Resolution 2018-57, "A Resolution Awarding the Construction Contract (COF Contract No. 2017-0186) to Adams Contracting, LLC. In the Amount of \$256,225.10 for the Carnton Lane Culvert Replacement Project".
- Sponsors:** Paul Holzen and Jonathan Marston
- Attachments:** [Res 2018-57 - Carton Lane Culvert Replacement.Law Approved.pdf](#)
[Signed Bid Tabulation](#)
13. [18-0679](#) *Consideration of Resolution 2018-56, "A Resolution to Finalize the Property Acquisition Associated with Fire Station Number 7".
- Sponsors:** Paul Holzen and Jonathan Marston
- Attachments:** [Res 2018-56 - Fire Station Property Aquisition Resolution_with Exhibit A.Law A](#)
[Res 2018-56 - Agreement of Sale Exhibit A](#)
[Res 2018-56 - Appraisal](#)
14. [18-0587](#) *Consideration of Resolution 2018-53, "A Resolution Authorizing Staff to Proceed with the Home Raising Project Developed by the United States Army Corps of Engineers as part of the Harpeth River Feasibility Study".) (05/22/18 WS; referred from 6/12/18 WS)
- Sponsors:** Paul Holzen, Jonathan Marston and William Banks
- Attachments:** [Res 2018-53 USACE Home Raising Project_2](#)
- Legislative History**
6/12/18 Work Session referred to the Work Session
15. [18-0654](#) Discussion Regarding Stormwater Project Funding (Continued from 6/26/18 WS)
- Sponsors:** Eric Stuckey, Kristine Brock, Paul Holzen and Michael Walters Young
- Attachments:** [Stormwater Services 10YR Project Detail Report](#)
[Stormwater Fund History - 10 Year](#)
[Stormwater Forecast - FY 2019-2022 - Revised 07102018](#)
- Legislative History**
6/26/18 Work Session referred to the Work Session

16. [18-0668](#) Discussion and Consideration of Various Design Elements, including Bike and Pedestrian Facilities, Utility Relocations, and Access Management, for the Columbia Avenue Widening and Improvements Project (Continued from 7/10/18 WS).

Sponsors: Paul Holzen and William Banks

Attachments: [Resolution 2017-43](#)
[5Lane_AccessManagement_170830](#)
[Columbia Ave Typical Sections-R](#)

17. [18-0683](#) *Consideration of Resolution 2018-59 "A Resolution to Extend the Employment Contract with City Administrator, Eric S. Stuckey (COF Contract No. 2015-0349)."

Sponsors: Dr. Ken Moore

Attachments: [2018-59 Resolution Extend Employment Contract with Eric Stuckey.Law Appro](#)

Other Business

Adjournment

Anyone requesting accommodations due to disabilities should contact ADA coordinator at 791-3277.

FY 2018 CDBG Program Summary

Allocation by Work Area per Annual Action Plan:

Community Based Development Organization (CBDO)	\$200,952
Homeownership/Fair Housing Counseling	\$10,000
Administration	\$52,738
Total	\$263,690

Allocations and Expenditures for New Housing Construction (CBDO):

Agency	Award Amt	Expended	Remaining	<u>New</u> Units Complete/Pending
Hard Bargain Association	\$115,952	\$75,000	\$40,952	1/1
Community Housing Partnership	\$85,000	0	85,000	0/1
Total	\$200,952	\$75,000	\$125,952	1/2

Allocations and Expenditures Other Program Areas:

Work Area	Program Amt	Expended	Remaining
Fair Housing	\$10,000	0	\$10,000
Administration	\$52,738	\$43,951	\$8,787
Total	\$62,738	\$43,951	\$18,787

NEW & REHABILITATED HOUSING UNITS - FY 2014 - FY 2018					
	Funds Granted New Units*	New Units Built	New Units Pending	Funds Granted Emergency Rehab Program	Units Rehabilitated
Franklin Housing Authority					
CDBG	\$81,664				
Affordable Housing Reserve/ Fees In Lieu of	\$194,162				
	\$275,826	65			
CHP			30**		
CBDO	\$75,000	3			
ERP				\$170,099	16
Habitat for Humanity		1			
CDBG - Land Purchase	\$25,000				
Mt Hope - Hard Bargain					
CBDO	\$349,878				
Affordable Housing Reserve/ Fees In Lieu of	\$60,000				
	\$409,878	4	1		
*Does not include exempt fees per Chapter 21 and Sewer & Water tap fee credits. **Project received fee exemptions (Ch 21), but did not receive additional financial support from the CBDO or Affordable Housing programs.					

Southeast Municipal Complex

LOGO DESIGN DEVELOPMENT

JUNE 12, 2018

TOLLESON
MCCOY

626B Main Street
Suite 202
Nashville, TN 37206
615-479-4754



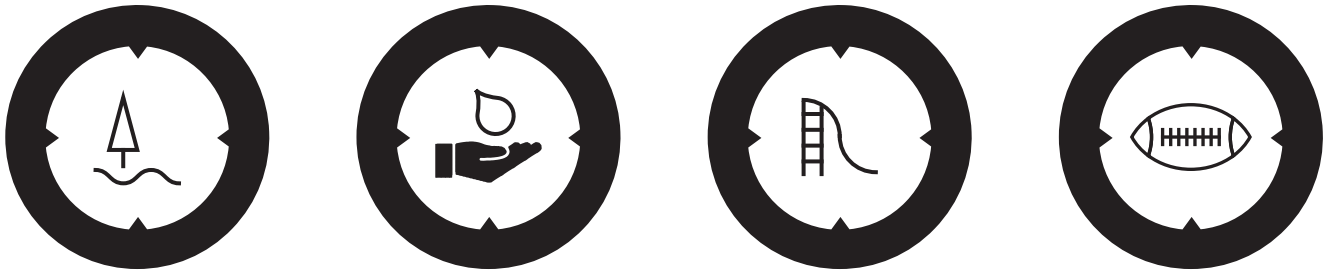


RIVER RUN AT
FRANKLIN
SOUTH

conserve. connect. compete.

FRANKLIN
SOUTH

CONSERVE. CONNECT. COMPETE



OPTIONAL BRAND ELEMENTS



OPTIONAL BRAND ELEMENTS





CITY OF FRANKLIN EVENT PERMIT APPLICATION

*Application is Due 90 Days Prior to Scheduled Event.
Please read application carefully and fully complete each section.
A non-refundable application fee of \$100 is due at time of filing.*

Note: Filing this application does not guarantee that your request will be granted.

Please check
all that apply:

☒ street closure

☐ parade

Franklin Square, Main and 3rd street.

☐ other special event

☐ beer served (*separate permit required*)

Please supply the following information. For additional space, use separate sheets of paper and attach to the application.

1) Location requested (if Temporary Street Closure only, list major roads to be closed):

_____ Aspen Grove Park

_____ Liberty Park

_____ Eastern Flank Battlefield Park

_____ Fieldstone Farms

_____ Pinkerton Park

_____ Jim Warren Park

_____ Harlinsdale Farm

Other: _____

Franklin Classic

2) Name/purpose of event: _____

9/3/2018

3) Date or dates of event: _____

03:00-14:00

4) Time of Event: _____

5) Time of Street Closure (if applicable): 06:45 - 10:00

9/3/18 03:00

Tear-down Date/Time: 9/3/18 14:00

Set-Up Date/Time: _____

*Note: Two (2) hours will be added before set-up time and two hours (2) will be added after tear-down to allow time for clean-up. Event is responsible for payment of Franklin Police Officers during this time. Read Additional Requirements section for more information.

6) Name of Applicant and Organization Requesting Permit:

Kenneth Radley Race Nashville

a) Address: 7403 Hydrus Drive Harrison, TN 37341

423-400-6897

423-400-6897

b) Phone: _____ **c) Cell:** _____ **d) Fax:** _____

e) E-mail address: director@racenashville.org

7) Person in charge on day of event: Kenneth Radley

Cell: 423-400-6897

E-mail address: director@racenashville.org



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8) **Name and Cell Number of at least two others available on day of event:**

Name: Jay Nevans Cell: 865-300-6722 E-mail address: jay@sceniccitymultisport.com

Name: Chad Campbell Cell: 4234213900 E-mail address: heyarnold1990@gmail.com

9) **DETAILED description of event (use additional sheets):**

40th annual Franklin Classic 10k, 5k, 1k

10k Map 5k Map 1k Map

10) **ENCLOSE A DETAILED MAP** of event site, detailing any temporary or permanent structures, street closures, parking, etc. If applicable, list the location, blocks, streets, and/or intersections in which such event will occur. ***For large-scale events, map should be obtained from the City's GIS division.***

11) An estimated number of participants and an estimated number of attendees expected to attend during the course of the event:

3000 athletes, 100 Volunteers, Spectators

12) **Please attach a list** containing the names, addresses, and phone numbers of the Chairperson of the organization and all other persons involved in the management or control of organization and/or committee.

13) Is your organization based in Williamson County? Circle Yes or No

(if no, please state where: Harrison, TN)

14) Is your organization authorized to do business in Tennessee? Circle Yes or No

15) Is your organization a tax-exempt organization as described by the Internal Revenue Code Section 501(c)(3) or a not-for-profit organization? Circle Yes or No. If yes, please attach copy of IRS tax exemption letter providing proof of status.

16) Will you charge an admission/participation fee (including vendors)? If yes, please specify how much per person/vendor. Up to \$40.00 per runner, no spectator fee.

17) Will any charity, gratuity, or offers be solicited or accepted during the event? Circle Yes or No.

18) Is this event a fundraiser? Circle Yes or No. If yes, what organization will be benefactor of event? What percentage of funds will they receive? Mercy Community Healthcare, 100% proceeds.

19) Will parking in the area of the event need to be restricted or prohibited? Circle Yes or No.



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- 20) Will any sound amplification equipment be used during the event? Circle Yes or No. If no, please skip to Question #22.
- 21) For what purpose will sound amplification be used (i.e. announcements, entertainment, etc.)?
Music, announcements

- 22) What type of sound amplification will be provided (DJ, Band, etc.)? Please list all that apply.
PA, DJ

- 23) During what time period is sound amplification requested? 06:30 - 12:00

- 24) If for entertainment, give details of entertainment being provided (i.e. number of musicians, type of music, amp wattage, etc.). _____

- 25) Will any stages, amusement attractions, or amusement rides, including inflatables, be erected for the event? Circle Yes or No. If yes, Applicant must give specific details as to the location and type of games/activities, i.e. inflatables, Horseshoes, relay races, etc. along with the name of the company providing the stages and/or activities. **Applicant must also include a copy of that company's insurance certificate indicating coverage and listing the City of Franklin as additional insured.** ***For stages, tents, inflatables, etc. constructed on site prior to the event, that date must be included on Certificate of Insurance provided to the City of Franklin. Stages MUST be removed from site at end of event. ***Rented inflatables/interactives that are set-up and manned by applicant must be included specifically in applicant's Certificate of Insurance.
- 26) What, if any, vendors will be present at event? (i.e medical related, shirts, arts, etc.) **Please provide detailed list.** Use additional sheets. Sponsors
- 27) Will food, beverages, or merchandise be sold or given away? Circle Yes or No. If yes, clean-up is required. Please provide name of clean-up provider, contact, and phone number of person on-site during event. See Question #28. _____
Jay Nevans 865-300-622

- 28) Events under 200 participants require a \$250 refundable security deposit at the time of approval. For events over 200, a \$1000 security deposit is required upon approval. If clean-up is not done properly, the organization requesting the permit will be fined (See Attachment A). Applicant's event coordinator or representative and a City of Franklin representative will conduct a Pre-Event meeting prior to event date for Pre-Event Check List Site Review. *At the end of the event, a Post-Event Check List shall be completed by the Applicant's event coordinator, or representative, and a City of Franklin representative to re-assess the site for trash and damage, and to secure with caution tape and signage (provided by event group) any tents left for removal.* Damage deposit will be refunded after a satisfactory Post Event Check List has been completed and signed off on by both the City of Franklin and organization requesting event.

- 29) ***NOTE:** Events that include deep frying cooking oil operations are required to have a grease pit on-site and contract with a grease waste hauler to handle the grease waste and removal of the grease pit. A copy of this agreement shall be filed along with this application. The primary event sponsor is required to remove all cooking grease from the site immediately after the event. Illegal dumping of cooking grease will be prosecuted. *Please read Additional Requirements section of this application for more information.*
- 30) Will you require a temporary water tap? Circle Yes or No. If yes, please list exact locations:
-
-
- 31) Will alcohol, beer, and/or wine be given away or sold? Circle Yes or No. If yes, a permit from the relevant board is required. *Please read Additional Requirements section of this application for more information.*
- 32) Will your event include tents or other temporary structures, propane use, or open flames? Circle yes or no. Events using tents of size 20 x 10 or larger require permitting from Franklin Fire Department. Safety measures must be provided on all tents, especially those set-up prior to the actual event. Tents should be taken down the date the event has ended. *Please read Additional Requirements section of this application for more information.* We will only use 10x10 popup tents.
- 33) Attach Good Neighbor Letter and Mailing List used. *Please read Additional Requirements section of this application for more information.* Letter Mailing List

TITLE VI OF THE 1964 CIVIL RIGHTS ACT

"No person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."

The City of Franklin does not discriminate based on race, color or national origin in federal or state sponsored programs, pursuant to Title VI of the Civil Rights Acts of 1964 (42 U.S.C. 2000d). For more information or to file a complaint against the City of Franklin under Title VI of the 1964 Civil Rights Act, contact the Title VI Coordinator:

Risk Manager
City of Franklin
109 Third Avenue South
Franklin, Tennessee 37064
615.791.3277

The City of Franklin is committed to providing reasonable access and accommodations upon request for people with disabilities. Please call the Risk Management Department at (615)791-3277 for specific requests.



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TENNESSEE

**PLEASE READ ATTACHMENTS BEFORE SIGNING
APPLICATION.**

- 1) I/We agree to abide by all ordinances and regulations of the City of Franklin and all conditions placed upon the event by the City Administrator and the Board of Mayor and Aldermen.
- 2) I/We do swear or affirm that all of the information given in this application is true and complete.
- 3) I/We do hereby agree to assume the defense of and indemnify and save harmless the City, its aldermen, boards, commissions, officers, employees and agents, from all suits, actions, damages or claims to which the City may be subjected of any kind or nature whatsoever resulting from, caused by, arising out of or as a consequence of such event and the activities permitted in connection there with, and to submit a certificate of insurance prior to the event in an amount acceptable to the City Administrator.
- 4) I/We agree to provide a copy of this signed Event Application to any vendors, planners, and related parties associated with the event to ensure they are familiar with the guidelines set forth herein.
- 5) I/We understand that I/we assume the responsibility of the actions of any vendors, planners, and related parties for this event.
- 6) I/We understand that granting of Special Event Permit does not imply granting of other permit that is separately required.
- 7) The application for an event permit shall be filed not less than 90 days nor more than 364 days prior to the scheduled date of such event. Suggested filing is at least 180 days prior to scheduled event. Events should not be advertised or promoted until an event permit has been obtained from the City. Failure to file in a timely manner may result in denial of a permit.
- 8) The City reserves the right to require one or more City of Franklin police officers or other emergency personnel be present at any and all events that occur within the city limits. Please budget for this request at a rate of \$30 per hour at a minimum of two (2) hours.

BY: Kenneth Radley Director Race Nashville Date: 4/26/18
(Signature and title – must be officer of organization)

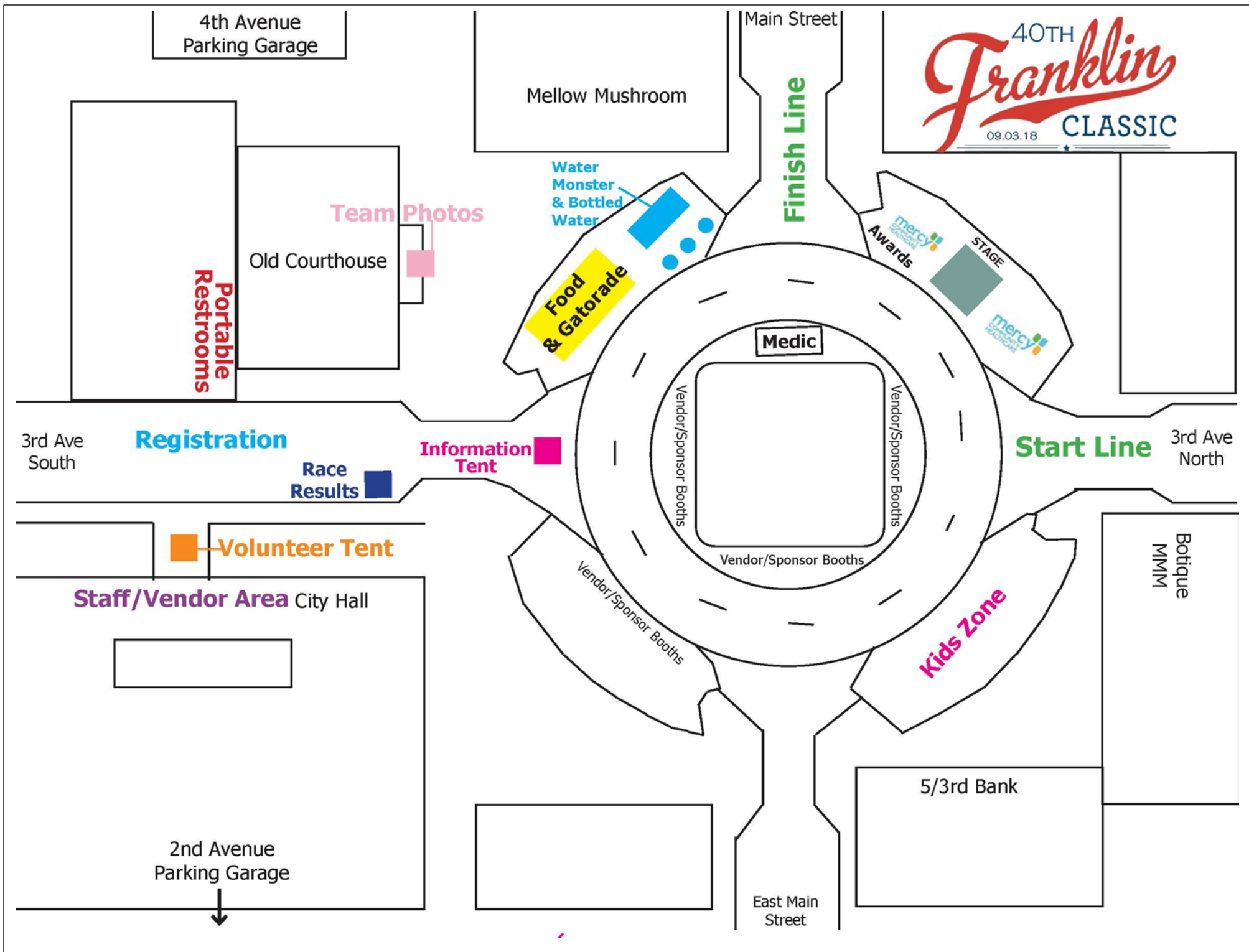
Approved by the Board of Mayor and Aldermen on _____, 20____.

Dr. Ken Moore, Mayor

Eric S. Stuckey, City Administrator

If you have questions concerning your request, please call 615-550-6606.

★
★ **Return application to:** ★
★ City Administrator's Office ★
★ City Hall ★
★ 109 Third Ave South ★
★ Franklin, TN 37065 ★
★ 615-791-3217 ★
★ 615-790-0469 (FAX) ★
★
★



Satellite



Sharp Branch

4th Ave N

5th Ave N

N Margin St

9th Ave N

Bridge St

McPhail-Cliffe Office

Franklin on Food

Puckett's Boat House

1st Ave

E Main

1st A 5

2nd

E Main

96

7th Ave N

Fair St

Puckett's Grocery & Restaurant...

9th Ave N

7th Ave S

Columbia Ave

5th Ave S
St

4th Ave S

3rd Ave S

Church St



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Map

Satellite



WESTFIELD
ESTATES

Mt Hope Cemetery

Jim Warren
City Park

Franklin



Google

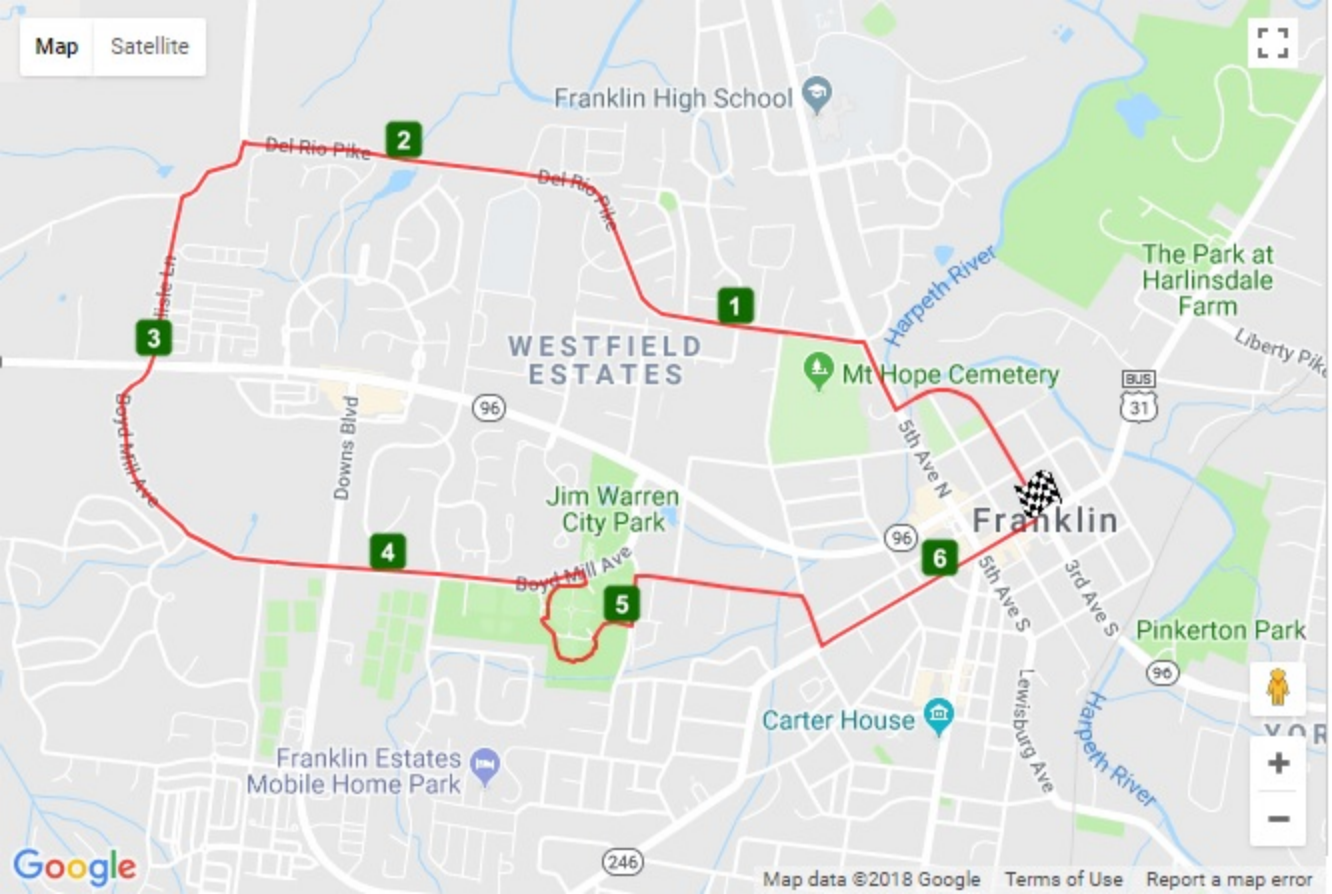
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Map

Satellite



Franklin High School

Del Rio Pike

2

Del Rio Pike

1

Harpeth River

The Park at Harlinsdale Farm

Liberty Pike

WESTFIELD ESTATES

Mt Hope Cemetery

BUS 31

96

Downs Blvd

5th Ave N

Franklin

Jim Warren City Park

96

4

Boyd Mill Ave

5

5th Ave S

3rd Ave S

Pinkerton Park

96

Franklin Estates Mobile Home Park

Carter House

Lewisburg Ave

Harpeth River

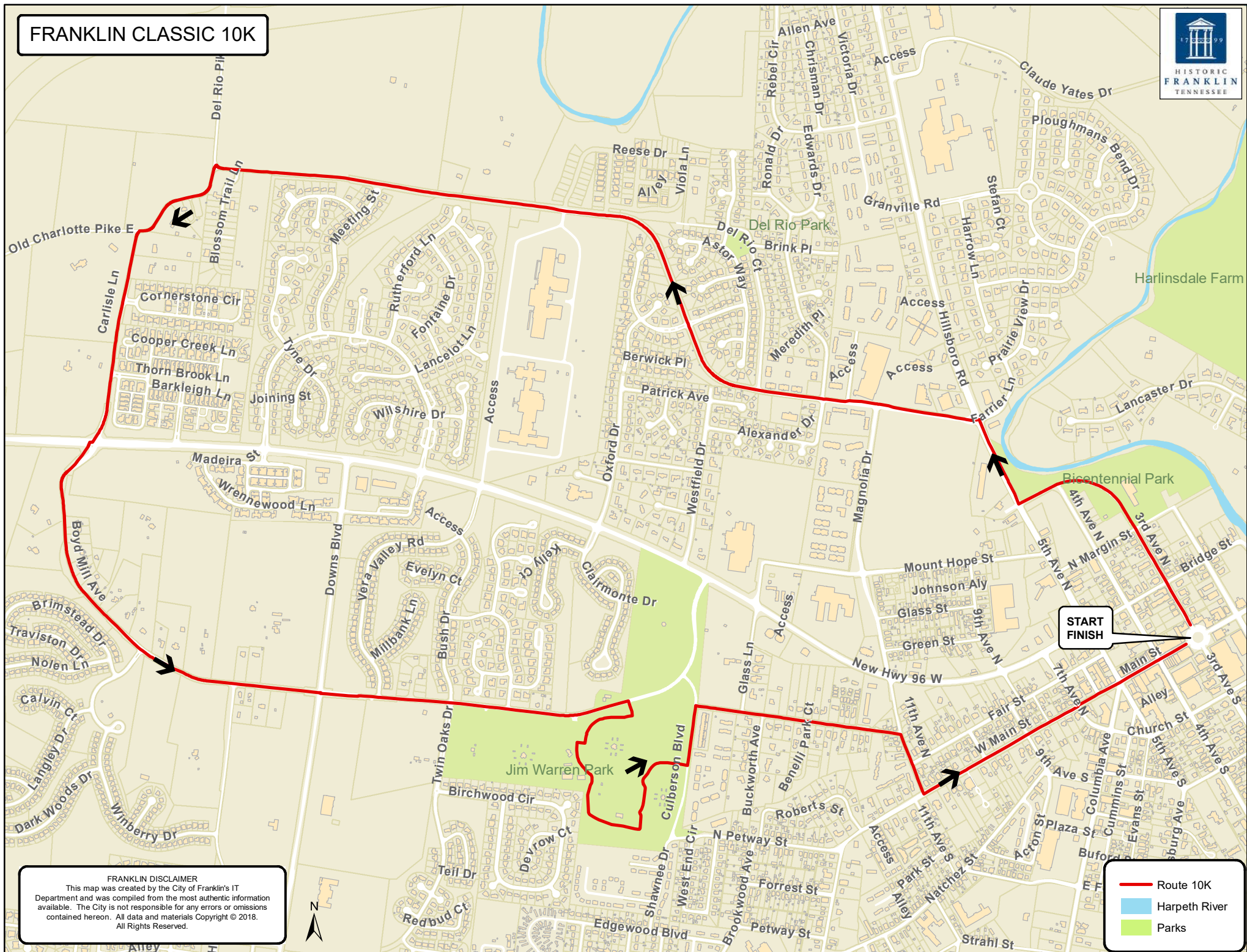
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FRANKLIN CLASSIC 5K and KID'S 1K



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FRANKLIN CLASSIC 10K



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- Route 10K
- Harpeth River
- Parks

Staff Conditions

Staff recommends approval of the event application with the following recommendations:

- Applicant will provide a \$1,000 refundable damage deposit to City prior to event.
- Applicant will provide a Good Neighbor letter which will be distributed to affected neighborhoods. Applicant will also post signs in affected neighborhoods at least 7 days before event.
- ***Risk Management:***
 - Applicant will provide certificate of insurance naming the City as additional insured.
- ***Police Department:***
 - Applicant will hire recommended number of extra-duty Franklin Police Officers to provide street closures and traffic control during the event.
 - Applicant will provide volunteers to assist with event.
 - Applicant has requested amplification on stages located on the Square. Pursuant to Franklin Municipal Code Section 11-403(3), these are the only locations at which amplified sound will be permitted during this event.
- ***Building & Neighborhood Services Department:***
 - Electrical permit may be required.
- ***Sanitation and Environmental Services Department:***
 - Department will provide extra roll-outs and recycling bins/bags for the applicant to use.
 - Applicant shall return all roll-outs (full or empty) and all recycling bags and frames to the alley behind Mellow Mushroom.

RESOLUTION 2018-01

A DRAFT RESOLUTION AWARDING THE CONSTRUCTION CONTRACT (COF CONTRACT NO 2017-0264) TO KIEWIT INFRASTRUCTURE SOUTH CO. IN THE AMOUNT OF \$132,890,000.00 FOR THE WATER RECLAMATION FACILITY MODIFICATIONS AND EXPANSION PROJECT

WHEREAS, the City of Franklin (City) Board of Mayor and Aldermen (BOMA) approved on March 3, 2013, COF Contract No. 2013-0001, the Water Reclamation Facility (WRF) Modifications and Expansion Project (Project) with CDM Smith, Inc. (Consultant), to provide for the design and upgrade of the WRF in order to upgrade equipment and processes to provide additional wastewater capacity as identified in the Integrated Water Resources Plan (IWRP); and

WHEREAS, on June 18, 2018, sealed bids were received in the Engineering Department, City Hall, Franklin, Tennessee and were publicly opened and read aloud for the Water Reclamation Facility Modifications and Expansion Project (COF Contract No 2017-0264); and

WHEREAS, four (4) bids were received for the construction of the Project ranging from a low of \$132,380,00.00 to a high of \$148,805,824.00 (see attached certified bid tabulation) with the low bid being submitted by Kiewit Infrastructure South Co. of Nashville, Tennessee; and

WHEREAS, four (4) additive alternates were provided that the City feels may have been warranted on this project, and received bids on these items from the Contractor; and the City selected one (1) to include as an addition to the Base Bid; this being the addition of a jet mixing system in the equalization basin to aid in the operation and maintenance of the facility; and

WHEREAS, it is the recommendation of the Consultant with concurrence of City Staff to enter into (award) the construction contract (COF Contract No. 2017-0264) with Kiewit Infrastructure South Co. in the Total Base Bid amount of ONE HUNDRED THIRTY-TWO MILLION EIGHT HUNDRED NINETY THOUSAND and NO/100 Dollars (\$132,890,000.00); and

WHEREAS, included in the Total Base Bid are several Pre-selected technologies and Allowances and a Contingency that will require some negotiation and approval during the construction of the Project; and

WHEREAS, the BOMA finds that it is in the best interest of the City and for the efficiency of performing the WRF construction contract to authorize the City Administrator and Water Management Department Director to negotiate and approve the expenditures of the Allowances and Contingency up to the limits as stipulated in the Bid Form with regular reporting of said expenditures to the BOMA; and

WHEREAS, pursuant to the specifications for the Project, Section 10.12 and Section 16.1, the City is waiving any informality due to Kiewit Infrastructure South Co. not having submitted an original signature on the Bid Form.

NOW THEREFORE, BE IT RESOLVED by the Board of Mayor and Aldermen of the City of Franklin, Tennessee, that approval is granted to waive the signature informality on the Bid Form and for the bid award to Kiewit Infrastructure South Co. for the Water Reclamation Facility Modifications and Expansion Project (COF Contract No. 2017-0264) in the amount of **ONE HUNDRED THIRTY-TWO MILLION EIGHT HUNDRED NINETY THOUSAND and NO/100 Dollars (\$132,890,000.00).**

BE IT FURTHER RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, that the City Administrator and the Water Management Director

is hereby authorized to have authority to review and approve the spending of Allowances and Contingencies up to the limits as stipulated in the Bid Form.

IT IS SO RESOLVED AND DONE on this ____ day of _____, 2018.

ATTEST:

CITY OF FRANKLIN, TENNESSEE:

By: _____
ERIC S. STUCKEY
City Administrator

By: _____
Dr. Ken Moore
Mayor

Approved as to Form

By: _____
Shauna R. Billingsley
City Attorney



3200 Windy Hill Road
Suite 210 West
Atlanta, Georgia 30339
tel: 404 720-1400

June 22, 2018

Ms. Michelle M. Hatcher, P.E., Director
City of Franklin Water Management Department
124 Lumber Drive
Franklin, Tennessee 37064

Subject: Evaluation of Bids – Franklin WRF Modifications & Expansion Project (Re-Bid)
COF Contract No. 2017-0264

Dear Ms. Hatcher:

Bids for the above referenced project were received on June 18, 2018, until 2:00 p.m. Central Time and subsequently opened. The bidders and their Total Bids are summarized in the certified Bid Tabulation, three copies of which are attached to this letter. The bids are listed below and in the Bid Tabulation in numerical order, with the low bidder listed first.

Bidder		Total Bid
1	Kiewit Infrastructure South Co.	\$132,380,000
2	Garney Companies, Inc.	\$134,736,600 ¹
3	Oscar Renda Contracting, Inc.	\$138,867,564
4	Brasfield & Gorrie, LLC	\$148,805,824

¹ Corrected value. See Page 2 for an explanation of the correction.

Each bidder acknowledged receipt of the six Addenda issued for this project and supplied a Bid Bond in the amount of 5 percent of the Total Bid. Bids for this project are to remain firm for a period of 90 calendar days, excluding Saturdays, Sundays, and legal holidays after the actual date of the opening of the bids; the bids will expire on October 24, 2018.

Each bidder submitted a Bid Proposal containing the following information as required by the Bid Documents.

- Bid Form (Section 00300), including Part 1 – Base Bid, Part 2 – Allowance Items, and Part 3 – Bid Summary
- Bid Security (Section 00410, Bid Bond Form), including Power of Attorney





Ms. Michelle M. Hatcher, P.E.

June 22, 2018

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- Affidavit of Drug-Free Workplace (Section 00440)
- Affidavit of Title VI Compliance (Section 00450)
- Affidavit of Non-Collusion (Section 00480)
- Tennessee Contractor's License Number and Subcontractors' License Information

CDM Smith checked the status of each bidder's contractor's license and subcontractors' licenses using the License Search and Verification service at the State of Tennessee Department of Commerce & Insurance's Web site (<http://verify.tn.gov/>). Each bidder possesses a valid Class MU (Municipal and Utility Construction) license or a combination of Class MU-A (Underground Piping) and MU-B (Water and Sewer Systems) licenses, with an Unlimited monetary limit. Kiewit Infrastructure South Co. also possesses a Class MU-C (Grading and Drainage) license.

Kiewit Infrastructure South Co. was the only bidder to submit evidence that it had contacted, in letters sent and tracked via Federal Express, at least 10 certified Disadvantaged Business Enterprise (DBE) subcontractors, professional service providers, suppliers, and/or equipment vendors in order to solicit their subcontract participation in the work. This evidence must be provided in accordance with the State Revolving Fund (SRF) Loan Program's Bidder's Requirements for Solicitation and Documentation of DBE Participation, found in Section 00801, SRF Contract Requirements; however, it is not required to be submitted with the bid package. The omission of this information from the other three bidders' bid packages is not grounds for rejection of their bids.

Mathematical errors were found in Garney Companies, Inc.'s and Oscar Renda Contracting, Inc.'s bid proposals. These errors are described below.

- Garney Companies, Inc.'s error was in the calculation of the Total Price for Base Bid Item 34, Over Excavation and Associated Backfill with Structural Fill. The Unit Price entered was \$32.00 per cubic yard (CY), which when multiplied by 6,200 CY should have resulted in a Total Price of \$198,400. The value Garney entered in the Total Price column was \$210,800.
- Oscar Renda Contracting, Inc. entered a Unit Price of \$1,100,000.00 for Base Bid Item 21, Scum Holding Tanks, but then entered an extra zero in the Total Price so that it read \$1,1000,000.00.

Per the instructions on Page 00300-9, in the event of a discrepancy between the unit price bid and the extension, the unit price will be deemed intended by the bidder and the extension shall be adjusted. The Total Prices were adjusted accordingly. The correction to Oscar Renda Contracting, Inc.'s bid did not affect their Total Bid amount. The Total Bid for Garney Companies, Inc., was





Ms. Michelle M. Hatcher, P.E.

June 22, 2018

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reduced from \$134,749,000 to \$134,736,600. This corrected amount is included in the Bid Tabulation and in the table on the first page of this letter.

Each bidder entered prices in Part 4, Additive and Deductive Alternates for Bid. These prices are summarized at the end of the Bid Tabulation.

The following issues were identified during the review of the bids.

- Brasfield & Gorrie, LLC
 - In the Bid Form, corrections to Part 6 (Base Bid Major Equipment Items) were not initialed.
 - Also in the Bid Form, in Article 7.01A, the type of security (Bid Bond or cash or check) was not identified.
- Garney Companies, Inc.
 - See the previous page for a description of the mathematical error found in Garney Companies, Inc.'s bid.
- Kiewit Infrastructure South Co.
 - Kiewit's Bid Form did not contain all original signatures. Page 00300-31 appears to have been signed by the company's Senior Vice President, scanned, reprinted, and then signed and sealed by the Corporate Secretary. This is an informality; per Section 00100 (Instructions to Bidders), Article 7.1, Bid Proposals will be rejected if any of the signatures on the Bid Form are a reproduced copy, such as, but not limited to a photostatic copy or a facsimile transmission. However, Articles 10.12 and 16.1 allow the Owner to waive any informalities if it is in the Owner's best interest to do so. CDM Smith discussed this with Kiewit, who is providing a replacement page with original signatures.
 - In Part 6 of the Bid Form, on Page 00300-23, Kiewit selected "Other" for Section 11610 (Laboratory Fume Hoods) and entered the words "B and C" in the blank provided. It is not clear whether this entry indicates Kiewit's intention to provide products of both Fisher Hamilton LLC and Hanson Lab Furniture, who are listed in the table as Options b and c, respectively. CDM Smith discussed this with Kiewit, and Kiewit will provide clarification on this item.
 - The electrical subcontractor license classification printed on Kiewit's bid envelope did not completely match the information on the State web site. The classification CE-C was printed on the bid envelope, but Wayne J. Griffin Electric, Inc.'s actual classification is CE-





Ms. Michelle M. Hatcher, P.E.

June 22, 2018

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B per the State database. The State's list of contractor classifications states that the CE-B classification was the designation for prior exam prior to 1992, but the State database indicates that the firm has been licensed in Tennessee since 1993. CDM Smith discussed this with Kiewit, and Kiewit is obtaining clarification on the license classification from Wayne J. Griffin Electric, Inc.

- The distribution of the costs in Kiewit's bid form does not appear to be balanced. Our concern is to avoid transferring this imbalance to the Schedule of Values and ending up with a front-loaded Schedule of Values. This was discussed with Kiewit, who acknowledged that the bid is unbalanced and stated that they intend to work with the City and CDM Smith to create a balanced Schedule of Values. Kiewit followed up with an e-mail confirming this.
- Oscar Renda Contracting, Inc.
 - The Bid Form was dated June 15, 2018 (the original due date for bids) instead of June 18, 2018.
 - See Page 2 for a description of the mathematical error found in Oscar Renda Contracting, Inc.'s bid.
 - In Part 3 of the Bid Form, the Total Base Bid from Part 1 was left blank. This is an informality; per Article 7.2 of the Instructions to Bidders, proposals will be rejected as being irregular if they show any omissions, and per Article 10.2, all blank spaces for Bid prices must be filled in with the unit prices for the item or the lump sum for which the Bid is made. Under Articles 10.12 and 16.1, the Owner may waive any informalities if it is in the Owner's best interest to do so.
 - In Article 7.01A of the Bid Form, the type of security (Bid Bond or cash or check) was not identified.
 - Oscar Renda Contracting, Inc., submitted an executed copy of EPA Form 6100-4, DBE Subcontractor Utilization Form. The response "No" was selected in response to the statement, "I have identified potential DBE certified subcontractors" without the requested explanation. However, this form was not required to be submitted at bid time.

Although the bid from the lowest, responsive, responsible bidder, Kiewit Infrastructure South Co., contained irregularities, these irregularities were not particularly worrisome, and we otherwise found the bid package to be responsive, professional and acceptable. Accordingly, CDM Smith recommends that the City issue a Notice of Award, contingent upon Tennessee SRF Loan Program





Ms. Michelle M. Hatcher, P.E.
June 22, 2018
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approval, to Kiewit Infrastructure South Co. for the Franklin WRF Modifications and Expansion Project.

The City and CDM Smith discussed the prices Kiewit entered in Part 4, Additive and Deductive Alternates for Bid. The City wishes to accept Additive Alternate A (Addition of Jet Mixing System to EQ Tank) for Kiewit's proposed price of \$510,000. No other Additive or Deductive Alternates are accepted. The addition of \$510,000 to Kiewit's Total Bid of \$132,380,000 results in a contract amount of \$132,890,000.

The original bid packages will be returned to the City under separate cover. If you have any questions or comments, or if you require any additional information, please do not hesitate to contact me or Carrie Carden.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. P. Huguenard', written in a cursive style.

Robert P. Huguenard, P.E., BCEE
Senior Project Manager
CDM Smith Inc.

cc: Mark Hilty, City of Franklin
Brian Goodwin, City of Franklin
Zack Daniel, CDM Smith
Project File (14915-96594-WRF)



BID TABULATION SHEET

CLIENT:
CITY OF FRANKLIN, TENNESSEE
FRANKLIN WRF MODIFICATIONS AND EXPANSION PROJECT (RE-BID)
COF CONTRACT NO. 2017-0264
CDM SMITH PROJECT NO. 14915-96594-WRF

BID OPENING:
JUNE 18, 2018
2:00 P.M. LOCAL TIME

PREPARED BY:
CDM SMITH INC.
3200 WINDY HILL ROAD, SUITE 210 WEST
ATLANTA, GEORGIA 30339
(404) 720-1400

CERTIFIED AS CORRECT:
Cauli D. Caud
DATE: 6/22/18



BIDDERS IN ALPHABETICAL ORDER:				Brasfield & Gorrie, LLC 3021 7th Avenue South Birmingham, AL 35233 (205) 328-4000		Garney Companies, Inc. 200 Crutchfield Avenue Nashville, TN 37210 (615) 350-7975		Kiewit Infrastructure South Co. 1700 Hayes Street, Suite 104 Nashville, TN 37203 (925) 595-8774		Oscar Renda Contracting, Inc. 608 Henrietta Creek Road Roanoke, TX 76262 (817) 491-2703	
Item No.	Item Description	Estimated Quantity	Units	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures
PART 1 - BASE BID											
1	Mobilization and Demobilization: For All Costs Associated with Project Mobilization and Demobilization in Accordance with the Drawings and Specifications	LS	LS	\$ 800,000.00	\$ 800,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00
2	Electrical Building Structure	LS	LS	\$ 3,633,000.00	\$ 3,633,000.00	\$ 6,285,000.00	\$ 6,285,000.00	\$ 2,500,000.00	\$ 2,500,000.00	\$ 16,000,000.00	\$ 16,000,000.00
3	Headworks	LS	LS	\$ 9,000,000.00	\$ 9,000,000.00	\$ 12,089,000.00	\$ 12,089,000.00	\$ 7,000,000.00	\$ 7,000,000.00	\$ 12,500,000.00	\$ 12,500,000.00
4	Equalization Basin	LS	LS	\$ 7,940,000.00	\$ 7,940,000.00	\$ 9,209,000.00	\$ 9,209,000.00	\$ 7,999,996.00	\$ 7,999,996.00	\$ 14,000,000.00	\$ 14,000,000.00
5	Alum System	LS	LS	\$ 1,440,000.00	\$ 1,440,000.00	\$ 1,725,000.00	\$ 1,725,000.00	\$ 850,000.00	\$ 850,000.00	\$ 1,100,000.00	\$ 1,100,000.00
6	BNR Distribution Box	LS	LS	\$ 307,000.00	\$ 307,000.00	\$ 810,000.00	\$ 810,000.00	\$ 750,000.00	\$ 750,000.00	\$ 500,000.00	\$ 500,000.00
7	Structural repairs to BNR Basins 1 and 2 as shown on Drawing S-12:										
	7A. Repairs to slab and wall expansion joints (Repair Notes 1, 2, and 3)	1,730	LF	\$ 9.00	\$ 15,570.00	\$ 41.00	\$ 70,930.00	\$ 10.00	\$ 17,300.00	\$ 7.00	\$ 12,110.00
	7B. Repairs to cracked and spalled concrete (Repair Notes 4, 5, 6, 7, 9, and 11)	110	SF	\$ 495.00	\$ 54,450.00	\$ 106.00	\$ 11,660.00	\$ 80.00	\$ 8,800.00	\$ 45.00	\$ 4,950.00
	7C. Repairs to cracked and spalled concrete at beam bearing connection to existing wall (Repair Note 10)	10	SF	\$ 515.00	\$ 5,150.00	\$ 256.00	\$ 2,560.00	\$ 120.00	\$ 1,200.00	\$ 160.00	\$ 1,600.00
	7D. Repairs to exposed reinforcing (Repair Note 8)	40	SF	\$ 545.00	\$ 21,800.00	\$ 179.00	\$ 7,160.00	\$ 100.00	\$ 4,000.00	\$ 80.00	\$ 3,200.00
8	Modifications to Existing Mechanical Surface Aerators at BNR Basins 1, 2, and 3 (See Section 11372 and Appendix F)	LS	LS	\$ 146,011.00	\$ 146,011.00	\$ 146,011.00	\$ 146,011.00	\$ 146,011.00	\$ 146,011.00	\$ 146,011.00	\$ 146,011.00
9	BNR Basin Improvements	LS	LS	\$ 3,945,000.00	\$ 3,945,000.00	\$ 5,112,000.00	\$ 5,112,000.00	\$ 1,000,000.00	\$ 1,000,000.00	\$ 4,250,000.00	\$ 4,250,000.00
10	Clarifier Distribution Box	LS	LS	\$ 582,000.00	\$ 582,000.00	\$ 906,000.00	\$ 906,000.00	\$ 400,000.00	\$ 400,000.00	\$ 2,500,000.00	\$ 2,500,000.00
11	WAS Pumps	LS	LS	\$ 583,000.00	\$ 583,000.00	\$ 470,000.00	\$ 470,000.00	\$ 2,400,000.00	\$ 2,400,000.00	\$ 300,000.00	\$ 300,000.00
12	Retrofit of Scum Pumps	LS	LS	\$ 8,869.00	\$ 8,869.00	\$ 8,869.00	\$ 8,869.00	\$ 8,869.00	\$ 8,869.00	\$ 8,869.00	\$ 8,869.00
13	Structural Repairs to Spalled Concrete at the Return Sludge Pump Station as Shown on Drawing S-24	LS	LS	\$ 26,000.00	\$ 26,000.00	\$ 29,700.00	\$ 29,700.00	\$ 10,000.00	\$ 10,000.00	\$ 5,000.00	\$ 5,000.00
14	Replacement of Filter Media in ABW Filter 1	LS	LS	\$ 64,000.00	\$ 64,000.00	\$ 80,000.00	\$ 80,000.00	\$ 40,000.00	\$ 40,000.00	\$ 180,000.00	\$ 180,000.00

BID TABULATION SHEET

CLIENT:
CITY OF FRANKLIN, TENNESSEE
FRANKLIN WRF MODIFICATIONS AND EXPANSION PROJECT (RE-BID)
COF CONTRACT NO. 2017-0264
CDM SMITH PROJECT NO. 14915-96594-WRF

BID OPENING:
JUNE 18, 2018
2:00 P.M. LOCAL TIME

PREPARED BY:
CDM SMITH INC.
3200 WINDY HILL ROAD, SUITE 210 WEST
ATLANTA, GEORGIA 30339
(404) 720-1400

CERTIFIED AS CORRECT:
Carol D. Card
DATE: 6/22/18



BIDDERS IN ALPHABETICAL ORDER:				Brasfield & Gorrie, LLC 3021 7th Avenue South Birmingham, AL 35233 (205) 328-4000		Garney Companies, Inc. 200 Crutchfield Avenue Nashville, TN 37210 (615) 350-7975		Kiewit Infrastructure South Co. 1700 Hayes Street, Suite 104 Nashville, TN 37203 (925) 595-8774		Oscar Renda Contracting, Inc. 608 Henrietta Creek Road Roanoke, TX 76262 (817) 491-2703	
Item No.	Item Description	Estimated Quantity	Units	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures
15	ABW Filters Demolition and Modifications	LS	LS	\$ 157,000.00	\$ 157,000.00	\$ 1,194,000.00	\$ 1,194,000.00	\$ 160,000.00	\$ 160,000.00	\$ 1,600,000.00	\$ 1,600,000.00
16	Denitrification Filter Modifications	LS	LS	\$ 387,000.00	\$ 387,000.00	\$ 1,267,000.00	\$ 1,267,000.00	\$ 150,000.00	\$ 150,000.00	\$ 1,450,000.00	\$ 1,450,000.00
17	New UV Disinfection System: Work Not Captured under Base Bid Item No. 18	LS	LS	\$ 2,239,000.00	\$ 2,239,000.00	\$ 1,671,000.00	\$ 1,671,000.00	\$ 400,000.00	\$ 400,000.00	\$ 2,700,000.00	\$ 2,700,000.00
18	Pre-Negotiated Ultraviolet (UV) Disinfection System and Services as Supplied by TrojanUV (See Section 11265 and Appendix B)	LS	LS	\$ 806,353.00	\$ 806,353.00	\$ 806,353.00	\$ 806,353.00	\$ 806,353.00	\$ 806,353.00	\$ 806,353.00	\$ 806,353.00
19	Reclaimed Water Pump Station Modifications	LS	LS	\$ 1,090,000.00	\$ 1,090,000.00	\$ 1,815,000.00	\$ 1,815,000.00	\$ 100,000.00	\$ 100,000.00	\$ 2,000,000.00	\$ 2,000,000.00
20	Existing UV Structure Demolition and Modifications	LS	LS	\$ 20,000.00	\$ 20,000.00	\$ 722,000.00	\$ 722,000.00	\$ 30,000.00	\$ 30,000.00	\$ 17,000.00	\$ 17,000.00
21	Scum Holding Tanks	LS	LS	\$ 500,000.00	\$ 500,000.00	\$ 377,000.00	\$ 377,000.00	\$ 50,000.00	\$ 50,000.00	\$ 1,100,000.00	\$ 1,100,000.00
22	WAS Storage Tank	LS	LS	\$ 1,200,000.00	\$ 1,200,000.00	\$ 115,000.00	\$ 115,000.00	\$ 500,000.00	\$ 500,000.00	\$ 3,525,000.00	\$ 3,525,000.00
23	Solids Processing Building	LS	LS	\$ 30,650,000.00	\$ 30,650,000.00	\$ 31,900,000.00	\$ 31,900,000.00	\$ 61,137,000.00	\$ 61,137,000.00	\$ 28,200,000.00	\$ 28,200,000.00
24	Digested Biosolids Storage Tank	LS	LS	\$ 752,000.00	\$ 752,000.00	\$ 984,000.00	\$ 984,000.00	\$ 75,000.00	\$ 75,000.00	\$ 150,000.00	\$ 150,000.00
25	Biosolids Odor Control System	LS	LS	\$ 1,682,000.00	\$ 1,682,000.00	\$ 646,000.00	\$ 646,000.00	\$ 50,000.00	\$ 50,000.00	\$ 1,500,000.00	\$ 1,500,000.00
26	THP Slab, Canopy and System	LS	LS	\$ 870,000.00	\$ 870,000.00	\$ 1,730,000.00	\$ 1,730,000.00	\$ 150,000.00	\$ 150,000.00	\$ 1,000,000.00	\$ 1,000,000.00
27	Pre-Negotiated Thermal Hydrolysis Pretreatment (THP) System and services as supplied by Cambi, Inc. (See Section 11351 and Appendix C)	LS	LS	\$ 3,232,721.00	\$ 3,232,721.00	\$ 3,232,721.00	\$ 3,232,721.00	\$ 3,232,721.00	\$ 3,232,721.00	\$ 3,232,721.00	\$ 3,232,721.00
28	Anaerobic Digesters	LS	LS	\$ 4,045,000.00	\$ 4,045,000.00	\$ 3,393,000.00	\$ 3,393,000.00	\$ 800,000.00	\$ 800,000.00	\$ 2,000,000.00	\$ 2,000,000.00
29	Digester Building	LS	LS	\$ 7,665,000.00	\$ 7,665,000.00	\$ 11,035,000.00	\$ 11,035,000.00	\$ 20,900,000.00	\$ 20,900,000.00	\$ 10,000,000.00	\$ 10,000,000.00
30	Combined Heat and Power (CHP) System	LS	LS	\$ 5,154,000.00	\$ 5,154,000.00	\$ 5,400,000.00	\$ 5,400,000.00	\$ 700,000.00	\$ 700,000.00	\$ 3,600,000.00	\$ 3,600,000.00
31	Other Elevated Piping Systems	LS	LS	\$ 28,680,000.00	\$ 28,680,000.00	\$ 5,000.00	\$ 5,000.00	\$ 20,000.00	\$ 20,000.00	\$ 250,000.00	\$ 250,000.00
32	Demolition not Included in Other Base Bid Items	LS	LS	\$ 1,695,000.00	\$ 1,695,000.00	\$ 1,815,000.00	\$ 1,815,000.00	\$ 40,000.00	\$ 40,000.00	\$ 250,000.00	\$ 250,000.00
33	Rock and Boulder Excavation	3,200	Tons	\$ 62.00	\$ 198,400.00	\$ 30.00	\$ 96,000.00	\$ 40.00	\$ 128,000.00	\$ 65.00	\$ 208,000.00
34	Over Excavation and Associated Backfill with Structural Fill	6,200	CY	\$ 45.00	\$ 279,000.00	\$ 32.00	\$ 198,400.00	\$ 21.00	\$ 130,200.00	\$ 11.00	\$ 68,200.00

BID TABULATION SHEET

CLIENT:
CITY OF FRANKLIN, TENNESSEE
FRANKLIN WRF MODIFICATIONS AND EXPANSION PROJECT (RE-BID)
COF CONTRACT NO. 2017-0264
CDM SMITH PROJECT NO. 14915-96594-WRF

BID OPENING:
JUNE 18, 2018
2:00 P.M. LOCAL TIME

PREPARED BY:
CDM SMITH INC.
3200 WINDY HILL ROAD, SUITE 210 WEST
ATLANTA, GEORGIA 30339
(404) 720-1400

CERTIFIED AS CORRECT:
Carl D. Carl
DATE: 6/22/18



BIDDERS IN ALPHABETICAL ORDER:				Brasfield & Gorrie, LLC 3021 7th Avenue South Birmingham, AL 35233 (205) 328-4000		Garney Companies, Inc. 200 Crutchfield Avenue Nashville, TN 37210 (615) 350-7975		Kiewit Infrastructure South Co. 1700 Hayes Street, Suite 104 Nashville, TN 37203 (925) 595-8774		Oscar Renda Contracting, Inc. 608 Henrietta Creek Road Roanoke, TX 76262 (817) 491-2703	
Item No.	Item Description	Estimated Quantity	Units	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures
35	Temporary Erosion and Sedimentation Control	LS	LS	\$ 209,000.00	\$ 209,000.00	\$ 229,000.00	\$ 229,000.00	\$ 118,000.00	\$ 118,000.00	\$ 200,000.00	\$ 200,000.00
36	Long Term Revegetation and Stabilization	LS	LS	\$ 63,000.00	\$ 63,000.00	\$ 50,000.00	\$ 50,000.00	\$ 90,000.00	\$ 90,000.00	\$ 50,000.00	\$ 50,000.00
37	Temporary Access Road	LS	LS	\$ 219,000.00	\$ 219,000.00	\$ 332,000.00	\$ 332,000.00	\$ 113,000.00	\$ 113,000.00	\$ 200,000.00	\$ 200,000.00
38	Paving	LS	LS	\$ 738,000.00	\$ 738,000.00	\$ 775,000.00	\$ 775,000.00	\$ 660,000.00	\$ 660,000.00	\$ 550,000.00	\$ 550,000.00
39	Additional Photographic Services as Requested by the Owner per Section 01322										
	39A. Photographer's mobilization / demobilization (trip) cost	10	Trips	\$ 150.00	\$ 1,500.00	\$ 150.00	\$ 1,500.00	\$ 150.00	\$ 1,500.00	\$ 155.00	\$ 1,550.00
	39B. Photographer's hourly rate	40	Hours	\$ 150.00	\$ 6,000.00	\$ 150.00	\$ 6,000.00	\$ 300.00	\$ 12,000.00	\$ 200.00	\$ 8,000.00
40	On-Call Assistance and Maintenance Supervision for the Pre-Dewatering Centrifuges	4	Weeks	\$ 8,000.00	\$ 32,000.00	\$ 7,000.00	\$ 28,000.00	\$ 8,000.00	\$ 32,000.00	\$ 8,000.00	\$ 32,000.00
41	Hauling, Alkalinity Addition, Reconstitution, Heating, and Injection of Seed Sludge for the Anaerobic Digesters (See Section 01666)	135	Tons	\$ 400.00	\$ 54,000.00	\$ 730.00	\$ 98,550.00	\$ 430.00	\$ 58,050.00	\$ 200.00	\$ 27,000.00
42	Commissioning Services for the Biosolids Treatment System	LS	LS	\$ 421,000.00	\$ 421,000.00	\$ 265,000.00	\$ 265,000.00	\$ 500,000.00	\$ 500,000.00	\$ 50,000.00	\$ 50,000.00
43	Electrical Subcontractor Costs Not Captured under Other Bid Items	LS	LS	\$ 16,600,000.00	\$ 16,600,000.00	\$ 6,800,000.00	\$ 6,800,000.00	\$ 10,400,000.00	\$ 10,400,000.00	\$ 12,000,000.00	\$ 12,000,000.00
44	PCSS Equipment, Materials and Services	LS	LS	\$ 3,000,000.00	\$ 3,000,000.00	\$ 2,050,000.00	\$ 2,050,000.00	\$ 2,100,000.00	\$ 2,100,000.00	\$ 2,000,000.00	\$ 2,000,000.00
45	All Other Work under the Bidding Documents, Complete as Indicated on the Drawings and Specifications, Exclusive of Base Bid Items 1 through 44 Listed Above	LS	LS	\$ 2,508,000.00	\$ 2,508,000.00	\$ 13,156,186.00	\$ 13,156,186.00	\$ 20,000.00	\$ 20,000.00	\$ 3,000,000.00	\$ 3,000,000.00
46	Owner's Contingency	N/A	N/A	N/A	\$ 4,000,000.00	N/A	\$ 4,000,000.00	N/A	\$ 4,000,000.00	N/A	\$ 4,000,000.00
TOTAL, PART 1 - BASE BID (Items 1 through 46) (CALCULATED IN THIS SPREADSHEET)					\$ 147,725,824.00		\$ 133,656,600.00		\$ 131,300,000.00		\$ 137,787,564.00
TOTAL, PART 1 - BASE BID (Items 1 through 46) (ENTERED BY BIDDER ON BID FORM)					\$ 147,725,824.00		\$ 133,669,000.00		\$ 131,300,000.00		\$ 137,787,564.00

BID TABULATION SHEET

CLIENT:
CITY OF FRANKLIN, TENNESSEE
FRANKLIN WRF MODIFICATIONS AND EXPANSION PROJECT (RE-BID)
COF CONTRACT NO. 2017-0264
CDM SMITH PROJECT NO. 14915-96594-WRF

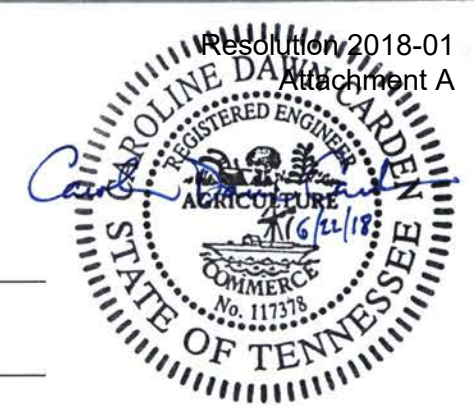
BID OPENING:
JUNE 18, 2018
2:00 P.M. LOCAL TIME

PREPARED BY:
CDM SMITH INC.
3200 WINDY HILL ROAD, SUITE 210 WEST
ATLANTA, GEORGIA 30339
(404) 720-1400

CERTIFIED AS CORRECT:

Carlin D. Carl

DATE: 6/22/18



BIDDERS IN ALPHABETICAL ORDER:				Brasfield & Gorrie, LLC 3021 7th Avenue South Birmingham, AL 35233 (205) 328-4000		Garney Companies, Inc. 200 Crutchfield Avenue Nashville, TN 37210 (615) 350-7975		Kiewit Infrastructure South Co. 1700 Hayes Street, Suite 104 Nashville, TN 37203 (925) 595-8774		Oscar Renda Contracting, Inc. 608 Henrietta Creek Road Roanoke, TX 76262 (817) 491-2703	
Item No.	Item Description	Estimated Quantity	Units	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures
PART 2 - ALLOWANCE ITEMS											
1	Allowance for procurement of equipment and furnishings for the Solids Processing Building laboratory and control room	As determined by the Engineer		\$ 70,000.00	\$ 70,000.00	\$ 70,000.00	\$ 70,000.00	\$ 70,000.00	\$ 70,000.00	\$ 70,000.00	\$ 70,000.00
2	Allowance for inspection and refurbishment or replacement, as needed, of existing discharge valves at the Reuse Pump Station	As determined by the Engineer		\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00
3	Allowance for structural modifications associated with the selection of a Pre-Dewatering Centrifuge differing from that shown on the Drawings	As determined by the Engineer		\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00
4	Allowance for structural modifications associated with the selection of a Post-Dewatering Screw Press differing from that shown on the Drawings	As determined by the Engineer		\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00
5	Allowance for the purchase and installation of ground cover, shrubbery, plants, and trees as specified by the City of Franklin Building & Neighborhood Services Department	As determined by the Engineer		\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00
6	Allowance for improvements to and refurbishment of the remaining ABW Filter	As determined by the Engineer		\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00
7	Allowance for materials testing (See Section 01400)	As determined by the Engineer		\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00
8	Allowance for Middle Tennessee Electrical Membership Corporation (MTEMC) fees	Fee to be negotiated with MTEMC		\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00
9	Allowance for purchase and delivery of spare parts	As determined by the Engineer		\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00
TOTAL, PART 2 - ALLOWANCE ITEMS (Items 1 through 9)					\$ 1,080,000.00		\$ 1,080,000.00		\$ 1,080,000.00		\$ 1,080,000.00

BID TABULATION SHEET

CLIENT:
CITY OF FRANKLIN, TENNESSEE
FRANKLIN WRF MODIFICATIONS AND EXPANSION PROJECT (RE-BID)
COF CONTRACT NO. 2017-0264
CDM SMITH PROJECT NO. 14915-96594-WRF

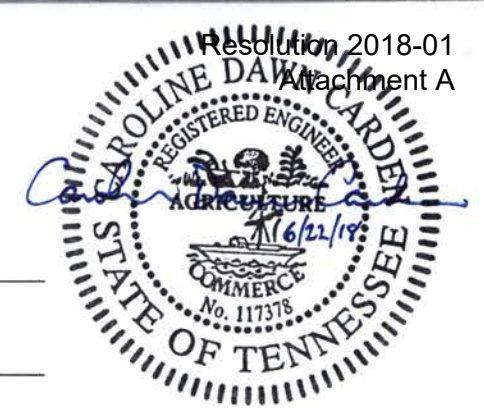
BID OPENING:
JUNE 18, 2018
2:00 P.M. LOCAL TIME

PREPARED BY:
CDM SMITH INC.
3200 WINDY HILL ROAD, SUITE 210 WEST
ATLANTA, GEORGIA 30339
(404) 720-1400

CERTIFIED AS CORRECT:

Carol D. Carl

DATE: 6/22/18



BIDDERS IN ALPHABETICAL ORDER:				Brasfield & Gorrie, LLC 3021 7th Avenue South Birmingham, AL 35233 (205) 328-4000		Garney Companies, Inc. 200 Crutchfield Avenue Nashville, TN 37210 (615) 350-7975		Kiewit Infrastructure South Co. 1700 Hayes Street, Suite 104 Nashville, TN 37203 (925) 595-8774		Oscar Renda Contracting, Inc. 608 Henrietta Creek Road Roanoke, TX 76262 (817) 491-2703	
Item No.	Item Description	Estimated Quantity	Units	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures	Unit Price in Figures	Total Price in Figures
PART 3 - BID SUMMARY											
TOTAL PART 1 - BASE BID (CALCULATED)					\$ 147,725,824.00		\$ 133,656,600.00		\$ 131,300,000.00		\$ 137,787,564.00
TOTAL PART 2 - ALLOWANCE ITEMS					\$ 1,080,000.00		\$ 1,080,000.00		\$ 1,080,000.00		\$ 1,080,000.00
TOTAL BID (CALCULATED IN THIS SPREADSHEET)					\$ 148,805,824.00		\$ 134,736,600.00		\$ 132,380,000.00		\$ 138,867,564.00
TOTAL PART 1 - BASE BID (ENTERED BY BIDDER ON BID FORM)					\$ 147,725,824.00		\$ 133,669,000.00		\$ 131,300,000.00		\$ 137,787,564.00
TOTAL PART 2 - ALLOWANCE ITEMS					\$ 1,080,000.00		\$ 1,080,000.00		\$ 1,080,000.00		\$ 1,080,000.00
TOTAL BID (ENTERED BY BIDDER ON BID FORM)					\$ 148,805,824.00		\$ 134,749,000.00		\$ 132,380,000.00		\$ 138,867,564.00

PART 4 - ADDITIVE AND DEDUCTIVE ALTERNATES FOR BID										
Additive Alternate A - Addition of Jet Mixing System to EQ Tank	LS	N/A	\$ 450,000.00	N/A	\$ 950,000.00	N/A	\$ 510,000.00	N/A	\$ 320,000.00	
Additive Alternate B - Additional Demolition in Existing Sludge Treatment Area	LS	N/A	\$ 440,000.00	N/A	\$ 405,000.00	N/A	\$ 839,000.00	N/A	\$ 215,000.00	
Additive Alternate C - Demolition of Existing Headworks	LS	N/A	\$ 170,000.00	N/A	\$ 180,000.00	N/A	\$ 316,000.00	N/A	\$ 90,000.00	
Additive Alternate D - Change Electrical Building from Precast to CMU	LS	N/A	\$ 30,000.00	N/A	\$ 95,000.00	N/A	NO BID	N/A	\$ 10,000.00	
Deductive Alternate A (Not Used)	LS	N/A	\$ -	N/A	\$ -	N/A	\$ -	N/A	\$ -	
Deductive Alternate B (Not Used)	LS	N/A	\$ -	N/A	\$ -	N/A	\$ -	N/A	\$ -	
Deductive Alternate C - Change SBS Roofing Systems to TPO	LS	N/A	\$ 23,000.00	N/A	\$ 19,000.00	N/A	\$ 30,000.00	N/A	\$ 65,000.00	
Deductive Alternate D - Construct Berms Instead of Hauling Excess Material	LS	N/A	\$ 115,000.00	N/A	\$ 40,000.00	N/A	\$ 1,000.00	N/A	\$ 80,000.00	



City of Franklin, Tennessee

Water Reclamation Facility Modifications and Expansion Project Discussion

July 10, 2018





City of Franklin, Tennessee

Project Background

- Integrated Water Resources Plan (initiated in 2009)
 - Upgrade existing WRF to 16 MGD
 - Anticipate more stringent permit limits
 - Construct 16 MGD biosolids treatment capacity at existing site
 - Selection criteria: efficient operations, decreased energy consumption, sustainability and reliability, diverse portfolio disposal options, risk reduction, focus on odor control, automation, Class A EQ



City of Franklin, Tennessee

Summary of Proposed Upgrades - Liquid

- Construction of a new EQ and headworks facility
- Addition of phosphorus removal capability (biological and chemical)
- Construction of a new UV disinfection facility
- Upgrades to the reclaimed water pump station
- Upgrades to the facility-wide odor control
- Significant electrical improvements
- Implementation of a new SCADA system



City of Franklin, Tennessee

Summary of Proposed Upgrades - Solids

- Construction of a new solids processing building
 - Centrifuge thickening, screw press dewatering, truck loading, laboratory, CHP engine, boiler,
- Construction of a new thermal hydrolysis process skid
- Construction of three new anaerobic digesters
- Upgrades to the facility-wide odor control
- Significant electrical improvements
- Implementation of a new SCADA system



City of Franklin, Tennessee

Bidding Process Summary

- Opened June 18, 2018 at 2pm Board Room

Bidder		Total Base Bid
1	Kiewit Infrastructure South Co.	\$132,380,000
2	Garney Companies, Inc.	\$134,736,600
3	Oscar Rends Contracting, Inc.	\$138,867,564
4	Brasfield & Gorrie, LLC	\$148,805,824



City of Franklin, Tennessee

Additive and Deductive Alternatives

- Project was bid with a number of additive and deductive alternates to the total bid price.
- Staff recommends Alternate A as a valuable alternative
 - Additive Alternate A – addition of a jet mixing system in the equalization tank (\$510,000)
 - As flow is routed and contained in the equalization basin, the addition of the jet mixing system prevent settling
 - Redundant help with odors
 - Aid staff in maintenance of tank after use



City of Franklin, Tennessee

Construction Timeline

- 42 month construction period (3.5 years)
- Temporary access off Mack Hatcher (right in / right out)
- Maintain operations throughout construction (specific sequence of construction has been defined)



City of Franklin, Tennessee

Financial Summary

- Staff is working with COS consultant to evaluate any impacts with respect to rates
- Savings of \$19,375,953 from the June 2018 rebid of the project based upon the January 2018 initial bid
- State Revolving Fund is providing \$100,000,000 of loan at 1.47% with a 30 year term
 - \$225,000 in principle forgiveness
 - Saving over \$30,000,000 in interest as what would be expected from the bond market
 - Continuing to pursue additional SRF funding
- The approved 5-year rate plans have allowed WMD to accumulate funds that will be used to fund a portion of the remaining project costs



City of Franklin, Tennessee

Bid Award Timeline

- Bids opened June 15, 2018
 - Valid for 90-days (September 13, 2018)
- Sent to SRF for bid award approval (~30-45 days)
- Notice-To-Proceed within 90 days of SRF approval



City of Franklin, Tennessee

WRF Upgrades and Expansion Project

Discussion

**CITY OF FRANKLIN, TENNESSEE
PROFESSIONAL SERVICES AGREEMENT
COF Contract No. 2018-0143**

THIS PROFESSIONAL SERVICES AGREEMENT ("Agreement") is by and between the City of Franklin, Tennessee, hereinafter referenced as ("City"), and **CDM SMITH** hereinafter referenced as ("Consultant"), who mutually agree as follows:

DECLARATIONS. City desires to retain Consultant to provide engineering, related technical, and other services in connection with City's project hereinafter referenced as Project. The Project is described as follows:

WATER RECLAMATION FACILITY UPGRADES PROJECT
CONSTRUCTION SERVICES

1. SCOPE OF SERVICES. Consultant shall provide construction engineering and inspection services for the Project in accordance with the Scope of Services (Services) as found in Attachment A which shall be considered as an integral part hereof.
2. Consultant shall submit as a part of Attachment A an individual Fee Schedule and a Completion Schedule for the Project based on the detailed Scope of Services.
3. In event of a conflict between this Agreement and the attached document(s), this Agreement shall supersede conflicting terms and conditions.
4. Consultant shall be paid on a Not-to-Exceed basis for work performed based on the Fee Schedule as contained in Attachment A in the Amount of **ELEVEN MILLION SIX HUNDRED SEVENTY-SEVEN THOUSAND THREE HUNDRED NINETY-SIX AND NO/100 DOLLARS (\$11,677,396.00).**

The Board of Mayor and Aldermen Approved this Agreement on the _____ Day of _____ 201__.

TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

ARTICLE 1. SERVICES. Consultant will:

- 1.1 Act for City in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with standards of competent consultants using the standards in the industry:
- 1.2 Consider all reports to be confidential and distribute copies of the same only to those persons specifically designated by the City.
- 1.3 Perform all services under the general direction of a senior professional employee, licensed and/or registered in the State of Tennessee, when appropriate.
- 1.4 Designate, in writing, the sole Project representative to coordinate with City the Services to be provided, including all contact information.
- 1.5 Unless provided for in the Project Scope of Services (Attachment A), Consultant shall perform all Services with his own forces (employees). Should sub-consultants be proposed to be used in the Project, a listing of said sub-consultants with Services to be performed shall be provided. After approval of this Agreement, no substitute for sub-consultants shall be allowed unless approved by City.
- 1.6 Retain pertinent records relating to the services performed for a period of seven (7) years following the completion of the work; during this period the records shall be available for review by City at all reasonable times.

ARTICLE 2. CITY'S RESPONSIBILITIES. City, or its authorized representative, will:

- 2.1 Provide Consultant with all information regarding the Project, which is available to, or reasonably obtainable by, the City.
- 2.2 Furnish right-of-entry onto the Project site for Consultant's necessary field studies and surveys. Consultant will endeavor to restore the site to its original condition and shall remain solely liable for all damages, costs and expenses, including reasonable attorneys' fees, for failure to make such restoration.
- 2.3 Designate, in writing, the sole Project representative to coordinate with and direct the Consultant, including all contact information.
- 2.4 Guarantee to Consultant that it has the legal capacity to enter into this contract and that sufficient monies are available to fund Consultant's compensation.

ARTICLE 3. GENERAL CONDITIONS.

- 3.1 Consultant, by the performance of services covered hereunder, does not in any way assume, abridge or abrogate any of those duties, responsibilities or authorities customarily vested in other professionals or agencies participating in the Project.

- 3.2 Consultant shall be responsible for the acts or omissions of any party involved in concurrent or subsequent phases of the Project acting upon written instruction issued by the Consultant.
- 3.3 Neither City nor Consultant may assign or transfer its duties or interest in this Agreement without written consent of the other party.
- 3.4 **ALLOCATION OF RISK AND LIABILITY; GENERAL.** Considering the potential liabilities that may exist during the performance of the services of this Agreement, the relative benefits and risks of the Project, and the Consultant's fee for the services rendered, and in consideration of the promises contained in this Agreement, the City and the Consultant agree to allocate and limit such liabilities in accordance with this Article.
- 3.5 **INDEMNIFICATION.** Consultant agrees to indemnify and hold City harmless from and against legal liability for all judgments, losses, damages, and expenses to the extent such judgments, losses, damages, or expenses are caused by Consultant's negligent act, error or omission in the performance of the services of this Agreement. In the event judgments, losses, damages, or expenses are caused by the joint or concurrent negligence of Consultant and City, they shall be borne by each party in proportion to its own negligence.
- 3.5.1 **SURVIVAL.** The terms and conditions of this paragraph shall survive completion of this services agreement.
- 3.6 **LIMITATIONS OF RESPONSIBILITY.** Consultant shall not be responsible for (a) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project unless specifically undertaken in Attachment A, Scope of Services ; (b) the failure of any contractor, subcontractor, Consultant, or other Project participant, not under contract to Consultant, to fulfill contractual responsibilities to City or to comply with federal, state, or local laws, regulations, and codes; or (c) procuring permits, certificates, and licenses required for any construction unless such procurement responsibilities are specifically assigned to Consultant in Attachment A, Scope of Services.

ARTICLE 4. TERMINATION BY THE CITY. The City may terminate this Agreement in accordance with the following terms and conditions:

- 4.1 **Termination for Convenience.** The City may, when in the interests of the City, terminate performance under this Agreement with the Consultant, in whole or in part, for the convenience of the City. The City shall give written notice of such termination to the Consultant specifying when termination becomes effective. The Consultant shall incur no further obligations in connection with the work so terminated, other than warranties and guarantees for completed work and installed equipment, and the Consultant shall stop work when such termination becomes

effective. The Consultant shall also terminate outstanding orders and subcontracts for the affected work. The Consultant shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The City may direct the Consultant to assign the Consultant's right, title and interest under termination orders or subcontracts to the City or its designee. The Consultant shall transfer title and deliver to the City such completed or partially completed work and materials, equipment, parts, fixtures, information and Contract rights as the Consultant has in its possession or control. When terminated for convenience, the Consultant shall be compensated as follows:

- (1) The Consultant shall submit a termination claim to the City specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Consultant fails to file a termination claim within one (1) year from the effective date of termination, the City shall pay the Consultant the amount the City deems the Consultant is due.
- (2) The City and the Consultant may agree to the compensation, if any, due to the Consultant hereunder.
- (3) Absent agreement to the amount due to the Consultant, the City shall pay the Consultant the following amounts:
 - (a) Contract costs for labor, materials, equipment and other services accepted under this Agreement;
 - (b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the Consultant's performance, plus a fair and reasonable allowance for direct job site overhead and earned profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it reasonably appears that the Consultant would have not profited or would have sustained a loss if the entire Agreement would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;

The total sum to be paid the Consultant under this Section shall not exceed the total Agreement Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

- 4.2 Termination for Cause. If the Consultant does not perform the work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Agreement, then the City, in addition to any other rights it may have against the Consultant or others, may terminate the performance of the Consultant, in whole or in part at the City's sole option, and assume possession of the Project Plans and materials and may complete the work.

In such case, the Consultant shall not be paid further until the work is complete. After Completion has been achieved, if any portion of the Contract Price, as it may be modified hereunder, remains after the cost to the City of completing the work, including all costs and expenses of every nature incurred, has been deducted by the City, such remainder shall belong to the Consultant. Otherwise, the Consultant shall pay and make whole the City for such cost. This obligation for payment shall survive the termination of the Agreement.

In the event the employment of the Consultant is terminated by the City for cause pursuant to this Section and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under this Section and the provisions of Section 4.1 shall apply.

- 4.3 Termination for Non-Appropriation. The City may also terminate this Agreement, in whole or in part, for non-appropriation of sufficient funds to complete or partially complete the Project, regardless of the source of such funds, and such termination shall be on the terms of Section 4.1.
- 4.4 The City's rights under this Section shall be in addition to those contained elsewhere herein or provided by law.

ARTICLE 5. SCOPE OF SERVICES. Consultant shall provide the Services as described in Attachment A, Scope of Services.

5.1 By mutual agreement, this Agreement and scope can be amended by the parties. The scope and fee for any additional tasks or services under such amendment shall be mutually negotiated and agreed to in writing prior to beginning such additional tasks or services.

5.2 **ENVIRONMENTAL RESPONSIBILITY.**

Where drilling/sampling services are involved, the samples obtained from the Project site are the property of the City. Should any of these samples be recognized by the Consultant to be contaminated, the City shall remove them from the Consultant's custody and transport them to a disposal site, all in accordance with applicable government statutes, ordinances, and regulations. For all other samples, the Consultant shall retain them for a sixty (60)-day period following the submission of the drilling/sampling report unless the City directs otherwise; thereafter, the Consultant shall discard the samples in accordance with all federal, state and local laws.

ARTICLE 6. SCHEDULE.

6.1 **TIME OF THE ESSENCE.** The parties agree that time is of the essence with respect to the parties' performance of all provisions of the Agreement.

6.2 Before executing this Agreement, the Consultant shall have prepared and submitted for approval to the City a Completion Schedule for the Project with milestones for the various stages (tasks) of the Services as outlined in the Scope of Services. The Consultant shall submit and obtain the City's approval for any proposed changes to the logic, durations, sequences, or timing of tasks as approved in the Completion Schedule.

6.3 **FORCE MAJEURE.** Neither party will be liable to the other for any delay or failure to perform any of the services or obligations set forth in this Agreement due to causes beyond its reasonable control, and performance times will be considered extended for a period of time equivalent to the time lost because of such delay plus a reasonable period of time to allow the parties to recommence performance of their respective obligations hereunder. Should a circumstance of force majeure last more than ninety (90) days, either party may by written notice to the other terminate this Agreement. The term "force majeure" as used herein shall mean the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States or of the State or any of their departments, agencies or officials, or any civil or military authority; insurrections, riots, landslides, earthquakes, fires, storms, tornadoes, droughts, floods, explosions, breakage or accident to

machinery, transmission pipes or canals; or any other cause or event not reasonably within the control of either party.

- 6.4 Should City request changes in the scope, extent, or character of the Project, the fee and the time of performance of Consultant's Services as indicated in Attachment A shall be adjusted equitably.

ARTICLE 7. USE OF DOCUMENTS, DATA.

- 7.1 All Documents, including, but not limited to, reports, drawings, specifications, and computer software prepared by Consultant pursuant to this Agreement are instruments of service in respect to the Project. Consultant shall retain an ownership and property interest therein (including the right of reuse at the discretion of the Consultant) whether or not the Project is completed.

7.1.1 **USE OF DATA SYSTEMS:** Ownership, property interests and proprietary rights in data systems used by Consultant do not extend to the data created by or supplied to Consultant by the City; all rights to that data (including derivative or hidden data such as metadata) shall vest solely in City at the moment of creation.

7.1.2 **DISCLOSURE OF DOCUMENTS/DATA.** City may be required to disclose documents or data under state or federal law. City shall notify Consultant if a request for data or documents has been made and shall give Consultant a reasonable opportunity under the circumstances to respond to the request by redacting proprietary or other confidential information. Consultant waives any right to confidentiality of any document, e-mail or file it fails to clearly mark on each page as confidential or proprietary. In exchange, Consultant agrees to indemnify, defend, and hold harmless City for any claims by third parties relating thereto or arising out of (i) the City's failure to disclose such documents or information required to be disclosed by law, or (ii) the City's release of documents as a result of City's reliance upon Consultant representation that materials supplied by Consultant (in full or redacted form) do not contain trade secrets or proprietary information, provided that the City impleads Consultant and Consultant assumes control over that claim.

- 7.2 By execution of this Agreement, Consultant and his sub-consultant(s) grant the City a royalty-free, perpetual, irrevocable, and assignable license to use any and all intellectual property interest Consultant or his sub-consultant(s) possess to any drawings, details, specifications, documents, and other information created before each of their first involvement with the Project and subsequently incorporated into the Project's documents. City-furnished data that may be relied upon by Consultant is limited to the printed copies that are delivered to the

- Consultant pursuant to Article 2 of this Agreement. Any copyrighted electronic files furnished by City shall be used by Consultant only for the Project as described herein. City's posting or publication of such documents created by Consultant for City shall constitute fair use and shall not constitute an infringement of Consultant's copyright, if any.
- 7.3 Documents that may be relied upon by City are limited to the printed copies (also known as hard copies) that are signed or sealed by the Consultant. Files in electronic media format of text, data, graphics, or of other types that are furnished by Consultant to City are only for convenience of City, unless the delivery of the Project in electronic media format has been dictated in Attachment A, Scope of Services. Any conclusion or information obtained or derived from electronic files provided for convenience will be at the user's sole risk.
- 7.4 Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within sixty (60) days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files. Unless stated otherwise herein, Consultant shall not be responsible to maintain documents stored in electronic media format after acceptance by City.
- 7.5 When transferring documents in electronic media format, Consultant makes no representations as to long term compatibility, usability, or readability, of documents resulting from the use of software application packages, operating systems, or computer hardware differing from that as required of, and used by, Consultant at the beginning of this Project.
- 7.6 City may make and retain copies of Documents for information and reference in connection with use on the Project by the City, or his authorized representative. Such Documents are not intended or represented to be suitable for reuse by City or others on extensions of the Project or on any other project. Any such reuse or modifications without written verification or adaptation by Consultant, as appropriate for the specific purpose intended, will be at City's sole risk and without liability or legal exposure to the Consultant or to Consultant's sub-consultants.
- 7.7 If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- 7.8 Any verification or adaptation of the Documents for extensions of the Project or for any other project will entitle Consultant to further compensation at rates to be agreed upon by City and Consultant.

ARTICLE 8. INSURANCE.

- 8.1 During the performance of the Services under this Agreement, Consultant shall maintain the following minimum insurance:
- a) General Liability Insurance with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 annual aggregate.
 - b) Automobile Liability Insurance with a combined single limit of \$1,000,000 for each person and \$1,000,000 for each accident.
 - c) Workers' Compensation Insurance Coverage A in accordance with statutory requirements and Coverage B, Employer's Liability Insurance, with a limit of \$500,000 for each occurrence.
 - d) Professional Liability Insurance with a limit of \$1,000,000 annual aggregate.
- 8.2 Consultant shall add the City an additional insured on all policies unless otherwise prohibited.
- 8.3 Consultant shall, upon execution of this Agreement, furnish City certificates of insurance, which shall include a provision that such insurance shall not be canceled without at least thirty (30) days' written notice to City.
- 8.4 No insurance, of whatever kind or type is to be considered as in any way limiting other parties' responsibility for damages resulting from their activities in the execution of the Project. City agrees to include, or cause to be included, in the Project's construction contract, such requirements for insurance coverage and performance bonds by the Project's construction contractor as City deems adequate to indemnify City, Consultant, and other concerned parties against claims for damages and to insure compliance of work performance and materials with Project requirements.

ARTICLE 9. PAYMENT.

- 9.1 City will pay Consultant for services and expenses in accordance with the Fee Schedule proposal submitted for the Project as part of the Scope of Services. Consultant's invoices will be presented at the completion of the work or monthly and will be payable upon receipt. Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. City shall give prompt written notice of any disputed amount and shall pay the remaining amount.
- 9.2 Consultant shall be paid in full for all services under this Agreement, including City authorized overruns of the Project budget or unforeseen need for Consultant's services exceeding the original Scope of Services.
- 9.3 **TRAVEL; EXPENSES**
City shall reimburse reasonable expenses, including travel and meals, when specified in the Scope of Services, but only in accordance with the City's Travel and Expense Policy and Procedures Manual. The maximum amount will be applied as of the date of travel and as listed

in the per diem reimbursement rates on the “CONUS” website developed by the United States General Services Administration, located at www.gsa.gov [click on ‘per diem rates’ under the ‘etools’ category].

ARTICLE 10. MISCELLANEOUS PROVISIONS

- 10.1 **EQUAL EMPLOYMENT OPPORTUNITY.** In connection with this Agreement and the Project, City and Consultant shall not discriminate against any employee or applicant for employment because of race, color, sex, national origin, disability or marital status. City and Consultant will take affirmative action to ensure that the contractor used for the Project does not discriminate against any employee and employees are treated during employment without regard to their race, age, religion, color, gender, national origin, disability or marital status. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship.
- 10.1.1 Consultant shall insert the foregoing provision in all contracts relating to this Project.
- 10.2 **TITLE VI – CIVIL RIGHTS ACT OF 1964.** City and Consultant shall comply with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), 49 C.F.R., Part 21, and related statutes and regulations.
- 10.2.1 Consultant shall insert the foregoing provision in all contracts relating to this Project.
- 10.3 **NO THIRD PARTY RIGHTS CREATED.** City and Consultant each binds itself and its successors, executors, administrators, permitted assigns, legal representatives and, in the case of a partnership, its partners, to the other party to this Agreement and to their successors, executors, administrators, permitted assigns, legal representatives and partners of such other party in respect to all provisions of this Agreement. The Services provided for in this Agreement are for the sole use and benefit of City and Consultant. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than City and Consultant.
- 10.4 **WARRANTIES/LIMITATION OF LIABILITY/WAIVER.** City reserves all rights afforded to local governments under law for all general and implied warranties. City does not waive any rights it may have to all remedies provided by law and therefore any attempt by Consultant to limit its liability shall be void and unenforceable.

ARTICLE 11. EXTENT OF AGREEMENT:

- 11.1 **APPLICABLE LAW/CHOICE OF FORUM AND VENUE.** This Agreement is made under and will be construed in accordance with the laws of the State of Tennessee without giving effect to that state's choice of law rules. The parties' choice of forum and venue shall be exclusively in the courts of Williamson County, Tennessee. Any provision of this Agreement held to violate a law or regulation shall be deemed void, and all remaining provisions shall continue in force.
- 11.2 **ENTIRE AGREEMENT.** This Agreement, including these terms and conditions, represent the entire Agreement between City and Consultant for this Project and supersedes all prior negotiations, representations or agreements, written or oral. This Agreement may be amended only by written instrument signed by City and Consultant.

ARTICLE 12. DISPUTE RESOLUTION, BREACH.

- 12.1 If a dispute should arise relating to the performance of or payment for the Services under this Agreement, the aggrieved party shall notify the other party of the dispute within a reasonable time after such dispute arises. During the pendency of any dispute, the parties shall continue diligently to fulfill their respective obligations hereunder. No arbitration or mediation shall be required as a condition precedent to filing any legal claim arising out of or relating to this Agreement. No arbitration or mediation shall be binding.
- 12.2 **BREACH.** Upon deliberate breach of the Agreement by either party, the non-breaching party shall be entitled to terminate the Agreement with notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

ARTICLE 13. SURVIVAL.

The provisions contained in this Professional Services Agreement shall survive the completion of or any termination of the Agreement, contract or other document to which it may accompany or incorporate by reference or which subsequently may be modified, unless expressly excepted from this Article upon consent of both parties.

(See page 12 for signatures)

BY: _____
Consultant's Signature
TITLE: _____
Date: _____

BY: _____
Dr. Ken Moore
Mayor
Date: _____

Approved as to Form:

Tiffani M. Pope, Staff Attorney



Parkview Towers
210 25th Avenue North, Suite 1102
Nashville, Tennessee 37203
tel: 615-771-2466
fax: 615-778-9733

June 21, 2018

Ms. Michelle Hatcher, P.E.
City of Franklin
Director, Water Management Department
124 Lumber Drive
Franklin, Tennessee 37064

Subject: Final Construction Services Proposal
Franklin WRF Expansion Project

Dear Michelle:

CDM Smith's proposal for the Franklin WRF construction services is attached. All of the modification that we discussed on Monday and yesterday have been incorporated. Please let Zack or me know if you have any other questions or if you need anything else from us to facilitate the presentation of this to Mark, Eric or BOMA.

We sincerely appreciate this opportunity to continue our work with the City of Franklin.

Very truly yours,

A handwritten signature in blue ink, appearing to read "R. P. Huguenard".

Robert P. Huguenard
Senior Project Manager
CDM Smith

Enclosure

cc: Brian Goodwin, City of Franklin
Zack Daniel, CDM Smith
Jennifer Osgood, CDM Smith



ATTACHMENT A

City of Franklin, Tennessee

Proposal for Construction Management Services for the Franklin WRF

CDM Smith proposes to provide construction management and inspection related services as described in the attached scope of work with the goal of safeguarding the delivery of a quality constructed project that meets the intent of the construction documents while minimizing and addressing the issues and conflicts arising during the construction of the Franklin Wastewater Reclamation Facility (WRF) Expansion Project. CDM Smith will provide the Scope of Services detailed herein and broken into three distinct phases; General Construction Services, Resident Inspection Services and Special Services. The scope of work is based on construction support activities throughout the total construction period of 45 months from Notice of Award (NOA); 3-month allowance between NOA and Notice to Proceed (NTP) and 42 months from NTP to final completion of the Project. The background for the project and the detailed scope of work, including budget by major task, are included herein.

Project Background and Description

On May 8, 2012, the Board of Mayor and Aldermen (BOMA) approved Resolution 2012-18 adopting the Integrated Water Resources Plan (IWRP) priority projects and associated funding plan for the City's water and wastewater systems. As a result of this IWRP approval, the City of Franklin moved forward with the design services for the expansion of the City's existing Water Reclamation Facility and selected and contracted with CDM Smith to provide the development of construction documents, permitting and bidding services in order to provided planning, design and bidding services to expand the existing 12-mgd annual average daily flow (AADF) facility to a treatment capacity of 16-mgd. This expansion includes addition of wet-weather flow equalization, new upgraded headworks facility, addition of a fermentation tank/unit process for biological treatment improvements, modifications to the denitrification filters, replacement of the UV disinfection system, various hydraulic improvements throughout the plant (new splitter boxes, pipe upsizing/replacement, raising of structure walls, raising of weirs, etc.), new central electrical building and plant-wide electrical improvements, improvements to the Supervisory Control and Data Acquisition (SCADA) system and other miscellaneous construction and associated operational improvements.

In addition to the biological and hydraulic improvements to the liquid process at the WRF, this project includes the replacement of the existing biosolids treatment processes (thickening, dewatering, and hauling/disposal of solids in a landfill) with an entirely new process to produce a class A biosolids. The process includes waste activated sludge (WAS) storage, pre-digestion dewatering, thermal hydrolysis, anaerobic digestion, post digestion dewatering, a combined heat

and power system, and a sludge loading station for trucks to load and transport the dried sludge to final disposal and beneficial use locations.

The construction project was advertised on April 8, 2018 and bids were received by the City of Franklin on June 18, 2018. CDM Smith will complete the review and recommendation of the bids such that the City can obtain Board of Mayor and Aldermen (BOMA) approval at the first BOMA meeting in July and provide preliminary Notice of Award (NOA) to the selected contractor in mid-July. The preliminary NOA will be qualified as contingent upon approval by the State Revolving Fund (SRF) as part of the process for funding of the project. As implied in the previous sentence, preliminary Notice of Award will be issued at the same time that the award recommendations are forwarded to the Tennessee Department of Environment and Conservation (TDEC) SRF for review and final approval. The final NOA will be issued to the contractor once TDEC SRF approval is received and the Notice to Proceed will follow signifying the commencement date for the project.

General Services

For this project, General Services during Construction (i.e., project and construction management and engineering services) will include the following subtasks: G1) project management, G2) project meetings, G3) engineering reviews, clarifications, and interpretations, G4) site visits by office staff for technical review of the construction activities and G5) witnessing of factory testing. Each of these subtasks is discussed in detail below.

Task G1, Project Management

This task includes all management activities and coordination of the project team, establishing and monitoring consulting schedules and budgets, invoicing, reporting and documentation, and general coordination of the project. The following subtasks further define the work under this task. Each of these subtasks was budgeted assuming a total project timeframe of 197 weeks (3.5-year construction duration plus 13 weeks of time between the notice of award to the notice to proceed time and 2 weeks of close out time following final completion).

Subtask G1A – CDM Smith Project Kickoff Meeting/Project Quality Management Meeting

CDM Smith will hold a project kickoff meeting, including project quality management planning, with the CDM staff for initial planning and coordination with the team. This meeting will establish roles, responsibilities, expectations, communication protocol, processes and procedures, scope, schedule, budgets, and other required coordination and construction activities.

Subtask G1B – General Administration of the Construction Contract

This task will include coordinating of project technical staff, monitoring the progress and cost of each task, budget control, preparing monthly progress reports for submission to the City of Franklin (COF) and preparing monthly invoices for submission to COF.

Subtask G1C – Final Documentation Filing and File Review

At the completion of the project, the CDM Smith team will complete all required final close-out documentation, review the files and complete final file maintenance and turnover of a complete final set of documents to the City of Franklin.

Task G2, Project Meetings

We anticipate that five types of meetings requiring CDM Smith participation will occur during construction: G2A) Preconstruction meeting, G2B) Monthly progress meetings, G2C) Special meetings, G2D) Periodic CDM Smith project team meetings, G2E) Bi-weekly conference calls between the CDM Smith construction project manager and the COF project manager and G2F) Weekly meetings with the Contractor. The anticipated scope and budget for the special meetings are based on those special meetings identified in the specifications, plus an allowance for unplanned special meetings. The cost for on-site personnel who are anticipated to be coordinating or in attendance at these meetings is covered under Task R1, Construction Observation (Resident Services).

Subtask G2A – Preconstruction Meeting

CDM Smith will prepare a preconstruction meeting agenda and conduct a preconstruction meeting in Franklin, Tennessee with the Contractor, City staff, TDEC SRF representatives and all other appropriate parties to explain construction administration procedures and delineate project requirements and constraints. CDM Smith will prepare and distribute minutes of the meeting within one week following completion. We assume that this meeting will be no more than 4 hours long and will be attended in person by the CDM Smith construction project manager, the CDM Smith design project manager, the CDM Smith assistant project manager, the CDM Smith Client Service Leader, four CDM Smith subconsultants, and the CDM Smith on-site personnel. Additional required CDM Smith staff will attend by conference call.

Subtask G2B – Monthly Progress Meetings

CDM Smith will conduct monthly progress meetings with the Contractor, COF staff, and others as necessary to review submittal status, completed and on-going activities, planned work schedules, and any open issues. CDM Smith will prepare an agenda for each meeting and will prepare meeting minutes after each meeting and distribute to all attendees. Meeting minutes will be distributed to all parties within five business days following the meeting. CDM Smith has budgeted for a total of 42 monthly progress meetings. These will be attended by the CDM Smith construction project manager and the on-site CDM Smith personnel. In addition, we have assumed that the CDM Smith design project manager, the CDM Smith client manager, and a technical specialist will attend 50% of the meetings and four of the CDM Smith subconsultants will attend 25% of the meetings based on the particular needs of the meeting. We have also included an allocation for up to 60 hours of technical specialist time to be included by phone/conference call on an as needed basis.

Task G2C – Special Meetings

The specifications identify several special meetings (see the list below); and in some cases, additional special meetings will be required in between the monthly progress meetings to resolve time sensitive issues and problems. Our assumptions for the number of meetings are outlined in the list below. We have assumed a total of 16 special meetings with one person in attendance and 8 special meetings with two persons in attendance.

1. Maintenance of Plant Operations Special Meetings (8 meetings)

2. Two pre-construction meetings to address all specified structurally related special meetings (2 meeting)
3. Painting Pre-construction Meeting (1 meeting)
4. THP system pre-installation meeting (1 meeting)
5. Instrumentation and Control (I&C) Kickoff Meeting (1 meeting)
6. I&C Submittal Review Coordination Meeting (1 meeting)
7. I&C Standards and Conventions Workshop (1 meeting)
8. I&C Draft Graphics Review Meeting (1 meeting)
9. Second I&C Graphics Review Meeting (1 meeting)
10. I&C Historical Data Management and Reports Workshop (1 meeting)
11. I&C Factory Testing Pre- Coordination Meeting (1 meeting)
12. I&C Field Testing Pre- Coordination Meeting (1 meeting)
13. Other unplanned special meetings (4 meetings)

Subtask G2D – Periodic CDM Smith Team Coordination Meetings

We have budgeted for an anticipated 50 total 1-hour conference calls to coordinate with the project team to identify and address potential ‘roadblocks’ to project progress. These will occur as the need arises and will be internal, with some including City staff participation.

Subtask G2E – Bi-Weekly Coordination Call with COF

The CDM Smith construction project manager will hold 97 one-hour, bi-weekly coordination calls with the COF team. The CDM Smith Client Service Leader and the CDM Smith design project manager will also attend half of these calls. These meetings will include; but not be limited to, project schedule and work progress updates including anticipated work over the coming period, submittal and shop drawing updates, general project coordination, specific issues that require City staff input and other appropriate project updates and discussions. Meeting notes will be prepared for each coordination call and distributed out to the attendees.

Subtask G2F – Weekly Meetings with Contractor

The CDM Smith RPRs will hold coordination meetings with the Contractor on a weekly basis during the busiest portion of the project (once work ramps up and after work ramps down). We assume that up to 100 one-hour meetings will be held. The meetings will be attended by phone by either Bob Huguenard or Carrie Carden and some meetings will be attended by phone by CDM Smith’s schedule reviewer and technical discipline leads as necessary. We allowed for up to 40 schedule reviewer hours and up to 100 technical discipline lead hours.

Task G3, Engineering Reviews, Clarifications and Interpretations

This task includes G3A) review of shop drawings and other construction submittals, G3B) review of contractor payment applications, G3C) review of schedule submittals, G3D) review and response to RFIs, and G3E) review and acceptance of final/closeout submittals. CDM Smith’s office services

team, in coordination with the field services team, will be responsible for providing the Contractor with responses on these items. CDM Smith office technical staff will be responsible for providing the primary input on most of these submittal items; however, the lead resident project representative (RPR) will provide the primary input for the pay requests and certain other items with support from the office technical staff. The costs for the Resident Services associated with these services are included under task R1.

Subtask G3A - Review Shop Drawings and Other Submittals

CDM Smith will process and track the Contractor's shop drawing and product data submittals on equipment and methods. Each submittal will be reviewed to determine conformance with the design concept and compliance with the contract documents. CDM Smith will maintain an electronic document-management system for processing all submittals to indicate material received, dates of receipt and return to the Contractor, and action taken on the submittal. Average submittal review time is expected to be twenty business days after receipt from the Contractor.

A comprehensive list of submittals and deliverables required from the Contractor will be prepared, based on the provisions of the Contract Documents. The list will include shop drawings, product data, samples, operation and maintenance manuals, start-up and testing reports, record documents, and other submittals as required, with reference to the related specification references. The submittal schedule will be distributed at the Preconstruction Meeting and maintained similar to a checklist throughout the construction period. The budget for this task assumes review of up to 1,000 total submittals and resubmittals. The budget also assumes that any third submittals will be considered additional services that will be paid for by the Contractor per the Contract Documents.

Subtask G3B - Review of Schedule of Values and Applications for Payment

CDM Smith will review and assist COF with negotiation of the schedule of values. In addition, CDM Smith will review 42 monthly applications for payment from the Contractor for compliance with the established procedure for their submission, noting particularly the relationship of the payment requested to the schedule of values, work completed, and materials and equipment delivered at the site but not incorporated in the Work. The reviewed and approved payment application will be forwarded to the COF with recommendation for action. Accurate project cost records will be maintained, including monthly payments and proposed, pending, or approved changes in the work.

Subtask G3C - Schedule Reviews

CDM Smith will review the Contractor's initial construction schedule to ensure that the activities are comprehensive, the workflow is logical, the relationships between tasks is logical, and the schedule appropriately considers maintenance of plant operation constraints. Once the initial project schedule is agreed upon, CDM Smith will continuously monitor the Contractor's actual progress and compare it to the approved schedule. CDM Smith will interface with the COF staff on issues involving scheduled shut-downs, tie-ins, start-ups, commissioning, and other required operational coordination to ensure adequate lead time is provided for proper coordination and preparation for these activities. We have budgeted for review of a total of 42 schedule submittals, as an updated schedule is required with each monthly pay request; however, the CDM Smith RPR team will monitor and track the overall and task schedules on a regular basis. Updates and feedback will be provided to both the City staff and contractor at regular meetings.

Subtask G3D - Response to RFIs

CDM Smith will accept, review and respond to Requests for Information (RFIs) and any required interpretation or clarification of the drawings and specifications. When required, sketches or other documentation will be prepared to accompany responses. CDM Smith will maintain a log of Requests for Information, indicating subject of request, date of request, originator of request, person responsible for response and date of response. The budget for this task assumes that responses will be prepared for up to a total of 400 RFIs.

Subtask G3E – Document Management System

CDM Smith proposes to utilize a document management system called Unifier or one called eBuilder, for all document management and coordination between all parties during construction. These software tools come with a per person license fee that will be applicable to all users (COF, CDM Smith, contractor) throughout the construction. To minimize the cost per license, CDM Smith has purchased licenses on a company-wide basis and is able to obtain licenses for \$800 per user per year. Between all parties, (COF, the Contractor, CDM Smith and CDM Smith subconsultants) we estimate that a total of 38 licenses will be required for the project. The cost of 38 licenses for 3.75 years is \$114,000; however, due to overlapping project responsibilities for some CDM Smith staff, we are anticipating a total license fee of \$100,000 for the project. In addition, we anticipate that set up and administration of the system over the life of the project will require up to 750 hours.

Task G4, Site Visits by Office Staff

This task includes technical and management staff site visits during construction. Four categories of site visits are outlined below. They include: G4A) Design project manager and design lead engineer site visits, G4B) interim site visits by technical discipline members, G4C) substantial completion inspection, and G4D) final completion inspection. Visits for startup and commissioning services are not included in this task. Instead, those scope items are included in Task S4, Startup and Commissioning Services.

Subtask G4A – Design Project Manager and Design Lead Engineer Site Visits

CDM Smith's Design Project Manager and Design Lead Engineer will perform periodic site visits for coordination with staff and to review the overall progress of the work. For the purpose of this proposal, we have assumed that the Design Project Manager and the Design Lead Engineer will each make a total of 8 two-day site visits and 8 one-day site visits over the course of the 42-month construction period.

Subtask G4B - Technical Discipline Site Visits for Interim Inspections

Since the proposed modifications to the Franklin WRF are occurring to an operating facility, maintenance of plant operation will be particularly challenging for this project. Satisfactorily managing outages in individual areas will require bringing the new improvements on line for "partial utilization" as they are completed throughout the duration of the project. That means that rather than having minimal site visits by each discipline followed by a single substantial completion inspection, testing and startup, site visits by select disciplines will be required as the individual components are brought on line for partial utilization. The assumptions for technical discipline site visits provided in the table below were developed with this approach in mind. Some interim inspections by the disciplines will also be required to provide support to the RPRs during

construction. These specific visits are included in the row labeled “miscellaneous”.

Table G-1, Technical Discipline Site
Visits for Interim Inspections

Interim Inspection Event	Structural	Architectural	Process Mechanical	HVAC and Plumbing	Electrical	Instrumentation and Control	Odor Control	Combined Heat and Power
Headworks, EQ, Odor Control and BNR Dist. Box	1	1	2	1	1	1	1	0
Plant Water System	0	0	1	0	1	1	0	0
BNR System 1 and Blowers	1	0	1	0	1	1	0	0
BNR System 2	1	0	1	0	1	1	0	0
BNR System 3	1	0	1	0	1	1	0	0
Clarifier Distribution Box	1	0	2	0	1	1	0	0
Alum Storage and Feed	0	0	1	1	1	1	0	0
ABW Filter 1	1	0	0	0	0	0	0	0
UV System	1	0	1	0	1	1	0	0
Solids Treatment Systems	4	3	6	4	6	6	1	2
Miscellaneous	2	1	3	1	2	2	0	0
Total Estimated Visits	13	5	19	7	16	16	2	2
Estimated Average Hours Per Visit	20	20	20	16	20	20	24	24
Total Estimated Hours	260	100	380	112	320	320	48	48

Subtask G4C - Substantial Completion

Following notice from the Contractor that all Work (i.e., the entire project) is ready for its intended use, CDM Smith and COF, accompanied by the Contractor, will conduct an inspection to determine if the Work is Substantially Complete. If COF and CDM Smith consider the work Substantially Complete, CDM Smith will deliver a Certificate of Substantial Completion to the Contractor along with a checklist of items that must be complete for the work to be considered fully complete. CDM Smith will have one staff member from each technical discipline represented at the two-day substantial completion inspection process. We have assumed a total of 9 disciplines (see the columns in the table above) with a total of 24 hours per discipline for visit preparation, travel, inspection, and preparation of notes. In addition, we have assumed a total of 32 hours to prepare the certificate of substantial completion and the associated punch list for final completion. We have

assumed that the inspection will show that the work is substantially complete; and therefore, only one substantial completion inspection will be required.

Subtask G4D - Final Completion

CDM Smith will conduct one project wide final inspection to determine if the Contractor's work is acceptable in order that CDM Smith may recommend acceptance and final payment to the Contractors. Accompanying the recommendation for final payment, CDM Smith will indicate that the Work is acceptable to the best of CDM Smith's knowledge, information and belief and based on the extent of the services performed and furnished by CDM Smith under this Agreement. We have assumed that the inspection will be performed by four CDM Smith office staff and the CDM Smith field staff team over a two-day period with a total of 24 hours per office staff for visit preparation, travel, inspection, and preparation of notes. In addition, we have assumed a total of 32 hours to prepare the final completion documentation. We have assumed that the inspection will show that the work is fully complete; and therefore, only one final completion inspection will be required.

Task G5, Witnessing of Factory Testing

According to the requirements of the specifications, multiple products and process equipment require the witnessing of factory testing prior to acceptance, shipment to the project site and installation. The proposed cost for the associated services is based on 14 separate trips at 16 hours per trip, which includes preparation time, travel, witness and inspection time and memorandum preparation time. Due to the anticipated mix of process equipment, 13 of the trips are anticipated to be within the domestic United States, while one of the tests is anticipated to require international travel due to the location of manufacturer. It is assumed that the international trip will require two additional days of labor and travel costs.

Resident Services

Resident services include provisions for all on-site resident project representatives and daily inspection staffing and tasks. Those services are described in Task R1 below and are inclusive of all tasks performed by our on-site inspection team.

Task R1, Construction Observation (Resident Services)

The following assumptions are made with respect to staffing on resident services:

- The Contractor will be allowed to work 55 hours per week (five 11-hour days).
- A lead Resident Project Representative (RPR) will be provided for the duration of the construction contract (182 weeks). The lead RPR is budgeted for 40 hours per week.
- A senior RPR will be provided for the liquid process portion of the work for the duration of the construction contract (182 weeks). This RPR is budgeted for 55 hours per week for 40 weeks and 40 hours per week for the other 142 weeks (i.e., the weeks that the junior RPR is employed).
- A senior RPR will be provided for the biosolids side of the work for the duration of the construction contract (182 weeks). This RPR is budgeted for 55 hours per week for 40

weeks and 40 hours per week for the other 142 weeks (i.e., the weeks that the junior RPR is employed).

- One junior RPR will be provided under each of the senior RPRs. It is assumed that each of these junior RPRs will be provided for 142 weeks of the project. The junior RPRs are budgeted for 40 hours per week.
- One electrical RPR will be provided. The electrical RPR will be a CDM Smith RPR and will be used as work is ready for inspection. It is assumed that up to 800 hours of this RPRs time will be required and that up to 20 trips to the site will be necessary.
- 125 eight-hour days of on-call civil RPR services will be provided.
- 50 eight-hour days of on-call structural special inspection services will be provided.

The lead RPR will be the primary CDM Smith's representative to the Contractor, thus all communications between CDM Smith and the Contractors shall be issued and received through the lead RPR. The lead RPR will also be the project manager for the project and the primary contact with COF.

The RPR will have the following Duties and Responsibilities

- Schedules - Coordinate the review of progress schedules, schedules of Shop Drawing submissions, and schedules of values prepared by the Contractor and return comments to the Contractor regarding acceptability.
- Conferences and Meetings - Attend meetings with the Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings and circulate copies of minutes thereof.
- Liaison - Serve as CDM Smith's liaison with the Contractor, working principally through the Contractor's superintendents and assist in understanding the intent of Contract Documents; and assist CDM Smith in serving as the COF's liaison with the Contractor when Contractor's operations affect COF on-site operations.
- Observation of Work - Conduct on-site observations of the Work in progress to assist CDM Smith in determining if the Work is generally in accordance with the Contract Documents.
- Report to the Engineer whenever the RPR believes that any part of the Work is defective under the terms and standards set forth in the Contract Documents as to whether such work should be corrected, removed and replaced or accepted as provided in the Construction Contract Documents.
- Verify that test, equipment and systems start-ups and operation and maintenance training are conducted in the presence of appropriate personnel, and report to CDM Smith design team appropriate details relative to the test procedures and start-ups.
- Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project and record and document the results of these inspections.

- Interpretation of Contract Documents - Report to the CDM Smith design team and COF when clarifications and interpretations of the Contract Documents are needed and transmit to the Contractor clarifications and interpretations as issued by CDM Smith.
- Modifications - Consider and evaluate the Contractor's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to CDM Smith. Transmit to the Contractor in writing decisions as issued by CDM Smith and the COF. Note that preparation and negotiation of cost change orders are not included in the general and resident services.
- Records - Maintain orderly files at the job site for correspondence, reports of job conferences, Shop Drawings and Samples, reproductions of original Contract Documents including all Work Change, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, CDM Smith's clarifications and interpretations of the Contract Documents, progress reports, and Shop Drawing submittals received from and delivered to the Contractor and all other applicable Project related documents. Note – All files will be electronic, except as required by the State Revolving Fund representative.
- Prepare a daily report, recording the Contractor's hours on the job site, weather conditions, data relative to questions of Work Change Directives, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures. RPR shall produce and upload all daily reports to the document management system.
- Record names, addresses and telephone numbers of all the Contractor's subcontractors and major suppliers of materials and equipment.
- Reports - Furnish to CDM Smith periodic reports as required of progress of the Work and of the Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittal.
- Coordinate with the COF and CDM Smith in advance of scheduled major tests, inspections or start of important phases/processes of the Work.
- Report immediately to CDM Smith and the City the occurrence of any accident.
- Payment Request - Review Applications for Payment with the Contractor for compliance with the established procedure for their submission and discuss recommendation with CDM Smith's Technical Leads as appropriate; noting particularly the relationship of the payment requested to the Schedule of Values, work completed, and materials and equipment delivered at the site but not incorporated in the Work.
- Completion - Before CDM Smith issues a Certificate of Substantial Completion, submit to the Contractor a list of observed items requiring completion or correction.
- Observe whether the Contractor has performed inspections required by laws, rules, regulations, ordinances, codes, or orders applicable to the work; including but not limited, to those to be performed by public agencies having jurisdiction over the work.

- Conduct a final inspection in the company of the CDM Smith Technical Leads, COF and the Contractor and prepare a final list of items to be completed or corrected.
- Observe whether all items on final list have been completed or corrected and make recommendations to the COF concerning acceptance and issuance of the Notice of Acceptability of the Work.

CDM Smith and CDM Smith's RPR authority shall be limited such that the RPR shall not:

- Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items), unless authorized by the COF.
- Exceed limitations of CDM Smith's authority as set forth in the Work Order or the Contract Documents.
- Undertake any of the responsibilities of the Contractor, Subcontractors, Suppliers, or the Contractor's superintendent.
- Advise or issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
- Advise or issue directions regarding or assume control over safety precautions and programs in connection with the Work.
- Accept shop drawing or sample submittals or request for information from anyone other than the General Contractor.
- Authorize the COF to occupy the Project in whole or in part.
- Participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by the Engineer.

Special Services

Special services are a mix of required and recommended services provided in addition to those defined under General and Resident Services. Special Services include: S1) project change management, S2) SRF related services required per the loan requirements, S3) preparation of record drawings upon completion of the project, S4) startup and commissioning services, and S5) Allowance for CMMS development guidance. These tasks are defined in detail below.

Task S1, Change Management

This task includes review of Contractor claims and proposals, preparation of requests for proposal, assistance to the COF in negotiating change order scope, schedule and cost, work change directives, and preparation of change orders, including an overall project final reconciliation change order. RPR staff effort associated with change management are covered under the resident services task costs. Office support cost associated with change management is included under this task. As the level of effort for this item cannot be predicted, we propose to establish an allowance of \$450,000 for this item.

Task S2, SRF Related Services

This task provides services required under the SRF program rules and includes contract labor compliance, disbursement preparation guidance and review, closeout document preparation, and miscellaneous meetings and tasks. Contract labor compliance is monitoring that is required to verify that Davis-Bacon Act labor practices and requirements are being followed. The budgets for this task were developed assuming a 182-week construction period.

Subtask S2A, Contract Labor Compliance and American Iron and Steel Compliance

This task includes providing labor compliance services for administering, monitoring and enforcing labor standards as required under the Davis-Bacon Act which is required by the State Revolving Fund. It is assumed that the work under this task will include:

- Participation at the Pre-bid meeting and Pre-construction meeting in order to review Contractor wage rate and reporting obligations for the project
- Verification that the correct project specific Davis-Bacon wage rates and wage classifications are posted at the project job site at all times
- Comprehensive field interviews within two weeks of the start of the project
- Comprehensive field interviews within two weeks of the end of the project
- Creation and maintenance of project labor standards administration files
- Review of weekly certified payroll reports from prime Contractor and subcontractors working on the project
- Investigation of complaints of alleged violations of wage underpayment to employees and preparation of notice of labor standards violation report and enforcement reports, as necessary
- Administration of on-site employee interviews with randomly selected employees of the prime Contractor and all subcontractors
- Labor compliance investigations
- Reconciliation of on-site employee interviews with certified payrolls
- Notification of Contractor and subcontractors of noncompliance and discussion of possible solutions
- Preparation of various reports for contract and labor compliance; including but not limited to, the Contract and Subcontract Monthly Activity Report, and Semi-Annual Labor Standards Enforcement Report
- Review the monthly payment applications to verify that they include the Contractor's certification stating that workers have been paid the current prevailing wage rates for each classification according to the Davis-Bacon wage rate schedule for this project

- The American Iron and Steel (AIS) provision requires using steel and iron products that are produced in accordance with the United States Consolidated Appropriations Act of 2014 (P.L. 113-76). To ensure compliance with the AIS requirements, audits will be performed of documentation demonstrating proof of compliance including:
 - Auditing the Contractor's AIS records, reporting and documentation including verifying the location of the manufacturing process
 - Verifying each handler (supplier, fabricator, manufacturer, processor, etc.) of the iron and steel products certifies their step in the AIS process was domestically performed
 - Informal site visits during project field deliveries reviewing bill of lading, information on the shipper and carrier and verification the iron and steel products are in conformance with the approved project submittals
 - Verify, receive and file AIS project specific certification letters from the manufacturers for the project records
- Records: Interview forms, certified payrolls, attestation forms and certification letters will be kept together with the project records for three years after the contract is completed

The actual level of effort required for this task is dependent on a number of factors; including but not limited to the number of subcontractors, the number of employees the Contractor and each subcontractor employs on-site, the level of sophistication and experience with the requirements of the Contractor and each subcontractor and how adept they are at complying with the laws and regulations. It has been assumed that the Contractor will perform a minimum of 30 percent of the work and subcontractor no more than 70 percent of the work. It has also been assumed that no additional iron and steel products will be added to the project beyond those in the original contract documents. Due to the variability, it isn't possible to know the exact level of effort for this task; therefore, for the purpose of this proposal we have assumed that an average of 26 hours per week will be necessary over the 182-week contract period for review and compliance activities.

Subtask S2B, Disbursement Preparation Guidance and Review

This task includes reviewing of the Contractor's pay applications to confirm compliance with the SRF requirements and providing guidance on disbursement request preparation as necessary. This task also includes filling out SRF checklists and forms, performing budget adjustment assistance, coordinating with SRF after disbursement requests have been submitted and assisting with revisions if necessary. We assume that a total of 42 disbursement requests will occur.

Subtask S2C, Closeout Documents Preparation

This task includes compilation and review of documents associated with closing out the SRF loan. The CDM Smith project team will conduct coordination with the SRF staff and coordinate with the City staff as appropriate.

Subtask S2D, Miscellaneous Meetings/Tasks

This task includes assistance with numerous miscellaneous tasks and meetings. Examples include:

- Assistance with assembly of Authority to Award,
- Attendance of SRF coordination staff at preconstruction meeting,
- Assistance with response to state audits, EPA audits and internal audits,
- Files review during the project (files will be reviewed during SRF periodic inspections),
- *Fiscal Sustainability Plan* coordination and completion,
- Change Order review and assistance with submittal to SRF,
- Plans and specifications addendum review and assistance with submittal to SRF, and
- Other liaison services with SRF.

We propose establishing an allowance of \$25,000 for this task and monitoring the expenditures on a monthly basis.

Task S3, Preparation of Record Drawings

CDM Smith will review the final Record Drawing information submitted by the Contractor and will revise the construction drawings to reflect the actual final conditions based on the Contractor's Record Drawing information, supplemented with any additional information gathered by our RPR team during inspection activities. It is assumed that 564 drawings will be included in the final record drawing set. Final Record Drawings will be provided to COF in the following format: electronic drawing and specification files on CDs (AutoCAD and PDF), and one set each of full-size and half-size drawing prints. In addition, we have assumed that an electronic and a full-size paper set of documents will be delivered to the SRF.

Task S4, Startup and Commissioning Services

During the construction phase, CDM Smith will provide pre-startup O&M assistance on operational issues relative to the completion of construction and plant startup. The Startup and Commissioning subtasks are as follows and are described in more detail below:

- *Subtask S4A, Equipment and Process Testing and Startup Related Services*
- *Subtask S4B, Review of Equipment Service Manuals*
- *Subtask S4C, Vendor Training Quality Monitoring*

Subtask S4A Equipment and Process Testing and Startup Related Services

It is assumed that there will be up to 40 testing and startup events for either individual equipment or plant processes. This task will include 1) Testing plan review, 2) Testing plan development assistance, 3) Tracking and monitoring to verify testing readiness, 4) Pre-testing and startup coordination meetings, and 5) Witnessing of testing. Each of these subtasks is described in detail below.

Startup and Testing Plan Review

Prior to proceeding with testing and startup of equipment and processes, the contractor will be required to develop and submit testing and startup plans for review. This subtask includes review of up to 80 testing and startup plan submittals and resubmittals (i.e., review of each plan twice). The testing and startup documents will also be electronically transmitted to City personnel for review concurrent with the CDM Smith review. CDM Smith will then consolidate the comments into a single response. If necessary, CDM Smith will host a coordination call with the City to resolve any discrepancies in the two sets of comments.

Testing Plan Development Assistance

In the case of more complicated testing and startup plans, especially those involving startup of whole treatment processes, like the biosolids facility, the contractor is not likely to have the expertise required to produce a complete and acceptable plan. The goal of this task is to collaborate with the contractor to guide them to an acceptable plan (i.e., one that achieves the goals but still remains under their direct ownership). It is assumed that three of the testing plans identified above will require testing plan development assistance. CDM Smith will coordinate with the City to facilitate City participation in all coordination sessions. It is assumed that a total of six testing plan coordination meetings will be held, (three by phone and three in person) and three CDM Smith staff will attend and participate in each meeting. A total of 42 hours has been budgeted for meetings held by phone and a total of 108 hours have been budgeted for in person meetings.

Tracking and Monitoring to Verify Readiness

CDM Smith will maintain a checklist to track and monitor the readiness of equipment and processes for testing. The checklist will include specified pre-testing submittals and actions, physical readiness, and submittal of the manufacturers certificate of proper installation.

Pre-Testing and Startup Coordination Meetings

CDM Smith will attend up to 40 start-up coordination meetings with the Contractor and plant staff. We assume that these meetings will either be by phone or will occur on the morning that testing will begin (i.e., any travel is accounted for under the actual testing). A total of 40 hours has been allotted for this task.

Witnessing of Testing and Startup for Liquid Process

During start-up of the liquid process, CDM Smith will provide on-site assistance of a full-time Operations and Maintenance Specialist who will assist operating staff through the various facility start-up phases. For the purposes of this scope of work, it is assumed that a total of 60 man-days (at 8 hours/day) of O&M specialist assistance will be provided during equipment and process functional and acceptance testing, start-up and systems optimization. It is assumed that a total of 20 trips to the site will be required for this work. The O&M specialist's responsibilities will include:

- Observation of functional and acceptance testing of the work
- Assist plant staff in process preparation for testing and initial operation

- Providing input and guidance in the commissioning of new work.
- Recommending process analysis, monitoring and control adjustments
- Monitoring and recommend process optimization adjustments
- Prepare sample process equipment status log sheets
- Provide informal hands-on instruction to plant staff
- Coordinate construction warranty-related issues

Note that provision of any recommendations or advice to the Contractor will be dependent on Contractor agreeing to take all risk for either acceptance or non-acceptance of CDM Smith input.

Engineer will keep written logs of the pre-startup and startup activities. The logs will include operating and testing parameters, test observations, feed rates, and chemical consumption, where applicable. The Specialist logs will be utilized during plant start-up and to update the O&M manual. The O&M Specialist will participate in the Contractor meetings associated with the testing and startup work during the testing and startup.

Witnessing of Testing and Startup for the Biosolids Processes

The commissioning requirements for the biosolids process are quite involved and lengthy as described in Specification Section 01666. Overall, the commissioning services for the entire biosolids process train are estimated to require 200 days (assume 30 weeks). We have assumed the following staffing for this task:

- One full-time CDM Smith Operations and Maintenance (O&M) Specialist who will act as the Owner's Commissioning Manager (OCM). It is assumed that this person would work an average of 8 hours per day, six days per week during the 30-week period.
- A second CDM Smith O&M Specialist who will be on-site but will spend an average of 16 hours per week on this task. This person's function will be to fill in for the OCM on the seventh day of the week, when necessary, and to provide hands on guidance and assistance to the City Operators on equipment that has been deemed substantially complete and turned over to the City. Note that the commissioning of the biosolids system is likely to require seven day a week attention for a portion of the commissioning period, especially after the system has been commissioned through the pre-dewatering system. It is intended that this second O&M Specialist will be at the site through the entire biosolids commissioning period but will perform work on tasks S5 through S8 when he/she is not working on this specific subtask.
- Technical Expert Visits– Assumed total of 30 days of onsite support over eight different trips.
- Technical Expert Office and Telephone Assistance – Assumed total of 240 hours of remote support to the project team and Franklin operations staff.

- Technical experts will include those with expertise in dewatering, digestion, thermal hydrolysis, and combined heat and power, as well as all other needs that may arise during start-up and commissioning.

Subtask S4B Review of Equipment Service Manuals

Engineer will review the Contractor submitted vendor and manufacturers' operation and maintenance manuals. The review will verify that proper operations, preventive maintenance, repair procedures and applicable service information are provided for all specified equipment. The submitted manuals will be compared to the specification section "Operations and Maintenance Data" to verify that the submittals are sufficient in content, quantity and provided in a timely manner that enable staff training and consultation prior to start-up. It is assumed that 140 submittals and resubmittals will be reviewed and that a total of up to 840 hours will be required for reviews.

Subtask S4C Vendor Training Quality Monitoring

This task will include review of Contractor submitted training plans and monitoring of select training sessions. These are described in more detail below.

Review of Training Plans

Prior to proceeding with training on equipment and processes, the contractor will be required to develop and submit training plans for review. It is assumed that 40 training plans will be produced and that each plan will be reviewed twice.

Monitoring of Select Training Sessions

CDM Smith will monitor select vendors and manufacturers' training to ensure that they comply with the intent of the specifications and that the material is covered adequately and professionally. CDM Smith will take attendance and provide feedback on design intent during the training session to augment the students learning experience. Vendor courses will not be accredited by CDM Smith. The O&M specialist will attend up to fifteen (15) training days by the vendors. It is assumed that 10 trips to the site will be necessary for this task.

Task S5, Allowance for CMMS Development Guidance

The City wishes to develop a CMMS system for the Franklin WRF using their existing CMMS software platform (INFOR). The City would like to do this with their own forces but would like guidance from CDM Smith. The level of effort or exact scope required of CDM Smith is not established at this time, so we propose to establish an allowance of \$30,000 to allow initiation of the guidance work.

Schedule

The schedules for general services, resident project representative and inspection services, change management, SRF related services, startup and commissioning services will be driven by the contractor's schedule. For the purpose of this proposal, these services shall be completed within the 45-month construction time period from Notice of Award through final completion. Record drawings will be completed within two months of the completion of construction.

Budget

CDM Smith proposes to perform the above work on a billing rate basis for a not to exceed price of \$11,677,396. A breakdown of cost is provided on Table 1 herein.

Table 1
Summary of Budget by Task
Franklin WRF Construction Services Proposal

LABOR	Task No.	G1	G2	G3	G4	G5	R1	S1	S2	S3	S4	S8		
	Rate						Resident Services	Construction Special Services					O&M Services	
		Project Management	Project Meetings	Reviews, Clarifications and Interpretations	Office Staff Visits	Witnessing Factory Tests	Construction Observation	Change Management	SRF Related Services	Record Drawings	Startup & Commissioning Services	Allowance for CMMS Development Guidance	Totals	
Officer	\$225	404	210	0	0	0	0	26	0	0	0	0	640	
Project Manager/Lead RPR	\$190	0	0	0	0	0	7280	0	0	0	0	0	7280	
Project Controls Specialist	\$110	200	0	0	0	0	0	0	0	0	0	0	200	
Senior Technical Specialist	\$210	2024	747	866	376	128	0	325	0	28	710	33	5237	
Technical Specialist	\$190	74	836	908	1996	112	0	325	0	55	48	33	4387	
Senior Engineer/Scientist	\$165	50	166	1300	72	0	0	325	0	56	4274	33	6276	
Engineer/Scientist	\$145	3192	510	3558	0	0	0	325	0	113	156	33	7887	
Junior Engineer/Scientist	\$120	0	0	2450	0	0	0	325	0	0	0	0	2775	
Senior Designer	\$140	0	0	0	0	0	0	260	0	733	0	0	993	
Contract Administrator	\$110	398	0	0	0	0	0	0	0	0	0	0	398	
Construction Coordinator	\$210	10	50	344	0	0	0	270	0	0	0	0	674	
Designer/Drafter/Technician	\$95	0	0	200	0	0	0	260	0	451	0	0	911	
Administrative Staff	\$90	1604	73	0	0	0	0	0	0	34	150	0	1861	
Electrical RPR	\$165	0	0	0	0	0	800	0	0	56	0	0	856	
Senior RPR	\$140	0	0	0	0	0	7880	0	0	0	0	0	7880	
RPR	\$110	0	0	0	0	0	11360	0	0	0	0	0	11360	
Construction Cost Estimator	\$160	0	0	0	0	0	0	260	0	0	0	0	260	
TOTAL HOURS		7956	2591	9626	2444	240	27320	2701	0	1527	5338	132	59875	
TOTAL DOLLARS		\$1,213,330	\$481,153	\$1,470,030	\$470,080	\$48,160	\$3,868,000	\$435,000	\$0	\$199,898	\$899,550	\$23,430	\$9,108,630	
OTHER DIRECT COSTS														
Car Mileage	\$0.570	\$171	\$17,844	\$0	\$11,223	\$399	\$23,598	\$3,420	\$0	\$0	\$2,913	\$114	\$59,682	
Rental Car	\$70	\$420	\$3,430	\$0	\$15,540	\$2,100	\$7,000	\$0	\$0	\$0	\$11,970	\$840	\$41,300	
Air Fare	\$700	\$4,200	\$33,600	\$0	\$65,100	\$11,600	\$23,100	\$0	\$0	\$0	\$51,800	\$2,800	\$192,200	
Meals	\$63	\$0	\$8,411	\$0	\$14,742	\$1,890	\$6,300	\$1,890	\$0	\$0	\$10,962	\$756	\$44,951	
Hotel	\$157	\$942	\$15,936	\$0	\$17,113	\$2,512	\$15,700	\$4,710	\$0	\$0	\$28,260	\$1,884	\$87,057	
Apartment Rental	\$1,300	\$0	\$0	\$0	\$0	\$0	\$10,200	\$0	\$0	\$0	\$0	\$0	\$10,200	
Telephone		\$0	\$0	\$0	\$0	\$0	\$11,520	\$0	\$0	\$0	\$0	\$0	\$11,520	
Document Reproduction		\$1,405	\$2,085	\$12,420	\$890	\$140	\$0	\$4,000	\$0	\$5,500	\$2,132	\$176	\$28,748	
Shipping		\$1,185	\$330	\$8,050	\$0	\$0	\$0	\$980	\$0	\$0	\$0	\$0	\$10,545	
Miscellaneous Equipment/Supplies		\$0	\$0	\$100,000	\$0	\$0	\$4,500	\$0	\$0	\$0	\$0	\$0	\$104,500	
TOTAL ODCs Plus 0% Markup		\$8,323	\$81,635	\$120,470	\$124,608	\$18,641	\$101,918	\$15,000	\$0	\$5,500	\$108,037	\$6,570	\$590,702	
OUTSIDE PROFESSIONALS														
Structural - Special Inspection		\$0	\$0	\$0	\$0	\$0	\$30,000	\$0	\$0	\$0	\$0	\$0	\$30,000	
Civil Infrastructure Associates		\$44,640	\$0	\$37,200	\$0	\$0	\$135,000	\$0	\$0	\$11,200	\$0	\$0	\$228,040	
LDA Eng (SRF Admin & Svcs)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$130,000	\$0	\$0	\$0	\$130,000	
Tom Lamb (RPR and AI&S Support)		\$0	\$0	\$0	\$0	\$0	\$906,200	\$0	\$504,000	\$0	\$0	\$0	\$1,410,200	
Subtotal OPs		\$44,640	\$0	\$37,200	\$0	\$0	\$1,071,200	\$0	\$634,000	\$11,200	\$0	\$0	\$1,798,240	
Total OPs Plus 10% Markup	10%	\$49,104	\$0	\$40,920	\$0	\$0	\$1,178,320	\$0	\$697,400	\$12,320	\$0	\$0	\$1,978,064	
TOTALS		\$1,270,757	\$562,787	\$1,631,420	\$594,688	\$66,801	\$5,148,238	\$450,000	\$697,400	\$217,718	\$1,007,587	\$30,000	\$11,677,396	
General Services Subtotal		\$4,126,454		Field Services		\$5,148,238		Construction Spec. Services		\$2,372,704		O&M \$30,000		

**AMENDMENT NO. 1 TO
PROFESSIONAL SERVICES AGREEMENT
FOR THE GOOSE CREEK INN SANITARY SEWER
EXTENSION PROJECT
COF Contract No. 2017-0276**

THIS AMENDMENT is made and entered into on this the ____ day of _____, 201_, by and between the **City of Franklin, Tennessee** ("City") and **C&T ENGINEERING AND INSPECTION, LLC** ("Consultant").

WITNESSETH:

WHEREAS, City and Consultant entered into a Professional Services Agreement ("Agreement") (COF Contract No. 2017-0276) entitled City of Franklin, Tennessee Professional Services Agreement, Goose Creek Inn Sanitary Sewer Extension Project ("Project"), dated the 14th day of November, 2017; and

WHEREAS, the City and Consultant realize the need for additional resident project representative services related to construction services support to fully complete the Project's final construction; and

WHEREAS, the Consultant has provided a Proposal for an increase in resident project representative services for the Goose Creek Inn Sanitary Sewer Extension Project, as described in Attachment A dated June 1, 2018, in the amount of **THIRTY-THREE THOUSAND EIGHT HUNDRED TEN AND NO/100 DOLLARS (\$33,810.00)**; and

WHEREAS, the City has reviewed the Proposal and desires to enter into an Amendment to the Agreement to include the final design as stated above for the Project as proposed by the Consultant.

NOW, THEREFORE, in consideration of these premises and the mutual promises contained herein, it is agreed by and between the parties as follows:

1. The foregoing recitals are incorporated by reference as if fully stated herein.
2. Consultant's Responsibilities and Duties. The Consultant shall perform the work as proposed in the Scope as found in the June 1, 2018, letter of proposal (**Attachment A**) which includes the Scope of Services for this Amendment. Attachment A shall be considered as an integral part hereof.
3. City's Responsibilities and Duties. The City shall pay the Consultant in an amount not to exceed **THIRTY-THREE THOUSAND EIGHT HUNDRED TEN AND NO/100 DOLLARS (\$33,810.00)** for the additional services as described in Attachment A.

The City reserves the right to issue any payments jointly to the Consultant and Sub-Consultant when the City receives information that the Consultant has not paid its Sub-Consultant.

4. Waiver. Neither party's failure nor delay to exercise any of its rights or powers under this Amendment will constitute or be deemed a waiver or forfeiture of those rights or powers. For a waiver of a right or power to be effective, it must be in writing signed by the waiving party. An effective waiver of a right or power shall not be construed as either (a) a future or continuing waiver of that same right or power, or (b) the waiver of any other right or power.

5. Severability. If any term or provision of the Amendment is held to be illegal or unenforceable, the validity or enforceability of the remainder of the Amendment will not be affected.

6. Precedence. In the event of conflict between this Amendment and the provisions of the previous Agreement(s), or any other contract, agreement or other document to which this Amendment may accompany or incorporate by reference, the provisions of this Amendment will, to the extent of such conflict (or to the extent the Agreement is silent), take precedence unless such document expressly states that it is amending this Amendment.

7. Entire Agreement. The Amendment between the parties supersedes any prior or contemporaneous communications, representations or agreements between the parties, whether oral or written, regarding the subject matter of the entire Amendment. The terms and conditions of this Amendment may not be changed except by an amendment expressly referencing this Amendment by section number and signed by an authorized representative of each party.

8. Additions/Modifications. If seeking any addition or modification to the Amendment, the parties agree to reference the specific paragraph number sought to be changed on any future document or purchase order issued in furtherance of the Amendment, however, an omission of the reference to same shall not affect its applicability. In no event shall either party be bound by any terms contained in any purchase order, acknowledgement, or other writings unless: (a) such purchase order, acknowledgement, or other writings specifically refer to the Amendment or to the specific clause they are intended to modify; (b) clearly indicate the intention of both parties to override and modify the Amendment; and (c) such purchase order, acknowledgement, or other writings are signed, with specific material clauses separately initialed, by authorized representatives of both parties.

9. Breach. Upon deliberate breach of the Amendment by either party, the non-breaching party shall be entitled to terminate the Amendment without notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

10. Survival. This Amendment shall survive the completion of or any termination of the original contract, revised contract, or agreement or other document to which it may accompany or incorporate by reference.

All other provisions of the Agreement dated November 14, 2017, , are unchanged and remain in full force and effect.

(Signatures on page 3)

IN WITNESS WHEREOF, the parties have executed this Amendment.

CITY OF FRANKLIN, TENNESSEE

C&T ENGINEERING AND INSPECTION, LLC

By: _____
Dr. Ken Moore
Mayor
Date: _____

By: _____
Print: _____
Title: _____
Date: _____

Attest:

Eric S. Stuckey
City Administrator
Date: _____

Approved as to form:

Tiffani M. Pope, Staff Attorney



Engineering and Inspection, LLC

6/1/2018

Ms. Michelle Hatcher-Director
Franklin Water Management Department
124 Lumber Drive
Franklin, TN 37064

**Re: Goose Creek Inn Sewer Extension
Fee Increase-Resident Project Representative Services
C&T No. 2017-0276**

Dear Michelle,

Due to the Contractor's construction schedule and hours worked we have exhausted our initial fee of \$33,915.00 for **Resident Project Representative (RPR)** services for the Goose Creek Inn Sewer extension project. A Notice to Proceed (NTP) was issued with a commencement date of February 8, 2018 with a contract completion date within 90-days of NTP, completing work May 6, 2018. Our RPR budget was based on this 90-day original construction schedule.

Work orders extended the completion date to June 3, 2018. Our billings to date trailed below the budget established in our proposal, which allowed us to extend our scope over a longer period than estimated initially. Based upon our estimation at this time, the budget remaining will cover our services through June 2, 2018.

Based upon the contractor's current working hours and proposed schedule an anticipated substantial completion date of July 27, 2018 with final completion date of August 3, 2018 for a total of 9- additional weeks to complete the project. We are respectfully requesting a fee increase of **\$33,810.00** for the services described above related to RPR services.

We appreciate the opportunity to provide these additional services to the City of Franklin. The total adjusted fee ceiling of **\$67,725.00** will not be exceeded without prior approval by the City. If the City is in agreement with the terms of this fee increase, we will execute a formal amendment to our contract. If you have any questions or concerns regarding this request, please do not hesitate to call me at (615) 567-3306.

Sincerely,

~~C&T Engineering and Inspection, LLC~~

A handwritten signature in blue ink, appearing to read 'Carla S. Lamb', is written over the company name.

Carla S. Lamb
President

C.c. Patricia McNeese - FWMD

**AMENDMENT NO. 6 TO
PROFESSIONAL SERVICES AGREEMENT
FOR THE WATER TREATMENT PLANT MODIFICATIONS
COF Contract No. 2012-0183**

THIS AMENDMENT is made and entered into on this the ____ day of _____, 201_, by and between the **City of Franklin, Tennessee** ("City") and **Smith Seckman Reid, Inc. (SSR)** ("Consultant").

WITNESSETH:

WHEREAS, City and Consultant entered into a Professional Services Agreement ("Agreement") (COF Contract No. 2012-0183) entitled City of Franklin, Tennessee Professional Services Agreement, Water Treatment Plant Modifications ("Project"), dated the 27th day of November, 2012; and

WHEREAS, the City approved Amendment No. 1 to the Consultant's Professional Services Agreement (COF Contract No 2012-0183) on June 25, 2013, for the engineering design services for an upgrade to the Raw Water Intake and Pump Station for the Water Treatment Plant; and

WHEREAS, the City approved Amendment No. 2 to the Consultant's Professional Services Agreement (COF Contract 2012-0183) on January 14, 2014, for the design, bid and installation of the interim Ultraviolet (UV) disinfection treatment upgrade to meet Environmental Protections Agency's (EPA) imposed deadline of September 30, 2014, for adherence EPA's Long-Term Surface Treatment Rule (LT2 Rule); and

WHEREAS, the City approved Amendment No. 3 to the Consultant's Professional Services Agreement (COF Contract 2012-0183) on May 4, 2015, for the preselection process of the hollow fiber membrane filtration system (Membrane) and the design efforts needed for the inclusion of other alternative treatment solutions, such as the Advanced Oxidation Process (AOP), selected by staff to better enhance the capabilities upgrade of the Water Treatment Plant; and

WHEREAS, the City approved Amendment No. 4 to the Consultant's Professional Services Agreement (COF Contract 2012-0183) on October 27, 2015, for the Consultant's Construction Administration (CA) and Resident Project Representative (RPR) Services during construction of the Water Treatment Plant; and

WHEREAS, the City approved Amendment No. 5 to the Consultant's Professional Services Agreement (COF Contract 2012-0183) on December 12, 2017, for the Consultant's Construction Administration (CA) and Resident Project Representative (RPR) Services during construction of the Water Treatment Plant; and

WHEREAS, the City and Consultant realize the need for additional engineering services related to construction services support to fully complete the Project's final construction; and

WHEREAS, the Consultant has provided a Proposal for an increase in engineering services for the Water Treatment Modifications Project, as described in Attachment A dated May 7,

2018, in the amount of **TWENTY-ONE THOUSAND NINE HUNDRED AND NO/100 DOLLARS (\$21,900.00)**; and

WHEREAS, the City has reviewed the Proposal and desires to enter into an Amendment to the Agreement to include the final design as stated above for the Project as proposed by the Consultant.

NOW, THEREFORE, in consideration of these premises and the mutual promises contained herein, it is agreed by and between the parties as follows:

1. The foregoing recitals are incorporated by reference as if fully stated herein.
2. Consultant's Responsibilities and Duties. The Consultant shall perform the work as proposed in the Scope as found in the May 7, 2018, letter of proposal (**Attachment A**) which includes the Scope of Services for this Amendment. Attachment A shall be considered as an integral part hereof.
3. City's Responsibilities and Duties. The City shall pay the Consultant in an amount not to exceed **TWENTYONE THOUSAND NINE HUNDRED AND NO/100 DOLLARS (\$21,900.00)** for the additional services as described in Attachment A.

The City reserves the right to issue any payments jointly to the Consultant and Sub-Consultant when the City receives information that the Consultant has not paid its Sub-Consultant.

4. Waiver. Neither party's failure nor delay to exercise any of its rights or powers under this Amendment will constitute or be deemed a waiver or forfeiture of those rights or powers. For a waiver of a right or power to be effective, it must be in writing signed by the waiving party. An effective waiver of a right or power shall not be construed as either (a) a future or continuing waiver of that same right or power, or (b) the waiver of any other right or power.

5. Severability. If any term or provision of the Amendment is held to be illegal or unenforceable, the validity or enforceability of the remainder of the Amendment will not be affected.

6. Precedence. In the event of conflict between this Amendment and the provisions of the previous Agreement(s), or any other contract, agreement or other document to which this Amendment may accompany or incorporate by reference, the provisions of this Amendment will, to the extent of such conflict (or to the extent the Agreement is silent), take precedence unless such document expressly states that it is amending this Amendment.

7. Entire Agreement. The Amendment between the parties supersedes any prior or contemporaneous communications, representations or agreements between the parties, whether oral or written, regarding the subject matter of the entire Amendment. The terms and conditions of this Amendment may not be changed except by an amendment expressly referencing this Amendment by section number and signed by an authorized representative of each party.

8. Additions/Modifications. If seeking any addition or modification to the Amendment, the parties agree to reference the specific paragraph number sought to be changed on any future document or purchase order issued in furtherance of the Amendment, however, an omission of the reference to same shall not affect its applicability. In no event shall either party be bound by

any terms contained in any purchase order, acknowledgement, or other writings unless: (a) such purchase order, acknowledgement, or other writings specifically refer to the Amendment or to the specific clause they are intended to modify; (b) clearly indicate the intention of both parties to override and modify the Amendment; and (c) such purchase order, acknowledgement, or other writings are signed, with specific material clauses separately initialed, by authorized representatives of both parties.

9. Breach. Upon deliberate breach of the Amendment by either party, the non-breaching party shall be entitled to terminate the Amendment without notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

10. Survival. This Amendment shall survive the completion of or any termination of the original contract, revised contract, or agreement or other document to which it may accompany or incorporate by reference.

All other provisions of the Agreement dated November 27, 2012, and its subsequent Amendments, are unchanged and remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment.

CITY OF FRANKLIN, TENNESSEE

SMITH SECKMAN REID, INC.

By: _____
Dr. Ken Moore
Mayor
Date: _____

By: _____
Print: _____
Title: _____
Date: _____

Attest:

Eric S. Stuckey
City Administrator
Date: _____

Approved as to form:

Tiffani M. Pope, Staff Attorney

May 7, 2018

Mrs. Michelle Hatcher – Director
Franklin Water Management Department
124 Lumber Drive
Franklin, Tennessee 37064

**Re: Franklin Water Treatment Plant Modifications
COF Contract Number: 2012-0183
CA Additional Services Request**

Dear Michelle,

As you are aware, the work at the Water Treatment Plant is nearing completion. The plant has been producing water for 8 weeks, and effort on site has turned to the completion of work list items associated with walk through activities across the design team, along with additional work that is being completed from contingency funds.

The time extension associated with Change Order No. 3 dictated a 78 day increase in contract time. Based upon a tentative Substantial Completion (SC) Date of April 24, 2018, the project must reach final completion by June 23, 2018 (60 days after SC), which is roughly 2 weeks earlier than the time identified in the change.

The extension of the project has placed us near our Construction Administration fee ceiling. Our letter dated October 31, 2017 indicated that we would exhaust our fee in April, 2018. At the time of the letter, this date coordinated with project close-out. The extension of the project an additional two months will require us to extend our timeline of CA services. Following our April invoice, we will have \$9,866.00 in CA Labor Budget remaining. We have projected effort of \$31,800.00 necessary to close out the project over the next 7 weeks.

We are respectfully requesting an increase to our fee ceiling of **\$21,900.00** for the extension of construction services through the close out period. Please note that we have expense budget of just under \$23,000.00 remaining in our contract. Our initial inquiry was to repurpose this funding to labor budget, but we understand an internal shift is not allowed, and therefore are providing this request a formal amendment. We believe the amendment would ultimately result near a net zero change in funding based upon the surplus expense budget. The construction contract is also expected to close out well beneath the initial budget.

We appreciate the opportunity to continue to serve to the City of Franklin and look forward to celebrating the project with you next month. The fee ceiling will not be exceeded without prior approval by the City. If you have any questions or concerns regarding this request, please do not hesitate to call me at (615) 460-0522.

Sincerely,

SMITH SECKMAN REID, INC.

A handwritten signature in blue ink, appearing to read 'A. Johnson', is written over the printed name of Andrew Johnson.

Andrew Johnson, P.E.

cc: Brian Goodwin, Patricia McNeese - FWMD
JAG, KDM – SSR
File (7)

PROPOSAL

COMPREHENSIVE ASSESSMENT OF ODOR EMISSIONS AND THEIR CONTROL IN THE FRANKLIN, TN WASTEWATER COLLECTION AND TREATMENT SYSTEM

Prepared for:

CITY OF FRANKLIN WATER MANAGEMENT DEPT.
124 Lumber Drive
Franklin, TN 37064

Prepared by:

BOWKER & ASSOCIATES, INC.
CONSULTING ENGINEERS
21 Summerfield Lane
Scarborough, ME 04074

January, 2018

1. INTRODUCTION

The City of Franklin operates a wastewater treatment plant that is scheduled for an upgrade. Encroaching development around the plant has raised concerns for odor, and there have been some complaints attributed to either the wastewater treatment plant or the sewer system that collects and transmits wastewater to the plant.

The collection system includes multiple pump stations and force mains. Force mains generate more hydrogen sulfide and odor than gravity sewers because the sewage is retained in a full pipe with no opportunity for aeration. As a result, the sewage quickly becomes septic or anaerobic, favoring the generation of odorous hydrogen sulfide gas. This hydrogen sulfide gas can be released downstream of the force main discharge, or at the headworks of the plant.

The wastewater treatment plant that serves the City of Franklin uses the oxidation ditch process with no primary clarifiers. Such plants tend to have fewer odor issues than plants with primary clarifiers. However, odors can still be released from the headworks or sludge handling processes.

The following proposal is to conduct a comprehensive assessment of the wastewater collection and treatment system to provide:

1. An evaluation of the contribution of odors and hydrogen sulfide from upstream force mains and interceptors.
2. An “odor emissions inventory” of the wastewater treatment plant to provide a ranking of odor sources by their odor emission rate.
3. Odor dispersion modeling to assess the existing “odor footprint” of the treatment plant and to evaluate the effect of recommended odor control alternatives.
4. Evaluation of various odor control strategies as necessary to meet downwind objectives.
5. A report that summarizes all sampling data, presents results of dispersion modeling, and provides recommendations and cost estimate for the most cost-effective odor control strategy.

A proposed Scope of Services and Fee Estimate follow, along with a proposed Schedule and Summary of Qualifications.

2. SCOPE OF SERVICES

Task 1. Review background information and develop sampling plan

Bowker & Associates will review background information on the facilities and develop a plan to collect samples from both the wastewater collection system and treatment plant. This will include collection and field analysis of wastewater samples in the collection system, deployment of Odalogs to measure H₂S concentrations, and collection and analysis of air samples at the treatment plant to measure odor strength. The written sampling plan will be submitted to the City of Franklin for review and comment.

Task 2. Implement sampling program

The sampling plan envisioned will consist of 3 days of wastewater sampling in the collection system and 7 days of continuous H₂S measurements at multiple locations in the sewer system. We will conduct field analysis of the wastewater for sulfide, pH, oxidation-reduction potential (ORP), and temperature. A total of 8 sampling locations have been assumed for this proposal.

For the wastewater treatment plant, air samples will be collected from processes including, but not limited to:

1. Headworks
2. Screen/grit handling systems
3. Oxidation ditch surface
4. Sludge thickening exhaust
5. Sludge dewatering exhaust
6. Other sources as necessary

Air samples will be sent by overnight carrier to St. Croix Sensory in Stillwater, MN to measure the odor “concentration” in dilutions to threshold. This ASTM laboratory procedure measures the number of times the odorous sample must be diluted with odor-free air until the odor can no longer be detected. In addition, selected samples will be sent to Mayfly Laboratory in Mystic, CT to measure the concentration of reduced sulfur compounds that are responsible for the odor. This will help in determining the best technology to treat the odor, should that become necessary.

Task 3. Conduct odor dispersion modeling

Bowker & Associates will first calculate the “odor emission rate” for each process. This is simply the odor concentration multiplied by the air flow rate to estimate how many “pounds of

odor” are being released from each process. This will provide a ranking of the odor sources by how much odor they are generating.

The odor emission rates are then input into the dispersion model, along with terrain data, actual weather data, building dimensions, etc. We will use the EPA-approved AERMOD dispersion model that predicts the level of odor surrounding the plant under worst-case meteorological conditions. We also use the model to estimate how often a “target” level of odor is exceeded. The dispersion model is valuable to determine the effects of implementing various odor control strategies on odor levels around the plant. Figure 1 is an example of the output of the dispersion model.

Task 4. Evaluate odor control options

We will evaluate various odor control options for those processes deemed to have the potential to generate odors that travel off-site. The selection of the proper technology is dependent on the characteristics of the air, the air flow rate, available space, required performance, and other factors. The focus will be on technologies that are well-demonstrated, reliable, and have low O&M requirements. Alternatives such as biofiltration, carbon adsorption, and bio-scrubbing are proven technologies that are frequently used to treat wastewater odors.

Addition of chemicals to the wastewater can also provide odor reduction, and will be evaluated on a case-by-case basis. While effective and easy to implement, the recurring cost of chemical addition can become prohibitive.

For the recommended odor mitigation strategy, we will prepare estimates of the capital and operating costs.

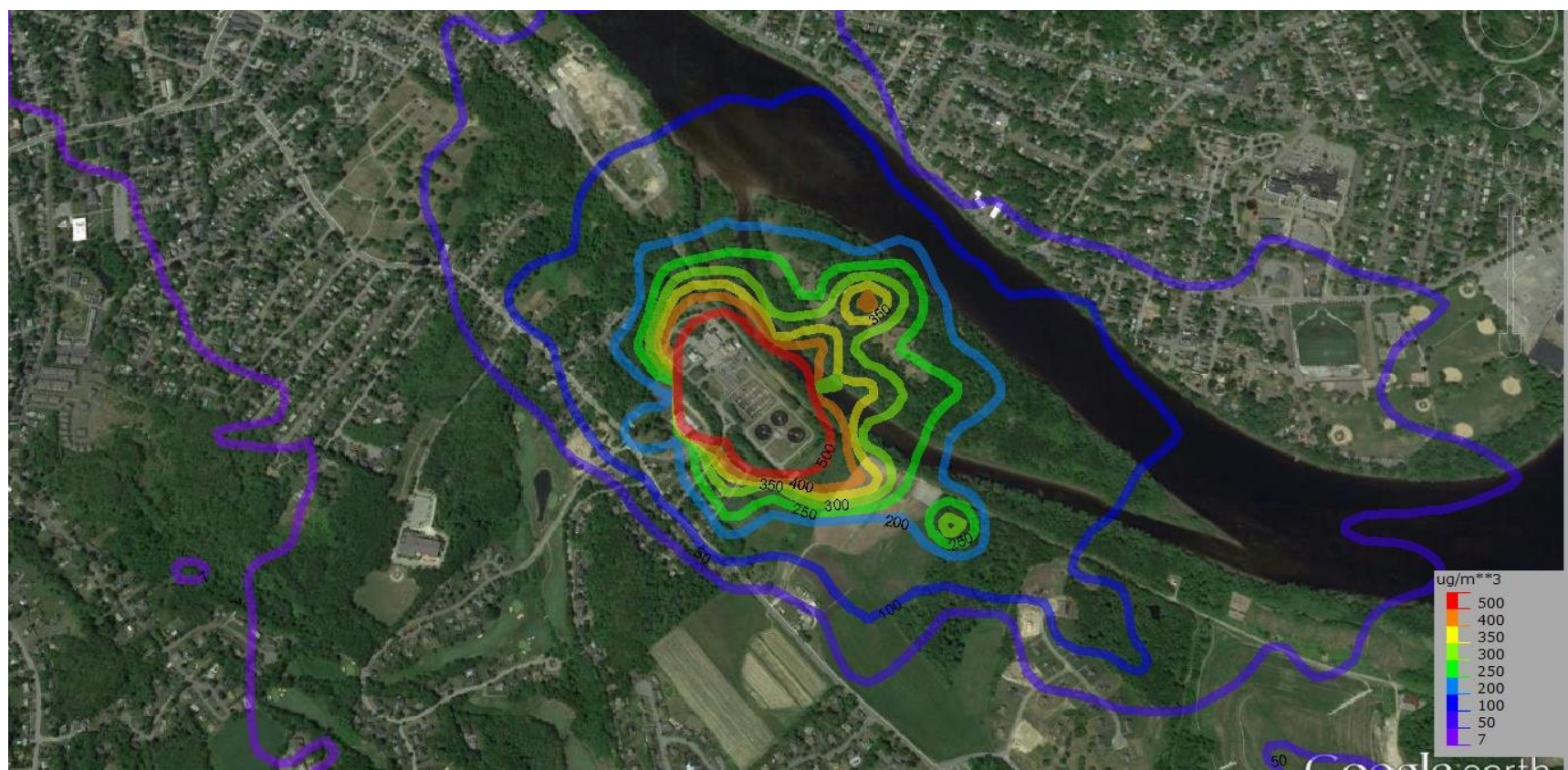
Task 5. Prepare report

Bowker & Associates will prepare a draft report for review and comment by the City of Franklin. The report will include:

1. Introduction
2. Description of facilities
3. Sampling program
4. Odor dispersion modeling
5. Evaluation of alternatives
6. Conclusions and recommendations

Upon receipt of comments, a final report will be transmitted.

FIGURE 1. EXAMPLE OF OUTPUT FROM ODOR DISPERSION MODEL SHOWING “ODOR FOOTPRINT” OF WWTP.



3. FEE ESTIMATE

Table 1 provides a breakdown of estimated fee for the tasks described above. The total cost of \$40,740 includes all labor, travel, and analytical expenses.

4. SCHEDULE

The major factor driving the schedule of this project is the need to conduct the sampling during peak, warm-weather conditions. Typically these conditions occur during the months of July through September. Assuming a July sampling schedule, it is anticipated that a draft report would be submitted by September 30. The project could start at any time, say March 1, 2018.

5. SUMMARY OF QUALIFICATIONS

Bowker & Associates has specialized in the control of odors from waste handling systems for 25 years, and has completed over 200 projects at wastewater pump stations, treatment plants, collection systems, and landfills. Robert Bowker is a professional engineer with over 40 years of experience in the wastewater industry, and has co-authored several EPA and WEF manuals on the subject of odors and corrosion in wastewater systems. Mr. Bowker's resume is attached. Our full Statement of Qualifications and Experience is available upon request.

TABLE 1

FEE ESTIMATE

FRANKLIN, TN ODOR STUDY

Bowker & Associates, Inc.

January, 2018

<u>Task</u>		<u>Estimated fee, \$</u>
<u>1. Review background information and develop sampling plan</u>		
<i>Labor:</i>		
R. Bowker:	12 hrs @ \$175/hr	\$ 2,100
Clerical:	2 hrs @ \$50/hr	<u>100</u>
	Subtotal Task 1	\$ 2,200
<u>2. Implement sampling plan for collection system and treatment plant</u>		
<i>Labor:</i>		
R. Bowker:	56 hrs @ \$175/hr	\$ 9,800
Clerical:	4 hrs @ \$50/hr	<u>200</u>
<i>Travel:</i>		
Airfare:		600
Rental car:	7 days @ \$80/day	560
Hotels:	7 nights @ \$150/night	850
Meals:	7 days @ \$50/day	<u>350</u>
<i>Analytical:</i>		
Odalogs:	8 units @ \$160/wk	1,280
Odor panel:	12 samples @ \$350 each	4,200
Reduced sulfurs:	4 samples @ \$250 each	1,000
Supplies:		500
Shipping:		<u>600</u>
	Subtotal Task 2	\$19,940

3. Odor dispersion modeling

Labor:

R. Bowker:	32 hrs @ \$175/hr	\$5,600
Clerical:	4 hrs @ \$50/hr	200

Weather & terrain data		<u>1,000</u>
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Subtotal Task 3	\$ 6,800
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4. Evaluate odor control options

Labor:

R. Bowker:	24 hrs @ \$175/hr	<u>\$ 4,200</u>
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Subtotal Task 4	\$ 4,200
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5. Prepare draft & final reports

Labor:

R. Bowker:	40 hrs @ \$175/hr	\$ 7,000
Clerical:	12 hrs @ \$50/hr	<u>600</u>

Subtotal Task 1	\$ 7,600
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TOTAL	\$40,740
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RESUME OF ROBERT BOWKER

ROBERT P. G. BOWKER, P.E.
President

TECHNICAL EXPERTISE

- Odor and corrosion control technology
- Odor emissions inventories
- Sewer corrosion assessments
- Corrosion protection systems
- Sewer rehabilitation
- Innovative technology

YEARS OF EXPERIENCE: 35

EDUCATION:

B.S. Civil Engineering, University of New Hampshire, 1973
M.S. Environmental Engineering, Cornell University, 1976

PROFESSIONAL REGISTRATION:

P.E. Sanitary Engineering - Maine, New Hampshire, Ohio

ORGANIZATIONS:

- Water Environment Federation
 - New England Water Environment Association
- Maine Wastewater Control Association
- Air and Waste Management Association
 - WEF Air Quality and Odor Control Committee

PROFESSIONAL PROFILE

Robert P.G. Bowker has over 35 years' experience in the planning, design, and operation of wastewater facilities. His career includes nine years with the U.S. Environmental Protection Agency Office of Research and Development and over 25 years as a consulting engineer. Since 1985, Mr. Bowker has specialized in the control of odors and corrosion in wastewater collection and treatment systems, solid waste processing and landfill operations, and industrial processes and waste management facilities. Mr. Bowker is considered an international expert in odor and corrosion control in waste handling systems.

HIGHLIGHTS

- Preparing, as principal author, the EPA Design Manual on Odor and Corrosion Control in Sanitary Sewers and Treatment Plants and the EPA Report to Congress on Sulfide Corrosion in Wastewater Collection and Treatment Systems.
- Contributing author of EPA Handbook on Sewer System Infrastructure Analysis and Rehabilitation.
- Conducting odor emission surveys and evaluating odor control alternatives for wastewater treatment facilities from 0.5 to 300 mgd in over 50 cities throughout the U.S., Canada, and abroad.
- Directing or participating in comprehensive sulfide monitoring and corrosion control projects in St. Petersburg, FL, Tempe, AZ, Framingham, MA, Syracuse, NY, Edmonton, Alberta, Collier County, FL, Henrico County, VA, and Woodbridge, NJ.
- Designing and providing design assistance for odor control systems in Keene, NH, Hartford, CT, Cromwell, CT, Portland, ME, Concord, NH, Fitchburg, MA, Lexington, KY, Singapore, Perth, Australia, Toronto, ON, and elsewhere.
- Contributing author of 1995 WEF MOP 22 "Odor Control in Wastewater Treatment Plants," 2001 IWA "Odours in Wastewater Treatment," and 2003 WEF "Control of Odors and Emissions from Wastewater Treatment Plants."
- Serving as independent peer reviewer for major odor/corrosion control projects in Los Angeles, CA, Washington, DC, Oakland, CA, Toronto, ON, and Santa Cruz, CA.

REPRESENTATIVE PROJECTS

Township of Woodbridge, NJ Biological Odor Control. Bowker & Associates worked with a local firm to evaluate odor emissions and their control at a large wastewater pumping station. An innovative odor containment and treatment system was conceived and designed. A biological scrubber eliminated odor complaints, and the new odor containment system greatly improved working conditions.

Oakland and Macomb Counties Odor and Corrosion Control. Bowker & Associates was a key player in the assessment of corrosion and odors in a large deep-tunnel collection system serving suburban Detroit. A variety of recommendations were developed to mitigate odor releases and control corrosion in the tunnel system, including upstream chemical addition, improved ventilation with odor treatment, and protection of the concrete with an inert lining system.

Humber WWTP Odor Control Improvements. Bowker & Associates participated in the Value Engineering Program for the proposed Humber WWTP odor control improvements in Toronto. New recommendations developed by the VE Team resulted in significant projected savings in both capital and O&M costs. Bowker & Associates was subsequently part of the design team for the improvements, which consisted largely of containment of the odors followed by treatment in organic media biofilters.

City of Los Angeles Independent Odor Control Review. Bowker & Associates, Inc. was selected by the City of Los Angeles, the State of California, and U.S. EPA to provide an independent review of the City of LA Sewer Odor Control Program as required by a Court settlement regarding sewer odor emissions. The program included extraction and treatment of sewer air with 2-stage odor control systems at seven locations.

Collier County, FL Odor/Corrosion Control Project. Bowker & Associates worked with a major national engineering firm to assess and control odors and corrosion in a large, complex wastewater collection system in Collier County, Florida. Recommendations included turbulence reduction, biological treatment of odorous air, and rehabilitation of corroded pump stations.

Lexington, KY Town Branch WWTP Odor Control Project. Bowker & Associates assisted a local engineering firm in the evaluation and design of innovative odor control improvements that included odor treatment by activated sludge diffusion and oxygen ionization.

Washington, DC Odor Control Peer Review. Bowker & Associates was selected to provide expert peer review for a comprehensive assessment of odor

emissions and their control for the 350 mgd Blue Plains WWTP in Washington, DC.

Salem, MA and New Bedford, MA Odor Control Optimization Studies. Bowker & Associates conducted odor control optimization studies and fugitive odor emissions surveys at two 30 mgd wastewater treatment plants in eastern Massachusetts.

Onondaga County Odor/Corrosion Control Projects. Bowker & Associates conducted comprehensive odor and corrosion assessment and control projects for the 80 mgd Syracuse Metro WWTP as well as the Baldwinsville and Oak Orchard WWTPs operated by the County of Onondaga.

City of Edmonton Odor/Corrosion Control Projects. Bowker & Associates has worked with a large Canadian engineering firm on multiple projects involving odors and corrosion in the sewer system, treatment plant, and off-site sludge treatment/storage facility serving the City of Edmonton, Alberta.

Henrico County, VA Odor and Corrosion Control Assessment. Bowker & Associates worked with a national engineering firm to conduct a comprehensive assessment of odors and corrosion in a large wastewater collection system. Recommendations included an innovative iron-peroxide chemical addition process, a cost-saving biological scrubber system, and rehabilitation of corroded sewer lines.

City of Mamaroneck, NY Odor and Noise Control at a Solid Waste Transfer Station. Bowker & Associates worked with Webster Environmental Associates to quantify the odor and noise emissions from the waste transfer station, and assess their impact via dispersion modeling. Recommendations included use of high-velocity dispersion fans, collection and treatment of odorous air, and multiple noise control systems.

PARTIAL LIST OF PUBLICATIONS

Bowker, R.P.G., P.H. Albert, A. Dalmazzi, J. Pratt, D. Bowen, "Control of Odor Emissions from a CSO Storage Tunnel in Providence, RI", in Proceedings of WEF Odor Specialty Conference, Louisville, KY, 2012.

Bowker, R.P.G., D.J. Skibicki, J.T. Kotowski, "Innovative Odor Containment and Treatment at a Large Wastewater Pumping Station," in Proceedings of WEF Odor Specialty Conference, Charlotte, NC, 2010.

Bowker, R.P.G., et al, "Collection System Ventilation Research Report," Water Environment Research Foundation, Alexandria, VA, 2009.

Bowker, R.P.G., S. Sibold, A. Rupprecht, and J. Reish, "Magnesium Hydroxide Controls Sulfide Corrosion in Rural Pennsylvania Sewer System," in Proceedings of WEF Odor and Air Emissions Specialty Conference, Phoenix, AZ, April 2008

Bowker, R.P.G., D.A. Apgar, J. Witherspoon et al, "Minimization of Odors and Corrosion in Collection Systems," Water Environment Research Foundation, Alexandria, VA 2007.

Bowker, R.P.G., Michael A. McGinley, and James Schubert, "Analysis of Ambient Odor Data from an Industrial Area with Multiple Odor Sources," in Proceedings of WEF/A&WMA Odors and Air Emissions Specialty Conference, Bellevue, WA, April, 2004.

Bowker, R.P.G. and Robert Trueblood, "Control of ATAD Odors at the Eagle River Water and Sanitation District," in Proceedings of WEF Conference on Control of Odors and VOC Emissions, Albuquerque, NM, April, 2002.

Bowker, R.P.G. (contributing author), "Odours in Wastewater Treatment. Measurement, Modeling and Control," International Water Association, London, 2001.

Bowker, R.P.G. and B. Blades, "Optimization of Packed Bed Scrubbers to Control Odors from Solids Handling Processes," in Proceedings of WEF Specialty Conference on Odors and VOC Emissions, Cincinnati, OH, April, 2000.

Bowker, R.P.G. (contributing author), "Odor and VOC Control Handbook," McGraw-Hill, New York, 1998.

Bowker, R.P.G., "Biological Odor Control by Diffusion into Activated Sludge Basins," in Proceedings of WEF Conference on Control of Odors and VOC Emissions, Houston, TX, April, 1997.

Bowker, R.P.G. (contributing author), Manual of Practice No. 22, "Odor Control at Wastewater Treatment Facilities," Water Environment Federation, Alexandria, VA, 1995.

Bowker, R.P.G., A.A. King, and G.W. Holcomb, "U-Tube Oxygen Dissolver Controls Odors," Water Environment & Technology, 7(1):20-21, January, 1995.

Bowker, R.P.G., "Containment of Odors at Wastewater Treatment Facilities," Journal of the New England Water Environment Association, 28(2):211-220, November, 1994.

Bowker, R.P.G., "Guide to Septage Treatment and Disposal," EPA/625/R-94/002, U.S. EPA Office of Research and Development, Washington, DC, September, 1994.

Bowker, R.P.G., C.M. McGinley, N.A. Webster, "Estimating Odor Emission Rates from Wastewater Treatment Facilities," in Proceedings of WEF Conference on Odor and Volatile Organic Compound Emission Control for Municipal and Industrial Treatment Facilities, Jacksonville, FL, April, 1994.

Bowker, R.P.G., G.A. Audibert, H.J. Shah, and N.A. Webster, "Detection, Control, and Correction of Hydrogen Sulfide Corrosion in Existing Wastewater Systems," EPA 832-R-92-001, U.S. EPA Office of Water, Washington, DC, 1992.

Smith, J.M., R.P.G. Bowker, and H.J. Shah, "Handbook: Sewer System Infrastructure Analysis and Rehabilitation," EPA/625/6-91/030, U.S. EPA Office of Research and Development, Cincinnati, OH, October, 1991.

Bowker, R.P.G., J.M. Smith, and H.J. Shah, "Hydrogen Sulfide Corrosion in Wastewater Collection and Treatment Systems - Report to Congress," EPA 430/09-91-009, U.S. EPA Office of Water, Washington, DC, September, 1991

Bowker, R.P.G., Stensel, H.D., "U.S. EPA Design Manual for Phosphorus Removal," EPA/625/1-87/001, Cincinnati, Ohio, September, 1987.

Bowker, R.P.G., Smith, J.M., Webster, N.A., "U.S. EPA Design Manual for Odor and Corrosion Control in Sanitary Sewerage Systems and Treatment Plants," EPA/625/1-85/018, Cincinnati, Ohio, October, 1985.

**CITY OF FRANKLIN, TENNESSEE
PROFESSIONAL SERVICES AGREEMENT
COF Contract No. 2018-0140**

THIS PROFESSIONAL SERVICES AGREEMENT (“Agreement”) is by and between the City of Franklin, Tennessee, hereinafter referenced as (“City”), and **BOWKER & ASSOCIATES, INC. CONSULTING ENGINEERS** hereinafter referenced as Consultant, who mutually agree as follows:

DECLARATIONS. City desires to retain Consultant to provide engineering, related technical, and other services in connection with City’s project hereinafter referenced as Project. The Project is described as follows:

**Comprehensive Assessment of Odor Emissions and Their Control in the Franklin,
TN Wastewater Collection and Treatment System**

1. SCOPE OF SERVICES. Consultant shall provide odor control services to include field data collection, laboratory testing, review and interpretation of data, and recommendations for improvement, if required, for the Project in accordance with the Scope of Services (Services) as found in Attachment A which shall be considered as an integral part hereof.
2. Consultant shall submit as a part of Attachment A an individual Fee Schedule and a Completion Schedule for the Project based on the detailed Scope of Services.
3. In event of a conflict between this Agreement and the attached document(s), this Agreement shall supersede conflicting terms and conditions.
4. Consultant shall be paid on a monthly basis for work performed based on the Fee Schedule as contained in Attachment A in the Amount Not-to-Exceed **FORTY THOUSAND SEVEN HUNDRED FORTY and 00/100 DOLLARS (\$40,740.00).**

**The Board of Mayor and Aldermen Approved this Agreement on the
_____ Day of _____ 201__.**

TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

ARTICLE 1. SERVICES. Consultant will:

- 1.1 Act for City in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with standards of competent consultants using the standards in the industry:
- 1.2 Consider all reports to be confidential and distribute copies of the same only to those persons specifically designated by the City.
- 1.3 Perform all services under the general direction of a senior professional employee, licensed and/or registered in the State of Tennessee, when appropriate.
- 1.4 Designate, in writing, the sole Project representative to coordinate with City the Services to be provided, including all contact information.
- 1.5 Unless provided for in the Project Scope of Services (Attachment A), Consultant shall perform all Services with his own forces (employees). Should sub-consultants be proposed to be used in the Project, a listing of said sub-consultants with Services to be performed shall be provided. After approval of this Agreement, no substitute for sub-consultants shall be allowed unless approved by City.
- 1.6 Retain pertinent records relating to the services performed for a period of seven (7) years following the completion of the work; during this period the records shall be available for review by City at all reasonable times.

ARTICLE 2. CITY'S RESPONSIBILITIES. City, or its authorized representative, will:

- 2.1 Provide Consultant with all information regarding the Project, which is available to, or reasonably obtainable by, the City.
- 2.2 Furnish right-of-entry onto the Project site for Consultant's necessary field studies and surveys. Consultant will endeavor to restore the site to its original condition and shall remain solely liable for all damages, costs and expenses, including reasonable attorneys' fees, for failure to make such restoration.
- 2.3 Designate, in writing, the sole Project representative to coordinate with and direct the Consultant, including all contact information.
- 2.4 Guarantee to Consultant that it has the legal capacity to enter into this contract and that sufficient monies are available to fund Consultant's compensation.

ARTICLE 3. GENERAL CONDITIONS.

- 3.1 Consultant, by the performance of services covered hereunder, does not in any way assume, abridge or abrogate any of those duties, responsibilities or authorities customarily vested in other professionals or agencies participating in the Project.
- 3.2 Consultant shall be responsible for the acts or omissions of any party involved in concurrent or subsequent phases of the Project acting upon written instruction issued by the Consultant.
- 3.3 Neither City nor Consultant may assign or transfer its duties or interest in this Agreement without written consent of the other party.
- 3.4 **ALLOCATION OF RISK AND LIABILITY; GENERAL.** Considering the potential liabilities that may exist during the performance of the services of this Agreement, the relative benefits and risks of the Project, and the Consultant's fee

for the services rendered, and in consideration of the promises contained in this Agreement, the City and the Consultant agree to allocate and limit such liabilities in accordance with this Article.

- 3.5 INDEMNIFICATION. Consultant agrees to indemnify and hold City harmless from and against legal liability for all judgments, losses, damages, and expenses to the extent such judgments, losses, damages, or expenses are caused by Consultant's negligent act, error or omission in the performance of the services of this Agreement. In the event judgments, losses, damages, or expenses are caused by the joint or concurrent negligence of Consultant and City, they shall be borne by each party in proportion to its own negligence.

3.5.1 SURVIVAL. The terms and conditions of this paragraph shall survive completion of this services agreement.

- 3.6 LIMITATIONS OF RESPONSIBILITY. Consultant shall not be responsible for (a) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project unless specifically undertaken in Attachment A, Scope of Services ; (b) the failure of any contractor, subcontractor, Consultant, or other Project participant, not under contract to Consultant, to fulfill contractual responsibilities to City or to comply with federal, state, or local laws, regulations, and codes; or (c) procuring permits, certificates, and licenses required for any construction unless such procurement responsibilities are specifically assigned to Consultant in Attachment A, Scope of Services.

ARTICLE 4. TERMINATION BY THE CITY. The City may terminate this Agreement in accordance with the following terms and conditions:

- 4.1 Termination for Convenience. The City may, when in the interests of the City, terminate performance under this Agreement with the Consultant, in whole or in part, for the convenience of the City. The City shall give written notice of such termination to the Consultant specifying when termination becomes effective. The Consultant shall incur no further obligations in connection with the work so terminated, other than warranties and guarantees for completed work and installed equipment, and the Consultant shall stop work when such termination becomes effective. The Consultant shall also terminate outstanding orders and subcontracts for the affected work. The Consultant shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The City may direct the Consultant to assign the Consultant's right, title and interest under termination orders or subcontracts to the City or its designee. The Consultant shall transfer title and deliver to the City such completed or partially completed work and materials, equipment, parts, fixtures, information and Contract rights as the Consultant has in its possession or control. When terminated for convenience, the Consultant shall be compensated as follows:

- (1) The Consultant shall submit a termination claim to the City specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Consultant fails to file a termination claim within one (1) year from the effective date

of termination, the City shall pay the Consultant the amount the City deems the Consultant is due.

- (2) The City and the Consultant may agree to the compensation, if any, due to the Consultant hereunder.
- (3) Absent agreement to the amount due to the Consultant, the City shall pay the Consultant the following amounts:
 - (a) Contract costs for labor, materials, equipment and other services accepted under this Agreement;
 - (b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the Consultant's performance, plus a fair and reasonable allowance for direct job site overhead and earned profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it reasonably appears that the Consultant would have not profited or would have sustained a loss if the entire Agreement would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;

The total sum to be paid the Consultant under this Section shall not exceed the total Agreement Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

- 4.2 Termination for Cause. If the Consultant does not perform the work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Agreement, then the City, in addition to any other rights it may have against the Consultant or others, may terminate the performance of the Consultant, in whole or in part at the City's sole option, and assume possession of the Project Plans and materials and may complete the work.

In such case, the Consultant shall not be paid further until the work is complete. After Completion has been achieved, if any portion of the Contract Price, as it may be modified hereunder, remains after the cost to the City of completing the work, including all costs and expenses of every nature incurred, has been deducted by the City, such remainder shall belong to the Consultant. Otherwise, the Consultant shall pay and make whole the City for such cost. This obligation for payment shall survive the termination of the Agreement.

- In the event the employment of the Consultant is terminated by the City for cause pursuant to this Section and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under this Section and the provisions of Section 4.1 shall apply.
- 4.3 Termination for Non-Appropriation. The City may also terminate this Agreement, in whole or in part, for non-appropriation of sufficient funds to complete or partially complete the Project, regardless of the source of such funds, and such termination shall be on the terms of Section 4.1.
- 4.4 The City's rights under this Section shall be in addition to those contained elsewhere herein or provided by law.

ARTICLE 5. SCOPE OF SERVICES. Consultant shall provide the Services as described in Attachment A, Scope of Services.

- 5.1 By mutual agreement, this Agreement and scope can be amended by the parties. The scope and fee for any additional tasks or services under such amendment shall be mutually negotiated and agreed to in writing prior to beginning such additional tasks or services.
- 5.2 ENVIRONMENTAL RESPONSIBILITY.
Where drilling/sampling services are involved, the samples obtained from the Project site are the property of the City. Should any of these samples be recognized by the Consultant to be contaminated, the City shall remove them from the Consultant's custody and transport them to a disposal site, all in accordance with applicable government statutes, ordinances, and regulations. For all other samples, the Consultant shall retain them for a sixty (60)-day period following the submission of the drilling/sampling report unless the City directs otherwise; thereafter, the Consultant shall discard the samples in accordance with all federal, state and local laws.

ARTICLE 6. SCHEDULE.

- 6.1 TIME OF THE ESSENCE. The parties agree that time is of the essence with respect to the parties' performance of all provisions of the Agreement.
- 6.2 Before executing this Agreement, the Consultant shall have prepared and submitted for approval to the City a Completion Schedule for the Project with milestones for the various stages (tasks) of the Services as outlined in the Scope of Services. The Consultant shall submit and obtain the City's approval for any proposed changes to the logic, durations, sequences, or timing of tasks as approved in the Completion Schedule.
- 6.3 FORCE MAJEURE. Neither party will be liable to the other for any delay or failure to perform any of the services or obligations set forth in this Agreement due to causes beyond its reasonable control, and performance times will be considered extended for a period of time equivalent to the time lost because of such delay plus a reasonable period of time to allow the parties to recommence performance of their respective obligations hereunder. Should a circumstance of force majeure last more than ninety (90) days, either party may by written notice to the other terminate this Agreement. The term "force majeure" as used herein shall mean the following: acts

of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States or of the State or any of their departments, agencies or officials, or any civil or military authority; insurrections, riots, landslides, earthquakes, fires, storms, tornadoes, droughts, floods, explosions, breakage or accident to machinery, transmission pipes or canals; or any other cause or event not reasonably within the control of either party.

- 6.4 Should City request changes in the scope, extent, or character of the Project, the fee and the time of performance of Consultant's Services as indicated in Attachment A shall be adjusted equitably.

ARTICLE 7. USE OF DOCUMENTS, DATA.

- 7.1 All Documents, including, but not limited to, reports, drawings, specifications, and computer software prepared by Consultant pursuant to this Agreement are instruments of service in respect to the Project. Consultant shall retain an ownership and property interest therein (including the right of reuse at the discretion of the Consultant) whether or not the Project is completed.

7.1.1 **USE OF DATA SYSTEMS:** Ownership, property interests and proprietary rights in data systems used by Consultant do not extend to the data created by or supplied to Consultant by the City; all rights to that data (including derivative or hidden data such as metadata) shall vest solely in City at the moment of creation.

7.1.2 **DISCLOSURE OF DOCUMENTS/DATA.** City may be required to disclose documents or data under state or federal law. City shall notify Consultant if a request for data or documents has been made and shall give Consultant a reasonable opportunity under the circumstances to respond to the request by redacting proprietary or other confidential information. Consultant waives any right to confidentiality of any document, e-mail or file it fails to clearly mark on each page as confidential or proprietary. In exchange, Consultant agrees to indemnify, defend, and hold harmless City for any claims by third parties relating thereto or arising out of (i) the City's failure to disclose such documents or information required to be disclosed by law, or (ii) the City's release of documents as a result of City's reliance upon Consultant representation that materials supplied by Consultant (in full or redacted form) do not contain trade secrets or proprietary information, provided that the City impleads Consultant and Consultant assumes control over that claim.

- 7.2 By execution of this Agreement, Consultant and his sub-consultant(s) grant the City a royalty-free, perpetual, irrevocable, and assignable license to use any and all intellectual property interest Consultant or his sub-consultant(s) possess to any drawings, details, specifications, documents, and other information created before each of their first involvement with the Project and subsequently incorporated into the Project's documents. City-furnished data that may be relied upon by Consultant is limited to the printed copies that are delivered to the Consultant pursuant to Article 2 of this Agreement. Any copyrighted electronic files furnished by City shall be used by Consultant only for the Project as described herein. City's posting

- or publication of such documents created by Consultant for City shall constitute fair use and shall not constitute an infringement of Consultant's copyright, if any.
- 7.3 Documents that may be relied upon by City are limited to the printed copies (also known as hard copies) that are signed or sealed by the Consultant. Files in electronic media format of text, data, graphics, or of other types that are furnished by Consultant to City are only for convenience of City, unless the delivery of the Project in electronic media format has been dictated in Attachment A, Scope of Services. Any conclusion or information obtained or derived from electronic files provided for convenience will be at the user's sole risk.
- 7.4 Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within sixty (60) days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files. Unless stated otherwise herein, Consultant shall not be responsible to maintain documents stored in electronic media format after acceptance by City.
- 7.5 When transferring documents in electronic media format, Consultant makes no representations as to long term compatibility, usability, or readability, of documents resulting from the use of software application packages, operating systems, or computer hardware differing from that as required of, and used by, Consultant at the beginning of this Project.
- 7.6 City may make and retain copies of Documents for information and reference in connection with use on the Project by the City, or his authorized representative. Such Documents are not intended or represented to be suitable for reuse by City or others on extensions of the Project or on any other project. Any such reuse or modifications without written verification or adaptation by Consultant, as appropriate for the specific purpose intended, will be at City's sole risk and without liability or legal exposure to the Consultant or to Consultant's sub-consultants.
- 7.7 If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- 7.8 Any verification or adaptation of the Documents for extensions of the Project or for any other project will entitle Consultant to further compensation at rates to be agreed upon by City and Consultant.

ARTICLE 8. INSURANCE.

- 8.1 During the performance of the Services under this Agreement, Consultant shall maintain the following minimum insurance:
- a) General Liability Insurance with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 annual aggregate.
 - b) Automobile Liability Insurance with a combined single limit of \$1,000,000 for each person and \$1,000,000 for each accident.
 - c) Workers' Compensation Insurance Coverage A in accordance with statutory requirements and Coverage B, Employer's Liability Insurance, with a limit of \$500,000 for each occurrence.

- d) Professional Liability Insurance with a limit of \$1,000,000 annual aggregate.
- 8.2 Consultant shall add the City an additional insured on all policies unless otherwise prohibited.
- 8.3 Consultant shall, upon execution of this Agreement, furnish City certificates of insurance, which shall include a provision that such insurance shall not be canceled without at least thirty (30) days' written notice to City.
- 8.4 No insurance, of whatever kind or type is to be considered as in any way limiting other parties' responsibility for damages resulting from their activities in the execution of the Project. City agrees to include, or cause to be included, in the Project's construction contract, such requirements for insurance coverage and performance bonds by the Project's construction contractor as City deems adequate to indemnify City, Consultant, and other concerned parties against claims for damages and to insure compliance of work performance and materials with Project requirements.

ARTICLE 9. PAYMENT.

- 9.1 City will pay Consultant for services and expenses in accordance with the Fee Schedule proposal submitted for the Project as part of the Scope of Services. Consultant's invoices will be presented at the completion of the work or monthly and will be payable upon receipt. Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. City shall give prompt written notice of any disputed amount and shall pay the remaining amount.
- 9.2 Consultant shall be paid in full for all services under this Agreement, including City authorized overruns of the Project budget or unforeseen need for Consultant's services exceeding the original Scope of Services.
- 9.3 **TRAVEL; EXPENSES**
City shall reimburse reasonable expenses, including travel and meals, when specified in the Scope of Services, but only in accordance with the City's Travel and Expense Policy and Procedures Manual. The maximum amount will be applied as of the date of travel and as listed in the per diem reimbursement rates on the "CONUS" website developed by the United States General Services Administration, located at www.gsa.gov [click on 'per diem rates' under the 'etools' category].

ARTICLE 10. MISCELLANEOUS PROVISIONS

- 10.1 **EQUAL EMPLOYMENT OPPORTUNITY.** In connection with this Agreement and the Project, City and Consultant shall not discriminate against any employee or applicant for employment because of race, color, sex, national origin, disability or marital status. City and Consultant will take affirmative action to ensure that the contractor used for the Project does not discriminate against any employee and employees are treated during employment without regard to their race, age, religion, color, gender, national origin, disability or marital status. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of pay

or other forms of compensation; and selection for training, including apprenticeship.

10.1.1 Consultant shall insert the foregoing provision in all contracts relating to this Project.

10.2 TITLE VI – CIVIL RIGHTS ACT OF 1964. City and Consultant shall comply with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), 49 C.F.R., Part 21, and related statutes and regulations.

10.2.1 Consultant shall insert the foregoing provision in all contracts relating to this Project.

10.3 NO THIRD PARTY RIGHTS CREATED. City and Consultant each binds itself and its successors, executors, administrators, permitted assigns, legal representatives and, in the case of a partnership, its partners, to the other party to this Agreement and to their successors, executors, administrators, permitted assigns, legal representatives and partners of such other party in respect to all provisions of this Agreement. The Services provided for in this Agreement are for the sole use and benefit of City and Consultant. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than City and Consultant.

10.4 WARRANTIES/LIMITATION OF LIABILITY/WAIVER. City reserves all rights afforded to local governments under law for all general and implied warranties. City does not waive any rights it may have to all remedies provided by law and therefore any attempt by Consultant to limit its liability shall be void and unenforceable.

ARTICLE 11. EXTENT OF AGREEMENT:

11.1 APPLICABLE LAW/CHOICE OF FORUM AND VENUE. This Agreement is made under and will be construed in accordance with the laws of the State of Tennessee without giving effect to that state's choice of law rules. The parties' choice of forum and venue shall be exclusively in the courts of Williamson County, Tennessee. Any provision of this Agreement held to violate a law or regulation shall be deemed void, and all remaining provisions shall continue in force.

11.2 ENTIRE AGREEMENT. This Agreement, including these terms and conditions, represent the entire Agreement between City and Consultant for this Project and supersedes all prior negotiations, representations or agreements, written or oral. This Agreement may be amended only by written instrument signed by City and Consultant.

ARTICLE 12. DISPUTE RESOLUTION, BREACH.

12.1 If a dispute should arise relating to the performance of or payment for the Services under this Agreement, the aggrieved party shall notify the other party of the dispute within a reasonable time after such dispute arises. During the pendency of any dispute, the parties shall continue diligently to fulfill their respective obligations hereunder. No arbitration or mediation shall be required as a condition precedent to filing any legal claim arising out of or relating to this Agreement. No arbitration or mediation shall be binding.

12.2 BREACH. Upon deliberate breach of the Agreement by either party, the non-breaching party shall be entitled to terminate the Agreement with notice, with all of

the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

ARTICLE 13. SURVIVAL.

The provisions contained in this Professional Services Agreement shall survive the completion of or any termination of the Agreement, contract or other document to which it may accompany or incorporate by reference or which subsequently may be modified, unless expressly excepted from this Article upon consent of both parties.

BY: _____
Consultant's Signature
TITLE: _____
Date: _____

BY: _____
Dr. Ken Moore
Mayor
Date: _____

Approved as to Form:

Tiffani M. Pope, Staff Attorney

PROPOSAL

COMPREHENSIVE ASSESSMENT OF ODOR EMISSIONS AND THEIR CONTROL IN THE FRANKLIN, TN WASTEWATER COLLECTION AND TREATMENT SYSTEM

Prepared for:

CITY OF FRANKLIN WATER MANAGEMENT DEPT.
124 Lumber Drive
Franklin, TN 37064

Prepared by:

BOWKER & ASSOCIATES, INC.
CONSULTING ENGINEERS
21 Summerfield Lane
Scarborough, ME 04074

January 2018

1. INTRODUCTION

The City of Franklin operates a wastewater treatment plant that is scheduled for an upgrade. Encroaching development around the plant has raised concerns for odor, and there have been some complaints attributed to either the wastewater treatment plant or the sewer system that collects and transmits wastewater to the plant.

The collection system includes multiple pump stations and force mains. Force mains generate more hydrogen sulfide and odor than gravity sewers because the sewage is retained in a full pipe with no opportunity for aeration. As a result, the sewage quickly becomes septic or anaerobic, favoring the generation of odorous hydrogen sulfide gas. This hydrogen sulfide gas can be released downstream of the force main discharge, or at the headworks of the plant.

The wastewater treatment plant that serves the City of Franklin uses the oxidation ditch process with no primary clarifiers. Such plants tend to have fewer odor issues than plants with primary clarifiers. However, odors can still be released from the headworks or sludge handling processes.

The following proposal is to conduct a comprehensive assessment of the wastewater collection and treatment system to provide:

1. An evaluation of the contribution of odors and hydrogen sulfide from upstream force mains and interceptors.
2. An “odor emissions inventory” of the wastewater treatment plant to provide a ranking of odor sources by their odor emission rate.
3. Odor dispersion modeling to assess the existing “odor footprint” of the treatment plant and to evaluate the effect of recommended odor control alternatives.
4. Evaluation of various odor control strategies as necessary to meet downwind objectives.
5. A report that summarizes all sampling data, presents results of dispersion modeling, and provides recommendations and cost estimate for the most cost-effective odor control strategy.

A proposed Scope of Services and Fee Estimate follow, along with a proposed Schedule and Summary of Qualifications.

2. SCOPE OF SERVICES

Task 1. Review background information and develop sampling plan

Bowker & Associates will review background information on the facilities and develop a plan to collect samples from both the wastewater collection system and treatment plant. This will include collection and field analysis of wastewater samples in the collection system, deployment of Odalogs to measure H₂S concentrations, and collection and analysis of air samples at the treatment plant to measure odor strength. The written sampling plan will be submitted to the City of Franklin for review and comment.

Task 2. Implement sampling program

The sampling plan envisioned will consist of 3 days of wastewater sampling in the collection system and 7 days of continuous H₂S measurements at multiple locations in the sewer system. We will conduct field analysis of the wastewater for sulfide, pH, oxidation-reduction potential (ORP), and temperature. A total of 8 sampling locations have been assumed for this proposal.

For the wastewater treatment plant, air samples will be collected from processes including, but not limited to:

1. Headworks
2. Screen/grit handling systems
3. Oxidation ditch surface
4. Sludge thickening exhaust
5. Sludge dewatering exhaust
6. Other sources as necessary

Air samples will be sent by overnight carrier to St. Croix Sensory in Stillwater, MN to measure the odor “concentration” in dilutions to threshold. This ASTM laboratory procedure measures the number of times the odorous sample must be diluted with odor-free air until the odor can no longer be detected. In addition, selected samples will be sent to Mayfly Laboratory in Mystic, CT to measure the concentration of reduced sulfur compounds that are responsible for the odor. This will help in determining the best technology to treat the odor, should that become necessary.

Task 3. Conduct odor dispersion modeling

Bowker & Associates will first calculate the “odor emission rate” for each process. This is simply the odor concentration multiplied by the air flow rate to estimate how many “pounds of odor” are

being released from each process. This will provide a ranking of the odor sources by how much odor they are generating.

The odor emission rates are then input into the dispersion model, along with terrain data, actual weather data, building dimensions, etc. We will use the EPA-approved AERMOD dispersion model that predicts the level of odor surrounding the plant under worst-case meteorological conditions. We also use the model to estimate how often a “target” level of odor is exceeded. The dispersion model is valuable to determine the effects of implementing various odor control strategies on odor levels around the plant. Figure 1 is an example of the output of the dispersion model.

Task 4. Evaluate odor control options

We will evaluate various odor control options for those processes deemed to have the potential to generate odors that travel off-site. The selection of the proper technology is dependent on the characteristics of the air, the air flow rate, available space, required performance, and other factors. The focus will be on technologies that are well-demonstrated, reliable, and have low O&M requirements. Alternatives such as biofiltration, carbon adsorption, and bio-scrubbing are proven technologies that are frequently used to treat wastewater odors.

Addition of chemicals to the wastewater can also provide odor reduction, and will be evaluated on a case-by-case basis. While effective and easy to implement, the recurring cost of chemical addition can become prohibitive.

For the recommended odor mitigation strategy, we will prepare estimates of the capital and operating costs.

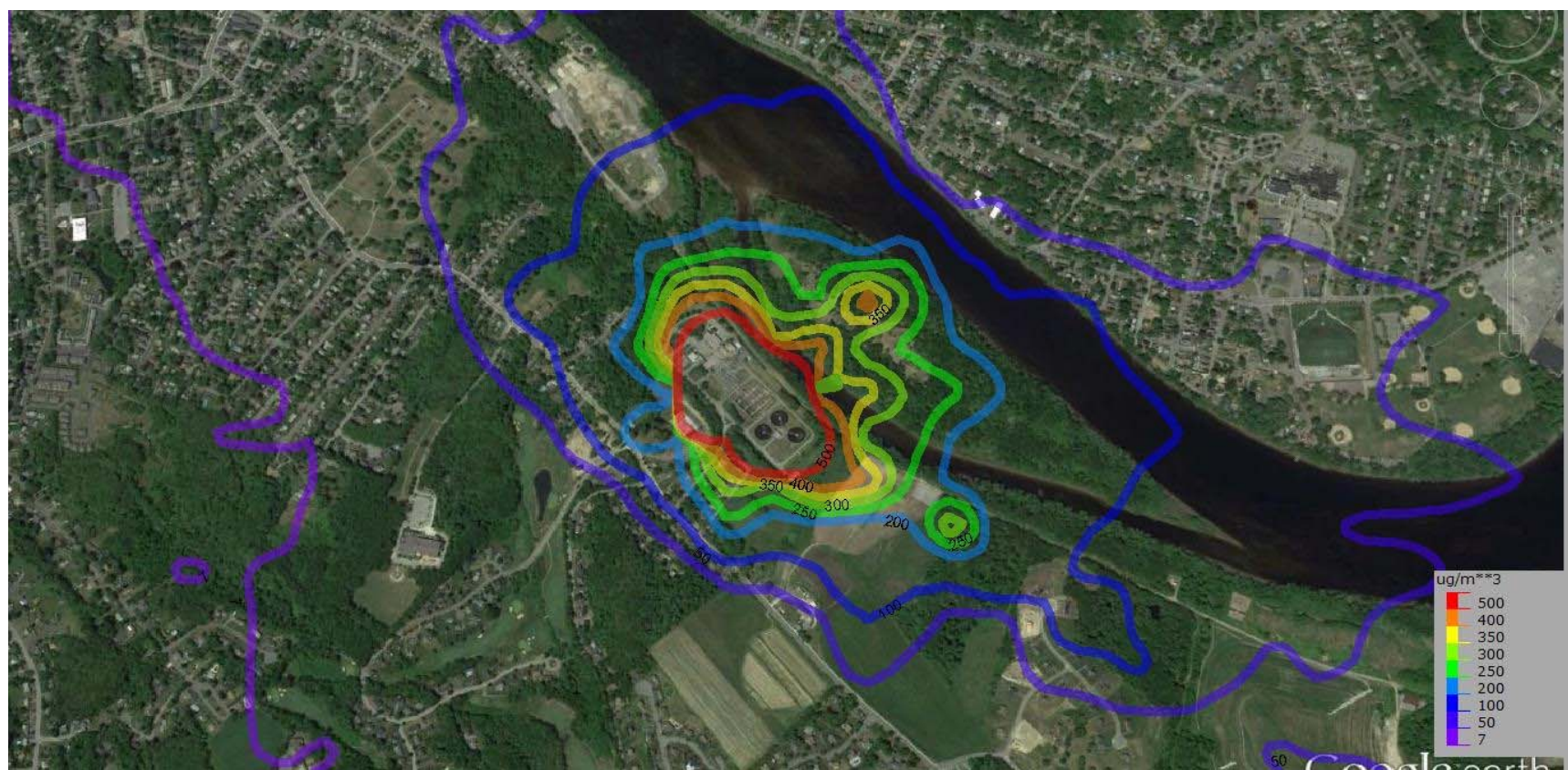
Task 5. Prepare report

Bowker & Associates will prepare a draft report for review and comment by the City of Franklin. The report will include:

1. Introduction
2. Description of facilities
3. Sampling program
4. Odor dispersion modeling
5. Evaluation of alternatives
6. Conclusions and recommendations

Upon receipt of comments, a final report will be transmitted.

FIGURE 1. EXAMPLE OF OUTPUT FROM ODOR DISPERSION MODEL SHOWING “ODOR FOOTPRINT” OF WWTP.



3. FEE ESTIMATE

Table 1 provides a breakdown of estimated fee for the tasks described above. The total cost of \$40,740.00 includes all labor, travel, and analytical expenses.

4. SCHEDULE

The major factor driving the schedule of this project is the need to conduct the sampling during peak, warm-weather conditions. Typically these conditions occur during the months of July through September. Assuming a July sampling schedule, it is anticipated that a draft report would be submitted by September 30. The project could start at any time, say March 1, 2018.

5. SUMMARY OF QUALIFICATIONS

Bowker & Associates has specialized in the control of odors from waste handling systems for 25 years, and has completed over 200 projects at wastewater pump stations, treatment plants, collection systems, and landfills. Robert Bowker is a professional engineer with over 40 years of experience in the wastewater industry, and has co-authored several EPA and WEF manuals on the subject of odors and corrosion in wastewater systems. Mr. Bowker's resume is attached.

Our full Statement of Qualifications and Experience is available upon request.

TABLE 1

FEE ESTIMATE

FRANKLIN, TN ODOR STUDY

Bowker & Associates, Inc.

January 2018

<u>Task</u>		<u>Estimated fee, \$</u>
<u>1. Review background information and develop sampling plan</u>		
<i>Labor:</i>		
R. Bowker:	12 hrs @ \$175/hr	\$ 2,100
Clerical:	2 hrs @ \$50/hr	<u>100</u>
	Subtotal Task 1	\$ 2,200.00
<u>2. Implement sampling plan for collection system and treatment plant</u>		
<i>Labor:</i>		
R. Bowker:	56 hrs @ \$175/hr	\$ 9,800
Clerical:	4 hrs @ \$50/hr	<u>200</u>
<i>Travel:</i>		
Airfare:		600
Rental car:	7 days @ \$80/day	560
Hotels:	7 nights @ \$150/night	850
Meals:	7 days @ \$50/day	<u>350</u>
<i>Analytical:</i>		
Odalogs:	8 units @ \$160/wk	1,280
Odor panel:	12 samples @ \$350 each	4,200
Reduced sulfurs:	4 samples @ \$250 each	1,000
Supplies:		500
Shipping:		<u>600</u>
	Subtotal Task 2	\$19,940.00

3. Odor dispersion modeling

Labor:

R. Bowker:	32 hrs @ \$175/hr	\$5,600
Clerical:	4 hrs @ \$50/hr	200

Weather & terrain data		<u>1,000</u>
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Subtotal Task 3	\$ 6,800.00
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4. Evaluate odor control options

Labor:

R. Bowker:	24 hrs @ \$175/hr	<u>\$ 4,200</u>
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Subtotal Task 4	\$ 4,200.00
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5. Prepare draft & final reports

Labor:

R. Bowker:	40 hrs @ \$175/hr	\$ 7,000
Clerical:	12 hrs @ \$50/hr	<u>600</u>

Subtotal Task 1	\$ 7,600
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TOTAL	\$40,740.00
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RESUME OF ROBERT BOWKER

ROBERT P. G. BOWKER, P.E.
President

TECHNICAL EXPERTISE

- Odor and corrosion control technology
- Odor emissions inventories
- Sewer corrosion assessments
- Corrosion protection systems
- Sewer rehabilitation
- Innovative technology

YEARS OF EXPERIENCE: 35

EDUCATION:

B.S. Civil Engineering, University of New Hampshire, 1973
M.S. Environmental Engineering, Cornell University, 1976

PROFESSIONAL REGISTRATION:

P.E. Sanitary Engineering - Maine, New Hampshire, Ohio

ORGANIZATIONS:

- Water Environment Federation
 - New England Water Environment Association
- Maine Wastewater Control Association
- Air and Waste Management Association
 - WEF Air Quality and Odor Control Committee

PROFESSIONAL PROFILE

Robert P.G. Bowker has over 35 years' experience in the planning, design, and operation of wastewater facilities. His career includes nine years with the U.S. Environmental Protection Agency Office of Research and Development and over 25 years as a consulting engineer. Since 1985, Mr. Bowker has specialized in the control of odors and corrosion in wastewater collection and treatment systems, solid waste processing and landfill operations, and industrial processes and waste management facilities. Mr. Bowker is considered an international expert in odor and corrosion control in waste handling systems.

HIGHLIGHTS

- Preparing, as principal author, the EPA Design Manual on Odor and Corrosion Control in Sanitary Sewers and Treatment Plants and the EPA Report to Congress on Sulfide Corrosion in Wastewater Collection and Treatment Systems.
- Contributing author of EPA Handbook on Sewer System Infrastructure Analysis and Rehabilitation.
- Conducting odor emission surveys and evaluating odor control alternatives for wastewater treatment facilities from 0.5 to 300 mgd in over 50 cities throughout the U.S., Canada, and abroad.
- Directing or participating in comprehensive sulfide monitoring and corrosion control projects in St. Petersburg, FL, Tempe, AZ, Framingham, MA, Syracuse, NY, Edmonton, Alberta, Collier County, FL, Henrico County, VA, and Woodbridge, NJ.
- Designing and providing design assistance for odor control systems in Keene, NH, Hartford, CT, Cromwell, CT, Portland, ME, Concord, NH, Fitchburg, MA, Lexington, KY, Singapore, Perth, Australia, Toronto, ON, and elsewhere.
- Contributing author of 1995 WEF MOP 22 "Odor Control in Wastewater Treatment Plants," 2001 IWA "Odours in Wastewater Treatment," and 2003 WEF "Control of Odors and Emissions from Wastewater Treatment Plants."
- Serving as independent peer reviewer for major odor/corrosion control projects in Los Angeles, CA, Washington, DC, Oakland, CA, Toronto, ON, and Santa Cruz, CA.

REPRESENTATIVE PROJECTS

Township of Woodbridge, NJ Biological Odor Control. Bowker & Associates worked with a local firm to evaluate odor emissions and their control at a large wastewater pumping station. An innovative odor containment and treatment system was conceived and designed. A biological scrubber eliminated odor complaints, and the new odor containment system greatly improved working conditions.

Oakland and Macomb Counties Odor and Corrosion Control. Bowker & Associates was a key player in the assessment of corrosion and odors in a large deep-tunnel collection system serving suburban Detroit. A variety of recommendations were developed to mitigate odor releases and control corrosion in the tunnel system, including upstream chemical addition, improved ventilation with odor treatment, and protection of the concrete with an inert lining system.

Humber WWTP Odor Control Improvements. Bowker & Associates participated in the Value Engineering Program for the proposed Humber WWTP odor control improvements in Toronto. New recommendations developed by the VE Team resulted in significant projected savings in both capital and O&M costs. Bowker & Associates was subsequently part of the design team for the improvements, which consisted largely of containment of the odors followed by treatment in organic media biofilters.

City of Los Angeles Independent Odor Control Review. Bowker & Associates, Inc. was selected by the City of Los Angeles, the State of California, and U.S. EPA to provide an independent review of the City of LA Sewer Odor Control Program as required by a Court settlement regarding sewer odor emissions. The program included extraction and treatment of sewer air with 2-stage odor control systems at seven locations.

Collier County, FL Odor/Corrosion Control Project. Bowker & Associates worked with a major national engineering firm to assess and control odors and corrosion in a large, complex wastewater collection system in Collier County, Florida. Recommendations included turbulence reduction, biological treatment of odorous air, and rehabilitation of corroded pump stations.

Lexington, KY Town Branch WWTP Odor Control Project. Bowker & Associates assisted a local engineering firm in the evaluation and design of innovative odor control improvements that included odor treatment by activated sludge diffusion and oxygen ionization.

Washington, DC Odor Control Peer Review. Bowker & Associates was selected to provide expert peer review for a comprehensive assessment of odor emissions and their control for the 350 mgd Blue Plains WWTP in Washington, DC.

Salem, MA and New Bedford, MA Odor Control Optimization Studies. Bowker & Associates conducted odor control optimization studies and fugitive odor emissions surveys at two 30 mgd wastewater treatment plants in eastern Massachusetts.

Onondaga County Odor/Corrosion Control Projects. Bowker & Associates conducted comprehensive odor and corrosion assessment and control projects for the 80 mgd Syracuse Metro WWTP as well as the Baldwinsville and Oak Orchard WWTPs operated by the County of Onondaga.

City of Edmonton Odor/Corrosion Control Projects. Bowker & Associates has worked with a large Canadian engineering firm on multiple projects involving odors and corrosion in the sewer system, treatment plant, and off-site sludge treatment/storage facility serving the City of Edmonton, Alberta.

Henrico County, VA Odor and Corrosion Control Assessment. Bowker & Associates worked with a national engineering firm to conduct a comprehensive assessment of odors and corrosion in a large wastewater collection system. Recommendations included an innovative iron-peroxide chemical addition process, a cost-saving biological scrubber system, and rehabilitation of corroded sewer lines.

City of Mamaroneck, NY Odor and Noise Control at a Solid Waste Transfer Station. Bowker & Associates worked with Webster Environmental Associates to quantify the odor and noise emissions from the waste transfer station, and assess their impact via dispersion modeling. Recommendations included use of high-velocity dispersion fans, collection and treatment of odorous air, and multiple noise control systems.

PARTIAL LIST OF PUBLICATIONS

Bowker, R.P.G., P.H. Albert, A. Dalmazzi, J. Pratt, D. Bowen, "Control of Odor Emissions from a CSO Storage Tunnel in Providence, RI", in Proceedings of WEF Odor Specialty Conference, Louisville, KY, 2012.

Bowker, R.P.G., D.J. Skibicki, J.T. Kotowski, "Innovative Odor Containment and Treatment at a Large Wastewater Pumping Station," in Proceedings of WEF Odor Specialty Conference, Charlotte, NC, 2010.

Bowker, R.P.G., et al, "Collection System Ventilation Research Report," Water Environment Research Foundation, Alexandria, VA, 2009.

Bowker, R.P.G., S. Sibold, A. Rupprecht, and J. Reish, "Magnesium Hydroxide Controls Sulfide Corrosion in Rural Pennsylvania Sewer System," in Proceedings of WEF Odor and Air Emissions Specialty Conference, Phoenix, AZ, April 2008

Bowker, R.P.G., D.A. Apgar, J. Witherspoon et al, "Minimization of Odors and Corrosion in Collection Systems," Water Environment Research Foundation, Alexandria, VA 2007.

Bowker, R.P.G., Michael A. McGinley, and James Schubert, "Analysis of Ambient Odor Data from an Industrial Area with Multiple Odor Sources," in Proceedings of WEF/A&WMA Odors and Air Emissions Specialty Conference, Bellevue, WA, April, 2004.

Bowker, R.P.G. and Robert Trueblood, "Control of ATAD Odors at the Eagle River Water and Sanitation District," in Proceedings of WEF Conference on Control of Odors and VOC Emissions, Albuquerque, NM, April, 2002.

Bowker, R.P.G. (contributing author), "Odours in Wastewater Treatment. Measurement, Modeling and Control," International Water Association, London, 2001.

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CITY OF FRANKLIN
DONATION STANDARD FORM AGREEMENT
COF Contract No: 2018-0152

THIS DONATION STANDARD FORM AGREEMENT (hereafter “Agreement”) is entered into as of the stated Effective Date by the Donor and Donee (collectively “Parties”) referenced herein for the donation of goods and/or services more particularly described herein (hereafter “Donation”).

WHEREAS, certain Donors desire to donate certain goods and services for the use and enjoyment of the Donee;

WHEREAS, Donee accepts the donation for the use and enjoyment of the Donee.

NOW THEREFORE, in consideration of the mutual promises and terms set forth herein, the Parties agree as follows:

1. GENERAL TERMS.

Effective Date	This Donation Agreement becomes effective on the date signed by the Donee, City of Franklin.
Donor Name	Barry Alexander Automotive, LLC c/o Barry Alexander
Donor Entity Type (e.g. Corporation, LLC, Non-profit, etc.), Address	Barry Alexander, on behalf of: Barry Alexander Automotive, LLC (For-Profit) 305 5th Ave N, Franklin, TN 37064 (615) 791-9898
Donee Name	City of Franklin
Donee Entity, Address	109 Third Avenue South, Franklin, Tennessee 37064
Donation	The remaining emergency vehicle parts inventory at Alexander Automotive, as set forth in the attached Exhibit A, and as set forth in Donor’s letter of intent of June 21, 2018, which is attached hereto as Exhibit B.
Donation Value (in dollars)	\$285,658.13
Communication to Donor	ATTN: Barry Alexander Barry Alexander Automotive, LLC

	305 5th Ave N, Franklin, TN 37064 (615) 791-9898
Communication to Donee	City of Franklin ATTN: David Collins City of Franklin Police Department 900 Columbia Avenue Franklin, Tennessee 37064 (615) 550-7850 David.collins@franklintn.gov

Donor agrees that by signing this Agreement they transfer any ownership interest they may have individually or collectively in the Donation to the Donee and that any such interest is free and clear of any liens or encumbrances and is paid in full.

2. **NONREFUNDABLE.** Donor understands this is a non-refundable donation.
3. **DELIVERY.** Donee shall be solely responsible for receiving the donation at or around the effective date of the Donation Agreement.
4. **NON-DISCRIMINATION.** To the extent applicable, Donor agrees that the Donee will not limit access to the Donation or discriminate on the basis of race, color, religions, sex, age or national origin, consistent with all applicable federal, state and local laws.
5. **HOLD HARMLESS.** Donor agrees to hold the Donee harmless for any damage resulting to said Donation and/or to any person or property directly or indirectly as a result of said donation. Donor understands it has no property interest in the Donation in the event the Donation is damaged or otherwise rendered unusable for any reason whatsoever, even through the negligence of the Donee.
6. **OWNERSHIP.** In the event the Donee determines the Donation is no longer of benefit to the Donee, the Donee reserves all rights to donate or sell said Donation and retain all proceeds, consistent with the requirements set forth in the Municipal Code.
7. **NO SPECIAL CONSIDERATION.** Donor understands that the Donation affords them no special consideration, privileges or rights and imposes no duty on the Donee to afford them any special consideration, privileges or rights in the future.
8. **BOARD OF MAYOR AND ALDERMAN APPROVAL.** Pursuant to Article (II)(1)(3) and Article (IV)(6) of the Franklin City Charter, and Resolution 2012-05, Board of Mayor and Alderman approval is required for donations valued over \$25,000.00 prior to execution of the Agreement by the City Administrator.

[The remainder of this form is intentionally left blank.]

The Parties affirm they are authorized representatives of the Donor and Donee with the capacity to enter into a legally binding agreement of behalf of the Donor and Donee. The Parties agree to the terms as stated herein and enter into this Agreement as of the Effective Date.

DONOR By: _____ Barry Alexander, Managing Member Barry Alexander Automotive, LLC	Date:
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DONEE By: _____ Eric S. Stuckey City Administrator City of Franklin	Date:
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Approved as to form by:

Misty Lavender Foy
Assistant City Attorney

Nov 1 2013 Source 100

ALEXANDER

AUTO FAMILY PARTS

DATE: 01 NOV 13

PART-NO...	DESC.....	O.H.	COST..	VALUE..
K0809ITU12	SETINA PB8 DBL HEADL	-8	\$ 202.66	\$ (1,621.28)
475-0263	PATRIOT PUSHBUMPER 1	-1	\$ 163.80	\$ (163.80)
67010	12 V SOLENOID	-1	\$ 20.68	\$ (20.68)
325CL	SOPTLIGHT FOR DODGE	1	\$ 0.01	\$ 0.01
5038	GO RHINO PUSH BUMPER	1	\$ 0.01	\$ 0.01
5038W	GO RHINO HEADLIGHT W	1	\$ 0.01	\$ 0.01
23371MB	GO RHINO F250 PUSHBU	1	\$ 0.01	\$ 0.01
96030-0002	UNITY SPOTLIGHT 2011	1	\$ 0.01	\$ 0.01
04010-0002	UNITY SPOTLIGHT 2010	1	\$ 0.01	\$ 0.01
06001-0002	UNITY SPOTLIGHT GMC	1	\$ 0.01	\$ 0.01
06011-0002	UNITY SPOTLIGHT TAHO	1	\$ 0.01	\$ 0.01
GRH5076	GO RHINO 2011 CHARGE	1	\$ 0.01	\$ 0.01
LSFD-00202	FED SIG INNER LIGHTB	1	\$ 0.01	\$ 0.01
LSFF-00130	FED SIG INNER LIGHTB	1	\$ 0.01	\$ 0.01
54LL-00253	FED SIG JET SOLARIS	1	\$ 0.01	\$ 0.01
WP7946	EXP METAL SLIDING PA	1	\$ 0.01	\$ 0.01
240	UNITY SPOTLIGHT INST	2	\$ 0.01	\$ 0.02
05040-0002	UNITY SPOT LIGHT IMP	2	\$ 0.01	\$ 0.02
G4906	PROGARD SINGLE GUN L	2	\$ 0.01	\$ 0.02
AV-CD-QS-2	HAVIS HEADLINER SPEA	2	\$ 0.01	\$ 0.02
LSFF-00007	FED SIG INNER LIGHTB	2	\$ 0.01	\$ 0.02
T0111CRV00	SETINA CROWN VIC PAR	2	\$ 0.01	\$ 0.02
VPX800-3	FED SIG VIPER EXT BL	2	\$ 0.01	\$ 0.02
Z8572311A	FED SIG SMART SIREN	2	\$ 0.01	\$ 0.02
Z8653100A	FED SIG CLEAR SIDE B	2	\$ 0.01	\$ 0.02
330V-0002	UNITY SPOTLIGHT F250	3	\$ 0.01	\$ 0.03
23217MB	GO RHINO 09 RAM PUSH	3	\$ 0.01	\$ 0.03
325039	FED SIG TRACTOR LAMP	4	\$ 0.01	\$ 0.04
D100CH	PRO-GARD TRUNK ORGAN	4	\$ 0.01	\$ 0.04
ETFBSSN-P	SOUNDOFF SIG FLASHBA	4	\$ 0.01	\$ 0.04
LSFF-00032	FED SIG INNER LIGHTB	4	\$ 0.01	\$ 0.04
K0594CGR09	SETINA POLY WINDOW B	4	\$ 0.01	\$ 0.04
23293MB	GO RHINO F150 PUSHBU	5	\$ 0.01	\$ 0.05
EPL8000	PINNACLE INTERIOR LI	5	\$ 0.01	\$ 0.05
-C-ARM-104	HAVIS ARM REST TUNNE	5	\$ 0.01	\$ 0.05
VPX-SW	FED SIG SIDE WINDOW	5	\$ 0.01	\$ 0.05
257	UNITY SPOTLIGHT INST	6	\$ 0.01	\$ 0.06
330GM-0002	UNITY SPOTLIGHT 11 F	6	\$ 0.01	\$ 0.06
10020-0002	UNITY SPOTLIGHT BLK	6	\$ 0.01	\$ 0.06

189	UNITY SPOTLIGHT INST	7	\$ 0.01	\$ 0.07
253	UNITY SPOTLIGHT INST	7	\$ 0.01	\$ 0.07
256	UNITY SPOTLIGHT INST	7	\$ 0.01	\$ 0.07
06010-0002	UNITY SPOTLIGHT TAH	8	\$ 0.01	\$ 0.08
WK0594CR00	SETINA POLY WINDOW B	8	\$ 0.01	\$ 0.08
-C-ARM-105	HAVIS ARMREST SIDE M	10	\$ 0.01	\$ 0.10
O-CHGR-1-H	HAVIS 24" CONSOLE CH	10	\$ 0.01	\$ 0.10
EP2SSMBSJ	SOUNDOFF SIG R/B SUR	12	\$ 0.01	\$ 0.12
ESB-IMP08	FED SIG ES 100 SPEAK	12	\$ 0.01	\$ 0.12
325541	FED SIG TRACTOR LAMP	14	\$ 0.01	\$ 0.14
ESB-V08	FED SIG ES 100 SPEAK	15	\$ 0.01	\$ 0.15
QL64XFC-R	FED SIG QUADRAFLARE	15	\$ 0.01	\$ 0.15
VPX800-2	FED SIG AMBER VIPER	25	\$ 0.01	\$ 0.25
FHLP-CV	FED SIG HEADLIGHT FL	26	\$ 0.01	\$ 0.26
ENT660-P	SOUNDOFF SIGNAL POWE	27	\$ 0.01	\$ 0.27
750501-01	FED SIG AS124 BRKT	31	\$ 0.01	\$ 0.31
FHLP-IMP	FED SIG HEADLIGHT FL	32	\$ 0.01	\$ 0.32
750501-00	FED SIG AS124 BRKT C	37	\$ 0.01	\$ 0.37
413216	FED SIG CORNER STROB	41	\$ 0.01	\$ 0.41
413222B	FED SIG CORNER STROB	51	\$ 0.01	\$ 0.51
70205	10 POSITION FUSE PAN	12	\$ 15.38	\$ 184.56
HAV-C-1400	14' CONSOLE	4	\$ 150.50	\$ 602.00
73095	14" 800 MHZ ANTENNA	12	\$ 11.90	\$ 142.80
155205516	16FT CABLE STALKER D	1	\$ 97.50	\$ 97.50
699153978	2" HINGE	7	\$ 4.97	\$ 34.79
699151424	2.5" BARREL BOLT	5	\$ 5.47	\$ 27.35
607141-05	4" ROUND LED COMPA	1	\$ 39.72	\$ 39.72
417780	450-470 PHANTOM ANTE	3	\$ 22.08	\$ 66.24
461756	450-470 PHANTOM ANTE	21	\$ 27.70	\$ 581.70
50B02-ZCR	500 LENS LED BLUE	14	\$ 115.50	\$ 1,617.00
50B03ZCR	500 SERIES TIER 6	6	\$ 95.00	\$ 570.00
HAF401-3A	762-870 3DBSTUBBY A	2	\$ 50.00	\$ 100.00
70285	8 POSITION FUSE PANE	6	\$ 13.60	\$ 81.60
41916	800 CHROME ANTENNA F	4	\$ 16.75	\$ 67.00
60171	800 GLASS MT UHF ANT	1	\$ 32.79	\$ 32.79
5BKT1	ANGLE BRACKET	11	\$ 6.48	\$ 71.28
CPL2591	ANTENNA CABLE END (2	17	\$ 5.00	\$ 85.00
15042	ANTENNA FENDER MOUNT	1	\$ 7.74	\$ 7.74
418447	APR153 GLASS MT ANTE	6	\$ 107.35	\$ 644.10
736111	BATTERY CABLE POSITI	1	\$ 3.12	\$ 3.12
ELS-275#1	BIG SKY AR GUNLOCK	1	\$ 215.57	\$ 215.57
ELS-210-A	BIG SKY GUN LOCK	1	\$ 139.97	\$ 139.97
ELS-220-A	BIG SKY GUN LOCK	2	\$ 173.57	\$ 347.14
CBW/SLIDER	BIG SKY TELESCOPING	2	\$ 69.97	\$ 139.94
MS6BS-R/R	BROKING M6 LED SURF	11	\$ 45.00	\$ 495.00
DC-PARM11	BROOKING 11> CHARGER	3	\$ 44.20	\$ 132.60
BR-930W	BROOKING 3 HOLE OUTL	52	\$ 9.81	\$ 510.12

BR-930	BROOKING 3 HOLE OUTL	10	\$ 10.12	\$ 101.20
TLED04B-A	BROOKING AMBER 4 LE	11	\$ 36.40	\$ 400.40
TLED04B-B	BROOKING BLUE A LED	19	\$ 36.40	\$ 691.60
TLED04BB/A	BROOKING BLUE AMBER	3	\$ 37.80	\$ 113.40
MS6BH-A/A	BROOKING M6AMB/AMB H	5	\$ 45.87	\$ 229.35
MS6BS-A/A	BROOKING M6AMB/AMB S	18	\$ 45.00	\$ 810.00
MS6BH-A/W	BROOKING M6AMB/WHI H	7	\$ 45.87	\$ 321.09
MS6BH-B/A	BROOKING M6BLU/AMB H	9	\$ 49.40	\$ 444.60
MS6BH-B/B	BROOKING M6BLU/BLU H	5	\$ 45.87	\$ 229.35
MS6BS-B/W	BROOKING M6BLU/WHI S	10	\$ 44.20	\$ 442.00
MS6BH-R/B	BROOKING M6RED/BLU H	12	\$ 45.87	\$ 550.44
MS6BS-R/B	BROOKING M6RED/BLU S	17	\$ 44.20	\$ 751.40
MS6BH-R/W	BROOKING M6RED/WHI H	9	\$ 45.87	\$ 412.83
MS6BS-RW	BROOKING M6RED/WHI S	19	\$ 45.00	\$ 855.00
MS6BS-B/B	BROOKING MS BLUE SUR	64	\$ 48.72	\$ 3,118.08
PAR36X10-B	BROOKING PAR 36 CLE	4	\$ 75.22	\$ 300.88
VS-CV	BROOKING PRISONER SE	1	\$ 208.00	\$ 208.00
VS-CI-9	BROOKING PRISONER SE	4	\$ 208.00	\$ 832.00
TLED04B-R	BROOKING RED 4 LED	14	\$ 37.80	\$ 529.20
PBDC1	BROOKINGS PUSHBUMPER	3	\$ 114.40	\$ 343.20
DE-3175	BULB	9	\$ 1.10	\$ 9.90
45SPLITTER	CAT5 SPLITTER	5	\$ 9.49	\$ 47.45
T15597	CODE 3 XENON FLASH T	2	\$ 9.67	\$ 19.34
7160-0045	COMPUTER MOUNTGAMBER	5	\$ 68.75	\$ 343.75
RFU-505	CPL259 UHF ANTENNA C	5	\$ 1.55	\$ 7.75
7520000	DC ROUND RED ROCKER	10	\$ 3.18	\$ 31.80
DIRECTIO	EDGE DIRECTIONAL FLA	7	\$ 68.25	\$ 477.75
C-EB25-SW3	EQUIP. BRACKET	7	\$ 19.60	\$ 137.20
C-EB25-TBI	EQUIPMENT BRACKET	8	\$ 19.60	\$ 156.80
7140-0316	FACEPLATEGAMBER JOHN	1	\$ 16.50	\$ 16.50
1372435105	FED SI 44" VALOR LT	1	\$ 364.79	\$ 1,364.79
650003	FED SIG 650 SIREN	12	\$ 229.25	\$ 2,751.00
640000	FED SIG PA640 SIREN	36	\$ 235.00	\$ 8,460.00
620201	FED SIG WIRELESS VI	7	\$ 220.01	\$ 1,540.07
LF18TRB	FED SIG 18" LITTLE LI	2	\$ 31.12	\$ 62.24
416205	FED SIG 2 CHNL WEATH	4	\$ 38.59	\$ 154.36
SW200-012	FED SIG 200 SERIES S	3	\$ 82.69	\$ 248.07
BP200-EF	FED SIG 200W STAINLE	2	\$ 326.83	\$ 653.66
PDC-305	FED SIG 240 AMP POWE	3	\$ 81.34	\$ 244.02
620504	FED SIG 24V REPLACEM	2	\$ 11.09	\$ 22.18
253-RWBRWB	FED SIG 3 COLOR DUAL	3	\$ 176.40	\$ 529.20
320882	FED SIG 42"VIPER SIG	2	\$ 456.45	\$ 912.90
PDC-318G	FED SIG 420 AMP POWE	4	\$ 88.69	\$ 354.76
SM4F-00018	FED SIG 4-HD FRONT L	1	\$ 340.00	\$ 340.00
SM4F-00019	FED SIG 4-HD FRONT L	1	\$ 340.00	\$ 340.00
SL4F-B	FED SIG 4HD SIGNALMA	4	\$ 156.80	\$ 627.20
D53Z-00057	FED SIG 53" LEGEND B	2	\$ 32.90	\$ 2,065.80

605510	FED SIG 6" OVAL GROM	2	\$ 2.82	\$ 5.64
IPX300-2	FED SIG AMBER IMPAXX	109	\$ 22.00	\$ 2,398.00
RUMBLER-3	FED SIG AMP /TIMER/S	2	\$ 318.99	\$ 637.98
750501-02	FED SIG AS124 BRKT	2	\$ 16.17	\$ 32.34
750501-04	FED SIG AS124 BRKT 1	12	\$ 13.50	\$ 162.00
750501	FED SIG AS124 SPEAKE	32	\$ 80.00	\$ 2,560.00
210339	FED SIG BACK UP ALAR	19	\$ 14.75	\$ 280.25
IPX620-BA	FED SIG BLU/AMB IMPA	4	\$ 80.85	\$ 323.40
IPX630-BRW	FED SIG BLU/RED/WHI	4	\$ 95.55	\$ 382.20
IPX620-BW	FED SIG BLU/WHI IMPA	12	\$ 80.85	\$ 970.20
IPX300-3	FED SIG BLUE IMPAXX	113	\$ 28.80	\$ 3,254.40
80B003J-02	FED SIG BRAKE ASSY 1	4	\$ 58.50	\$ 234.00
Z2005653A	FED SIG CNTRL BOARD	7	\$ 167.21	\$ 1,170.47
416200-22	FED SIG CORNER LED A	29	\$ 115.00	\$ 3,335.00
416200-33	FED SIG CORNER LED B	9	\$ 103.70	\$ 933.30
416200-55	FED SIG CORNER LED C	6	\$ 103.70	\$ 622.20
416200-44	FED SIG CORNER LED R	11	\$ 115.00	\$ 1,265.00
416201-05	FED SIG CORNER LED W	4	\$ 56.35	\$ 225.40
329001-24	FED SIG DBL VIPER A/	1	\$ 149.00	\$ 149.00
329001-32	FED SIG DBL VIPER B/	2	\$ 149.00	\$ 298.00
329001-34	FED SIG DBL VIPER BL	1	\$ 149.00	\$ 149.00
329000-43	FED SIG DBL VIPER RE	7	\$ 152.00	\$ 1,064.00
329000-32	FED SIG DOUBLE VIPER	2	\$ 149.00	\$ 298.00
329000-34	FED SIG DOUBLE VIPER	3	\$ 151.50	\$ 454.50
329000-33	FED SIG DOUBLE VIPER	40	\$ 152.00	\$ 6,080.00
MPSM6DS	FED SIG DUAL M6 STAC	10	\$ 9.31	\$ 93.10
ESB-U	FED SIG ES 100 SPEAK	19	\$ 10.00	\$ 190.00
ESB-TAR11	FED SIG ES 100 SPEAK	4	\$ 12.25	\$ 49.00
ESB-TAH08	FED SIG ES 100 SPEAK	5	\$ 12.25	\$ 61.25
ESB-CAP11	FED SIG ES100 SPEAKE	20	\$ 12.25	\$ 245.00
IPX-LPVX1	FED SIG EXT LICENSE	3	\$ 12.27	\$ 36.81
VPX8011-4	FED SIG EXTERNAL VIP	2	\$ 85.75	\$ 171.50
LSSF-00048	FED SIG FRONT ILS 12	2	\$ 491.00	\$ 982.00
IPX-GRL5	FED SIG GRILL BRKT I	10	\$ 9.31	\$ 93.10
IPX-GRL6	FED SIG GRILLE BKT 1	6	\$ 9.31	\$ 55.86
IPX-GRL1	FED SIG GRILLE BRKT	35	\$ 7.60	\$ 266.00
IPX-GRL4	FED SIG GRILLE BRKT	8	\$ 9.31	\$ 74.48
IPX-GRL2	FED SIG GRILLE DUAL	22	\$ 7.60	\$ 167.20
330507	FED SIG GROMMET KIT	12	\$ 12.23	\$ 146.76
Z8573007A	FED SIG HAL LAMP 27W	8	\$ 5.15	\$ 41.20
211832-02	FED SIG HD PULSATOR	2	\$ 70.08	\$ 140.16
FHL2-SC	FED SIG HEADLIGHT FL	7	\$ 30.00	\$ 210.00
FHL-HL	FED SIG HEADLIGHT FL	2	\$ 36.00	\$ 72.00
FHL-CHG	FED SIG HEADLIGHT FL	7	\$ 36.00	\$ 252.00
FHLP-TAH	FED SIG HEADLIGHT FL	1	\$ 66.64	\$ 66.64
350701-03	FED SIG HEADLINER MT	4	\$ 7.59	\$ 30.36
454218	FED SIG HIGHLIGHTER	2	\$ 17.64	\$ 35.28

454202-02	FED SIG HIGHLIGHTER	2	\$ 171.00	\$ 342.00
454300-AW	FED SIG HIGHLIGHTER	2	\$ 171.00	\$ 342.00
54206-25SC	FED SIG HIGHLIGHTER	3	\$ 171.00	\$ 513.00
54205-25SC	FED SIG HIGHLIGHTER	16	\$ 171.00	\$ 2,736.00
54204-25SC	FED SIG HIGHLIGHTER	18	\$ 171.00	\$ 3,078.00
54201-25SC	FED SIG HIGHLIGHTER A	2	\$ 171.00	\$ 342.00
HKB-TA10	FED SIG HOOK BRKT KI	2	\$ 12.50	\$ 25.00
HKB-FRD7	FED SIG HOOK KIT F15	4	\$ 10.00	\$ 40.00
HKB-DKTA	FED SIG HOOK KIT LEG	3	\$ 25.00	\$ 75.00
750000-T1	FED SIG IGN DELAY TI	18	\$ 74.73	\$ 1,345.14
IPXM-1	FED SIG IMPAXX CHROM	6	\$ 2.94	\$ 17.64
IPX600B	FED SIG IMPAXX600 BL	5	\$ 71.05	\$ 355.25
LSFF-00059	FED SIG INNER LIGHTB	1	\$ 491.00	\$ 491.00
LSFF-00082	FED SIG INNER LIGHTB	1	\$ 491.00	\$ 491.00
LSFF-00039	FED SIG INNER LIGHTB	2	\$ 491.00	\$ 982.00
ILSFF00063	FED SIG INNER LIGHTB	3	\$ 491.00	\$ 1,473.00
IPX620-RA	FED SIG IPAXX 6 RED/	2	\$ 83.11	\$ 166.22
IPX-RSW1	FED SIG IPX SIDE WIN	1	\$ 33.81	\$ 33.81
IPX-TRNK3	FED SIG IPX TRUNK BR	4	\$ 12.25	\$ 49.00
MPSM6-LB	FED SIG L BRKT MPS6	22	\$ 7.35	\$ 161.70
320340	FED SIG LATTITUDE BR	3	\$ 46.55	\$ 139.65
454204-02	FED SIG LED HIGHLIGH	9	\$ 171.00	\$ 1,539.00
D45Z-00099	FED SIG LEGEND 45 LI	2	\$ 742.40	\$ 1,484.80
LGD45YA	FED SIG LEGEND 45 LI	6	\$ 742.40	\$ 4,454.40
LGD45YR/B	FED SIG LEGEND 45 LI	10	\$ 742.40	\$ 7,424.00
LGD45YB/A	FED SIG LEGEND 45" L	9	\$ 742.40	\$ 6,681.60
5442D-TBAA	FED SIG LEGEND INNER	1	\$ 206.54	\$ 206.54
IPX-LPV1	FED SIG LICENSE PLAT	6	\$ 12.25	\$ 73.50
320320	FED SIG LIGHTBAR DEC	4	\$ 18.49	\$ 73.96
HKB-FRD9	FED SIG LIGHTBAR HOO	1	\$ 10.00	\$ 10.00
HKB-IMP7	FED SIG LIGHTBAR HOO	7	\$ 10.00	\$ 70.00
HKB-FHD7	FED SIG LIGHTBAR HOO	6	\$ 12.50	\$ 75.00
HKB-CHGR11	FED SIG LIGHTBAR HOO	7	\$ 12.50	\$ 87.50
HKB-CV92	FED SIG LIGHTBAR HOO	19	\$ 12.50	\$ 237.50
HKB-DURR	FED SIG LIGHTBAR HOO	1	\$ 19.72	\$ 19.72
HKB-TA07	FED SIG LIGHTBAR HOO	19	\$ 19.72	\$ 374.68
HKB-CAP11	FED SIG LIGHTBAR HOO	29	\$ 20.82	\$ 603.78
LF12ES-LED	FED SIG LITTLE LITE	2	\$ 50.75	\$ 101.50
LF12TS-LED	FED SIG LITTLE LITE	2	\$ 50.75	\$ 101.50
858300045A	FED SIG LOAD DIST KI	1	\$ 20.83	\$ 20.83
X45Z-00183	FED SIG LPX SERIES 4	2	\$ 749.00	\$ 1,498.00
MPS350-B	FED SIG M3 BLUE HOOD	5	\$ 36.00	\$ 180.00
MPS650-AA	FED SIG M6 AMB/AMB H	12	\$ 45.70	\$ 548.40
MPS600-AA	FED SIG M6 AMB/AMB S	8	\$ 45.70	\$ 365.60
MPS650-BA	FED SIG M6 BLU/AMB H	10	\$ 45.70	\$ 457.00
MPS600-BA	FED SIG M6 BLU/AMB S	8	\$ 45.70	\$ 365.60
MPS650-BW	FED SIG M6 BLUE/WHIT	3	\$ 45.70	\$ 137.10

MPS600-BW	FED SIG M6 BLUE/WHIT	10	\$ 45.70	\$ 457.00
MPS600-RR	FED SIG M6 R/R SURFA	2	\$ 45.70	\$ 91.40
MPS600-RW	FED SIG M6 RED/WHITE	3	\$ 45.70	\$ 137.10
MPS600-WW	FED SIG M6 SURFACE M	16	\$ 45.70	\$ 731.20
M6-SPACRKT	FED SIG M6 WEDGE KIT	10	\$ 11.76	\$ 117.60
210890	FED SIG MAG MOUNT LE	4	\$ 19.69	\$ 78.76
MPS300-W	FED SIG MICRO PULSE	10	\$ 36.00	\$ 360.00
MPS600-AW	FED SIG MICRO PULSE	11	\$ 45.70	\$ 502.70
MPS300-B	FED SIG MICRO-3 BLUE	25	\$ 48.45	\$ 1,211.25
MPS650-BB	FED SIG MICRO-6 BLU/	1	\$ 45.70	\$ 45.70
MPS600-BB	FED SIG MICRO-6 BLU/	8	\$ 45.70	\$ 365.60
MNCT-SB	FED SIG MICROPHONE/S	26	\$ 10.00	\$ 260.00
MPS650-RR	FED SIG MICROPULSE H	5	\$ 45.70	\$ 228.50
MS4000	FED SIG MINI SIREN	1	\$ 122.01	\$ 122.01
M3-SPACRKT	FED SIG MPS3 WEDGE K	6	\$ 9.31	\$ 55.86
690200	FED SIG PA300 -CN SI	8	\$ 489.51	\$ 3,916.08
IPX-GRL3	FED SIG PAIR GRILLE	4	\$ 9.31	\$ 37.24
IPX-TRNK1	FED SIG PAIR TRUNK L	1	\$ 7.66	\$ 7.66
360800	FED SIG PAR 36 COVER	8	\$ 12.23	\$ 97.84
UPKM-3	FED SIG PARK SIREN D	3	\$ 23.15	\$ 69.45
SSP3000	FED SIG PLATINUM SIR	4	\$ 832.51	\$ 3,330.04
251841-02	FED SIG PULSATOR LED	10	\$ 77.24	\$ 772.40
IPX-PB45V	FED SIG PUSHBUMPER L	10	\$ 12.25	\$ 122.50
QL64MC	FED SIG QUADRAFLARE	16	\$ 6.37	\$ 101.92
QL73MC	FED SIG QUADRAFLARE	13	\$ 6.86	\$ 89.18
QL73MB	FED SIG QUADRAFLARE	15	\$ 6.86	\$ 102.90
QL64XFC-B	FED SIG QUADRAFLARE	5	\$ 85.00	\$ 425.00
QL73XFC-R	FED SIG QUADRAFLARE	8	\$ 85.75	\$ 686.00
QL64XF-B	FED SIG QUADRAFLARE	16	\$ 88.32	\$ 1,413.12
QL73XFC-C	FED SIG QUADRAFLARE	1	\$ 102.41	\$ 102.41
QL64XFC-A	FED SIG QUADRAFLARE	2	\$ 118.70	\$ 237.40
64Z4V-LEFT	FED SIG QUADRAFLARE	2	\$ 433.16	\$ 866.32
4Z4V-RIGHT	FED SIG QUADRAFLARE	2	\$ 433.16	\$ 866.32
QL64MB	FED SIG QUADRFLARE B	3	\$ 6.37	\$ 19.11
IPX-SW1	FED SIG REAR SIDE WI	5	\$ 12.25	\$ 61.25
IPX300-4	FED SIG RED IMPAXX L	29	\$ 22.00	\$ 638.00
IPX620-RW	FED SIG RED/WHI IMPA	10	\$ 80.85	\$ 808.50
RMK	FED SIG REMOTE MIC	52	\$ 10.00	\$ 520.00
RB-TAHO08	FED SIG RUMBLER BRKT	11	\$ 18.59	\$ 204.49
RB-FHD08	FED SIG RUMBLER BRKT	1	\$ 18.80	\$ 18.80
RB-IMP08	FED SIG RUMBLER BRKT	1	\$ 18.80	\$ 18.80
RB-CHGR08	FED SIG RUMBLER BRKT	6	\$ 18.80	\$ 112.80
RB-FPIU13	FED SIG RUMBLER BRKT	2	\$ 24.50	\$ 49.00
RB-CVIC05	FED SIG RUMBLER BRKT	8	\$ 24.50	\$ 196.00
Z8583446D	FED SIG SERIAL INTER	7	\$ 166.00	\$ 1,162.00
MLED-PLS-8	FED SIG SIGNAL MASTE	1	\$ 211.24	\$ 211.24
R-00014PKG	FED SIG SIGNAL MASTE	8	\$ 322.50	\$ 2,580.00

SL8F-B	FED SIG SIGNAL MSTR	2	\$ 254.00	\$ 508.00
350701-04	FED SIG SINGLE VIPER	22	\$ 12.25	\$ 269.50
329000-2	FED SIG SINGLE VIPER	14	\$ 72.00	\$ 1,008.00
329000-3	FED SIG SINGLE VIPER	47	\$ 72.50	\$ 3,407.50
S2000SM-SD	FED SIG SIREN	6	\$ 318.60	\$ 1,911.60
8536C1041A	FED SIG SMART SIREN	2	\$ 4.90	\$ 9.80
Z122290A	FED SIG SMART SIREN	5	\$ 26.95	\$ 134.75
SS200	FED SIG SMART SIREN	4	\$ 376.93	\$ 1,507.72
29252-BWBW	FED SIG SOECTRALUX D	3	\$ 164.15	\$ 492.45
ESB-EXP07	FED SIG SPEAKER BRKT	4	\$ 10.00	\$ 40.00
1368652598	FED SIG SPECTRALUX F	1	\$ 861.91	\$ 861.91
1368652598	FED SIG SPECTRALUX I	1	\$ 769.39	\$ 769.39
ILSD-00037	FED SIG SPECTRALUX R	1	\$ 861.00	\$ 861.00
329153-RWB	FED SIG SPECTRALUX S	3	\$ 112.70	\$ 338.10
416127	FED SIG SS4APWR SPLY	4	\$ 169.91	\$ 679.64
Z8107232A	FED SIG STROBE ASSY	3	\$ 29.52	\$ 88.56
413300-05	FED SIG STROBE TUBE	14	\$ 14.00	\$ 196.00
SW300-012	FED SIG SW 300 SWITC	17	\$ 70.00	\$ 1,190.00
SW400SS	FED SIG SW400 SWITCH	7	\$ 86.36	\$ 604.52
FHL-TAIL	FED SIG TAILLIGHT FL	12	\$ 36.00	\$ 432.00
52651-02SB	FED SIG ULTRA STAR L	2	\$ 114.58	\$ 229.16
250841-02	FED SIG ULTRSTAR MAG	13	\$ 77.24	\$ 1,004.12
IPX-LPH1	FED SIG UNIV LICENSE	8	\$ 12.25	\$ 98.00
IPX-LPF1	FED SIG UNIV LICENSE	9	\$ 13.48	\$ 121.32
LR51-00064	FED SIG VALOR 51" LI	2	\$ 603.25	\$ 3,206.50
LR44-00314	FED SIG VALOR44 B/W	1	\$ 342.99	\$ 1,342.99
LR44-00283	FED SIG VALR LIGHT B	1	\$ 342.99	\$ 1,342.99
350701-05	FED SIG VS2 DUAL HEA	1	\$ 12.25	\$ 12.25
IPX620-WA	FED SIG WHI/AMB IMPA	4	\$ 80.85	\$ 323.40
IPX310-5	FED SIG WHITE CENTER	4	\$ 51.45	\$ 205.80
IPX300-5	FED SIG WHITE IMPAXX	21	\$ 22.00	\$ 462.00
D-10209BA	FENIEX 2 HEAD BLUE A	8	\$ 71.40	\$ 571.20
D-10209BW	FENIEX 2 HEAD BLUE W	18	\$ 71.40	\$ 1,285.20
D-10409B	FENIEX 4 HEAD BLUE L	1	\$ 119.00	\$ 119.00
D-10609A	FENIEX 6 HEAD AMBER	3	\$ 165.92	\$ 497.76
D-10609B	FENIEX 6 HEAD BLUE L	7	\$ 165.92	\$ 1,161.44
D-10609RA	FENIEX 6 HEAD LIGHTB	1	\$ 165.92	\$ 165.92
D-10609R	FENIEX 6 HEAD RED LI	2	\$ 165.92	\$ 331.84
D-10809B	FENIEX 8 HEAD BLUE L	4	\$ 215.90	\$ 863.60
D-10809A	FENIEX 8 HEAD STICK	4	\$ 215.90	\$ 863.60
D-10209A	FENIEX AMBER TWO HEA	4	\$ 71.40	\$ 285.60
L-23709A	FENIEX AVATAR 37" L	1	\$ 495.00	\$ 495.00
D-10909B	FENIEX BLUE LIGHT BA	9	\$ 261.80	\$ 2,356.20
H2209RB	FENIEX CANNON CORNER	3	\$ 43.75	\$ 131.25
H2209RW	FENIEX CANNON CORNER	18	\$ 43.75	\$ 787.50
H2209W	FENIEX CANNON CORNER	30	\$ 43.75	\$ 1,312.50
H-2209A	FENIEX CANNON LED CO	12	\$ 43.75	\$ 525.00

H2209B	FENIEX CANNON LED CO	30	\$ 43.75	\$ 1,312.50
H-2209BW	FENIEX CANNON LED CO	42	\$ 43.75	\$ 1,837.50
D-20109XB	FENIEX COBRA 1X BLUE	72	\$ 55.00	\$ 3,960.00
D-20209B	FENIEX COBRA 200 BLU	18	\$ 85.00	\$ 1,530.00
D-20409B	FENIEX COBRA 400 LED	3	\$ 120.00	\$ 360.00
D-20609B	FENIEX COBRA 600 BLU	2	\$ 200.00	\$ 400.00
D-20809BA	FENIEX COBRA 800 BLU	5	\$ 255.00	\$ 1,275.00
D-20809B	FENIEX COBRA 800 BLU	9	\$ 255.00	\$ 2,295.00
I-26109	FENIEX COBRA DBL L B	24	\$ 9.00	\$ 216.00
I-29310	FENIEX COBRA LIGHTBA	23	\$ 15.00	\$ 345.00
H-1209A	FENIEX CORNER LED AM	4	\$ 39.10	\$ 156.40
H-1209B	FENIEX CORNER LED BL	27	\$ 39.10	\$ 1,055.70
H-1209R	FENIEX CORNER LED RE	21	\$ 39.10	\$ 821.10
D-10809RB	FENIEX EIGHT LIGHT B	1	\$ 215.90	\$ 215.90
H-3901	FENIEX FLASHER UNIT	18	\$ 45.00	\$ 810.00
I09010	FENIEX HEADLINER BRK	12	\$ 11.90	\$ 142.80
I-06190	FENIEX L BRKT	1	\$ 5.10	\$ 5.10
H-2209R	FENIEX LED CANNON RE	6	\$ 43.75	\$ 262.50
I-07009	FENIEX LICENSE PLATE	20	\$ 10.20	\$ 204.00
D-10409BW	FENIEX LIGHT BAR	1	\$ 119.00	\$ 119.00
D-10909A	FENIEX LIGHT BAR	4	\$ 261.80	\$ 1,047.20
I-09310	FENIEX LIGHT BAR SHI	11	\$ 12.50	\$ 137.50
I-09410	FENIEX LIGHT BAR SHI	4	\$ 22.00	\$ 88.00
I-0009ACRV	FENIEX PEGASUS AMBER	3	\$ 331.50	\$ 994.50
009BWTAEH	FENIEX PEGASUS BLU/W	2	\$ 331.50	\$ 663.00
BWFULLUNIV	FENIEX PEGASUS BLU/W	7	\$ 331.50	\$ 2,320.50
-0009BWCHG	FENIEX PEGASUS CHARG	4	\$ 331.50	\$ 1,326.00
009BWSPLIT	FENIEX PEGASUS SPLIT	6	\$ 331.50	\$ 1,989.00
D-10909R	FENIEX PYTHON 1000	2	\$ 261.80	\$ 523.60
D-10209AW	FENIEX PYTHON 2 HEAD	2	\$ 71.40	\$ 142.80
D-10209RB	FENIEX PYTHON 200 RE	6	\$ 71.40	\$ 428.40
D10409R	FENIEX PYTHON 400 RE	9	\$ 119.00	\$ 1,071.00
D-10409RB	FENIEX PYTHON 400 RE	16	\$ 119.00	\$ 1,904.00
D10809BA	FENIEX PYTHON 800 BL	2	\$ 215.90	\$ 431.80
D-11009B	FENIEX PYTHON T4 BLU	17	\$ 30.60	\$ 520.20
D11009W	FENIEX PYTHON T4 WHI	1	\$ 30.60	\$ 30.60
I-07809	FENIEX ROTATING BRKT	15	\$ 10.20	\$ 153.00
D-922009	FENIEX T6 DBL BLUE/B	5	\$ 67.00	\$ 335.00
I-26009	FENIEX T-6 L BRKT	65	\$ 5.00	\$ 325.00
D-10209R	FENIEX TWO HEAD LIGH	1	\$ 71.40	\$ 71.40
H1209W	FENIEX WHITE CORNER	1	\$ 39.10	\$ 39.10
HE-P28FX11	FOG LIGHT MT KIT EXP	4	\$ 4.80	\$ 19.20
S-LOWER-13	GAMBER JOHNSON 13" L	3	\$ 28.05	\$ 84.15
DS-LOWER-5	GAMBER JOHNSON 5" LO	6	\$ 28.05	\$ 168.30
J-UPPER-M5	GAMBER JOHNSON 5" UP	6	\$ 54.45	\$ 326.70
71600329	GAMBER JOHNSON COMP	2	\$ 59.95	\$ 119.90
7160-0350	GAMBER JOHNSON COMP	1	\$ 78.10	\$ 78.10

7160-0381	GAMBER JOHNSON COMPU	14	\$ 81.95	\$ 1,147.30
7160-0122	GAMBER JOHNSON COMPU	4	\$ 155.10	\$ 620.40
DS-CLEVIS	GAMBER JOHNSON CRADL	5	\$ 42.90	\$ 214.50
60-0486-00	GAMBER JOHNSON DOCK	2	\$ 322.18	\$ 644.36
7140-0840	GAMBER JOHNSON FACE	4	\$ 17.75	\$ 71.00
7140-0283	GAMBER JOHNSON FACEP	2	\$ 16.50	\$ 33.00
7140-0271	GAMBER JOHNSON FACEP	2	\$ 16.52	\$ 33.04
7160-0117	GAMBER JOHNSON FORD	1	\$ 37.95	\$ 37.95
7160-0230	GAMBER JOHNSON LOCK	13	\$ 35.75	\$ 464.75
DJ-UPPER-M	GAMBER JOHNSON LOWER	14	\$ 57.20	\$ 800.80
7160-0177	GAMBER JOHNSON UPPER	1	\$ 41.25	\$ 41.25
7160-0088	GAMBER JOHNSON CHGR L	8	\$ 51.70	\$ 413.60
C-EB25-CD5	HAVIS FACE PLATE	8	\$ 19.60	\$ 156.80
-C-FP-1*5*	HAVIS 1.5" FILLER PL	5	\$ 7.70	\$ 38.50
HAV-C-1810	HAVIS 18" CONSOLE	2	\$ 209.23	\$ 418.46
V-C-1800-H	HAVIS 18" CONSOLE HO	2	\$ 223.29	\$ 446.58
V-C-2410-H	HAVIS 24" X 10" CONS	3	\$ 214.80	\$ 644.40
HAV-C-FP-3	HAVIS 3" FILLER PLAT	1	\$ 9.10	\$ 9.10
HAV-C-FP-4	HAVIS 4" FILLER PLAT	4	\$ 9.10	\$ 36.40
HAV-C-FP-8	HAVIS 8" FILLER PLAT	1	\$ 10.50	\$ 10.50
-C-ARM-101	HAVIS ARM REST TOP	2	\$ 42.78	\$ 85.56
P-CAPR-1-H	HAVIS CONSOLE CAPRIC	2	\$ 135.42	\$ 270.84
V-C-1400-I	HAVIS CONSOLE FOR I	1	\$ 129.00	\$ 129.00
C-CUP2-E-C	HAVIS EXTERNAL DUAL	7	\$ 24.50	\$ 171.50
C-EB-30MMT	HAVIS FACEPLATE	6	\$ 19.60	\$ 117.60
B30-CDS-1P	HAVIS FACEPLATE MOTO	9	\$ 19.60	\$ 176.40
AV-C-FP-10	HAVIS FILLER PLATE 1	4	\$ 13.30	\$ 53.20
V-C-CUP2-I	HAVIS INTERNAL DUAL	2	\$ 26.04	\$ 52.08
HAV-C-M-1	HAVIS LEG KIT CRV	4	\$ 46.20	\$ 184.80
HAV-C-M-17	HAVIS LEG KIT IMP 20	3	\$ 46.20	\$ 138.60
HAV-C-35	HAVIS LEG KIT TAHOE	13	\$ 46.20	\$ 600.60
HAV-C-5	HAVIS LEG KIT UNIVER	2	\$ 33.60	\$ 67.20
HKBTR11	HOOK KIT 2011 TAURUS	42	\$ 12.50	\$ 525.00
UNPK	JETSOLARIS PER MOUNT	1	\$ 39.44	\$ 39.44
425-6396	JOTTO 12" CONSOLE 07	1	\$ 201.12	\$ 201.12
425-6411	JOTTO ADJUSTABLE ARM	3	\$ 55.68	\$ 167.04
4256260	JOTTO ARMREST	2	\$ 30.24	\$ 60.48
425-5640	JOTTO COMPUTER STAND	2	\$ 204.00	\$ 408.00
425-6137	JOTTO CONSOLE 06+ IM	1	\$ 164.16	\$ 164.16
4256174	JOTTO CONSOLE 2013 I	1	\$ 201.60	\$ 201.60
425-6193	JOTTO CONSOLE 2013 I	3	\$ 201.60	\$ 604.80
425-6636	JOTTO DODGE CONSOLE	2	\$ 201.60	\$ 403.20
425-3704	JOTTO INTERNAL DUAL	3	\$ 24.96	\$ 74.88
KMC-35	KENWOOD MIC	1	\$ 35.75	\$ 35.75
54300S-RWR	LED HIGHLIGHTER RED/	2	\$ 340.30	\$ 680.60
PPO055	LOWER EXTENSION CROW	5	\$ 35.91	\$ 179.55
MAGLT	MAGLITE W/CHARGER	1	\$ 110.00	\$ 110.00

MAGMIC	MAGNETIC MIC CLIPS	4	\$ 17.00	\$ 68.00
448142-02	MDLSY ROT. 12V 95F M	4	\$ 37.71	\$ 150.84
331259	MINI UHF ANTENNA CON	28	\$ 1.59	\$ 44.52
MBPS07BB	MIRROR BEAMS FOR TAH	1	\$ 304.25	\$ 304.25
475-0322	PATRIOT BIO SEAT W/E	1	\$ 291.00	\$ 291.00
475-0534	PATRIOT FREE STANDIN	2	\$ 236.50	\$ 473.00
475-0068	PATRIOT SETINA ADAPT	2	\$ 26.50	\$ 53.00
4750191	PATRIOT VERT SINGLE	1	\$ 171.00	\$ 171.00
475-0307	PATRIOT WIN ARMOR PI	1	\$ 110.00	\$ 110.00
475-0309	PATRIOT WINDOW ARMOR	1	\$ 175.10	\$ 175.10
I-0009BW	PEGASUS BLUE WHITE L	1	\$ 331.50	\$ 331.50
F97	RAY ALLEN F SERIES A	3	\$ 47.49	\$ 142.47
VPX800-4	RED VIPER EXT	3	\$ 83.30	\$ 249.90
630102-23B	RON TAN QUASAR DOT BL	9	\$ 65.16	\$ 586.44
630102-24B	RON TAN QUASAR DOT BL	12	\$ 67.68	\$ 812.16
630102-44B	RON TAN QUASAR DOT WH	12	\$ 63.00	\$ 756.00
K0532CAP11	SETINA PB400 CAPRIC	5	\$ 171.86	\$ 859.30
10301S1UHK	SETINA VERTICAL DUA	1	\$ 242.55	\$ 242.55
07CGR06SCA	SETINA 10S PARTITION	1	\$ 407.79	\$ 407.79
34ITS12SCA	SETINA 10S RP PART 1	4	\$ 399.78	\$ 1,599.12
15CGR06SCA	SETINA 10S RP PARTIT	1	\$ 377.37	\$ 377.37
55TAH10SCA	SETINA 10VS PARTITIO	1	\$ 473.70	\$ 473.70
20TAH10SCA	SETINA 10VS UC PARTI	1	\$ 350.46	\$ 350.46
39ITU12SCA	SETINA 10VSRP PARTIT	3	\$ 473.70	\$ 1,421.10
23ITU122ND	SETINA 12VS REAR PAR	3	\$ 245.78	\$ 737.34
23TAH072ND	SETINA 12VS REAR PAR	4	\$ 251.37	\$ 1,005.48
16TAH072ND	SETINA 12VS REAR PAR	1	\$ 276.57	\$ 276.57
ST038CRV92	SETINA 2PC REC LOWER	3	\$ 43.47	\$ 130.41
K0118EPL06	SETINA 8S PARTITION	1	\$ 368.98	\$ 368.98
18EPL06SCA	SETINA 8S PARTITION	1	\$ 377.37	\$ 377.37
25CGR11SCA	SETINA 8S RP PARTITI	3	\$ 370.88	\$ 1,112.64
K0104IMP06	SETINA 8S UNCOATED P	1	\$ 326.97	\$ 326.97
18ITU12SCA	SETINA 8VSRFT PARTIT	1	\$ 377.37	\$ 377.37
K0532ITS12	SETINA ALUM PB400 BU	4	\$ 166.01	\$ 664.04
PP5361	SETINA BUKT SEAT PLA	1	\$ 22.79	\$ 22.79
T0380CGR11	SETINA CHARGER LOWER	2	\$ 42.02	\$ 84.04
342UHKSSCA	SETINA D T-RAIL GUNL	3	\$ 258.10	\$ 774.30
PP0055	SETINA LOWER EXT PAN	5	\$ 35.91	\$ 179.55
PP7671	SETINA LOWER EXT PAN	3	\$ 38.81	\$ 116.43
15IMP06SCA	SETINA PARTITION 06	1	\$ 308.81	\$ 308.81
K0107IMP06	SETINA PARTITION 06	6	\$ 308.81	\$ 1,852.86
08CAP11SCA	SETINA PARTITION 201	1	\$ 368.98	\$ 368.98
K0107CRV00	SETINA PARTITION CRV	6	\$ 326.97	\$ 1,961.82
07IMP06SCA	SETINA PARTITION IMP	4	\$ 352.17	\$ 1,408.68
11CGR11SCA	SETINA PARTITION KIT	1	\$ 97.94	\$ 97.94
11ITS12SCA	SETINA PARTITION TRA	4	\$ 97.94	\$ 391.76
K0532ITS11	SETINA PB400 POLICE	2	\$ 171.86	\$ 343.72

K0534ITU12	SETINA PB400 PUSH BU	5	\$ 202.66	\$ 1,013.30
K0533ITS12	SETINA PB400 ST BUMP	1	\$ 159.54	\$ 159.54
K0807CGR11	SETINA PB6 11-12 CHG	1	\$ 282.87	\$ 282.87
K0809TAH07	SETINA PB8 HEADLIGHT	1	\$ 208.27	\$ 208.27
K0594CGR11	SETINA POLY WINDOW B	2	\$ 150.57	\$ 301.14
K0532CGR11	SETINA PUSH BUMPER C	5	\$ 184.18	\$ 920.90
K0532IMP06	SETINA PUSH BUMPER I	2	\$ 184.18	\$ 368.36
534TAH07HL	SETINA PUSHBUMPER FO	1	\$ 194.67	\$ 194.67
T0380ITS12	SETINA RP LEP 12-13	4	\$ 42.50	\$ 170.00
0380CGR06N	SETINA RP LOWER EXT	3	\$ 42.07	\$ 126.21
K0513CAP11	SETINA WINDOW BARRIE	2	\$ 122.58	\$ 245.16
PETLF17	SOS LIGHTBAR HOOK 13	1	\$ 68.00	\$ 68.00
EL3SSCW	SOUND OFF SIG 3 LED	2	\$ 88.67	\$ 177.34
ENT2B3R	SOUNDOFF SIG INTERS	14	\$ 101.64	\$ 1,422.96
ECVDMLTCV	SOUNDOFF SIG DOME LI	10	\$ 22.00	\$ 220.00
ENT2B3A	SOUNDOFF SIG INTERSE	5	\$ 101.64	\$ 508.20
ENT2B3B	SOUNDOFF SIG INTERSE	4	\$ 123.50	\$ 494.00
ENT2B3W	SOUNDOFF SIGNAL INTE	6	\$ 123.50	\$ 741.00
SL20XLED	STEAMLIGHT 20X LED F	5	\$ 93.29	\$ 466.45
75812	STINGER FLASHLIGHT W	15	\$ 89.99	\$ 1,349.85
SL20X	STREAMLIGHT 20X FLA	1	\$ 110.00	\$ 110.00
VTX609B	SUPER LED BLUE	30	\$ 60.00	\$ 1,800.00
10772	TESCO VHF ANTENNA MA	11	\$ 7.50	\$ 82.50
429700	TESSCO 25' ANTENNA C	23	\$ 11.79	\$ 271.17
50805	TESSCO ANTENNA	2	\$ 31.49	\$ 62.98
85919	THREE WAY TOGGLE SWI	1	\$ 4.49	\$ 4.49
73185	TOGGLE SWITCH	12	\$ 2.74	\$ 32.88
7160-0085	TOPPLATE	11	\$ 46.20	\$ 508.20
HAE4003A	UHF ANTENNA KIT	3	\$ 21.50	\$ 64.50
55801	UHF GLASS MT ANTENNA	5	\$ 81.20	\$ 406.00
60684	UHF/F-UHF/F STRAIGHT	6	\$ 3.00	\$ 18.00
59517	UHF/F-UHF/M ANGLE AD	3	\$ 9.10	\$ 27.30
49165	UNITY ANTENNA 1/4 WA	35	\$ 6.03	\$ 211.05
U-8547	UNITY LED SPOTLIGHT	2	\$ 100.00	\$ 200.00
0440624-15	WHELEN STROBE EXT C	3	\$ 23.20	\$ 69.60
HE-M7FC700	WHELEN 700/M7 CONVER	2	\$ 17.70	\$ 35.40
CCSRN2	WHELEN CENCOM SIREN	8	\$ 550.00	\$ 4,400.00
S30HACP	WHELEN CLEAR STROBE	5	\$ 33.60	\$ 168.00
S30HAC	WHELEN CLEAR STROBE	5	\$ 35.40	\$ 177.00
D808000	WHELEN DOMINATOR EIG	10	\$ 336.96	\$ 3,369.60
D6AAAAAA	WHELEN DOMINATOR SIX	2	\$ 263.52	\$ 527.04
D6RRRRRR	WHELEN DOMINATOR6 LE	3	\$ 263.52	\$ 790.56
295SL100	WHELEN EPSILON SIREN	5	\$ 162.50	\$ 812.50
FEDCO6BR	WHELEN FOG LIGHT CHA	12	\$ 107.40	\$ 1,288.80
FECT10BR	WHELEN FOG LIGHT TAH	8	\$ 100.44	\$ 803.52
FECT10RR	WHELEN FOG LIGHT TAH	6	\$ 107.40	\$ 644.40
HE-PAR28DB	WHELEN FOG/DRIVING LI	3	\$ 123.12	\$ 369.36

IZ13UF8	WHELEN INNER EDGE 2	1	\$ 649.08	\$ 649.08
I13UFZ	WHELEN INNER EDGE LI	3	\$ 522.69	\$ 1,568.07
I35UF8	WHELEN INNER EDGE LI	4	\$ 522.69	\$ 2,090.76
IONB	WHELEN ION LED BLUE	2	\$ 81.44	\$ 162.88
LINZ6A	WHELEN LED AMBER HOR	1	\$ 102.90	\$ 102.90
LINZ6C	WHELEN LED CLEAR HOR	2	\$ 102.90	\$ 205.80
M7BC	WHELEN M7 BLUE	4	\$ 119.40	\$ 477.60
WHE-M7B	WHELEN M7 BLUE LED	2	\$ 135.78	\$ 271.56
WHE-M7FC	WHELEN M7 CHROME FLA	5	\$ 8.40	\$ 42.00
M7FB	WHELEN M7 FLANGE BLA	2	\$ 5.58	\$ 11.16
OE13UR8	WHELEN OUTER EDGE 20	1	\$ 677.00	\$ 677.00
2EB00ZCR	WHELEN PAR 36 BLUE	2	\$ 107.50	\$ 215.00
CSP690	WHELEN POWER SUPPLY	4	\$ 124.20	\$ 496.80
295SLSA6	WHELEN SIREN CONTOL	2	\$ 387.00	\$ 774.00
SLPBKT1	WHELEN SLIMLIGHTER B	2	\$ 8.37	\$ 16.74
SLPMMBB	WHELEN SLIMLIGHTER B	4	\$ 197.64	\$ 790.56
SAK24	WHELEN SPEAKER BRACK	2	\$ 10.00	\$ 20.00
SFP1B	WHELEN SPITFIRE BLUE	20	\$ 74.52	\$ 1,490.40
SFIONR	WHELEN SPITFIRE ION	9	\$ 91.26	\$ 821.34
SFIONB	WHELEN SPITFIRE ION	20	\$ 91.26	\$ 1,825.20
SFP1R	WHELEN SPITFIRE RED	9	\$ 74.52	\$ 670.68
0440624-25	WHELEN STROBE EXT CA	25	\$ 35.50	\$ 887.50
066A942-10	WHELEN TIER 3 AMBER	38	\$ 27.50	\$ 1,045.00
066A942-50	WHELEN TIER 3 RED	48	\$ 27.50	\$ 1,320.00
5TSMAB	WHELEN TIER 6 FLANGE	8	\$ 4.59	\$ 36.72
E-50R02ZCR	WHELEN TIER 6 LED RE	7	\$ 67.00	\$ 469.00
RSB03ZCR	WHELEN TIR3 LED BLUE	4	\$ 54.60	\$ 218.40
VTX609C	WHELEN VERTEX LED CO	2	\$ 78.74	\$ 157.48
VTX609M	WHELEN VERTEX SPLIT	3	\$ 78.00	\$ 234.00
VTXFB	WHELEN VERTEX SURF M	18	\$ 5.52	\$ 99.36
HLN9073B	WIRELESS SO MIC CLIP	42	\$ 1.16	\$ 48.72
97210	XRC-10K WINCH	7	\$ 352.94	\$ 2,470.58

*** TOTAL	LINE ITEMS:	541
*** TOTAL	ON HAND:	4326
*** TOTAL	VALUE:	\$ 285,658.13



June 21, 2018

Re: Harpeth Motorsports – Contribution

To whom it may concern,

Harpeth Motorsports has dissolved their business of providing parts and service for the upfitting of any Emergency Vehicles, including installation of lights & sirens. We at Alexander Automotive, on behalf of Harpeth Motorsports, would like to offer the City of Franklin our remaining parts inventory at no cost as a contribution to our local community.

Best Regards,

Barry Alexander, Owner

Signature: _____

By signing below, you understand that the remaining inventory is offered to the City of Franklin as a gift and/or contribution and that there will be no warranty on said parts.

David Collins

06-21-18

Date

David Barker

Date



THOMSON REUTERS™

Order Form**Order ID: Q-00258462**

Contact your representative john.perry@thomsonreuters.com with any questions. Thank you.

Account Address

Account #: 1000126914
FRANKLIN CITY ATTORNEY
SHAUNA R BILLINGSLEY
PO Box 305

FRANKLIN
TN, 37065-0305 US

Shipping Address

Account #: 1000126914
FRANKLIN CITY ATTORNEY
SHAUNA R BILLINGSLEY
PO Box 305

FRANKLIN
TN, 37065-0305 US

Billing Address

Account #: 1000126914
FRANKLIN CITY ATTORNEY
SHAUNA R BILLINGSLEY
PO Box 305

FRANKLIN
TN, 37065-0305 US

This Order Form is a legal document between West Publishing Corporation and Subscriber. West Publishing Corporation also means "West", "we" or "our" and Subscriber means "you", or "I". Subscription terms, if any, follow the ordering grids below.

ProFlex Products
See Attachment for details

Service Material	Product	Monthly Charges	Minimum Term (Months)	Year Over Year Increase During Minimum Term
40757482	WEST PROFLEX	\$946.01	36	2%

Minimum Terms

Online/ Practice Solution/Software/ProFlex Products : Monthly Charges begin on the date we process your order and will be prorated for the number of days remaining in that calendar month, if any. Your Monthly Charges will continue for the number of complete calendar months listed in the Minimum Term column above. The percent increases for multi-year orders appear in the Term Increases column above. Subscriber ("you" or "I") is also responsible for all Excluded Charges. Excluded Charges are for accessing Westlaw data or a Practice Solutions service that is not included in your subscription. Excluded Charges may change after at least 30 days written or online notice.

For Window Products: Monthly Charges begin on the date we process your order and will continue for the number of complete calendar months in the Minimum Term column above. The percent increases for multi-year orders appear in the Term Increases column above. Monthly Charges are due regardless of the level of your usage. Transactional usage charges that exceed the Monthly Charges are waived up to the Monthly Window amount stated above. In addition to the Monthly Charges you are responsible for transactional usage charges in excess of the Monthly Window. Transactional charges are calculated based upon our then-current Schedule A rates. You are also responsible for all Excluded Charges. Excluded Charges are charges for accessing a service that is not included in your subscription. Excluded Charges may change after at least 30 days written or online notice.

To apply Window charges to a specific month, the request must be submitted at least five (5) business days prior to the end of the month.

Post Minimum Terms

For Online/Practice Solutions/Software /ProFlex Products: Your subscription will change to a month-to-month status at the end of the Minimum Term, and your Monthly Charges will increase by 7%. Thereafter, the Monthly Charges will increase 7% every 12 months unless we notify you of a different rate at least 60 days before the annual increase. You are also responsible for all Excluded Charges. Excluded Charges may change after at least 30 days written or online notice. Either of us may cancel the month-to-month subscription by sending at least 30 days written notice. Send your notice of cancellation to Customer Service, 610 Opperman Drive, P.O. Box 64833, Eagan, MN 55123-1803.

Automatic Renewal Term for Window Products. Your subscription will change to a month-to-month status at the end of the Minimum Term and your Monthly Charges will be billed at up to our then-current rate. Thereafter, we may modify the Monthly Charges after at least 30 days notice. The Monthly Window will remain unchanged. Monthly Charges are due regardless of the level of your usage. Transactional usage charges that exceed the Monthly Charges are waived up to the Monthly Window. In addition to the Monthly Charges, you are responsible for transactional usage charges in excess of the Monthly Window. Transaction charges are calculated based upon our then-current Schedule A rate. You are also responsible for all Excluded Charges. Excluded Charges may change after 30 days written or online notice. Either of us may cancel the month-to-month subscription by sending at least 30 days written notice. Send your notice of cancellation to Customer Service, 610 Opperman Drive, P.O. Box 64833, Eagan MN 55123-1803.

To apply Window charges to a specific month, the request must be submitted at least five (5) business days prior to the end of the month.

Federal Government Subscribers Optional Minimum Term. Federal government subscribers that chose a multi-year Minimum Term, those additional months will be implemented at your option pursuant to federal law.

Miscellaneous

Charges, Payments & Taxes. You agree to pay all charges in full within 30 days of the date of invoice. You are responsible for any applicable sales, use, value added tax (VAT), etc. unless you are tax exempt. If you are a non-government subscriber and fail to pay your invoiced charges, you are responsible for collection costs including attorneys' fees.

Credit Verification. If you are applying for credit as an individual, we may request a consumer credit report to determine your creditworthiness. If we obtain a consumer credit report, you may request the name, address and telephone number of the agency that supplied the credit report. If you are applying for credit on behalf of a business, we may request a current business financial statement from you to consider your request.

Auto Charge Credit Card/Electronic Funds Transfer Election Payment Terms. You may authorize us to automatically charge a credit card, debit card or electronic fund transfer to pay charges due. Contact Customer Service at 1-800-328-4880 for authorization procedures. If you have previously authorized us to bill a credit card, debit card or make electronic fund transfers for West subscriptions on an ongoing basis, or authorizing the same as part of this order, no further action is needed.

Returns and Refunds. You may return a print product to us within 45 days of the original shipment date if you are not completely satisfied. Assured Print Pricing, Library Savings Plan, West Complete, Library Maintenance Agreements, ePack, WestPack, Westlaw, CLEAR, Monitor Suite, ProView eBook, Software, West LegalEdcenter, Practice Solutions, TREWS and Serengeti charges are not refundable. Please see <http://static.legalsolutions.thomsonreuters.com/static/returns-refunds.pdf> or contact Customer Service at 1-800-328-4880 for additional details regarding our policies on returns and refunds.

Applicable Law. This Order Form will be interpreted under Minnesota state law. Any claim by one of us may be brought in the state or federal courts in Minnesota. If you are a state or local governmental entity, your state's law will apply and any claim may be brought in the state or federal courts located in your state. If you are a United States Federal Government subscriber, United States federal law will apply and any claim may be brought in any federal court.

Excluded Charges. If you access services that are not included in your subscription you will be charged our then-current rate ("Excluded Charges"). Excluded Charges will be invoiced and due with your next payment. For your reference, the current Excluded Charges schedules are located at the links below. Excluded Charges may change after at least 30 days written or online notice.

<http://static.legalsolutions.thomsonreuters.com/static/agreement/plan-2-pro-govt-agencies.pdf>

<http://static.legalsolutions.thomsonreuters.com/static/agreement/schedule-a-concourse-case-notebook-hosted.pdf>

The General Terms and Conditions, apply to all products ordered, except print and is located at <http://static.legalsolutions.thomsonreuters.com/static/general-terms-conditions.pdf>

The General Terms and Conditions for Federal Subscribers are located at <http://static.legalsolutions.thomsonreuters.com/static/federal-general-terms-conditions.pdf>. In the event that there is a conflict of terms between the General Terms and Conditions and this Order Form, the terms of this Order Form control. This Order Form is subject to our approval.

Banded Product Subscriptions You certify the total number of attorneys (partners, shareholders, associates, contract or staff attorneys, of counsel, and the like), corporate users, personnel or full-time-equivalent students is indicated in the applicable Quantity column. Our pricing for banded products is made in reliance upon your certification. If we learn that the actual number is greater, we reserve the right to increase your charges as applicable

Product Specific Terms. The following products have specific terms which are incorporated by reference and made part of this Order Form if they apply to your order. They can be found at <http://static.legalsolutions.thomsonreuters.com/static/product-specific-terms.pdf>. If the product is not part of your order, the product specific terms do not apply. If there is a conflict between product specific terms and the Order Form, the product specific terms control.

- Campus Research
- Contract Express
- Hosted Practice Solutions
- ProView eBooks
- Time and Billing
- Westlaw Doc & Form Builder
- West km Software
- West LegalEdcenter
- Westlaw Paralegal
- Westlaw Patron Access
- Westlaw Public Records

Additional Order Form Terms and Conditions

Government Non Availability of Funds for Online, Practice Solutions or Software Products

You may cancel a product or service with at least 30 days written notice if you do not receive sufficient appropriation of funds. Your notice must include an official document, (e.g., executive order, an officially printed budget or other official government communication) certifying the non-availability of funds. You will be invoiced for all charges incurred up to the effective date of the cancellation.

Acknowledgement: Order ID: Q-00258462

Addendum to West Order Form-Order ID: Q-00258462 is incorporated herein.

Signature of Authorized Representative for order

Title

Printed Name

Date

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This Order Form will expire and will not be accepted after 8/28/2018.

AUTHORIZED WEST REPRESENTATIVE
Signature: *Chuck Hamster*
Printed Name: Chuck Hamster
Title: SR State Counsel
Date: 7/13/2018
Law Dept. approved (S) 07-12-18

 THOMSON REUTERS™	Attachment Contact your representative john.perry@thomsonreuters.com with any questions. Thank you. Order ID: Q-00258462
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Order ID: Q-00258462

Payment, Shipping, and Contact Information
Payment Method:
 Payment Method: Bill to Account
 Account Number: 1000126914
Order Confirmation Contact (#28)
 Contact Name: Shauna Billingsley
 Email: shauna.billingsley@franklintn.gov
Shipping Information:

Shipping Method: Ground Shipping - U.S. Only

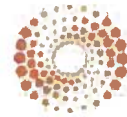
ProFlex Multiple Location Details			
Account Number	Account Name	Account Address	Action
1000126914	FRANKLIN CITY ATTORNEY	FRANKLIN TN, 37065-0305	New

ProFlex Product Details			
Quantity	Unit	Service Material #	Description
2	Attorneys	42077751	Gvt National Primary Core
2	Attorneys	42077755	Gvt Analytical Plus for Government
2	Attorneys	41935298	Gvt PeopleMap Premier And Company Investigator For Government (Westlaw PRO™)
2	Attorneys	41974282	Gvt Drafting Assistant For Government (Westlaw PRO™)
2	Attorneys	41985648	Gvt - Related Documents For Government (Westlaw PRO™)
2	Attorneys	42018822	Gvt Case Notebook Suite (Westlaw PRO™)

Account Contacts			
Contact Name		Email Address	Customer Type Description
Ellen	Hansen	ellen.hansen@franklintn.gov	TECHNICAL CONTACT
ELLEN	HANSEN	ellen.hansen@franklintn.gov	EML PSWD CONTACT

Lapsed Products	
Sub Material	Active Subscription to be Lapsed
40988668	Government Select Level 2 States (WestlawNext™)

GENERAL TERMS AND CONDITIONS



THOMSON REUTERS

Thomson Reuters Legal Products and Professional Services

These General Terms and Conditions govern your use of the Thomson Reuters Legal information products, software products which include on-premise software and hosted software, and professional services in the Thomson Reuters ordering document. "We", "our", "Thomson Reuters" and "Thomson Reuters Legal" means West Publishing Corporation and our affiliates; "you" and "your" means the Subscriber identified in the ordering document.

The ordering document identifies the Thomson Reuters products and professional services, the quantities, charges and other details of your order. The ordering document also refers to documents which may apply to the products or professional services you selected. The ordering document, any applicable referenced documents and these General Terms and Conditions constitute the complete agreement and supersede any prior discussions or representations regarding your order. If the terms of the ordering document are different from these General Terms and Conditions, the ordering document will have priority. Other terms and conditions you incorporate into a purchase order or similar document shall not apply.

1. License Terms. (a) We grant a non-exclusive, non-transferable, limited license to you to use the product in your ordering document in the regular course of your business. We maintain all rights of ownership to our products. Our products change from time to time. Access to certain data may be restricted. We are not providing legal advice by allowing you to use our products. Your interpretations of data are your own for which you have full responsibility.

(b) On-premise software product licenses include updates (bug fixes, patches, maintenance releases) but do not include upgrades (releases or versions that include new features or additional functionality). You may use our software product in object code only. You may make copies of our software product for backup and archival purposes. The copy must include an embedded copyright or proprietary rights notice. No other copying or reproduction is allowed. You may not modify, translate or create derivative works of our software products.

(c) You may quote and excerpt from our information products in your work with the appropriate cite and credit to the source. Except as provided in paragraph 1 (d), you may store data from our information products in a secure internal system in the regular course of your business. You may display our information product data internally. You may transmit our information product data electronically using a feature in the information product or print and share that information product data as necessary in the regular course of your business. Copyright notices must be retained on the transmitted or printed items. The Copyright Act (17 U.S.C.A. 107) fair use provision may allow additional uses.

(d) You may not sell, sublicense, distribute, display, store or transfer our products or any data in our products in bulk or in any way that could be used to replace or substitute for our products in whole or in part or as a component of any material offered for sale, license or distribution to third parties. You may not use any means to discern the source code of our products.

(e) Your access to certain products is password protected. You are responsible for assigning the passwords and maintaining password security. Sharing passwords is strictly prohibited.

(f) You may not run or install any computer software or hardware on our products or network or introduce any spyware, malware, viruses, Trojan horses, backdoors or other software exploits.

(g) We are not a consumer reporting agency. You may use information product data to support your own processes and decisions but you may not deny any service or access to a service to a consumer based solely upon the information product data. Examples of types of service include eligibility for credit or insurance, employment decisions and any other purpose described in the Fair Credit Reporting Act (15 U.S.C.A. 1681b).

(h) If the Financial Industry Regulatory Authority regulations apply to you, you may use our information products to verify the accuracy and

completeness of information submitted to you by each applicant for registration on Form U4 or Form U5 in compliance with the requirements of FINRA Rule 3110. You may use the information products in this manner only in furtherance of written policies and procedures that are designed to achieve your compliance with FINRA Rule 3110 or as otherwise allowed by these General Terms and Conditions.

2. Third Party Providers. Our products may include data and/or software from third parties. Some third party providers require us to pass additional terms through to you. The third party providers change their additional terms occasionally and new third party providers are added from time to time. You agree to comply with all applicable third party additional terms. To see the current third party additional terms for Westlaw and CLEAR information products go to <http://legalsolutions.com/westlaw-additional-terms> and <http://legalsolutions.com/clear-additional-terms>.

3. Regulated Data. Due to the regulated or private nature of some data in our information products like credit header data, motor vehicle data, driver license data and voter registration data, you may need to complete a credentialing process which will include certifying what your legally permissible use of the data will be. You agree to immediately notify us if any of the information you provided in your ordering document or during the credentialing process changes. You agree and warrant that you are the end user of this data and that you will only use it for your own internal business purposes. You also warrant that you will strictly limit the access, use and distribution of this data to uses permitted under applicable laws, rules and regulations and as permitted by the third party additional terms. You will keep the data confidential. You will use industry standard administrative, physical and technical safeguards to protect the data. You will not disclose it to anyone except as necessary to carry out your permissible use. You will immediately report any misuse, abuse or compromise of the data. You agree to cooperate with any resulting inquiry. If we reasonably believe that the data has been misused, abused or compromised, we may block access without additional notice. You are responsible for all damages caused by misuse, abuse or compromise of the data by you, your employees and any person or entity with whom you shared the data. We will be responsible for damages caused by us.

4. Hosted Products. (a) Our hosted products are designed to protect the content you store in the hosted product. You grant us permission to use, store and process your content in accordance with applicable law. Access and use of your content by our employees and contractors will be directed by you and limited to the extent necessary to deliver the hosted product, including training, research assistance, technical support and other services. We will not disclose your content except in support of the use of the hosted products or unless required by law. If the agreement expires or is terminated, we will provide access to the hosted product for 180 days so that you may remove your content. The agreement will remain in effect through the 180-day extraction period.

(b) We will provide notice to you of any unauthorized third party access to your content of which we become aware in accordance with applicable law and will use reasonable efforts to remediate identified security vulnerabilities. If your content is lost or damaged, we will assist you in restoring the content to the hosted product from your last available back up copy.

(c) You are responsible for ensuring that your content does not infringe on any intellectual property right, violate any applicable laws or the terms of any agreement. If we are notified that your content may infringe on the intellectual property rights of a third party we may be obligated to delete or disable it from the hosted product under the Digital Millennium Copyright Act (17 U.S.C.A. 512).

5. Professional Services. The professional services applicable to your order, if any, are described in the ordering document or a statement of work.

6. Privacy. The parties will at all times process personally identifiable information (PII) you provide to us in accordance with applicable law. You confirm that you will only upload or disclose PII as permitted by applicable law. The parties will use reasonable efforts to assist one another in relation to the investigation and remedy of any claim, allegation, action, suit, proceeding or litigation with respect to alleged unauthorized access, use, processing, or disclosure of PII. Each party will maintain, and will require any third party data processors to maintain, appropriate physical, technical and organizational measures to protect the PII against accidental, unauthorized or unlawful destruction, loss, alteration, disclosure, or access. PII includes any information relating to an identified natural person or a natural person who can be identified directly or indirectly by means reasonably likely to be used by the controller of the information, or any other natural or legal person.

7. Confidentiality. Confidential information received from each other will not be disclosed to anyone else unless required by law or if necessary to perform the agreement. The receiving party agrees that during the term of the agreement and for three years afterward, it will continue to protect the confidential information. The parties will use industry standard administrative, physical and technical safeguards to protect the confidential information. If a court or government agency orders either of us to disclose the confidential information of the other party, the other party will be promptly notified so that an appropriate protective order or other remedy can be obtained unless the court or government agency prohibits prior notification.

8. Warranties and Disclaimer of Warranties. OUR INFORMATION PRODUCTS ARE PROVIDED "AS IS" WITHOUT ANY WARRANTY OF ANY KIND. WE WARRANT OUR SOFTWARE PRODUCTS WILL CONFORM TO OUR DOCUMENTATION. WE WARRANT THAT WE PROVIDE PROFESSIONAL SERVICES USING COMMERCIALLY REASONABLE CARE AND SKILL. WE DO NOT WARRANT UNINTERRUPTED OR ERROR-FREE OPERATION OF OUR PRODUCTS OR THE LIFE OF ANY URL OR THIRD PARTY WEB SERVICE. THESE WARRANTIES ARE THE EXCLUSIVE WARRANTIES FROM US AND REPLACE ALL OTHER WARRANTIES, INCLUDING WARRANTIES OF PERFORMANCE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY, COMPLETENESS AND CURRENTNESS.

9. Liability. To the extent permitted by law (a) The entire liability of Thomson Reuters or any of our third party providers for all claims arising out of or in connection with the agreement will not exceed the amount of any actual direct damages up to the amounts you paid in the prior 12 months for the product that is the subject of the claim. We are not liable for special, incidental, exemplary, indirect or economic consequential damages, anticipated savings, lost profits, lost business, lost revenue, or lost goodwill.

(b) You are responsible for following all usage instructions, for adhering to the minimum recommended technical requirements, for changes you make to our product, for your failure to implement and maintain proper and adequate virus or malware protection and proper and adequate backup and recovery systems, and for your failure to install updates. We will not be responsible if our product fails to perform because of your third party software, your hardware malfunction, or your actions or inaction. If we learn that our product failed because of one of these, we reserve the right to charge you for our work in investigating the failure. At your request we will assist you in resolving the failure at a fee to be agreed upon.

(c) If a third party sues you claiming that a product you licensed in the agreement infringes that party's intellectual property right and your use of our product has been in accordance with the terms of the agreement, we will defend you against the claim and pay damages that a court finally

awards against you or that are included in a settlement approved by us. You must promptly notify us in writing of the claim, supply information we reasonably request, and allow us to control the defense and settlement. We have no liability for claims that include items not provided by us.

10. Term, Termination. (a) The term and any renewal terms for the product are described in the ordering document.

(b) We may suspend or limit your use of our products or professional services or terminate the agreement if, in our sole discretion, we determine that your use may result in a risk to public safety, or that there has been a breach of security, material breach of your obligations under the agreement, material breach of any other agreement between the parties or a violation of law. If the cause of the suspension is reasonably capable of being remedied, we will provide you notice of what actions you must take to reinstate the product. If you fail to take the actions or the cause cannot be remedied within 30 days, we may terminate the agreement.

(c) You may terminate the agreement immediately upon written notice if we commit a material breach and fail to cure the material breach within 30 days.

(d) We may amend these General Terms and Conditions from time to time by giving you at least 30 days prior written notice. If an amendment materially changes the agreement, you may request good faith negotiations regarding those terms that materially change the agreement. If the parties cannot reach mutual agreement on the material changes within 30 days, you may terminate the agreement immediately on written notice.

(e) You may terminate the agreement immediately on written notice if you object to amendments made to the third party additional terms under paragraph 2 if the amendments materially change the agreement.

(f) Upon termination, all licenses end immediately. You will return software products to us or uninstall and destroy them. Termination of the agreement will not relieve you of your obligation to pay us any amounts you owe up to and including the date of termination.

(g) Either party may terminate the agreement in part as it relates to any software or other product or service that is licensed or ordered under the agreement if and to the extent that software or other product or service is no longer commercially available.

11. Force Majeure. Each party's performance under the agreement is subject to interruption and delay due to causes beyond its reasonable control, such as acts of God, acts of any government, war or other hostility, civil disorder, the elements, fire, explosion, power failure, equipment failure, industrial or labor dispute, inability to obtain necessary supplies, and the like.

12. General. (a) You may not assign the agreement to anyone else without our prior written consent. We will provide you with written notice if we need to assign the agreement as part of our business operations.

(b) You grant Thomson Reuters a perpetual, irrevocable, transferable, non-exclusive right to use any comments, suggestions, ideas or recommendations you provide related to any of our products or services in any manner and for any purpose.

(c) Our products may not be exported or re-exported in violation of the U.S. Foreign Corrupt Practices Act, the U.S. Export Administration Act or any other applicable laws, rules and regulations.

(d) United States Government use, duplication or disclosure of our software products is subject to applicable restrictions of the following regulations: Commercial Computer-Restricted Rights [FAR 52.227-19(a) - (d)]; Rights in Technical Data and Computer Product [DFARS 252.227-7013(c)(1)(ii)]; the Commercial Computer Product - Restricted Rights [48 CFR 52.227-19 (c)(1) and (c)(2)]; and similar clauses in the NASA FAR Supplement. These restrictions do not apply to our information products or services.



THOMSON REUTERS™

Addendum to West Order Form - Order ID: Q-00258462Subscriber: FRANKLIN CITY ATTORNEYAccount #: 1000126914

1. **Effect of Addendum.** The West Order Form, the underlying General Terms and Conditions, and applicable Schedule A (collectively the "Agreement"), between you and West is amended to incorporate the terms of this Addendum. As amended, the Agreement will remain in full force and effect according to its terms and conditions. All terms used in this Addendum will have the meanings given to them in the Agreement. This Addendum supersedes any and all prior understandings and agreements, oral or written, relating to the subject matter. If there is a conflict between the terms and conditions of the Agreement and the terms and conditions of this Addendum, the terms and conditions of this Addendum will control.

2. **Modification to Order Form.** The following sections are not applicable to this Agreement:

- Automatic Renewal Term for Window Products
- Credit Verification

3. **Modification to Order Form.** The last sentence in the section entitled "Charges, Payment & Taxes is hereby deleted by this reference.

4. **Modification to Order Form.** The section entitled 'Applicable Law' is modified to read as follows:

"This Order Form will be interpreted under Tennessee state law. Any claim by one of us may be brought in the state or federal courts in Tennessee."

All other terms and conditions of the Agreement will remain unchanged.

Please have this document signed by your authorized representative and returned to us along with the signed West Order Form.

West Publishing Corporation

Accepted By

Title

Date

Subscriber

Signed

Name (please print)

Title

Date

Approved as to form:

Tiffani M. Pope, Staff Attorney
City of Franklin

Law Dept. approved (3) 07.12.18⁷⁵⁷

RESOLUTION NO. 2018-55

A RESOLUTION AWARDING THE CONSTRUCTION CONTRACT (COF CONTRACT NO. 2018-0052) TO RENASCENT, INC., IN THE AMOUNT OF \$30,829.16 FOR THE DEMOLITION OF STRUCTURES LOCATED AT 403 & 405 HILLSBORO ROAD

WHEREAS, the City property located at 403 & 405 Hillsboro Road has reached an end regarding its need and usefulness to the City of Franklin; and

WHEREAS, the facility is no longer safe for personnel to utilize the facility for work or training; and

WHEREAS, the amount of funds that would be required to refurbish the structures, including life safety issues, has been deemed too costly to make repairs, and the structures should be removed with the exception of the building foundation/concrete slab; and

WHEREAS, on May 30, 2019, sealed bids were received in the Facilities Department, City Hall, 109 3rd Ave South, Suite 117, Franklin, Tennessee 37064 and were publicly opened and read aloud for the 405 & 403 5th Ave. North Demo Project (COF Contract No. 2018-0052).

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS:

SECTION I: Approval is granted to award the construction contract (COF Contract No. 2017-0052) to Renascent, Inc., for the 403 and 405 5th Avenue North Demo Project in the amount of Thirty Thousand Eight Hundred Twenty-Nine and 16/100 Dollars (\$30,829.16).

SECTION II: Authority is granted to the City Administrator and Facilities Director to review and approve the spending of all the project funding.

IT IS SO RESOLVED AND DONE on this ____ day of _____, 2018.

ATTEST:

CITY OF FRANKLIN, TENNESSEE:

By: _____
ERIC S. STUCKEY
City Administrator

By: _____
DR. KEN MOORE
Mayor

Approved as to Form

By: _____
Sauna R. Billingsley
City Attorney

RESOLUTION NO. 2018-57

A RESOLUTION AWARDING THE CONSTRUCTION CONTRACT (COF CONTRACT NO. 2017-0186) TO ADAMS CONTRACTING, LLC, IN THE AMOUNT OF \$256,225.10 FOR THE CARNTON LANE CULVERT REPLACEMENT PROJECT

WHEREAS, City staff has determined the existing corrugated metal Pipe (CMP) located on Carnton Lane is in need of replacement; and

WHEREAS, the construction of the Carnton Lane Culvert Replacement Project generally includes the construction of a box culvert on Carnton Lane over Saw Mill Creek; and

WHEREAS, on April 27, 2018, sealed bids were received in the Engineering Department, City Hall, 109 3rd Avenue South, Suite 142, Franklin, Tennessee 37064 and were publicly opened and read aloud for the Carnton Lane Culvert Replacement Project (COF 2017-0186).

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS:

SECTION I: Approval is granted to award the construction contract (COF Contract No. 2017-0186) to Adams Contracting, LLC, for the Carnton Lane Culvert Replacement Project in the amount of Two Hundred Fifty-Six Thousand Two Hundred Twenty-Five and 10/100 Dollars (\$256,225.10).

SECTION II: The Board of Mayor and Aldermen hereby establishes a project contingency in the amount not to exceed Seventy-Five Thousand and no/100 Dollars (\$75,000.00). Authority is granted to the City Administrator, Director of Engineering, and Assistant Director of Engineering to review and approve the spending of the project funding and contingency for the project. Spending of the project contingency shall be documented as part of the project's final change order and reported to the Board at the completion of construction.

IT IS SO RESOLVED AND DONE on this ____ day of _____, 2018.

ATTEST:

CITY OF FRANKLIN, TENNESSEE:

By: _____
ERIC S. STUCKEY
City Administrator

By: _____
DR. KEN MOORE
Mayor

Approved as to Form:

By: _____
Sauna R. Billingsley
City Attorney

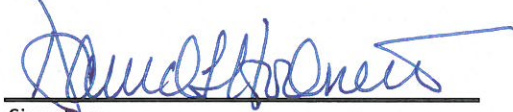
TABULATED BID RESULTS COF 2017-0186 CARNTON LANE CULVERT REPLACEMENT
4/27/2018

Item No.	Item Description	Quantity	Unit	ADAMS CONTRACTING		JENCO CONTSTRUCTION		JARRETT BUILDERS	
				Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
105-01	CONSTRUCTION STAKES, LINES AND GRADES	1	LS	\$2,500.00	\$2,500.00	\$25,000.00	\$25,000.00	\$13,615.00	\$13,615.00
201-01	CLEARING AND GRUBBING	1	LS	\$8,000.00	\$8,000.00	\$30,000.00	\$30,000.00	\$22,250.00	\$22,250.00
202-01	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	1	LS	\$15,000.00	\$15,000.00	\$25,000.00	\$25,000.00	\$4,450.00	\$4,450.00
203-30.01	ROADWAY APPROACHES	1	LS	\$25,000.00	\$25,000.00	\$50,000.00	\$50,000.00	\$20,725.00	\$20,725.00
204-08	FOUNDATION FILL MATERIAL	9	C.Y.	\$60.00	\$540.00	\$70.00	\$630.00	\$46.00	\$414.00
209-05	SEDIMENT REMOVAL	15	C.Y.	\$25.00	\$375.00	\$35.00	\$525.00	\$35.00	\$525.00
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	475	L.F.	\$5.00	\$2,375.00	\$5.00	\$2,375.00	\$4.00	\$1,900.00
209-08.08	ENHANCED ROCK CHECK DAM	4	EACH	\$350.00	\$1,400.00	\$550.00	\$2,200.00	\$675.00	\$2,700.00
209-09.01	SANDBAGS	1250	BAG	\$2.50	\$3,125.00	\$6.00	\$7,500.00	\$9.00	\$11,250.00
209-09.04	SEDIMENT FILTER BAG (15' X 10')	2	EACH	\$500.00	\$1,000.00	\$500.00	\$1,000.00	\$500.00	\$1,000.00
209-20.03	POLYETHYLENE SHEETING (6 MIL. MINIMUM)	40	S.Y.	\$10.00	\$400.00	\$10.00	\$400.00	\$11.15	\$446.00
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	370	TON	\$32.00	\$11,840.00	\$28.00	\$10,360.00	\$48.00	\$17,760.00
303-01.01	GRANULAR BACKFILL (ROADWAY)	118	TON	\$35.00	\$4,130.00	\$60.00	\$7,080.00	\$46.00	\$5,428.00
303-10.01	MINERAL AGGREGATE (SIZE 57)	11	TON	\$35.00	\$385.00	\$75.00	\$825.00	\$64.00	\$704.00
303-10.03	MINERAL AGGREGATE (SIZE 68)	19	TON	\$35.00	\$665.00	\$75.00	\$1,425.00	\$56.00	\$1,064.00
307-01.07	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M	41	TON	\$180.00	\$7,380.00	\$169.95	\$6,967.95	\$225.00	\$9,225.00
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	1	TON	\$950.00	\$950.00	\$1,500.00	\$1,500.00	\$2,525.00	\$2,525.00
402-02	AGGREGATE FOR COVER MATERIAL (PC)	4	TON	\$160.00	\$640.00	\$60.00	\$240.00	\$415.00	\$1,660.00
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	1	TON	\$950.00	\$950.00	\$1,800.00	\$1,800.00	\$2,524.00	\$2,524.00
411-01.10	ACS MIX (PG64-22) GRADING D	51	TON	\$210.00	\$10,710.00	\$186.45	\$9,508.95	\$245.00	\$12,495.00

Item No.	Item Description	Quantity	Unit	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
604-01.01	CLASS A CONCRETE (ROADWAY)	70	C.Y.	\$875.00	\$61,250.00	\$1,000.00	\$70,000.00	\$960.00	\$67,200.00
604-01.02	STEEL BAR REINFORCEMENT (ROADWAY)	10871	LB.	\$1.10	\$11,958.10	\$1.50	\$16,306.50	\$1.40	\$15,219.40
604-02.03	EPOXY COATED REINFORCING STEEL	270	LB.	\$1.50	\$405.00	\$1.80	\$486.00	\$2.00	\$540.00
604-03.01	CLASS A CONCRETE (BRIDGES)	15	C.Y.	\$1,250.00	\$18,750.00	\$1,000.00	\$15,000.00	\$445.00	\$6,675.00
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	1400	LB.	\$1.25	\$1,750.00	\$1.50	\$2,100.00	\$2.25	\$3,150.00
621-03.07	48" TEMPORARY DRAINAGE PIPE	52	L.F.	\$150.00	\$7,800.00	\$200.00	\$10,400.00	\$171.00	\$8,892.00
701-01.01	CONCRETE SIDEWALK (4")	309	S.F.	\$12.00	\$3,708.00	\$12.50	\$3,862.50	\$9.00	\$2,781.00
702-03	CONCRETE COMBINED CURB & GUTTER	3	C.Y.	\$750.00	\$2,250.00	\$600.00	\$1,800.00	\$1,335.00	\$4,005.00
705-01.05	GUARDRAIL AT BRIDGE ENDS LOW VOLUME	63	L.F.	\$50.00	\$3,150.00	\$100.00	\$6,300.00	\$110.00	\$6,930.00
705-06.30	GUARDRAIL TERMINAL (TYPE 21 MASH TL-2)	4	EACH	\$2,600.00	\$10,400.00	\$2,500.00	\$10,000.00	\$3,335.00	\$13,340.00
709-05.06	MACHINED RIP-RAP (CLASS A-1)	47	TON	\$50.00	\$2,350.00	\$65.00	\$3,055.00	\$73.00	\$3,431.00
712-01	TRAFFIC CONTROL	1	LS	\$15,000.00	\$15,000.00	\$18,000.00	\$18,000.00	\$835.00	\$835.00
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	24	L.F.	\$60.00	\$1,440.00	\$175.00	\$4,200.00	\$55.00	\$1,320.00
712-05.01	WARNING LIGHTS (TYPE A)	4	EACH	\$50.00	\$200.00	\$100.00	\$400.00	\$50.00	\$200.00
712-06	SIGNS (CONSTRUCTION)	60	S.F.	\$11.00	\$660.00	\$20.00	\$1,200.00	\$12.00	\$720.00
712-07.03	TEMPORARY BARRICADES (TYPE III)	48	L.F.	\$17.00	\$816.00	\$25.00	\$1,200.00	\$18.00	\$864.00
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	0.15	L.M.	\$15,000.00	\$2,250.00	\$8,000.00	\$1,200.00	\$7,000.00	\$1,050.00
717-01	MOBILIZATION	1	LS	\$12,500.00	\$12,500.00	\$30,000.00	\$30,000.00	\$22,993.60	\$22,993.60
740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	115	S.Y.	\$3.00	\$345.00	\$5.00	\$575.00	\$4.00	\$460.00
801-01.07	TEMPORARY SEEDING (WITH MULCH)	3	UNIT	\$100.00	\$300.00	\$100.00	\$300.00	\$225.00	\$675.00
803-01	SODDING (NEW SOD)	263	S.Y.	\$6.00	\$1,578.00	\$8.00	\$2,104.00	\$8.00	\$2,104.00
Total Amount					\$256,225.10		\$382,825.90		\$296,045.00

Item No.	Item Description	Quantity	Unit	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
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I hereby certify that this is a true and correct record with all errors and extension of unit price corrected.



Signature

David L. Hodnett

Printed Name

Staff Engineer City of Franklin

Tuesday, May 1, 2018

RESOLUTION NO. 2018-56

A RESOLUTION TO FINALIZE THE PROPERTY ACQUISITION ASSOCIATED WITH FIRE STATION NUMBER 7

WHEREAS, the Board of Mayor and Aldermen unanimously approved Resolution 2016-69, "A Resolution to Adopt the Project List for Phase I of the FY 2017-2026 CIP (Capital Investment Program)"; and

WHEREAS, Resolution 2016-69 included funding for Fire Station 7 in the amount of \$4,330,000.00; and

WHEREAS, during the design process it was determined that the City needed to acquire some additional property located at 4416 Peytonsville Road to accommodate the future Fire Station and the future extension of Goose Creek Bypass; and

WHEREAS, the property owner of 4416 Peytonsville Road has signed an agreement of sale, Exhibit A, in the amount of \$450,000.00 based on a fair market appraisal prepared by Boozer & Company, P.C. on May 29, 2018.

NOW THEREFORE, BE IT RESOLVED, BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS: The City Administrator and City Attorney shall have the authority to enter into an agreement and finalize the acquisition of the property located at 4416 Peytonsville Road on behalf of the Board of Mayor and Aldermen.

IT IS SO RESOLVED AND DONE on this ____ day of _____, 2018.

ATTEST:

CITY OF FRANKLIN, TENNESSEE:

By: _____
ERIC S. STUCKEY
City Administrator

By: _____
DR. KEN MOORE
Mayor

Approved as to Form:

By: _____
Sauna R. Billingsley
City Attorney

Res 2018-56
Exhibit A
PG 1 of 1

CITY OF FRANKLIN
AGREEMENT OF SALE

PROJECT: FIRE HALL NUMBER 7 PROPERTY
4416 PEYTONSVILLE ROAD

This agreement entered into on this the 13 day of June 2018
between BRANT NELSON DODD AND BARBARA J. DODD
hereinafter called Seller and the City of Franklin hereinafter called City shall continue for a period
of 180 days under the terms and conditions listed below. This Agreement embodies all
considerations agreed to between the Seller and the City.

- A. The Seller hereby offers and agrees to convey to the City all interest in the lands identified
as 4416 Peytons ville Road; Tax Map 117, Parcel 28.00, upon the City tendering the
purchase price of FOUR HUNDRED FIFTY THOUSAND DOLLARS AND NO CENTS
(\$450,000.00) said tract being further described as follows:

4416 Peytons ville Road Franklin, TN; Tax Map 117, Parcel 28.00,

- B. The City agrees to pay for the expenses of title examination, preparation of instrument of
conveyance and recording of deed. The City will reimburse the Seller for expenses
incident to the transfer of the property to the City. Real Estate Taxes will be prorated.

C. Retention of Improvements

The City of Franklin agrees to give Mr. and Mrs. Dodd until December 1, 2018 to remove
any and all improvements on the property. If improvements are not removed by December
2, 2018 the City of Franklin will remove the all personal property at the City's cost. At no
time will the City of Franklin be responsible for any damages or losses to any personal
property that remains on the property after the time of closing. Seller agrees to not
interfere with any construction activity on the property during the removal of
improvements. Seller will be required to show proof of insurance for any contractors or
hired labor on the property (i.e.. House Movers, etc.)

By initialing seller agree to terms and conditions stated above BN, BJD

- D. The Seller states in the following space the name of any Lessee of any part of the property
to be conveyed and the name of any other parties having any interest of any kind in said
property: _____

Brant Nelson Dodd
BRANT NELSON DODD

Barbara J. Dodd
BARBARA J. DODD

Res 2018-56
Exhibit A
PG 1 of 1

CITY OF FRANKLIN
AGREEMENT OF SALE

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By initialing seller agree to terms and conditions stated above BN, BJD

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to be conveyed and the name of any other parties having any interest of any kind in said
property: _____

Brant Nelson Dodd
BRANT NELSON DODD

Barbara J. Dodd
BARBARA J. DODD

PREPARED FOR:

CITY OF FRANKLIN
ATTN: BEN WORLEY
109 3RD AVENUE SOUTH
FRANKLIN, TENNESSEE 37064

APPRAISAL REPORT OF:

+/-3.03 ACRES OF LAND
TAX MAP 117, PARCEL 28.00
4416 PEYTONSVILLE ROAD
WILLIAMSON COUNTY, TENNESSEE 37064

APPRAISED BY:

TED A. BOOZER, MAI
STATE CERTIFIED REAL ESTATE APPRAISER, CG-973

PREPARED BY:

BOOZER & COMPANY, P.C.
106 MISSION COURT, SUITE 1001
FRANKLIN, TENNESSEE 37067

EFFECTIVE DATE OF APPRAISAL:

MAY 29, 2018

DATE OF REPORT:

JUNE 14, 2018

June 14, 2018

City of Franklin
Attn: Ben Worley
109 3rd Avenue South
Franklin, Tennessee 37064

**RE: Appraisal Report of:
+/-3.03 Acres of Land
Tax Map 117, Parcel 28.00
4416 Peytonsville Road
Williamson County, TN 37064**

Dear Mr. Worley:

In accordance with your request, I have personally inspected and appraised the above captioned property for the purpose of estimating the "as is" market value of the fee simple estate.

The function or intended use of this Appraisal Report is to provide a basis of market value for internal purposes. The intended user of the report is the **City of Franklin**. This report is for the exclusive use of the addressee, and **Boozer & Company, P.C.** is not responsible for unauthorized use of this report.

The subject of this appraisal is a +/-3.03-acre tract of land located along the east side of Peytonsville Road, just east of Interstate 65, in an unincorporated area of Williamson County, Tennessee. The tract is improved with an unoccupied modular home, built in 1976, along with some other ancillary improvements. Based on the highest and best use of the subject tract, the improvements do not contribute to the overall property value. The property is identified by the Williamson County Assessor of Property as Parcel 28.00 on Tax Map 117 and has a street address of 4416 Peytonsville Road, Williamson County, Tennessee.

To the best of our knowledge, this appraisal report conforms to the current requirements prescribed by the Uniform Standards of Professional Appraisal Practice of the Appraisal Standards Board of the Appraisal Foundation (as required by the Financial Institutions Reform, Recovery and Enforcement Act - FIRREA).

The person signing this appraisal report has the knowledge and experience to complete the assignment competently. The person signing this report is duly licensed by the appropriate state to perform this level of appraisal under certificate number CG-973.

The market value estimate contained herein is based on information provided by the property contact, our client, personal inspections, public records and other pertinent information. This appraisal is based on the assumption that the furnished data is true and correct.

Mr. Worley
Page 2
June 14, 2018

The appraisal report, which follows, contains a summary of our investigation and analysis. The pertinent facts and data, which we believe applicable to the property, are described and the reasons leading to our estimate of value are included. The appraisal was not based on a requested minimum valuation, or a specific valuation, or the approval of a loan.

“As Is” Market Value

Based upon our investigation and subject to the general assumptions and limiting conditions as set forth in the report, it is my opinion that the “as is” market value of the subject property's fee simple estate, as of May 29, 2018, was:

FOUR HUNDRED FIFTY THOUSAND DOLLARS
\$450,000.00

The estimated marketing period and exposure time for the property to achieve the estimated market values shown above is **twelve months**.

We would like to thank you for selecting our firm for this assignment and if we may be of further assistance, please advise.

Sincerely,

BOOZER & COMPANY, P.C.



Ted A. Boozer, MAI
State Certified General R. E. Appraiser, CG-973

Extent of Appraisal Process:	The following appraisal report is intended to comply with requirements set forth under the Financial Institutions Reform Recovery and Enforcement Act (FIRREA); the Interagency Appraisal and Evaluation Guidelines; and the Uniform Standards of Professional Appraisal Practice (USPAP), effective January 1, 2018. The report contains a concise review of the appraiser's market data, analyses, and conclusions, and may not be understood properly without additional information retained in our files. In the completion of this assignment, the appraiser signing this report has adhered to the Competency Rule of the Uniform Standards of Professional Appraisal Practice.
Significant Observations and Limiting Conditions:	We also obtained pertinent information from public records, public officials, property owners, property managers, real estate professionals, and other reliable sources. The market value estimate contained herein is based on the assumption that the furnished information is true and correct.
Property Identification:	3.03 Acre Tract 4416 Peytonsville Road Williamson County, Tennessee
Tax Map/Parcels:	117/028.00
Purpose of the Appraisal:	Market value estimate
Intended Use & User of Appraisal:	The function or intended use of this Appraisal Report is to provide a basis of market value for internal purposes. The intended user of the report is the City of Franklin . This report is for the exclusive use of the addressee, and Boozer & Company, P.C. is not responsible for unauthorized use of this report.
Definition of Market Value:	Market value as used in this appraisal is defined as "the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus." Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby: (1) Buyer and seller are typically motivated; (2) Both parties are well informed or well advised, and acting in what they consider their own best interests; (3) A reasonable time is allowed for exposure in the open market; (4) Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and (5) The price represents the normal consideration for the property sold unaffected by special or creative financing or sales

concessions granted by anyone associated with the sale (12 C.F.R. Part 34.42(g)).

**Property Rights
Appraised:**

Fee simple estate

**Definition of Fee Simple
Estate:**

Fee simple estate is defined as the *"absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat"* (page 90, *The Dictionary of Real Estate Appraisal*, Sixth Edition).

Ownership History:

Title to the subject is currently vested in **Brant Nelson Dodd, et ux Barbara Jean H. Dodd**. Ownership was last conveyed on May 2, 1970 from M. A. Hartley, et ux Irene Hartley, via deed of record in Deed Book 170, Page 256 (ROWCT). The consideration shown on the deed was \$2,200.

According to officials with the City of Franklin, the property is under contract at a purchase price of \$450,000. No value is attributable to the improvements, therefore the pending purchase price reflects a unit value of \$3.41/SF of land area.

The above title information is provided only to give a general background of the ownership history of the subject. To our knowledge, the information is accurate; however, we do not guarantee any of the title history shown above.

Legal Description:

The legal description for the subject is included in the copy of the most recent deed of record in the addenda of this report.

**Effective Date of
Appraisal:**

May 29, 2018 (Date of Inspection)

Date of Report:

June 14, 2018

Scope of the Appraisal:

- Inspected and photographed subject tract;
- Reviewed recorded deeds, plat, and ownership records;
- Obtained site specific information related to the property from Mr. Ben Worley with the City of Franklin;
- Analyzed neighborhood, zoning, and tax assessment data;
- Gathered and analyzed market data to arrive at highest and best use of each subject tract, "as vacant" and "as improved";
- Estimated the market value of subject based on the Sales Comparison Approach;
- Reconciled the results of this analysis to estimate the "as is" market value of the subject property's fee simple estate;
- Estimated appropriate marketing time and exposure period for the subject tract.

Neighborhood Data:

General Boundaries: The neighborhood is located in south-central Williamson County, along the southern fringe of the Franklin city limits. Geographically, the neighborhood consists of the area surrounding the Goose Creek Bypass interchange with Interstate 65 at Exit 61. General boundaries include the Harpeth River and South Carothers Road to the north, Interstate 840 to the south, Arno Road & Peytonsville Trinity Road to the east and Columbia Pike to the west. The neighborhood includes areas located within the city limits of Franklin, the Town of Thompson's Station and unincorporated Williamson County.

Access/Transportation: Interstate 65 is currently a four to eight-lane controlled access interstate highway which bisects the neighborhood in a north-south direction. The Tennessee Department of Transportation (TDOT) recently widened the portion of I-65 serving the neighborhood, increasing travel lanes to four in each direction between Goose Creek Bypass and Interstate 840. According to TDOT, 2015 traffic counts along Interstate 65 averaged 65,403 vehicles per day in the neighborhood.

Lewisburg Pike (US 431) and Columbia Avenue (US 31) are the primary traffic arteries serving the neighborhood. Both highways consist of two-lane arterials that provide north-south access along the west margin of the neighborhood and are contained within rights of way of varying width. According to TDOT, 2015 traffic counts along Lewisburg Pike and Columbia Avenue averaged 6,335 vehicles per day and 13,018 VPD, respectively.

Carothers Parkway South, an extension of South Carothers Road to Long Lane on the east side of Interstate 65, was recently completed and has greatly enhanced the connectivity in the neighborhood. The road was designed as a major collector, and was graded for a 4-lane divided highway; however, only the eastern 2 lanes were built initially. Sidewalks were also be provided with the initial build. TDOT traffic history data is not available on this new section of roadway.

Goose Creek Bypass (TN 248) is the primary east-west traffic route serving the area and links both Lewisburg Pike and Columbia Avenue to Interstate 65 (Exit 61). The two-lane collector is contained within a right of way of varying width. As part of the interstate widening project, the Goose Creek Bypass interchange was recently modified to accommodate the growth that is occurring in the neighborhood. The project included widening the Goose Creek Bypass bridge to ten lanes, providing opposing dual left turn lanes and three through lanes in each direction. Goose Creek Bypass was widened to a four-lane median divided facility with bike lanes. Federal requirements restrict access within a certain distance of an interstate interchange, so a new cul-de-sac terminus to Old Peytonsville Road was constructed as well as an extension to the new Berry Farms development, which provides access to Goose

Creek Bypass. East of I-65, Long Lane was re-aligned to provide access to the existing TA Truck Stop. Traffic counts along Goose Creek Bypass averaged 11,394 vehicles per day in 2015 according to TDOT estimates.

Interstate 840, a four-lane controlled-access highway, bounds the neighborhood to the south and is accessible via interchanges with Columbia Pike, Lewisburg Pike and Peytonsville Road. Traffic counts along I-840 averaged 29,705 vehicles per day in 2015 according to TDOT estimates.

Pratt Lane is a 2-lane county-maintained road that intersects a 90 degree turn in Peytonsville Road approximately 0.9-mile southeast of the Goose Creek Bypass interchange with Interstate 65. Per the Franklin Major Thoroughfare Plan Long Range Project (2035 Horizon Year), a 1.3-mile section of Pratt Lane between Peytonsville Road and the Southern UGB will be improved to function as a 3-lane collector. Other roads serving the neighborhood are generally two-lane county-maintained roads.

Land Uses/Percent Built-Up: Due to the area's distance from downtown Franklin and large tracts of vacant and agricultural land, the neighborhood has historically been considered semi-rural in nature and is estimated to be only 40% built up at this time. Residential uses primarily consist of single-family dwellings on acreage and large-lot subdivisions with minimum 1.0-acre lots, which is the maximum approved by the County in areas without public sewer service. Each buildable lot is required to have a private septic system with proper soils to support such systems or an alternative sewage treatment system such as a sand filtration or Shaeffer system. However, the City of Franklin has recently annexed portions of the neighborhood and approved large-scale mixed-use developments including Berry Farms and Stream Valley. The Five Mile Sewer Project has extended public sanitary sewer service south along Interstate 65 into the neighborhood and has allowed higher density single-family development as well as approval for multi-family apartments and large-scale commercial retail and office projects. Existing commercial uses, primarily highway-service related in nature, are concentrated along the Goose Creek Bypass near the I-65 interchange, but significant new commercial development is approved for the neighborhood. Community support facilities such as schools, churches, parks, etc. are present throughout the neighborhood. Schools are operated by the Williamson County Public School System. Emergency services such as 911 dispatch, police and fire are provided by the City of Franklin and Williamson County.

Residential Development: Berry Farms is a 608-acre mixed-use development located in the immediate vicinity of the I-65/Goose Creek By-Pass interchange that is approved for nearly 3.1 million

square feet of office space, nearly 1.8 million square feet of retail space and approximately 1,146 residential units. Located on approximately 228 acres situated immediately west of the interstate is the Town Center at Berry Farms, which is the first component of this project to be developed and will contain 550,000 SF of retail, 585,000 SF of office, 368 multifamily residential apartment units and 278 single-family residential units upon completion. Vertical construction within Phase I of this project commenced in 2012 and has yielded commercial and residential lots. Additional phases of Berry Farms include Chadwell at Berry Farms, approved for office, retail and residential, and Reams-Fleming at Berry Farms, approved for office, retail, civic and multifamily.

Stream Valley is a 345-acre master-planned mixed-use development located in the southwest quadrant of the Interstate 65/Goose Creek Bypass interchange, south of Berry Farms. The development includes 800± single family lots surrounded by open space amounting to 45% of the land area and is approved for 290,000 SF of office and 10,000 SF of retail. National homebuilder Ryan Homes bought rights to all of the development's remaining lots in 2012, triggering an increase in home sales.

Ladd Park is a 616.5-acre residential development located on the north side of Long Lane in the northeast quadrant of the Interstate 65/Goose Creek Bypass interchange. The project is entitled for 1,046 single family lots, producing an overall density of 1.7 units per acre.

Lockwood Glen is a 221-acre residential development located along Carothers Parkway South in the northeast quadrant of the Interstate 65/Goose Creek Bypass interchange. The development is approved for 624 dwelling units including 384 single family homes and 240 townhomes, producing an overall density of 2.8 units per acre.

Simmons Ridge is an 88.6-acre residential development located along Carothers Parkway South in Franklin. The development is approved for 408 dwelling units including 90 single family homes and 318 townhomes, producing an overall density of 4.6 units per acre. This project was originally approved for 156 detached units in 2003, but has experienced numerous delays, as well as increases to approved density. Controversy arose when area residents requested that the Board of Mayor and Aldermen (BOMA) restrict development until the Carothers Parkway South road project was underway.

Waters Edge is a 195.5-acre residential development located along the Carothers Parkway South road project in the northeast quadrant of the Interstate 65/Goose Creek Bypass interchange. The

development was initially approved for 336 dwelling units including 213 single family homes and 123 townhomes, producing an overall density of 1.72 units per acre. However, the developers recently received approval to increase density to 1.91 units per acre, which permits 373 units. The breakdown is 241 single family homes and 132 townhomes.

Helm Square is a 57-acre residential development located along Carothers Parkway South in the northeast quadrant of the Interstate 65/Goose Creek Bypass interchange. The development is approved for 168 dwelling units, producing an overall density of 2.9 units per acre.

Riverbluff is a 43-acre residential development located on the east side of Lewisburg Pike, south of Mack Hatcher Parkway. The project was originally approved for 79 dwelling units. However, BOMA increased the number of entitlements to 91 units before subsequently reducing the number to 80 units after the developer eliminated one internal street from the development plan. The changes to the plan and associated reduction to the number of approved lots was the result of the developer's discussions with Columbia Gulf, which has a gas line and easement on the property that would have to be crossed to include the removed street and additional 11 lots.

As discussed above, there are a number of existing and proposed residential developments located in the neighborhood, which is in response to the tremendous population growth experienced in Franklin and Williamson County. Franklin's municipal boundaries and urban growth boundary have expanded to include the bulk of the neighborhood, and the interchange of I-65 and Goose Creek Bypass is situated in the center of most of the proposed new development. Below is a chart summarizing the major developments described above:

SUMMARY OF MAJOR RESIDENTIAL DEVELOPMENTS

<u>Project</u>	<u>Acres</u>	<u>Development Type</u>	<u>Residential Entitlements</u>
Berry Farms	608	Mixed-Use	1,146
Stream Valley	345	Mixed-Use	800
Ladd Park	616.5	Residential	1,046
Lockwood Glen	221	Residential	624
Simmons Ridge	88.6	Residential	408
Waters Edge	195.5	Residential	373
Helm Square	57	Residential	168
Riverbluff	43	Residential	80
<i>Total</i>	<i>2,175</i>		<i>4,645</i>

Commercial Development: Berry Farms has emerged as a desirable office address and a number of major employers have announced plans to relocate headquarters facilities to the development. A description of significant projects is included below:

- Ramsey Solutions acquired a site in the southernmost area of the Reams Fleming at Berry Farms development for a corporate headquarters location that is approved for three (3) 200,000 square office buildings and a 50,000 square foot conference center. The first phase includes a 200,000 square foot office building that is projected to be completed by mid-2018;
- The Tennessee Baptist Convention is in the process of moving their headquarters to the Town Center at Berry Farms and will occupy 40,000 square feet of office space that is expected to be completed in the fall of 2017;
- Lee Company recently purchased a site in the Town Center at Berry Farms for development of a 100,000 SF Class "A", LEED Certified office building. Reportedly, Lee Company intends to owner occupy the majority of the building and lease the balance on the open market; and
- Alfa Insurance is in the process of moving their regional headquarters to the Town Center at Berry Farms and will occupy over 60,000 square feet of office space that is expected to be completed in early 2018.

Additional commercial projects ongoing at the Berry Farms development include an under-construction Publix Supermarket that is scheduled to open in the fall of 2016 and a Hampton Inn & Suites that is scheduled to open in the fall of 2017.

Competitive Advantages/Disadvantages: The subject neighborhood benefits from a good location and accessibility along the southern fringe of Franklin. Interstate 65 was recently widened to accommodate increased traffic flow due to a growing population in the area and the Goose Creek Bypass was improved to increase its capacity based on current and future need. With the amount of available land suitable for development in Franklin quickly diminishing, pressure is building to develop fringe areas and radial growth southward along major arterials and I-65 has pressed into the neighborhood. The City of Franklin has recently annexed land within the neighborhood and extended sewer service, making higher density residential and commercial development possible. Accordingly, the neighborhood is well positioned for future growth.

Conclusion: The outlook for the neighborhood is excellent for future growth based on its desirable location, good access to major transportation routes and accessibility of utilities, which are currently being extended to newly annexed areas. Also, convenience for most family-oriented needs is good due to the neighborhood's proximity to downtown Franklin, Cool Springs and Spring Hill. Large-scale mixed-use projects currently under construction in the neighborhood will bring additional housing, as well as retail shopping and office uses that will benefit local residents and create draw to

the neighborhood from surrounding areas. Property values are expected to increase as land is absorbed into the city limits of Franklin and the existing inventory of lots is absorbed.

Zoning:

MGA-1 – Municipal Growth Area District 1:

The purpose of the Municipal Growth Area District 1 (MGA-1) is for this area to remain largely undeveloped until such a time that the land may be annexed into a municipality. Until such annexation, the municipal growth areas are considered a part of the County's rural landscape and as such, this district is established to protect the rural character of Williamson County by allowing for agricultural, rural, and low-density residential development. The dimensional standards for the MGA-1 district are as follows.

TABLE 10.02-7: DIMENSIONAL STANDARDS FOR THE MUNICIPAL GROWTH AREA DISTRICT-1			
DIMENSIONAL STANDARDS	RESIDENTIAL STRUCTURES		NONRESIDENTIAL STRUCTURES
Minimum Lot Area	1 acre		1 acre
Maximum Gross Density	1.0 unit per acre		Not Applicable
Minimum Lot Width	Traditional Subdivisions 1 acre to 2.99 acres	130 feet	130 feet
	Traditional Subdivisions 3 acres to 4.99 acres	160 feet	
	Traditional Subdivisions 5 acres or Greater	200 feet	
Front Yard Setback	Traditional Subdivisions 1 acre to 4.99 acres	60 feet	60 feet
	Traditional	100 feet	

City of Franklin Urban Growth Boundary

According to the Franklin Tennessee Land Use Plan, which was adopted by the Franklin Planning Commission February 19, 2004, the subject property is located in the "Goose Creek" character area, and is designated as a "regional commerce" district. Accordingly, the subject property will likely have some commercial development potential once annexed into the city limits, and it is reasonable to assume that annexation is likely once requested by the property owner.

Property Tax Data:

The subject is currently identified by the Williamson County Assessor of Property as Parcel 028.0 on Tax Map 117. The 2017 tax rate is \$2.15 per \$100 of assessed value. The subject is classified as residential property and appropriately assessed at 25% of its appraised value. The subject's annual tax burden is summarized as follows.

Annual Property Tax Burden Estimate

Map/Parcel	117/28.00
Land Value	\$141,700
Improvement Value	<u>+ 6,900</u>
Total	\$148,600
Assessment Ratio	<u>x 0.25</u>
Assessment	\$35,425
Tax Rate	<u>x 0.0215</u>
Tax Burden	\$798.73

Site Data:

The subject is a rectangular-shaped tract located on the east side of Peytonsville Road, roughly 2,000' east of Interstate 65. The property is located just outside the city limits of Franklin in Williamson County, Tennessee. The tract is improved with an unoccupied modular home, built in 1976, along with some other ancillary improvements. Based on the highest and best use of the subject tract, the improvements do not contribute to the overall property value.

The rectangular shaped tract contains 3.03 acres, and measures roughly 200' in width and 525' in depth. Positioned in the curve of Peytonsville Road, the property includes approximately 250' of frontage along this two-lane county thoroughfare. The majority of the tract features a cleared, gently sloping topography slightly above road grade. A few scattered hardwood trees are located around the existing home site.

All public utilities are available to the site with the exception of sanitary sewer, which is in close proximity and could easily be extended once annexed by the City of Franklin. There are no known easements or encumbrances known that are detrimental to the utility or value of the site. The subject is not located in a 100-year floodplain according to FEMA Flood Insurance Rate Map 47187C0355F, dated September 29, 2006 (Un-shaded Zone X).

This appraisal is based on the assumption that there are no environmental conditions on or in the property or in proximity that would cause a loss in value (See Item 13 of General Assumptions and Limiting Conditions). Subsoil is assumed adequate to support improvements approved by zoning.

Offsite, Peytonsville Road is a two-lane county street that is contained within a 30' ROW along the subject's frontage. Surrounding uses include agricultural and single family dwellings on medium to large acreage tracts, and commercial development to the west. Overall, the property is judged suitable and marketable for small scale commercial use once annexed.

Highest and Best Use:

The reasonably probable and legal use of the subject, as vacant, which is physically possible, financially feasible and results in the highest value would be small-scale commercial use once annexation is requested from the City of Franklin. The most probable buyer is an owner-occupant or developer.

The highest and best use, as improved, is demolition and/or removal of the existing improvements to make way for future small-scale commercial development.

Valuation:

The typical and theoretical real estate appraisal includes three separate but interrelated preliminary approaches to value, which are correlated into a single final value conclusion. The preliminary approaches are identified as the Cost Approach, the Sales Comparison Approach and the Income Capitalization Approach.

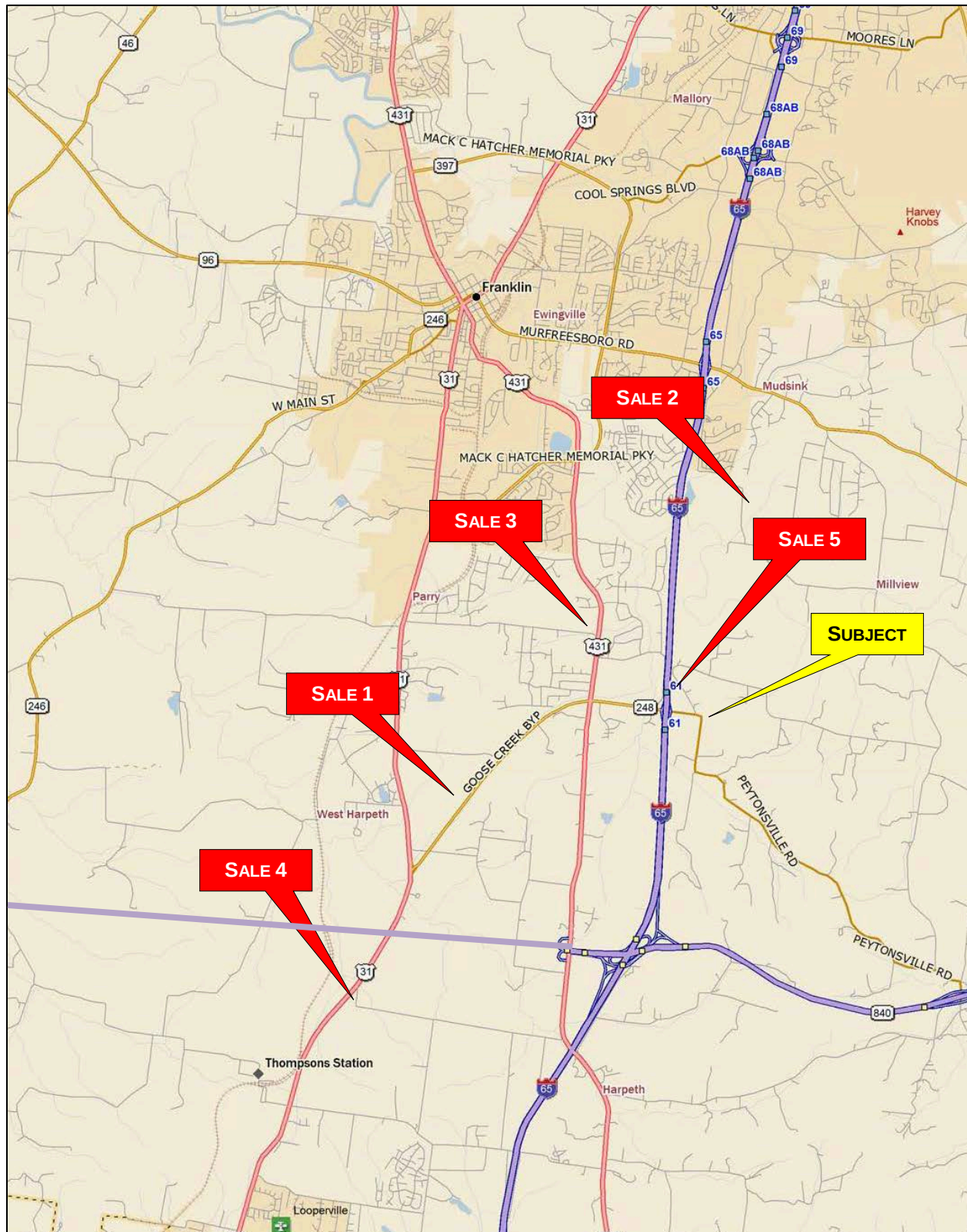
In the appraisal of a specific property, one or more of the approaches may be more applicable than the others, and one or more of the approaches may be impractical because of the lack of suitable data in the market with which to make comparisons. The subject will be valued as a vacant tract of land, consistent with the highest and best use determination. Accordingly, only the sales comparison approach was processed.

SALES COMPARISON APPROACH

The Sales Comparison Approach is *"The process of deriving a value indication for the subject property by comparing sales of similar properties to the property being appraised, identifying appropriate units of comparison, and making adjustments to the sale prices (or unit prices, as appropriate) of the comparable properties based on relevant, market-derived elements of comparison."* (The Dictionary of Real Estate Appraisal, 6th Edition, Appraisal Institute)

The Sales Comparison Approach relies on the principle of substitution, which implies that a prudent person will not pay more to buy a property than it will cost to buy a comparable substitute property. The subject of this appraisal is a 3.03-acre tract of land located along the east side of Peytonsville Road, just east of Interstate 65, in Williamson County, Tennessee. My investigation revealed the following sales of similar land tracts in the area.

MAP OF COMPARABLE LAND SALES



SUMMARY OF LAND SALES						
#	Date Bk/Pg	Map/Parcel Zone	Address	Size Acre	Sale Price	\$/SF
1	1/1/2014 6113/537	118/10.07 MGA-1	2646 Goose Creek ByPass	7.000	\$600,000	\$1.97
2	12/18/2017 7259/590	089/041.0 MGA-1	4356 S. Carothers Road	6.000	\$630,000	\$2.41
3	Pending N/A	106/009.0 MGA-1	West Side Lewisburg Pike	1.58	\$470,000	\$6.83
4	6/27/2017 7111/711	145/002.05 C	SEC Columbia Pike & Critz Lane	1.61	\$764,750	\$10.90
5	6/16/2017 7102/476	106O-A-004.0 GC	4412 Franklin South Ct.	0.910	\$865,000	\$21.82
Average Indications				3.42	\$665,950	\$8.79

Analysis of Comparable Sales

In this area, the most widely accepted method of valuing small commercial tracts of land is on a per-square foot basis, which was the unit of measurement utilized in this analysis. As shown in the summary chart above, four closed sales and one pending sale were included in this analysis, all of which were selected due to their similarities to the subject. The comparables form a range in unit price from \$1.97/SF to \$21.82/SF, with a mean indication of \$8.79/SF and a median of \$6.83/SF.

The comparable sales were compared to the subject based on property rights conveyed, financing, sale conditions, market conditions, and physical characteristics. To the best of our knowledge, all the sales represented arms-length transactions, which included the fee simple estate property rights. All of the sales were cash to seller conveyances, whereby financing was not a factor in the sales price. We are not aware of any unusual sale conditions involved in any of the closed transactions. Accordingly, no adjustments were necessary.

Market Conditions: Sale 1 closed in 2014 while Sales 2, 4 & 5 closed in 2017. Sale 3 is a pending transaction. All of the comparable sales represent some of the most recent transactions of properties deemed similar to the subject, and differences in market conditions will be considered on a qualitative basis.

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The subject is located along the east side of Peytonsville Road, just east of I-65 in an unincorporated area of Williamson County, Tennessee. All five sales are located within a two-mile radius of the subject, with Sales 2, 3 & 4 being in closest proximity. Similar to the subject, Sales 1, 2 & 3 are located within unincorporated areas of Williamson County, Tennessee, but within Franklin's Urban Growth Boundary (UGB). Sale 4 is located within the Town of Thompson's Station and Sale 5 is located within the City of Franklin.

All five sales are similar to the subject in terms of topography and development potential. Sale 4 benefits from having a corner location while Sale 5 has interstate visibility – neither of which are available to the subject. Sewer service is available to Sales 4 & 5, but was unavailable to Sales 1, 2 & 3 at the time of transfer. Sewer has since been extended to Sale 1 and will be extended to Sale 3 in the near future.

The comparable sales range in size from 0.91 acres to 7.00 acres, with an average of 3.42 acres. The subject contains 3.03 acres, which is bracketed by the sales. Typically, with all other factors remaining equal, there is an inverse relationship between size and price per square foot. This inverse relationship between size and price per SF was reflected by the sales data, and will be considered on a qualitative basis.

We also considered the recent sales activity of the Berry Farms project, located across Interstate 65 from the subject at the southeast quadrant of Lewisburg Pike and Goose Creek By-Pass. To date, 20 land sales have taken place within this project ranging in size from 0.40 to 8.33 acres, with an average size of 1.97 acres. The sales prices have varied from \$5.03 to \$34.95 per SF, with an average of \$14.51/SF. Uses within Berry Farms include day care, office, condominium, retail, and hospitality. These land sales set the upper limit of market value for land in the immediate neighborhood.

In addition, the pending sales price of the subject has also been considered. According to city officials, the property is under contract for \$450,000 or \$3.41/SF. It is my understanding the property was not officially marketed for sale, and no former listing information could be found on the local MLS service. The purchase price was negotiated directly with the owner by a city official.

Conclusion of Land Value: In conclusion, the comparables included in this analysis provide a reasonable range from which to estimate the subject's market value. Based on the preceding

analysis, the subject is considered superior to Sales 1 & 2, slightly inferior to Sale 3, and inferior to Sales 4 & 5. Therefore, having considered all pertinent factors, with emphasis placed on the subject's location, size and utility, it is my opinion that the pending purchase price of \$3.41/SF is strongly supported by the market data, and is reflective of market value for the subject property. The subject site contains 3.03 acres or 131,987 SF. The calculation to derive the "as is" market value of the subject property is shown as follows:

"AS IS" MARKET VALUE CALCULATION

Land Area		Unit Value		Market Value	
131,987 SF	X	\$3.41/SF	=	\$450,076	
Rounded to:				\$450,000	

"As Is" Market Value

Based upon my investigation and subject to the general assumptions and limiting conditions as set forth in the report, it is my opinion that the "as is" market value of the subject property's fee simple estate, as of May 29, 2018, was:

FOUR HUNDRED FIFTY THOUSAND DOLLARS

\$450,000.00

ESTIMATED MARKETING AND EXPOSURE TIME

Marketing Time: *"An opinion of the amount of time it might take to sell a real or personal property interest at the concluded market value level during the period immediately after the effective date of an appraisal. Marketing time differs from exposure time, which is always presumed to precede the effective date of an appraisal."* (Page 140, *The Dictionary of Real Estate Appraisal*, 6th Edition, Appraisal Institute) Based on discussions with local brokers and considering the current market conditions found in the local real estate market, the marketing period time is estimated to be **twelve months**.

Exposure Time: *"The estimated the length of time the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal; a retrospective opinion based on an analysis of past events assuming a competitive and open market."* (Page 83, *The Dictionary of Real Estate Appraisal*, 6th Edition, Appraisal Institute) Considering the high level of activity experienced in the local market area over the past several months, a reasonable exposure time is estimated to be **twelve months**.

CERTIFICATION OF THE APPRAISER

I certify that, to the best of my knowledge and belief...

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, unbiased professional analyses, opinions and conclusions.
3. I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.
4. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
5. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
6. My compensation is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
7. My analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice and the Code of Ethics of the Appraisal Institute.
8. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
9. Ted Boozer has made a personal inspection of the property that is the subject of this report.
10. No one provided significant real property appraisal assistance to the person signing this report.
11. As of the date of this report, I, Ted A. Boozer, MAI have completed the requirements of the continuing education program of the Appraisal Institute.
12. Ted A. Boozer hereby certifies that he is a Tennessee State Certified General Real Estate Appraiser and his certificate number is CG 973.
13. This appraisal assignment was not made, nor was the appraisal rendered on the basis of a requested minimum valuation, specific valuation, or an amount which would result in the approval of a loan.
14. The appraisal is in conformity with Uniform Standards of Professional Appraisal Practice.
15. I have not appraised this property in the three years prior to accepting this assignment.



Ted A. Boozer, MAI, CG-973
State Certified General Real Estate Appraiser

GENERAL ASSUMPTIONS AND LIMITING CONDITIONS

This Appraisal Report and resulting estimate of value, made expressly for the City of Franklin, is subject to the following assumptions and limiting conditions:

1. *The forecasts, projections, or operating estimates contained herein are based upon current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. Therefore, these forecasts are subject to changes in future conditions. Value estimates in this appraisal report are stated in United States currency as of the date of appraisal.*
2. *No responsibility is assumed for the legal description or for matters including legal or title considerations. Title to the property is assumed to be good and marketable and in Fee Simple, unless otherwise stated in the report.*
3. *The property is appraised free and clear of all existing liens and encumbrances, including deed restrictions and developers agreements, unless otherwise stated in this appraisal report.*
4. *Information furnished by others is believed to be true, correct, and reliable. A reasonable effort has been made to verify such information; however, no responsibility for its accuracy is assumed by the appraiser(s).*
5. *Maps, plats, and exhibits included in this appraisal report are for illustration only, as an aid in visualizing matters discussed within the report. They should not be considered as surveys or relied upon for any other purpose. The appraiser(s) has not made a survey of the property, and no responsibility is assumed in connection with such matters.*
6. *The physical condition of the improvements described herein was based on a visual, walk-through inspection. No liability is assumed for the soundness of structural members, building components, mechanical equipment, plumbing, or electrical components as no professional tests were made of the same. The appraiser(s) assumes that no hidden or unapparent conditions of the property, subsoil, or structures exist, which would render the property more or less valuable. The appraiser(s) assumes no responsibility for such conditions, or for engineering, which might be required to discover such factors. The appraiser(s) recommends that the client obtain an opinion from a competent engineering firm.*
7. *It is assumed that there is full compliance with all applicable federal, state, and local environmental regulations and laws unless noncompliance is stated, defined, and considered in this appraisal report.*
8. *It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless a nonconformity has been stated, defined, and considered in this appraisal report.*
9. *It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate(s) contain in this report is based.*
10. *It is assumed that the utilization of the land and improvements is within the boundaries or property lines of the property described and that no encroachment or trespass exists, unless noted in this appraisal report.*
11. *Value estimates in this appraisal report apply only to the entire property, and cannot be prorated to individual portions or fractional interests. Any proration or division of interest will invalidate the value estimate(s), unless such proration or division of interests is set forth in this appraisal report.*

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12. *The appraiser(s) is not required to give testimony or attendance in court by reason of this appraisal, with reference to the property in question, unless arrangements have been made previously therefore. The fee charged for this appraisal does not include payment for court testimony or for further consultation.*
13. *Unless otherwise stated in this appraisal report, the appraiser(s) did not observe the existence of hazardous material, which may or may not be present on the property. The appraiser(s) has no knowledge of the existence of such materials on or in the property. The appraiser(s), however, is not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation, or other potentially hazardous materials may affect the value of the property. Value estimates within this appraisal report are predicated on the assumption that there is no such material on or in the property, that would cause a loss in value. No responsibility is assumed for any expertise or engineering knowledge required to discover them. The appraiser(s) recommends that appropriate experts be retained to investigate and determine to what extent, if any, such substances are present and what risks, if any, are involved.*
14. *The determination concluded in this appraisal, as to whether or not the subject property is located within a Flood Hazard Zone, is based solely on an inspection of available Flood Insurance Rate Map(s) (FIRM) which are distributed by the National Flood Insurance Program (NFIP). The NFIP maps represent the most recent revisions available after reasonable investigations. Although these maps are the basis for flood hazard determination, the map scale is typically not adequate for accurate comparisons with other maps and/or surveys. Therefore, the determination presented herein regarding location of the subject property outside or within a flood hazard zone should not be construed as a guarantee or certification. Certification of this can only be provided by a qualified engineer and/or surveyor. If there is any possibility that the subject is within an identified flood hazard zone, we recommend that the property should be covered by adequate flood insurance.*
15. *Unless otherwise noted in this appraisal report, no consideration in the valuation process has been given to subsurface rights (minerals, oil, water, etc.) that may be found on the subject property.*
16. *Any proposed or incomplete improvements included in this appraisal report are assumed to be completed in accordance with approved plans and specifications and in a workmanlike manner.*
17. *The appraiser(s) reserves the right to alter opinions of value contained in this appraisal report on the basis of information withheld or not discovered in the normal course of a diligent investigation.*
18. *The Americans With Disability Act (ADA) became effective July 26, 1992. The appraiser has not made a specific compliance survey and analysis of this property to determine whether or not it is in conformity with the various detailed requirements of the ADA. It is possible that a compliance survey of the property together with a detailed analysis would reveal the need for renovations to comply with that statute. Such a requirement could have an adverse impact on the market value of the property. Because the appraiser has no direct evidence relating to this issue, the appraiser did not consider possible noncompliance with the requirements of the ADA in this report.*

QUALIFICATIONS OF TED A. BOOZER, MAI

Boozer & Company, P.C.
106 Mission Court, Suite 1001
Franklin, TN 37067
615-591-4422 (office)
tedboozer@boozercompany.com

AREA SERVED

Middle Tennessee with emphasis on Davidson, Williamson, Sumner, Wilson, Rutherford, Maury, Dickson, Robertson, Montgomery and Cheatham counties.

EDUCATION

Jacksonville State University - Jacksonville, Alabama (1987 - 1991)

- Bachelor of Science Degree in Finance, Real Estate Minor
- Graduated with Special Honors in Finance and Real Estate

Appraisal Institute and Professional Courses/Seminars:

Real Estate Principals (1A1) - AIREA, 1991
Basic Valuation Procedures (1A2) - AIREA, 1992
Advanced Right-of-Way Plans Interpretation - T.D.O.T., 1992
Capitalization Theory & Techniques, Part A (1BA) - AI, 1992
Capitalization Theory & Techniques, Part B (1BB) - AI, 1992
Advanced Applications (Case Studies - 550) - AI, 1994
Dynamics of Office Building Valuation - AI, 1996
Report Writing & Valuation Analysis - AI, 1997
Standards of Professional Practice, Parts A & B - AI, 1997
The Appraisal of Local Retail Properties - AI, 1999
Evaluating Commercial Construction - AI, 2002
Advanced Condemnation Appraising (720) - AI, 2003
Effective Appraisal Writing - AI, 2004
Highest & Best Use and Market Analysis - AI, 2005
Appraising for Alternative Uses - AI, 2009
Appraisal Challenges: Declining Market & Sales Concessions - AI, 2009
Appraising Convenience Stores - AI, 2009
Introduction to Valuation for Financial Reporting - AI, 2010
Litigation Appraising: Specialized Topics & Applications - AI, 2010
Understanding & Testing DCF Models - AI, 2011
Appraising the Appraisal - Appraisal Review - AI, 2013
Marketability Studies: Six Step Process & Basic Applications - AI, 2013
The New Age of Energy - IRWA/TAC, 2013
Eminent Domain Law Basics for ROW Professionals - IRWA, 2014
Subdivision Valuation - AI, 2015
Review Theory - General - AI, 2015
USPAP Update Course - AI, 2017

EXPERIENCE

January, 1996 – Present: Co-Owner and Vice-President of **BOOZER & COMPANY, P.C.**, a real estate appraisal and consulting firm specializing in the valuation of all types of office, retail, industrial, land, and multi-family residential properties, with special emphasis on residential subdivision development appraisals. Also have extensive experience in valuation of partial interests, easements, and various specialized property types, including eminent domain proceedings and appraisal reviews.

Independent contract real estate appraiser with various MAI's in East and Middle Tennessee, from July, 1993 to December, 1995. Real estate appraiser with East Tennessee Appraisal Group, Knoxville, TN, from May of 1991 to June of 1993. Real estate appraiser trainee with Area-Wide Appraisals, Inc., Anniston, AL, 1990.

PROFESSIONAL AFFILIATION

Tennessee State Certified General Real Estate Appraiser, CG-973
Member of the Appraisal Institute (MAI Designation)
General Guidance Chair – Greater TN Chapter of Appraisal Institute (2001-2002)
Tennessee Department of Transportation – TDOT Approved Appraiser
Nashville MTA/RTA – Approved Appraiser & Review Appraiser
Real Estate Affiliate Broker - State of Tennessee - License Number 00274320
Member of Greater Nashville Association of Realtors®

ADDENDA

SUBJECT PHOTOGRAPHS



View East of Subject Property from Peytonsville Road



View SE of Subject Property from Peytonsville Road

SUBJECT PHOTOGRAPHS



Modular Single-Family Residence



Rear View of Subject Site with Other Improvements (No Value)

SUBJECT PHOTOGRAPHS



View SouthEast along Peytonsville Road with Subject at Left



View NorthWest along Peytonsville Road with Subject at Right

SUBJECT DEED

BOOK 170 PAGE 256

5-2 1970
TRANSFER TAX 6.85
MORTGAGE TAX 50
PROBATE FEE 7.00
TOTAL PAID 115.92
RECEIPT NO. 03

REG. OR DEP. REG.
WILLIAMSON COUNTY

This document was prepared by
R. L. RICHARDSON, JR., ATTORNEY
Public Square, Franklin, Tennessee

FOR AND IN CONSIDERATION OF THE SUM of One Hundred
Fifty and no/100 (\$150.00) Dollars, paid in cash; the receipt
of which is hereby acknowledged.

We, M. A. Hartley and wife, Irene Hartley, have bargained
and sold, and do hereby transfer and convey unto Brant Nelson
Dodd and wife, Barbara Jean H. Dodd, the following described
land in the Tenth Civil District of Williamson County, Ten-
nessee, more particularly described as follows:

Being a tract or parcel of land lying wholly within
the Tenth Civil District of Williamson County, Ten-
nessee, and bound in general by Peytonville Road on
the west, Hartley on the north and east and by
Woodside on the south.

Beginning in the center of Peytonville Road at the
northwest corner of Woodside, thence with the said
centerline of Peytonville Road North 5 deg. 25 min.
West 56 feet, North 17 deg. West 52 feet, North 35
degrees 40 min. West 49 feet and North 48 degrees
15 min. West 37 feet; thence with the following two
new lines North 89 degrees 45 min. East 418.2 feet to
an iron post and South 1 degree West 162.3 feet to
a point in the north fence line of Woodside; thence
with his existing north fence line South 88 degrees
30 min. West 345 feet to the point of beginning and
containing 1.4 acres, more or less.

Being part of the property conveyed to M. A. Hartley
et ux, by deed of Ben E. Givens et ux, as of record
in Deed Book 79, page 391, in the Register's Office
of Williamson County, Tennessee.

TO HAVE AND TO HOLD the said lands, with the improvements
and appurtenances thereunto belonging, to the said Brant Nelson
Dodd and wife, Barbara Jean H. Dodd, their heirs and assigns,
forever.

STATE OF TENNESSEE	
COUNTY OF WILLIAMSON	
THE ABOVE CLERK, NOTARY OR VALUE WHICHEVER IS CREATOR FOR THIS TRANSFER IS	
SUBSCRIBED AND SIGNED TO BE FULL OF THE TRUTH	
COMMISSIONER	DAY 15 1970
(AFFIX SEAL)	

Brant Nelson Dodd
Barbara Jean H. Dodd

SUBJECT DEED

BOOK 170 PAGE 257

And we covenant with the said Brant Nelson Dodd and wife, Barbara Jean H. Dodd, that we are lawfully seized of said land, have a good right to convey it, and that it is unencumbered.

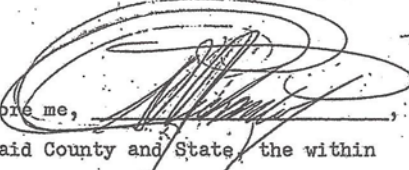
And we do further covenant and bind ourselves, our heirs and representatives to warrant and forever defend the title to said property to the said Brant Nelson Dodd and wife, Barbara Jean H. Dodd, their heirs and assigns, against the lawful claims of all persons.

Witness our hands this the 2nd day of May, 1970.

M A Hartley

Mrs Irene Hartley

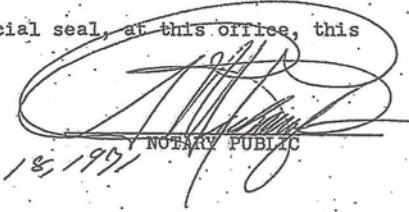
STATE OF TENNESSEE
WILLIAMSON COUNTY

Personally appeared before me,  a Notary Public in and for said County and State, the within named, M. A. Hartley and wife, Irene Hartley, the bargainors, with whom I am personally acquainted, and acknowledged that they executed the annexed instrument for the purpose therein contained.

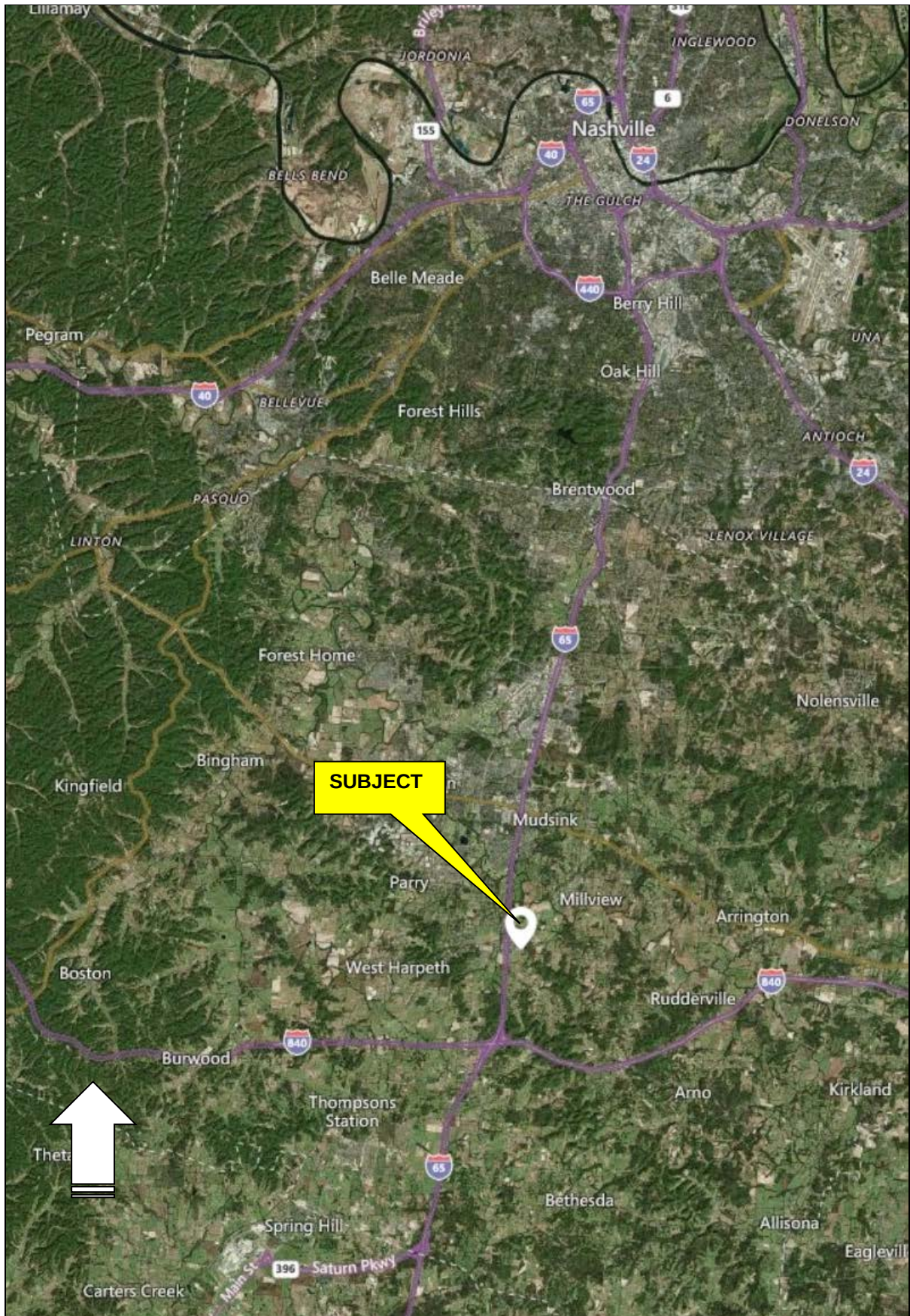
Witness my hand and official seal, at this office, this 2nd day of May, 1970.



My commission expires: Oct 18, 1971


NOTARY PUBLIC

NEIGHBORHOOD MAP



TAX MAP

WILLIAMSON COUNTY TAX MAP 117
PARCEL 28.00



AERIAL MAP - CLOSE UP



RESOLUTION 2018-53

**A RESOLUTION AUTHORIZING STAFF TO PROCEED WITH THE HOME RAISING PROJECT
DEVELOPED BY THE UNITED STATES ARMY CORPS OF ENGINEERS AS PART OF THE
HARPETH RIVER FEASIBILITY STUDY**

WHEREAS, on June 13, 2013, the United States Army Corps of Engineers (USACE), Metropolitan Nashville and Davidson County, City of Brentwood, and City of Franklin initiated and signed a Feasibility Study Agreement to analyze alternative flood risk management options with the Harpeth River basin; and

WHEREAS, on September 12, 2016, the City of Franklin entered into a second agreement with the USACE to fully develop one of the identified flood risk management projects; and

WHEREAS, the project generally includes the raisings of private homes ("Project"), and the USACE has determined that this Project is feasible and economically justifiable; and

WHEREAS, this Project would be a voluntary program for the homes identified by the USACE; and

WHEREAS, the USACE would contribute 65% of the funding associated with the Project, and they require a Non-Federal Sponsor to contribute the remaining 35% of the funding.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS: The Board of Mayor and Aldermen agree to participate in the Project as the Non-Federal Sponsor. The Non-Federal Sponsor's funding will be determined at a future date based on completion of the USACE review.

IT IS SO RESOLVED AND DONE on this the ____ day of _____, 2018.

ATTEST:

CITY OF FRANKLIN, TENNESSEE:

By: _____
ERIC S. STUCKEY
City Administrator

By: _____
DR. KEN MOORE
Mayor

Approved As To Form:

Shauna R. Billingsley
City Attorney

City of Franklin, Tennessee

CIP FY2019-2028

FY 19 thru FY 28

PROJECTS BY CATEGORY

Category	#	Priority	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Stormwater													
Ralston Creek at Liberty Hills Stream Restoration	SW16001	2	50,000	300,000									350,000
Parkview Drainage Project	SW16002	1					120,000	450,000	1,680,000				2,250,000
100 Block Battle Avenue Drainage Improvements	SW16003	2	1,500,000	350,000									1,850,000
Figuers Drive Area Drainage Improvements	SW16004	1				150,000	400,000	1,296,000					1,846,000
Jordan Branch (Cool Springs E) Stream Restoration	SW16005	4	760,000										760,000
Maplewood Stormwater Project	SW16007	4	500,000	30,000									530,000
Carnton Ln Bridge Replacement	SW16008	4	300,000										300,000
Carlisle HOA Culvert Project	SW19001	3	35,000	500,000									535,000
Fairground Drainage Improvements	SW19002	1			100,000	1,500,000							1,600,000
USACE - HOME RAISING PROJECT	SW19003	2	200,000	2,500,000									2,700,000
West Main Bridge Widening Project	SW19004	3			60,000	395,000							455,000
Stormwater Total			3,345,000	3,680,000	160,000	2,045,000	520,000	1,746,000	1,680,000				13,176,000
GRAND TOTAL			3,345,000	3,680,000	160,000	2,045,000	520,000	1,746,000	1,680,000				13,176,000

Project #	SW16001
Project Name	Ralston Creek at Liberty Hills Stream Restoration

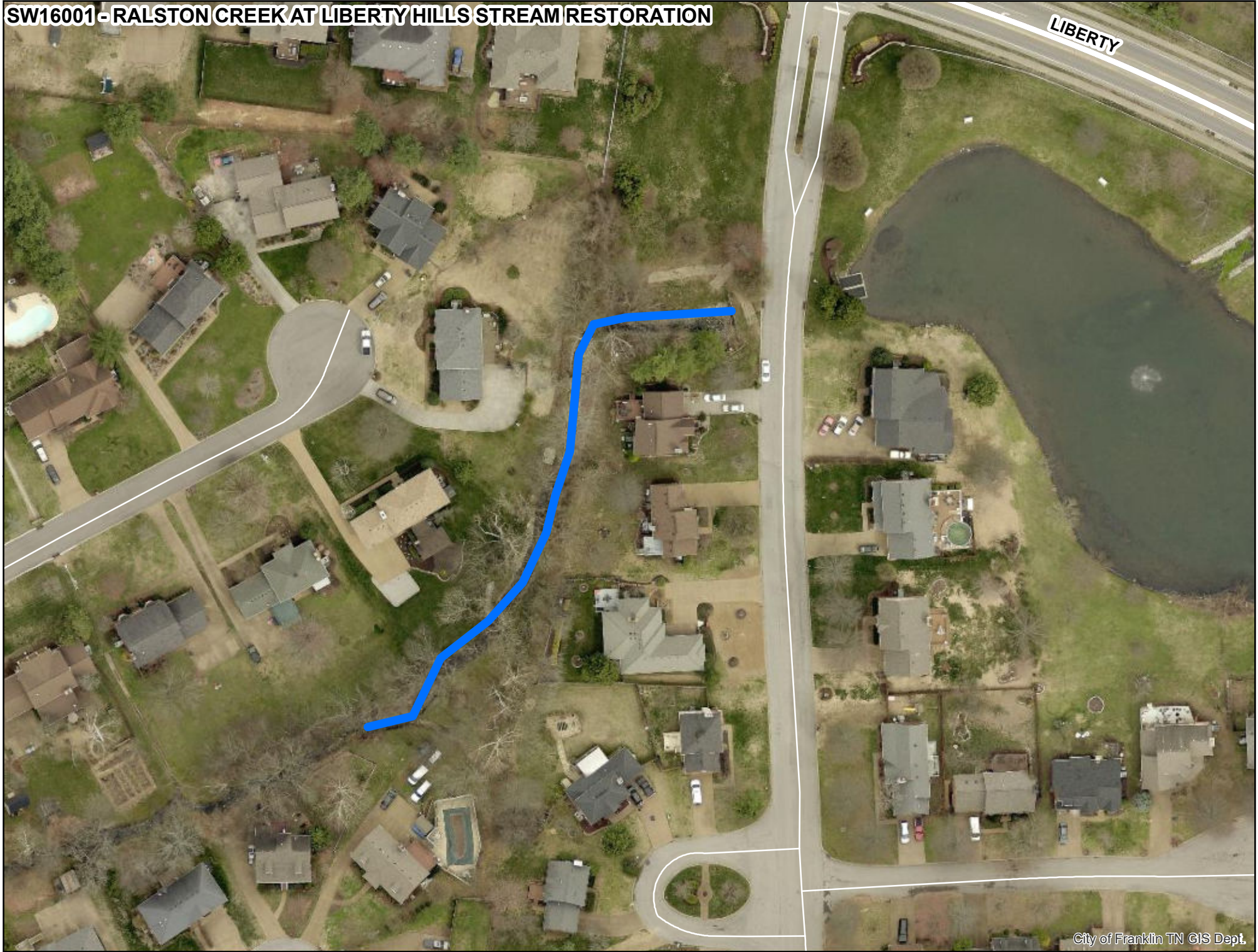
Department	Stormwater
Contact	Engineering Director
Type	Improvement
Useful Life	20+
Category	Stormwater
Priority	2 Star Project
Status	Funding Obligated

Description	Total Cost \$498,400
Stream and Bank Stabilization project on Ralston Creek at Liberty Hills Subdivision.	
Justification	
The City has received a number of complaints from residents in the Royal Oaks Subdivision regarding flooding due to storm water from Ralston Creek overtopping the stream banks. There are also certain areas along Ralston Creek that are experiencing bank failure, some of which the City has attempted to temporarily address until a permanent solution can be determined and installed. The property located 3009 Liberty Hills Drive has lost a significant portion of their back yard and is no experiencing structural cracks within their home.	

Prior	Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
148,400	ROW and Easements	50,000										50,000
Total	Construction Engineering / Inspection		50,000									50,000
	Construction		250,000									250,000
	Total	50,000	300,000									350,000

Prior	Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
148,400	Stormwater	50,000	300,000									350,000
Total	Total	50,000	300,000									350,000

SW16001 - RALSTON CREEK AT LIBERTY HILLS STREAM RESTORATION



Project #	SW16002
Project Name	Parkview Drainage Project

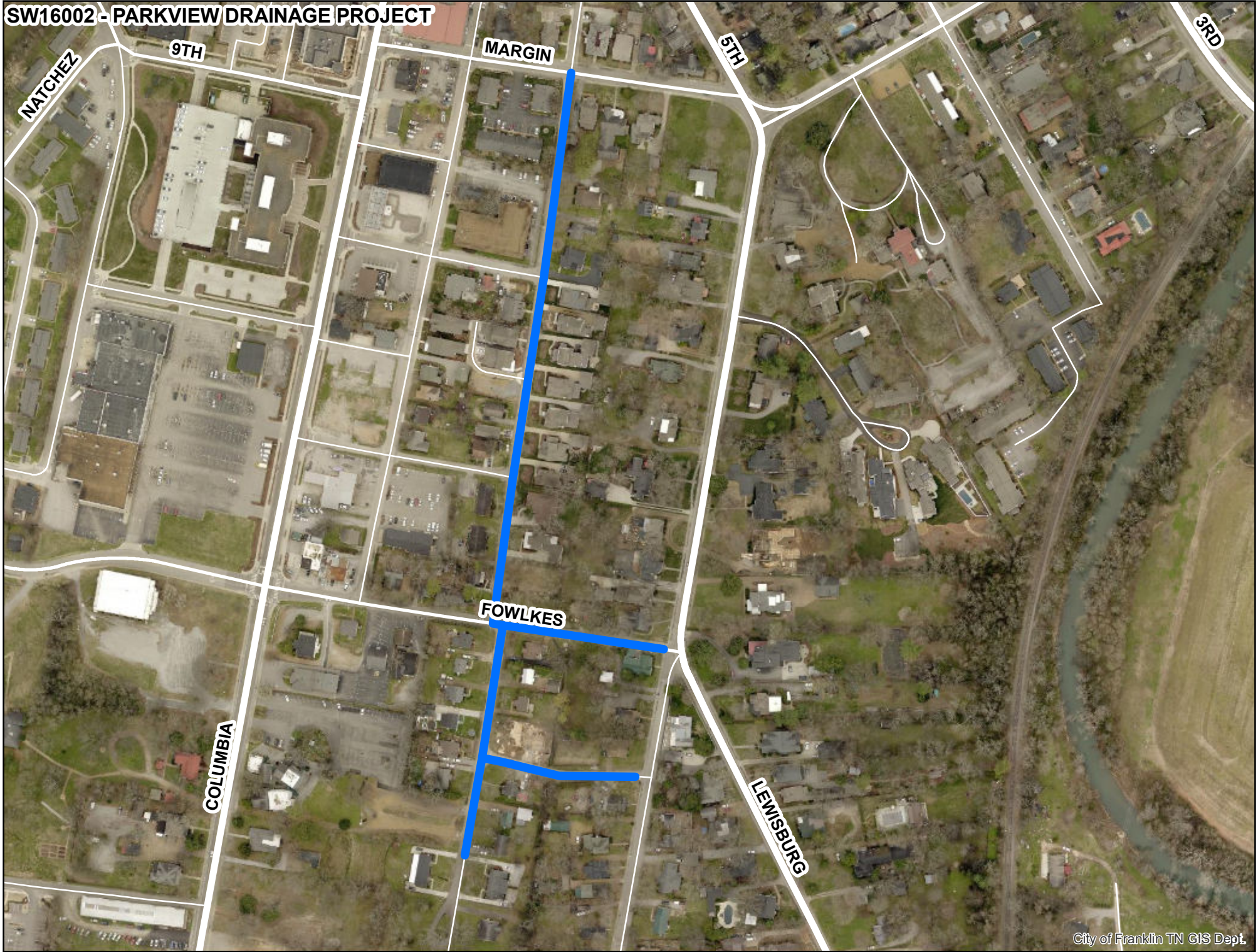
Department Stormwater
Contact Engineering Director
Type New
Useful Life 20+
Category Stormwater
Priority 1 Star Project
Status Pending

Description	Total Cost \$2,250,000
Install drainage infrastructure in the area of Parkview Drive.	
Justification	
The existing stormwater system mainly consists of a series of intermittent roadside ditches and culverts. This area has been a problem since the early 90's with no substantial improvements. The roadways lack drainage infrastructure. This infrastructure is needed to help protect against localized flooding during heavy rain events. The installation of stormwater infrastructure in the older areas of town should be completed when the Water and Santiary sewer is rehabilitated.	

Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Design/Planning (Professional Services)					120,000						120,000
ROW and Easements						450,000					450,000
Construction Engineering / Inspection							180,000				180,000
Construction							1,500,000				1,500,000
Total					120,000	450,000	1,680,000				2,250,000

Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Stormwater					120,000	450,000	1,680,000				2,250,000
Total					120,000	450,000	1,680,000				2,250,000

SW16002 - PARKVIEW DRAINAGE PROJECT



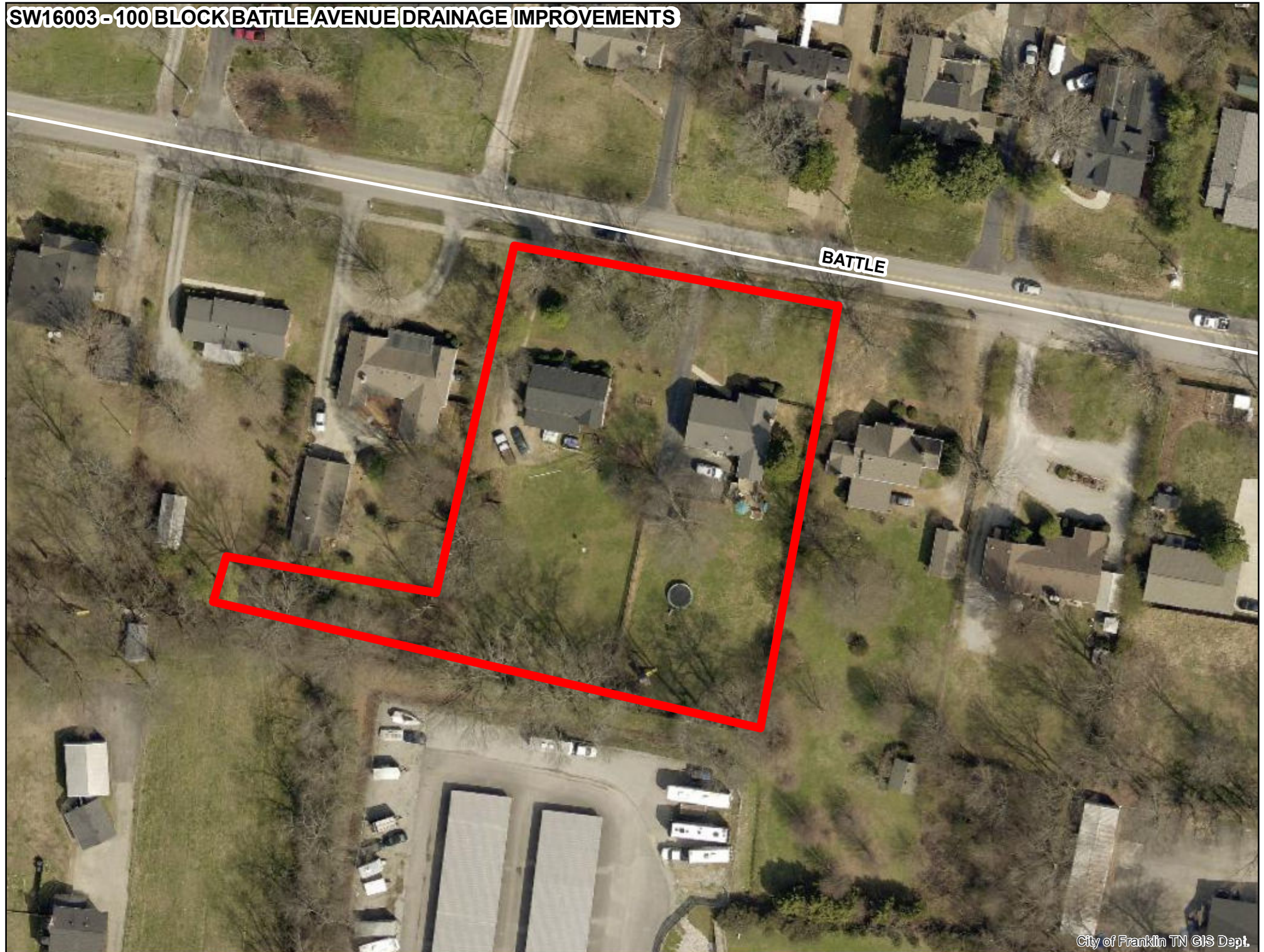
Project #	SW16003
Project Name	100 Block Battle Avenue Drainage Improvements

Department	Stormwater
Contact	Engineering Director
Type	Improvement
Useful Life	20+
Category	Stormwater
Priority	2 Star Project
Status	Funding Obligated

Description	Total Cost \$2,087,700
This project includes the construction of a regional detention pond located between 107 Battle Avenue and 101 Fairground Street. This project will include a design for a 100-year storm event and a new stormwater pump station.	
Justification	
For years there have been properties in the Battle Avenue area that have experienced localized flooding. 5 properties reported damage during the May 2010 Flood. 3 of the properties had water in the crawl space to the floor framing and 4 properties had 1-3' of standing water in their finished basement. The impacted properties include 109, 111, 113, 114 and 117 Battle Ave.	

Prior	Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
237,700	ROW and Easements	1,500,000										1,500,000
Total	Construction Engineering / Inspection		20,000									20,000
	Construction		330,000									330,000
	Total	1,500,000	350,000									1,850,000
Prior	Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
237,700	Stormwater	1,500,000	350,000									1,850,000
Total	Total	1,500,000	350,000									1,850,000

SW16003 - 100 BLOCK BATTLE AVENUE DRAINAGE IMPROVEMENTS



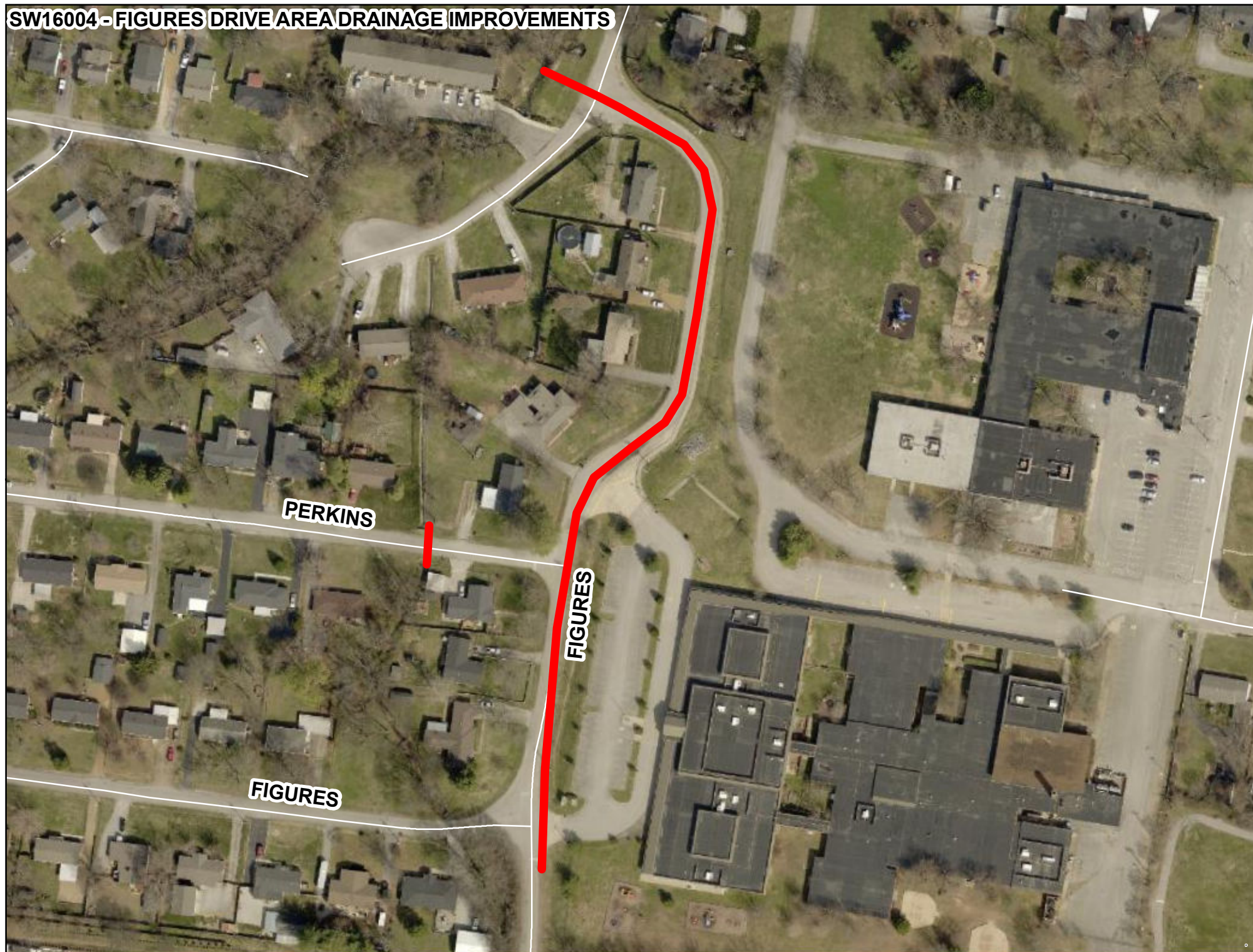
Project #	SW16004
Project Name	Figuers Drive Area Drainage Improvements

Department	Stormwater
Contact	Engineering Director
Type	New
Useful Life	20+
Category	Stormwater
Priority	1 Star Project
Status	Pending

Description	Total Cost \$2,083,700
This project includes the installation and upgrade of existing stormwater infrastructure in the Figuers Drive Area to include: Channel improvements from Alicia Drive to Figuers Drive; Culver upgrades at Perkins Drive and Figuers Drive, Diversion Storm Sewer from Figuers Dr. to Perkins Dr, Concrete Channel from Perkins Dr. to Alicia Dr and 6x3 RCB at Alicia Dr.	
Justification	
The City has received a number of recent complaints from residents in the Figuers Drive area. Large rain events can cause flooding on the roadway and impact around 5 residential structures. Numerous other properties nad roadways are impacted by nuisance flooding problems associated with lack of infrastructure in the area.	

Prior	Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
237,700	Design/Planning (Professional Services)				150,000							150,000
Total	ROW and Easements					400,000						400,000
	Construction Engineering / Inspection						96,000					96,000
	Construction						1,200,000					1,200,000
	Total				150,000	400,000	1,296,000					1,846,000
Prior	Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
237,700	Stormwater				150,000	400,000	1,296,000					1,846,000
Total	Total				150,000	400,000	1,296,000					1,846,000

SW16004 - FIGURES DRIVE AREA DRAINAGE IMPROVEMENTS



Project #	SW16005
Project Name	Jordan Branch (Cool Springs E) Stream Restoration

Department Stormwater
Contact Engineering Director
Type Improvement
Useful Life 20+
Category Stormwater
Priority 4 Star Project
Status Funding Obligated

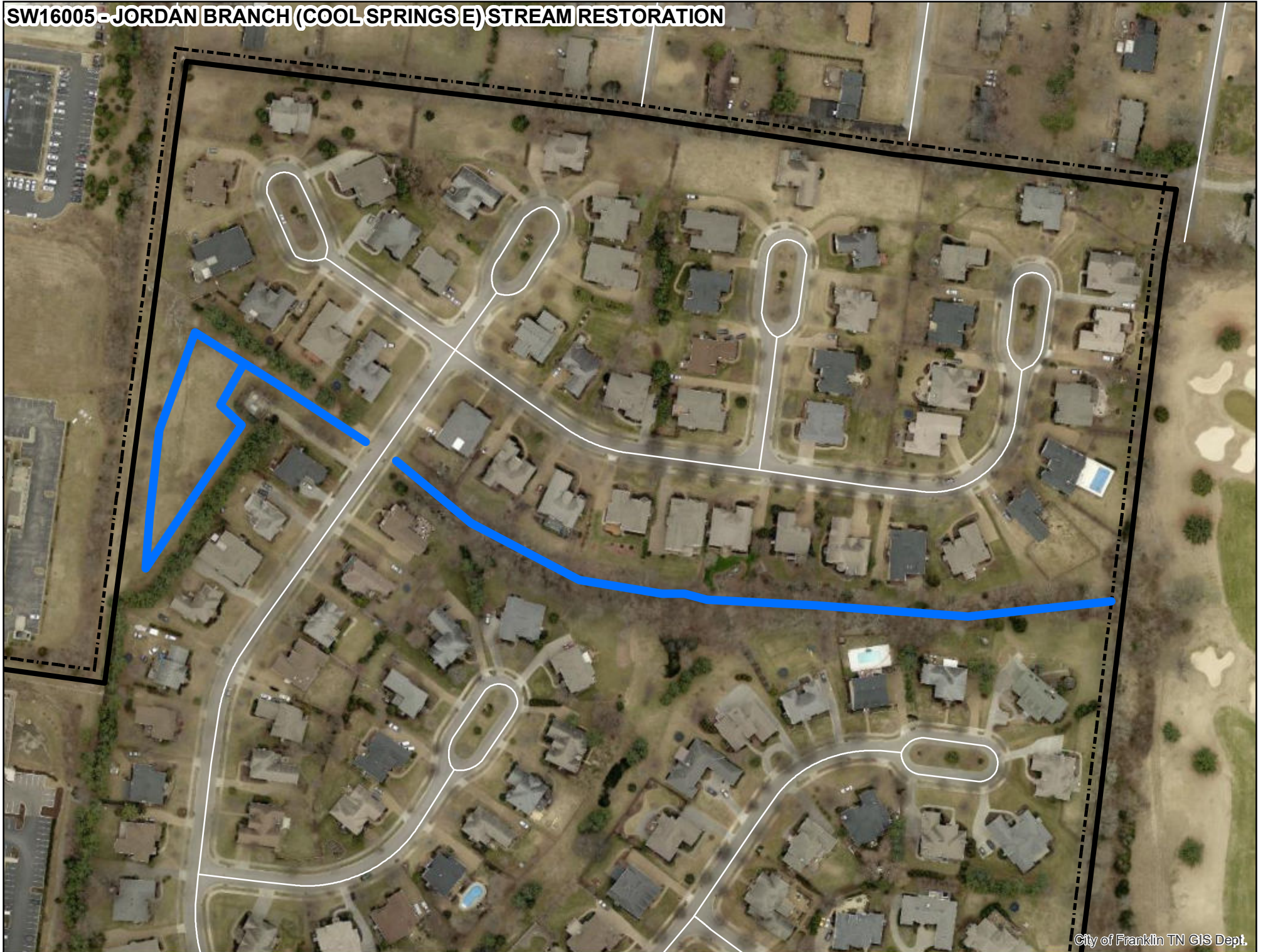
Description	Total Cost \$1,018,795
Restore and stabilize banks along Jordan Branch within The Meadow Subdivision located off of Bakers Bridge Avenue.	

Justification
The City of Franklin has had complaints for several years regarding erosion of Jordan Branch/Spencer Creek which flows behind several houses before flowing under Cliffe Run in The Meadow Subdivision located off of Bakers Bridge Avenue. Jordan Branch is severely entrenched with eroding and undercut banks. The trees are in danger of falling and could possibly fall on or very near the 18 homes bordering Jordan Branch. Relatively large portions of backyards are likely going to be "uprooted" when the trees fall. Stormwater channels designed to convey flow from the subdivision to the stream are "head-cutting" which is also contributing to the loss of backyards in the form of eroding channels between lots.

Prior	Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
258,795	Construction Engineering / Inspection	60,000										60,000
Total	Construction	700,000										700,000
	Total	760,000										760,000

Prior	Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
258,795	Stormwater	760,000										760,000
Total	Total	760,000										760,000

SW16005 - JORDAN BRANCH (COOL SPRINGS E) STREAM RESTORATION



Project #

SW16007

Project Name

Maplewood Stormwater Project

Department

Stormwater

Contact

Engineering Director

Type

Improvement

Useful Life

20+

Category

Stormwater

Priority

4 Star Project

Status

Pending

Description

Total Cost \$560,640

Replace failing 72" CMP within the Maplewood Subdivision.

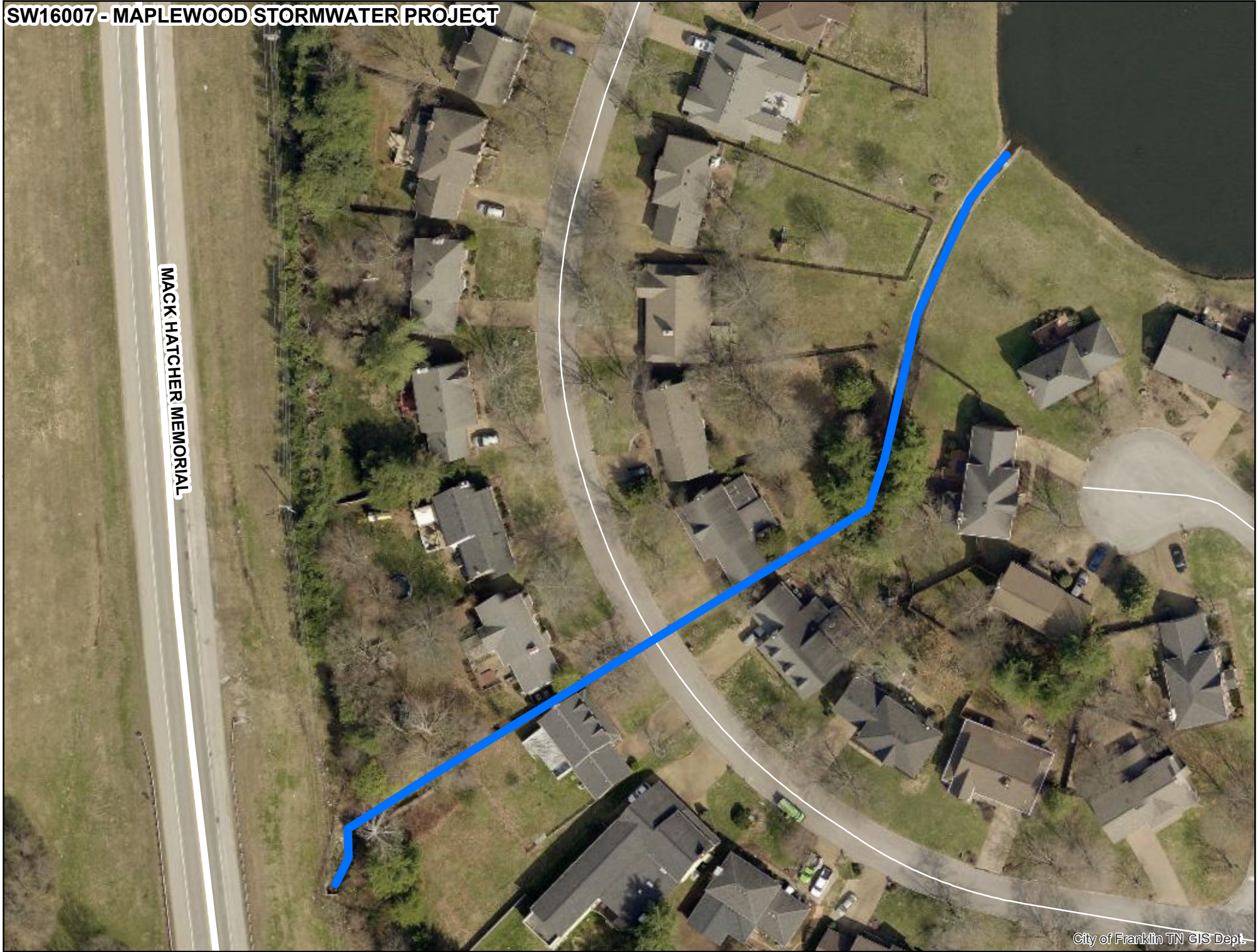
Justification

72" CMP is failing and is adjacent to homes and under the roadway and numerous utilities.

Prior	Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
30,640	Construction Engineering / Inspection		30,000									30,000
Total	Construction	500,000										500,000
	Total	500,000	30,000									530,000

Prior	Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
30,640	Stormwater	500,000	30,000									530,000
Total	Total	500,000	30,000									530,000

MACK HATCHER MEMORIAL



Project #

SW16008

Project Name

Carnton Ln Bridge Replacement

Department

Stormwater

Contact

Engineering Director

Type

Improvement

Useful Life

20+

Category

Stormwater

Priority

4 Star Project

Status

Funding Obligated

Description

Total Cost \$346,049

Replace CMP bridge located in the Carton Subdivision.

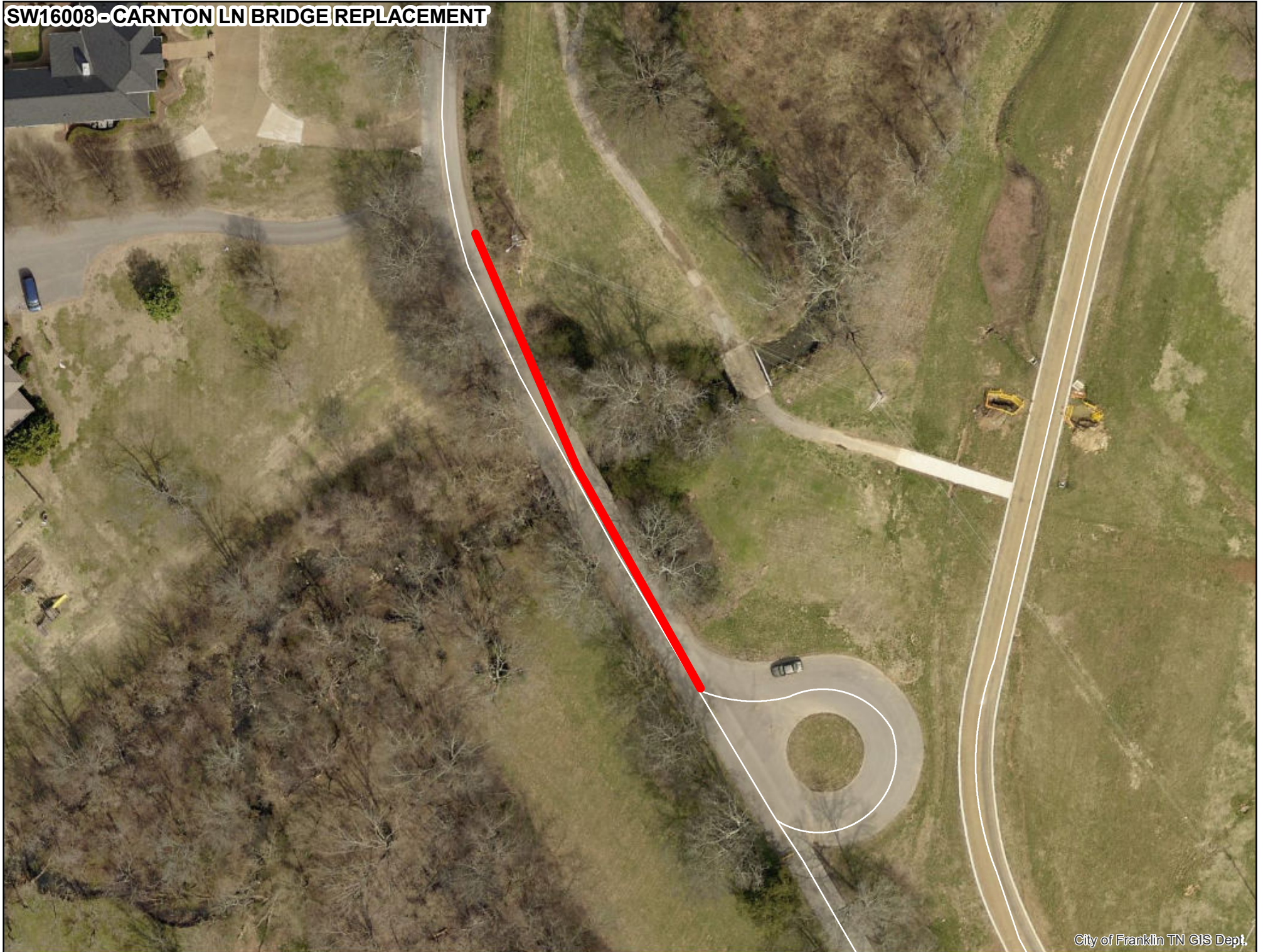
Justification

CMP bridge is currently failing and needs to be replaced.

Prior	Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
46,049	Construction	300,000										300,000
Total	Total	300,000										300,000

Prior	Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
46,049	Stormwater	300,000										300,000
Total	Total	300,000										300,000

SW16008 - CARNTON LN BRIDGE REPLACEMENT



Project #	SW19001
Project Name	Carlisle HOA Culvert Project

Department Stormwater
Contact Engineering Director
Type Improvement
Useful Life 20+
Category Stormwater
Priority 3 Star Project
Status Active

Description	Total Cost \$553,500
An existing channel between the Carlisle Subdivision and Founders Point Subdivision has created localized flooding within the Carlisle Subdivision. This project involves piping in the wet weather conveyance located between the Carlisle HOA and Founders Pointe HOA.	
Justification	
A study completed in 2018 shows that multiple properties are impacted by the 100 yr storm event. One of the properties located in the Carlisle HOA has been flooded at least 3 times since the Carlisle HOA was developed.	

Prior	Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
18,500	Design/Planning (Professional Services)	35,000										35,000
Total	ROW and Easements		100,000									100,000
	Construction		400,000									400,000
	Total	35,000	500,000									535,000

Prior	Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
18,500	Stormwater	35,000	500,000									535,000
Total	Total	35,000	500,000									535,000

SW19001 - CARLISLE HOA CULVERT PROJECT



NEW HWY 96

DOWNNS

Project #	SW19002
Project Name	Fairground Drainage Improvements

Department Stormwater
Contact Engineering Director
Type Unassigned
Useful Life 20+
Category Stormwater
Priority 1 Star Project
Status Pending

Description	Total Cost \$1,600,000
This project include the installation of stomrwater infastructure along Columbia Ave to provide drainage infastructure to Fairground Street.	
Justification	
The existing storm water infastructure is undersized and in need of replacement. This would resolve nuisance flooding and drainage issues in the area.	

Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Design/Planning (Professional Services)			50,000								50,000
ROW and Easements			50,000								50,000
Construction Engineering / Inspection				100,000							100,000
Construction				1,400,000							1,400,000
Total			100,000	1,500,000							1,600,000

Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Stormwater			100,000	1,500,000							1,600,000
Total			100,000	1,500,000							1,600,000

SW19002 - FAIRGROUND DRAINAGE IMPROVEMENTS



Project #	SW19003
Project Name	USACE - HOME RAISING PROJECT

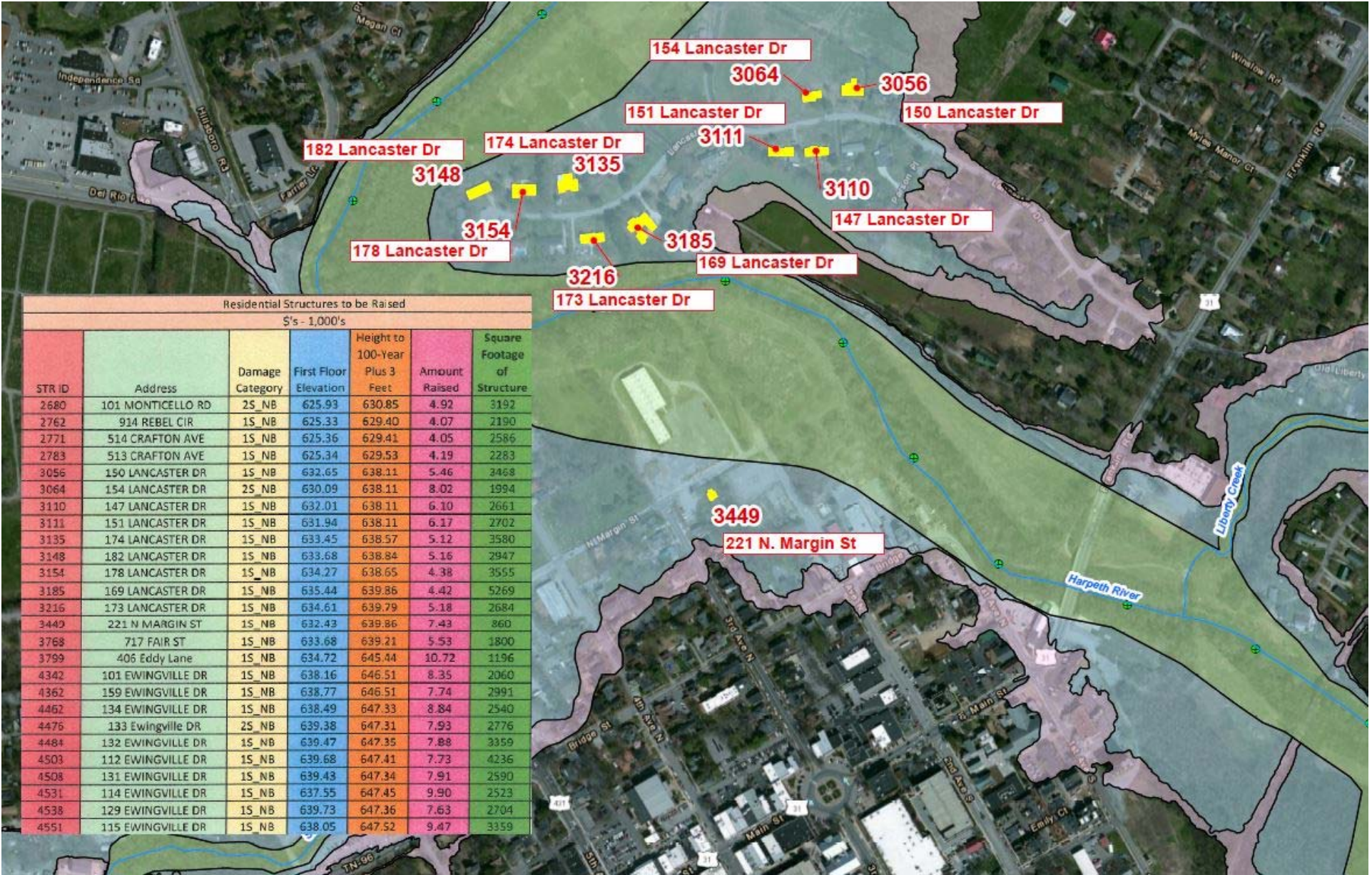
Department Stormwater
Contact Engineering Director
Type Unassigned
Useful Life 20+
Category Stormwater
Priority 2 Star Project
Status Active

Description	Total Cost \$2,700,000
Voluntary Program for 26 home raising as identified by the USACE. The project is 65% funded by the USACE and 35% funded by either the City or the Homeowner.	
Justification	
Following the May 2010 flood event the USACE completing a feasibility study to analyze alternative flood risk management options. This is one option that was identified by the USACE.	

Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Design/Planning (Professional Services)	200,000										200,000
Construction		2,500,000									2,500,000
Total	200,000	2,500,000									2,700,000

Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Stormwater	100,000	875,000									975,000
Misc. Grant	100,000	1,625,000									1,725,000
Total	200,000	2,500,000									2,700,000

SW19003—USACE Home Raising Project



Project #	SW19004
Project Name	West Main Bridge Widening Project

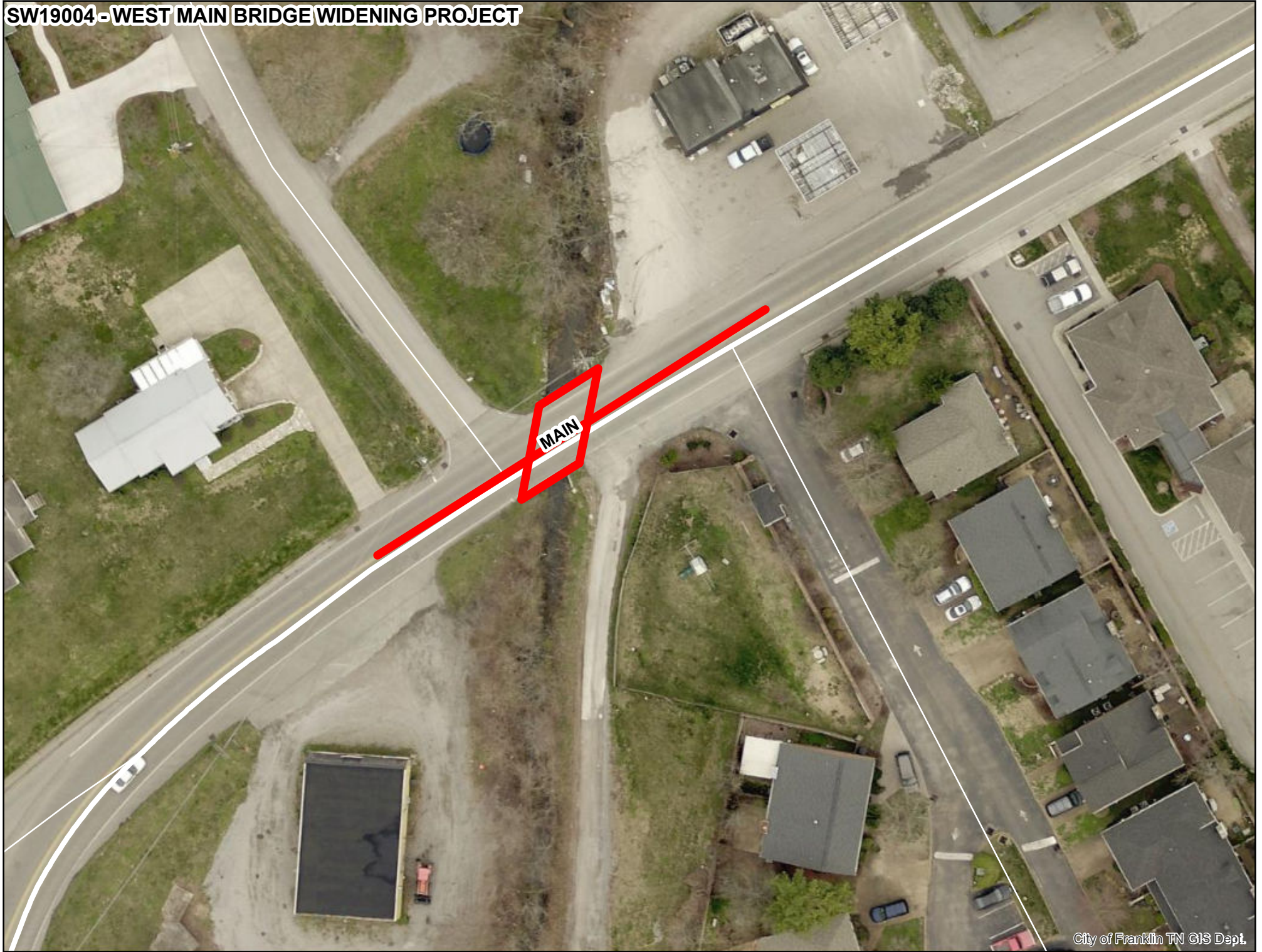
Department Stormwater
Contact Engineering Director
Type Improvement
Useful Life
Category Stormwater
Priority 3 Star Project
Status Pending

Description	Total Cost \$455,000
This project includes the widening of the existing bridge to add a shoulder on the north side of the bridge.	
Justification	
This proejct will improve the saftey of the roadway and provide a sholder for pedestrians to walk / cross the stream as needed.	

Expenditures	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Design/Planning (Professional Services)			60,000								60,000
ROW and Easements				50,000							50,000
Construction Engineering / Inspection				345,000							345,000
Total			60,000	395,000							455,000

Funding Sources	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	Total
Stormwater			60,000	395,000							455,000
Total			60,000	395,000							455,000

SW19004 - WEST MAIN BRIDGE WIDENING PROJECT



Stormwater Fund - 10-Year History

as of 6/26/2018

The following table shows the performance of the Stormwater Fund over the ten-year fiscal period from FY 2010 through FY 2019.

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018*	FY 2019*
Beginning Fund Balance	\$ 4,754,751	\$ 5,407,750	\$ 6,095,953	\$ 5,858,322	\$ 5,615,101	\$ 5,511,065	\$ 4,783,235	\$ 4,873,735	\$ 4,687,695	\$ 4,324,344
+ Revenues	\$ 2,129,259	\$ 2,271,022	\$ 2,313,402	\$ 2,383,896	\$ 2,340,962	\$ 2,673,348	\$ 2,546,681	\$ 2,590,187	\$ 2,723,371	\$ 2,722,281
- Personnel	\$ 647,942	\$ 676,390	\$ 888,171	\$ 903,101	\$ 948,571	\$ 1,047,100	\$ 1,117,849	\$ 1,345,213	\$ 1,669,235	\$ 1,668,528
- Operations	\$ 382,660	\$ 569,824	\$ 513,392	\$ 614,311	\$ 969,559	\$ 591,351	\$ 881,055	\$ 1,019,534	\$ 917,487	\$ 913,586
- Capital Outlay	\$ 445,658	\$ 336,605	\$ 1,149,470	\$ 1,109,705	\$ 526,868	\$ 843,587	\$ 397,677	\$ 411,480	\$ 500,000	\$ 3,576,000
- Expenditures	\$ 1,476,260	\$ 1,582,819	\$ 2,551,033	\$ 2,627,117	\$ 2,444,998	\$ 2,482,038	\$ 2,396,581	\$ 2,776,227	\$ 3,086,722	\$ 6,158,114
= Change in Rev. vs. Exp.	\$ 652,999	\$ 688,203	\$ (237,631)	\$ (243,221)	\$ (104,036)	\$ 191,310	\$ 150,100	\$ (186,040)	\$ (363,351)	\$ (3,435,833)
= Ending Balance	\$ 5,407,750	\$ 6,095,953	\$ 5,858,322	\$ 5,615,101	\$ 5,511,065	\$ 4,783,235	\$ 4,873,735	\$ 4,687,695	\$ 4,324,344	\$ 888,511

*Estimates

Source: City of Franklin, Finance Department. Comprehensive Annual Financial Reports & Annual Operating Budgets.



City of Franklin, Tennessee

FY 2019 Operating Budget

Stormwater Fund - Forecast 2019-2022

as of 7/10/2018

Budget Summary

The schedule below forecasts the fund balance, revenues and expenses for the Stormwater Fund (Fund 135) from FY 2019 through FY 2022. The schedule assumes nominal revenue growth, but sustained operations with no additional positions and all requested Stormwater-Engineering capital projects.

Unfortunately, revenues are not forecast to keep pace with anticipated/requested capital projects. The total revenues are barely able to keep up with annual operational costs, leaving no money after FY 2019 for additional capital projects. As of the beginning of FY 2019, approximately \$3.5 million of fund balance exists for capital projects, but nearly \$10.35 million in capital requests (\$1.1 million in Streets capital equipment renewal and \$9.25 million in Engineering projects) is requested in the near term. Should the City consider authorizing capital projects and expect the Stormwater Fund to fund them, either the current slate of proposed capital projects for FY 2019 will need to be reduced or delayed, the Stormwater Fee will need to be raised, or alternative funding sources found for the projects as shown below.

This schedule has been modified since June 12th to include revised estimates of project costs and Staff Priority rankings.

	Staff Priority	2019 Budget	2020 Forecast	2021 Forecast	2022 Forecast	Notes
Beginning Balance		4,324,344	2,573,511	2,376,750	2,156,718	
Revenues		2,722,281	2,776,727	2,832,261	2,888,906	Assumes 2% growth year over year, but no rate increase
Personnel		\$ 1,668,528	\$ 1,755,021	\$ 1,841,962	\$ 1,934,060	Assumes 5% increase in overall expenses (Wages + Benefits)
Operations		\$ 913,586	\$ 938,466	\$ 960,331	\$ 979,538	Assumes 2% increase in overall expenses annually
Capital		\$ 1,891,000	\$ 280,000	\$ 250,000	\$ 250,000	
Streets Capital		\$ 331,000	\$ 250,000	\$ 250,000	\$ 250,000	Average Capital exp. for Streets - Stormwater last 3 years
Engineering Capital (Commitments)		\$ 1,560,000	\$ 30,000	\$ -	\$ -	Based on projects as listed below
Jordan Branch (Cool Springs E) Stream Restoration	★ ★ ★ ★	\$ 760,000	\$ -	\$ -	\$ -	Permits in place, ready to bid out
Maplewood Stormwater Project	★ ★ ★ ★	\$ 500,000	\$ 30,000	\$ -	\$ -	Failure and should be done soon
Carnton Ln Bridge Replacement	★ ★ ★ ★	\$ 300,000	\$ -	\$ -	\$ -	Failure; Already bid out
Remaining Fund Balance after committed projects		2,573,511	2,376,750	2,156,718	1,882,027	
Engineering Capital (Potential Commitments)						
Carlisle HOA Culvert Project	★ ★ ★	\$ 35,000	\$ 500,000	\$ -	\$ -	
West Main Bridge Widening Project	★ ★ ★	\$ -	\$ -	\$ 60,000	\$ 395,000	
Ralston Creek at Liberty Hills Stream Restoration	★ ★	\$ 50,000	\$ 300,000	\$ -	\$ -	
100 Block Battle Avenue Drainage Improvements	★ ★	\$ 1,500,000	\$ 350,000	\$ -	\$ -	Under Consideration - BOMA
USACE - Home Raising Project	★ ★	\$ 100,000	\$ 875,000	\$ -	\$ -	COF portion ONLY - Total project cost est. at \$2.7M
Fairground Drainage Improvements	★	\$ -	\$ -	\$ 100,000	\$ 1,500,000	
Figures Drive Area Drainage Improvements	★	\$ -	\$ -	\$ -	\$ 150,000	\$400,000 in FY 2023, \$1.296M in FY 2024
Total		1,685,000	2,025,000	160,000	2,045,000	

Source: City of Franklin, Finance Department - FY 2019 Proposed Operating & Capital Budget and Engineering Department.

Note: State of Tennessee requires minimum fund balance of one month's worth of expenditures. That value is close to \$250,000.

RESOLUTION 2017-43

A RESOLUTION TO SELECT THE CORRIDOR DESIGN CONCEPT FOR THE COLUMBIA AVENUE WIDENING & IMPROVEMENTS PROJECT

WHEREAS, on December 11, 2013, the Nashville Area Metropolitan Planning Organization (MPO) adopted the Transportation Improvement Program (TIP) for Fiscal Years 2014-2017, allocating \$6,000,000.00 in total funding to the Preliminary Engineering (Environmental), Design, and Right-of-Way phases of this project and reserves an additional \$15,000,000.00 in total funding for the Construction Phase; and

WHEREAS, the transportation improvements associated with the project will generally be funded with 80 percent Federal Funds and 20 percent State Funds; and

WHEREAS, on July 14, 2015, the City of Franklin Board of Mayor and Aldermen unanimously approved the Local Agency Project Agreement (COF Contract No. 2014-0289, TDOT Contract No. 140204), which formally began the Columbia Avenue Widening & Improvements Project; and

WHEREAS, the preliminary engineering/environmental phase includes preparation of a National Environmental Policy Act (NEPA) document, technical study determinations (Archaeological, Natural Resources, Noise, and Air Quality), and the development of functional level roadway concept designs, as required by the Federal Highways Administration (FHWA) and TDOT; and

WHEREAS, as part of the preliminary engineering phase, three public meetings were conducted (May 17, 2016; January 31, 2017; May 16, 2017; and August 30, 2017) to engage the corridor users, business owners, and other stakeholders to gather their input on the roadway design; and

WHEREAS, the roadway design concepts developed for Columbia Avenue generally include the following Options: Option 1— Five-Lane Concept (with Access Management) and Option 2—Roundabout Concept, as conceptual shown on Exhibit A; and

WHEREAS, roadway design concepts for Columbia Avenue Project were presented during a public meeting and special Board of Mayor and Aldermen work session on August 30, 2017.

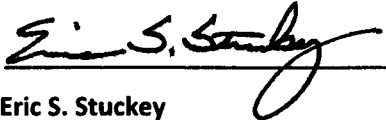
NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS:

Section 1. The Board of Mayor and Aldermen have selected Option 1 ^(one) as the preferred corridor design concept for the Columbia Ave Widening and Improvements Project as conceptually shown in Exhibit A.

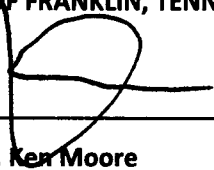
Section 2. City staff is directed to continue to work with impacted property owners and other stakeholders to further develop the preferred corridor design concept and develop recommendations on bike and pedestrian facilities, utility relocation, streetscape improvements, and transit facilities for the proposed project. These options shall be presented back to the Board of Mayor and Aldermen for a final determination prior to proceeding with the design phase of the project.

IT IS SO RESOLVED AND DONE on this 12th day of September 2017

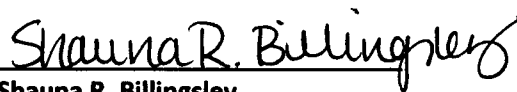
ATTEST:

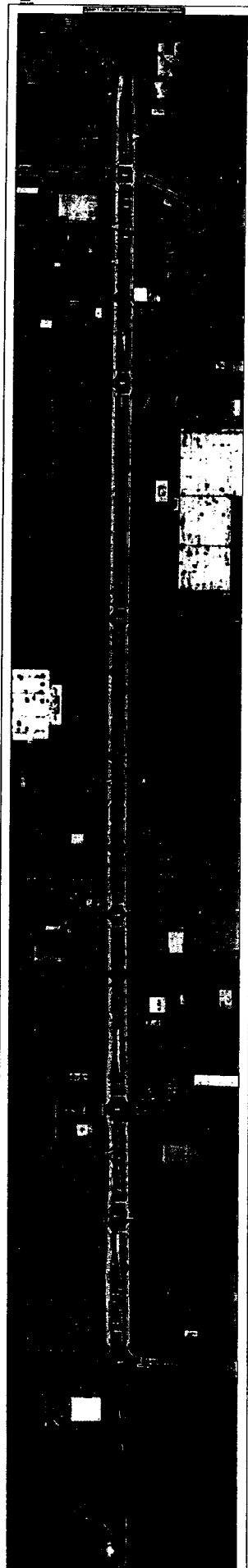
By: 
Eric S. Stuckey
City Administrator

CITY OF FRANKLIN, TENNESSEE:

By: 
Dr. Ken Moore
Mayor

Approved as to Form:

By: 
Shauna R. Billingsley
City Attorney

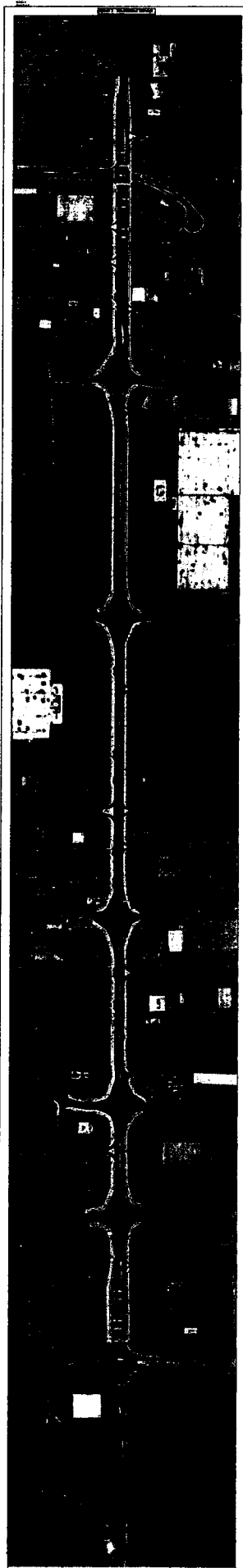


5-Lane Concept
(Access Management)

Columbia Avenue Roadway Concept
Franklin, Tennessee



BWSC



Roundabout Concept

Columbia Avenue Roadway Concept
Franklin, Tennessee

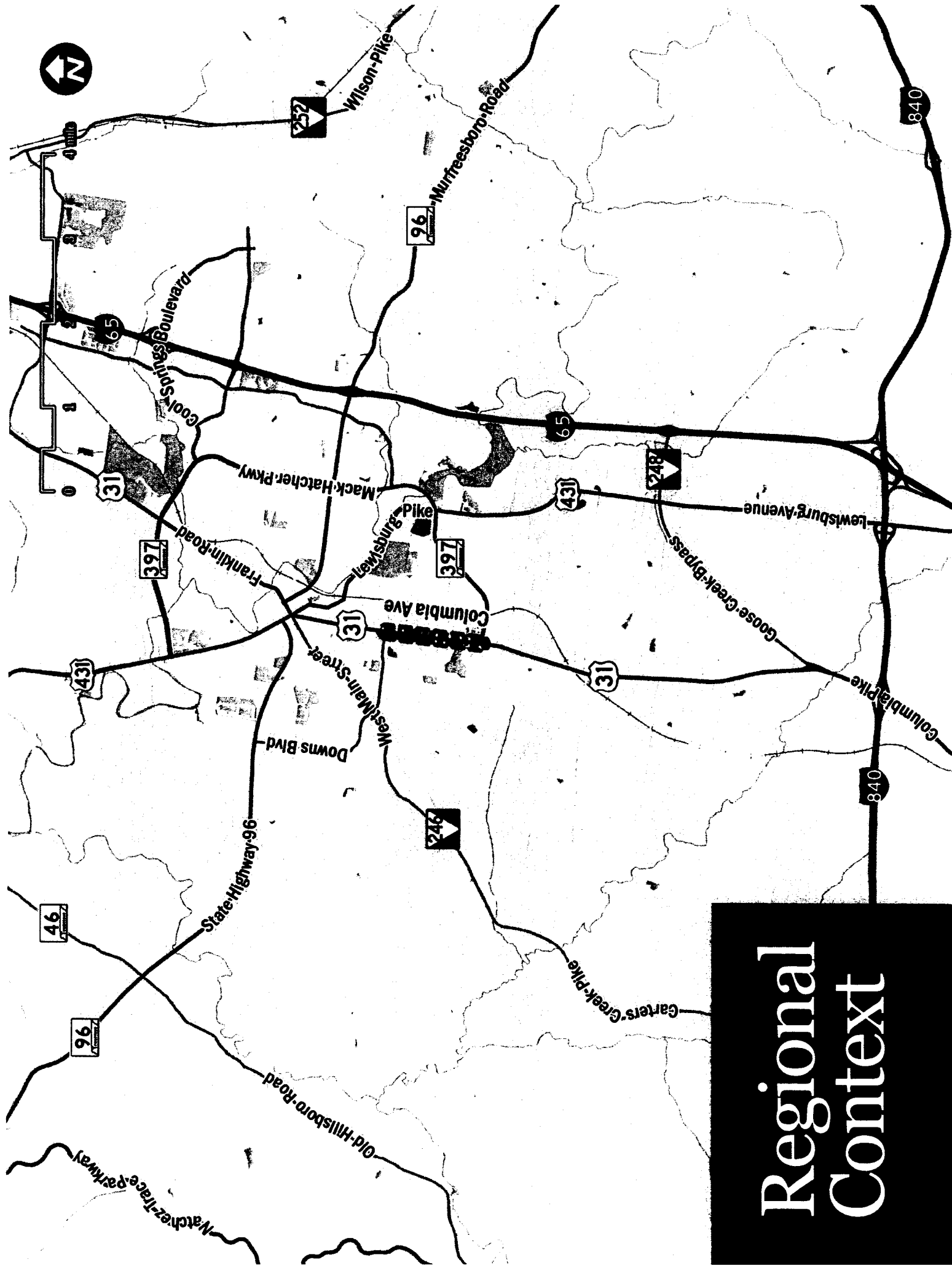


BWSC

— CITY OF FRANKLIN, TENNESSEE —

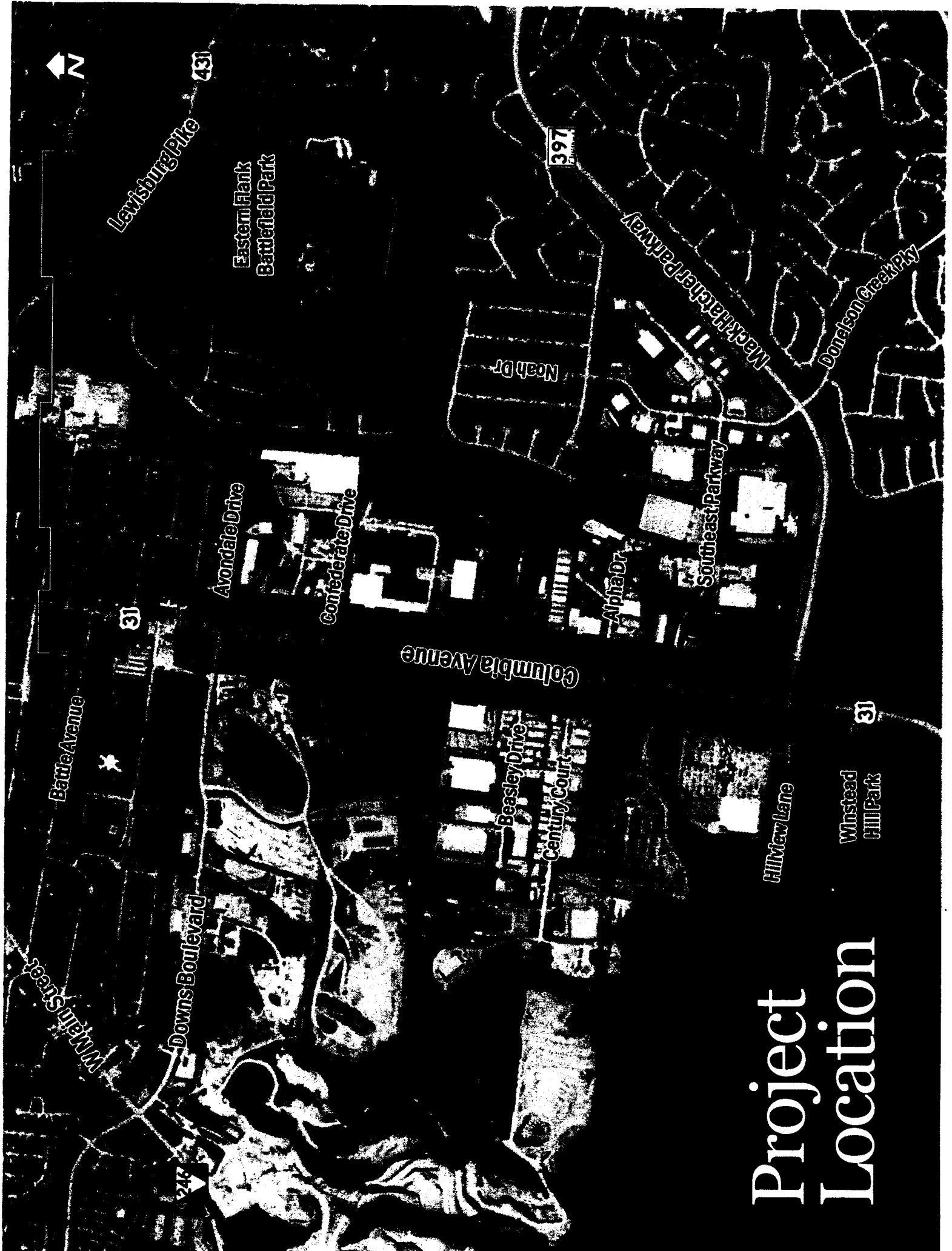
Columbia Avenue

Special BOMA Work Session | August 30, 2017



Regional Context

Project Location



May 2016

18,900

vehicles/day

DAILY
TRAFFIC



Mid-day
70%

PM
15%

TRAFFIC
COMPOSITION

Trucks
7%

11% Peak Trucks

TRAFFIC
TYPE

Local
Trips
55%

April 2016 travel time

from Battle Avenue to
Winstead Elementary School,
in minutes.

3:10
with no traffic

5:10
average day

10:20
longest recorded

Future Growth

2016

EXISTING
CONDITIONS

based on data from City and
TDOT count stations

18,900

vehicles/day

2021

BUILD
YEAR

forecast conditions at
project completion

19,800

vehicles/day

2041

DESIGN
YEAR

improvements are designed to
accommodate 20 years of growth

25,400

vehicles/day

3

components of
comparison

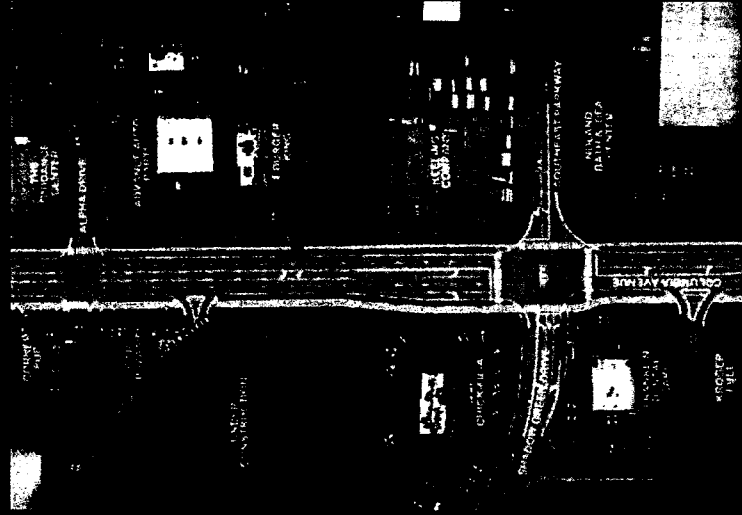
Operations

Safety

Physical
Impact

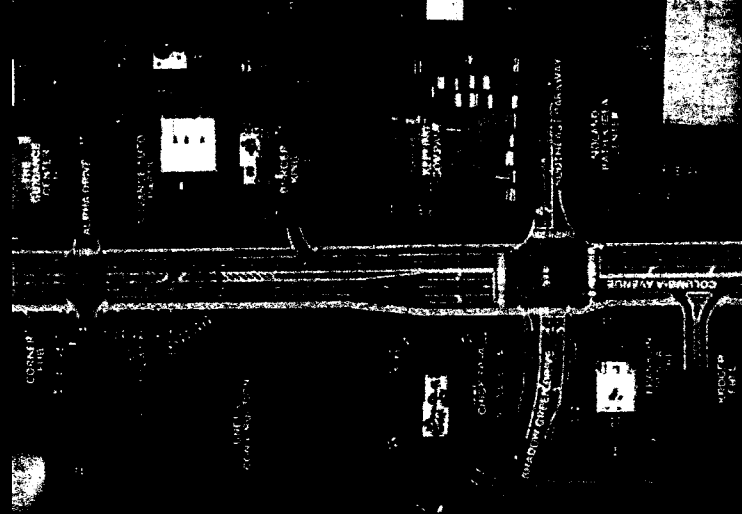
Corridor Concepts

Example: Columbia Avenue at Southeast Parkway



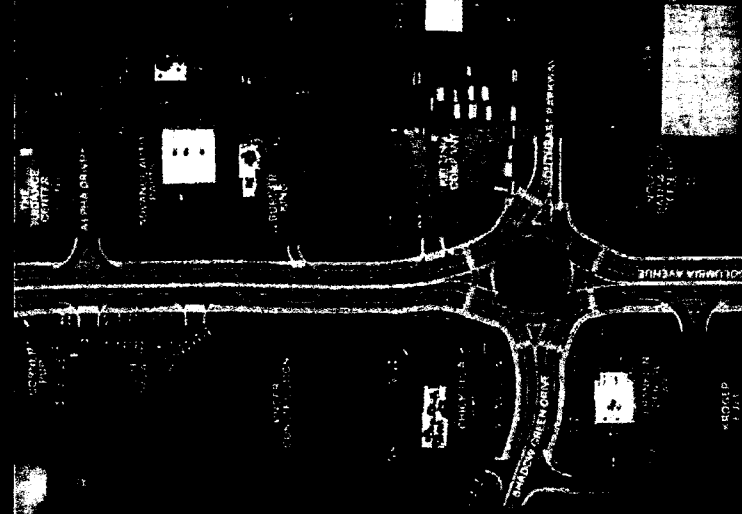
**Five-Lane
Concept**

(Traditional)



**Five-Lane
Concept**

(Access Management)



**Roundabout
Concept**

(Access Management)

Operations

Anticipated Travel Time and Average Speed, 2041 Volumes (Columbia Avenue)

No-Build Conditions	Five-Lane Concept (Traditional)	Five-Lane Concept (Access Mgmt.)	Roundabout Concept
5:50	4:30	4:40	4:30
14.5 mph	18.5 mph	18.1 mph	18.5 mph

Colors are used to illustrate conditions (20 to 40 mph)

Results are averaged and are based on 1000 simulated vehicles between 10:00 and 11:00 AM and 10:00 and 11:00 AM

Operations

Corridor Delay

Existing Conditions
(2016 volumes)

200 seconds

No-Build Conditions
(2041 volumes)

985 seconds

Five-Lane Concept
(Traditional)
(2041 volumes)

365 seconds

Five-Lane Concept
(Access Management)
(2041 volumes)

375 seconds

Roundabout Concept
(2041 volumes)

240 seconds

Columbia Avenue Traffic

Side Street Traffic

Operations

Delay, Level of Service (LOS), and Queue Length

Signalized Intersections		
Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤ 10	Free Flow
B	$10 - 20$	Stable Flow
C	$20 - 35$	Stable Flow (acceptable delays)
D	$35 - 55$	Unstable Flow
E	$55 - 80$	Unstable Flow (intolerable delay)
F	> 80	Unstable Flow (intolerable delay)

Operations

Delay, Level of Service (LOS), and Queue Length

Unsignalized Intersections (i.e. All-Way Stop, Two-Way Stop, Roundabout)		
Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 15	Stable Flow (acceptable delays)
C	>15 – 25	Stable Flow (acceptable delays)
D	>25 – 35	Unstable Flow (intolerable delay)
E	>35 – 50	Unstable Flow (intolerable delay)
F	>50	Unstable Flow (intolerable delay)

NOTE: Two way stop controlled intersections are defined in terms of individual movements

Safety

Collision Data (2013–2016)

7.72
collisions/
MVM

MVM = Million Vehicle-Miles

2.76
collisions/
MVM

1.23
collisions/
MVM

0.68
collisions/
MVM

All Collisions

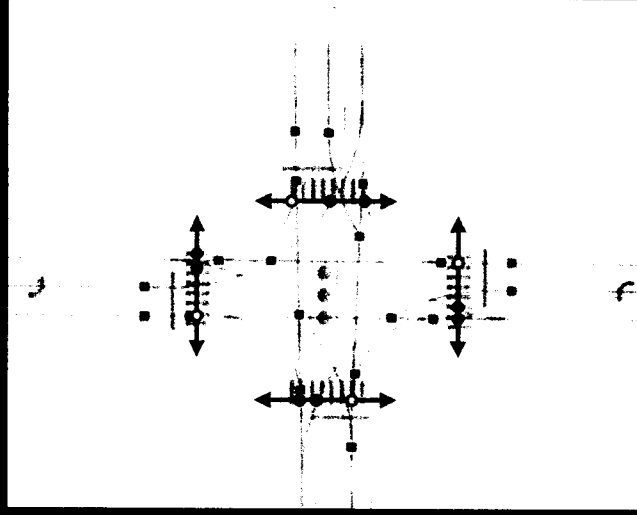
Columbia Avenue Actual Crash History

Fatal/Injury Collisions

Statewide Averages

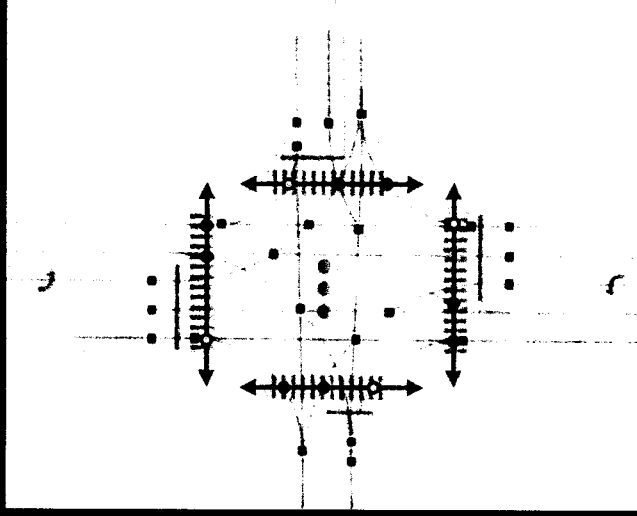
Safety

Columbia Avenue Conflict Points



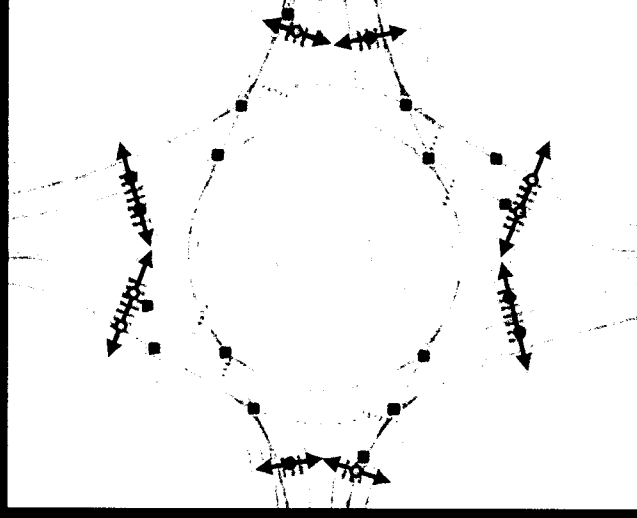
**No-Build
Conditions**

504*



Five-Lane Concepts
(Traditional) (Acc. Mgmt.)

583* 385*



**Roundabout
Concept**

258*

*NOTE: Vehicle Conflict Points

Safety

2041 Anticipated Change in Traffic Collisions

Between Intersections

At Intersections

+41%

+26%

+2%

+1%

-10%

No-Build:

+49% over

2016 conditions

No-Build:

+43% over

2016 conditions

-26%

No-Build Condition (2041)

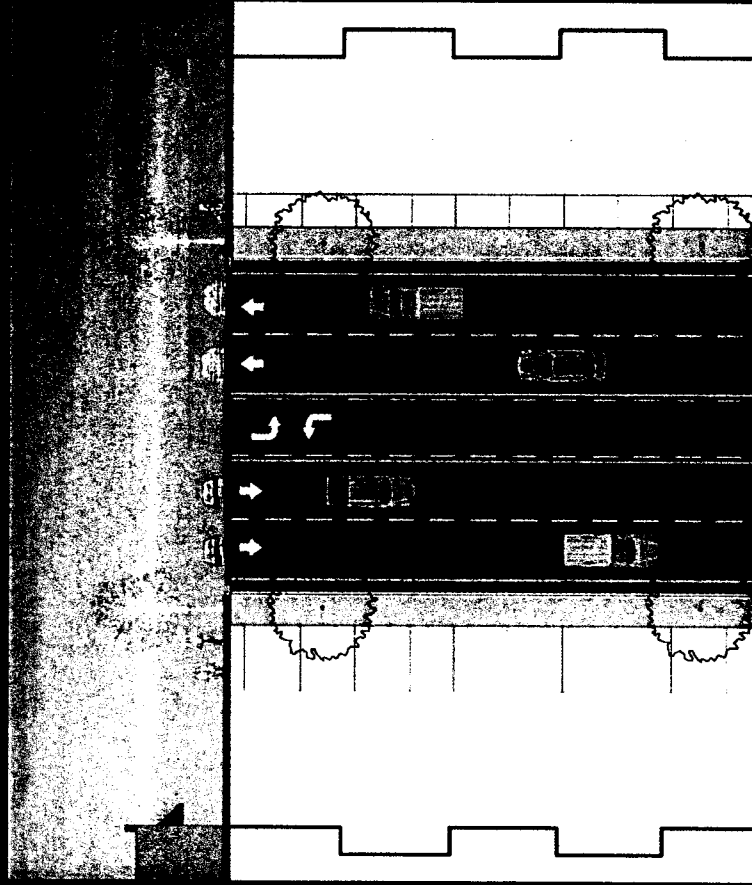
Five-Lane Concept (Traditional)

Five-Lane Concept (Access Management)

Roundabout Concept

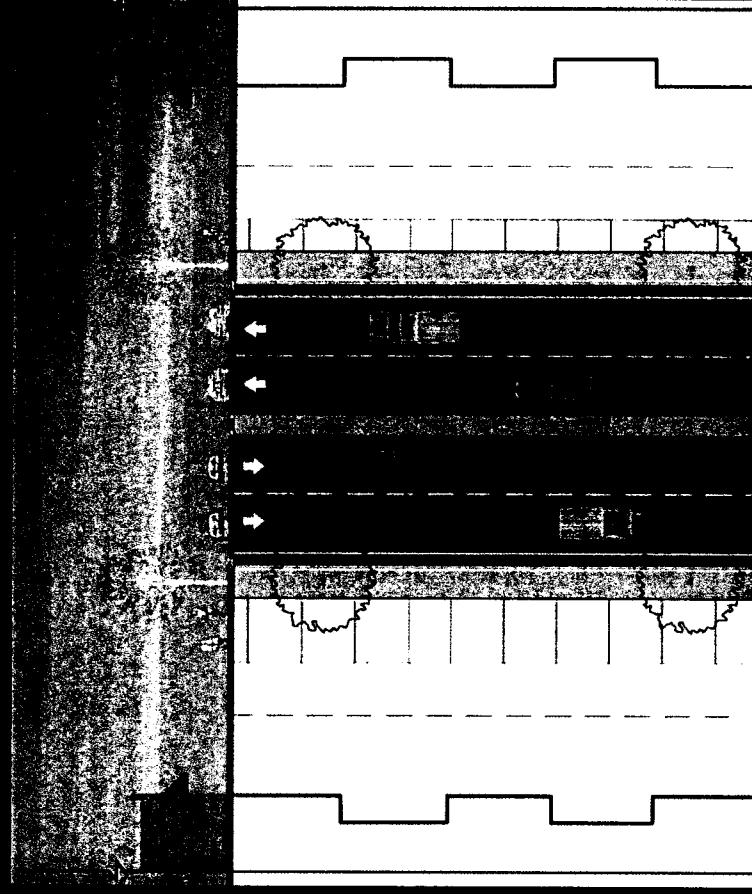
Physical Impact

Typical Sections



Five-Lane Concepts

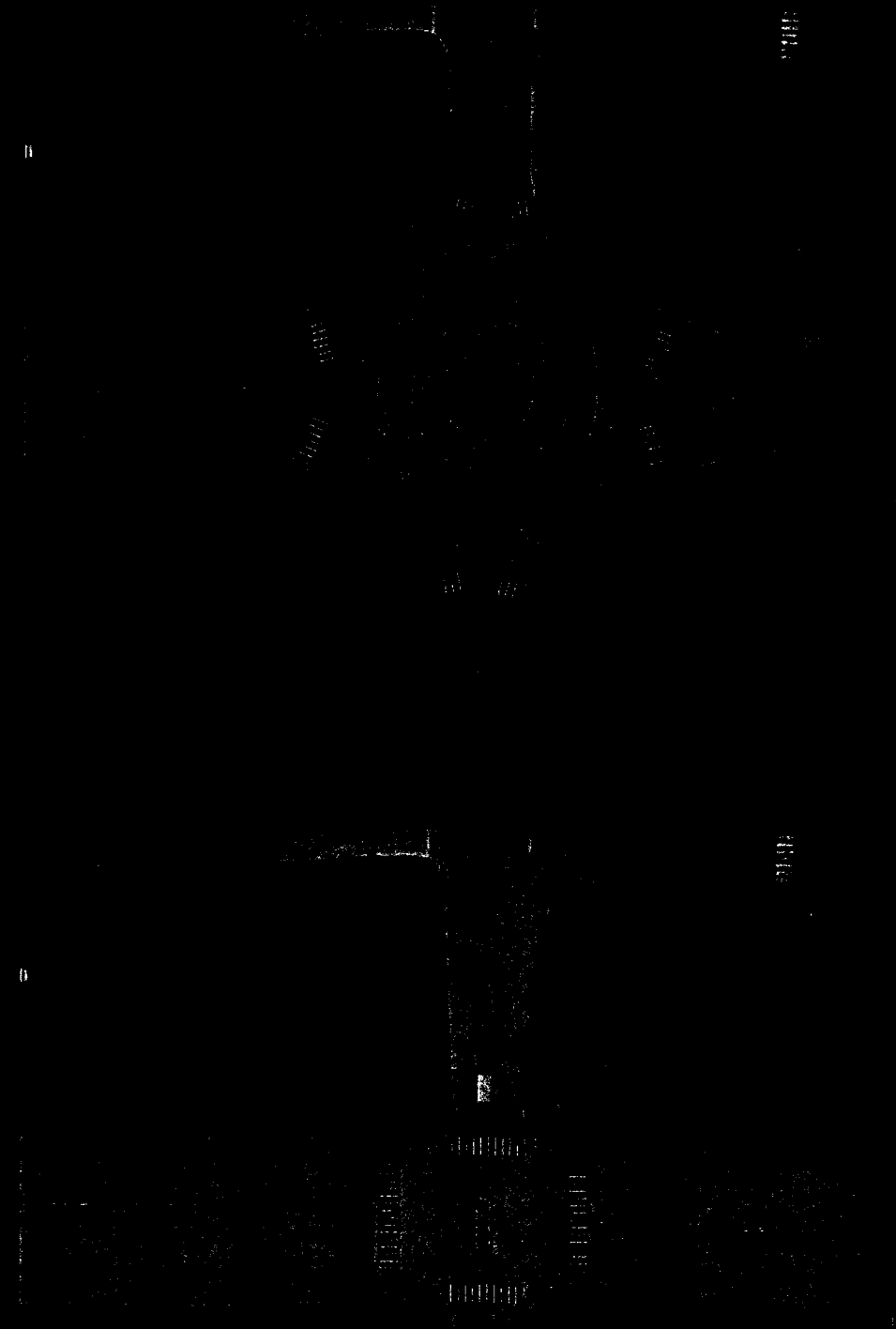
91' wide (back of walk to back of walk)



Roundabout Concept

83' wide (back of walk to back of walk)

Physical Impact



Five-Lane Concepts

Roundabout Concept

Data Summary

		No-Build Conditions (2041 volumes)	5-Lane Concept (Traditional)	5-Lane Concept (Access Mgmt.)	Roundabout Concept
Operational Performance	Through Traffic Delay			145 (sec/veh)	
	Side Street Delay		230 (sec/veh)	230 (sec/veh)	
	Average Travel Time				
Safety Performance	Between Intersections	BASELINE (+49% from 2016)			
	At Intersections	BASELINE (+43% from 2016)			
Physical Impact	Between Intersections				83' (total width)
	At Intersections		AVERAGE footprint	AVERAGE footprint	

next step

BOMA selects
preferred concept
to bring forward to
detailed design.

Level of Service (LOS) for No-Build Condition

Cross-Street	Traffic Control Device	Geometry	[AM] Peak Hour						[PM] Peak Hour						[PM] Peak Hour						[SAT] Peak Hour					
			2016 Existing			2021 Future			2016 Existing			2021 Future			2016 Existing			2021 Future			2016 Existing			2021 Future		
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 Mack Hatcher Parkway / Hillview Lane	Signal	OVERALL	27.8	C	29.3	C	40.9	D	88.6	C	84.3	C	86.5	D	49.3	D	27.8	C	30.5	C	38.0	D	38.0	D	46.2	D
		EASTBOUND (EB)	55.5	E	56.0	E	56.7	E	50.9	D	53.0	D	65.1	E	54.0	D	55.9	E	69.0	E	39.0	D	40.1	D	46.2	D
		EB Left	51.7	D	52.0	D	52.1	D	38.7	D	89.8	D	41.9	D	42.9	D	25.9	C	25.9	C	40.2	D	41.2	D	47.9	D
		EB Thru/Right	55.9	E	56.4	E	57.1	E	54.3	D	56.5	F	71.1	E	54.9	D	57.8	E	71.2	E	39.9	D	40.7	D	47.9	D
		WESTBOUND (WB)	36.7	D	37.2	D	40.1	D	34.4	C	34.8	C	31.9	C	28.0	C	29.5	C	43.8	D	43.8	D	51.2	D	21.5	C
		WB Left	42.5	D	43.0	D	44.5	D	34.4	C	34.8	C	31.9	C	28.0	C	29.5	C	43.8	D	43.8	D	51.2	D	21.5	C
		WB Thru	45.9	D	46.7	D	48.7	D	34.4	C	34.8	C	31.9	C	28.0	C	29.5	C	43.8	D	43.8	D	51.2	D	21.5	C
		WB Right	32.8	C	33.5	C	37.5	D	34.4	C	34.8	C	31.9	C	28.0	C	29.5	C	43.8	D	43.8	D	51.2	D	21.5	C
		NORTHBOUND (NB)	24.4	C	29.1	C	49.6	D	26.1	C	30.1	C	31.5	C	35.8	D	38.6	D	44.6	D	30.9	C	37.9	D	64.5	E
		NB Left	15.4	B	16.3	B	16.8	B	24.1	C	26.8	C	27.5	C	35.8	D	38.6	D	44.6	D	30.9	C	37.9	D	64.5	E
		NB Thru	29.7	C	35.6	D	63.6	E	29.5	C	34.1	C	36.5	D	40.1	D	43.3	D	51.8	D	35.9	D	44.7	D	82.9	F
		NB Right	9.3	A	10.2	A	10.7	A	16.0	B	18.5	B	19.2	B	24.1	C	26.8	C	27.5	C	35.9	D	44.7	D	82.9	F
		SOUTHBOUND (SB)	32.8	C	33.5	C	37.5	D	34.4	C	34.8	C	31.9	C	28.0	C	29.5	C	43.8	D	43.8	D	51.2	D	21.5	C
		SB Left	32.8	C	33.5	C	37.5	D	34.4	C	34.8	C	31.9	C	28.0	C	29.5	C	43.8	D	43.8	D	51.2	D	21.5	C
		SB Thru	32.8	C	33.5	C	37.5	D	34.4	C	34.8	C	31.9	C	28.0	C	29.5	C	43.8	D	43.8	D	51.2	D	21.5	C
		SB Right	32.8	C	33.5	C	37.5	D	34.4	C	34.8	C	31.9	C	28.0	C	29.5	C	43.8	D	43.8	D	51.2	D	21.5	C
2 Parkway Commons / Cemetery	Signal	OVERALL	15.3	B	17.9	B	36.6	C	14.3	B	14.3	B	14.3	B	14.3	B	14.3	B	14.3	B	14.3	B	14.3	B	14.3	B
		EASTBOUND	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E
		EB Left/Thru	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E
		EB Right	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E	58.1	E
		WESTBOUND	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E
		WB Left/Thru/Right	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E	61.7	E
		NORTHBOUND	13.3	B	15.2	B	48.9	D	13.3	B	14.6	B	22.8	C	12.7	B	14.0	B	17.3	B	9.4	A	11.4	A	17.3	B
		NB Left	12.2	B	14.3	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
		NB Thru/Right	11.9	B	13.8	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
		SOUTHBOUND	11.9	B	13.8	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
		SB Left	11.9	B	13.8	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
		SB Thru	11.9	B	13.8	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
		SB Right	11.9	B	13.8	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
		SB Thru/Right	11.9	B	13.8	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
		SB Right	11.9	B	13.8	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
		SB Thru/Right	11.9	B	13.8	B	48.8	D	11.2	B	12.5	B	20.6	C	10.4	B	12.6	B	15.2	B	8.4	A	10.6	B	16.9	B
3 Southeast Parkway / Shadow Green Drive	Signal	OVERALL	20.0	C	27.8	C	34.2	D	22.9	C	34.1	C	44.8	D	20.3	C	24.5	C	29.9	C	25.0	C	25.7	C	33.0	C
		EASTBOUND	50.1	D	59.9	E	89.6	E	54.2	E	103.1	F	130.7	F	53.0	D	55.0	D	88.0	E	35.0	D	38.4	D	45.3	D
		EB Left	52.9	D	64.6	F	109.5	F	56.4	E	107.9	F	149.6	F	56.4	E	60.2	E	95.1	F	35.0	D	38.4	D	45.3	D
		EB Thru	52.9	D	64.6	F	109.5	F	56.4	E	107.9	F	149.6	F	56.4	E	60.2	E	95.1	F	35.0	D	38.4	D	45.3	D
		EB Right	52.9	D	64.6	F	109.5	F	56.4	E	107.9	F	149.6	F	56.4	E	60.2	E	95.1	F	35.0	D	38.4	D	45.3	D
		WESTBOUND	57.2	E	55.7	E	60.5	E	72.3	E	54.7	D	57.4	E	62.2	E	43.3	D	44.1	E	44.2	D	44.1	E	44.2	D
		WB Left	57.2	E	55.7	E	60.5	E	72.3	E	54.7	D	57.4	E	62.2	E	43.3	D	44.1	E	44.2	D	44.1	E	44.2	D
		WB Thru/Right	57.2	E	55.7	E	60.5	E	72.3	E	54.7	D	57.4	E	62.2	E	43.3	D	44.1	E	44.2	D	44.1	E	44.2	D
		NORTHBOUND	16.5	B	23.0	C	27.2	C	11.9	B	14.6	B	28.6	C	11.9	B	16.2	B	25.6	C	26.2	C	27.9	C	40.9	D
		NB Left	16.5	B	23.0	C	27.2	C	11.9	B	14.6	B	28.6	C	11.9	B	16.2	B	25.6	C	26.2	C	27.9	C	40.9	D
		NB Thru/Right	16.5	B	23.0	C	27.2	C	11.9	B	14.6	B	28.6	C	11.9	B	16.2	B	25.6	C	26.2	C	27.9	C	40.9	D
		SOUTHBOUND	9.9	A	14.5	B	14.7	B	14.8	B	17.0	B	19.7	B	15.2	B	19.7	B	22.7	C	14.3	B	16.9	B	20.4	C
		SB Left	9.9	A	14.5	B	14.7	B	14.8	B	17.0	B	19.7	B	15.2	B	19.7	B	22.7	C	14.3	B	16.9	B	20.4	C
		SB Thru	9.9	A	14.5	B	14.7	B	14.8	B	17.0	B	19.7	B	15.2	B	19.7	B	22.7	C	14.3	B	16.9	B	20.4	C
		SB Right	9.9	A	14.5	B	14.7	B	14.8	B	17.0	B	19.7	B	15.2	B	19.7	B	22.7	C	14.3	B	16.9	B	20.4	C
		SB Thru/Right	9.9	A	14.5	B	14.7	B	14.8	B	17.0	B	19.7	B	15.2	B	19.7	B	22.7	C	14.3	B	16.9	B	20.4	C
SB Right	9.9	A	14.5	B	14.7	B	14.8	B	17.0	B	19.7	B	15.2	B	19.7	B	22.7	C	14.3	B	16.9	B	20.4	C		
4 Alpha Drive	Stop	OVERALL	23.2	C	36.2	E	180.3	F	47.3	E	102.3	F	534.8	F	43.8	E	109.9	F	999.9	F	24.9	C	35.4	E	166.3	F
		EB Left/Thru/Right	23.2	C	36.2	E	180.3	F	47.3	E	102.3	F	534.8	F	43.8	E	109.9	F	999.9	F	24.9	C	35.4	E	166.3	F
		SOUTHBOUND	13.2	B	17.5	C	37.7	E	11.8	B	18.9	B	25.9	D	10.6	B	11.5	B	15.6	C	11.0	B	12.4	B	18.3	C
		SB Left	13.2	B	17.5	C	37.7	E	11.8	B	18.9	B	25.9	D	10.6	B	11.5	B	15.6	C	11.0	B	12.4	B	18.3	C
		NORTHBOUND	13.2	B	17.5	C	37.7	E	11.8	B	18.9	B	25.9	D	10.6	B	11.5	B	15.6	C	11.0	B	12.4	B	18.3	C
		NB Left	13.2	B	17.5	C	37.7	E	11.8	B	18.9	B	25.9	D	10.6	B	11.5	B	15.6	C	11.0	B	12.4	B	18.3	C
		NB Thru/Right	13.2	B	17.5	C	37.7	E	11.8	B	18.9	B	25.9	D	10.6	B	11.5	B	15.6	C	11.0	B	12.4	B	18.3	C
		SOUTHBOUND	9.4	A	11.7	B	24.4	C	18.3	B	25.1	C	62.3	E	15.7	B	22.5	C	51.7	D	8.3	A	9.9	A	36.3	D
		SB Left	9.4	A	11.7	B	24.4	C	18.3	B	25.1	C	62.3	E	15.7	B	22.5	C	51.7	D	8.3	A	9.9	A	36.3	D
		SB Thru/Right	9.4	A	11.7	B	24.4	C	18.3	B	25.1	C	62.3	E	15.7	B	22.5	C	51.7	D	8.3	A	9.9	A	36.3	D
		EASTBOUND	17.7	C	21.8	C	999.9	F	28.1	C	36.8	E	45.0	E	22.2	C	30.6	D	57.5	F	24.7	C	39.3	E	141.7	F
		EB Left/Thru/Right	17.7	C	21.8	C	999.9	F	28.1	C	36.8	E	45.0	E	22.2	C	30.6	D	57.5	F	24.7	C	39.3	E	141.7	F
		WESTBOUND	19.2	C	24.7	C	64.7	F	29.1	D	55.5	F	83.8	F	30.6	D	61.8	F	92.1							

Level of Service (LOS) for Five-Lane (Traditional) Concept

Cross-Street	Traffic Control Device	Geometry	[AM] Peak Hour				[MD] Peak Hour				[PM] Peak Hour				[SAT] Peak Hour			
			2021 Future		2041 Design		2021 Future		2041 Design		2021 Future		2041 Design		2021 Future		2041 Design	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 Mack Hatcher Parkway / Hillview Lane	Signal	OVERALL	20.5	C	23.2	C	21.8	C	22.7	C	23.1	C	23.1	C	23.1	C	23.1	C
		EASTBOUND (EB)																
		EB Left																
		EB Thru																
		EB Right																
		WESTBOUND (WB)					21.5	C	21.7	C	24.0	C	29.6	C	18.8	B	19.0	B
		WB Left					25.1	C	25.2	C	31.8	C	41.3	D	21.2	C	21.2	C
		WB Thru									32.2	C	32.7	C	26.9	C	26.9	C
		WB Right					18.2	B	18.4	B	21.0	C	21.4	C	15.8	B	15.9	B
		NORTHBOUND (NB)	16.6	B	21.0	C	20.5	C	24.1	C	17.5	B	19.7	B	22.9	C	25.5	C
		NB Left	13.8	B	13.2	B	16.1	B	18.5	B	15.2	B	19.6	B	18.7	B	21.6	C
		NB Thru	19.1	B	24.5	C	22.7	C	26.6	C	19.0	B	21.2	C	25.4	C	28.4	C
		NB Right	9.0	A	11.0	B	14.9	B	17.4	B	10.7	B	11.5	B	16.2	B	17.3	B
		SOUTHBOUND (SB)	20.5	C	24.0	C	19.8	B	20.4	C	22.5	C	26.0	D	20.5	C	23.3	C
		SB Left	25.1	C	27.2	C	31.9	C	32.5	C	48.8	D	49.8	D	25.2	C	28.8	C
		SB Thru	16.9	B	21.7	C	8.5	A	8.3	A	12.7	B	31.6	C	17.2	B	19.6	B
		SB Right	8.1	A	9.6	A	11.8	B	19.0	B	10.7	B	10.8	B	13.9	B	14.3	B
2 Parkway Commons / Cemetery	Signal	OVERALL	7.8	A	8.4	A	19.8	B	23.9	C	14.4	B	17.9	B	16.2	B	16.9	B
		EASTBOUND					94.9	D	42.6	D								
		EB Left					40.5	D	48.5	D	32.9	D	38.0	D	17.2	D	17.9	D
		EB Thru/Right																
		WESTBOUND	41.9	D	41.9	D					41.9	D	41.9	D	41.7	D	41.8	D
		WB Left/Thru/Right	41.9	D	41.9	D					41.9	D	41.9	D	41.7	D	41.8	D
		NORTHBOUND	6.4	A	7.6	A	22.1	C	24.6	C	18.2	B	21.4	C	20.8	C	25.9	C
		NB Left	54.1	D	54.7	D	36.7	D	39.4	D	36.5	D	37.2	D	32.1	C	32.6	C
		NB Thru/Right	8.6	A	4.9	A	20.5	C	23.0	C	16.2	B	19.5	B	18.9	B	22.6	C
		SOUTHBOUND	4.1	A	4.6	A	10.6	B	16.7	B	6.2	A	11.1	B	6.8	A	10.5	B
		SB Left	29.3	C	29.8	C												
		SB Thru/Right	4.0	A	4.6	A	10.5	B	16.6	B	6.1	A	11.1	B	6.8	A	10.5	B
		OVERALL	14.5	B	17.6	B	16.4	B	19.2	B	14.8	B	19.2	B	14.8	B	14.8	B
		EASTBOUND	27.7	C	28.7	C	30.6	C	32.9	C	29.9	C	30.1	C	26.0	C	28.5	C
		EB Left	29.3	C	32.6	C	31.7	C	36.0	D	32.4	C	35.5	C	27.4	C	31.2	C
		EB Thru									35.3	D	35.4	D	30.2	C	32.2	C
		EB Right					29.1	C	29.4	C					24.7	C	26.3	C
WESTBOUND	85.9	D	86.0	D	84.7	C	85.1	D	85.3	D	85.8	D	85.8	D	86.2	D		
WB Left	33.3	C	33.3	C	29.4	C	29.6	C	30.1	C	30.2	C						
WB Thru/Right	86.2	D	86.3	D	87.0	D	87.6	D	86.6	D	87.1	D	85.9	D	86.9	D		
NORTHBOUND	7.9	A	10.8	B	9.7	A	12.4	B	17.2	B	19.0	B	9.5	A	12.4	B		
NB Left	3.8	A	4.5	A	8.2	A	22.0	C	27.8	C	45.1	D	15.8	B	29.4	C		
NB Thru/Right	8.3	A	11.5	B	9.9	A	10.9	B					8.0	A	8.6	A		
SOUTHBOUND	13.4	B	18.7	B	12.1	B	16.2	B	10.9	B	14.1	B	12.6	B	12.7	B		
SB Left	16.3	B	27.2	C	11.4	B	20.0	C	7.5	A	8.5	A	8.4	A	10.5	B		
SB Thru	13.2	B	17.8	B	14.3	B	18.4	B	11.7	B	16.0	B	13.4	B	14.3	B		
SB Right	10.1	A	11.4	B	0.9	A	0.4	A	0.1	A	0.1	A						
4 Alpha Drive	Two-Way Stop Control (TWSC)	EASTBOUND	14.6	B	16.4	C	12.6	B	13.9	B	14.9	B	17.1	C	15.2	C	18.0	C
		EB Left/Thru/Right	14.6	B	16.4	C	12.6	B	13.9	B	14.9	B	17.1	C	15.2	C	18.0	C
		WESTBOUND	12.8	B	14.7	B	16.8	C	22.4	C	17.7	C	24.1	C	12.8	B	14.4	B
		WB Left/Thru/Right	12.8	B	14.7	B	16.8	C	22.4	C	17.7	C	24.1	C	12.8	B	14.4	B
		NORTHBOUND	9.0	A	9.4	A	10.0	B	10.8	B	10.6	B	11.9	B	10.4	B	11.6	B
		NB Left	9.0	A	9.4	A	10.0	B	10.8	B	10.6	B	11.9	B	10.4	B	11.6	B
		SOUTHBOUND	10.9	B	12.2	B	10.6	B	11.7	B	9.8	A	10.7	B	9.9	A	10.8	B
		SB Left	10.9	B	12.2	B	10.6	B	11.7	B	9.8	A	10.7	B	9.9	A	10.8	B
5 Century Court	Signal	OVERALL	7.7	A	9.6	A	7.8	A	9.8	A	6.1	A	7.1	A	6.1	A	6.1	A
		EASTBOUND	85.8	D	86.3	D	86.1	D	86.8	D								
		EB Left	28.3	D	29.9	D	39.8	D	42.0	D	38.5	D	39.0	D				
		EB Thru/Right																
		WESTBOUND																
		WB Left/Thru/Right																
		NORTHBOUND	2.3	A	3.5	A	2.6	A	5.2	A	1.7	A	2.4	A	1.2	A	1.9	A
		NB Left	2.8	A	11.1	B	5.1	A	18.5	B	2.1	A	4.4	A	1.5	A	3.3	A
		NB Thru/Right	2.2	A	2.4	A	2.3	A	3.5	A	1.7	A	2.3	A	1.2	A	1.9	A
		SOUTHBOUND	8.5	A	11.8	B	6.1	A	7.7	A	4.6	A	6.0	A	3.8	A	5.6	A
		SB Left	6.3	A	7.8	A	4.5	A	4.7	A	3.0	A	3.3	A	2.0	A	2.6	A
		SB Thru/Right	8.5	A	11.8	B	6.1	A	7.7	A	4.6	A	6.0	A	3.8	A	5.6	A
6 Beasley Drive / Lumber Drive	TWSC	EASTBOUND	13.5	B	14.5	B	15.3	C	17.8	C	15.0	C	17.3	C	15.5	C	18.1	C
		EB Left/Thru/Right	13.5	B	14.5	B	15.3	C	17.8	C	15.0	C	17.3	C	15.5	C	18.1	C
		WESTBOUND	13.9	B	14.7	B	17.1	C	22.0	C	18.0	C	23.0	C	15.6	C	19.0	C
		WB Left/Thru/Right	13.9	B	14.7	B	17.1	C	22.0	C	18.0	C	23.0	C	15.6	C	19.0	C
		NORTHBOUND	10.3	B	11.4	B	10.8	B	11.8	B	10.4	B	11.5	B	10.5	B	11.6	B
		NB Left	10.3	B	11.4	B	10.8	B	11.8	B	10.4	B	11.5	B	10.5	B	11.6	B
		SOUTHBOUND	10.6	B	11.7	B	10.8	B	12.0	B	10.1	B	11.2	B	10.6	B	11.9	B
		SB Left	10.6	B	11.7	B	10.8	B	12.0	B	10.1	B	11.2	B	10.6	B	11.9	B
7 Franklin Business Park (North) / Future Werthan Circle	Signal	OVERALL	4.1	A	4.6	A	5.0	A	6.8	A	4.1	A	5.1	A	7.5	A	8.0	A
		WESTBOUND	41.0	D	41.0	D					41.2	D	41.4	D				
		WB Left	42.0	D	42.2	D	40.4	D	40.6	D	42.6	D	43.0	D				
		WB Right	40.4	D	40.4	D												
		NORTHBOUND	3.4	A	4.4	A	5.0	A	6.8	A	4.5	A	6.3	A	6.1	A	7.8	A
		NB Left	3.4	A	4.4	A	5.0	A	6.8	A	4.5	A	6.3	A	6.1	A	7.8	A
		SOUTHBOUND	3.2	A	3.1	A	2.2	A	2.5	A	1.7	A	2.1	A	3.4	A	5.2	A
		SB Left	3.5	A	4.9	A	2.2	A	2.7	A	2.9	A	2.8	A	3.9	A	13.4	B
		SB Thru					2.2	A	2.5	A	2.7	A	2.0	A	3.9	A	4.5	A
		SB Right					6.6	A	7.0	A	6.8	A	5.0	A	5.6	A	6.5	A
		OVERALL	40.1	D	40.1	D					41.7	D	41.7	D				
		EB Left	42.3	D	43.1	D					47.7	D	42.0	D				
EB Thru/Right																		
WESTBOUND	39.4	D	39.4	D					41.3	D	41.4	D						
WB Left	40.6	D	40.9	D	41.8	D	42.0	D	42.0	D	42.2	D						
WB Thru/Right																		
NORTHBOUND	1.8	A	1.8	A	4.2	A	4.4	A	2.5	A	2.5	A	3.0	A	4.0	A		
NB Left	2.3	A	2.4	A	2.3	A	2.4	A	1.4	A	1.5	A	2.5	A	3.6	A		
NB Thru/Right	1.9	A	1.9	A	4.2	A	4.5	A	2.5	A	2.5	A	3.0	A	4.0	A		
SOUTHBOUND					3.6	A	4.5	A	3.9	A	4.5	A	4.5	A	5.9	A		
SB Left	3.0	A	3.4	A	1.7	A	2.8	A					2.8	A	3.5	A		
SB Thru/Right					3.7	A	4.6	A	3.9	A	4.5	A	4.6	A	6.0	A		
OVERALL	14.1	B	15.7	C	15.8	B	15.6	C	14.6	B	17.4	C	13.4	B	14.8	B		
WB Left/Thru/Right	14.1	B	15.7	C	15.8	B	15.6	C	14.6	B	17.4	C	13.4	B	14.8	B		
SOUTHBOUND	10.1	B	11.1	B	10.1	B	11.0	B	10.0	B	11.0	B	10.2	B	11.3	B		
SB Left	10.1	B	11.1	B	10.1	B	11.0	B	10.0	B	11.0	B	10.2	B	11.3	B		
10 Downs Boulevard	Signal	OVERALL	19.7	B	21.0	C	18.9	B	22.8	C	18.6	B	22.2	C	22.3	C	25.2	C
		EASTBOUND	32.9	C	34.1	C	30.0	C	32.5	C	30.1	C	33					

Level of Service (LOS) for Five-Lane (Access Management) Concept

Cross-Street	Traffic Control Device	Geometry	[AM] Peak Hour				[MD] Peak Hour				[PM] Peak Hour				[SAT] Peak Hour												
			2021 Future		2041 Design		2021 Future		2041 Design		2021 Future		2041 Design		2021 Future		2041 Design										
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS									
1 Mack Hatcher Parkway / Hillview Lane	Signal	OVERALL	20.9	C	32.2	C	21.8	C	22.7	C	23.1	C	30.2	C	35.1	D	35.7	D	30.8	C	21.7	C	30.6	C	21.8	C	
		EASTBOUND (EB)																									
		EB Left																									
		EB Thru																									
		EB Right																									
		WESTBOUND (WB)					21.5	C	21.7	C	26.0	C	29.6	C	31.8	C	41.3	D	18.8	B	19.0	B					
		WB Left					25.1	C	25.2	C	31.8	C	32.7	C	31.8	C	41.3	D	21.2	C	21.2	C					
		WB Thru																									
		WB Right					18.2	B	18.4	B	22.0	C	21.4	C	32.7	C	26.9	C	15.8	B	15.9	B					
		NORTHBOUND (NB)	16.6	B	21.0	C	20.5	C	24.1	C	17.5	B	19.7	B	22.9	C	25.5	C	25.5	C	25.5	C					
		NB Left	21.8	B	13.2	B	16.1	B	18.5	B	15.2	B	18.6	B	18.7	B	21.6	C	18.7	B	21.6	C					
		NB Thru	19.1	B	24.5	C	22.7	C	26.8	C	18.0	B	21.2	C	25.4	C	28.4	C	25.4	C	28.4	C					
		NB Right	9.0	A	11.0	B	14.9	B	17.4	B	10.7	B	11.5	B	16.2	B	17.3	B	16.2	B	17.3	B					
		SOUTHBOUND (SB)	20.5	C	24.0	C	19.8	B	20.4	C	22.4	C	22.4	C	20.5	C	23.3	C	20.5	C	23.3	C					
		SB Left	25.1	C	27.2	C	32.0	C	32.5	C	48.7	D	48.8	D	24.8	C	24.8	C	24.8	C	24.8	C					
		SB Thru	16.9	B	21.6	C	6.5	A	9.3	A	12.7	B	31.6	C	17.2	B	19.6	B	17.2	B	19.6	B					
		SB Right	8.1	A	9.6	A	11.8	B	13.0	B	10.7	B	10.8	B	13.9	B	14.3	B	13.9	B	14.3	B					
2 Parkway Commons / Cemetery	Signal	OVERALL	7.8	A	8.4	A	19.3	B	23.0	C	14.4	B	17.3	B	16.2	B	16.2	B	16.2	B	16.2	B	16.2	B	16.2	B	
		EASTBOUND																									
		EB Left																									
		EB Thru/Right																									
		WESTBOUND	41.9	D	41.9	D									41.9	D	41.9	D	41.7	D	41.7	D	41.7	D	41.7	D	
		WB Left/Thru/Right	41.9	D	41.9	D									41.9	D	41.9	D	41.7	D	41.7	D	41.7	D	41.7	D	
		NORTHBOUND	6.4	A	7.6	A	22.1	C	24.6	C	18.2	B	24.1	C	20.8	C	23.3	C	20.8	C	23.3	C					
		NB Left	54.1	D	54.7	D	36.7	D	38.4	D	36.5	D	37.2	D	32.1	C	32.6	C	32.1	C	32.6	C					
		NB Thru/Right	3.6	A	4.9	A	20.5	C	23.0	C	16.2	B	19.5	B	19.9	B	22.6	C	19.9	B	22.6	C					
		SOUTHBOUND	4.1	A	4.6	A	10.6	B	16.7	B	6.1	A	11.1	B	6.8	A	10.5	B	6.8	A	10.5	B					
		SB Left	29.3	C	29.7	C																					
		SB Thru/Right	4.0	A	4.6	A	10.5	B	16.6	B	6.1	A	11.0	B	6.8	A	10.5	B	6.8	A	10.5	B					
		EASTBOUND	14.3	B	17.8	B	18.4	B	19.2	B	18.8	B	19.0	B	18.1	B	18.1	B	18.1	B	18.1	B					
		WESTBOUND	21.7	C	28.7	C	30.8	C	32.3	C	29.9	C	30.1	C	26.0	C	28.3	C	26.0	C	28.3	C					
		EB Left	29.3	C	32.6	C	37.7	C	36.0	D	32.4	C	33.5	C	27.4	C	31.2	C	27.4	C	31.2	C					
		EB Thru																									
		EB Right																									
3 Southeast Parkway / Shadow Green Drive	Signal	OVERALL	14.3	B	17.8	B	18.4	B	19.2	B	18.8	B	19.0	B	18.1	B	18.1	B	18.1	B	18.1	B	18.1	B	18.1	B	
		EASTBOUND	21.7	C	28.7	C	30.8	C	32.3	C	29.9	C	30.1	C	26.0	C	28.3	C	26.0	C	28.3	C					
		EB Left	29.3	C	32.6	C	37.7	C	36.0	D	32.4	C	33.5	C	27.4	C	31.2	C	27.4	C	31.2	C					
		EB Thru																									
		EB Right																									
		WESTBOUND	35.9	D	36.0	D	34.7	C	35.1	D	35.9	D	35.8	D	35.4	D	36.2	D	35.4	D	36.2	D					
		WB Left	39.3	C	39.3	C	29.4	C	29.6	C	30.1	C	30.2	C													
		WB Thru/Right	36.2	D	36.3	D	37.0	D	37.6	D	36.6	D	37.1	D	35.9	D	36.9	D	35.9	D	36.9	D					
		NORTHBOUND	7.9	A	10.8	B	9.7	A	12.4	B	17.3	B	19.0	B	9.5	A	12.4	B	9.5	A	12.4	B					
		NB Left	3.8	A	4.5	A	8.2	A	22.0	C	27.8	C	45.1	D	35.8	B	29.4	C	35.8	B	29.4	C					
		NB Thru/Right	8.3	A	11.5	B	9.9	A	10.9	B					8.0	A	8.6	A			8.0	A	8.6	A			
		SOUTHBOUND	13.4	B	18.7	B	12.0	B	16.1	B	10.2	B	13.7	B													
		SB Left	16.3	B	27.3	C	11.3	B	20.0	C	7.5	A	8.3	A	8.8	A	10.6	B	8.8	A	10.6	B					
		SB Thru	13.2	B	12.9	B	14.2	B	18.4	B	11.6	B	15.7	B	14.1	B	14.6	B	14.1	B	14.6	B					
		SB Right	9.9	A	11.3	B	0.3	A	0.4	A	0.1	A	0.1	A													
		4 Alpha Drive	Two-Stop Control (TWSC)	EASTBOUND	14.3	B	18.4	C	13.4	B	13.9	B	14.9	B	17.1	C	15.2	C	18.0	C							
				EB Left/Thru/Right	14.6	B	16.4	C	12.6	B	13.9	B	14.9	B	17.1	C	15.2	C	18.0	C							
WESTBOUND	12.8			B	14.7	B	16.8	C	12.4	C	17.7	C	14.1	C	12.8	B	14.4	B									
WB Left/Thru/Right	12.8			B	14.7	B	16.8	C	12.4	C	17.7	C	14.1	C	12.8	B	14.4	B									
NORTHBOUND	9.0			A	9.4	A	10.0	B	10.8	B	10.6	B	11.9	B	10.4	B	11.6	B									
NB Left	9.0			A	9.4	A	10.0	B	10.8	B	10.6	B	11.9	B	10.4	B	11.6	B									
SOUTHBOUND	10.9			B	12.2	B	10.6	B	11.7	B	9.8	A	10.7	B	9.9	A	10.8	B									
SB Left	10.9			B	12.2	B	10.6	B	11.7	B	9.8	A	10.7	B	9.9	A	10.8	B									
EASTBOUND	7.7			A	9.6	A	7.7	A	9.6	A	6.2	A	7.2	A	4.8	A	5.2	A									
EASTBOUND	85.8			D	96.9	D	96.1	D	96.8	D																	
EB Left	38.9			D	39.9	D	39.8	D	42.0	D	38.5	D	38.0	D													
EB Thru/Right																											
WESTBOUND	7.7			A	9.6	A	7.7	A	9.6	A	6.2	A	7.2	A	4.8	A	5.2	A									
WB Left/Thru/Right																											
NORTHBOUND	2.3			A	3.5	A	2.6	A	5.2	A	1.7	A	2.4	A	1.2	A	1.9	A									
NB Left	2.8			A	11.1	B	5.1	A	18.5	B	2.1	A	4.4	A	1.5	A	3.3	A									
NB Thru/Right	2.2			A	2.4	A	2.3	A	3.5	A	1.7	A	2.3	A	1.2	A	1.9	A									
SOUTHBOUND	8.6	A	11.8	B	6.2	A	7.8	A	4.7	A	6.2	A	3.6	A	5.5	A											
SB Left	8.6	A	11.8	B	6.2	A	7.8	A	4.7	A	6.2	A	3.6	A	5.5	A											
SB Thru/Right	8.6	A	11.8	B	6.2	A	7.8	A	4.7	A	6.2	A	3.6	A	5.5	A											
5 Century Court	Signal	EASTBOUND	13.5	B	14.5	B	15.2	C	17.6	C	15.0	C	16.7	C	15.1	C	18.0	C									
		EB Left/Thru/Right	13.5	B	14.5	B	15.2	C	17.6	C	15.0	C	16.7	C	15.1	C	18.0	C									
		WESTBOUND	13.9	B	14.7	B	17.0	C	21.9	C	18.0	C	22.6	C	15.6	C	18.9	C									
		WB Left/Thru/Right	13.9	B	14.7	B	17.0	C	21.9	C	18.0	C	22.6	C	15.6	C	18.9	C									
		NORTHBOUND	10.3	B	11.4	B	10.8	B	11.7	B	10.4	B	11.4	B	10.4	B	11.5	B									
		NB Left	10.3	B	11.4	B	10.8	B	11.7	B	10.4	B	11.4	B	10.4	B	11.5	B									
		SOUTHBOUND	10.6	B	11.7	B	10.8	B	12.0	B	10.1	B	11.2	B	10.6	B	11.9	B									
		SB Left	10.6	B	11.7	B	10.8	B	12.0	B	10.1	B	11.2	B	10.6	B	11.9	B									

Level of Service (LOS) for Roundabout Concept

Cross-Street	Traffic Control Device	Geometry	[AM] Peak Hour				[MD] Peak Hour				[PM] Peak Hour				[SAT] Peak Hour			
			2021 Future		2041 Design		2021 Future		2041 Design		2021 Future		2041 Design		2021 Future		2041 Design	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 Mack Hatcher Parkway / Hillview Lane	Signal	OVERALL	20.7	C	22.6	C	23.6	C	25.0	C	25.7	C	33.9	C	25.3	C	28.4	C
		EASTBOUND (EB)																
		EB Left																
		EB Thru																
		EB Right																
		WESTBOUND (WB)					21.7	C	21.7	C	26.0	C	31.3	C	18.9	B	19.1	B
		WB Left					25.1	C	25.1	C	31.8	C	45.3	D	21.2	C	21.3	C
		WB Thru									32.2	C	33.6	C	27.0	C	27.0	C
		WB Right					18.5	B	18.5	B	21.0	C	22.0	C	15.8	B	16.0	B
		NORTHBOUND (NB)	15.9	B	19.9	B	19.6	B	23.1	C	17.5	B	19.1	B	23.2	C	25.9	C
		NB Left	11.6	B	13.0	B	15.5	B	18.0	B	15.2	B	19.4	B	18.1	B	21.4	C
		NB Thru	18.2	B	28.1	C	21.7	C	23.6	C	19.0	B	20.6	C	25.9	C	29.1	C
		NB Right	8.8	A	10.8	B	14.4	B	16.9	B	10.7	B	11.1	B	16.4	B	17.4	B
		SOUTHBOUND (SB)	22.2	C	23.9	C	24.8	C	26.8	C	28.7	C	43.7	D	29.7	C	35.8	D
		SB Left	35.3	D	35.6	D	33.8	C	34.1	C					35.3	D	37.1	D
		SB Thru	10.8	B	13.9	B	17.0	B	20.9	C	27.1	C	48.7	D	28.3	C	36.0	D
		SB Right	8.0	A	9.6	B	11.7	B	12.9	B					14.9	B	15.4	B
2 Parkway Commons / Cemetery	Roundabout	OVERALL	7.2	A	8.8	A	8.5	A	11.2	B	7.9	A	10.3	B	7.1	A	6.9	A
		EASTBOUND	7.0	A	8.5	A	11.9	B	18.5	C	11.2	B	17.0	C	9.3	A	13.1	B
		EB Left/Thru/U-Turn	7.1	A	8.7	A	12.9	B	20.7	C	11.7	B	18.2	C	9.8	A	14.1	B
		EB Right	6.6	A	7.7	A	8.9	A	11.4	B	10.4	B	14.7	B	8.4	A	11.1	B
		WESTBOUND	8.6	A	10.9	B	8.4	A	10.7	B	7.0	A	8.5	A	6.8	A	8.4	A
		WB Left/Thru/Right/U-Turn	8.6	A	10.9	B	8.4	A	10.7	B	7.0	A	8.5	A	6.8	A	8.4	A
		NORTHBOUND	8.1	A	10.3	B	8.2	A	10.6	B	7.3	A	9.0	A	7.0	A	8.7	A
		NB Left/Thru/U-Turn	8.1	A	10.3	B	8.2	A	10.6	B	7.3	A	9.0	A	7.0	A	8.7	A
		NB Thru/Right	8.1	A	10.3	B	8.2	A	10.6	B	7.3	A	9.0	A	7.0	A	8.7	A
		SOUTHBOUND	5.9	A	6.8	A	7.7	A	9.3	A	7.6	A	9.5	A	6.6	A	7.8	A
		SB Left/Thru/U-Turn	5.9	A	6.8	A	7.7	A	9.3	A	7.6	A	9.5	A	6.6	A	7.8	A
		SB Thru/Right	5.9	A	6.8	A	7.7	A	9.3	A	7.6	A	9.5	A	6.6	A	7.8	A
		OVERALL	10.3	B	15.0	C	13.0	B	20.9	C	10.7	B	15.8	C	10.0	B	14.2	B
		EASTBOUND	10.2	B	13.7	B	18.6	C	35.2	E	13.2	B	20.7	C	12.7	B	20.4	C
		EB Left/Thru/U-Turn	10.5	B	14.2	B	18.9	C	38.0	E	13.3	B	20.0	C	12.0	B	18.2	C
		EB Right	10.0	B	13.3	B	17.4	C	31.9	D	13.2	B	21.2	C	13.1	B	21.9	C
		WESTBOUND	14.4	B	23.5	C	15.3	C	25.5	D	10.8	B	15.4	C	10.0	B	13.8	B
WB Left/Thru/U-Turn	12.0	B	16.4	C	16.1	C	26.9	D	10.7	B	14.5	B	10.0	B	13.4	B		
WB Right	15.1	C	25.3	D	14.6	B	24.3	C	11.0	B	15.9	C	10.0	B	14.1	B		
NORTHBOUND	12.1	B	18.8	C	11.7	B	17.7	C	8.2	A	10.4	B	9.0	A	12.1	B		
NB Left/Thru/U-Turn	12.1	B	18.8	C	11.7	B	17.7	C	8.2	A	10.4	B	9.0	A	12.1	B		
NB Thru/Right	12.1	B	18.8	C	11.7	B	17.7	C	8.2	A	10.4	B	9.0	A	12.1	B		
SOUTHBOUND	7.0	A	8.5	A	11.4	B	17.2	C	12.1	B	19.0	C	9.9	A	14.0	B		
SB Left/Thru/U-Turn	7.0	A	8.5	A	11.4	B	17.2	C	12.1	B	19.0	C	9.9	A	14.0	B		
SB Thru/Right	7.0	A	8.5	A	11.4	B	17.2	C	12.1	B	19.0	C	9.9	A	14.0	B		
4 Alpha Drive	Two-Way Stop Control (TWSC)	EASTBOUND	11.2	B	12.1	B	13.0	B	14.7	B	14.1	B	16.3	C	13.6	B	15.5	C
		EB Left/Thru/Right	11.2	B	12.1	B	13.0	B	14.7	B	14.1	B	16.3	C	13.6	B	15.5	C
		WESTBOUND	15.0	C	18.4	C	17.9	C	26.5	D	14.8	B	18.7	C	14.5	B	17.9	C
		WB Left/Thru/Right	15.0	C	18.4	C	17.9	C	26.5	D	14.8	B	18.7	C	14.5	B	17.9	C
		OVERALL	9.0	A	12.0	B	10.9	B	16.0	C	8.7	A	11.6	B	7.7	A	9.8	A
5 Century Court	Roundabout	EASTBOUND	8.3	A	10.8	B	13.3	B	20.8	C	12.2	B	18.6	C	9.6	A	13.0	B
		EB Left/Thru/U-Turn	8.2	A	10.6	B	13.7	B	21.1	C	12.5	B	18.5	C	9.2	A	12.4	B
		EB Right	8.5	A	11.0	B	13.0	B	20.6	C	12.1	B	18.7	C	10.2	B	13.9	B
		WESTBOUND	10.3	B	13.4	B	11.0	B	14.5	B	8.0	A	10.1	B	7.7	A	9.6	A
		WB Left/Thru/Right/U-Turn	10.3	B	13.4	B	11.0	B	14.5	B	8.0	A	10.1	B	7.7	A	9.6	A
		NORTHBOUND	10.0	B	13.8	B	11.2	B	16.7	C	7.9	A	10.1	B	7.6	A	9.5	A
		NB Left/Thru/U-Turn	10.0	B	13.8	B	11.2	B	16.7	C	7.9	A	10.1	B	7.6	A	9.5	A
		NB Thru/Right	10.0	B	13.8	B	11.2	B	16.7	C	7.9	A	10.1	B	7.6	A	9.5	A
		SOUTHBOUND	7.8	A	9.7	A	10.0	B	14.1	B	8.8	A	11.8	B	7.7	A	9.7	A
		SB Left/Thru/U-Turn	7.8	A	9.7	A	10.0	B	14.1	B	8.8	A	11.8	B	7.7	A	9.7	A
		SB Thru/Right	7.8	A	9.7	A	10.0	B	14.1	B	8.8	A	11.8	B	7.7	A	9.7	A
		EASTBOUND	13.0	B	15.1	C	15.2	C	19.8	C	16.7	C	23.0	C	16.3	C	21.5	C
		EB Right	13.0	B	15.1	C	15.2	C	19.8	C	16.7	C	23.0	C	16.3	C	21.5	C
		WESTBOUND	13.3	B	15.1	C	14.9	B	18.2	C	13.5	B	15.7	C	14.6	B	17.5	C
		WB Right	13.3	B	15.1	C	14.9	B	18.2	C	13.5	B	15.7	C	14.6	B	17.5	C
		OVERALL	7.4	A	9.1	A	7.6	A	9.4	A	6.8	A	8.0	A	7.9	A	10.3	B
		EASTBOUND	9.7	A	12.9	B	10.5	B	14.5	B	7.7	A	9.4	A	12.2	B	20.0	C
WB Left/Right/U-Turn	9.7	A	12.9	B	10.5	B	14.5	B	7.7	A	9.4	A	12.2	B	20.0	C		
NORTHBOUND	7.7	A	9.4	A	7.4	A	8.9	A	6.6	A	7.5	A	6.9	A	8.4	A		
NB Thru/U-Turn	7.7	A	9.4	A	7.4	A	8.9	A	6.6	A	7.5	A	6.9	A	8.4	A		
NB Thru/Right	7.7	A	9.4	A	7.4	A	8.9	A	6.6	A	7.5	A	6.9	A	8.4	A		
SOUTHBOUND	6.9	A	8.4	A	7.6	A	9.5	A	7.0	A	8.5	A	8.0	A	10.3	B		
SB Left/Thru/U-Turn	6.9	A	8.4	A	7.6	A	9.5	A	7.0	A	8.5	A	8.0	A	10.3	B		
SB Thru	6.9	A	8.4	A	7.6	A	9.5	A	7.0	A	8.5	A	8.0	A	10.3	B		
8 Confederate Drive / Werthan Circle	Roundabout	OVERALL	8.2	A	10.3	B	7.8	A	9.7	A	6.5	A	7.7	A	7.0	A	7.9	A
		EASTBOUND	9.1	A	12.0	B	8.6	A	10.9	B	7.6	A	9.4	A	8.3	A	8.7	A
		EB Left/Thru/Right/U-Turn	9.1	A	12.0	B	8.6	A	10.9	B	7.6	A	9.4	A	8.3	A	8.7	A
		WESTBOUND	10.3	B	14.0	B	10.6	B	14.8	B	7.7	A	9.8	A	8.1	A	10.4	B
		WB Left/Thru/Right/U-Turn	10.3	B	14.0	B	10.6	B	14.8	B	7.7	A	9.8	A	8.1	A	10.4	B
		NORTHBOUND	8.6	A	11.0	B	8.1	A	10.0	B	6.3	A	7.5	A	6.9	A	8.3	A
		NB Left/Thru/U-Turn	8.6	A	11.0	B	8.1	A	10.0	B	6.3	A	7.5	A	6.9	A	8.3	A
		NB Thru/Right	8.6	A	11.0	B	8.1	A	10.0	B	6.3	A	7.5	A	6.9	A	8.3	A
		SOUTHBOUND	7.4	A	9.0	A	7.2	A	8.6	A	6.6	A	7.8	A	6.9	A	7.2	A
		SB Left/Thru/U-Turn	7.4	A	9.0	A	7.2	A	8.6	A	6.6	A	7.8	A	6.9	A	7.2	A
		SB Thru/Right	7.4	A	9.0	A	7.2	A	8.6	A	6.6	A	7.8	A	6.9	A	7.2	A
		OVERALL	17.7	B	19.2	B	17.6	B	19.4	B	19.8	B	22.2	C	21.6	C	25.6	C
		EASTBOUND	42.7	D	44.6	D	29.6	C	30.7	C	29.1	C	30.4	C	32.2	C	35.4	D
		EB Left					42.4	D	43.6	D	43.0	D	44.8	D				
		EB Thru																
		EB Right					27.1	C	28.1	C	26.4	C	27.5	C	29.9	C	34.4	C
		WESTBOUND																
WB Left	36.4	D	36.6	D														
WB Thru/Right																		
NORTHBOUND					15.6	B	16.3	B	18.5	B	18.7	B	26.9	B	17.3	B		
NB Left					37.1	D	37.3	D										
NB Thru/Right	3.9	A	5.2	A	3.7	A	4.8	A	3.4	A	4.4	A	4.2	A	6.2	A		
SOUTHBOUND	17.4	B	32.6	C	12.3	B	16.3	B	14.9	B	21.3	C	18.2	B	29.8	C		
SB Left	12.5	B	18.7	B	7.8	A	8.9	A	10.7	B	11.6	B	11.6	B	14.8	B		
SB Thru/Right	18.1	B	34.9	C	12.9	B	17.2	B	15.7	B	22.8	C	19.1	B	32.1	C		
SB Right	12.8	B	19.1	B	8.													

Queue Length for No-Build Condition

Cross-Street	Traffic Control Device	Geometry	Storage Length	[AM] Peak Hour			[MD] Peak Hour			[PM] Peak Hour			[SAT] Peak Hour		
				Queue Length (Feet)			Queue Length (Feet)			Queue Length (Feet)			Queue Length (Feet)		
				2016	2021	2041	2016	2021	2041	2016	2021	2041	2016	2021	2041
1 Mack Hatcher Parkway / Hillview Lane	Signal	EASTBOUND (EB)													
		EB Left	150' (6 veh)	13'	13'	15'	56'	62'	73'	28'	29'	32'	28'	29'	33'
		EB Thru/Right	450' (18 veh)	58'	60'	68'	205'	268'	353'	211'	234'	321'	202'	212'	305'
		WESTBOUND (WB)													
		WB Left	640' (25 veh)	147'	155'	185'	96'	107'	127'	214'	224'	349'	86'	89'	106'
		WB Thru	999' (40 veh)	81'	86'	96'	110'	116'	139'	108'	112'	133'	109'	113'	136'
		WB Right	325' (13 veh)	60'	116'	230'	99'	45'	154'	42'	79'	167'	92'	95'	73'
		NORTHBOUND (NB)													
		NB Left	200' (8 veh)	36'	37'	44'	57'	55'	61'	53'	53'	61'	81'	84'	100'
		NB Thru	775' (31 veh)	587'	678'	1012'	325'	362'	419'	416'	493'	643'	355'	468'	613'
		NB Right	200' (8 veh)	15'	18'	27'	15'			14'	14'	19'	15'	15'	21'
		SOUTHBOUND (SB)													
		SB Left	300' (12 veh)	161'	214'	277'	210'	252'	323'	164'	184'	214'	169'	194'	204'
		SB Thru	560' (22 veh)	9'	17'	75'	892'	476'	556'	762'	823'	1117'	420'	474'	607'
		SB Right	400' (16 veh)	0'	0'	0'			1'	0'	0'	0'	0'		
2 Parkway Commons / Cemetery	Signal	EASTBOUND													
		EB Left/Thru	175' (7 veh)	108'	112'	131'	292'	313'	413'	198'	218'	276'	176'	185'	224'
		EB Right	175' (7 veh)	0'	0'	0'	21'	28'	38'	32'	36'	43'	25'	30'	33'
		WESTBOUND													
		WB Left/Thru/Right	250' (10 veh)	12'	12'	12'	45'	47'	52'	12'	12'	12'	18'	18'	20'
		NORTHBOUND													
		NB Left	50' (2 veh)	23'	23'	25'	41'	46'	55'	41'	42'	48'	25'	26'	27'
		NB Thru/Right	150' (6 veh)	1003'	1188'	1530'	286'	306'	955'	245'	282'	1046'	217'	761'	900'
		SOUTHBOUND													
		SB Left	150' (6 veh)	0'					0'			1'			3'
		SB Thru/Right	150' (6 veh)	290'	354'	364'	385'	476'	589'	465'	656'	700'	378'	422'	519'
3 Southeast Parkway / Shadow Green Drive	Signal	EASTBOUND													
		EB Left	100' (4 veh)	83'	100'	208'	146'	227'	286'	77'	111'	128'	97'	132'	155'
		EB Thru	200' (8 veh)	41'	68'	73'	44'	70'	77'	31'	47'	48'	35'	48'	52'
		EB Right	75' (3 veh)	47'	66'	70'	53'	99'	186'	49'	57'	121'	53'	82'	157'
		WESTBOUND													
		WB Left	125' (5 veh)	85'	86'	41'	110'	114'	135'	62'	65'	75'	38'	38'	44'
		WB Thru/Right	800' (12 veh)	79'	86'	98'	112'	176'	262'	87'	164'	225'	66'	78'	87'
		NORTHBOUND													
		NB Left	150' (6 veh)	41'			20'			27'	82'	164'	87'	150'	161'
		NB Thru/Right	150' (6 veh)	612'	1030'	1360'	188'	382'	1131'	292'	349'	434'	602'	666'	956'
		SOUTHBOUND													
		SB Left	120' (4 veh)	9'	20'	101'			39'	22'					61'
		SB Thru	580' (23 veh)				252'	273'	288'	250'	402'	447'	209'	283'	244'
		SB Right	100' (4 veh)							3'	25'	27'	29'		
4 Alpha Drive	Stop	WESTBOUND													
		WB Left/Thru/Right	200' (8 veh)	26'	43'	167'	116'	192'	457'	84'	158'	999'	37'	55'	174'
		SOUTHBOUND													
		SB Left	75' (3 veh)	5'	9'	26'	6'	8'	22'	3'	4'	7'	3'	8'	7'
5 Century Court	Signal	EASTBOUND													
		EB Left	125' (5 veh)	124'	151'	178'	121'	147'	172'	99'	114'	132'	59'	73'	82'
		EB Thru/Right	225' (9 veh)	46'	47'	51'	59'	60'	66'	57'	57'	61'	32'	32'	34'
		WESTBOUND													
		WB Left/Thru/Right	50' (2 veh)	11'	11'	11'	11'	11'	11'	11'	11'	11'	12'	12'	13'
		NORTHBOUND													
		NB Left	75' (3 veh)			55'			93'			22'	6'	6'	6'
		NB Thru/Right	200' (8 veh)	580'	676'	677'	583'	702'	953'	533'	616'	974'	120'	156'	174'
		SOUTHBOUND													
		SB Left	100' (4 veh)	1'	1'	0'			2'	1'	1'	1'			1'
		SB Thru/Right	225' (9 veh)	227'	482'	1111'	821'	1048'	1993'	957'	1204'	1840'	171'	1014'	1990'
6 Beasley Drive / Lumber Drive	Two-Way Stop Control (TWSC)	EASTBOUND													
		EB Left/Thru/Right	325' (13 veh)	16'	19'	9999'	80'	55'	101'	42'	64'	151'	29'	44'	183'
		WESTBOUND													
		WB Left/Thru/Right	200' (8 veh)	5'	4'	15'	35'	68'	104'	26'	52'	82'	23'	49'	9999'
		NORTHBOUND													
		NB Left	75' (3 veh)	9'	10'	18'	9'	11'	32'	4'	5'	13'	3'	4'	10'
		SOUTHBOUND													
		SB Left	25' (1 veh)	1'	2'	5'	5'	7'	19'	3'	3'	11'	4'	9'	17'
7 Franklin Business Park (North) / Future Werthan Circle	Signal	WESTBOUND													
		WB Left	150' (6 veh)	83'	38'	37'	62'	66'	78'	48'	50'	58'	124'	129'	153'
		WB Right	150' (6 veh)	30'	31'	34'	33'	33'	37'	31'	31'	34'	41'	42'	46'
		NORTHBOUND													
		NB Thru/Right	275' (11 veh)	363'	556'	1328'	638'	795'	1325'	696'	817'	1156'	508'	651'	1158'
		SOUTHBOUND													
		SB Left	150' (6 veh)	7'			3'	5'	5'	4'	5'	10'			
		SB Thru	999' (40 veh)	193'	214'	319'	205'	310'	553'	248'	409'	613'	641'	774'	848'
8 Confederate Drive / Werthan Circle	TWSC	EASTBOUND													
		EB Left	100' (4 veh)	16'	61'	9999'	0'	18'	78'	3'	10'	21'	0'	20'	75'
		EB Thru/Right	150' (6 veh)	5'	18'	175'	2'	13'	35'	1'	8'	14'	1'	16'	84'
		WESTBOUND													
		WB Left	100' (4 veh)	17'	32'	117'	15'	26'	81'	5'	7'	17'	5'	10'	37'
		WB Thru/Right	200' (8 veh)	6'	11'	24'	9'	16'	34'	4'	6'	13'	7'	12'	31'
		NORTHBOUND													
		NB Left	100' (4 veh)	5'	8'	13'	0'	4'	5'	0'	3'	4'	0'	5'	7'
		SOUTHBOUND													
		SB Left	100' (4 veh)	7'	9'	22'	7'	9'	21'	1'	1'	2'	4'	5'	11'
9 Carr Avenue	Stop	WESTBOUND													
		WB Left/Thru/Right	175' (7 veh)	9'	11'	20'	22'	29'	64'	20'	27'	59'	20'	26'	58'
		SOUTHBOUND													
		SB Left	150' (6 veh)	3'	3'	5'	3'	4'	6'	3'	3'	5'	2'	3'	4'
10 Downs Boulevard	Signal	EASTBOUND													
		EB Left/Thru	350' (14 veh)	104'	107'	119'	101'	105'	120'	118'	114'	132'	108'	113'	135'
		EB Right	850' (14 veh)	107'	111'	274'	92'	96'	104'	95'	99'	107'	101'	149'	412'
		WESTBOUND													
		WB Left/Thru/Right	50' (2 veh)	14'	14'	16'	23'	23'	27'	22'	22'	26'	21'	21'	25'
		NORTHBOUND													
		NB Left	150' (6 veh)	166'	195'	245'	148'	196'	303'	311'	387'	586'	289'	347'	464'
		NB Thru/Right	175' (7 veh)	490'	572'	627'	425'	493'	674'	355'	414'	581'	316'	350'	352'
		SOUTHBOUND													
		SB Left	50' (2 veh)	5'	5'	8'	6'	8'	10'	7'	9'	10'	7'	8'	8'
		SB Thru/Right	125' (5 veh)	801'	374'	596'	460'	685'	1031'	554'	826'	1099'	418'	493'	716'
11 James Avenue	Stop	WESTBOUND													
		WB Left/Thru/Right	125' (5 veh)	7'	9'	15'	8'	10'	16'	8'	9'	14'	9'	11'	17'
		SOUTHBOUND													
		SB Left	200' (8 veh)	0'	0'	1'	1'	1'	1'	1'	1'	1'	1'	1'	2'

Queue Reduction Color Code:

NOTES: (1) No-Build results updated 8/25/2017 to assume consistent signal timings/offsets with 2016 existing conditions. Previous data had assumed improvements to signal timings in future conditions.

(2) Queue length of "9999" feet indicates maximum limit of model.

Queue Length for Five-Lane (Traditional) Concept

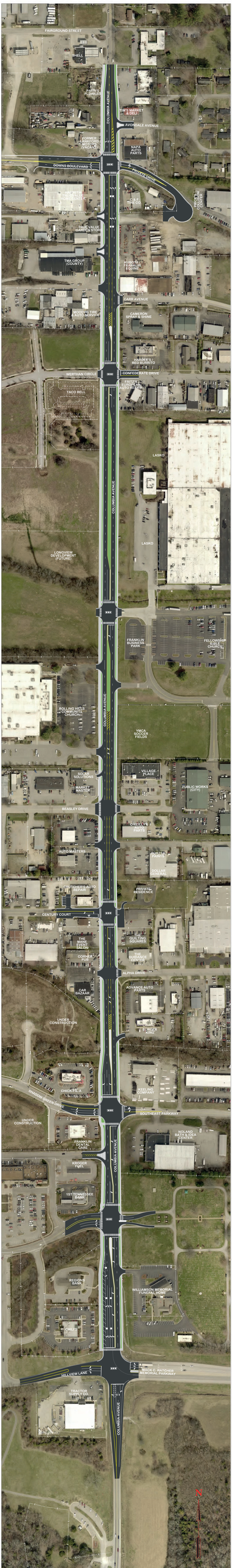
Cross-Street	Traffic Control Device	Geometry	Storage Length	[AM] Peak Hour		[MD] Peak Hour		[PM] Peak Hour		[SAT] Peak Hour	
				Queue Length (Feet)		Queue Length (Feet)		Queue Length (Feet)		Queue Length (Feet)	
				2021	2041	2021	2041	2021	2041	2021	2041
1 Mack Hatcher Parkway / Hillview Lane	Signal	EASTBOUND (EB)									
		EB Left	150' (6 veh)	10'	11'	44'	52'	29'	26'	27'	30'
		EB Thru	450' (18 veh)	36'	45'	106'	126'	85'	99'	118'	141'
		EB Right	40' (1 veh)	0'	0'	0'	0'	17'	34'	0'	0'
		WESTBOUND (WB)									
		WB Left	640' (25 veh)	108'	129'	75'	89'	178'	198'	82'	97'
		WB Thru	999' (40 veh)	64'	73'	87'	104'	91'	107'	104'	124'
		WB Right	325' (13 veh)	108'	182'	66'	145'	87'	161'	74'	144'
		NORTHBOUND (NB)									
		NB Left	200' (8 veh)	20'	24'	27'	32'	22'	26'	42'	50'
		NB Thru	775' (31 veh)	228'	291'	135'	162'	160'	196'	157'	180'
		NB Right	40' (1 veh)	40'	57'	6'	17'	1'	8'	11'	28'
		SOUTHBOUND (SB)									
		SB Left	800' (12 veh)	135'	175'	100'	114'	116'	127'	91'	140'
		SB Thru	560' (22 veh)	265'	315'	184'	242'	608'	804'	418'	508'
		SB Right	400' (16 veh)	0'	0'	0'	0'	0'	0'	0'	0'
2 Parkway Commons / Cemetery	Signal	EASTBOUND									
		EB Left	175' (7 veh)	102'	120'	228'	308'	175'	242'	188'	244'
		EB Thru/Right	175' (7 veh)	0'	0'	0'	0'	0'	9'	0'	8'
		WESTBOUND									
		WB Left/Thru/Right	250' (10 veh)	10'	10'	35'	39'	10'	10'	17'	18'
		NORTHBOUND									
		NB Left	150' (6 veh)	74'	74'	93'	119'	105'	140'	80'	92'
		NB Thru/Right	150' (6 veh)	95'	125'	234'	274'	275'	315'	254'	291'
		SOUTHBOUND									
		SB Left	150' (6 veh)	1'	1'	3'	3'	0'	1'	2'	2'
		SB Thru/Right	150' (6 veh)	52'	57'	132'	148'	60'	76'	79'	96'
		EASTBOUND									
		EB Left	100' (4 veh)	99'	134'	121'	137'	78'	86'	100'	119'
		EB Thru	200' (8 veh)	48'	52'	47'	52'	35'	37'	40'	43'
		EB Right	75' (3 veh)	48'	48'	82'	124'	50'	80'	78'	121'
3 Southeast Parkway / Shadow Green Drive	Signal	WESTBOUND									
		WB Left	125' (5 veh)	24'	28'	70'	83'	46'	54'	32'	36'
		WB Thru/Right	300' (12 veh)	68'	73'	86'	104'	87'	105'	68'	75'
		NORTHBOUND									
		NB Left	200' (8 veh)	4'	4'	24'	61'	102'	177'	70'	130'
		NB Thru/Right	385' (15 veh)	50'	59'	92'	119'	32'	44'	72'	91'
		SOUTHBOUND									
		SB Left	100' (4 veh)	75'	114'	43'	73'	21'	22'	32'	46'
		SB Thru	380' (23 veh)	147'	205'	143'	193'	115'	176'	101'	117'
		SB Right	100' (4 veh)	0'	0'	0'	0'	1'	1'	7'	7'
4 Alpha Drive	Two-Way Stop Control (TWSC)	EASTBOUND									
		EB Left/Thru/Right	50' (2 veh)	1'	1'	2'	3'	2'	4'	2'	3'
		WESTBOUND									
		WB Left/Thru/Right	200' (8 veh)	11'	16'	43'	74'	34'	60'	16'	28'
		NORTHBOUND									
		NB Left	175' (7 veh)	1'	1'	2'	2'	2'	3'	0'	1'
		SOUTHBOUND									
		SB Left	75' (3 veh)	4'	6'	5'	7'	3'	4'	2'	3'
5 Century Court	Signal	EASTBOUND									
		EB Left	125' (5 veh)	107'	124'	107'	125'	84'	98'	64'	70'
		EB Thru/Right	225' (9 veh)	37'	40'	50'	54'	47'	52'	29'	31'
		WESTBOUND									
		WB Left/Thru/Right	50' (2 veh)	8'	8'	9'	9'	9'	9'	11'	12'
		NORTHBOUND									
		NB Left	75' (3 veh)	23'	47'	37'	66'	8'	15'	4'	8'
		NB Thru/Right	200' (8 veh)	71'	82'	82'	137'	43'	100'	45'	111'
		SOUTHBOUND									
		SB Left	100' (4 veh)	2'	2'	2'	2'	1'	1'	1'	1'
		SB Thru/Right	225' (9 veh)	262'	327'	130'	152'	97'	128'	263'	364'
6 Beasley Drive / Lumber Drive	TWSC	EASTBOUND									
		EB Left/Thru/Right	325' (13 veh)	11'	15'	18'	24'	23'	31'	14'	25'
		WESTBOUND									
		WB Left/Thru/Right	200' (8 veh)	2'	3'	20'	32'	14'	24'	13'	20'
		NORTHBOUND									
		NB Left	25' (1 veh)	10'	14'	10'	14'	4'	6'	3'	4'
		SOUTHBOUND									
		SB Left	200' (8 veh)	1'	2'	5'	8'	3'	4'	4'	5'
7 Franklin Business Park (North) / Future Werthan Circle	Signal	WESTBOUND									
		WB Left	150' (6 veh)	26'	28'	48'	55'	37'	43'	108'	128'
		WB Right	150' (6 veh)	25'	26'	27'	30'	25'	28'	37'	41'
		NORTHBOUND									
		NB Left	275' (11 veh)	72'	170'	235'	338'	118'	255'	197'	193'
		NB Thru/Right									
		SOUTHBOUND									
		SB Left	130' (6 veh)	9'	9'	4'	4'	9'	12'	23'	33'
		SB Thru	998' (40 veh)	90'	91'	70'	76'	50'	69'	121'	137'
8 Confederate Drive / Werthan Circle	Signal	EASTBOUND									
		EB Left	100' (4 veh)	62'	68'	36'	36'	35'	37'	39'	39'
		EB Thru/Right	130' (6 veh)	37'	39'	35'	36'	26'	27'	34'	34'
		WESTBOUND									
		WB Left	100' (4 veh)	47'	53'	52'	60'	28'	31'	26'	30'
		WB Thru/Right	200' (8 veh)	29'	31'	36'	39'	25'	26'	31'	32'
		NORTHBOUND									
		NB Left	100' (4 veh)	0'	0'			3'	3'		
		NB Thru/Right	115' (4 veh)	8'	12'	78'	95'	84'	96'	101'	128'
		SOUTHBOUND									
		SB Left	100' (4 veh)	6'	10'	5'	10'				
		SB Thru/Right	325' (13 veh)	154'	224'	116'	193'	116'	155'	185'	223'
9 Carr Avenue	Stop	WESTBOUND									
		WB Left/Thru/Right	175' (7 veh)	6'	8'	13'	20'	13'	20'	11'	15'
		SOUTHBOUND									
		SB Left	150' (6 veh)	3'	4'	4'	5'	3'	5'	2'	4'
10 Downs Boulevard	Signal	EASTBOUND									
		EB Left	150' (6 veh)	85'	100'	76'	89'	86'	102'	100'	119'
		EB Thru	350' (14 veh)	8'	10'	5'	5'	8'	10'	5'	5'
		EB Right	350' (14 veh)	139'	134'	115'	218'	163'	269'	279'	308'
		WESTBOUND									
		WB Left	100' (4 veh)	8'	10'	9'	11'	12'	13'	14'	16'
		WB Thru/Right	250' (10 veh)	9'	10'	14'	18'	13'	15'	11'	14'
		NORTHBOUND									
		NB Left	300' (12 veh)	94'	102'	134'	195'	103'	159'	145'	184'
		NB Thru/Right	175' (7 veh)	32'	38'	106'	169'	75'	98'	108'	166'
		SOUTHBOUND									
		SB Left	150' (6 veh)	5'	7'	5'	7'	6'	7'	7'	8'
		SB Thru	450' (18 veh)	292'	416'	346'	482'	377'	551'	570'	529'
		SB Right	300' (12 veh)	24'	28'	21'	23'	24'	27'	27'	29'
11 James Avenue	Stop	WESTBOUND									
		WB Right	125' (5 veh)	9'	15'	9'	15'	8'	12'	10'	16'

Queue Length for Five-Lane (Access Management) Concept

Cross-Street	Traffic Control Device	Geometry	Storage Length	[AM] Peak Hour		[MD] Peak Hour		[PM] Peak Hour		[SAT] Peak Hour	
				Queue Length (Feet)		Queue Length (Feet)		Queue Length (Feet)		Queue Length (Feet)	
				2021	2041	2021	2041	2021	2041	2021	2041
1 Mack Hatcher Parkway / Hillview Lane	Signal	EASTBOUND (EB)									
		EB Left	150' (6 veh)	10'	11'	44'	52'	25'	26'	27'	30'
		EB Thru	430' (18 veh)	38'	43'	106'	126'	85'	99'	118'	141'
		EB Right	40' (1 veh)	0'	0'	0'	0'	17'	54'	0'	0'
		WESTBOUND (WB)									
		WB Left	640' (25 veh)	109'	129'	75'	89'	178'	198'	82'	97'
		WB Thru	999' (40 veh)	64'	73'	87'	104'	91'	107'	104'	124'
		WB Right	325' (13 veh)	109'	182'	66'	145'	87'	161'	74'	144'
		NORTHBOUND (NB)									
		NB Left	200' (8 veh)	20'	24'	27'	32'	22'	26'	42'	50'
		NB Thru	775' (31 veh)	228'	291'	185'	162'	160'	196'	157'	190'
		NB Right	40' (1 veh)	40'	57'	6'	17'	1'	8'	11'	23'
		SOUTHBOUND (SB)									
		SB Left	900' (12 veh)	155'	175'	100'	114'	116'	127'	91'	140'
		SB Thru	560' (22 veh)	285'	314'	184'	248'	603'	804'	418'	509'
		SB Right	400' (16 veh)	0'	0'	0'	0'	0'	0'	0'	0'
2 Parkway Commons / Cemetery	Signal	EASTBOUND									
		EB Left	175' (7 veh)	102'	120'	229'	308'	175'	242'	183'	244'
		EB Thru/Right	175' (7 veh)	0'	0'	0'	0'	0'	0'	0'	8'
		WESTBOUND									
		WB Left/Thru/Right	250' (10 veh)	10'	10'	35'	39'	10'	10'	17'	18'
		NORTHBOUND									
		NB Left	150' (6 veh)	74'	74'	93'	119'	105'	140'	80'	92'
		NB Thru/Right	150' (6 veh)	95'	125'	234'	274'	275'	315'	254'	291'
		SOUTHBOUND									
		SB Left	150' (6 veh)	1'	1'	5'	3'	0'	1'	2'	2'
		SB Thru/Right	150' (6 veh)	52'	57'	132'	448'	60'	78'	79'	98'
3 Southeast Parkway / Shadow Green Drive	Signal	EASTBOUND									
		EB Left	100' (4 veh)	99'	124'	121'	137'	78'	86'	105'	119'
		EB Thru	200' (8 veh)	48'	52'	47'	52'	35'	37'	40'	48'
		EB Right	75' (3 veh)	46'	46'	82'	124'	50'	80'	78'	121'
		WESTBOUND									
		WB Left	125' (5 veh)	24'	28'	70'	83'	46'	54'	32'	34'
		WB Thru/Right	300' (12 veh)	66'	73'	86'	104'	87'	109'	68'	75'
		NORTHBOUND									
		NB Left	200' (8 veh)	4'	4'	24'	61'	102'	177'	70'	130'
		NB Thru/Right	885' (15 veh)	50'	59'	92'	118'	32'	44'	72'	91'
		SOUTHBOUND									
		SB Left	100' (4 veh)	75'	114'	43'	73'	21'	21'	34'	46'
		SB Thru	580' (23 veh)	147'	205'	145'	193'	112'	174'	116'	177'
		SB Right	100' (4 veh)	0'	0'	0'	0'	1'	1'	7'	7'
4 Alpha Drive	Two-Way Stop Control (TWSC)	EASTBOUND									
		EB Left/Thru/Right	50' (2 veh)	1'	1'	2'	3'	2'	4'	2'	5'
		WESTBOUND									
		WB Left/Thru/Right	200' (8 veh)	11'	18'	48'	74'	34'	60'	16'	23'
		NORTHBOUND									
		NB Left	175' (7 veh)	1'	1'	2'	2'	2'	3'	0'	1'
		SOUTHBOUND									
		SB Left	75' (3 veh)	4'	6'	5'	7'	3'	4'	2'	3'
5 Century Court	Signal	EASTBOUND									
		EB Left	125' (5 veh)	107'	124'	107'	125'	84'	88'	64'	70'
		EB Thru/Right	225' (9 veh)	37'	40'	50'	54'	47'	52'	29'	31'
		WESTBOUND									
		WB Left/Thru/Right	50' (2 veh)	8'	8'	9'	9'	9'	9'	11'	12'
		NORTHBOUND									
		NB Left	75' (3 veh)	25'	47'	37'	66'	8'	15'	4'	8'
		NB Thru/Right	200' (8 veh)	71'	82'	82'	137'	43'	100'	45'	111'
		SOUTHBOUND									
		SB Left	100' (4 veh)			1'	2'	1'	1'	0'	1'
		SB Thru/Right	225' (9 veh)	261'	325'	181'	153'	99'	130'	253'	374'
6 Beasley Drive / Lumber Drive	TWSC	EASTBOUND									
		EB Left/Thru/Right	325' (13 veh)	11'	15'	18'	24'	22'	25'	14'	25'
		WESTBOUND									
		WB Left/Thru/Right	200' (8 veh)	2'	5'	20'	32'	14'	23'	19'	20'
		NORTHBOUND									
		NB Left	25' (1 veh)	10'	14'	10'	14'	4'	6'	3'	4'
		SOUTHBOUND									
		SB Left	200' (8 veh)	1'	2'	5'	8'	3'	4'	4'	5'
7 Franklin Business Park (North) / Future Werthan Circle	Signal	WESTBOUND									
		WB Left	150' (6 veh)	38'	37'	35'	62'	45'	52'	132'	157'
		WB Right	150' (6 veh)	25'	28'	27'	29'	25'	28'	37'	41'
		NORTHBOUND									
		NB Thru/Right	275' (11 veh)	72'	170'	252'	359'	118'	260'	157'	193'
		SOUTHBOUND									
		SB Left	150' (6 veh)	9'	9'	6'	6'	10'	14'	24'	65'
		SB Thru	999' (40 veh)	89'	91'	70'	76'	49'	68'	121'	136'
8 Confederate Drive / Werthan Circle	Signal	EASTBOUND									
		EB Left	100' (4 veh)	62'	68'	36'	36'	35'	37'	99'	89'
		EB Thru/Right	150' (6 veh)	37'	38'	35'	36'	26'	27'	34'	34'
		WESTBOUND									
		WB Left	100' (4 veh)	47'	55'	52'	60'	28'	31'	26'	30'
		WB Thru/Right	200' (8 veh)	29'	31'	36'	39'	25'	26'	31'	32'
		NORTHBOUND									
		NB Left	100' (4 veh)	0'	0'	8'	8'			8'	8'
		NB Thru/Right	115' (4 veh)	8'	12'	78'	106'	84'	100'	101'	128'
		SOUTHBOUND									
		SB Left	100' (4 veh)	6'	10'	5'	10'				
		SB Thru/Right	925' (13 veh)	134'	224'	116'	195'	116'	155'	195'	223'
9 Carr Avenue	Stop	WESTBOUND									
		WB Left/Thru/Right	175' (7 veh)	6'	8'	13'	20'	13'	20'	11'	15'
		SOUTHBOUND									
		SB Left	150' (6 veh)	5'	4'	4'	5'	5'	5'	2'	4'
10 Downs Boulevard	Signal	EASTBOUND									
		EB Left	150' (6 veh)	85'	100'	76'	89'	86'	102'	100'	119'
		EB Thru	350' (14 veh)	8'	10'	5'	5'	8'	10'	5'	5'
		EB Right	350' (14 veh)	192'	334'	113'	218'	163'	269'	279'	508'
		WESTBOUND									
		WB Left	100' (4 veh)	8'	10'	9'	11'	12'	13'	14'	16'
		WB Thru/Right	250' (10 veh)	9'	10'	14'	18'	13'	15'	11'	14'
		NORTHBOUND									
		NB Left	300' (12 veh)	94'	102'	137'	195'	104'	199'	144'	184'
		NB Thru/Right	175' (7 veh)	32'	38'	106'	569'	78'	100'	109'	366'
		SOUTHBOUND									
		SB Left	150' (6 veh)	5'	7'	5'	7'	6'	7'	7'	8'
		SB Thru	450' (18 veh)	292'	416'	346'	482'	377'	551'	370'	529'
		SB Right	300' (12 veh)	24'	28'	21'	25'	24'	27'	27'	29'
11 James Avenue	Stop	WESTBOUND									
		WB Left/Thru/Right	125' (5 veh)	5'	9'	6'	9'	4'	7'	6'	9'

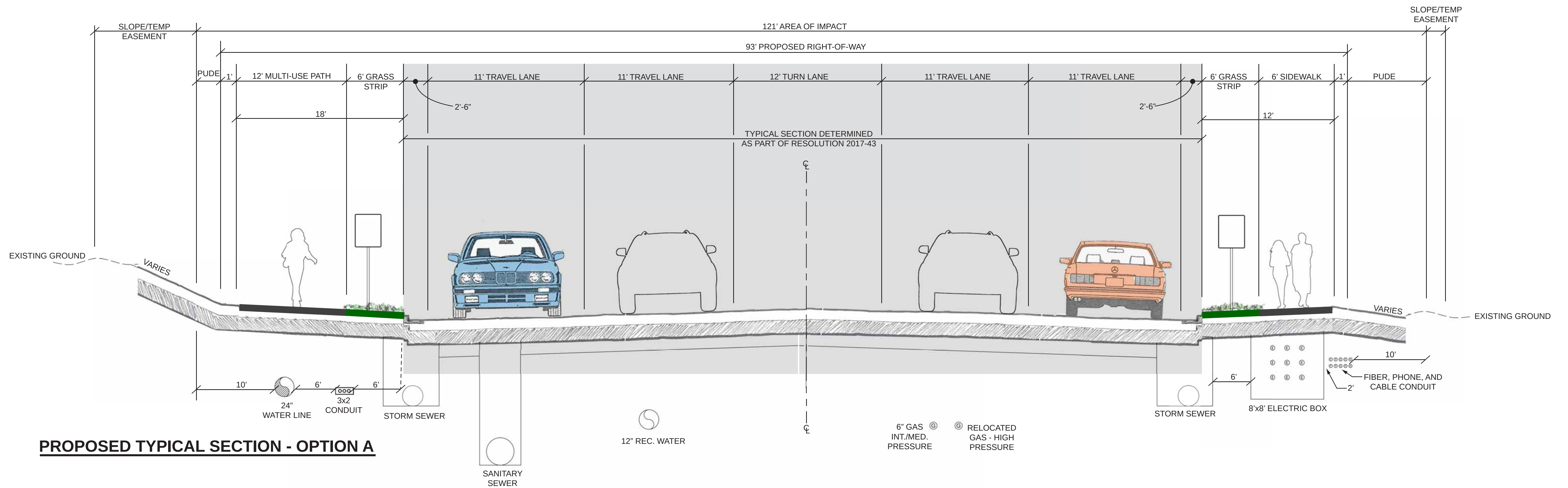
Queue Length for Roundabout Concept

Cross-Street	Traffic Control Device	Geometry	Storage Length	[AM] Peak Hour		[MD] Peak Hour		[PM] Peak Hour		[SAT] Peak Hour			
				Queue Length (Feet)		Queue Length (Feet)		Queue Length (Feet)		Queue Length (Feet)			
				2021	2041	2021	2041	2021	2041	2021	2041		
1 Mack Hatcher Parkway / Hillview Lane	Signal	EASTBOUND (EB)											
		EB Left	150' (6 veh)	10'	11'	43'	51'	23'	26'	27'	30'		
		EB Thru	450' (18 veh)	38'	43'	104'	123'	85'	101'	121'	144'		
		EB Right	40' (1 veh)	0'	0'	0'	0'	17'	34'	6'	19'		
		WESTBOUND (WB)											
		WB Left	640' (25 veh)	108'	128'	73'	87'	178'	215'	83'	99'		
		WB Thru	999' (40 veh)	64'	73'	86'	102'	91'	108'	106'	126'		
		WB Right	325' (13 veh)	106'	176'	61'	134'	87'	163'	82'	155'		
		NORTHBOUND (NB)											
		NB Left	200' (8 veh)	20'	24'	26'	31'	22'	25'	43'	53'		
		NB Thru	999' (40 veh)	223'	282'	131'	158'	160'	192'	162'	196'		
		NB Right	40' (1 veh)	40'	56'	5'	16'	1'	8'	12'	24'		
		SOUTHBOUND (SB)											
		SB Left	300' (12 veh)	130'	153'	152'	182'	114'	135'	158'	189'		
		SB Thru	560' (22 veh)	182'	222'	267'	333'	547'	784'	358'	513'		
		SB Right	400' (16 veh)	0'	0'	0'	0'	0'	0'	0'	0'		
2 Parkway Commons / Cemetery	Roundabout	EASTBOUND											
		EB Left/Thru/U-Turn	175' (7 veh)	13'	18'	47'	78'	35'	57'	33'	52'		
		EB Right	175' (7 veh)	4'	6'	13'	19'	19'	30'	16'	23'		
		WESTBOUND											
		WB Left/Thru/Right/U-Turn	250' (10 veh)	1'	1'	5'	7'	1'	1'	2'	2'		
		NORTHBOUND											
		NB Left/Thru/U-Turn	150' (6 veh)	70'	99'	53'	79'	55'	74'	52'	71'		
		NB Thru/Right	150' (6 veh)	70'	99'	53'	79'	55'	74'	52'	71'		
		SOUTHBOUND											
		SB Left/Thru/U-Turn	150' (6 veh)	40'	52'	63'	86'	73'	104'	60'	83'		
		SB Thru/Right	150' (6 veh)	40'	52'	63'	86'	73'	104'	60'	83'		
		3 Southeast Parkway / Shadow Green Drive	Roundabout	EASTBOUND									
				EB Left/Thru/U-Turn	200' (8 veh)	27'	37'	55'	93'	23'	36'	32'	49'
				EB Right	200' (8 veh)	29'	41'	54'	87'	32'	50'	48'	77'
				WESTBOUND									
				WB Left/Thru/U-Turn	125' (5 veh)	8'	12'	32'	53'	16'	24'	11'	16'
WB Right	300' (12 veh)			31'	52'	34'	56'	25'	40'	18'	28'		
NORTHBOUND													
NB Left/Thru/U-Turn	450' (18 veh)			102'	185'	89'	153'	65'	95'	71'	119'		
NB Thru/Right	450' (18 veh)			102'	185'	89'	153'	65'	95'	71'	119'		
SOUTHBOUND													
SB Left/Thru/U-Turn	450' (18 veh)			48'	66'	96'	175'	123'	230'	92'	164'		
SB Thru/Right	450' (18 veh)			48'	66'	96'	175'	123'	230'	92'	164'		
4 Alpha Drive	Two-Way Stop Control (TWSC)			EASTBOUND									
				EB Left/Thru/Right	50' (2 veh)	0'	0'	2'	3'	2'	3'	1'	2'
				WESTBOUND									
				WB Left/Thru/Right	150' (6 veh)	13'	21'	46'	87'	27'	44'	19'	31'
5 Century Court	Roundabout	EASTBOUND											
		EB Left/Thru/U-Turn	125' (5 veh)	17'	23'	24'	39'	17'	27'	10'	14'		
		EB Right	225' (9 veh)	13'	19'	29'	47'	23'	38'	8'	12'		
		WESTBOUND											
		WB Left/Thru/Right/U-Turn	50' (2 veh)	1'	1'	1'	1'	1'	1'	1'	1'		
		NORTHBOUND											
		NB Left/Thru/U-Turn	200' (8 veh)	90'	146'	98'	187'	71'	101'	71'	101'		
		NB Thru/Right	200' (8 veh)	90'	146'	98'	187'	71'	101'	71'	101'		
		SOUTHBOUND											
		SB Left/Thru/U-Turn	275' (11 veh)	56'	76'	79'	141'	85'	128'	82'	120'		
		SB Thru/Right	275' (11 veh)	56'	76'	79'	141'	85'	128'	82'	120'		
		6 Beasley Drive / Lumber Drive	TWSC	EASTBOUND									
EB Right	325' (13 veh)			16'	24'	30'	52'	39'	70'	29'	50'		
WESTBOUND													
WB Right	200' (8 veh)			2'	3'	16'	25'	9'	14'	12'	18'		
7 Franklin Business Park (North) / Future Werthan Circle	Roundabout	WESTBOUND											
		WB Left/Thru/Right/U-Turn	150' (6 veh)	9'	13'	15'	22'	9'	13'	39'	66'		
		NORTHBOUND											
		NB Thru/U-Turn	275' (11')	73'	103'	70'	97'	59'	75'	63'	88'		
		NB Thru/Right	275' (11')	73'	103'	70'	97'	59'	75'	63'	88'		
		SOUTHBOUND											
SB Left/Thru/U-Turn	999' (40 veh)	50'	69'	55'	76'	60'	83'	71'	102'				
SB Thru	999' (40 veh)	50'	69'	55'	76'	60'	83'	71'	102'				
8 Confederate Drive / Werthan Circle	Roundabout	EASTBOUND											
		EB Left/Thru/Right/U-Turn	150' (6 veh)	17'	23'	11'	14'	7'	9'	11'	11'		
		WESTBOUND											
		WB Left/Thru/Right/U-Turn	200' (8 veh)	14'	21'	19'	30'	9'	12'	9'	13'		
		NORTHBOUND											
		NB Left/Thru/U-Turn	115' (4 veh)	71'	100'	66'	90'	54'	73'	65'	90'		
NB Thru/Right	115' (4 veh)	71'	100'	66'	90'	54'	73'	65'	90'				
SOUTHBOUND													
SB Left/Thru/U-Turn	325' (13 veh)	56'	76'	54'	74'	59'	80'	66'	71'				
SB Thru/Right	325' (13 veh)	56'	76'	54'	74'	59'	80'	66'	71'				
9 Carr Avenue	Stop	WESTBOUND											
		WB Right	175' (7 veh)	2'	3'	6'	9'	5'	7'	6'	9'		
10 Downs Boulevard	Signal	EASTBOUND											
		EB Left	150' (6 veh)	82'	94'	76'	88'	83'	96'	100'	116'		
		EB Thru	150' (6 veh)	7'	9'	5'	5'	7'	9'	5'	5'		
		EB Right	350' (14 veh)	203'	237'	101'	191'	152'	257'	283'	517'		
		WESTBOUND											
		WB Left	80' (3 veh)	7'	9'	9'	11'	11'	12'	13'	16'		
		WB Thru/Right	80' (3 veh)	8'	10'	14'	17'	12'	14'	11'	14'		
		NORTHBOUND											
		NB Left	900' (36 veh)	100'	106'	138'	167'	175'	252'	182'	227'		
		NB Thru/Right	900' (36 veh)	192'	287'	176'	264'	150'	217'	198'	283'		
		SOUTHBOUND											
		SB Left	150' (6 veh)	6'	9'	5'	7'	5'	7'	7'	8'		
		SB Thru	450' (18 veh)	332'	547'	327'	433'	359'	480'	377'	541'		
		SB Right	300' (12 veh)	27'	36'	20'	23'	23'	25'	27'	29'		
11 James Avenue	Roundabout	WESTBOUND											
		WB Left/Thru/Right	125' (5 veh)	5'	9'	5'	8'	4'	7'	6'	10'		

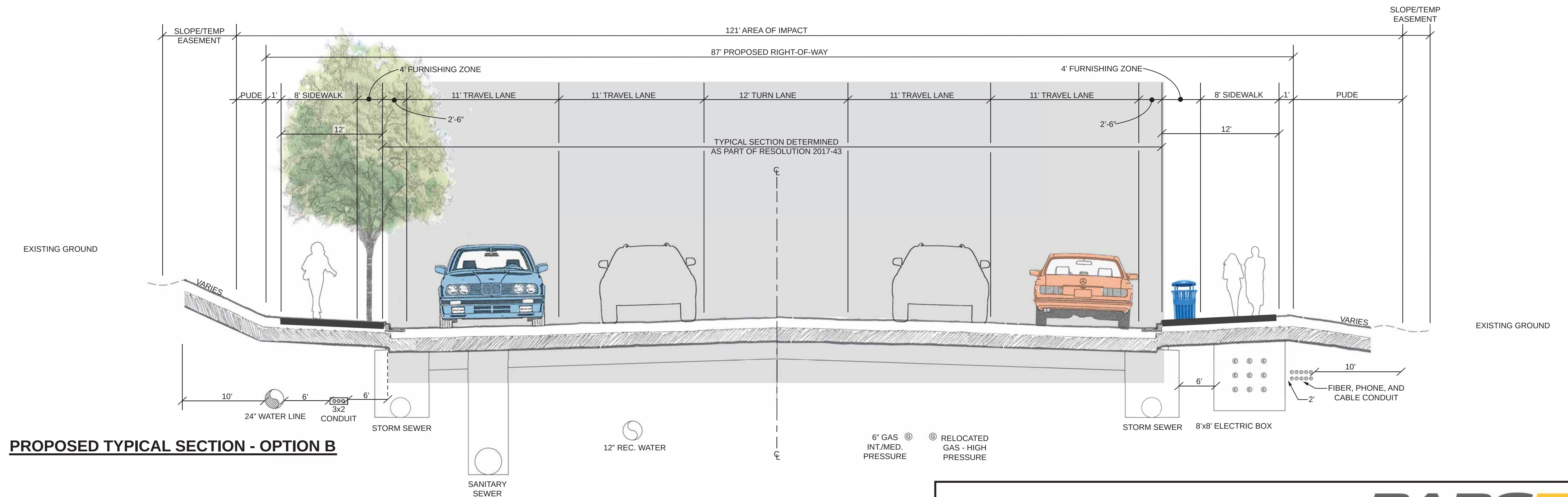


5-Lane Concept (Access Management)

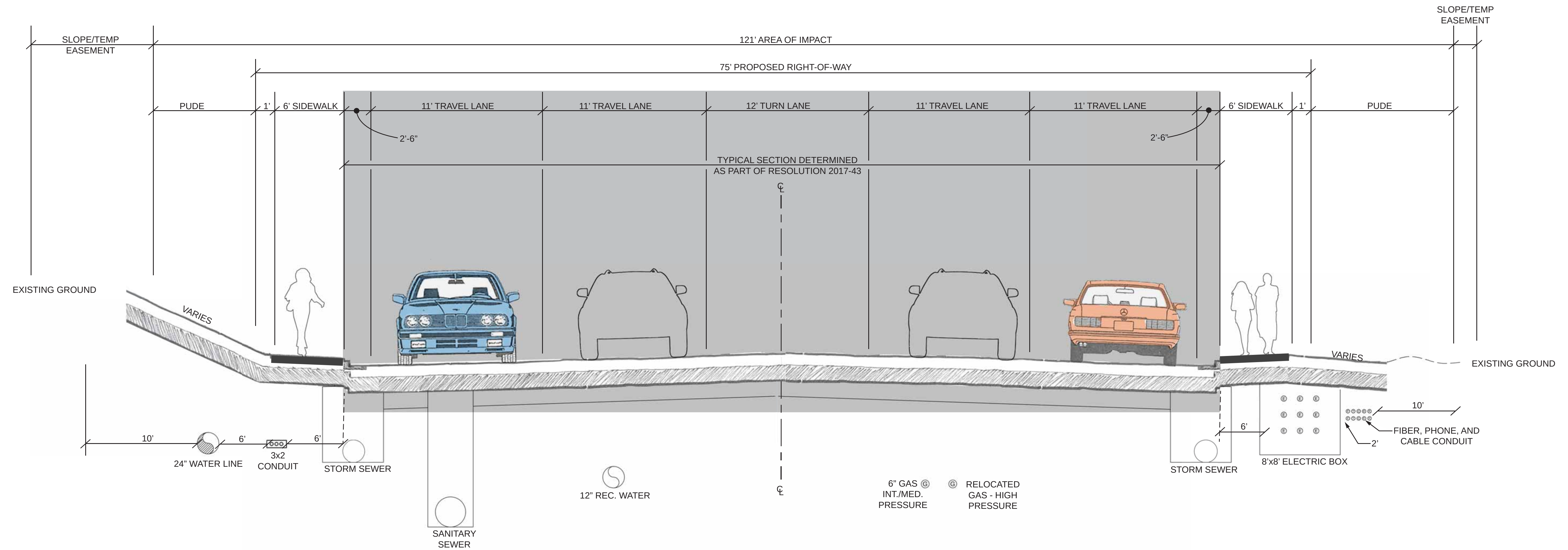
Columbia Avenue Roadway Concept Franklin, Tennessee



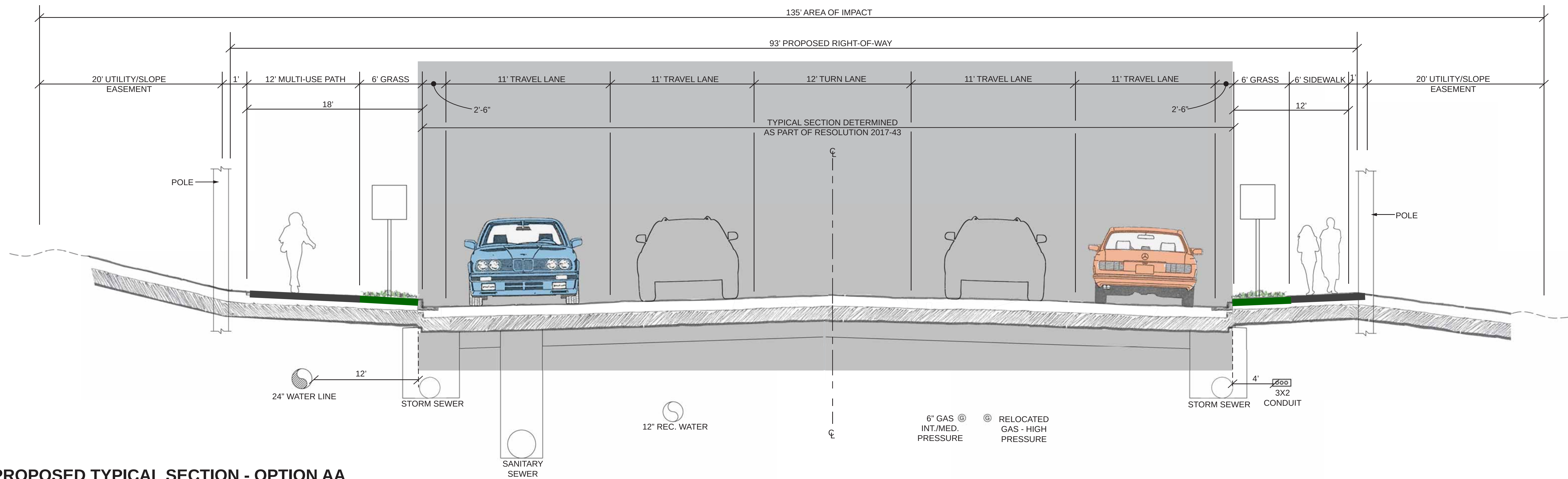
PROPOSED TYPICAL SECTION - OPTION A



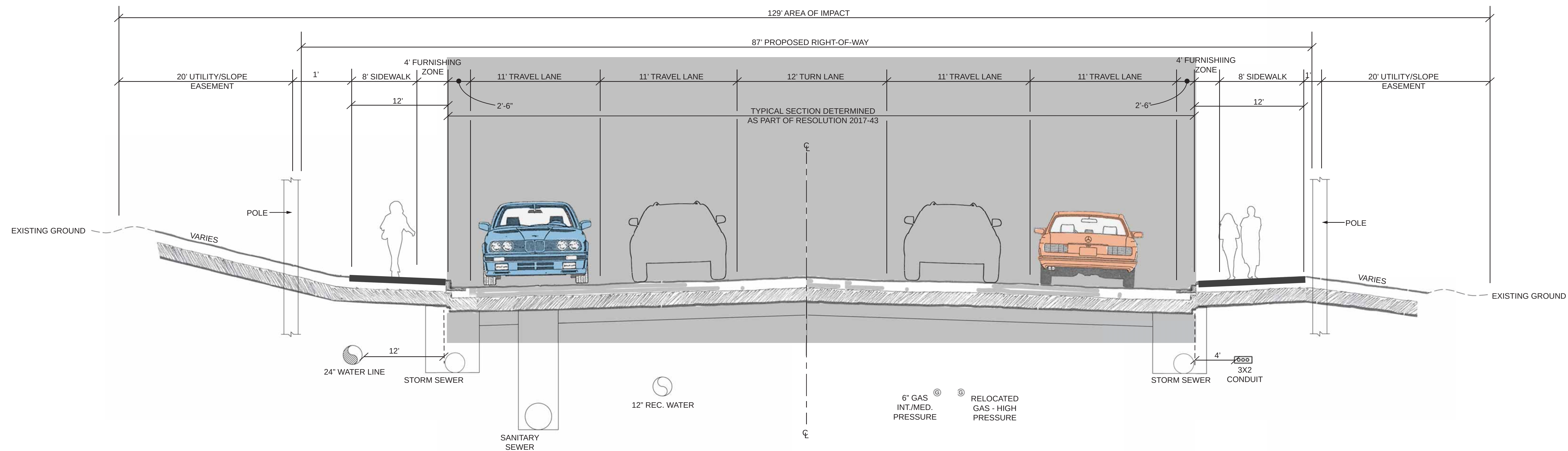
PROPOSED TYPICAL SECTION - OPTION B



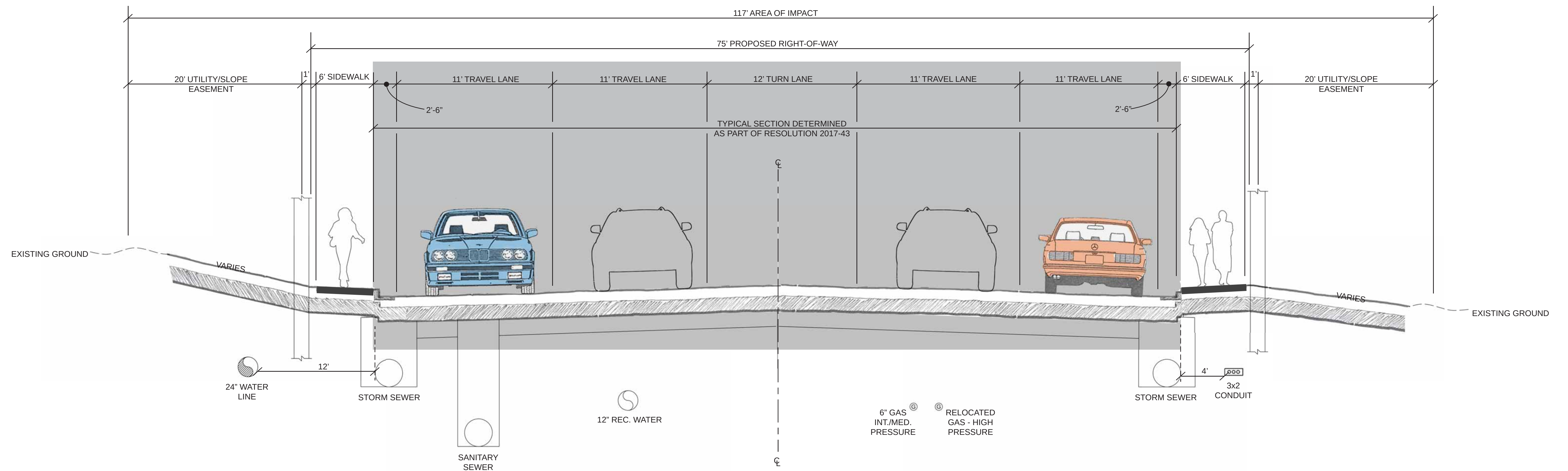
PROPOSED TYPICAL SECTION - OPTION C



PROPOSED TYPICAL SECTION - OPTION AA



PROPOSED TYPICAL SECTION - OPTION BB



PROPOSED TYPICAL SECTION - OPTION CC

RESOLUTION NO. 2018-59

**A RESOLUTION TO EXTEND THE EMPLOYMENT AGREEMENT (COF CONTRACT NO. 2015-0349)
FOR AN ADDITIONAL TWO (2) YEARS**

WHEREAS, the Board of Mayor and Aldermen (Board) entered into an Employment Agreement with Eric Stuckey as City Administrator effective January 1, 2016, for an initial four (4) year term and two (2) additional one (1) year terms (COF Contract No. 2015-0349); and

WHEREAS, the parties agreed that no later than December 31, 2018, the Board would notify Mr. Stuckey of its intent to extend, not extend, or renegotiate the Agreement; and

WHEREAS, the Mayor recommends that the Board extend the Agreement for two (2) additional years running from January 1, 2020, through December 31, 2021.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS:

1. The recitals set forth above are incorporated herein.
2. The Employment Agreement between the City and Mr. Eric Stuckey be extended for an additional two (2) years running from January 1, 2020, through December 31, 2021.
3. The City agrees to provide Mr. Stuckey with notice of its intent to renegotiate the Agreement or sever the relationship no later than December 31, 2020.
4. The Board grants authority to the City Attorney to draft the amended Agreement and grants authority to the Mayor to execute the amended Agreement on behalf of the Board.
5. All other terms set forth in the Agreement remain unchanged.

IT IS SO RESOLVED AND DONE on this ____ day of _____ 2018.

ATTEST:

CITY OF FRANKLIN, TENNESSEE:

By: _____
LANAII BENNE
Assistant City Recorder

By: _____
DR. KEN MOORE
Mayor

Approved as to Form:

By: _____
Shauna R. Billingsley
City Attorney