Alfred Benesch & Company
8 Cadillac Drive, Suite 250
Brentwood, Tennessee 37027
www.benesch.com
P 615-370-6079
F 615-627-4066

Lewisburg Pike Multi-Use Path– City of Franklin

Proposed Scope and Estimate

Multi-Use Path over the Harpeth River

Benesch will develop plans for a multi-use path along the south side of Lewisburg Pike from approximately Stewart Street headed southeast 0.95 miles to a point of termination near the entrance to Eastern Flank Circle. The path will follow along the edge of Lewisburg Pike except for locations of City property where the path may diverge to lessen the impact on existing utility facilities. North of Stewart Street on the west side the project proposes the installation of a curb and gutter section with a 6-ft wide grassed area available for a future sidewalk. The project will also include a proposed sidewalk on the north side of Lewisburg Pike from approximately 510-ft south of the intersection with E. Fowlkes Street and Adams Street continuing southeast approximately 0.20 miles to the intersection with Thompson Alley all in the City of Franklin, Tennessee.

This work will include the design of a 12' wide concrete multi-use path with varying widths of separation between the path and existing roadway. From the northern termini of the project to approximately Thompson Alley, the separation between the path and roadway will be provided by 2.5' wide curb and gutter. The width will be dependent on the existing features and right-of-way widths along the corridor. Within this portion of the project, Lewisburg Pike will be improved to include a new curb and gutter and an enclosed storm water drainage system. To the south of Thompson Alley, the path's roadway separation will vary in width based on available ROW. The work will also include the design of a 6' wide concrete sidewalk on the north side of the existing roadway. The sidewalk will have no separation between, but Lewisburg Pike will be improved to include a new curb and gutter and an enclosed storm water drainage system. Design of water quality units or other water quality items are not included for the proposed drainage design. While portions of the project lie within the floodplain of the Harpeth River, noted as FEMA Zone AE in FIRM 47187C0211G with an effective date of 12/22/2016, we do not anticipate the need for a CLOMR, LOMR, or LOMA submittal.

Benesch will perform the office survey work to produce a MicroStation file for use on the project. CEC will provide an ASCII file of the survey points and this will be used to produce the CADD file.

A standard Preliminary 30% set of plans will be developed to set the horizontal and vertical alignments of the proposed path and sidewalk and will be used for initial coordination. Following this, the development of a 60% Right-of-Way/Utility set will occur. It is anticipated that Right of Way acquisition by the City will be required as part of the project. However, Benesch will prepare the deeds and exhibits as part of the project. The 60% set will also be sent to utility companies and CSXT Corp. to facilitate their involvement in the project. The 100% construction documents will be produced for bidding. Probable construction costs will be estimated at the Right-of-Way and Construction stages of plans production. The plans will be developed for the project based upon the approved alignment. The multi-use path design parameters for the project will be based upon current versions of the following design guides; "Guide for the Development of Bicycle Facilities", American Association of State Highway and Transportation Officials; "TDOT Standards Specifications for Road and Bridge Construction"; City of Franklin Street Standards. These technical guidelines and specifications shall be followed unless superseded by the standard for the City of Franklin.

The potential for retaining walls are anticipated on the north side of Lewisburg between CSX and Thompson Alley. A second location is likely along the road frontage of the property currently occupied by Mid-South Mulch and

Outdoor Services. These locations are anticipated to require MSE walls therefore the scope and estimate will include layout and concept development for these walls.

The scope includes plans to attend a Public Meeting should this be deemed necessary to inform the public about the project. The scope also includes three coordination meetings with the City to ensure that all elements are appropriately included. Benesch will assist city staff through-out the bidding phase of the project. This will include supplying all required documents in Portable Document Format (PDF) suitable for printing. Benesch will assist the city in producing the bid book. Benesch can organize and lead the pre-bid meeting and assist the city as necessary with answering contractor questions and then opening and evaluating the bids once received.

The multi-use path design scope includes production of erosion control plans, pedestrian safety and signing during construction, permit applications and a SWPPP for the NPDES Permit.

Any permit fees or third-party review fees shall be billed to the City as a reimbursable item.

Utility Coordination and Corridor Creation

Benesch will provide utility coordination services for the project. Below is a general example of items to be completed:

1. Notify in writing all utility companies
2. Issue Preliminary Plans and solicit comments
3. Issue ROW plans and timeline for relocation plans submittals (2 potential utility meetings)
4. Review and approve relocation plans
5. Coordinate any contracts between the City and Utility

Benesch will also provide coordination services to develop a proposed utility corridor to adequately accommodate the City's utility stakeholders. Specifically, the planned corridor will be established along the proposed alignment of Lewisburg Pike. The corridor will be developed at a functional-level (horizontal alignment only). Benesch will develop a Memorandum of Understanding to be reviewed and agreed upon by the City and all utilities regarding the future use of said corridor. The final deliverable will be an overall plan layout which will depict the proposed location of each existing utility, their respective easements, and also identify areas where future utilities could be accommodated. Below is an outline of the anticipated items to be completed:

1. Preparation for and attendance of an Initial Stakeholder Meeting
2. Creation of Initial Functional-Level Layout, and Memorandum of Understanding for Corridor
3. Preparation for and attendance of a Second Stakeholder Meeting
4. Finalize the Layout and Memorandum of Understanding

The final design of the facilities for each utility will not be completed as part of this task, but shall be designated as an additional service. If required, Benesch can provide an amendment to this proposal or execute a separate agreement for these services.

Railroad Coordination

Benesch will coordinate with the CSXT railroad regarding the expansion and/or replacement of the crossing surface, signage and warning systems at DOT Crossing #350617V. All work will be in accordance with the MUTCD and the CSXT "Public Project Information Manual". Benesch will also coordinate with CSXT regarding the existing and proposed utility facilities within the corridor and with regards to the potential storm sewer trunk line

installation under the existing crossing. All utility crossings will be governed by the most current "Design and Construction Standard Specifications of Pipeline Occupancies" issued by CSXT.

Topographic Survey and Environmental Services (See the attached Scope from CEC, Inc.)

1. CEC, Inc. will provide topographic survey, and property line information for the project limits. This survey will be performed to TDOT standards and be tied to TDOT State Plane Coordinates.

2. The CEC, Inc. scope includes the development of the necessary documents for the completion of the Jurisdictional Waters Determination for the project.

Geotechnical Services

1. See attached scope and fee from CIA as needed to provide the geotechnical exploration, global stability analysis, and report for the construction of potential retaining walls along the corridor.

Additional Services – Multi-Use Trail Extension to Mack Hatcher

At the discretion of the Board of Mayor and Alderman, Benesch will develop plans for a continuation of the multi-use path along the south side of Lewisburg Pike from approximately Eastern Flank Circle proceeding southeast approximately 0.90 miles to a point of termination near Mack Hatcher Memorial Parkway. The path will follow along the edge of Lewisburg Pike except for locations of City property where the path may diverge to lessen the impact on existing utility facilities. This work will include the design of a 12' wide concrete multi-use path with varying widths of separation between the path and existing roadway. The services detailed in the primary scope of work will also be included for the alternate section.

1. If the above additional services are required, CEC, Inc. will provide topographic survey, and property line information for the added project limits. This survey will be performed to TDOT standards and be tied to TDOT State Plane Coordinates.

Items not included in the Benesch Scope

1. Stormwater quality design
2. Traffic or Pedestrian signal design or traffic counts and studies
3. Landscape or Irrigation design
4. Three-dimensional and/or perspective view concept renderings
5. Final design of utility facilities
6. Detailed retaining wall design
7. Design of pedestrian bridges should they be required for stream crossings
8. Right-of-Way Appraisal Services
9. Right-of-Way Acquisition Services
10. Lighting design
11. Mitigation design for impacted environmental features.
12. Construction phase services or full TDOT level Construction Engineering and Inspection (CEI)
13. Printing of full-size review or bid plans for contractors

Attachments:

1. Scope by CEC, Inc.
2. Scope by Civil Infrastructure Associates (CIA)

Compensation:

Design Phase Services		
Multi-Use Path/Sidewalk Design and Survey Office Work	Lump Sum	$ 156,400.00
Utility Coordination and Corridor Creation	Lump Sum	$ 14,500.00
Bid Documents and Assistance	Lump Sum	$ 4,500.00
Geotechnical Services (By CIA)	Cost Plus	$ 13,857.00
Survey Field Work (By CEC, Inc.)	Cost Plus	$ 30,525.00
Jurisdictional Waters Determination (By CEC, Inc.)	Cost Plus	$ 4,200.00
	Final Contract Not-To-Exceed	$ 223,982.00

Additional Design Services		
Multi-Use Path Design and Survey Office Work	Lump Sum	$ 104,200.00
Utility Coordination and Corridor Creation	Lump Sum	$ 9,500.00
Survey Field Work (By CEC, Inc.)	Cost Plus	$ 25,000.00
Jurisdictional Waters Determination (By CEC, Inc.)	Cost Plus	$ 1,500.00
	Additional Contract Not-To-Exceed	$ 140,200.00

The following is the compensation to be paid to Benesch for the scope items noted above. The fees for the additional design services have been developed with the understanding that they will be performed concurrently with the original design phase services. The only reimbursables that will be included on this project are permit fees, and third-part review fees which will be paid by Benesch and reimbursed at cost by the City. All other incidental costs (i.e. printing, travel, etc.) shall be included in the lump sum totals.

November 19, 2019

Sammie McCoy
Principal Engineer
Alfred Benesch & Company
8 Cadillac Drive, STE 250
Brentwood, TN 37027

Dear Mr. McCoy:

Subject: Revised Proposal for Professional Services
Lewisburg Pike Sidewalk & Multi-use Trail Project
Franklin, Tennessee
CEC Project 195-344

Civil & Environmental Consultants, Inc. (CEC) is pleased to present Alfred Benesch & Company (CLIENT) this **REVISED** proposal for professional surveying and Jurisdictional Waters Determination services to aid in the design of the sidewalk and multi-use trail along Lewisburg Pike in Franklin, TN as shown on Figure 1 and Figure 2 provided by CLIENT. CEC completed a survey along a portion of Lewisburg Pike in 2016 and this scope will update the area of previous survey and acquire additional survey. The proposed scope of services, fee, and schedule presented below, is based on email correspondence and phone calls between CLIENT and CEC.

1.0 SCOPE OF SERVICES

1.1 Task 0001 - Survey

CEC will conduct a field-run topographic survey within the new survey areas as shown on Figure 3. The limits of survey will generally extend on the west side of Lewisburg Pike from Stewarts Street in a northerly direction for approximately 460 feet with a 25 foot width of survey. The new area limits will also extend along Lewisburg Avenue from the east side of the existing railroad track crossing along both sides of the road southeasterly for approximately 500 feet, and then continuing along the southerly side of Lewisburg Pike, but extending to the northerly edge of pavement for an additional 3,600 feet covering the area shown on Figure 3. The survey limits also include the Collins Farm property owned by the City of Franklin. CEC will survey sanitary sewer manhole rims and inverts as shown in Figure 2. Where the existing sidewalk is located on the old golf course the survey limits will extend 15 feet to the southerly side of the sidewalk.

Within the survey limits, CEC will locate the visible and\or marked utilities, adjacent roadway, building locations, existing site improvements, and edge of tree drip lines. Invert elevations, pipe size and pipe material of the storm and sanitary sewer structures will be obtained if visible. Individual specimen trees with a diameter of twenty-four (24) inches or greater and aesthetic

understory trees with a diameter of eight (8) inch or more measured at four-and-one-half feet above grade will be located. Contours will be generated at one-foot intervals.

Utilities will be shown according to surface observations combined with plans and markings provided by calling the TN811. It is CEC's experience TN811 may not respond to a request for markings unless excavation activities are involved. TN811 does not mark utility lines or services on private property. The surveyor makes no guarantee that the utilities located comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the utilities located are in the exact location indicated. For utility lines or service locations on private property, CEC can retain the services of a private underground utility location service for an additional fee upon request.

CEC will locate existing property and right-of-way (ROW) monumentation along with field evidence of occupation within the limits of survey. CEC will establish the approximate ROW and property sidelines for approximately 14 parcels along Lewisburg Pike that the new survey areas adjoin from deed calculations in combination with field evidence located. CEC assumes there will be sufficient monumentation and evidence found during the performance of the field portion of the survey to adequately define the ROW and sidelines. Property owner information will be provided based on current tax records. A General Property Survey as defined by the Standards of Practice for Land Surveyors in TN is not included as part of this proposal.

Within the 2016 surveyed area as shown on Figure 3, CEC will complete an updated survey of Lewisburg Pike to show the new paved surface elevations and lane stripping. In addition to the road surface, CEC will verify no other features have changed that would affect the design of the sidewalk and multiuse trail. CEC will check current tax records to verify current property owners are shown for approximately 9 parcels within the 2016 survey area.

CEC will utilize survey field technicians equipped with GPS, Robotics, and Conventional Total Station surveying instruments. The survey will be referenced to the Tennessee State Plane Coordinate System (NAD83) and the North American Vertical Datum of 1988 (NAVD88, Geoid 12B) in U.S. Feet. CEC will process the survey data in Civil3D to verify survey information before providing the CLIENT an ASCII points file utilizing the TDOT survey code list for their use.

It is understood that the CLIENT hereby grants CEC or represents and warrants (if the site is not owned by the CLIENT) that permission has been duly granted for a Right-of-Entry by our firm, agents, staff, consultants and subcontractors for the purpose of obtaining field information pertinent to the subject project.

1.2 Task 0002 - Jurisdictional Waters Determination

The scope of this task is to provide a Waters of the U.S. Determination (i.e., streams and wetlands) within the project area described above. In performing the jurisdictional determinations, the 1987 *Corps of Engineers Wetlands Delineation Manual* and the 2012 *Regional Supplement: Eastern*

Mountains and Piedmont Region, Version 2.0, will be closely followed to establish a description of the soils, plants and hydrologic conditions of the site. CEC will perform the following tasks:

1. Using the 1987 *Corps of Engineers Wetland Delineation Manual* and the 2012 *Regional Supplement: Eastern Mountains and Piedmont Region*, Version 2.0, delineate potential wetlands located along the proposed alignment.

2. Complete the Corps of Engineers Wetland Data Forms for each wetland/upland sampling site.

3. Using a Trimble® GeoXT GPS Unit, map the wetland boundaries (if present) to determine area, and log lat/long of each soil pit along with hue, value and chroma of the soil using a standard Munsell® Color Chart.

4. Complete the *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers* forms, which the Corps currently uses to determine mitigation ratios.

5. Prepare a summary report describing the findings that includes the routine wetland determination data forms, a photo summary, and delineation map.

6. Submit wet weather conveyance and stream determinations to TDEC as a Qualified Hydrologic Professional.

7. Coordinate with TDEC and the Nashville Corps of Engineers office to schedule a concurrence site visit at the direction of Alfred Benesch & Company.

2.0 SCHEDULE

CEC can begin work on this project within 10 business days of your notification to proceed and can deliver the survey information and Jurisdictional Determination within 45 business days following the commencement of the survey fieldwork, weather permitting.

3.0 AGREEMENT & FEE

CEC's estimated fee is based on the scope above and will be billed on a Time and Materials basis. The estimated cost to perform the scope of services outlined above is provided below:

Task	Estimated Fee
0001 - Survey	$30,525.00
0002 - Jurisdictional Waters Determination	$ 4,200.00
Total	**$34,725.00**

Any additional services requested by the client and performed by CEC will be invoiced as per our 2019 City of Franklin Services Fee Schedule (attached). CEC will obtain the client's approval prior to performing any additional work. Our Schedule of Terms and Conditions which apply to the proposed work is also attached. Your verbal or written (including email) authorization to proceed will form a binding contract and indicates your acceptance of our Terms and Conditions. Any changes to our Terms and Conditions must be agreed to in writing by both parties prior to your authorization to proceed.

4.0 CLOSING

CEC appreciates the opportunity to provide this proposal to Alfred Benesch & Company for the professional surveying services. Should you have any questions or comments regarding this proposal or the project, please do not hesitate to call us at (615) 333-7797.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

James R. Cooley, P.L.S.	Eric Gardner, P.E.	Jeff Duke
Project Manager	Senior Project Manager	Senior Principal

Enclosures: Figure 1 - Proposed Sidewalk and Multi-use Trail Location Map
Figure 2 - Collins Farm Property
Figure 3 - Survey Limits Map
Survey Terms & Conditions
2019 City of Franklin Services Fee Schedule

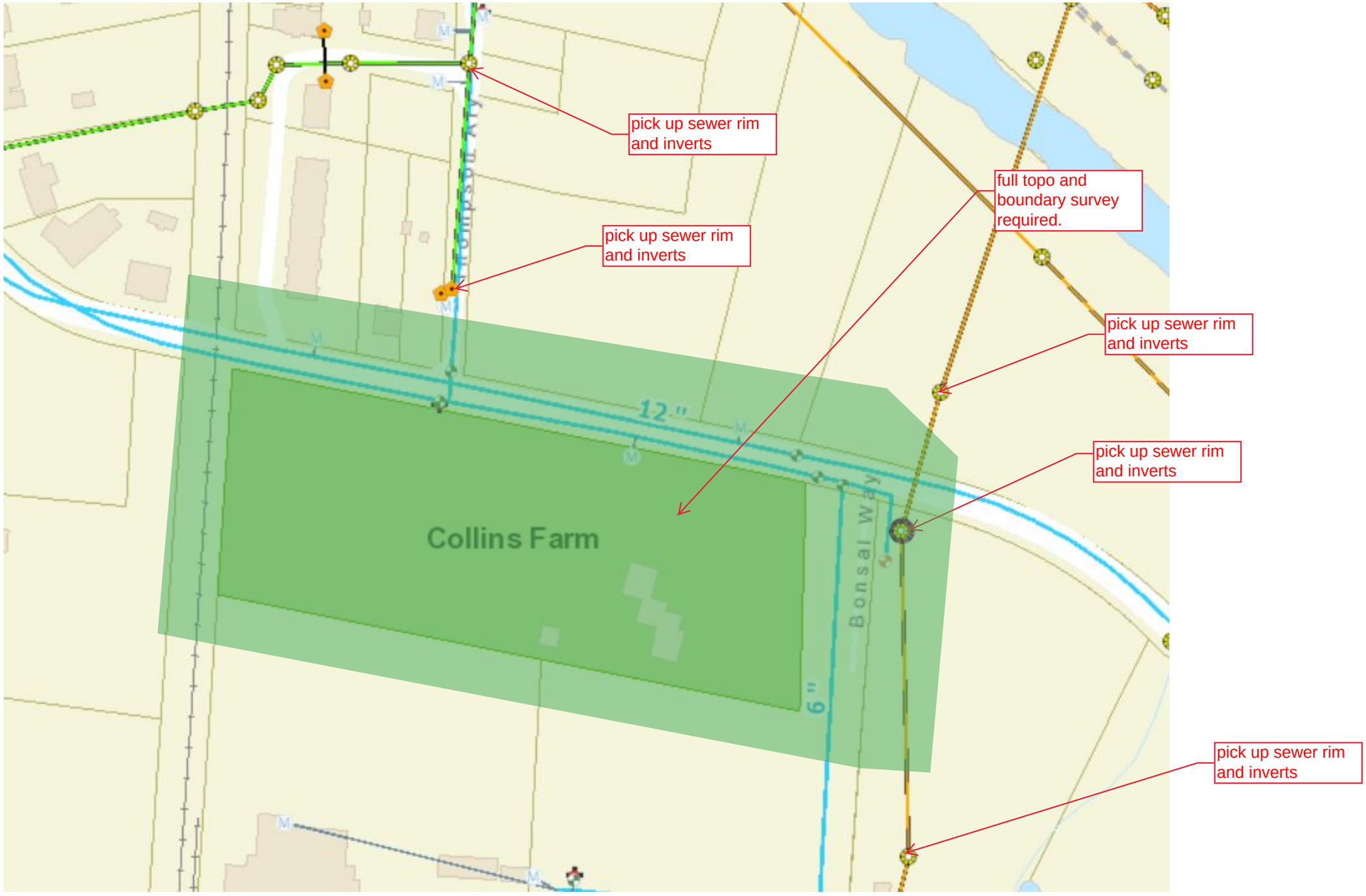
FIGURE 1

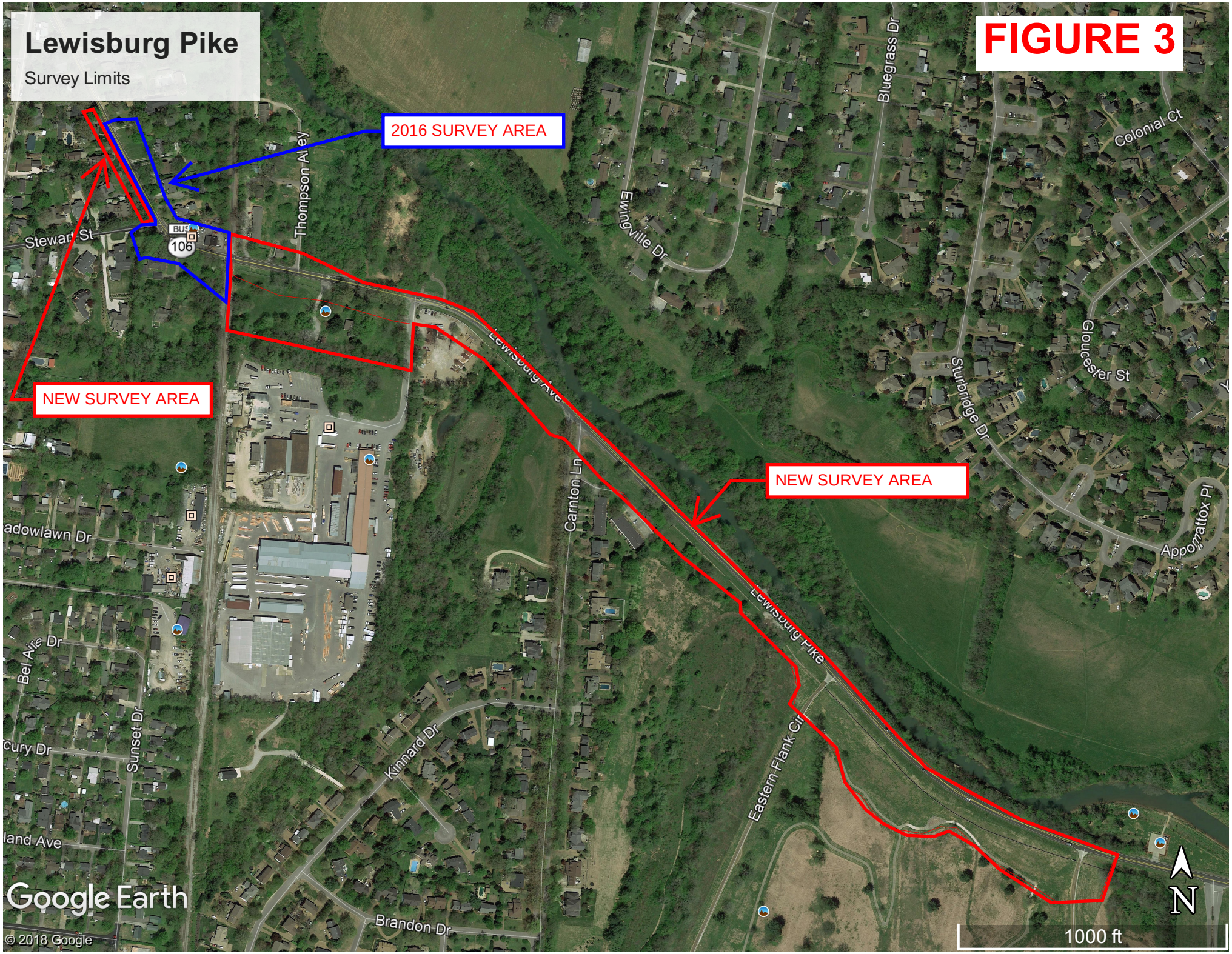
LEWISBURG AVE PEDESTRIAN IMPROVEMENTS
RESOLUTION 2019-92
EXHIBIT A

- EXISTING SIDEWALK
- PROPOSED SIDEWALK
- EXISTING MULTI-USE TRAIL
- PROPOSED MULTI-USE TRAIL

OPTION 4
EST COST = $5,000,000

FIGURE 2


pick up sewer rim and inverts
pick up sewer rim and inverts
full topo and boundary survey required.
pick up sewer rim and inverts
pick up sewer rim and inverts
pick up sewer rim and inverts
Collins Farm
12"
6"
Bonsal Way
Thompson's Dr


Lewisburg Pike
Survey Limits
FIGURE 3
2016 SURVEY AREA
NEW SURVEY AREA
NEW SURVEY AREA
Thompson Alley
Stewart St
BUS 106
Ewingville Dr
Bluegrass Dr
Colonial Ct
Gloucester St
Sturbridge Dr
Appomattox Pl
Lewisburg Ave
Carnton Ln
Lewisburg Pike
Eastern Flank Cir
Kinnard Dr
Brandon Dr
Sunset Dr
Bel Aire Dr
adowlawn Dr
cury Dr
land Ave
Google Earth
© 2018 Google
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1000 ft

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
117 SEABOARD LANE • SUITE E-100
FRANKLIN, TENNESSEE 37067
PHONE: 615-333-7797 • FAX: 615-333-7751
E-MAIL: nashville@cecinc.com

City of Franklin Services
Fee Schedule

January 1, 2019 through December 31, 2019

PROFESSIONAL SERVICES

Classification	Rate/Hour
Senior Principal	$222
Principal	$202
Senior Project Manager	$176
Project Manager III	$166
Project Manager II	$151
Project Manager I	$137
Assistant Project Manager	$113
Project Consultant / Geologist / Ecologist / Environmental Scientist	$106
Staff Consultant / Geologist / Ecologist / Environmental Scientist	$99
Designer	$107
Draftsperson / CADD Operator	$68
Senior Field Technician	$84
Environmental Technician./ Intern	$52
Senior Land Surveyor	$141
Assistant Project Surveyor	$102
Survey Technician IV	$96
Survey Technician III	$86
Survey Technician II	$76
Survey Technician I	$66
Administrative Assistant	$66
Administrative Manager	$76

DIRECT EXPENSES

Printing and Reproduction *
Miscellaneous Reimbursables *

* As directed by the City Engineer on a project-by-project basis

SUBCONTRACT SERVICES

Services @ Cost Plus 10%

November 13, 2019

Mr. Sammie McCoy
Principal Engineer
Alfred Benesch & Company
8 Cadillac Drive, STE 250
Brentwood, TN 37027

Dear Mr. McCoy:

Subject: Proposal for Professional Services
Lewisburg Pike Sidewalk & Multi-use Trail Project – From the Eastern Flank Battlefield Park to Mack Hatcher
Franklin, Tennessee
CEC Project 195-344

Civil & Environmental Consultants, Inc. (CEC) is pleased to present Alfred Benesch & Company (CLIENT) this proposal for additional professional services related to the proposed extension of sidewalk and multi-use trail on Lewisburg Pike. CEC had previously submitted a proposal to aid in the design of the sidewalk and multi-use trail along Lewisburg Pike from Stewart Street to the eastern entrance to the Eastern Flank Battlefield Park (EFBP). This proposal is to provide surveying and Jurisdictional Waters Determination services from the eastern entrance of the EFBP to Mack Hatcher as shown on Exhibit 1. The proposed scope of services, fee, and schedule presented below, is based on email correspondence and phone calls between CLIENT and CEC.

1.0 SCOPE OF SERVICES

1.1 Task 0003 - Survey

CEC will conduct a field-run topographic survey within the new survey area as shown on Exhibit 1. The survey will generally extend along Lewisburg Pike from the eastern entrance to the EFBP to the intersection of Lewisburg Pike and Mack Hatcher. The limits of the survey will be the edge of pavement on the north/westbound traffic lane to 75’ south and west of the east/southbound traffic lane. The limits will also include the radius return of Lewisburg Pike at the intersection with Mack Hatcher on the northwest corner of the intersection.

Within the survey limits, CEC will locate the visible and\or marked utilities, adjacent roadway, building locations, existing site improvements, and edge of tree drip lines. Invert elevations, pipe size and pipe material of the storm and sanitary sewer structures will be obtained if visible. Individual specimen trees with a diameter of twenty-four (24) inches or greater and aesthetic understory trees with a diameter of eight (8) inch or more measured at four-and-one-half feet above grade will be located. Contours will be generated at one-foot intervals.

Utilities will be shown according to surface observations combined with plans and markings provided by calling the TN811. It is CEC's experience TN811 may not respond to a request for markings unless excavation activities are involved. TN811 does not mark utility lines or services on private property. The surveyor makes no guarantee that the utilities located comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the utilities located are in the exact location indicated. For utility lines or service locations on private property, CEC can retain the services of a private underground utility location service for an additional fee upon request.

CEC will locate existing property and right-of-way (ROW) monumentation along with field evidence of occupation within the limits of survey. CEC will establish the approximate ROW and property sidelines for approximately 20 parcels along Lewisburg Pike that the new survey area adjoin from deed calculations in combination with field evidence located. CEC assumes there will be sufficient monumentation and evidence found during the performance of the field portion of the survey to adequately define the ROW and sidelines. Property owner information will be provided based on current tax records. A General Property Survey as defined by the Standards of Practice for Land Surveyors in TN is not included as part of this proposal.

CEC will utilize survey field technicians equipped with GPS, Robotics, and Conventional Total Station surveying instruments. The survey will be referenced to the Tennessee State Plane Coordinate System (NAD83) and the North American Vertical Datum of 1988 (NAVD88, Geoid 12B) in U.S. Feet. CEC will process the survey data in Civil3D to verify survey information before providing the CLIENT an ASCII points file utilizing the TDOT survey code list for their use.

It is understood that the CLIENT hereby grants CEC or represents and warrants (if the site is not owned by the CLIENT) that permission has been duly granted for a Right-of-Entry by our firm, agents, staff, consultants and subcontractors for the purpose of obtaining field information pertinent to the subject project.

1.2 Task 0004 - Jurisdictional Waters Determination

The scope of this task is to provide a Waters of the U.S. Determination (i.e., streams and wetlands) within the project area described above. In performing the jurisdictional determinations, the 1987 *Corps of Engineers Wetlands Delineation Manual* and the 2012 *Regional Supplement: Eastern Mountains and Piedmont Region*, Version 2.0, will be closely followed to establish a description of the soils, plants and hydrologic conditions of the site. CEC will perform the following tasks:

1. Using the 1987 *Corps of Engineers Wetland Delineation Manual* and the 2012 *Regional Supplement: Eastern Mountains and Piedmont Region*, Version 2.0, delineate potential wetlands located along the proposed alignment.

2. Complete the Corps of Engineers Wetland Data Forms for each wetland/upland sampling site.

3. Using a Trimble® GeoXT GPS Unit, map the wetland boundaries (if present) to determine area, and log lat/long of each soil pit along with hue, value and chroma of the soil using a standard Munsell® Color Chart.

4. Complete the *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers* forms, which the Corps currently uses to determine mitigation ratios.

5. Prepare a summary report describing the findings that includes the routine wetland determination data forms, a photo summary, and delineation map.

6. Submit wet weather conveyance and stream determinations to TDEC as a Qualified Hydrologic Professional.

7. Coordinate with TDEC and the Nashville Corps of Engineers office to schedule a concurrence site visit at the direction of Alfred Benesch & Company.

2.0 SCHEDULE

CEC can begin work on this project within 10 business days of your notification to proceed and can deliver the survey information and Jurisdictional Determination within 45 business days following the commencement of the survey fieldwork, weather permitting.

3.0 AGREEMENT & FEE

CEC's estimated fee is based on the scope above and will be billed on a Time and Materials basis. The estimated cost to perform the scope of services outlined above is provided below:

Task	Estimated Fee
0003 - Survey	$25,000.00
0004 - Jurisdictional Waters Determination	$ 1,500.00
Total	**$26,500.00**

Any additional services requested by the client and performed by CEC will be invoiced as per our 2019 City of Franklin Services Fee Schedule (attached). CEC will obtain the client's approval prior to performing any additional work. Our Schedule of Terms and Conditions which apply to the proposed work is also attached. Your verbal or written (including email) authorization to proceed will form a binding contract and indicates your acceptance of our Terms and Conditions. Any changes to our Terms and Conditions must be agreed to in writing by both parties prior to your authorization to proceed.

4.0 CLOSING

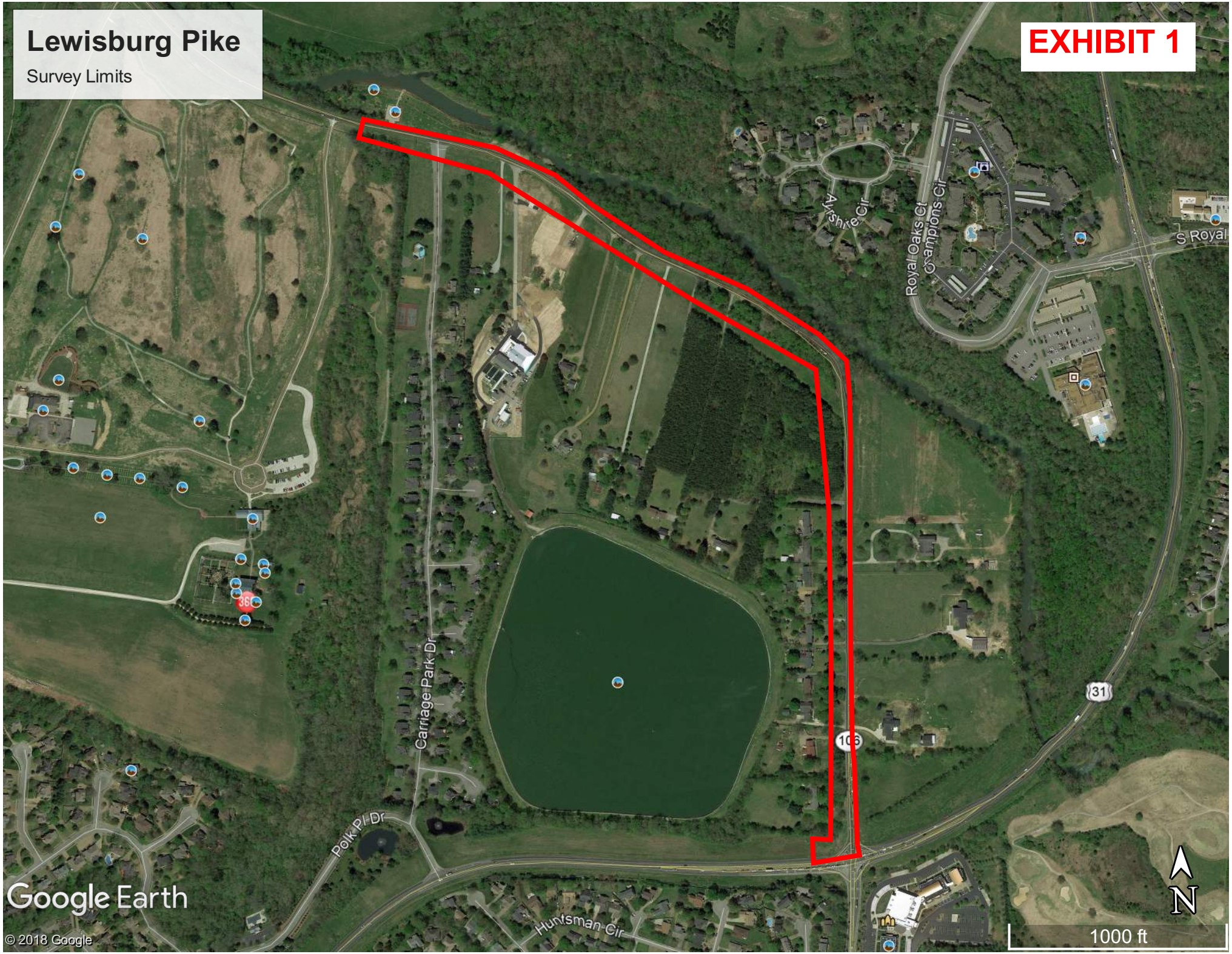
CEC appreciates the opportunity to provide this proposal to Alfred Benesch & Company for the professional surveying services. Should you have any questions or comments regarding this proposal or the project, please do not hesitate to call us at (615) 333-7797.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

James R. Cooley, P.L.S.	Eric Gardner, P.E.	Jeff Duke
Project Manager	Senior Project Manager	Senior Principal

Enclosures: Exhibit 1 - Proposed Multi-use Trail Location Map
Survey Terms & Conditions
2019 City of Franklin Services Fee Schedule


Lewisburg Pike
Survey Limits
EXHIBIT 1
Ayshire Cir
Royal Oaks Ct
Champions Cir
S Royal
Carriage Park Dr
Polk Pl Dr
Huntsman Cir
31
106
Google Earth
© 2018 Google
N
1000 ft

CIVIL INFRASTRUCTURE ASSOCIATES

307 Hickerson Drive
Murfreesboro, TN 37129
tel 615.663.7678
www.cia-engineers.com

October 15, 2019

Mr. Brian Ralstin, PE
Project Engineer
Alfred Benesch & Company, Inc.
8 Cadillac Drive, Suite 250
Brentwood, Tennessee 37027

Re: Proposal for Geotechnical Exploration Services
Harlinsdale Pedestrian Bridge
Franklin, Williamson County, Tennessee
CIA Proposal No. 2019320

Dear Mr. Ralstin:

CIA, LLC is pleased to submit this proposal to provide geotechnical exploration services for the referenced project. This proposal is based on project information provided to us and presents our scope of services, fee, and schedule information.

PROJECT AND BACKGROUND INFORMATION

Initial project information was provided to us by Benesch by email transmission on October 8, 2019. At that time, we were provided an aerial drawing showing the project limits and the location of a potential retaining with a maximum height approaching 10 feet vertically. We were instructed to provide a geotechnical scope that would be adequate to develop geotechnical parameters for design of an MSE wall and to provide global stability of the proposed wall.

Based on the provided drawing, we understand that the project will be located along Lewisburg Pike in Franklin, Tennessee. The project consists of adding a multi-use path and sidewalks to the existing roadway.

SCOPE OF SERVICES

The goals of this exploration are to generally characterize site geologic conditions, determine lithology, evaluate soil and rock foundation conditions at the retaining wall location, and develop recommendations for the proposed construction. The assessment of environmental concerns is beyond the scope of the geotechnical exploration.

After review of the plan provided by Benesch, CIA plans to advance up to 6 borings at the proposed retaining wall location. All borings will be extended to auger refusal. The overburden at each drilled location will be drive-sampled in general accordance with ASTM D 1586 “Penetration Test and Split-Barrel Sampling of Soils.” At select locations, we may attempt to obtain relatively undisturbed samples with thin-walled (Shelby) tubes. We do not plan to borings into the underlying rock. Upon completion of boring advancement, each boring will be checked for the presence of groundwater and will then be subsequently backfilled with auger cuttings.

The estimated drilling quantities are presented in the attached cost estimate summary. CIA will monitor the exploration and adjust the exploration program to address any specific needs dictated by the subsurface conditions encountered. We will communicate the observed subsurface conditions to the design team and coordinate any adjustments to the exploration program and associated impacts to the budget and schedule for completion of the geotechnical exploration. No additional work that will require an increase in the budget for the geotechnical exploration will be initiated without prior approval.

Following completion of the field exploration, laboratory testing will be assigned to selected samples to assess the engineering characteristics of the overburden. Laboratory index testing will be conducted to determine the natural moisture content, Atterberg limits, and grain size distribution of select soil samples recovered from the drilling operations. Additionally, select soil specimens may be subjected to unconfined compressive strength testing to provide shear strength data to support design efforts. Other tests may be required depending upon the subsurface conditions encountered.

No drilling activities will take place without proper coordination with current property owners. CIA will contact the Tennessee One Call System (811), the state-wide utility clearance coordinator for the State of Tennessee, to have the underground utilities marked prior to mobilization of the drilling equipment. The boring locations may be offset from the proposed locations to facilitate access and avoid marked utilities. CIA is not responsible for repair of utilities that are not properly identified by others at the time of our exploration.

A geotechnical report will be issued for the geotechnical exploration, outlining the scope of work performed as well as the results of the exploration and lab testing program. The report will address geotechnical aspects of retaining wall design and construction. The geotechnical reports will present our findings and will address, at a minimum, the following:

- General information regarding the site and subsurface conditions, including soil stratigraphy and bedrock occurrences, as well as groundwater measurements.
- Results of laboratory tests performed on selected samples.
- General comments regarding geology and geologic hazards, such as karst conditions.
- Recommendations for site preparation, including criteria for stripping, excavation, reuse of on-site materials as structural fill, undercutting of suitable materials and subgrade remedial treatments, and criteria for compacted fill where applicable.
- Recommendations for retaining wall design and construction.
- Recommendations for embankment and walkway design and construction (if applicable).
- Recommendations for temporary and permanent groundwater control, if needed.

Additional comments/conditions upon which this proposal is based are as follows:

- We anticipate that the proposed exploration will be conducted within public right of way of the City of Franklin property. If access to private property is required, we will make reasonable efforts to gain voluntary permissions for entry from private property owners, where appropriate. Benesch will be notified, as necessary, of any properties where such entry might be denied.
- We will measure from existing landmarks to establish the boring locations during field exploration. Determination of the exact boring locations and ground surface elevations is beyond this scope of

services. This proposal does not include provisions for surveying efforts to establish the boring locations.

- If traffic conditions or related concern for the safety of personnel working adjacent to and within existing roadways, CIA will coordinate activities with Benesch, The City of Franklin, or county personnel as applicable. A CIA professional will be dedicated to the field work on a full-time basis to coordinate safety procedures and drilling efforts. We do not anticipate that subcontracted traffic control will be required.

- The subsurface exploration will be planned and conducted in accordance with the Tennessee Department of Environment and Conservation General Permit for Surveying and Geotechnical Exploration. As such, installation and monitoring of erosion protection/siltation control measures by both subcontracted and CIA personnel may be required as part of the drilling program.

- The unit prices submitted in this proposal were derived based on the anticipated scope of work assuming the subsurface exploration program would be performed within one year from this proposal date.

- We will retain the soil samples for 30 calendar days following the submittal of the geotechnical engineering report. After this time, the soil samples may be discarded unless directed otherwise.

FEE SCHEDULE AND AUTHORIZATION

It is our understanding that the geotechnical work will be contracted under a unit price contract. Based on our understanding of the project, our estimated fees are outlined below. A detailed cost estimate is attached.

1.00 Drilling Services	$4,980.00
2.00 Laboratory Services	$1,412.00
3.00 Engineering Services	$7,465.00

Total Not-to-Exceed Costs	$13,857.00

We will discuss with you any expected modifications in scope of services and fee if necessary.

Closing

We appreciate the opportunity to support this design-build pursuit exploration and design efforts for this project and look forward to working with you in the future. If you have any questions, please feel free to contact our office.

Sincerely,
CIA, CIVIL INFRASTRUCTURE ASSOCIATES, LLC

Matt Bullard, PE
Vice President
Director of Geotechnical Services

Attachment: Cost Estimate

Geotechnical Exploration and Engineering Professional Services
Lewisburg Pike Retaining Wall
Franklin, Williamson County, Tennessee
Alfred Benesch & Company

CIVIL INFRASTRUCTURE ASSOCIATES

COST ESTIMATE
10/15/2019

1.0 DRILLING SERVICES

		Qty.		Rate		Cost
1.1	Equipment Mobilization	1	$ 800.00	each	$	800.00
1.2	On-site Project Professional	20	$ 95.00	per hour	$	1,900.00
1.3	Soil Auger Drilling	150	$ 14.00	per vertical foot	$	2,100.00
1.4	Rock Core Set-up	0	$ 100.00	each	$	-
1.5	Rock Coring	0	$ 42.00	per vertical foot	$	-
1.6	Water Hauling	0	$ 250.00	per day	$	-
1.7	Shelby Tubes	3	$ 60.00	each	$	180.00
				SUBTOTAL	**$**	**4,980.00**

2.0 LABORATORY TESTING SERVICES

		Qty.		Rate		Cost
2.1	Natural Moisture Content	8	$ 9.00	each	$	72.00
2.2	Sieve Particle Size Analysis (ASTM D 422)	2	$ 80.00	each	$	160.00
2.3	Atterberg Limits (ASTM D 4318)	4	$ 65.00	each	$	260.00
2.4	Unconfined Compression Test (Rock)	0	$ 125.00	each	$	-
2.5	Unconfined Compression Test (Soil)	4	$ 100.00	each	$	400.00
2.6	Triaxial Compression Test (CU)	2	$ 260.00	each	$	520.00
				SUBTOTAL	**$**	**1,412.00**

3.0 ENGINEERING SERVICES

		Qty.		Rate		Cost
3.1	Project Initiation, Coordination, and Utility Locates					
3.1.1	Project Professional	2	$ 95.00	per hour	$	190.00
3.1.2	Senior Project Manager	1	$ 185.00	per hour	$	185.00
3.2	Engineering Evaluations and Report Development, Bridge					
3.2.1	Project Professional	42	$ 95.00	per hour	$	3,990.00
3.2.2	Senior Project Manager	12	$ 185.00	per hour	$	2,220.00
3.2.3.	Principal Geotechnical Engineer	4	$ 220.00	per hour	$	880.00
				SUBTOTAL	**$**	**7,465.00**

	ESTIMATED TOTAL COST	**$ 13,857.00**

CIVIL INFRASTRUCTURE ASSOCIATES

Schedule of Hourly Rates

CIVIL, GEOTECHNICAL, AND SURVEY

Senior Principal	$220
Principal	$210
Senior Project Manager	$200
Senior Engineer	$190
Project Manager	$185
Project Engineer III	$175
Project Engineer II	$165
Project Engineer I	$155
Technical Professional III	$140
Technical Professional II	$130
Technical Professional I	$120
Senior Designer	$120
Designer	$110
Senior Field Technician	$120
Field Technician II	$100
Field Technician I	$80
Administrative Professional	$80

Survey Crew – 3 Man Party	$220
Survey Crew – 2 Man Party Two Man Survey Crew	$170
Survey Crew - One Man Robotic or RTK (GPS) Survey Crew	$130
Senior Survey CADD/GIS Technician	$100
Survey CADD/GIS Technician	$90
Senior Land Surveyor/Manager (PE/RLS)	$160
Land Surveyor/Manager (PE/RLS)	$145
Party Chief..	$100

Effective November 2019