BWSC Barge Waggoner Sumner & Cannon, Inc.®

December 14, 2015

Via Email: paul.holzen@franklintn.gov

Paul Holzen, PE
City Engineer
City of Franklin
109 3rd Avenue North
Franklin, TN 37064

RE: Columbia Avenue Roadway Improvements
Franklin, TN
Subject: Revised Scope of Work and Fee

Dear Paul:

Barge Waggoner Sumner & Cannon, Inc. (BWSC) is pleased to provide the attached revised scope of work for the proposed roadway improvements to Columbia Avenue. The details of our scope are included in Attachment A to this letter.

This scope of work was prepared based on our understanding of the project. If we have not fully addressed your project requirements or if you have other questions regarding the scope of work, please let us know immediately.

On behalf of BWSC, we appreciate the opportunity to help you and the City achieve your goals for this project.

Sincerely,

Daniel J. Spann, P.E., PTOE
Vice President, Transportation Director

Attachment

cc: Jonathan Marston, City of Franklin (via Email: jonathan.marston@franklintn.gov)
William Banks, City of Franklin (via Email: william.banks@franklintn.gov)

The scope of work is presented in the following elements.

I. Project Description
II. Scope of Services
III. Project Understanding, Assumptions, and Exclusions
IV. Time of Performance
V. Client's Responsibilities
VI. Compensation

I. PROJECT DESCRIPTION

Barge Waggoner Sumner & Cannon, Inc. (BWSC) is proposing to provide professional services for the design of improvements to Columbia Avenue, from Mack Hatcher Parkway to just past Downs Boulevard, in Franklin, TN. This segment of Columbia Avenue frequently experiences traffic congestion and lacks appropriate pedestrian and bicycle facilities. The purpose of the roadway improvements is to provide a safer, more efficient corridor for all users.

II. SCOPE OF SERVICES

The following scope of services has been divided into three phases. These include the following:

- NEPA Phase Services;
- Design Phase Services;
- Construction Phase Services.

A detailed scope and fee follows for the NEPA Phase services. The scope and fee for Design Phase Services will detailed once NEPA Phase services are complete.

NEPA Phase Services:

BWSC understands that the purpose of this phase of the project is to prepare a NEPA document including all necessary agency consultation scoping letters and public meeting efforts for the above subject project. In addition, BWSC will complete the environmental technical studies indicated herein as required by the Tennessee Department of Transportation (TDOT) and/or Federal Highways Administration (FHWA) in order to sufficiently satisfy NEPA documentation for the project. Generally speaking, the project study area comprises the portion of Columbia Avenue from Mack Hatcher Parkway to just north of Downs Boulevard and all existing and proposed rights of way. The NEPA Phase services have been divided into the following:

- A. NEPA Document Preparation;
- B. Planning and Analysis; and
- C. Preliminary Engineering.

Following is a detailed description of each:

A. NEPA Document Preparation

We will initiate work on this task immediately upon authorization. Our proposed scope of work for this effort as presented below is divided into three (3) tasks. These include:

- Task A1 – Document Coordination;
- Task A2 - Stakeholder Engagement;
- Task A3 - Technical Studies.

Following is a detailed description of tasks A1, A2, and A3:

Task A1 - Document Coordination

BWSC has discussed our knowledge of this project with TDOT and anticipates that a NEPA D-List Categorical Exclusion (CE) document would be appropriate for this project. BWSC will obtain agency concurrences and produce supplemental information to attach to the CE form and letter. Figures and resource maps will also be required to be attached to the CE and will be produced or obtained by BWSC. The CE form, letter, and all supplemental information, including attachments, shall be sent to the City of Franklin for review and approval. BWSC will incorporate all client comments and submit a revised CE to TDOT for review. BWSC will address all TDOT and FHWA comments and prepare a final version of the CE and supplemental documentation. If the TDOT point-of-contact (POC)/technical reviewer provides any additional comments, these comments will also be revised and incorporated into the CE for final TDOT and FHWA approval.

In addition to the above CE document and associated correspondence, it is anticipated that the above subject project will be that of a D-List CE NEPA document and could result in TDOT and/or FHWA requiring multiple public meetings as well as technical studies for Natural Resources (i.e. Waters of the US/State and Protected Species), Archaeology/Cultural Resources, and Air and Noise.

Therefore, BWSC will perform the following additional tasks summarized below as required and at the City of Franklin's request: (*Note: Should these tasks not be required for the project, they will not be billed to the City.)*

Task A2 - Stakeholder Engagement

The engagement and buy-in for the widening improvements on Columbia Avenue will be a well-publicized and involved process. It is the most important non-technical aspect of this multi-year project. Users inside the Columbia Avenue corridor expect inclusion. We will initiate work on this important task immediately upon authorization, and our proposed scope of work as presented below is divided into:

- *Task A2a - Stakeholder Involvement Planning;*
- *Task A2b - Stakeholder Meetings;*
- *Task A2c - Project External Communication.*

Following is a detailed description of each of tasks A2a, A2b and A2c:

Task A2a - Stakeholder Planning Phase
Upon notice to proceed the BWSC team will immediately begin preparation of a Stakeholder Engagement Plan that will be presented in draft form to the City team within three weeks from project initiation. Once reviewed by the City team, we will support presentation of this plan to the Board of Mayor and Alderman (BOMA) at a work session scheduled as soon as possible. The purpose of the plan is to outline how the City will engage the stakeholders affected by the Columbia Avenue project, or others that will have important input into the project. Since individuals on BOMA may be the front line in fielding questions or comments, we want to make sure BOMA members are comfortable with the plan for engaging the public. The plan will include the following elements:

- Outline the overall vision for stakeholder engagement;
- Identify key issues that must be addressed through the process;
- Key stakeholders identified by the Project team;
- Methods planned for stakeholder interaction (meeting types, surveys and schedules);
- Opportunities for BOMA involvement;
- Public communication (press involvement, project website, etc.).

In order to develop this plan, BWSC will meet with key City elected officials and staff (project technical staff as well as communications staff, TDOT and some of the more prominent business and community leaders and civic groups affected by the project.)

After getting input from the BOMA workshop, BWSC will finalize the plan and initiate its implementation. It should be emphasized that during the Planning Phase, our team will continue to reach out to key affected stakeholders with the approval (and involvement as directed) of City staff.

Task A2b - Stakeholder Meetings
Although the details of the stakeholder meeting process will be determined during the planning phase, Task A2a, we have assumed the following meetings will occur for costing purposes:

- Informal one-on-one meetings- up to forty (40) of these meeting lasting no more than two (2) hours each attended by two (2) BWSC staff and City staff as directed;

- Informal group meetings, facilitating discussions with identified groups such as neighborhood associations, civic groups etc. Assumed five (5) meetings at two (2) hours each, attended by two (2) BWSC staff, and City staff as directed;

- BOMA Work sessions. assume ten (10) work sessions for BOMA briefings, four (4) hours each (includes meeting prep time) and two (2) BWSC staff;

- Formal Public Meetings. These meetings, four (4) anticipated, would be called/advertised public meetings that would include a briefing on the project status, as well as an opportunity for the public to ask questions and make

comments for the record. At least one of these is required for the NEPA process, but we will ensure that all formal Public Meetings meet the requirements for public involvement according the TDOT's Public Involvement Plan (PIP). The PIP will be used as a guide, adhering to Title VI requirements. These meetings will be attended by four (4) BWSC staff, along with key City staff, approximately six (6) hours each.

For each meeting, BWSC will develop the presentation materials (Powerpoint, Poster Boards or other graphics), provide a written summary, and for the formal meetings will record and report all of the public comments received. Graphics provided will include static renderings and perspective views of proposed alternatives; however, this estimate does not include high-level active computer animated renderings or animations; however, these can be provided at an additional cost. During the Stakeholder Plan development and review process, the assumptions for meeting types and numbers may change and we will let the City staff know how this may impact the budget assumed for this task.

Task A2c - Project External Communication
Media outlets in Franklin and surrounding areas have covered the progression of Columbia Avenue's potential widening improvements for more than a year. BWSC will work with City staff and communications, during the Stakeholder Planning phase, to determine the key media and other public communication outlets to plan for continued coverage of the project process.

For budgeting purposes we have anticipated that this work will include:

- Direct mail/Surveys;
- Signage;
- A project page on City's website;
- Local media outreach;
- Social media;
- Photography and graphics.

Usage of the City's website for continuity of message will be important over the life of this project. BWSC will schedule content for the website, and with City staff's assistance, communicate to users when information is available.

Deliverables (Task A2c):

- Templates (all types of communication);
- Notes (all meetings);
- Graphics for Public Meetings;
- Website Updates;
- Progress Reports to Engineering ;
- Stakeholder Engagement Plan.

<u>Task A3 - Technical Studies</u>
As a part of the NEPA phase, the need for certain technical studies will be determined. The potential need for three specific technical studies has been identified and included in this scope of work. They include the following:

- *Task A3a - Natural Resources Technical Study;*
- *Task A3b - Archaeology/Cultural Resources Study;*
- *Task A3c - Noise and Air Study.*

Following is a detailed description of each technical study:

Task A3a - Natural Resources Technical Study
Prior to beginning fieldwork, available literature will be reviewed to gain an understanding for the areas of interest. We will also review pertinent data from past City projects along the corridor, if available. National Wetlands Inventory (NWI) maps, U.S. Geological Survey topographic maps, infrared aerial photographs, the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soils maps, and aerial imagery will be reviewed to determine the potential presence and likelihood of waters of the U.S., including wetlands, within the areas of interest. Additionally, consultation with the U.S. Fish and Wildlife Service (USFWS) will be conducted to determine if there are any species of concern that may exist within the project area.

During field work, BWSC ecologists certified in wetland delineation methodologies will perform a Natural Resources technical review of the project study area. A Professional Wetland Scientist (PWS) and TN Qualified Hydrologic Professional (QHP) will identify and delineate all waters of the US/State (i.e. wetlands and streams) and perform a hydrologic determination of any questionable headwater channels. In addition to potentially jurisdictional waters, BWSC will review the project study area for any federally threatened or endangered species and/or their habitat. A summary report will be prepared for the client's review prior to submittal to TDOT or FHWA.

Task A3b - Archaeology/Cultural Resources Study
If needed, BWSC will hire TRC Solutions to complete an archaeological survey of the project study area. The archaeological survey will closely follow all guidelines for Phase I archaeological surveys as defined by the State of Tennessee Division of Archaeology (TDOA). TRC will review and search the archaeological records at the (TDOA) for the general project corridor and conduct a Phase I archaeological survey of the project study area. After the survey, TRC will submit a fully illustrated technical report in letter format, meeting Tennessee State Historic Preservation Office (TN-SHPO) standards, for the project study area following the completion of the fieldwork.

Task A3c - Noise and Air Study
If needed, BWSC will hire Bowlby and Associates to complete a noise and air quality analysis for the project study area. The noise analysis will consists of identification of noise-sensitive land uses, noise data collection and measurements, prediction of future noise levels, and determination of noise impacts. The air quality analysis will consist of establishing project conformity and conducting a mobile source air toxins evaluation. Finally, a summary report will be prepared for both the noise and air quality analysis.

B. Planning and Analysis
The planning and analysis component of the environmental document will provide opportunity for recommendations of the Transportation Planning Report (TPR), last updated in Year 2010, to be

updated and refined. This will include collection of new traffic data and updating traffic projections which will account for new and upcoming development along the corridor as well as accounting for other planned and committed roadway network improvements. This will also provide opportunity for alternative solutions to be examined and considered and include a national subject matter expert in the area of access management as well as subject matter experts in the fields of traffic management, intersection design, bicycle, pedestrian and transit facilities. This work will determine what is ultimately designed and constructed on the corridor.

We will initiate work on this task immediately upon authorization. Our proposed scope of work for this effort as presented below is divided into six (6) tasks:

- Task B1 – Data Collection;
- Task B2 – Existing Conditions Analysis;
- Task B3 – Projected Conditions Analysis;
- Task B4 – Alternative Development Analysis;
- Task B5 – Draft Report;
- Task B6 – Final Report.

Task B1 – Data Collection

Data collection for planning and analysis will include new field data collection, assembling historical/record data and conducting interviews with City staff. Field data collection will include the collection of peak hour turning movement counts at critical intersections along the corridor for AM, Midday and PM weekday peak periods as well as weekend peak periods; seven (7) day continuous 24-hour automated bi-directional tube counts will be collected at three locations along the corridor; travel times; field measurements and observations. Count data collection will include video capture of operations at each intersection and be available for observation.

Historical/Record data will also be gathered for review. This includes items such as TDOT counts, record studies and plans, existing signal phasing and timing information and available crash data. Interviews with staff in key departments such as engineering, traffic, streets, planning and parks will be conducted. Count data and existing travel times will be conducted by Quality Counts Transportation Data Collection Services.

A Data Collection Report summarizing the data collected will be compiled and provided to the City for its use and review.

Task B2 – Existing Conditions Analysis

Utilizing the data collected in Task B1, the existing conditions analysis will include a detailed analysis of the existing roadway, traffic control, signal system, bike, pedestrian and transit facilities along the corridor. A detailed Synchro simulation model of the existing corridor will be created and calibrated for the purpose of evaluating existing traffic operations and evaluating improvement alternatives.

Utilizing available crash data, a detailed safety analysis will be performed of the corridor utilizing the latest methodology and software from the Highway Safety Manual. Also, an evaluation of existing access management issues will be performed and documented for the corridor.

An Existing Conditions Report, including existing Synchro files will be presented and reviewed with City staff.

Task B3 – Projected Conditions Analysis

In order to effectively develop and evaluate improvement alternatives, accurate projected conditions must be determined. This will include an analysis of projected roadway and traffic control facilities for the surrounding network and development of projected volumes for the corridor.

Projected volumes will be presented and reviewed with City staff as well as submitted to TDOT for review and approval.

Task B4 – Alternative Development and Analysis

Utilizing the data collected and analysis of projected conditions, alternatives will be developed to improve operations along the corridor. This will include identifying improvements for long-term operation of vehicles, pedestrians, bikes and transit. We have assumed up to three (3) alternatives will be developed and analyzed in addition to a "no-build" alternative.

Evaluation of each alternative will include evaluation of potential access management techniques, traffic operations, and crash safety benefits utilizing the latest methodology software of the Highway Safety Manual.

Task B5 – Draft Report

The results of the Alternatives Development and Analysis will be compiled into a Draft Report. This report will first be presented and reviewed with City Staff then with City leaders. Any comments from these reviews will be addressed before public meeting presentation of the draft alternatives.

Task B6 – Final Report

Following the public meeting presentation of the draft alternatives, any necessary modifications and/or additional analysis will be performed and a final report produced for inclusion in the environmental document review and approval, which will include Preliminary Engineering and functional plans of the selected alternatives.

Deliverables (Task B.):

- Data Collection Report;
- Existing Conditions Report;
- Projected Volumes Report;
- Draft Report;
- Final Report.

C. Preliminary Engineering

BWSC will provide preliminary engineering of the alternates developed from the planning and analysis tasks noted above. We will develop functional level drawings of roadway, utility and right of way features in order to determine the environmental footprint of each alternate. To better analyze each alternate, a right of way and topographic survey of the corridor will be conducted.

We will initiate work on this task immediately upon authorization. Our proposed scope of work for this effort as presented below is divided into five (5) tasks.

Task C1 - Project Survey

Following TDOT guidelines, we will conduct a right of way and topographic survey of the project corridor. Right of way tasks will include deed research to aid in determining current right of way and easement locations. We will also locate utilities denoted by Tennessee One Call along the route. At the request of the City, BWSC will also provide digital scanning of the project using high resolution, stationary scanning techniques for use in providing backgrounds for renderings and supplemental topographic density. The deliverables from this task will be used during the design phase of the project.

Task C2 - Roadways

Using the information obtained from the planning and analysis deliverables and the project survey, we will prepare functional plans for the roadway elements of the project including edges of pavement, sidewalks, multi-use paths, driveway connections, medians, and auxiliary lanes for each identified alternate. Detailed construction plans will not be developed as part of this task, but conceptual roadway alignments, profiles and cross sections will be prepared to identify the environmental footprint of each alternate.

Task C3 - Utilities

Since Columbia Avenue is currently developed along the project length, the relocation and coordination of utilities for the roadway project will have an impact on the environmental footprint of the project. Because of this impact, we propose to prepare functional plans for these utilities, known to be located along the project:

- Atmos Energy: Natural Gas;
- AT&T; AT&T Fiber, Comcast, XO, etc.: Communications;
- Middle Tennessee Electric Membership Cooperative: Power;
- City of Franklin: Water, Sewer, Stormwater, and Industrial Water.

Coordination with each of these utilities to determine requirements and impacts will take place throughout the development of the project. Ultimately, functional plans showing conceptual layouts, major service connections and crossings, and approximate sizes will be prepared. As noted in Task C2, detailed construction plans will not be developed as part of this task.

Task C4 - Rights of Way

Using the information generated from previous tasks, BWSC will evaluate impacts to existing rights of way and easements and propose additional acquisitions for the project. These proposed acquisitions will be shown on the overall functional drawings for each alternate along with approximate before/taken/remaining acreages for each proposed acquisition.

Task C5 - EOPCC's

To aid in determining the overall economic impact of the project, funding needs, and alternate selection, we will provide Engineers Opinions of Probable Construction Costs (EOPCC), including right of way acquisition and damage costs determined as a part of Task C4, for project alternates. In providing the EOPCC, the Client understands that BWSC has no control over the cost or availability of labor, equipment materials, over-market conditions, or the Contractor's method of pricing, and that BWSC's EOPCC are made on the basis of BWSC's professional judgment and experience. BWSC makes no warranty, express or implied, that the bids or the negotiated cost of the work will not vary from BWSC's EOPCC.

Tasks C1 through C5 of the preliminary engineering phase will be conducted for the preferred alternate and up to two additional alternates, as determined by the BOMA after the planning and analysis phase of the project.

Deliverables (Task C.):

- Functional Plans (Plan Sheets at 1"=50' full size, 1"=100' half size) of each alternate, including roadway, utility and right of way features on each sheet;
- CADD files of project surveys and functional drawings;
- Memorandum style submittal of calculations for utility sizes and miscellaneous conceptual design notes.

Design Phase Services:

Once complete, the final environmental document will be submitted to TDOT's Environmental Division for review and approval. Once approved by TDOT, the document will be submitted to FHWA for review and approval. The NEPA phase ends with an approved environmental document and Notice to Proceed with the Design Phase. At that time, a detailed scope and fee will be prepared and the contract amended to include design services.

All locally managed projects which involve roadway improvements on state routes are required to be designed in accordance with TDOT Design Policies and Procedures and require detailed oversight from TDOT. Based on these procedures, it is anticipated the design phase will include the following three phases of production: Preliminary Plans, Right-of-Way Plans, and Final Construction Plans. Each phase will have its own TDOT submittal and review requirements. All submitted project plans will be prepared in TDOT format and will meet the requirements for the Preliminary, Right-of-Way, and Construction Plans Checklist, according to TDOT's Roadway Design Guidelines.

Within the development of each of these submittals, all necessary design, coordination and permitting activities will occur such as: such as geotechnical design, traffic signal and ITS designs, street lighting, landscape and streetscape design, hydraulic designs, utility coordination and designs, quantity preparation and construction estimates as well as review and permitting tasks, field reviews, preparation of property acquisition documents, and design public meetings.

The design phase will conclude with the final approved plans ready for bidding and construction.

Construction Phase Services:

It is understood and agreed that BWSC's services under this agreement do not include project observation or review of the Contractor's performance or any other construction-phase services not directly included in this scope of services.

III. PROJECT UNDERSTANDINGS, ASSUMPTIONS, AND EXCLUSIONS

A. BWSC will provide the above-noted services based upon a given set of assumptions. These assumptions are as follows:

1. BWSC will have access to the site and adjoining areas, as required.
2. Any Permit, recording fees, etc., are to be paid or reimbursed by the City of Franklin.

B. The following excluded services can be provided as an additional service with an appropriate adjustment in fees:

1. Services resulting from significant changes in general scope or character of the project or its design, particularly those resulting from differing field conditions discovered during construction (such as, but not limited to, soil conditions, environmental issues, etc.);
2. Design revisions requested by those outside the project team and stakeholders beyond a mutually agreed timeframe;
3. Environmental technical studies beyond those noted herein;
4. Extending environmental other studies beyond the limits noted herein (Mack Hatcher to Downs);
5. As Built Surveys.
6. Purchase or rental of any metering, survey or other general technology associated with public involvement. The need for this type of equipment will be determined as part of the project.

TIME OF PERFORMANCE

BWSC is prepared to begin work immediately upon receipt of a signed professional services agreement or written authorization to proceed. We would anticipate a project kickoff meeting within two weeks of authorization. Task 1 of each of the above phases of work could begin immediately after the kickoff meetings with the City. For planning purposes, an eighteen (18) month project duration should be anticipated.

IV. CLIENT'S RESPONSIBILITIES

BWSC strives to work closely with our clients. In order for the project team to function efficiently, certain information is needed to be provided by the Client and other interested stakeholders in a timely manner. These items and responsibilities are noted below:

A. Provide information as required to support development of BWSC's scope, as required in the project agreement for services;

B. Provide review comments in a timely manner;

C. Provide single point of contact for project coordination purposes;

D. Coordination of public meetings, including public announcements/invitations, providing meeting space, public information, and associated expenses will be provided by Client.

V. COMPENSATION

The compensation to be paid to BWSC for providing requested services is provided in the Fee Summary Table below.

Fee Summary Table:

Description	Estimated Fee
NEPA PHASE SERVICES	
A. NEPA Document Preparation	
A1. Document Coordination	**$20,000.00**
A2. Stakeholder Engagement Process	
A2a. - Stakeholder Planning Phase	*$25,700.00*
A2b. - Stakeholder Meetings	*$97,700.00*
A2c. - Project External Communications	*$61,500.00*
Sub-Total (Task A2.)	**$184,900.00**
A3. Technical Studies	
A3a. - Natural Resources Technical Study	*$7,900.00*
A3b. - Archaeology/Cultural Resources Study	*$9,600.00*
A3c. - Noise and Air Study	*$10,400.00*
Sub-Total (Task A3.)	**$27,900.00**
Sub-Total (Task A.)	**$232,800.00**
B. Planning and Analysis	
B1. Data Collection	$35,575.00
B2. Existing Conditions Analysis	$29,550.00
B3. Projected Conditions Analysis	$23,850.00
B4. Alternative Development and Analysis	$82,250.00
B5. Draft Report	$43,800.00
B6. Final Report	$23,750.00
Sub-Total (Task B.)	**$238,775.00**
C. Preliminary Engineering	
C1. Project Survey	$219,550.00
C2. Roadways	$77,800.00
C3. Utilities	$176,000.00
C4. Rights of Way	$49,225.00
C5. EOPCC's	$76,300.00
Sub-Total (Task C.)	**$598,875.00**
TOTAL (NEPA Phase Services)	**$1,070,450.00**
DESIGN PHASE SERVICES	**-**
CONSTRUCTION PHASE SERVICES	**-**

This fee is an estimated not to exceed amount and will be billed hourly. Individual task amounts are shown for budgeting purposes only; fee may be reallocated among tasks as needed. The fees provided above are valid up to three (3) months from the date of this proposal. Hourly rates for personnel will be billed at the direct labor rate plus the current audited overhead rate and margin as approved by TDOT. Outside services contracted for a specific project, such as professional and technical consultants, laboratory testing, reproduction, photography, etc. will be invoiced at the amount of the subcontractor's statement plus fifteen (15) percent.