

RESOLUTION 22-83

A RESOLUTION TO AUTHORIZE THE MAYOR TO SIGN A PROPOSAL WITH NEEL-SCHAEFFER TO CONDUCT THE JOINT SIGNALIZED TRAFFIC IMPACT STUDY FOR THE BEECHCROFT ROAD AND CLEBURNE ROAD INTERSECTION

WHEREAS, the City of Spring Hill has identified the need for a qualified consultant to provide design and modification services for the traffic signal and intersection design for the Beechcroft Road and Cleburne Rd. intersection; and

WHEREAS, Neel-Schaeffer is currently under contract for on-call traffic engineering services; and

WHEREAS, Neel-Schaeffer has submitted a cost proposal in the amount of \$18,510.00 which includes engineering services related to preparation of a joint traffic impact analysis for properties in proximity of the Beechcroft Rd./Cleburne Rd. intersection, three (3) meetings to facilitate the traffic impact analysis and promote coordination among stakeholders, traffic impact analysis and evaluation, and a report out to include all information to be provided to development teams; and

WHEREAS, this task will include a second design phase which is not part of this approval; and

WHEREAS, payment for the services will be expensed from the Impact Fees Fund.

NOW, THEREFORE BE IT RESOLVED, the City of Spring Hill Board of Mayor and Aldermen:

1. Approve the Professional Services Agreement with Neel-Schaeffer for the signalized traffic impact joint traffic study engineering services for the Beechcroft Road and Cleburne Road intersection in the amount of \$18,510.00, Exhibit A attached hereto.
2. Authorize the Mayor to execute the Design Services Agreement, attached hereto.

Passed and Adopted by the Board of Mayor and Aldermen of the City of Spring Hill, Tennessee on the 2nd day of May, 2022.


Jim Hagaman, Mayor

ATTEST:


April Goad, City Recorder

LEGAL FORM APPROVED:


Patrick Carter, City Attorney



REQUEST: Approval of Resolution 22-83

SUBMITTED BY: Calvin Abram, Planning Director
Tyler Scroggins, Public Works Director

DATE: May 2, 2022

RE: To authorize the Mayor to sign a professional services agreement with Neel-Schaeffer for the Joint TIS Signalized Intersection Improvement at Beechcroft Rd. and Cleburne Rd. (Phase 1).

ATTACHMENTS: PSA

PURPOSE:

The purpose of this resolution is to authorize the Mayor to sign a professional services agreement with Neel-Schaeffer for the Joint TIS Signalized Intersection Improvement at Beechcroft Rd. and Cleburne Rd (Phase 1).

BACKGROUND:

Neel-Schaeffer is under contract with the City for on-call traffic engineering services. Staff requested a Traffic Study identifying the impacts to the intersection of Beechcroft Road and Cleburne Road from current contributing development along the corridor. Neel-Schaeffer has submitted a Task Order that includes engineering services related to preparation of a joint traffic impact analysis for properties in proximity of the Beechcroft Rd./Cleburne Rd intersection, three (3) meetings to facilitate the traffic impact analysis and promote coordination among stakeholders, traffic impact analysis and evaluation, and a report out to include all information to be provided to development teams. This task will include a second design phase which is not part of this approval. Any additional costs will be submitted in the form of an amendment for approval by the Board of Mayor and Aldermen.

The total cost of the proposal is \$18,510.00.

FINANCIAL IMPACT:

Funding for the design services will be added to the FY 22 budget on the next budget amendment, expensed from the Impact Fees Fund and utilizing fund balance.

STAFF RECOMMENDATION:



Staff recommends approval of Resolution 22-83 to authorize the Mayor to sign a professional services agreement with Neel-Schaeffer for a joint traffic impact study and the associated engineering services.



April 19, 2022

Mr. Calvin Abram
Director of Planning
City of Spring Hill
199 Town Center Parkway
Spring Hill, TN 37174

**RE: ON-CALL TRAFFIC ENGINEERING SERVICES -- TASK ORDER 1
JOINT TRAFFIC STUDY & INTERSECTION DESIGN SERVICES
BEECHCROFT RD & CLEBURNE RD
SPRING HILL, TN**

Dear Calvin:

Per your request, we respectfully submit this scope and fee proposal for professional engineering services related to the referenced project.

Neel-Schaffer proposes to provide the City of Spring Hill with a traffic impact study (TIS) and design services as described in the attached information. The task order will be conducted over two phases: Phase 1 will include the study phase; Phase 2 will provide design services to implement the recommended improvements as determined by the TIS. The enclosed scope of services documents the study's proposed tasks and deliverables. A separate task order addendum will be prepared and executed at the conclusion of the study to identify and initiate the design phase. In general, the City of Spring Hill has requested the preparation of an independent traffic impact study that consolidates the analysis and evaluation of expected conditions resulting from multiple development projects underway within the study area.

Our agreement includes the following items:

- 1. Exhibit A – Scope of Services
- 2. Exhibit B – Identification of Study Projects
- 3. Exhibit C – Schedule of Fee Estimate

Neel-Schaffer will provide these services on lump sum fee terms basis. Based on the described scope of services, we estimate a professional fee of \$18,510 for Phase 1. The City of Spring Hill will be billed monthly on a percentage of lump sum fee completed. Additional services, including Phase 2 tasks, will be negotiated and provided only with written notice from you.

Neel-Schaffer, Inc. will provide these engineering services in accordance with the general terms and conditions as found in our master (on-call) professional services agreement. If the provisions of this Letter Agreement are acceptable, please have the originals executed and return a copy to us.

engineers | planners | surveyors | environmental scientists | landscape architects



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On-Call Traffic Engineering Services – Task Order 1
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Thank you for offering us the opportunity to work with you on this project. Please let us know if you should have any questions or comments concerning this proposal.

Sincerely,
NEEL-SCHAFFER, INC.



Gregory D. Judy, P.E., PTOE
Engineer Manager - Vice President

Attachments

ACCEPTED:

City of Spring Hill, TN

By:



Mayor

Date:

5-2-2022



EXHIBIT A
Scope of Services
On-Call Traffic Engineering Services
Resolution 21-189
Work Order 1

Beechcroft Road at Cleburne Road
Joint Traffic Impact Analysis & Intersection Improvement Design Services

The purpose of the Joint Traffic Impact Analysis is to determine the intersection improvements that will be necessary at Beechcroft Road and Cleburne Road. Once improvements have been identified and agreed upon, NSI will design the proposed improvements, produce construction plans and required design information for the City of Spring Hill. The City of Spring Hill intends to distribute cost contributions for the proposed intersection improvements among the following developments based on an equitable sharing contribution agreement:

- Project Titan (Magna)
- Harvest Point
- Spring Hill Industrial Park (SHIP)
- Distribution Realty Group (825 Beechcroft Rd)
- Barton Hills
- Flex Met
- Non-contributing projects included in Joint TIS: Beechcroft Subdivision, Arbor Valley Expansion, Beechcroft Self Storage

Phase 1: Traffic Impact Analysis

Neel-Schaffer, Inc. (NSI) will conduct a traffic impact analysis (TIA) to investigate traffic impacts and identify desired improvements for the intersection of Beechcroft Rd at Cleburne Rd resulting from the identified development projects. The study will consider nine subject properties as part of the traffic study. As expressed by city officials, the purpose of the TIA serves to prepare a consolidated traffic study by an independent, city-retained consultant that considers multiple development projects that are in various stages of completion. Four of the eight projects are located on currently undeveloped property along Beechcroft Road from Dr. Robertson Road to the intersection of Beechcroft Road and Beechcroft Road Extension. The TIA will be completed based on accepted industry standards and procedures on behalf of the several applicants under the supervision of City of Spring Hill engineering and planning staff. The study will quantify, analyze and evaluate the impacts of the proposed developments on the transportation network in the study area and analyze the need for improvements at the Beechcroft Rd/Cleburne Rd intersection to mitigate those impacts.

The traffic study portion of the work order will include the following tasks:

1. General
The work to be performed will consist of engineering services related to preparation of a joint traffic impact analysis for properties in proximity of the Beechcroft Rd/Cleburne Rd intersection. Proposed development information can be found in Exhibit B.
2. Meetings
Three (3) meetings have been identified to facilitate the traffic impact analysis and promote coordination among stakeholders. These meetings are outlined as follows:
 - A. Kickoff Meeting – The City of Spring Hill, NSI, and contributing development teams will meet to discuss the purpose, objectives, and desired outcomes of the joint TIA.

- B. Initial Analysis Results and Design Options Meeting – NSI will present initial analysis results and improvements for discussion and collaboration by the stakeholder group. Preliminary equitable sharing estimates will be presented.
- C. Final Stakeholder Coordination Meeting – Preferred intersection improvements will be confirmed based on previous stakeholder discussion and input. Conceptual drawings in the form of functional sketches will be presented and reviewed. Intended equitable sharing contributions by impacted stakeholders will be reviewed and confirmed.

3. Traffic Impact Analysis and Evaluation

Services to be performed by Neel-Schaffer will consist of the following:

A. Existing Conditions Analysis

- i. Existing traffic counts for Beechcroft Road at Cleburne Road will be used.
- ii. Field review and observation
- iii. Existing condition Level-of-Service analysis will be prepared to establish baseline operating performance. This task will utilize Synchro software files to conduct traffic engineering analysis. Analysis will serve to document baseline operations as compared to proposed build-out conditions.

B. Trip Generation, Distribution and Assignment Forecasts

- i. Trip Generation - NSI will utilize information provided by the applicant teams to forecast estimated traffic demand created by the developments. Information regarding type and size of proposed land uses, ITE Trip Generation reference material and experience with similar facilities will be used to produce an estimate of anticipated traffic volumes generated by the proposed developments for use in the analysis. Based on previous TIA's, the proposed developments and trip generation will be estimated following ITE's Trip Generation, 11th Edition.
- ii. Trip Distribution – The TIA will prepare a percentage trip distribution model to illustrate the expected vehicular split of travel demand. This will be based on existing traffic demand, local familiarity and engineering judgment. Separate trip distributions for each development will be required based on the locations of proposed developments.
- iii. Trip Assignment – TIA will prepare trip assignment models based on the trip generation and distribution analysis. The trip assignment model will reflect the collective trip demand from all analyzed properties.
- iv. Total Proposed Traffic Model (Build-Out Year) – The TIA will document and illustrate the predicted traffic demand for future, full-build out conditions.

C. Proposed Conditions Analysis

- i. The TIA will conduct a traffic capacity analysis, based on Highway Capacity Manual procedures, to determine intersection operational characteristics under proposed traffic conditions:
- ii. Capacity analyses will be conducted for the following time periods:
 - A.M. Peak Hour of Adjacent Street Traffic
 - P.M. Peak Hour of Adjacent Street Traffic
- iii. The proposed conditions analysis will generally consider the following characteristics, if applicable:
 - Level-of-Service capacity analysis,
 - Turn lane recommendations,
 - Queuing, storage length needs.

D. Improvements Evaluation

- i. The TIA will identify potential improvements to mitigate identified deficiencies.
- ii. Initial recommendations will be considered by the project team. Results will be evaluated with input received from the stakeholder group as part of the identified study meetings to formulate final recommendations for the Beechcroft Rd/Cleburne Rd intersection.
- iii. NSI will review development conditions of approval with city officials to develop recommendations for levels of equitable contributions by the respective development teams. Equitable share of contributions will generally be based on the relative impact (vehicle trips) that the respective development projects are forecast to have on the study intersection as determined by the study.

E. Report

- i. Neel-Schaffer will prepare a brief summary report documenting the findings and recommendations from the TIA.

4. Information to be Provided by Development Teams

Neel-Schaffer will be provided the following information for use in preparing the TIA:

- Preliminary Site Plan of the proposed development
- Existing traffic volume counts
- Existing TIA's for proposed developments, if available
- Anticipated land uses, leasable floor areas, residential units and information on expected employment and traffic generation

Phase 2 – Intersection Improvement Design

The City of Spring Hill intends to pursue implementation of the recommended intersection improvements following completion of and as documented by the TIA. Because the scope of the intersection improvements is not known at this time, the City of Spring Hill and NSI will execute a work order addendum to identify and facilitate preliminary engineering services for the proposed improvements. Expected professional services may include, but are not limited to, the following tasks:

- Field Survey
- Preliminary Engineering Plans
- Utility Coordination Assistance
- Final Engineering Construction Plans
- Estimated Quantities and Opinion of Probable Costs
- Permit Assistance
- Bid Package Assistance
- Project Coordination Meetings

**EXHIBIT B
BEECHCROFT JOINT TIA**

| Project Titan (Magna) | | | | | | | | | |
|--|---------------|-------------------|-------------------|-----------------------|-------------|----------------|-------------|----------------|-------------|
| Site | Leasable S.F. | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| Manufacturing | | | | | | | | | |
| Manufacturing (Vehicle) | 87,500 SF | 140 | | | | | | | |
| Manufacturing (Truck) | 87,500 SF | 140 | | | | | | | |
| Harvest Point 1 | | | | | | | | | |
| Site | Units | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| Single-Family Detached Housing | | | | | | | | | |
| Single-Family Homes | 716 d.u. | 210 | | | | | | | |
| Single-Family Attached Housing | | | | | | | | | |
| Townhomes | 188 d.u. | 215 | | | | | | | |
| Spring Hill Industrial Park (SHIP) | | | | | | | | | |
| Site | Leasable S.F. | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| Industrial Park | | | | | | | | | |
| Industrial Park (Vehicle) | 225,402 SF | 130 | | | | | | | |
| Industrial Park (Truck) | 225,402 SF | 130 | | | | | | | |
| Distribution Realty Group (825 Beechcroft Rd) | | | | | | | | | |
| Site | Leasable S.F. | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| Industrial Park 2 | | | | | | | | | |
| Industrial Park (Vehicle) | 831,900 SF | 130 | | | | | | | |
| Industrial Park (Truck) | 831,900 SF | 130 | | | | | | | |
| Barton Hills | | | | | | | | | |
| Site | Units | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| Single-Family Detached Housing | | | | | | | | | |
| Single-Family Homes | 256 d.u. | 210 | | | | | | | |
| Beechcroft Subdivision | | | | | | | | | |
| Site | Units | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| Single-Family Detached Housing | | | | | | | | | |
| Single-Family Homes | 127 d.u. | 210 | | | | | | | |
| Arbor Valley Expansion | | | | | | | | | |
| Site | Units | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| Single-Family Detached Housing | | | | | | | | | |
| Single-Family Homes | 220 d.u. | 210 | | | | | | | |
| Single-Family Attached Housing | | | | | | | | | |
| Townhomes | 361 d.u. | 215 | | | | | | | |
| Flex Met | | | | | | | | | |
| Site | Leasable S.F. | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| General Light Industrial | | | | | | | | | |
| Light Industrial | 51,491 SF | 110 | | | | | | | |
| Beechcroft Self Storage | | | | | | | | | |
| Site | Leasable S.F. | ITE Land Use Code | Total Daily Trips | Total Generated Trips | | AM Peak | | PM Peak | |
| | | | | AM | PM | Enter | Exit | Enter | Exit |
| Mini-Warehouse | | | | | | | | | |
| Storage Units | 34,094 SF | 151 | | | | | | | |
| | | | | | | AM Peak | | PM Peak | |
| | | | | | | 0 | | 0 | |
| | | | | Enter | Exit | Enter | Exit | Enter | Exit |
| | | | | 0 | 0 | 0 | 0 | 0 | 0 |

1. Based on aerial imagery and proposed site plan, it is assumed that Harvest Point is at 25% Build-Out at the present moment.
2. Truck volumes for Distribution Realty Group were determined by proportioning of square footage compared to Spring Hill Industrial Park.

EXHIBIT C

**JOINT TIS/DESIGN FEE PROPOSAL
BEEHCROFT RD AT CLEBURNE RD
SPRING HILL, TENNESSEE**

NEEL-SCHAFFER MAN-POWER ESTIMATE BY CLASSIFICATION

| Tasks and Subtasks | Engineer | | | |
|---|--|-------------|------------|------------|
| | Manager | Engineer II | Engineer I | Technician |
| PHASE 1 - JOINT TIS ANALYSIS | | | | |
| Field Visit and Reconnaissance | | | | |
| Review Study Area / Intersection Traffic Control / Lane Geometry Pictures/Other Observations | | | 4 | |
| Stakeholder Meeting #1 | | | | |
| Attendee coordination, Prepare meeting materials | 2 | 4 | 4 | |
| Hold Meeting | 3 | 3 | | |
| Document/Distribute meeting minutes | | 2 | | |
| Existing Conditions Analysis | | | | |
| Prepare traffic capacity analysis | | 3 | | |
| Evaluate and summarize analysis results | 1 | 1 | | |
| Develop Future Conditions Model | | | | |
| Prepare trip generation estimate | 0.5 | 2 | 4 | |
| Prepare trip distribution models (1 per development) | 0.5 | 2 | 5 | |
| Document trip assignment (individual projects & collective) | | 1 | 4 | |
| Prepare summary figures | | | 3 | |
| Proposed Conditions Analysis | | | | |
| Conduct traffic capacity analysis (Beehcroft/Cleburne) | | 3 | | |
| Summarize Analysis Results | 1 | 2 | | |
| Evaluate Initial Improvements | | | | |
| Assess analysis to develop initial improvement scenario | | 3 | | |
| Develop preliminary opinion of cost & proportional equitable share estimate | 0.5 | 6 | | |
| Review initial findings with city staff | 2 | 3 | | |
| Stakeholder Meeting #2 | | | | |
| Attendee coordination, Prepare meeting materials | 1 | 6 | | |
| Hold Meeting | 3 | 3 | | |
| Document/Distribute meeting minutes | | 2 | | |
| Refine Preferred Recommendations | | | | |
| Document Final Preferred Recommendations | | 3 | | |
| Prepare Concept Sketch of Intersection Improvements | | 2 | 5 | |
| Develop Final Proportional Equitable Share Estimate | 0.5 | 2.5 | | |
| Review final findings with city staff | 1 | 1.5 | | |
| Stakeholder Meeting #3 | | | | |
| Attendee coordination, Prepare meeting materials | 1 | 3 | | |
| Hold Meeting | 3 | 3 | | |
| Document/Distribute meeting minutes | | 2 | | |
| Final Summary Memo | | | | |
| Prepare final summary memo | 2 | 12 | | |
| Project Management/Coordination | 5 | | | |
| Subtotal Hours: | 27 | 75 | 29 | 0 |
| PHASE 2 - INTERSECTION DESIGN SERVICES | | | | |
| Design Phase Tasks | To Be Determined upon completion of Joint TIS. Future T.O. Addendum | | | |
| Subtotal Hours: | 0 | 0 | 0 | 0 |

| | |
|--|--------------------|
| Traffic Counts | \$0.00 |
| Printing | \$150.00 |
| Travel Expenses | \$200.00 |
| Total Direct Costs: | \$350.00 |
| Phase 1 - Total Professional Services Labor: | <u>\$17,810.00</u> |
| Total Fee - Phase 1 (Joint TIS): | \$18,510.00 |
| Total Fee - Phase 2 (Design): | TBD |