

PRIME PROFESSIONAL SERVICES AGREEMENT

THIS Agreement is made and entered into this _____ day of _____, 2016, by and between the Town of Huntersville, NC, (hereinafter called the "Owner"), and Parsons Brinckerhoff, Inc., a New York corporation, with offices at 1001 Morehead Square Drive, Suite 610, Charlotte, NC 28203 (hereinafter called "PB").

WITNESSETH THAT:

WHEREAS, the Owner desires professional design services (hereinafter called the "Services");

AND

WHEREAS, the Owner has solicited the services of PB for N. Main Street Improvements (Two-Way Pair) in Huntersville, NC (hereinafter called the "Project");

AND

WHEREAS, the Owner on September 9, 2016 selected PB to perform the Services;
AND

WHEREAS, PB has submitted a final scope of work dated October 26, 2016, which outlined an approach for such Project;

NOW, THEREFORE, for the consideration hereinafter set forth, the parties hereto do mutually agree as follows:

1. CONSULTATION OF PB

The Owner retains PB to represent the Owner in consulting matters involved in the performance of the Services, subject to the terms, conditions, and stipulations as hereinafter stated. PB shall render the services consistent with the standard of care, skill and diligence exercised by members of the same profession providing similar services under similar conditions at the locale of the Project and at the time the services are to be performed.

2. PROJECT DESCRIPTION

This project involves the design services for roadway improvements to the existing roadways of NC 115, N. Main Street and Gilead/Huntersville-Concord Road in Huntersville, NC. The project limits begin just south of the intersection of NC 115 and Mount Holly Huntersville Rd and continue to the intersection of NC 115 and Ramah Church Road. The project is approximately 1 mile in length.

3. SCOPE OF SERVICES

PB shall perform the services set forth in Exhibit A.

4. **COMPENSATION**

For the performance of the Services set forth in Article 3, the Owner shall compensate PB up to a maximum amount Not-To-Exceed (NTE) of **SEVEN HUNDRED THIRTY-SIX THOUSAND NINE HUNDRED THIRTY-TWO DOLLARS and 81/100 (\$736,932.81)**. A breakdown of the compensation is set forth in Exhibit B.

5. **SCHEDULE**

PB shall perform the Services in accordance with the Schedule set forth in Exhibit B, attached hereto and made part of this Agreement.

6. **PAYMENT**

Invoices for interim payments shall be prepared by PB on PB's standard form and submitted every four (4) weeks to the Owner. Each invoice shall be prepared to request payment of the portion of the lump sum amount in proportion to the percentage of Services rendered during the invoice period to the total of Services to be provided hereunder.

Such invoices shall be paid to PB by the Owner within fourteen (14) days of presentation to the Owner.

7. **DATA TO BE FURNISHED BY OWNER**

Data to be furnished by the Owner to PB at no cost to PB consist of the pavement coring information.

8. **INDEPENDENT CONTRACTOR**

PB represents that it has, or will secure, at its own expense, all personnel required in performing the Services under this Agreement. Such personnel shall not be employees of, nor have any contractual relationship with the Owner. PB, consistent with its status as an independent contractor, further agrees that its personnel will not hold themselves out as, nor claim to be, officers or employees of the Owner by reason of this Agreement.

9. **INSURANCE**

PB shall effect and maintain insurance at its own cost and expense to protect itself from claims under Workers' Compensation Acts; from claims for damages because of bodily injury including sickness, disease, or death of any of its employees; from claims for damages because of injury to or destruction of tangible property; and from claims arising out of the performance of professional services caused by errors, omissions, or negligent acts for which it is legally liable, each in the amount of \$1,000,000.

PB shall furnish the Owner with a certificate(s) of insurance showing PB has complied with this Article, which certificates shall provide that thirty (30) days written notification of cancellation of the policies shall be given to the Owner.

10. INDEMNITY AND LIMITATION

PB shall indemnify and hold harmless the Owner from and against any and all claims, suits, actions, judgments, demands, losses, costs, expenses, damages, and liability caused solely by, resulting solely from, or arising solely out of the negligent acts, errors, or omissions of PB, its officers, employees, agents, or representatives in the performance of Services under this Agreement.

To the fullest extent allowed by law, PB's liability to Owner shall not exceed the total compensation received by PB hereunder, and PB shall in no event be liable in contract, tort, or otherwise, for any indirect or consequential damages, including but not limited to loss of estimated profits, loss of use, loss of revenue, cost of capital, loss of good will, or similar damages arising out of its performance of the Services hereunder.

In the event of any reuse or other use by the Owner of the drawings, specifications, and other documents furnished by PB hereunder, the Owner shall indemnify, defend, and hold harmless PB from and against any and all claims, suits, actions, judgments, demands, losses, costs, expenses, damages, and liability caused by, resulting from, or arising out of such reuse or other use.

11. CHANGES AND EXTRA SERVICES

The Owner may make changes within the general scope of this Agreement. If PB is of the opinion that any proposed change causes an increase or decrease in the cost and/or the time required for performance of this Agreement, PB shall so notify the Owner of that fact. An agreed-upon change will be reduced to writing signed by the parties hereto and will modify this Agreement accordingly. PB may initiate such notification upon identifying a condition which may change the Services agreed to on the effective date of this Agreement, as set forth in Exhibit A.

Any such notification must be provided within thirty (30) days from the date of receipt by that party of the other party's written notification of a proposed change. In the event that agreement cannot be reached by the parties hereto as to a particular change, the issue shall be resolved pursuant to Article 18.

The Owner may request PB to perform extra services not covered by the SCOPE OF Services as set forth in Exhibit A, and PB shall perform such extra services and will be compensated for such extra services when they are reduced to a writing mutually agreed to and signed by the parties hereto amending this Agreement accordingly.

The Owner shall not be liable for payment of any extra services nor shall PB be obligated to perform any extra services except upon such written amendment.

12. DELAYS

PB shall perform its Services with due diligence upon receipt of a written Notice to Proceed from the Owner. The Owner may authorize costs to be incurred prior to such written Notice to Proceed. In the event that performance of its Services is delayed by causes beyond the reasonable control of PB, and without the fault or negligence of PB, the time and total compensation for the performance of the Services shall be equitably adjusted by written amendment to reflect the extent of such delay. PB shall provide the Owner with written notice of delay, including therein a description of the delay and the steps contemplated or actually taken by PB to mitigate the effect of such delay.

13. TERMINATION

This Agreement may be terminated by either party hereto upon seven (7) days written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement through no fault of the terminating party. This Agreement may also be terminated by the Owner for its convenience or because the Project has been permanently abandoned, but only upon fourteen (14) days written notice to PB.

In the event of termination, PB shall be compensated for all services performed and costs incurred up to the effective date of termination for which PB has not been previously compensated, plus termination expenses reasonably incurred.

Upon receipt of notice of termination from the Owner, PB shall discontinue the Services unless otherwise directed and upon final payment from the Owner deliver to the Owner the required number of copies of all data, drawings, reports, estimates, summaries, and such other information and materials as may have been accumulated by PB in the performance of this Agreement, whether completed or in process.

14. OWNERSHIP OF DOCUMENTS

The parties hereto agree that PB shall retain possession of all drawings, specifications, and other documents when its services have been completed. The Owner will be provided two (2) sets of reproducible drawings, specifications, and other documents so furnished and they shall not be reused either for additional services on this Project to be done by others, or on other projects, without the prior written consent of PB. Such consent shall stipulate what, if any, additional compensation shall be paid to PB for such reuse of documents by the Owner. In no event shall the receipt of such additional compensation operate as a waiver of PB's rights under Article 10.

15. SUCCESSORS AND ASSIGNS

PB shall not assign, sublet, sell, transfer, or otherwise dispose of any interest in this Agreement without the prior approval of the Owner.

This Agreement shall be binding upon and inure to the benefit of the parties hereto, their successors and permitted assigns, but shall not inure to the benefit of any third party or other person.

16. NONWAIVER

No failure or waiver or successive failures or waivers on the part of either party hereto, their successors or permitted assigns, in the enforcement of any condition, covenant, or article of this Agreement shall operate as a discharge of any such condition, covenant, or article nor render the same invalid, nor impair the right of either party hereto, their successors or permitted assigns, to enforce the same in the event of any subsequent breaches by the other party hereto, its successors or permitted assigns.

17. NOTIFICATION

All notices required or permitted under this Agreement shall be in writing and shall be deemed sufficiently served if served by Registered Mail addressed as follows:

TO Owner:	Town of Huntersville P.O. Box 664 Huntersville, NC 28070 Attn: Max Buchanan, PE
TO PB:	Parsons Brinckerhoff, Inc. 1001 Morehead Square Drive, Suite 610 Charlotte, NC 28203 Attn: Daniel H. Bridges

18. DISPUTES

Any and all claims, disputes, and other matters in question arising out of or relating to this Agreement or the breach thereof which are not disposed of by mutual agreement of the parties hereto shall be submitted to non-binding mediation unless the parties mutually agree otherwise. In the event resolution of any conflict cannot be settled as a result of non-binding mediation, claims, disputes, or other matters, will be redressed in an appropriate court of proper jurisdiction, the sole venue being a state or federal court sitting in Mecklenburg County, North Carolina

19. APPLICABLE LAW

This Agreement shall be governed by and construed in accordance with the laws of the State of North Carolina.

20. E-VERIFY

PB shall comply with E-Verify, the requirements of Article 2 of Chapter 64 of the General Statutes of North Carolina (N.C.G.S.). In addition, to the best of Contractor's knowledge, any subcontractor employed by Contractor as a part of this contract shall be in compliance with the requirements of E-Verify and N.C.G.S. Article 2 of Chapter 64.

21. IRAN DIVESTMENT ACT CERTIFICATION

Contractor certifies that, as of the date listed below, it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. § 147-86.55, et seq. In compliance with the requirements of the Iran Divestment Act and N.C.G.S. § 147-86.59, Contractor shall not utilize in the performance of the contract any subcontractor that is identified on the Final Divestment List

22. EXTENT OF AGREEMENT

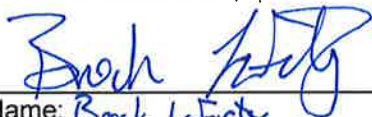
This Agreement represents the entire and integrated agreement between the Owner and PB and supersedes and replaces all terms and conditions of any prior agreements, arrangements, negotiations, or representations, written or oral, with respect to this Project.

IN WITNESS WHEREOF, this Agreement has been executed by the Owner and PB, effective from the day and year first written above.

Town of Huntersville

Name:
Title:

Parsons Brinckerhoff, Inc.



Name: Brock Laforty
Title: Vice President

Exhibit A

Scope of Services

Parsons Brinckerhoff (Consultant) was contracted by the Town of Huntersville (Town) to perform engineering services for the subject project. The project involves roadway improvements to Main Street from the intersection of NC 115/Mount Holly-Huntersville Rd/Main Street to the intersection of NC 115/Ramah Church Rd.

The project includes survey, traffic analysis, utility coordination, railroad coordination, hydraulic design, roadway design, maintenance of traffic plans, pavement marking plans, and signal design as further outlined below:

1. FIELD SURVEY

1.1. Survey Services

- 1.1.1. Survey Control: Set one azimuth pair at the south end of the job on Mt. Holly Huntersville Road and another pair at the north end on Old Statesville Road. Azimuth pairs will be surveyed with VRS GPS. Survey baseline points at approximately 500' to 600' intervals as needed within the survey limits. Set 5 benchmarks. All BL/BY and benchmarks will have double run level loops ran and the baseline traverse will be to NCDOT L&S standards.
- 1.1.2. Field Property Ties and Computations: There are approximately 150 properties on this project. Comprehensive courthouse research will not be completed on this project. GIS information along with deed draft information in DGN format, and field property corners found doing a cursory inspection will be used to compute property lines. Individual deeds, location of all property corners and a full boundary survey of impacted lots will not be provided.
- 1.1.3. No aerial mapping was provided for this project. DGN files for planimetrics and DTM's from a survey approximately 10 years old were provided. The Consultant will resurvey all pavement DTM's and ground surveys from the pavement centerline out to 50' and use the existing DTM data outside 50 feet. Utility poles will be shown in the planimetric file.
- 1.1.4. Top of rail shots will be needed on 2 tracks on the Norfolk Southern Railroad line at the Huntersville-Concord Road intersection. This work is minimal and we do not anticipate the requirement of a right-of-entry from the railroad.
- 1.1.5. All mapping will be provided in MicroStation DGN files and mapped to NCDOT standards. An attempt will be made to match the datum on the previously surveyed files or move the previous files to a more current datum. Previous mapping is at 1" = 20'. New mapping will be at 1"=50' and we estimate 6 sheets. Some mapping time will be needed to convert the old files to current NCDOT working units and re-scale to 1"=50'.

1.2. Mobile LiDAR Scanning: Pavement DTM's

- 1.2.1. Trimble MX8 mobile LiDAR and imaging system will be used to collect and map pavement DTMs along the following designated roadways:
 - NC 115 – 2 segments totaling 0.79 miles,
 - Huntersville-Concord Rd. – 0.27 miles,
 - Mt. Holly-Huntersville Rd. – 0.10 miles.
- 1.2.2. We estimate establishing 18 panels (1' x 2' reflective tape) and 12 validation points (painted PK nails) along the roadway shoulders for point cloud registration and final pavement DTM validation. All mobile LiDAR control will be tied directly to the established project BL and BY control by multiple VRS GNSS observations and site calibration (horizontal) and digital level runs (vertical), so all pavement DTMs will be merged seamlessly with the conventional survey data per NCDOT specifications in MicroStation V8i SSII / Geopak format.

1.2.3. Mobile LiDAR workflow will be delivered as per the following:

- Mobile LiDAR project control coordinates and elevations in an excel spreadsheet
- A list of all the primary GPS, BL and BY control used to adjust elevations
- RMSE report for final TIN comparison to validation points. Vertical accuracy to meet or exceed 0.05' standards
- 2.5 foot point grid on pavement surface from EP to EP (offset 6" from extracted EPs)
- 3D breaklines as required by LiDAR two-lane and multi-lane PDF Guidelines (EP, Outside edge of travel lane lines, edge of travel & Curb & Gutter).
- All pertinent DGN, TIN and DAT files required for Microstation V8i SSII and Geopak

1.3. Proposed Right of way Staking and Plats:

- 1.3.1. Right of way and easement staking will be completed by the Consultant. Based on the preliminary design, we estimate 120 right of way monuments and 240 easement points.
- 1.3.2. Any right of way purchases that are required will be handled by the Town of Huntersville. Preparation of right of way plats or exhibits is not included. If these services are required for right of way acquisition they will be considered Additional Services.

2. TRAFFIC ANALYSIS

The Consultant will provide traffic analysis to support the design of roundabouts at two locations on NC 115 (Old Statesville Road). The traffic analysis will expand on the analysis that was already completed for the Main Street Improvements Traffic Analysis Report. As part of the previous analysis, it was determined that a dual-lane roundabout is needed for the design year at both locations. An interim year analysis will be performed to determine if a single-lane roundabout could be used and later converted to a dual-lane design based on the expected failure year. The roundabout design will also be optimized by examining the maximum volume-to-capacity ratio for each movement and approach to provide appropriate laneage recommendations. SIDRA Intersection 6 software will be used to analyze roundabout operations and the analysis will be completed in accordance with the NCDOT Congestion Management Capacity Analysis Guidelines. The Consultant will also coordinate with NCDOT Congestion Management staff throughout the project.

3. COORDINATION OF UTILITIES AND UTILITIES-BY-OTHERS PLANS

Coordinate the design of all utility relocations required to construct the proposed project improvements. The Town's Utility Coordinator will provide the Consultant with the names, addresses and contact person of the utilities. Coordinate with privately and publicly owned utilities which may be affected by the design of the Project and whose respective owners are responsible for the design and adjustments to these utilities. The Town's Project Manager and Utility Coordinator shall be copied on all correspondence or communications and invited to any meetings with any utility agency. A log shall be maintained containing all such transmittals, noting the Project name, date of transmittal, and date that responses were

received. Complete coordination of utilities and utility plans shall include, but not be limited to the following tasks:

- 3.1. Contact and meet with all utilities (private and public), agencies, and railroad companies whose facilities (both existing and proposed) are located within the Project limits and may be affected by the proposed design. Request that the utilities provide documentation that defines the locations or description of existing easements or record, including blanket easements, within the Project limits.
- 3.2. Coordinate the resolution of any conflicts (both private and public) identified for temporary and permanent utility relocations. Ensure that coordination between the utilities (e.g. pole owners and attachees) has occurred. These relocations shall be included in the design.
- 3.3. Submit all plans for review by the Town's Project Manager, Town's Utility Coordinator, and all affected utilities.
- 3.4. Show the location of all existing and proposed utilities on the final design plans and indicate all proposed underground and overhead utilities to be reconstructed and/or relocated as part of the Project.
- 3.5. Provide utilities-by-others (UBO) plans and a utility sequencing schedule with the final design plans. The UBO plans will include the following:
 - Existing and Proposed utility facilities, aerial lines, and underground lines;
 - Utility Information Boxes (UIB) for each proposed pole will provide owner, attaches, depth of pole, pole height, attachments heights, and cuts and fills;
 - Proposed aerial line angles will be noted and the need for guy wires and easements will be included;
 - Proposed aerial lines will be noted with the name(s) of the utility owner.
- 3.6. The utility sequencing schedule shall include the estimated relocation durations, as confirmed by each individual utility, for temporary and permanent utility relocations, as well as a determination of what utility relocation work can be completed prior to construction.
- 3.7. In cases where utility relocation cannot occur prior to the start of construction, PB shall ensure that the information on the final pole locations, tree removals/clearing, grading, and sequencing work is included on the "Final Construction Plans," the "Utility-By-Others Plans," and/or in the Construction Contract as "Project Special Provisions – Utility Relocations."
- 3.8. The Consultant shall not be or become responsible for design or construction by utility companies as a result of performing the work of this section.

4. PRELIMINARY DESIGN PHASE

4.1. Preliminary Roadway Design

- 4.1.1. Roadway plans shall be developed from the selected approved Conceptual Plans and other design information resulting from the Planning Phase. Preliminary design plans shall be developed to the stage at which approximately 25% of the final roadway design for the Project is complete and shall adhere to the NCDOT 2012 Review List for Preliminary Plans.

- 4.1.2. The pavement design for all roadways will be provided by the Town or NCDOT, and incorporated into the typical sections by the Consultant.
- 4.1.3. The Consultant shall prepare reproducible preliminary roadway plans at a scale of 1"=50' horizontal and 1"=5' vertical, and shall indicate all information shown on the Conceptual Plans. The Consultant shall prepare preliminary cross sections at 50-foot increments.
- 4.1.4. In addition to hard copies, the Consultant shall provide electronic submittals for 25% plans. Electronic submittals will be in the current version of Microstation using NCDOT's standard levels and symbols.
- 4.1.5. The Consultant shall prepare a preliminary construction cost estimate to the Town. The right-of-way and easement acquisition cost estimates shall be provided by the Town based upon information supplied by the Consultant.

4.2. Storm Drainage, Hydrographic Surveys and Analyses and Associated Permits

- 4.2.1. The Consultant shall perform hydraulic design of the storm drainage systems in accordance with criteria provided in the North Carolina Division of Highways "Guidelines for Drainage Studies and Hydraulics Design – 1999", the addendum "Handbook of Design for Highway Drainage Studies – 1973", North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities – 2003, NCDOT Stormwater Best Management Practices Toolbox, NCDOT Post-Construction Stormwater Program and the North Carolina Division of Highways Hydraulics Unit website.
- 4.2.2. Storm drainage submittal will consist of Redline Drainage Plans and supporting calculations and will be submitted to NCDOT Hydraulics Unit for review and approval prior to Right-of-Way Plans.
- 4.2.3. Storm drainage systems shall be designed using Geopak Drainage and will utilize NCDOT's standard levels and symbology.
- 4.2.4. In accordance with the NCDOT Stormwater Best Management Practices Toolbox the Consultant will develop a Stormwater Management Plan that utilizes vegetated conveyance and diverts stormwater away from surface waters to the maximum extent practicable. The project will not be subject to the Town of Huntersville Post Construction Storm Water Ordinance therefore PCCO coordination is not included in this scope of work.
- 4.2.5. The Consultant shall prepare Outfall Analyses to determine increases in discharges resulting from the project and incorporate measure into the storm drainage design to ensure that any increases are appropriately mitigated.
- 4.2.6. The Consultant has not identified any Major Hydraulic Structures in the project limits therefore no Bridge/Culvert Survey Reports are included in this scope of work.
- 4.2.7. The Consultant has not identified any jurisdictional features in the project limits therefore no permit drawings, calculations, or impact sheets for USACE 404 Permit or NCDWR Section 401 Certification is included in this scope of work.

- 4.2.8. The Consultant will coordinate with Stewart Engineering to obtain design files for the proposed Main Street design at Veterans Park and the associated drainage crossing under the Norfolk Southern Railroad. These features will be shown as existing in the roadway plans submitted for review and approval.

4.3. Preliminary Traffic Control Plans

- 4.3.1. The Consultant will prepare preliminary traffic control plans for the maintenance of vehicular traffic through the project area during the construction of the proposed improvements. The preliminary traffic control plans for the described improvements will be completed in accordance with NCDOT standards, as required. The traffic control plan will be prepared with Main Street closed to thru traffic throughout the duration of construction. Hwy 115 and Huntersville Concord Road will remain open to traffic. Access to residences and businesses will be maintained throughout construction.
- 4.3.2. The preliminary traffic control plans include the Staging (25%) and Mid-Point (50%) submittals.
- 4.3.3. The preliminary traffic control plans will detail the approach for construction phasing including the general sequence of activities required to complete the project.
- 4.3.4. The preliminary traffic control plans will include a plan view phasing concept at 1"=50' horizontal and will include critical cross sections detailing changes in traffic patterns.

5. RIGHT-OF-WAY PLANS

- 5.1. The Consultant shall revise the plans in conformance with the Preliminary Plans review comments. The Right-of-Way Plans shall be the preliminary plans developed to the stage at which approximately 75% of the final design for the Project is complete, and shall adhere to the NCDOT 2012 Review List for Right-of-Way Plans. The Consultant shall show all pertinent right-of-way information on the plans, and in addition, the following information shall be shown:
- The general outlines of all improvements, roads, and streams within and adjacent to the area to be acquired;
 - All temporary pavements/roads needed for traffic control;
 - All easement areas, temporary and permanent, needed to perform utility work (overhead and underground);
 - Proposed location of signs, structures, trees etc. Temporary easements shall be shown only if the Town is to perform the relocation;
 - All areas needed for erosion control, i.e. sediment control basins, check dams, etc.;
 - Proposed re-striping of parking spaces;
 - The existing property lines and right-of-way lines, and proposed right-of-way lines, and easement lines within the Project limits. Fee simple, right-of-way, and/or easements shall be sufficient to encompass all improvements, including landscaping;
 - The location of all construction limits;

- The location of all construction easements beyond the proposed right-of-way lines shall be delineated with straight lines and labeled "E" for easement. The construction easement lines shall be referenced to the baseline stationing and shall include all offset distance at each break in the easement line and at all property lines;
- The parcel number, the deed book and page number; and the names of all property owners.

5.2. The Consultant shall prepare a right-of-way summary list tabulating all fee simple, permanent and/or temporary easements including underlying fee simple land currently maintained as right-of-way, and area remaining required for the Project. The Consultant shall include the property owner's name, address, and parcel number on the table.

5.3. When the Right-of-Way Plans have been developed by the Consultant to show the information listed in this section, the Consultant shall furnish a sufficient number of prints for review and approval. The Consultant shall revise the plans in conformance with the review comments and provide electronic files in the current version of Microstation using NCDOT's standard levels and symbols.

6. RIGHT-OF-WAY ACQUISITION PHASE

The Consultant shall provide Right of Way Assistance to the Town during the acquisition phase of the project. The Consultant shall assist the Real Estate Agent(s) assigned to acquire properties for the project construction by:

- 6.1. Meeting with the agent(s) to discuss scope of work when deemed necessary by the Town;
- 6.2. Answering technical questions for the agent(s);
- 6.3. Modifying plans as necessary based on negotiations between the Real Estate Agent and property owners;
- 6.4. Visiting property owners with the agent(s) to discuss proposed improvements and associated impacts when deemed necessary by the City Project Manager.

7. FINAL DESIGN PHASE

7.1. The Consultant shall develop final design plans and specifications in sufficient form and detail for the Town to let construction contracts. These plans shall adhere to the NCDOT 2012 Review List for Final Construction Plans.

7.1.1. All final design for the Project shall conform to appropriate current AASHTO Green Book, the AASHTO Roadside Design Guide, the current practices of the NCDOT, and the requirements of the Town.

7.1.2. Final design plans shall identify existing right-of-way, proposed fee simple property lines, and permanent and temporary easements sufficient to encompass all improvements. Final plans shall include, when applicable:

- Roadway design and details;
- Storm drainage design and details;
- Construction traffic control plans;
- Pavement marking and signing plans;

- Erosion control details;
- Signal design plans;
- Railroad crossing plans;

7.1.3. The Consultant's services during the Design Phase will be complete when the following have been finished or submitted and approved:

- Final design plans;
- Final Consultant's estimate of construction cost;
- Design and quantity computations;
- Utility Sequencing Schedule; and
- Utilities-By-Others Plan.

7.2. Roadway Design Plans

- 7.2.1. Final roadway plans will be developed from the approved preliminary design and right-of-way plans. Existing roadways, structures, utilities, and other items affected by the Project shall be shown in addition to the proposed construction. The plans shall include sufficient dimensions and distance references to provide for field construction staking without the need to scale the drawings for distance or elevation data.
- 7.2.2. Unless directed otherwise by the Town the Consultant shall include sidewalks as shown on the preferred alternative hearing map completed during the planning phase. Sidewalks shall be designated free of obstructions. Where practical, poles, fire hydrants, and signs shall be located behind sidewalks.
- 7.2.3. Final roadway plans shall include road profiles and driveway profiles for driveway ties longer than 100 feet.
- 7.2.4. Final roadway plans shall include storm drainage design and details.
- 7.2.5. Changes to existing intersecting streets and storm drainage as required for the construction of the Project shall be designed by the Consultant to ensure a level of service acceptable to the Town and NCDOT.

7.3. Construction Traffic Control Plans

- 7.3.1. The Consultant will prepare construction traffic control plans for the maintenance of vehicular traffic through the project area. The construction traffic control plans will expand on the detail provided in the preliminary traffic control plans and will include the Pre-Final (90%) and Final (100%) submittals.
- 7.3.2. The construction traffic control plans will include a plan view phasing design at 1"=50' horizontal and will include critical cross sections detailing changes in traffic patterns. The construction traffic control plans for the described improvements will be completed in accordance with NCDOT standards, as required.
- 7.3.3. Access to all residences, schools, bus stops, and emergency services will be addressed in the construction traffic control plans.

- 7.3.4. Temporary pavement markings, temporary signals, and traffic control devices will be identified on the plan and dimensioned as necessary. Temporary pavement will be identified and detailed as necessary in critical cross sections. The active work zone will be dimensioned from the existing traffic in each construction phase.

7.4. Pavement Marking and Signing Plans

- 7.4.1. Signing and pavement marking plans for the described improvements will be completed by the Consultant as part of the project. Signing plans will be completed in accordance with NCDOT standards. Signing design may be supplemented by the Manual on Uniform Traffic Control Devices (MUTCD) as needed. Standard regulatory guidance will be followed for signage plans.
- 7.4.2. No special signage or overhead signs will be prepared as part of this scope of services.
- 7.4.3. Pavement marking plans will be completed in accordance with NCDOT standards, as required.

7.5. Signal Design Plans

- 7.5.1. The Consultant will prepare a traffic signal plan and corresponding electrical detail/wiring diagram for the intersection of Main Street and Huntersville-Concord Road. The signal plan will include equipment placement, general and intersection specific notes, phasing diagrams, table of operations, signal timings, signal face identification and pole locations. Pedestrian accommodations will also be provided in the design. Due to constraints at this intersection it is assumed mast arms will be required.
- 7.5.2. The Consultant will prepare a traffic signal modification plan for the intersection of Main Street and Ramah Church Road. The signal plan will include general and intersection specific notes, phasing diagrams, table of operations, signal timings, and signal face identification locations. Pedestrian accommodations will not be provided in the design.
- 7.5.3. The signal design will include a clearance interval exhibit and clearance time clearances to support the timing recommendations provided on the plan.
- 7.5.4. Railroad preemption for the adjacent railroad to the east of the intersection will be addressed in the signal design plans. The signal plan will be completed in accordance with the NCDOT Traffic Management and Signal Systems Unit Design Manual, NCDOT Roadway Standard Drawings and the MUTCD.
- 7.5.5. The Consultant will also prepare a communication plan to provide signal coordination with the existing signalized intersection of NC 115 (Old Statesville Road) and Gilead Road/Huntersville-Concord Road.
- 7.5.6. Submittals will be completed for the preliminary and final signal design.

7.6. Erosion Control Plans

- 7.6.1. The Consultant shall prepare Erosion and Sediment Control Plans for the project for review and approval by the NCDOT Roadside Environmental Unit. The plans will be prepared in accordance with the NCDOT Roadside Environmental Unit standards and practices and will utilize NCDOT's standard levels and symbology.
- 7.6.2. During the Right of Way (90% Plans) Phase preliminary erosion and sediment control design will be performed in order to identify right of way and easement needs.
- 7.6.3. Final Erosion and Sediment Control Plans will be prepared during the Final Design Phase (100% Plans) and will be included with the Final Design Plan submittal.

8. APPROVALS AND COORDINATION

8.1. NCDOT

- 8.1.1. The Consultant shall provide coordination with NCDOT throughout the Project in order to obtain approvals in a timely manner.
- 8.1.2. The Consultant shall submit Preliminary Design Plans (25% Plans), Right-of-Way Design Plans (75% Plans), and Final Design Plans (90% and 100% Plans) to the NCDOT Division office.
- 8.1.3. The Consultant shall provide all information necessary to the Town for the preparation of NCDOT encroachment documents for Projects that do not require right-of-way transfer to NCDOT and for municipal agreements for Projects that have right-of-way that will be transferred to NCDOT.

8.2. Norfolk Southern Railroad

- 8.2.1. The Consultant shall provide coordination with Norfolk Southern Railroad (NS) throughout the Project in an effort to obtain approvals in a timely manner.
- 8.2.2. The Consultant shall review and complete a standard Preliminary Engineering agreement. The Preliminary Engineering agreement is required to identify the project sponsor, the project, and define the tasks to be accomplished.
- 8.2.3. The Consultant shall coordinate with NS on development of the Force Account Estimate for work to be done by NS during construction including railroad flagging needs.
- 8.2.4. The Consultant shall assist in the development and execution of the Right of Entry application, which will be required for access to the NS right-of-way for investigative activities including but not limited to surveying and environmental or geotechnical sampling.
- 8.2.5. The Consultant shall provide project information to NS, attend meetings (as needed), and review the project site with NS or designated personnel (as needed).

- 8.2.6. The Consultant shall submit preliminary and final design plans to NS as outlined in the Public Projects Manual for milestone review and approvals. The Consultant shall respond to NS (and/or designated personnel) comments.
- 8.2.7. The Consultant shall provide all information to the Town for preparation and negotiation of the standard construction agreement between the Town and NS. The Consultant will provide technical input and will be available for consultation to support the Town's efforts to negotiate the agreement.

9. PROJECT ADMINISTRATION

9.1. Monthly Status Meetings

Monthly status meetings shall be held between the Town and the Consultant during the course of the Project. The Consultant shall prepare and submit minutes of these meetings to the Town within ten (10) calendar days.

9.2. Monthly Status Reports

The Consultant shall prepare monthly status reports and deliver the reports to the Town with the monthly invoice. The status report shall summarize work completed and percent complete for the current month and the work scheduled to be completed for the upcoming month.

10. ADDITIONAL SERVICES

Additional services are those services that cannot be accurately scoped without additional information as the project proceeds through the design process or services that may not be required for the project. Once it is determined that additional services are required for the project the Consultant and the Town will mutually agree to the compensation for the additional services and the Town will issue a written notice to proceed for the services.

- 10.1. During the environmental field research for the planning document the Consultant has not identified any jurisdictional features within the project limits therefore no permit drawings, calculations, or impact sheets for USACE 404 Permit or NCDWR Section 401 Certification is included in this scope of work. Should these services be required for the project they will be considered additional services.
- 10.2. The Consultant can provide Water/Sewer design services for the project once it is determined there are water/sewer conflicts that need to be addressed. Should these services be required for the project they will be considered additional services.
- 10.3. Roadway or Pedestrian Lighting is not included in the scope of work. Should these services be required for the project they will be considered additional services.
- 10.4. Subsurface Utility Exploration (SUE) Services

10.4.1. Records Research and Existing Data Verification – Additional Service

Perform records research underground utilities within the project limits. This will include contacting 811 and performing a site visit to determine existing owners of underground facilities on site. Owners will be contacted and record information requested. This record information will be compared to existing mapping and differences will be noted and reported. Investigate the location of existing

underground utilities on site. Effort will focus on intersections and any other critical locations specified.

10.4.2. Quality Level A SUE – Vacuum Excavation Test Holes – Additional Service

Vacuum excavation test holes will be performed on existing utilities previously mapped to Level B SUE standards to verify location, the size and material type of the subject utility. Vacuum excavation holes will be performed at a rate of \$800/hole when more than 9 are requested at one time. If nine or less are requested, vacuum excavation test holes will be performed at a rate of \$1,000/hole. Services will include survey and mapping of the location of the subject utility at the test hole locations and provide sealed Test Hole Reports and test hole locations in a project CADD file.

- 10.5. Geotechnical services have not been included in the scope of services. Should these services be required for the project they will be considered additional services.
- 10.6. Construction services have not been included in the scope of services. It is anticipated that once the project moves closer to the project letting a scope for construction services will be agreed to and added as additional services.

Exhibit B
Compensation and Schedule

Main Street Draft Schedule

ID	Task Name	Duration	Start	Finish	2017	2018	2019	2020
1	Receive NTP	1 day	Fri 10/14/16	Fri 10/14/16	S	O	N	D
2	Prepare/Submit Design Assumptions	5 days	Mon 10/17/16	Fri 10/21/16	J	F	M	A
3	Review/Receive Design Assumptions Approval	5 days	Mon 10/24/16	Fri 10/28/16	M	J	J	A
4	Finish Traffic Analysis	10 days	Mon 10/17/16	Fri 10/28/16	M	J	J	A
5	Survey (Advance NTP)	20 days	Mon 10/3/16	Fri 10/28/16	M	J	J	A
6	Preliminary Design Phase	77 days	Mon 10/31/16	Thu 2/23/17	M	J	J	A
7	Submit 25% Plans for Review to NCDOT/RAIL	1 day	Fri 2/24/17	Fri 2/24/17	M	J	J	A
8	NCDOT/RAIL 25% REVIEW PERIOD	30 days	Mon 2/27/17	Fri 4/7/17	M	J	J	A
9	Receive/Revise 25% Plans Review Comments	15 days	Mon 4/10/17	Fri 4/28/17	M	J	J	A
10	25% Plan Approval/Distribution Submittal	1 day	Mon 5/1/17	Mon 5/1/17	M	J	J	A
11	25% to 75% Design Phase	88 days	Tue 5/2/17	Thu 8/31/17	M	J	J	A
12	Drainage Red Line Submittal	1 day	Fri 7/7/17	Fri 7/7/17	M	J	J	A
13	Submit 75% Plans for Review to NCDOT/RAIL	1 day	Fri 9/1/17	Fri 9/1/17	M	J	J	A
14	NCDOT/RAIL 75% REVIEW PERIOD	30 days	Mon 9/4/17	Fri 10/13/17	M	J	J	A
15	Receive/Revise 75% Plans Review Comments	15 days	Mon 10/16/17	Fri 11/3/17	M	J	J	A
16	Submit Right-of-Way Plans For Distribution	1 day	Mon 11/6/17	Mon 11/6/17	M	J	J	A
17	Right-of-Way Acquisition Phase	300 days	Tue 11/7/17	Wed 1/23/19	M	J	J	A
18	Utility Relocations	180 days	Thu 1/24/19	Wed 10/2/19	M	J	J	A
19	75% to 90% Design Phase	31 days	Thu 1/24/19	Thu 3/7/19	M	J	J	A
20	Submit 90% Plans for Review to NCDOT/RAIL	1 day	Fri 3/8/19	Fri 3/8/19	M	J	J	A
21	NCDOT/RAIL 90% REVIEW PERIOD	30 days	Mon 3/11/19	Fri 4/19/19	M	J	J	A
22	Receive/Revise 90% Plans Review Comments	10 days	Mon 4/22/19	Fri 5/3/19	M	J	J	A
23	90% to 100% Design Phase	20 days	Mon 5/6/19	Fri 5/31/19	M	J	J	A
24	Submit 100% Plans to NCDOT/RAIL	1 day	Mon 6/3/19	Mon 6/3/19	M	J	J	A
25	NCDOT/RAIL 100% REVIEW PERIOD	30 days	Tue 6/4/19	Mon 7/15/19	M	J	J	A
26	Receive/Revise 100% Plans Review Comments	9 days	Tue 7/16/19	Fri 7/26/19	M	J	J	A
27	Final Plan Submittal	1 day	Mon 7/29/19	Mon 7/29/19	M	J	J	A
28	Bid Preparations by the Town	50 days	Tue 7/30/19	Mon 10/7/19	M	J	J	A
29	Bid Package Review by Division	10 days	Tue 10/8/19	Mon 10/21/19	M	J	J	A
30	Receive/Revise Bid Package Review Comments	5 days	Tue 10/22/19	Mon 10/28/19	M	J	J	A
31	Bid Package Review by Raleigh (Randy Garri)	5 days	Tue 10/29/19	Mon 11/4/19	M	J	J	A
32	Town Advertisement	15 days	Tue 11/5/19	Mon 11/25/19	M	J	J	A
33	Plans Let for Construction by the Town	1 day	Tue 11/26/19	Tue 11/26/19	M	J	J	A