CITY OF HIGH POINT
AGENDA ITEM

Title: Public Services – Streets Division - Pavement Condition Survey

From: Terry Houk – Public Services Director
Robby Stone – Asst. Director Public Services

Meeting Date: August 7, 2017

Public Hearing: N/A

Advertising Date: N/A
Advertised By: RFP

Attachments: Attachment A – Scope of Services

PURPOSE:
The Public Services Department conducts a pavement condition survey every three years for the 447 +/- centerline miles of streets maintained within the municipal limits. This survey will assist in better maintaining the street infrastructure while expanding the maintenance activities with available funding. This project will provide a complete evaluation of the street network.

BACKGROUND:
The professional engineering services to be provided for this project involve work associated with municipal street evaluation as related to survey/data collection, reporting and software training. These tasks are anticipated to take ten weeks to complete.

BUDGET IMPACT:
Funds for available in the FY 2017-2018 Annual Budget.

RECOMMENDATION / ACTION REQUESTED:
The Public Services Department recommends approval and asks for the Council to award the professional engineering services to WithersRavenel, Inc. in the amount of $110,000.00.

FORMAL BID RECOMMENDATION
REQUEST FOR COUNCIL APPROVAL

DEPARTMENT: Public Services - Streets Division

COUNCIL AGENDA DATE: August 7, 2017

BID NO.: RFP 42-042117 CONTRACT NO.: DATE OPENED:

DESCRIPTION:

Engineering services to administer a pavement condition survey for all municipal streets within the city limits.

PURPOSE:

The Public Services Department conducts a pavement condition survey every three years for the 447 +/- centerline miles of streets maintained within the municipal limits. This survey will assist in better maintaining the street infrastructure while expanding the maintenance activities with available funding.

COMMENTS:

This engineering evaluation is needed to better maintain the street infrastructure.

RECOMMEND AWARD TO: WithersRavenel, Inc. AMOUNT: $110,000.00

JUSTIFICATION:

WithersRavenel, Inc. is on the Public Services on-call list. They have successfully demonstrated working on projects of similar size and complexity.

ACCOUNTING UNIT	ACCOUNT	ACTIVITY	CATEGORY	BUDGETED AMOUNT
101721	527205			$110,000.00
TOTAL BUDGETED AMOUNT				

DEPARTMENT HEAD: Terry Houk Digitally signed by Terry Houk DN: cn=Terry Houk, o=City of High Point, ou=Public Services, email=terry.houk@highpointnc.gov, c=US Date: 2017.07.27 16:15:22 -04'00' DATE: Jul 27, 2017

The Purchasing Division concurs with recommendation submitted by the Public Services and recommends award to the lowest responsible, responsive bidder WithersRavenel, Inc. in the amount of $ 110,000.00.

PURCHASING MANAGER: Erik Conti Digitally signed by Erik Conti DN: cn=Erik Conti, o, ou, email=erik.conti@highpointnc.gov, c=US Date: 2017.07.27 17:56:31 -04'00' DATE: Jul 27, 2017

Approved for Submission to Council
FINANCIAL SERVICES DIRECTOR: Digitally signed by Jeffrey A. Moore DN: cn=Jeffrey A. Moore, o=City of High Point, NC, ou=Financial Services Director, email=jeffmoore@highpointnc.gov, c=US Date: 2017.08.02 21:49:58 -04'00' DATE: Aug 2, 2017

CITY MANAGER: Greg Demko Digitally signed by Greg Demko DN: cn=Greg Demko, o=High Point, ou=High Point, email=greg.demko@highpointnc.gov, c=US Date: 2017.08.03 08:23:13 -04'00' DATE: Aug 3, 2017

WithersRavenel
Our People. Your Success.

Pavement Condition Rating Survey
High Point, North Carolina
Proposal for Professional Services
July 25, 2017

The City of High Point requested proposals from qualified firms to update its Pavement Management Survey. The previous survey was completed in 2014 and this year's evaluation will continue the process of assessing city maintained streets every three years. There are approximately 447 centerline miles of city maintained streets. The scope of work for this project includes a survey of the City's street system to gather information including physical characteristics and pavement distresses. The survey will be conducted block by block or at break points established by the City of High Point centerline. This project proposes to apply a combination of specific field data collection techniques and MicroPAVER software technology in order to provide the condition assessment.

WithersRavenel shall team with AECOM to supply all personnel and equipment to preform the survey to the City of High Point. Collectively they shall be referred to herein as the "Consultants". The project will be administered by the City of High Point. Robby Stone, PE, Assistant Director of Public Services for City of High Point will serve as the point of contact for this project.

A. SCOPE OF SERVICES

Task 1 – Pre-Survey/Due Diligence/Project Administration

Upon issuance of the Notice of Award to the ENGINEER, the ENGINEER will attend a Pre-Survey (kick-off) meeting with the CITY Staff to ascertain the extent of the roadway segments to be completed and additional parameters / considerations that should be made by the ENGINEER during the survey. At the pre-survey meeting, procedural guidelines and specific PROJECT requirements will be discussed with the CITY. The CITY will provide a list of streets to be analyzed prior to this meeting. Per discussions had with the CITY it is assumed the list of streets will be the complete 2017 Powell Bill listing of CITY maintained streets.

The ENGINEER proposes to complete the PCR condition surveys utilizing Mobile311tm web-based Mobile Data Collection system and import the data into MicroPAVER Pavement Management Software program to prepare the reports to be provided to the CITY. This task includes office administration time to set-up and prepare maps and formats to be utilized on this PROJECT.

Task 2 – Survey/Data Collection

The ENGINEER proposes to conduct a visual survey of the streets maintained by the CITY following the field methodology and approach developed by the Institute for Transportation Research and Education (ITRE), NCDOT and as recommended by the Asphalt Institute. In addition, the ENGINEER proposes to complete the condition surveys utilizing Mobile311^{tm} web-based Mobile Data Collection system and import the data into MicroPAVER Pavement Management Software

program. The MicroPAVER software then applies the pavement distresses observed during the field survey to the overall area of the street segment based on the field verified GIS street centerline. The result is the output of the PCI (Pavement Condition Index) which equates to the standard street rating that can subsequently be used for determining maintenance needs and estimating the cost to repair the streets. Through custom configurations of MicroPAVER we can also run scenarios to obtain maintenance and repair prescriptions for each street segment and the associated costs of those actions.

Pavement condition survey results are the basis for developing maintenance needs. The condition field survey methods developed by ITRE are used to visually collect pavement distress data including type, severity, and quantity, which are further used to compute the Pavement Condition Index (PCI) value for each section. WithersRavenel utilizes a subset of the 20 distress types that MicroPAVER is capable of analyzing, which coincide with those in the standard ITRE/NCDOT field methodologies. The predominant distress types collected are Alligator Cracking (the most critical pavement distress), Bleeding, Bumps and Sags, Longitudinal/Transverse Cracking, Patching/Utility Cuts, Rutting, and Weathering.

Table 1 - PCI Categories

Failed	0-10
Serious	11-25
Very Poor	26-40
Poor	41-55
Fair	56-70
Satisfactory	71-85
Good	86-100

While the type and severity of distresses follows the standard field methodologies, WithersRavenel takes the additional step of assigning estimated square footage and linear footage quantities to each distress. Likewise, utilizing the power of the Mobile311^{tm} system, the ENGINEER is able to apply those distresses along that segment of street inside the GIS. This additional information gathered in the field is what allows MicroPAVER to perform a more specific analysis of each individual street segment and provide more detailed maintenance prescriptions down to the street segment level.

Task 3 – Report

The ENGINEER will provide 2 copies of the numerical and alphabetical reports ranking the condition of each roadway segment of the CITY maintained roadway segments for the Project.

As part of the pavement analysis, the PCI values are categorized into general conditions as shown in Table 1. The PCI results are also summarized on a GIS map representing each street segment, color coded to its PCI Category.

An additional GIS map will be provided showing the PCI results by Council District. The district layer(s) for the map will be provided by the City.

MicroPAVER can also generate capital improvement scenarios utilizing real budget numbers. A typical scenario could set a five-year budget at $500,000 each year for street repair and maintenance. MicroPAVER can utilize best practices to assign funding to each street segment with recommend maintenance and repair actions. In addition, MicroPAVER can extrapolate future costs for the next 5 to 10 years, with built in inflation percentage, and calculate additional incurred costs because of delay of maintenance or stop-gap repair instead of a comprehensive repair.

This type of capital improvement plan (CIP) analysis can be completed by WithersRavenel. MicroPAVER will require budget parameters provided by the CITY to provide these types of

scenarios. Multiple scenarios can be run that will generate a comprehensive segment by segment approach to street system pavement management. WithersRavenel recommends this approach to ensure expenditures are applied to street segments that will have the highest impact and return on investment.

This contract will include three (3) scenario work plans and accompanying reports, one at the current budget numbers, one at a hypothetical budget (at a dollar amount given to us by the CLIENT, and one unlimited budget scenario that gives fiscal perspective to the overall condition of the street system as a whole.

Task 4 – Training

MicroPAVER is a standalone Microsoft Windows application installed directly onto a PC and comes with (2) two single use licenses. Additional licenses can be purchased at a reduced rate for other staff members as necessary. WithersRavenel will assist the CITY with the purchase (purchase of the software will be the responsibility of the city) and install of the PAVER software to the specifications used during the course of this project.

Training for up to four (4) individuals for one eight (8) hour training day will be provided in order for the CITY to run additional scenarios through MicroPAVER with limited configuration of the software. Technical support will be provided to the CITY as well for six (6) months following delivery and implementation of the software. This could include but not limited to configuration of distress tables, budget tables, and maintenance and repair (M&R) plans, but will not include software maintenance or upgrades as WithersRavenel is not the authors or owners of the MicroPAVER software. Technical support as part of the purchase is provided by APWA for up to one year.

B. ADDITIONAL SERVICES

The ENGINEER shall undertake additional services only upon receipt of written request and authorization from the CITY. Upon receipt of written authorization from the CITY, the ENGINEER will provide additional services not considered normal or customary Basic Services. Such additional services may include (but not limited to) any of the following:

1. Survey/Data Collection and Reports associated with streets/roadway segments that were not requested, included or provided during the pre-survey meeting with the CITY staff at the start of the project.
2. NCDOT or Private Roadways are not included in this scope of work.
3. Providing services of special consultants such as Geotechnical testing.
4. Serving as an expert witness for the CITY in any litigation involving the PROJECT.
5. Providing additional reporting other than the Alphabetical and Numerical PCR and color-coded map of the results, will be considered additional services.
6. Providing plans and specifications.
7. Providing traditional field surveys.

C. CLIENT RESPONSIBILITIES

During the performance of the ENGINEER'S services under this AGREEMENT, the OWNER will:

1. Provide full information as to its requirements and scope for the PROJECT.

2. Assist the ENGINEER by placing at his disposal all available information pertinent to the PROJECT, including previous maps, old drawings, maintenance records and any other data relative to the scope of the PROJECT.
3. Give prompt written notice to the ENGINEER whenever the CITY observes or otherwise becomes aware of any defect in the PROJECT, request additional scope or timing of the ENGINEER'S services.
4. Provide access to all the streets requested to be analyzed including ensuring street segments are open to vehicular travel at the timing of the condition field survey. Street segments may be skipped if across is not available to the ENGINEER for the survey.

D. EXPENSES

Expenses for items such as prints, copies and any fees paid shall be reimbursable as provided for in this agreement and in accordance with the rate schedule provided.

E. COMPENSATION FOR SERVICES

WithersRavenel, Inc. proposes to provide the services outlined in Section B on a fixed fee basis as shown below with the exception of Task 9, which shall be paid in accordance with the attached fee schedule or as invoiced by review agencies. The fees for the sub-consultants are also included in the fees listed below.

Task Number	Task Name	Cost
Task 1	**Pre-Survey/Due Diligence/Project Administration**	**$4,000**
Task 2	**Survey/Data Collection**	**$92,000**
Task 3	**Report**	**$12,000**
Task 4	**Training**	**2,000**
	Total	**$110,000**

Invoices will be based on the percentage of the project accomplished during the billing period. Payment is due upon receipt of invoice. Interest at the rate of one and one half (1.5) percent per month shall be charged on all balances due over 30 days from date of invoice.

F. TIMELINE FOR SERVIECS

The ENGINEER will complete the tasks as outlined per Basic Services upon execution of this agreement and complete the scope of work within Ten (10) weeks from the date of the pre-survey meeting that kicks off the project.

Should other unusual field conditions be encountered or should other developments arise which are beyond the ENGINEER'S control and which result in delay of services (including acts of God or

weather delays) to be rendered hereunder, it is agreed and understood that additional time may be required.

G. ACCEPTANCE

Receipt of an executed copy of this agreement will serve as the written agreement between WithersRavenel, Inc. and the City of High Point for the services outlined in Section B of this document and the terms outlined in the attached Exhibit I – Standard Terms & Conditions.

WithersRavenel

John F. Akers, PE
Senior Project Manager

CITY OF HIGH POINT

By: _____

Title: _____

Date: _____