STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT McCORRY
GOVERNOR

ANTHONY J. TATA
SECRETARY

August 13, 2013

MEMORANDUM TO: Meeting Attendees and Project File

FROM: Michael Penney, PE, Project Development Engineer
Project Development and Environmental Analysis Unit

SUBJECT: US 421 Pavement Rehabilitation, Replacement of Bridge Numbers 178, 278, 286, 288, 291, 293, 305, 312, 313, 336 and Various Safety Improvements, From West of Fourth Street to East of Church Street, Forsyth County, F. A. Project No. HPPNHF-0421(73) AND NHF-0421(74), WBS No. 34872.1.1, TIP Project No. U-2827B

REGARDING: External Scoping Meeting Minutes

An External Scoping Meeting was held on June 19, 2013 at 10:30 AM at the NCDOT Structure Design Large Conference Room, Century Center Building A in Raleigh for the referenced project. The Following persons were in attendance:

Clarence Coleman, PE, FHWA
Felix Davila, PE, FHWA
Amy Simes, NCDENR
Renee Gledhill-Earley, NCDCR-SHPO
Gregory Errett, AICP, Winston-Salem Forsyth UA MPO
Keith Raulston, PE, NCDOT Division 9
Jim Speer, PE, NCDOT Roadway Design Unit
Danny Gardner, PE, NCDOT Roadway Design Unit
John Gauthier, PE, NCDOT Roadway Design Unit
Matt Lauffer, PE, NCDOT Hydraulics Unit
Mike Stanley, PE, NCDOT Program Development Branch – STIP Unit
Doumit Ishak, NCDOT Congestion Management
Cheryl Evans, NCDOT ITS & Signals
Joseph Ishak, PE, NCDOT Central WZTC Region
Ben Schoenbauer, PE, NCDOT Central WZTC Region
Zak Hamidi, PE, NCDOT Transportation Program Management
Greg Thorpe, Ph.D., NCDOT PDEA
Meeting Purpose

The purpose of the meeting was to discuss the proposed project with Federal and State Resource Agencies, NCDOT staff, and Municipal Staff, discuss changes since the previous Project Scoping Meeting (2004), receive comments and concerns, and if the project needs to follow the Merger Process.

Project Description

The proposed project includes pavement rehabilitation on US 421/I-40 Business, replacement of ten bridge and various safety improvements in Forsyth County, in accordance with the STIP. The existing highway (US 421/I-40 Business) cross-section is four-lanes. The total project length is approximately 1.2 miles.

Points of Discussion

The meeting began with introductions, Michael Penney noted that Marella Buncick (USFWS) had called to inform him that she may not make the meeting and if she were to attend she would be late. During the call Ms. Buncick did note she had no concerns with the project. Mr. Penney provided the meeting participants with the following project overview:
• The original Project Scope has evolved/changed since initial Project Scoping in 2004 (in 2004 the project consisted of pavement replacement - mainline and ramps in their existing location and limited bridge replacements);
• As of the 2006 FHWA/NCDOT Accelerated Construction Technology Transfer (ACTT) Workshop the scope was changed;
• Project Length - 1.2 miles, and contains 11 structures, six interchanges (currently, there are two full interchanges, Peters Creek Parkway and Broad Street, and four partial interchanges, Marshall, Cherry, Liberty and Main Streets) within the project limits.
• This project is the original/first section of I-40 constructed in North Carolina. Constructed in mid to late 1950s. The structures within the project study area date 1955 and 1958.

Proposed project is to reconstruct/replace all pavements, improve shoulder width, replace structures, improve vertical clearance and decrease the number of interchanges.

• All of the eleven (11) bridges within the project limits all are deficient in vertical clearance, some as much as three feet. Two structures have a vertical clearance of 14.0 feet.
• Currently the Green Street Bridge is closed as a result of being struck by a truck; however the section north of the bridge is now private and closed to traffic thus lessening the immediate need to replace the structure.

Constraints include two streams, totaling 300 LF of anticipated impact, which have previously been piped, an urban setting, and minimal/if any Threatened & Endangered Species (studies underway). The project study area, which extends two blocks north, south, east and west of the project, touches portions of seven historic districts, two historic cemeteries and at least 14 individual properties listed on or eligible for the National Register of Historic Places.

Mr. Penney denoted the project would be Design-Build with an anticipated award in the summer of 2016.

Chris Militscher (EPA) asked what level of NEPA was being proposed? Mr. Penney stated an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI).

An aggressive Public Involvement (PI) campaign was initiated for the project. The first step of PI was to engage the public (affected residences, businesses and employees) and survey to determine how the project would be constructed; standard construction of up to six years of partial closures versus up to two years full closure of US 421/I-40 Business with intermittent closures of cross bridges. The return rate of the surveys was approximately 40 percent, national average is 10-15 percent, and of those responding approximately 67 percent favored the two year closure option.
With the question of how the project would be constructed resolved; the next step was alternatives to be constructed. Mr. Penney noted that the Fourth Street Bridge at the western project limits is also deficient in vertical clearance and NCDOT is determining if it will need to be replaced as a part of this project. It was noted that the redesign of the Peters Creek Parkway interchange is the same for all of the proposed alternatives. All proposed alternatives will reduce the number of interchanges to two full interchanges and one partial interchange. The following proposed alternatives were presented:

**Alternative 1 - Cherry/Marshall (main access to downtown Winston-Salem)**

This alternative provides for a partial interchange at Main Street, a full interchange at Cherry/Marshall (via two partial interchanges acting as a full interchange) and a full interchange at Peters Creek Parkway and contains the following design elements:

- Minor cut, approximately 1½ - 2 feet, of the vertical alignment on US 421/I-40 Business to improve the vertical clearance of cross street bridges;
- Some retaining walls will be required;
- Narrows Church Street Bridge on the west side to aid in improving vertical clearance of the Main Street ramps. This change should not affect travel on Church Street due to its limited length, i.e. one block south and five blocks north of the bridge;
- Requires a shift of Main Street to the west to improve vertical clearance, resulting in the acquisition of the funeral home;
- Keeps Main Street ramps (westbound (WB) off ramp and eastbound (EB) on ramp) under Church Street Bridge;
- Shifts US 421/I-40 Business west of Main Street to Marshall Street southward;
- Closure of the Liberty Street ramps (WB on ramp and EB off ramp);
- Remove the existing Cherry Street WB off ramp and replaces it on new alignment;
- Reconfigure EB off ramp to Marshall Street via High Street. Close High Street from Brookstown Avenue to the ramp;
- Reduce the length of the Brookstown Avenue Bridge;
- Close/remove the Broad Street ramps due to ramp spacing and weave length. The replacement bridge will be narrowed to three lanes, and;
- Replace the Green Street Bridge with a pedestrian/utility bridge.

It was noted that the redesign of the Peters Creek Parkway interchange is the same for all of the proposed alternatives and would be reviewed last.

Gregory Errett (W-S) asked about the Marshall WB ramp changes. Mr. Penney stated the changes included the closure/removal of the Spruce Street Bridge, cul-de-sac Spruce Street north of US 421/I-40 Business and closure of Spruce Street south of the bridge to High Street. This will allow for the WB on ramp from Marshall Street to operate as a standard ramp (without cross traffic from Spruce Street).
No further questions were brought forth on this alternative.

**Alternative 2 - Liberty/Main (main access to downtown Winston-Salem)**

This alternative provides for a full interchange at Liberty/Main (via two partial interchanges acting as a full interchange), a partial interchange at Broad Street and a full interchange at Peters Creek Parkway and contains the following design elements:

- Minor cut, approximately 1½ - 2 feet, of the vertical alignment on US 421/I-40 Business to improve the vertical clearance of cross street bridges;
- Some retaining walls will be required;
- Narrows Church street bridge on the west side to aid in improving vertical clearance of the Main Street ramps;
- Requires a shift of Main Street to the west to improve vertical clearance, resulting in the acquisition of the funeral home;
- Keeps Main Street ramps (westbound (WB) off ramp and eastbound (EB) on ramp with a shift to align with the EB off ramp to Liberty Street);
- The existing Liberty Street ramps will be removed and replaced with new ramps on new alignments. The EB off ramp will split to provide access to Liberty and Main Streets;
- Replace the Cherry and Marshall Street Bridges with longer structures;
- Remove the Cherry and Marshall Street ramps;
- Spruce Street will remain open in this alternative. Replace the Spruce Street Bridge with a narrower structure;
- Reduce the length of the Brookstown Avenue Bridge;
- Reconfigure the Broad Street interchange to a partial interchange with WB off ramp and EB on ramp only. The replacement bridge will be narrowed to three lanes, and;
- Replace the Green Street Bridge with a pedestrian/utility bridge.

No questions were brought forth on this alternative.

**Alternative 3 - Liberty/Main (main access to downtown Winston-Salem) Deep Cut**

This alternative provides for a full interchange at Liberty/Main (via two partial interchanges acting as a full interchange), a partial interchange at Broad Street and a full interchange at Peters Creek Parkway and is similar to Alternative 2 with a deeper cut. This alternative contains the following design elements:

- Major cut, approximately 17 feet, of the vertical alignment on US 421/I-40 Business which vastly improves the vertical clearance of cross street bridges at Main, Liberty, Cherry and Marshall;
- Extensive retaining walls will be required to keep the project within the existing Right-of-Way and/or minimize any additional Right-of-Way;
- Narrows Church street bridge on the west side to aid in improving vertical clearance of the Main Street ramps;
- DOES NOT require a shift of Main Street to the west, thus retaining the funeral home;
- Simplifies the EB off ramp providing access to Liberty and Main Streets, removes need for split;
- Flips Liberty Street from currently going under US 421/I-40 Business to going over US 421/I-40 Business;
- Proposed Bridge over the Strollway;
- Replace the Cherry and Marshall Street Bridges with longer structures;
- Remove the Cherry and Marshall Street ramps;
- Replace the Spruce Street Bridge with a narrower structure;
- Reduce the length of the Brookstown Avenue Bridge;
- Reconfigure the Broad Street interchange to a partial interchange with WB off ramp and EB on ramp only and improves ramp radii. The replacement bridge will be narrowed to three lanes, and;
- Replace the Green Street Bridge with a pedestrian/utility bridge.

**Alternative 4 - Cherry/Marshall (main access to downtown Winston-Salem) Deep Cut**

This alternative provides for a partial interchange at Main Street, a full interchange at Cherry/Marshall (via two partial interchanges acting as a full interchange) and a full interchange at Peters Creek Parkway and is similar to Alternative 1 with a deeper cut. This alternative is under development by NCDOT Roadway Design staff and will utilize the same profile as Alternative 3. If feasible, it is anticipated to be completed in mid-August. This alternative, if feasible, along with the others and rough cost estimates will be presented to the NCDOT and City of Winston-Salem staffs. The intent is to select only two for inclusion in the environmental documents and to be present to the public.

Mr. Penney denoted that one of the problems with Alternatives 1 and 2 is the cross streets (Church, Main, Cherry, Marshall, Spruce and Broad Streets) grades would need to be raised to improve the vertical clearance.

Lengthy discussion followed the review of Alternatives 3 & 4 prompting the following questions:

Felix Davila (FHWA) asked Alternatives 3 and 4 require the same amount of main line closures? Mr. Penney responded yes, but this would be very aggressive due to the amount of rock that will need to be cut, but there would be a cost savings due a reduction in the amount of bridging that is proposed and may allow for removal of some of the center bents. What Right-of-Way will be required with Alternatives 3 and 4 was a follow-up question. Mr. Penney responded NCDOT was trying to stay within the existing Right-of-Way but at present the design is preliminary, cross sections need to be cut, walls will be
needed and the Geotechnical Unit will need to be consulted. Danny Garner (Roadway) stated Alternatives 3 and 4 will have retaining walls along a majority of the project.

Amy Euliss (DWQ) asked if there were any jurisdictional issues. Mr. Penney there may be a small amount wetlands. Deanna Riffey (NES) stated the two UTs to Peters Creek are currently impacted, Peters Creek is west of the proposed interchange there were no major jurisdictional waters. Mr. Penney estimated about 300 LF of total stream impacts. Ms. Riffey stated that most of the effected systems were already piped, some pipe extensions may be required, but not anticipating a lot of impacts. Ms. Euliss asked if there would be 300 LF per stream, the response was no – 300 LF in total was stated to denote anticipating a Nationwide Permit. Ms. Euliss asked if John Thomas (USACE) was present, the response was no.

Ms. Euliss asked if the project will be in Merger or was it decided previously to put it in Merger due to the historic issues? Mr. Penney stated he did not anticipate the project going through Merger but would be working with SHPO regarding the 106 issues, since NCDOT felt all other agency comments would be extremely minimal. Mr. Penney stated that Ms. Buncick did not have any concerns with the project due to the urban setting, Ms. Euliss concurred. Ms. Euliss asked if there had been a Merger Screening meeting in the past or if that step was skipped and went straight to Scoping? Mr. Penney stated the issue was being brought forth today; noting the project had changed since the last time the agencies saw the project in 2004. Ms. Euliss cautioned to make sure that the proposed cuts will not affect hydrology, but supported the project not being in Merger Process.

Renee Gledhill-Earley (SHPO) asked will detouring traffic for two years have additional affects? Mr. Penney stated the detour analysis was currently underway and is complex (covering a large detour study area, including shifts of traffic to I-40 and the other current and future projects) complete results are anticipated in the Fall 2013.

Ms. Euliss stated if impacts for secondary systems increase the jurisdictional impacts may have to be revisited. Mr. Penney stated the secondary system improvements anticipated are intersection improvements (i.e., additional right or left turn lanes), changes to signal timing or more robust transit.

Mr. Davila stated that FHWA needs to be made aware of improvements and/or beautifications that the City of Winston-Salem may want. FHWA and NCDOT need to be on board with mitigation measures; mitigation measures need to be rational.

Gregory Errett (W-S) asked if a connection between Liberty and Main Streets would be an option since the funeral home would be acquired in Alternatives 1 and 2? Roadway staff stated that option had not been looked at, it could be investigated but there were concerns about the grade differential between Main Street and Liberty Street.
Ms. Gledhill-Earley asked if all the alternatives had been shown to Creative Corridors? Mr. Penney stated there has been some coordination with Creative Corridors regarding the project.

Ms. Gledhill-Earley asked how much, length, retaining wall(s) would be needed for Alternatives 3 and 4. Mr. Penney stated approximately 0.8 to 1.0 mile, but the quantity had not been finalized. Ms. Gledhill-Earley asked if NCDOT had shown the City of Winston-Salem the design, Alternative 3, with all these retaining walls? Mr. Penney stated no, Alternative 3 was completed last week and as such had not been shown to them yet. After Alternative 4 is completed NCDOT will be meeting with the City of Winston-Salem to present Alternatives 3 and 4, this is anticipated to occur in August.

Mr. Penney went back to the Creative Corridors coordination and stated that the Creative Corridors concepts have been incorporated into the NCDOT Working Group in developing aesthetic improvements. Both Creative Corridors and the Working Group have been made aware that coordination with SHPO, regarding Section 106 issues, was required prior to any aesthetic improvements would be finalized. Ms. Gledhill-Earley raised the concern that landscaping proposed in the Creative Corridors plan is not compatible with retaining walls. Mr. Penney stated there was a request to landscape the median of US 421/I-40 Business, similar to I-85 in Durham, but this may not occur since the City of Winston-Salem has concerns regarding the initial cost, cost of maintenance and safety concerns during the required maintenance.

With no further questions regarding Alternative 3 or 4 Mr. Penney proceeded to review the proposed improvements to the Peters Creek Parkway Interchange.

**Peters Creek Parkway Interchange**

The current Peters Creek Parkway Interchange is comprised of an EB off slip ramp to southbound Peters Creek Parkway (PCP), an EB on ramp, a WB off ramp, a WB on loop, and a four lane bridge with sidewalks in each direction. The proposed interchange will include an EB off loop, an EB on ramp, a WB off ramp, a WB on loop, a seven lane bridge with 10 foot sidewalks in each direction. The addition of the EB loop and moving out of the EB on ramp will require either cul-de-sacing Apple and Gregory Streets or providing a new connector between the two. The new connector would require the acquisition of an additional ten residential units and NCDOT sees the need for a meeting with the affected neighborhood before a decision will be made as to which option will be chosen. Since construction is confined to the eastern side of the interchange it appears there are no historic districts being impacted by the proposed improvements to the PCP Interchange.

Mr. Errett asked will the proposed EB loop and moving out of the EB on ramp would be in cut or fill, and would that be higher or lower than the existing houses? Mr. Garner state
there was both cut and fill for the proposed ramp, but could not recall its relationship to the existing houses.

Ms. Euliss stated she thought Peters Creek was in this area and there are streams in the south side of the loop which are UTs to Peters Creek. Mr. Penney stated that Peters Creek is located west of the historic district in the southwest quadrant of the PCP interchange and it will not be impacted. Ms. Riffey and Matt Lauffer (Hydraulics) confirmed that there are two intermittent streams in the south side of the loop, both of which have been previously piped. Ms. Euliss stated her records show one is intermittent and becomes perennial and other one is intermittent – if they are in the footprint of the proposed project the impacts could be pretty high. Mr. Penney stated once the Hydraulic Unit reviews the design NCDOT will be able to determine what the impacts may be.

Mr. Davila raised a concern regarding the need for noise analysis due to PCP from four to six lanes. Mr. Penney stated once the design, horizontal and vertical, was completed for all alternatives and a decision was made as to which alternative, minor vs. deep cut, to proceed with, a noise analysis would be conducted. Mr. Davila stated that the project was Type 1. Mr. Penney stated that based on discussions with Greg Smith (HES) this project would be a Type 1 project due to interchange reconfiguration not increased capacity, thus requiring a noise analysis.

Mr. Penney continued with his review on the north side of the interchange/PCP improvements. The existing tight WB on loop will be removed and relocated next to the WB off ramp to improve the radius, improving access on PCP to the loop and allows for a single intersection. The lane configuration on Peters Creek Parkway just north of the ramp/loop intersection changes to two lanes southbound and three lanes northbound and there is a shift towards the ball field. Mr. Penney reviewed the redevelopment of the area west of the ball field which precipitated the shift. Mr. Davila asked if the shift towards the ball field would bring about a 4(f) impact? Mr. Penney noted that the shift had been coordinated with the ball field owners and the City of Winston-Salem; both were in favor of the shift. The impact is to the landscaping area and not the facility. Eric Midkiff (PDEA) stated the ball field use would have to be reviewed to determine if it qualifies as a 4(f) use.

No further questions were brought forth on the Peters Creek Parkway Interchange.

Mr. Errett expressed the City of Winston-Salem’s desire for a multiuse path along the north side of US 421/I-40 Business to link downtown to points west. Mr. Penney stated NCDOT is aware of the City’s desire for a multiuse path along the north side of the project, but until the designs are completed and cross sections cut it is premature to commit to the City’s request, i.e. is there sufficient Right-of-Way to accommodate the path and at what cost to the City. As soon as that information is available NCDOT will contact the City.
Mr. Penney asked after the review of the project was there still was consensus not to place the project in Merger? No objections were noted. Ms. Euliss concurred with not being in Merger, but caveated her concurrence with if the impacts increase this may need to be revisited.

Mr. Errett asked for a project schedule. Mr. Penney provided the following general schedule:

- February 2014 - Environmental Assessment (EA) signed & published
- 2014 - Public Hearing
- February 2015 - Finding of No Significant Impact (FONSI) signed & published – assumption is there will be a FONSI
- 2016 - Design-Build award

Agency issues primarily Section 106 related.

Public concerns / Public Involvement has been aesthetic related both of the mainline and Y- crossing including sidewalks, etc. Minimum proposed sidewalk width is eight foot (matching current City sidewalks), some will be 10 foot wide, and most structures will have sidewalks on both sides (except for the structures on US 421/l-40 Business, i.e. crossing Liberty Street and Brookstown Avenue, due to safety issues). The Green Street Bridge replacement is proposed as a pedestrian/utility bridge to allow for pedestrian access to the ball field from the south and east and to maintain current utilities.

Mr. Midkiff asked Mr. Penney to review the upcoming public involvement on the project. Mr. Penney stated the public involvement is tiered; a Corridor Wide Meeting (similar to a Citizens Informational Workshop but more involved) will be held this fall (2013) to afford the public an opportunity to review and comment on the proposed alternatives and aesthetics improvements being recommended by the Working Group prior to the completion of the Environmental Assessment. This allows the public additional time to review, evaluate, and comment on the proposed changes due to their magnitude and effect to the City.

Mr. Davila asked, from a coordination standpoint, is there any air quality issues related to a change in ramps and the horizon year. Mr. Penney stated the project as proposed is in the Winston-Salem Forsyth UA Metropolitan Planning Organization’s (MPO) Long Range Plan and meets air conformity. Though the project has recently been combined into one Design-Build Project (due to constructability) the horizon year is one year sooner. However, NCDOT will follow up with the MPO to insure all is consistent. Mike Stanley (Program Development) noted that his office has changed and moved the Right-of-Way schedule across four year threshold for the horizon year and has coordinated with the MPO and FHWA.
Mr. Penney informed Ms. Gledhill-Earley that the original Historic Survey for the project was completed in 2006 by Richard Silverman (NCDOT) and is currently being updated due a change of the Study Area. The anticipated completion of the Historic Survey update is July/August 2013, after which NCDOT will coordinate with SHPO regarding eligibility issues and effects.

Mr. Penney asked if there were any further comments or questions; hearing none the meeting was adjourned.