

September 26, 2016

Mr. Mickey Biedell, P.E.
Contractual Services Engineer
NCDOT Contractual Services Unit
1509 Mail Service Center
Raleigh, NC 27699-1509

RE: Work Samples for Prequalification for Tier I Hydraulics

Dear Mickey:

We are submitting the following samples of design reports and hydraulic calculations and models in our application for prequalification for Tier I Basic Hydrologic and Hydraulic Design. Copies of associated construction plan sets are included as well.

- a) Pine Valley Street Rehabilitation and Drainage Improvements, Wilmington, NC – The files for this project are submitted as an example of a roadway drainage design project. The City contracted with JEWELL to design a drainage network for a set of streets to alleviate drainage issues associated with the current backyard ditch system. The design includes curb and gutter for some roadways and swales with drop inlets for others. Included in the Pine Valley folder is a printout of the Hydraflow inlet calculation results submitted to the City. The construction plan set is also included. Bids were recently submitted for this project and construction is expected to start soon.
- b) Two sets of project files are submitted as examples of bridge/culvert design over streams: replacements at Roquemore Road in Clemmons, NC and at Forest Hills Drive in Fayetteville, NC. The Roquemore analysis was done using FHWA HY-8. The HY-8 report is included, as well as the conceptual design report and the construction plan set. The original analysis and preliminary design for the Forest Hills crossing was done as part of a watershed analysis of four street crossings within a neighborhood. The design was later refined due to some City preferences regarding the proposed system. The file includes a report and HY-8 file for the final design, as well as the construction plan set. Construction on each of these projects was completed several years ago.

- c) Because JEWELL Engineering has not previously done NCDOT projects, we have not had cause to specifically utilize the NCDOT Stormwater BMP Toolbox. However, we have done BMP design based on guidelines that are essentially the same as some of those in the toolbox. Specifically, we are providing calculations and the construction plans for a stormwater wetland BMP constructed for the City of Conover with a grant from the Clean Water Management Trust Fund, which dictated specific requirements for pollutant removal. The design calculations submitted to CWMTF staff are included, and were based on the Tar-Pam spreadsheet. Although the stormwater wetland was the main feature of the project, it had to be supplemented with a grassed swale and restored riparian buffer area in order to meet the grant requirements for stormwater quality improvements. Construction of this project was completed in 2012.

Please let us know if you have any questions or require additional information.

Sincerely,



Cynthia C. Lancaster, P.E.
Project Manager