

Final Survey Report

March 11, 2016

TIP: B-5712
Project No.: W0377
L&S # 06-16-10
Cumberland County

PEF: CALYX
Engineers +Consultants

Description: Bridge 42 on SR 2030 (Hollow Bridge Road) over Gum Swamp

Datum

- This is an English project.
- The Horizontal Datum is NAD 1983 (conus) NA 2011.
- The Vertical Datum is NAVD 88.
- All distances and coordinate units are US Survey Feet.

Baseline Alignment

b5712_ncdot_fs.dgn.

b5712_ncdot_baseline.txt

- The Baseline Control for this project was established by NCDOT.
- Baseline –BL- Beginning Station; BL-1, Station 5+00.00.
- Project GPK file: b5712_ls_gpk.gpk.
- Localized Monument used for Project Control: **B5712 BL-1**

Northing	Easting	Elevation
442,131.390	2,105,603.984	104.25'
- The Average Combined Factor GROUND TO GRID is 0.99988561

-EL- Existing Alignment

b5712_ncdot_fs.dgn.

- –EL- Beginning Station; Station 10+00.00.
The Existing Alignment –EL- was generated by a best fit of the existing roadway centerline.

Field Surveys

This project was field surveyed between February 25, 2016 and March 11, 2016.

CALYX performed the following survey tasks by conventional methods.

- Pavement dtm's.
- Gravity utilities and Pipe inverts.
- Classification.
- Field Property ties.
- Location of planimetric features
- Supplemental dtm's

- Hydrographic surveys
- Location of wetlands (delineated by others)
- Location of TBM set by NCDOT
- SUE – designation, location and mapping

Planemetric Mapping

b5712_ncdot_fs.dgn.

- All planemetric features in the mapping were conventionally surveyed by CALYX.
- No data from photogrammetry was provided.

Existing Right of Way

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- A Right of Way Abstract was not provided by NCDOT.
- The right of way was mapped at 60 feet wide (30 feet from centerline) based on existing plats, monumentation found in the field and visual observation of NCDOT maintenance.

Properties

b5712_ncdot_fs.dgn.

- Property Lines were drawn from deeds and plats obtained from the Register of Deeds Office.

Utility Information

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The following utilities were observed within the project limits.

- Power (Overhead)
- Telephone
- Telephone Fiber Optic

DTM and TIN files

b5712_ls_dtm.dgn.

b5712_ls_tin.tin

- The DTM file is comprised mostly of conventional topo (pavement dtm's, obscured and non-obscured dtm's and hydrographic dtm's), performed by CAYLX. A small amount of QL2 LiDar provided by NCDOT was incorporated into the dtm file.

- Curve and Stroke Tolerance was set at 0.15 feet and with a minimum length of 30 feet. Side Dissolve option was used with a Side Length of 100 feet.

Existing Bridge

- The existing bridge consists of a concrete deck with an asphalt wearing surface, supported by wooden endwalls and timber piles.
- The bridge rail is metal guardrail.

Adjacent Land Uses and Traffic

- The vehicular traffic along on SR 2030 (Hollow Bridge Road) was observed to be light throughout the day.
- The land use around the project limits are wooded undeveloped, cultivated fields and small amount of residential dwellings.

Deliverables

The following is a list of the files and data submitted at the completion of the Survey.

Surveyor's Report	b5712_ls_sr.pdf
Baseline Text File	b5712_ls_baseline.txt
GPK File:	b5712_ls_gpk.gpk
Full Survey File	b5712_ncdot_fs.dgn
DTM File	b5712_ls_dtm.dgn
DAT File	b5712_ls_dat.dat
TIN File	b5712_ls_tin.tin
Pole Data File	b5712_ls_pdf.txt
Propcon Database	b5712_ls_poc.mdb
Deeds and Plats in pdf format	b5712_ls_deeds
Certification Letter	b5712_Certification Letter.pdf

PHOTOS



LOOKING NORTH



LOOKING SOUTH



LOOKING UPSTREAM



LOOKING DOWNSTREAM



BRIDGE PROFILE (LOOKING NORTHWEST)

