

Final Survey Report

March 17, 2016

TIP: B-5700

PEF: CALYX Engineers +Consultants

Project No.: W0377

L&S # 06-16-09

Cumberland and Bladen Counties

Description: Bridge 45 on SR 2030 (Hollow Bridge Rd) and SR 1414 (S. Gray St) over the South River

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

b5700_ncdot_fs.dgn.

b5700_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: b5700_ls_gpk.gpk.

- Localized Monument used for Project Control: **B5700 BL-1**

<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>
450,687.844	2,107,387.296	96.84'

- The Average Combined Factor GROUND TO GRID is 0.99988755

-EL- Existing Alignment

b5700_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 15, 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

b5700_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 of record and visual observation of NCDOT maintenance.

Properties

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- 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.

- Telephone Fiber Optic

DTM and TIN files

b5700_ls_dtm.dgn.

b5700_ls_tin.tin

- The DTM file is comprised of conventional topo (pavement dtm's, obscured and non-obscured dtm's and hydrographic dtm's), performed by CAYLX.
- 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 appears to have a wooden deck with an asphalt wearing surface, supported by timber piles.
- The bridge rail is metal guardrail.

Adjacent Land Uses and Traffic

- The vehicular traffic along on SR 2030 (Hollow Bridge Rd) and SR 1414 (S. Gray St) was observed to be medium throughout the day.
- The land use around the project limits are undeveloped wooded tracts.

Deliverables

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

Surveyor's Report	b5700_ls_sr.pdf
Baseline Text File	b5700_ls_baseline.txt
GPK File:	b5700_ls_gpk.gpk
Full Survey File	b5700_ncdot_fs.dgn
DTM File	b5700_ls_dtl.dgn
DAT File	b5700_ls_dat.dat
TIN File	b5700_ls_tnl.tin
Pole Data File	N/A (No poles within the project limits)
Propcon Database	b5700_ls_poc.mdb
Deeds and Plats in pdf format	b5700_ls_deeds
Certification Letter	b5700_Certification Letter.pdf

PHOTOS



LOOKING NORTHEAST



LOOKING SOUTHWEST



LOOKING UPSTREAM



LOOKING DOWNSTREAM



BRIDGE PROFILE (LOOKING NORTHWEST)



WOODEN ENDWALLS (TYPICAL)