

Bridge Design Speed Study

Bridge # 000151 over Greenbrier Creek on SR 2307 (Staley Store Rd)
Alamance County
WBS Element # 17BP.7.R.36



Document Prepared By:

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April 24, 2012

Principal Investigator



Andrew D. Klinksiek, EI

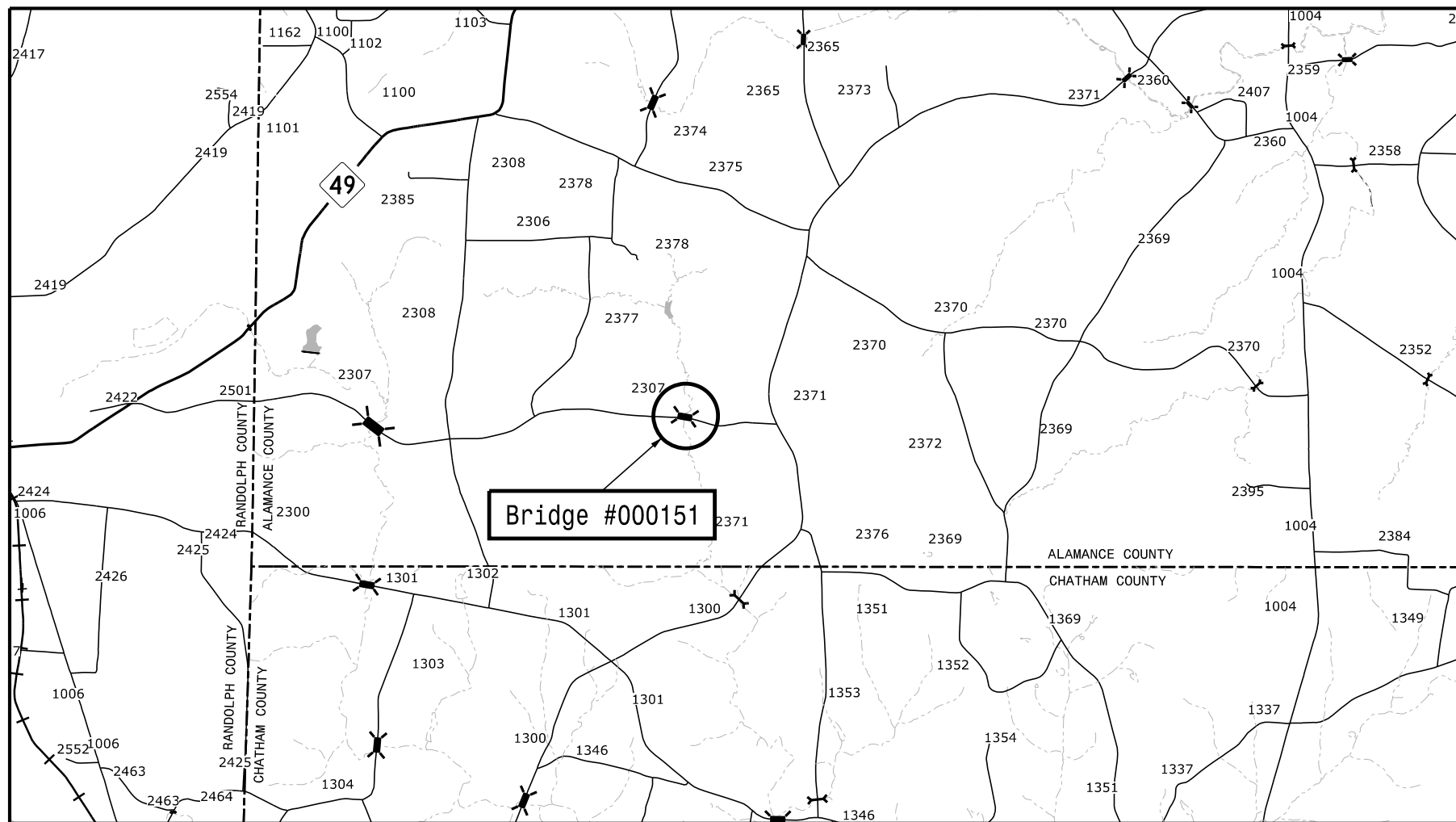
Project Manager



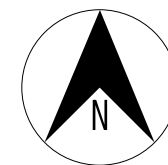
Bradley A. Reynolds, PE
Project Manager



Bridge locations plotted based on coordinates provided by Bridge Management



Division	County	Structure Number	Structure Description	Latitude	Longitude
7	Alamance	000151	Bridge #151 over Greenbrier Creek on SR 2307	35.85663484	-79.49535844



1" = 5000'
SCALE

Bridge and Approach Investigation Checklist

Project	<u>17BP.7.R.36</u>
Description	<u>Bridge #151 over Greenbrier Creek on SR 2307</u>
Route	<u>SR 2307 (Staley Store Rd)</u>
Division	<u>7</u>
County	<u>Alamance</u>

Existing Speed Limit	<u>55</u> ☐ Posted ☒ Statutory
Reasonable & Comfortable Passenger Car Speed	<u>55-60 mph</u>
Speed Data	<u>No speed data points collected due to sparseness of traffic.</u>
Ball Bank Speed Study	<u>Slight curve on east side of bridge ball banks at 7 degrees at 55 mph and 10 degrees at 60mph.</u>
Warning Signs at Bridge	<u>W23-10 object markers, one located at each corner of the bridge.</u> <u>Regulatory 25 ton/30 ton weight limit sign on each approach.</u>
Roadside Development	<u>Rural/Agricultural</u>
ADT History	<u>460 vpd from 2010 NCDOT Traffic Survey Map</u> <u>390 vpd from 2002 NCDOT Traffic Survey Map</u>
Pedestrian/Bicycle Traffic	<u>No bike or ped traffic observed during investigation. Little bike or ped traffic is expected on SR 2307.</u>
Bridge and Approach Digital Photos	<u>See attached photos.</u>
Approach Lane Width	<u>18' overall pavement width with 9' lanes</u>
Approach Shoulder Width: Shoulder Type	<u>Varies from 6' to 11'±</u> <u>Grass</u>
Lane Width (existing bridge)	<u>20' overall pavement width with 8.5' lanes</u>
Shoulder width (existing bridge)	<u>1.5' /1.5'</u>
Strategic Corridor / Thoroughfare Designation and Recommended Cross Section	<u>SR 2307 is classified as a local roadway, therefore it is recommended that the minimum cross section follow the NCDOT "R-R-R Guide" with a minimum of 10 foot lane widths and 3 foot shoulder widths (6 foot graded shoulder width where guardrail is to be installed).</u>
Crash History and Safety Considerations	<u>No crashes have been reported in the vicinity of the bridge from 1/1/2002 to 12/31/2011 (10 years).</u>
Comments	<u>Edwards Wood Products and Daniel Lumber Products located approximately 2 miles west of the bridge generates heavy vehicle traffic including logging trucks.</u>

Reasonable Bridge Speed 55mph

County: Alamance

Description:

Bridge #151 over Greenbrier Creek

Route: SR 2307

SR 2307 (Staley Store Rd) WB $\pm 50'$ from Bridge #151



SR 2307 (Staley Store Rd) WB $\pm 150'$ from Bridge #151



SR 2307 (Staley Store Rd) WB $\pm 100'$ from Bridge #151



SR 2307 (Staley Store Rd) WB $\pm 200'$ from Bridge #151



County: Alamance

Description: Bridge #151 over Greenbrier Creek

Route: SR 2307

SR 2307 (Staley Store Rd) WB ±250' from Bridge #151



SR 2307 (Staley Store Rd) EB ±50' from Bridge #151



SR 2307 (Staley Store Rd) EB ±100' from Bridge #151



SR 2307 (Staley Store Rd) EB ±150' from Bridge #151



County: Alamance

Description:

Bridge #151 over Greenbrier Creek

Route: SR 2307

SR 2307 (Staley Store Rd) EB ±200' from Bridge #151



SR 2307 (Staley Store Rd) EB ±250' from Bridge #151



Bridge Approach Speed Crash Analysis Request

Order # 41000018374

500 feet on Both Sides of Bridge Number 151 on Secondary Route 2307 (Staley Store Road) over Creek in Alamance County

Document Prepared By:

Safety Planning Group
Traffic Safety Systems Management Unit
Transportation Mobility and Safety Division
North Carolina Department of Transportation

Note: The crash statistics have been generated and are available through North Carolina's Crash Database. This database provides an inventory of **reported** crashes on record that have occurred at this location. Please note that many traffic crashes go unreported for a variety of reasons, and this report simply provides a listing of all crashes on record that occurred within 0 feet of the section described above.

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Study Criteria Summary

County: ALAMANCE **City:** All and Rural
Date: 01/01/2002 **to** 12/31/2011 **Study:** 41000018374
Location: 500 feet on Both Sides of Bridge Number 151 on Secondary Route 2307 (Staley Store Road) over Creek

Report Details

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
41000018374	41000018374			76.8	8.4	440	40002307

Request Date	Courier Service	Phone No.	Ext.	Fax No.
02/13/2012				

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
ALAMANCE	0	7	All and Rural		0	01/01/2002	12/31/2011	10.00

Location Text	Requestor
500 feet on Both Sides of Bridge Number 151 on Secondary Route 2307 (Staley Store Road) over Creek	Vickie L. Embry, PE NCDOT Triad Region

Fiche Roads	
Name	Code
SR 2307	40002307
STALEY STORE	50029001

Strip Road					
Name	Code	Begin MP	End MP	Miles	Kilometers
SR 2307	40002307	0.468	0.664	0.196	0.315