



PAT McCrory
Governor

NICHOLAS J. TENNYSON
Secretary

June 24, 2016

MEMORANDUM

TO: Mr. Patrick Norman, P.E., Director
Division of Planning and Programming

FROM: Ms. Lynnise M. Hawes, P.E. ^{DS}
Feasibility Studies Engineer *LMH*

SUBJECT: FS-1103A – NC 24 from SR 1308 (Bell Fork Road) to SR 1406 (Piney Green Road);
Onslow County

As requested, we have completed feasibility study FS-1103A for the proposed upgrading of NC 24 from SR 1308 (Bell Fork Road) to SR 1406 (Piney Green Road) in Onslow County. This project proposes to construct a median and provide access management improvements along the project corridor, a distance of approximately 4.5 miles. Our evaluation of this project was based on two alternatives, the details of which are as follows:

Alternative 1 (Symmetrical Improvements): From SR 1308 (Bell Fork Road) to Northeast Creek, a proposed six-lane divided curb and gutter section with 12-foot travel lanes, a 30-foot raised grass median, and a 5-foot sidewalk to the north on variable width right of way for a distance of approximately 2.1 miles. From Northeast Creek to SR 1406 (Piney Green Road), a proposed six-lane divided shoulder section with 12-foot travel lanes, a 30-foot raised grass median, and 10-foot paved shoulders on variable width right of way for a distance of 2.4 miles. Included in the costs shown below are the replacement of existing bridges Number 5 and Number 7, a 4-foot concrete median on Corbin Street, and a 4-foot concrete median on Piney Green Road. It is anticipated that no residences and fifteen (15) businesses would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$27,000,000
Right of Way.....	\$9,100,000
Utility Relocation.....	\$0
Total Cost (Alternative 1).....	\$36,100,000

Alternative 2 (Asymmetrical Improvements): From SR 1308 (Bell Fork Road) to Northeast Creek, a proposed six-lane divided curb and gutter section with 12-foot travel lanes, a 30-foot raised grass median, and a 5-foot sidewalk to the north on variable width right of way for a distance of approximately 2.1 miles. This section along NC 24 is shifted approximately 10 feet to the south of the existing centerline. From Northeast Creek to SR 1406 (Piney Green Road), a proposed six-lane divided shoulder section with 12-foot travel lanes, a 30-foot raised grass median, and 10-foot paved shoulders on variable width right of way for a distance of 2.4 miles. Included in the costs shown below are the replacement of existing bridges Number 5 and Number 7, a 4-foot concrete median on Corbin Street, and a 4-foot



concrete median on Piney Green Road. It is anticipated that no residences and fifteen (15) businesses would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$27,000,000
Right of Way.....	\$9,700,000
<u>Utility Relocation</u>	<u>\$0</u>
Total Cost (Alternative 2).....	\$36,700,000

The current year Average Daily Traffic (ADT) along NC 24 ranges from 37,000 vehicles per day (vpd) to 69,900 vpd. For the design year 2035, the traffic volume along NC 24 is estimated to range between 44,900 vpd to 86,100 vpd. Truck traffic is estimated to make up approximately 4% – 7% of the daily traffic.

The existing segment of NC 24 operates at a level of service (LOS) F under current traffic volumes. With the proposed improvements, NC 24 is projected to operate at a LOS F. See the April 2013 NC 24 Corridor Study by Kimley-Horn for detailed traffic analysis.

Between 2012 and 2015, 881 total crashes were reported within the project limits. The crash rate for NC 24 is 285.03 crashes per 100 million vehicle miles for urban NC Routes. This rate is higher than the Statewide rate of 259.47 crashes per 100 million vehicle miles. There were 3 fatal crashes, 199 non-fatal injury crashes, and 679 property damage only crashes. The most prevalent types of crashes were Rear End (62%), Sideswipe (12%), Angle (7%), and Ran Off Road (7%).

A detailed investigation was not conducted for this feasibility study, however it is anticipated that there will be possible impacts to Camp Lejeune Marine Corps Base. No impacts to parks, recreation areas, or community facilities are anticipated with this project.

The Geographic Information System Service of the North Carolina State Historic Preservation Office was used to determine if any historic properties on the National Register of Historic Places (NRHP) or state study lists exist in the project corridor. There are no properties located within the project corridor were found to be potentially historic properties.

The proposed project corridor is located in the White Oak River Basin. NC 24 crosses the Northeast Creek. The Northeast Creek has a stream classification of SC, HQW, and NSW. This waterbody will likely need to be surveyed and have the appropriate coordination with North Carolina Department of Environmental Quality (NCDEQ) and the U.S. Army Corps of Engineers (USACE) during any environmental document study.

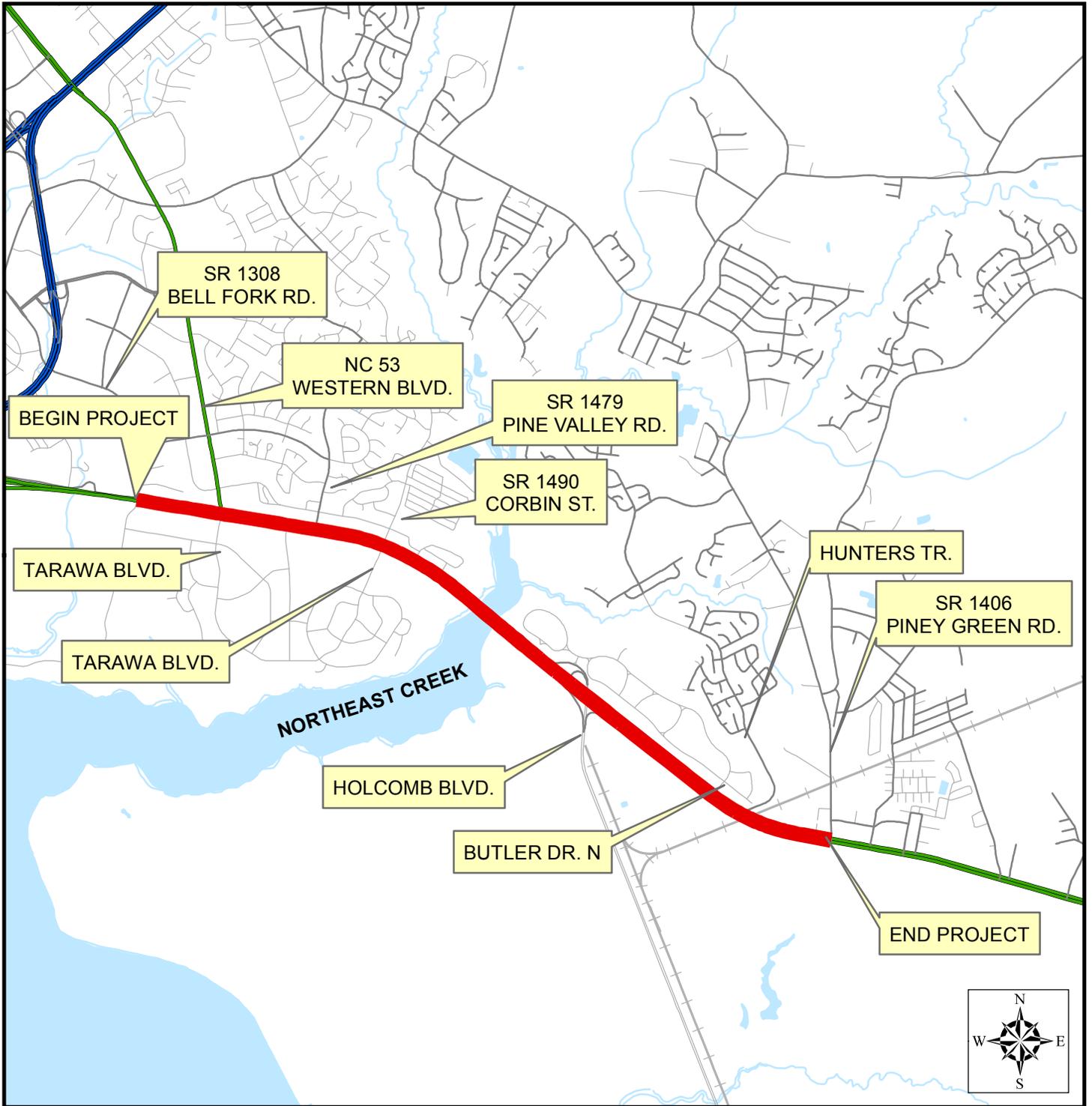
The proposed project study corridor contains wetlands associated with the Northeast Creek and several jurisdictional wetland areas. Permitting with the U.S. Army Corps of Engineers (USACE) will likely need to be obtained before construction of the project, and appropriate mitigation measures should be taken if deemed necessary. A portion the proposed project corridor is located in a 100-year floodplain.

The following threatened and endangered species were identified to be located within the proposed project corridor: West Indian Manatee, Red-cockaded Woodpecker, and American Alligator.

As you are aware, this is preliminary and not the product of comprehensive environmental or design evaluations. If you should have further questions or additional information is needed, please do not hesitate to contact me at 919-707-4662, or via email at lmhawes@ncdot.gov.

ATT: Project Location Map

Cc: Van Argabright, PE, Manager STIP and Feasibility Studies
Ray McIntyre, PE, Unit Head STIP Eastern Region
Karen Collette, PE, Division 3 Engineer



— FS-1103A Project Limits



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT UNIT
 FEASIBILITY STUDIES UNIT

**Project Location Map
 FS-1103A**

NC 24
 From SR 1308 (Bell Fork Road)
 To SR 1406 (Piney Green Road)
 Onslow County Division 3