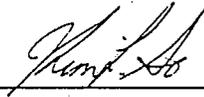


FEASIBILITY STUDY

SR 1406 (Piney Green Road)  
from NC 24 to US 17 in Jacksonville  
Onslow County  
Division 3

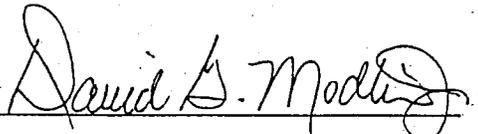
U-3810

Prepared by  
Program Development Branch  
Division of Highways  
N. C. Department of Transportation



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2/26/98

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Date

## FEASIBILITY STUDY

SR 1406 (Piney Green Road)  
from NC 24 to US 17 in Jacksonville

Onslow County

U-3810

### I. GENERAL DESCRIPTION

This feasibility study evaluates the potential for the widening of SR 1406 (Piney Green Road), from NC 24 (Lejeune Blvd) to US 17 (Marine Blvd) in Jacksonville, Onslow County (see Figure 1). The project is approximately 6.6 miles (10.6 km) in length. The studied typical section is a five-lane, curb and gutter section with 10-foot (3.0-m) wide berms on both sides. A 100-foot (30.5-m) wide right-of-way with no control of access is recommended. The estimated cost of the project is \$29,200,000 (\$10,100,000 for right-of-way and \$19,100,000 for construction).

This study is not a detailed planning/environmental investigation. A feasibility study presents studied cross-sections for improvements, general corridors of improvements, and estimated costs of construction and right-of-way. This study attempts to identify any potential environmental, permitting, or other observed issues that deserve consideration in the planning and construction stages.

### II. NEED FOR PROJECT

This project was requested by the City of Jacksonville. The studied improvements are needed to reduce traffic congestion and accident potential on SR 1406 (Piney Green Road).

SR 1406 (Piney Green Road) is classified as an urban minor arterial on the Statewide Functional Classification System. This route is classified as a major thoroughfare on the Jacksonville-Onslow Thoroughfare Plan.

The existing Piney Green Road is mainly a two-lane, 24-foot (6.7-m) shoulder section with 8-foot (2.4-m) shoulders on both sides. Approximately 60 feet (21.4 m) of right-of-way may be claimed. There are additional left-turn lanes at major intersections. Land use along the studied corridor consists of dense residential development with numerous subdivisions east and west of Piney Green Road.

Two of the three bridges on the project corridor have an estimated remaining life of four (4) years. These two bridges (Bridge #118 & Bridge #119), located near SR 1874, are programmed in the 1998-2004 TIP for replacement as B-3216 and B-3215 respectively.

Estimated 1997 average daily traffic (ADT) on Piney Green Road varies from 11,700 vehicles per day (vpd) near US 17 to 19,300 vpd near SR 1708 (Country Club Road). In the design year 2020, the traffic volume is estimated to range from 25,000 to 31,000 vpd. The existing Piney Green Road is operating at a level of service (LOS) E, and is anticipated to operate at a LOS F in the design year 2020. With the recommended roadway improvements, the current traffic volumes along Piney Green Road would operate at a LOS B and in the design year, LOS C.

During the period from March, 1994, through February, 1997, there were 521 accidents reported along Piney Green Road. This resulted in an accident rate of 501.4 accidents per 100 million vehicle miles (acc/100mvm) compared to a statewide average of 247.7 acc/100mvm for this type of facility. Rear-end collisions accounted for a majority of the accidents (50%). One fatality and 255 injuries were reported during this period. The recommended improvements are expected to reduce the accident rate.

The Camp Lejeune Railroad has one track crossing the project corridor. The track carries one (1) train per day at an average speed of 10 miles per hour (16.1 kmh). The exposure index, a product of the design year traffic and the number of trains per day, at this location is 30,000, which is the threshold that warrants a grade separation in urban area. However, a grade separation may not be necessary considering the low speed at which the trains cross the project corridor. It is recommended that this crossing be protected with gates on all four quadrants.

### III. RECOMMENDED ALTERNATE

It is proposed to widen Piney Green Road in Jacksonville and realign a portion of it to improve safety conditions. The length of the project is approximately 6.6 miles (10.6 km). The location of the recommended improvements is shown on Figure 1. The studied typical section is a five-lane, 64-foot (19.5-m) wide (face-to-face) curb and gutter section with 10-foot (3.0-m) wide berms on both sides. There would be two 12-foot (3.7-m) wide lanes in each direction and a 12-foot (3.7-m) wide center turn lane. A 100-foot (30.5-m) wide right-of-way is recommended. The three bridges on the project corridor will need to be widened to have a deck width of 64-foot (19.5-m) with 5-foot (1.5-m) sidewalk on both sides.

Widening may be symmetrical and asymmetrical to the existing roadway to minimize right-of-way and construction costs. The horizontal alignment of the roadway from SR 1860 (Hunters Trail) to SR 1480 (Victoria Road) should be improved to enhance safety. SR 1484 (Sheffield Drive) and SR 1455 (Thomas Drive) should be extended to intersect the realigned roadway (see Figure 1).

Due to the high volume of traffic going west at the SR 1708 (Country Club Road) intersection, Piney Green Road at this intersection should include two left-turn lanes in the northbound direction, and an exclusive right-turn lane in the southbound direction. At the southern project terminal, the southbound lanes at the NC 24 intersection should include two right turn-lanes, one through lane, and two left-turn lanes. Additional right-of-way at these intersections will be required to accommodate the extra turn-lanes.

It is recommended that the railroad crossing at Lejeune Railroad track be protected with gates on all four quadrants.

The studied improvements are expected to decrease traffic congestion and improve safety.

Moderate utility conflicts are expected.

It is estimated that this project would require the relocation of 23 residences and 8 businesses.

Total project cost is estimated as follows:

Right-of-Way	\$ 10,100,00
Construction	\$ 19,100,00
Total Cost	\$ 29,200,00

#### IV. OTHER COMMENTS AND CONCERNS

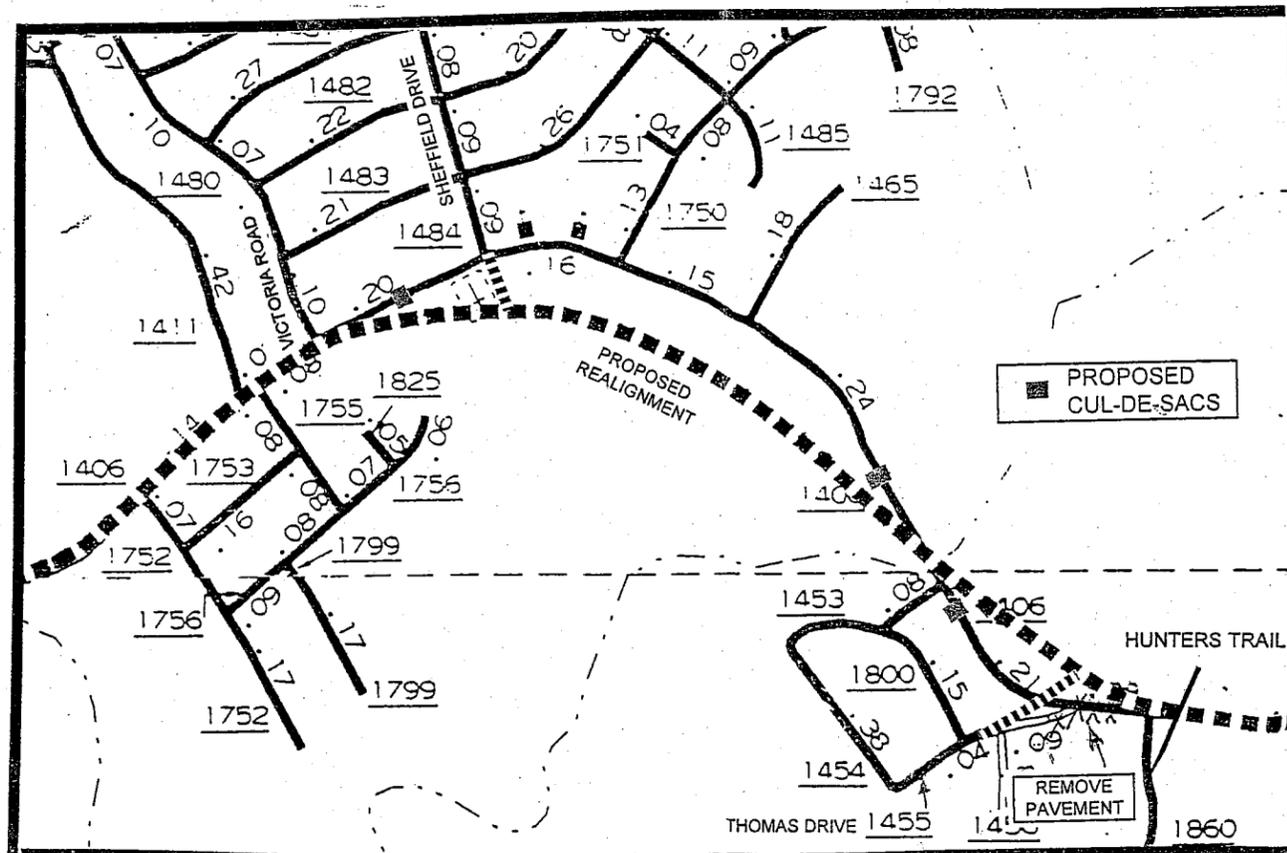
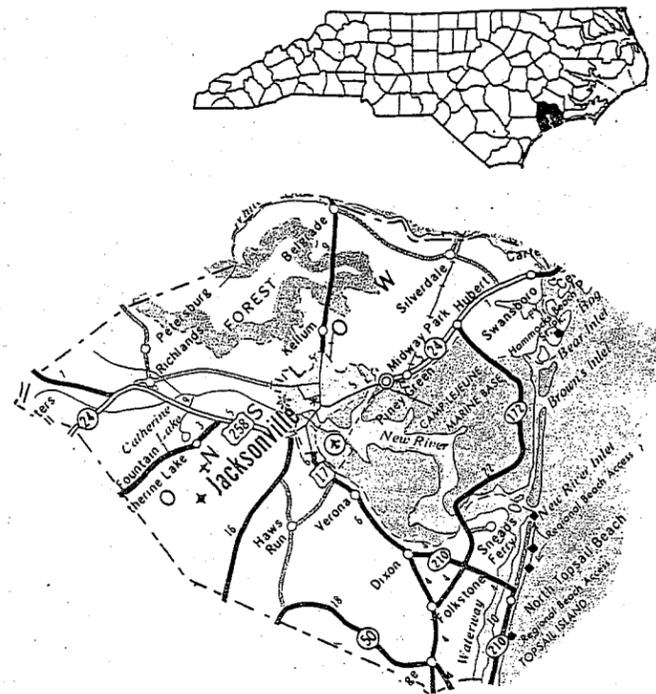
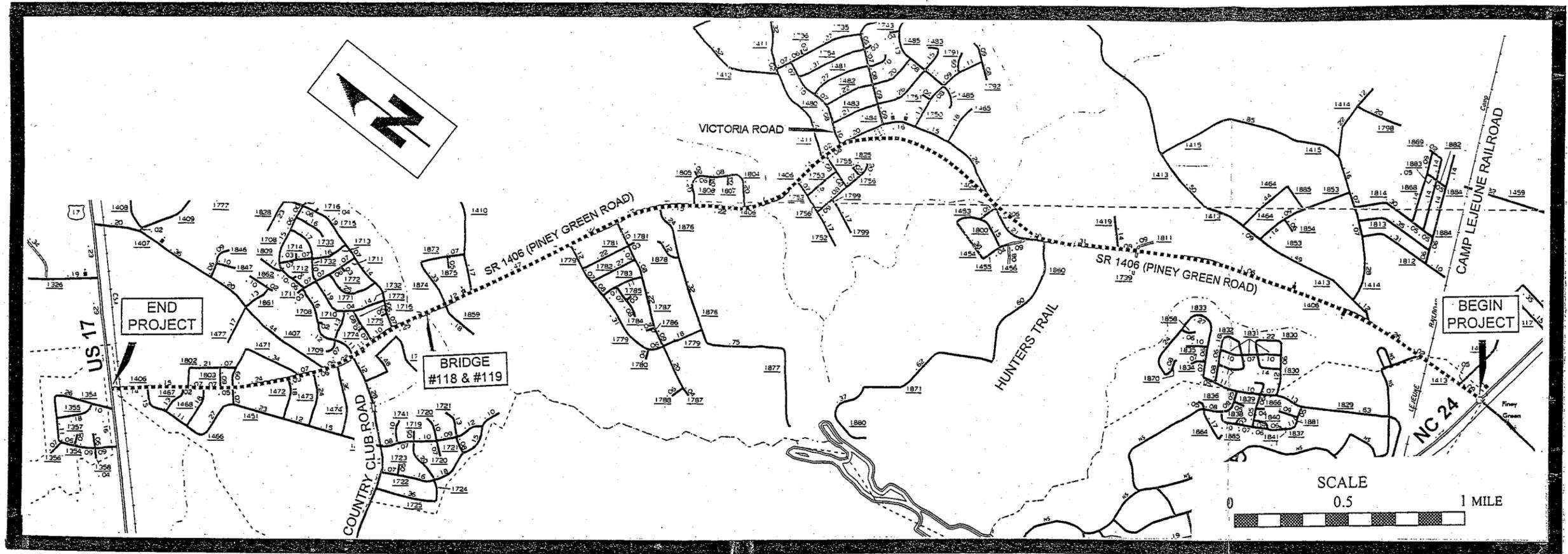
No historical or architecturally significant sites have been identified in the project corridor.

Based on maps available at the Department of Environment, Health, and Natural Resources - Natural Heritage Section, no threatened or endangered species were identified in the project corridor.

A small quantity of wetland is impacted by this project. The costs of wetland mitigation is not included in the total cost of the project.

The NCDOT Office of Bicycle and Pedestrian Transportation has not identified Piney Green Road as a roadway which has need for special

accommodations for bicycles; however, the City of Jacksonville requested for bicycle accommodations. If the typical section of 68-foot (20.7-m) face-to-face curb and gutter section is selected, the estimated additional cost would be \$ 1,400,000.



NC DEPARTMENT OF TRANSPORTATION  
FEASIBILITY STUDIES UNIT

**U-3810**  
SR 1406 (Piney Green Road)  
From NC 24 to US 17

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Division 3 Figure 1