

FEASIBILITY STUDY

Onslow County, SR 1308 (Gum Branch Road)
From US 258-NC 24 in Richlands to
existing multi-lane near Jacksonville,
R-2621

Prepared by
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9/28/90
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I. DESCRIPTION

This report covers a preliminary study of the proposed upgrading of the subject road to a multi-lane facility. As shown on the attached map, this study extends from US 258-NC 24 in Richlands to the existing multi-lane section at SR 1322 near Jacksonville, a distance of approximately 7.5 miles. The project appears in the 1990-1996 Transportation Improvement Program (T.I.P.) for feasibility study and/or right-of-way protection, and is not currently funded.

II. PURPOSE OF PROJECT

Existing Route Characteristics

SR 1308 (Gum Branch Road) appears on the Jacksonville Thoroughfare Plan as a Major Thoroughfare, and on the County Functional Classification Plan as an Urban Principal Arterial (near Jacksonville) and a Rural Major Collector (on the remainder). This road serves as a parallel route with US 258-NC 24 for traffic approaching Jacksonville from the west, and as the major link between Jacksonville and the rapidly developing residential areas to the northwest.

The studied section of SR 1308 has a basic two-lane, 22-foot cross section with 8 to 10-foot unpaved shoulders. In Richlands, the pavement has varying widths from 22 to 34 feet, with intermittent sections of curb and gutter. At SR 1322, the pavement widens to a recently improved 64-foot, five-lane curb and gutter section which continues into Jacksonville.

There is one bridge (number 40) on the route at Squires Run/Mill Swamp. It is 70.0 feet long, 26.0 feet wide, and 26 years old. The sufficiency rating is 43.4.

Alignment along the route is good, and the route is constructed through level terrain. Speed limit along the project varies from 35 mph in Richlands, rising to 55 mph between Richlands and the Gum Branch community. The remainder of the route to Jacksonville has a 45 mph speed limit.

Existing right-of-way is generally 90 feet, with other widths varying from 36 feet (in Richlands) to 100 feet for short sections.

There is one traffic signal on the project, located at SR 1003 in Richlands.

Primary development along SR 1308 is residential and farmland, with some small commercial intermixed.

Traffic Volumes, Capacity, and Accident Record

Current traffic volumes on SR 1308 range from 5000 vehicles per day (vpd) near Richlands to 15,500 vpd near Jacksonville. These volumes are anticipated to increase to 9,000 vpd and 24,000 vpd, respectively by the year 2010.

Accident data for a recent three-year period indicates a total of 262 accidents on the project length, yielding a total accident rate of 246.4 accidents per hundred million vehicle miles (ACC/100MVM). This is less than the statewide average of 378.4 ACC/100MVM for similar 2-lane secondary routes. Predominant accident types were running off the road (34.7%), and rear-end (19.5%) and angle (12.2%) collisions.

Present capacity along the two-lane facility operating under rural conditions is approximately 7,400 vpd.

Need for Project

The studied two-lane section of SR 1308 is either at or near capacity for much of the project length. In the near future the total length will be seriously over capacity. Increasing residential development in the area is also driving this problem. Multi-laning the route would alleviate the capacity deficiency.

III. RECOMMENDATIONS AND COSTS

Recommendations for the studied greater portion of SR 1308 consist of symmetrical widening of the existing two-lane pavement to a five-lane, 64-foot facility. This widening should extend from the existing 5-lane section at SR 1322 near Jacksonville to SR 1313 near Richlands.

At SR 1313, it is recommended that the project continue on new location to tie into US 258/NC 24 at SR 1238 (see Figure 2). The recommended section for this segment is also a 5-lane, 64-foot curb and gutter facility. The recommendation of new location is supported by the undesirability of widening the existing road in Richlands due to the existing development which closely borders the existing route. To avoid considerable damages to this development, and to provide a higher level of service for traffic, relocation of SR 1308 around Richlands is justified.

It is anticipated that the bridge number 40 at Squire Run-Mill Swamp would be replaced with a structure of adequate width.

The total estimated cost of the recommended improvements is \$18,550,000, including \$ 12,850,000 for roadway construction, and \$5,700,000 for right-of-way. A right-of-way width of 100 feet on existing, and 150 feet on new location was used for cost estimating purposes. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

An alternative to the recommended cross section is the use of a 5-lane shoulder section. However, this is not considered desirable due to the significant additional right-of-way costs and residential and business relocations that would be involved.

The use of a curb and gutter facility on this project would necessitate the lowering of the speed limit on sections where it is currently or proposed to be 55 mph to a posted 45 mph. This reduction would conform with the Federal Highway Administration's policy of allowing curb and gutter only on facilities with a limit of 45 mph or lower for safety concerns. As the area is becoming increasingly urbanized with extensive new residential development, it is anticipated that a lower limit along the current or proposed 55 mph sections would eventually be posted regardless of this project's implementation.

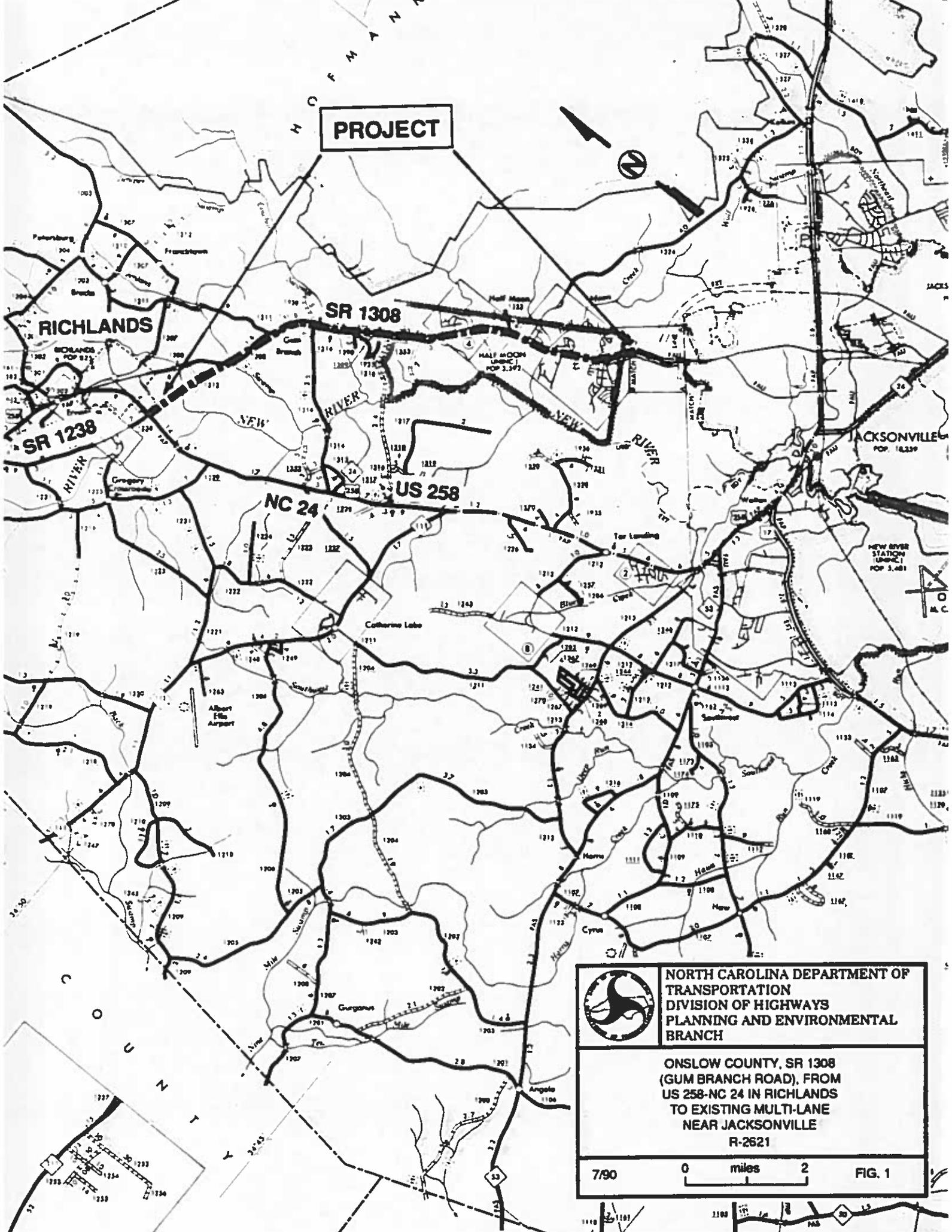
V. OTHER COMMENTS

Negative environmental impacts of the proposed project are: (1) relocation of approximately 16 residences, and 1 business; (2) increased noise levels for remaining development; (3) loss of a small amount of wetlands at stream crossings; and (4) loss of woodlands and farmlands.

If the project is to be implemented at a future date, all feasible alternatives and their associated impacts will have to be evaluated in a planning and environmental document prior to that time, and a final decision made as to the most appropriate improvement.

MH/plr

PROJECT



RICHLANDS

SR 1308

SR 1238

US 258

NC 24

JACKSONVILLE
POP. 18,359

NEW RIVER STATION
POP. 3,481



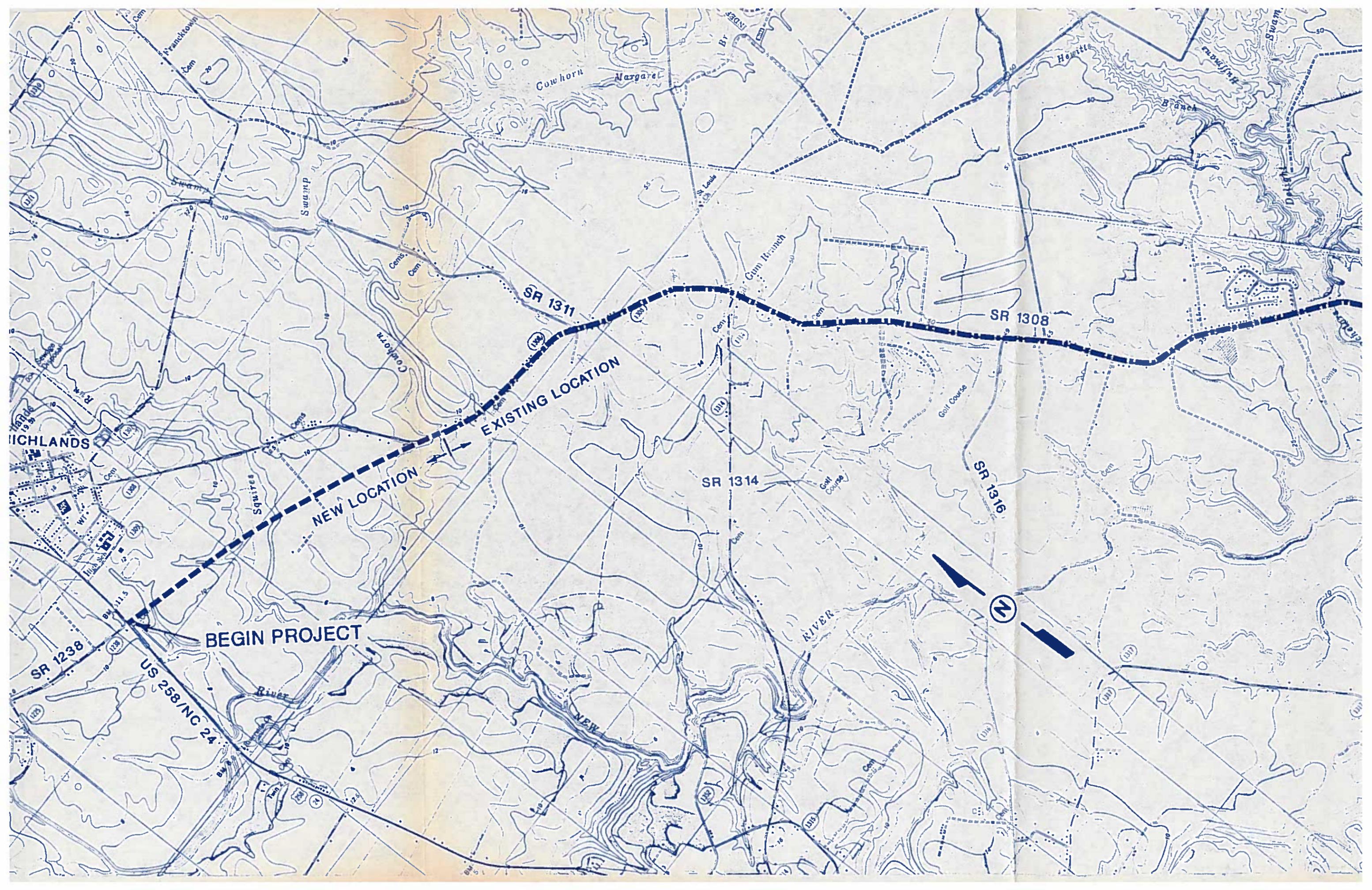
**NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL
BRANCH**

**ONSLOW COUNTY, SR 1308
(GUM BRANCH ROAD), FROM
US 258-NC 24 IN RICHLANDS
TO EXISTING MULTI-LANE
NEAR JACKSONVILLE
R-2621**

7/90



FIG. 1



BEGIN PROJECT

NEW LOCATION

EXISTING LOCATION

SR 1311

SR 1308

SR 1314

SR 1316

SR 1238
US 258/NC 24

HIGHLANDS

Cowhorn

Margaret

Gum Branch

Harritte

Squires River

RIVER

NEW RIVER

Swaroop

Cotton

Cem.

Cem.

Golf Course

Golf Course

Cem.

Cem.

Swamp

Branch

Branch

Branch

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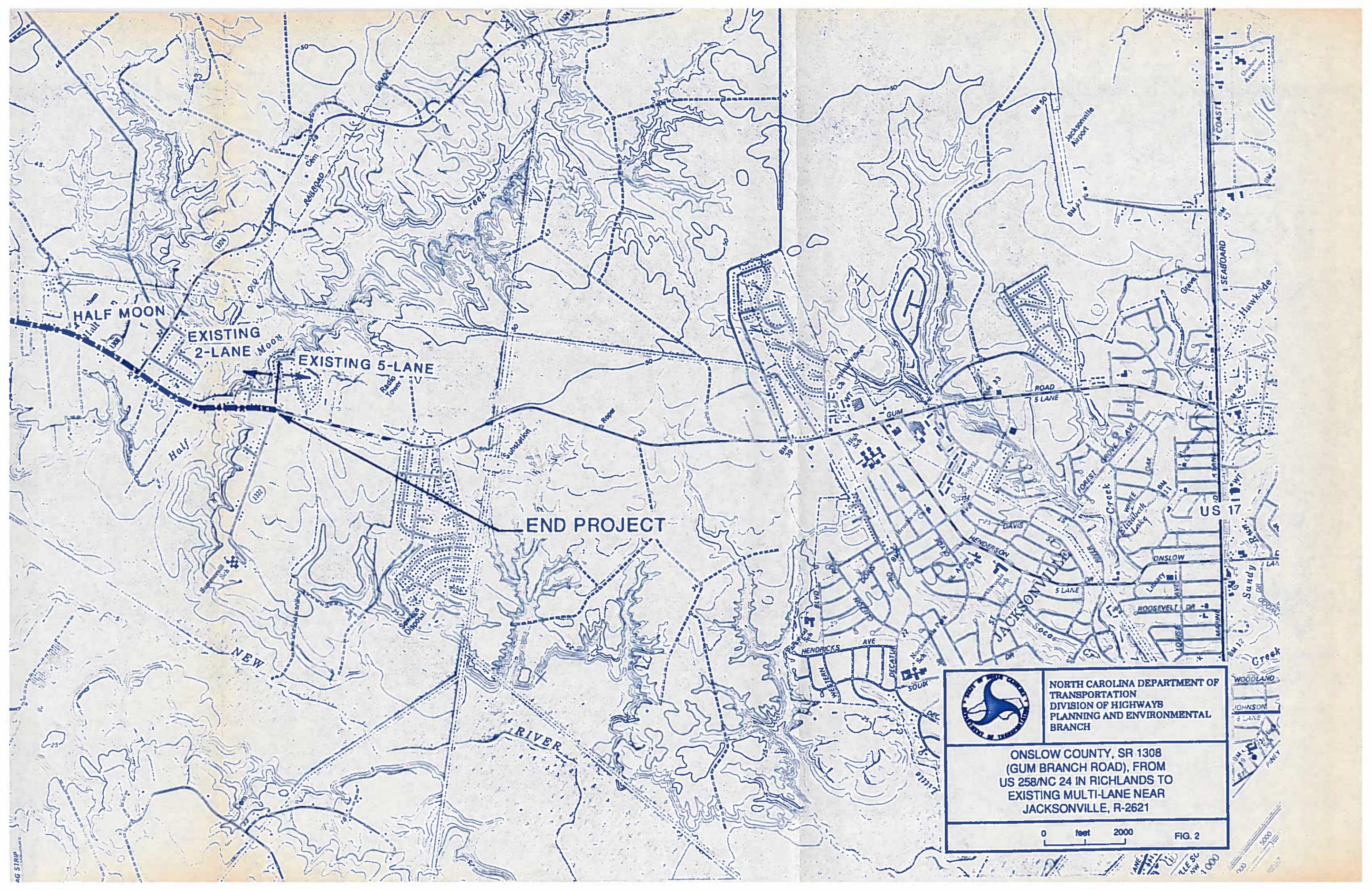
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HALF MOON

EXISTING 2-LANE MOON

EXISTING 5-LANE

END PROJECT

NEW

RIVER



NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL
BRANCH

ONLOW COUNTY, SR 1308
(GUM BRANCH ROAD), FROM
US 258/NC 24 IN RICHLANDS TO
EXISTING MULTI-LANE NEAR
JACKSONVILLE, R-2621

0 feet 2000

FIG. 2

SCALE 1:1000