

FEASIBILITY STUDY

US 701
from Interstate 40 to Newton Grove
Sampson County

R-2820

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



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Feasibility Study

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I. GENERAL DESCRIPTION

This is a feasibility study for the widening of US 701 to a multi-lane roadway, from the north-side ramps of the Interstate 40 interchange to the existing curb and gutter section in Newton Grove, a distance of 0.7 mile (See Figure 1). Based upon this study, an improvement is not viewed as a high priority at this time.

A feasibility study presents recommended cross sections for improvements, general alignments of improvements, and estimated cost of construction and right-of-way. This study attempts to identify any potential environmental, permitting, or other observed issues which deserve consideration in the planning and construction stages.

This study is not an exhaustive environmental investigation.

II. NEED FOR PROJECT

This studied improvement extends the multi-lane section of US 701 for an additional 0.7 mile from the Newton Grove corporate limits to Interstate 40. Providing a continuous multi-lane roadway will better serve north-south traffic and future development in the vicinity. The studied section begins at the north-side ramps of the I-40 interchange, and ends at the existing 52-foot curb and gutter facility at the Newton Grove corporate limits (See Figure 2). US 701 is a primary approach to Newton Grove from Interstate 40 and from Clinton.

The existing section of US 701 is a two-lane shoulder section with 30 feet of pavement and 8-foot usable shoulders on 60 feet of right-of-way with no control of access. Land use along the section is primarily agricultural fields and undeveloped wetlands. A cemetery borders the east side of US 701 for 900 feet.

North of the project limits, US 701 is a four-lane, 52-foot curb and gutter section. The road is only utilized as a two-lane section, however, due to parking on both sides of the roadway. South of the I-40 interchange, US 701 is a two-lane shoulder section with 24 feet of pavement and 10-foot shoulders. The two major employers in Newton Grove are located on US 701 just south of the studied section, near the interchange with I-40.

This section of US 701 is classified as a Major Thoroughfare in the 1989 mutually adopted Newton Grove Thoroughfare Plan. It is a Rural Minor Arterial in the statewide functional classification system. US 701 is a Federal Aid Primary route.

The North Carolina Bicycle Program has determined that no special accommodations for bicycle traffic are necessary.

The 1992 Average Daily Traffic (ADT) is 4,700 vehicles per day (vpd) traveling through the section, with an estimated 10,500 vpd in the design year of 2012. The existing road configuration currently experiences a Level Of Service (LOS) C, and is expected to experience a LOS D in the design year. If US 701 is widened to a five-lane curb and gutter section, level of service at current traffic demand should increase to a LOS B rating, with a LOS B expected in the design year.

During the period from January 1, 1989 through December 31, 1991, a total of 2 accidents were reported along the studied portion of US 701. This resulted in an accident rate of 55.5 accidents per 100 million vehicle miles, below the statewide average of 177 for similar routes. The first accident was a single car which ran off the road during icy conditions. The second accident involved a turning movement.

III. RECOMMENDATIONS

Based upon traffic estimates, no improvement is warranted at this time. Level of service of the existing facility is acceptable in the design year, based upon a 3.6% average annual growth rate. If future growth rates exceed 3.6%, consideration should be given to programming the improvements studied.

When traffic demands warrant, it is recommended that US 701 be widened to a multi-lane section from the north-side ramps of the I-40 interchange to the existing curb and gutter facility at the Newton Grove limits (See Figure 2). The recommended widening should be carried out in two sections. From the I-40 interchange to 0.2 mile south of the existing multi-lane section (a distance of 0.5 mile), US 701 should be widened to a 64-foot curb and gutter section with 8-foot berms. The typical section is to contain a center 12-foot left-turn lane and 12-foot inside and outside travel lanes. To minimize impacts to adjacent wetlands, the 0.2 mile remainder of the studied section should be widened to a 4-lane, 52-foot curb and gutter section with 8-foot berms. Recommended right-of-way is 100 feet for the 5-lane section and 80 feet for the 4-lane section. No access control is required. Widening should occur symmetrically, retaining and utilizing existing alignment to the extent possible. Total project length is 0.7 mile. A triple barrel, 8x10-foot reinforced concrete box culvert carries US 701 over Beaverdam Creek. This structure will require lengthening. Although this project is not recommended for immediate implementation, the proposed typical section and right-of-way width should provide a guide for local land use decisions along this route.

Total project cost is estimated at:

| | |
|--------------------|--------------|
| Right-of-Way | \$ 220,000 |
| Construction | \$ 1,000,000 |
| Total Project Cost | \$ 1,220,000 |

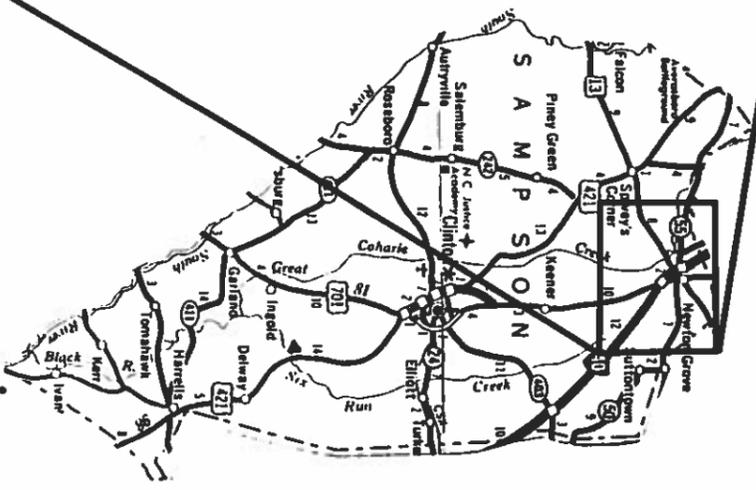
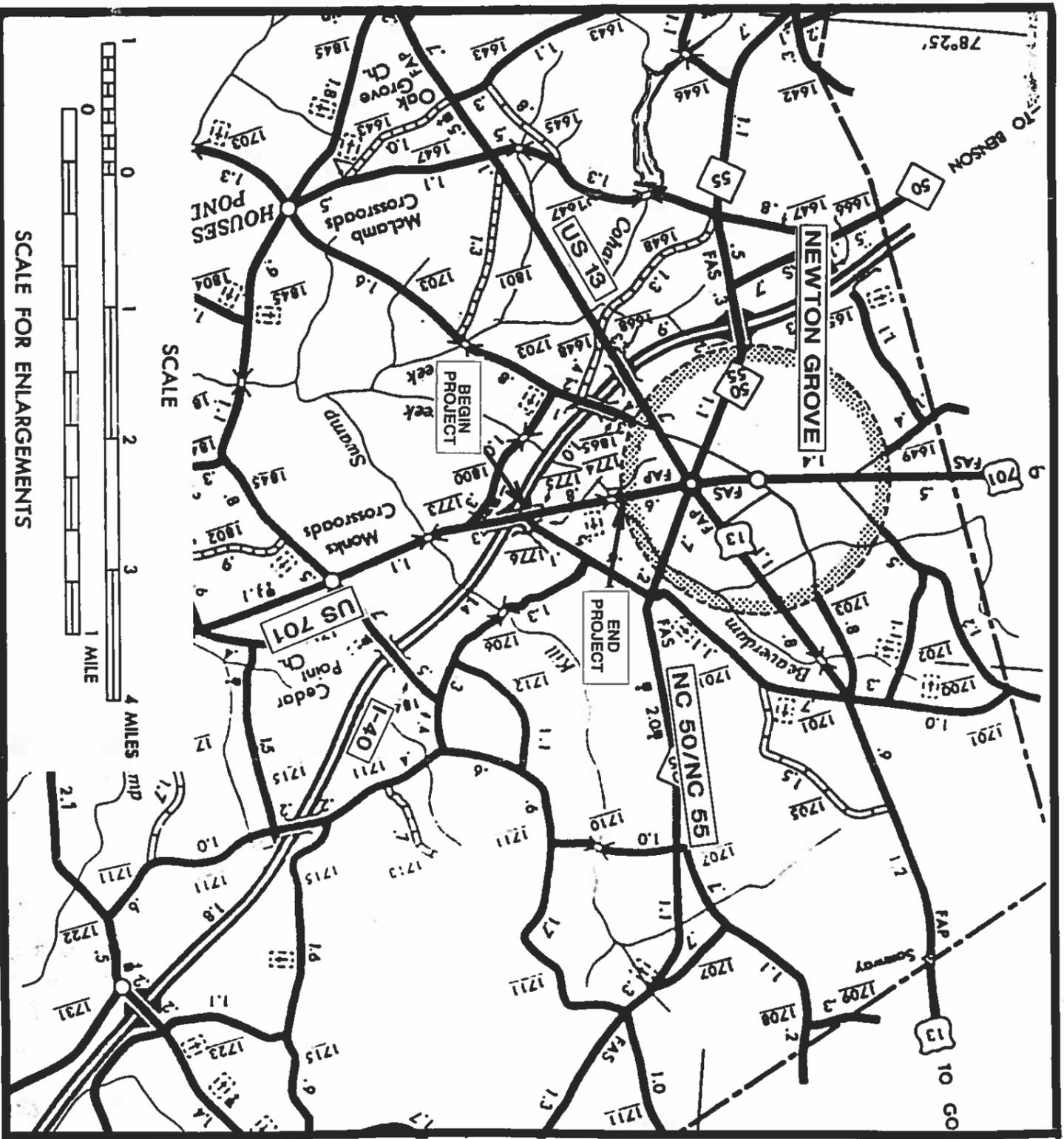
Low utility conflicts are expected.

IV. OTHER COMMENTS AND CONCERNS

An ecological screening was not conducted for this study. However, the widening of US 701 may require placing fill in a small amount of wetlands. A Corps of Engineers Section 404 Permit may be required.

Consideration was given to expanding the project limits to the south-side ramps of the I-40 interchange. This would require widening of bridge number 41, which carries US 701 over Interstate 40. Bridge 41 has a roadway width of 34 feet and a sufficiency rating of 71. However, it was determined that the section of US 701 between interchange ramps should be included in the feasibility study for project R-2819. R-2819 studies US 701 from US 421/US 701 (Clinton Bypass) to Interstate 40.

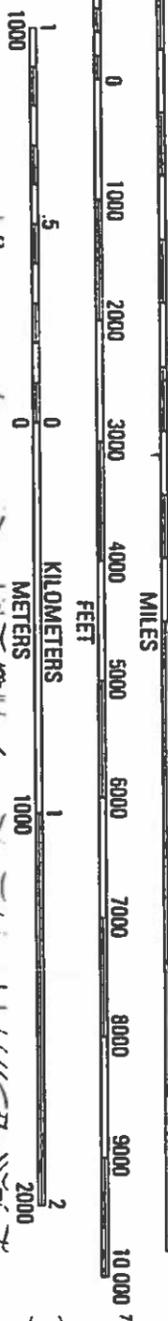
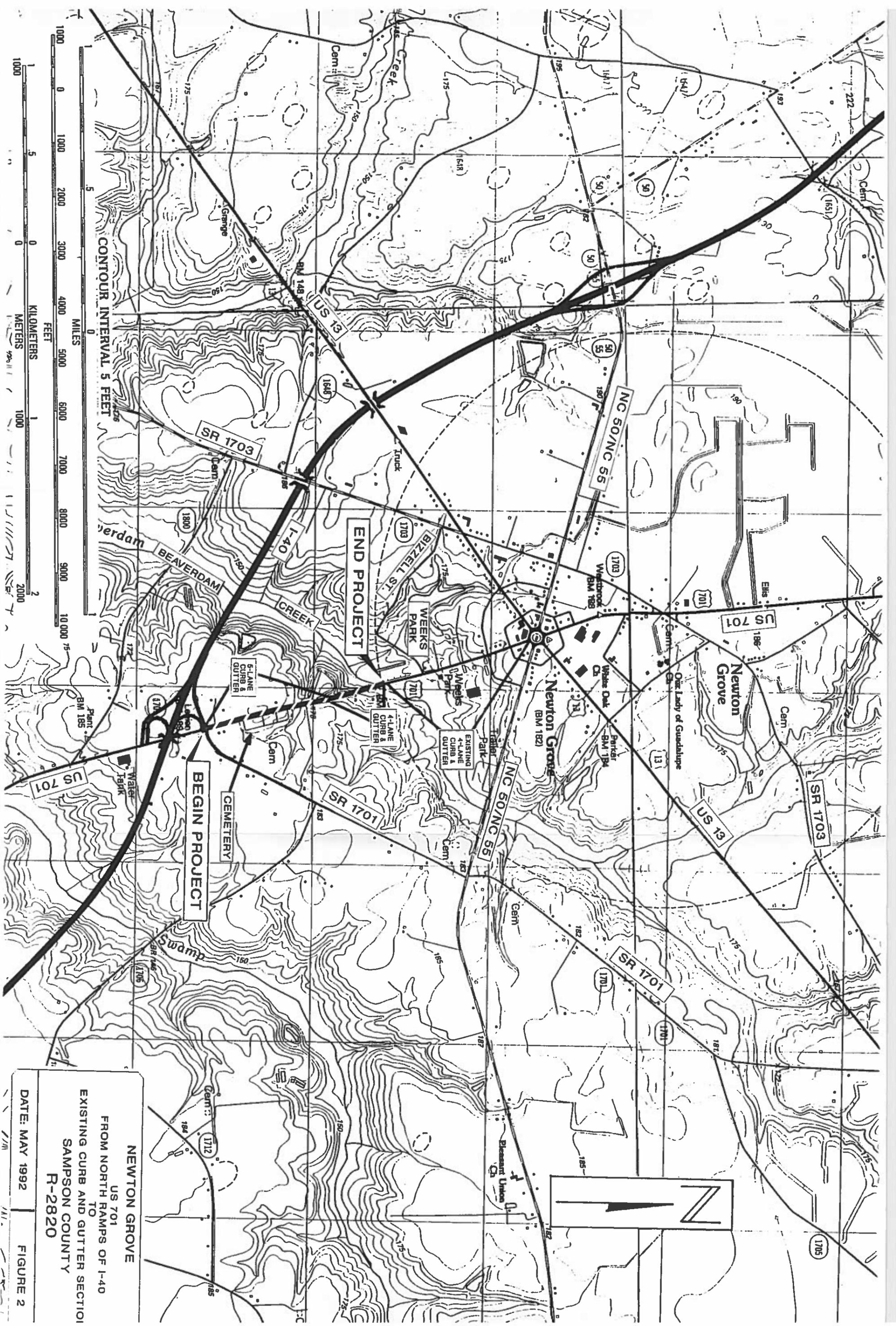
No business or residential relocations are expected. Potential exists for relocation of several graves located in the cemetery which borders US 701 in the studied section.



NEWTON GROVE
 US 701
 FROM NORTH RAMPS OF I-40
 TO
 EXISTING CURB AND GUTTER SECTION
 SAMPSON COUNTY
 R-2820

DATE: MAY 1992

FIGURE 1



CONTOUR INTERVAL 5 FEET

NEWTON GROVE
 US 701
 FROM NORTH RAMPS OF I-40
 TO
 EXISTING CURB AND GUTTER SECTION
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DATE: MAY 1992

FIGURE 2

