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FEASIBILITY STUDY

NC 111
from SR 1265 to US 258
Onslow County
R-2708

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



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Date



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I. GENERAL DESCRIPTION

This is a feasibility study for providing improved access from the City of Jacksonville to the Albert J. Ellis Airport in Onslow County (See Figure 1). Based upon this study, a major improvement is not warranted at this time.

This study is not a detailed planning/environmental investigation. 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.

II. NEED FOR PROJECT

This project was requested by the City of Jacksonville to improve access from Jacksonville to the Albert J. Ellis Airport which is located approximately 5 miles west of Jacksonville, in Onslow County. Ellis Airport is the only commercial airport which serves the Jacksonville area. Jacksonville has requested that NCDOT evaluate both an access road on new location between the airport and US 258, and the widening of NC 111 (See Figure 2).

The current access route, NC 111, is classified as a Rural Major Collector in the Statewide Functional Classification System.

Existing NC 111 consists of a two-lane, 20 to 22-foot pavement with 6-foot shoulders. Claimed right-of-way is limited to maintained areas, with no control of access. The subject section is located to the west of Jacksonville, and serves as the only access to the Albert J. Ellis airport and as a major connector between Jacksonville and I-40. Land use along the studied section is predominantly undeveloped and agricultural, with a small rural residential community in the Catherine Lake area.

Portions of NC 111 from SR 1221 to SR 1206, and from SR 1211 to SR 1227, are included in the "Richlands Loop" bicycle route. Therefore the North Carolina Bicycle Program has requested that provisions be made to accommodate bicycle traffic.

Estimated 1988 Average Daily Traffic (ADT) is 4,300 vehicles per day (vpd). By the design year of 2011, anticipated traffic is estimated at 8,600 vpd. With the existing facility, traffic currently experiences a level of service (LOS) C during peak periods, and is expected to experience a LOS D in the design year. With improvement to a 28-foot pavement with 8-foot shoulders, current traffic will experience a LOS B, and is projected to experience a LOS D in the year 2011.

During the period from January 1, 1988 through December 31, 1990, a total of 94 accidents were reported along the studied portion of NC 111. This resulted in an accident rate of 391 accidents per 100 million vehicle miles (acc/100MVM), compared to a statewide average of 207 (acc/100MVM) for similar routes. This accident rate is 89% above norm. One fatality occurred, resulting in a fatality rate of 4.16 accidents per 100 MVM, compared to a statewide average of 3.1. Accident types are evenly distributed.

III. RECOMMENDATIONS

Two alternatives were studied to improve access to Ellis Airport (See Figure 2). Neither alternative appears justified. Of the two alternatives studied, Alternative A is more cost effective, even though neither alternative is warranted at this time.

Alternative A widens NC 111 to a two-lane, 28-foot pavement with 8-foot shoulders from SR 1265 to US 258. Two exceptions are on NC 111 from SR 1265 to SR 1206 and from SR 1211 to SR 1227, which would be widened to a 32-foot pavement to accommodate bicycle traffic. Total project length is 5.1 miles. Widening would occur symmetrically and asymmetrically as determined desirable to avoid adverse impacts. The existing alignment of NC 111 would be retained and utilized to the extent possible. The new roadway would have 60 feet of right-of-way with no control of access.

Alternate B evaluates improved access on mostly new location. A 28-foot pavement with 8-foot shoulders was evaluated from SR 1265 to US 258 (See Alternative B on Figure 2). Right-of-way for construction on new location should be 80 feet, while existing roadway widening can occur on 60 feet of right-of-way to minimize residential relocation. Alternative B begins by shifting SR 1265 30 feet to the east at its southwest terminus (to miss a pump station), then begins construction on new location of a 0.7 mile section from NC 111 to SR 1221. Alternative B then widens SR 1221 for 1.5 miles until the alignment curves eastward onto new location for 1.3 miles to US 258.

Total project cost for both alternatives is estimated at:

	Right-of-Way	Construction	Total
Alternate A	\$ 600,000	\$2,430,000	\$3,030,000
Alternate B	\$ 960,000	\$2,750,000	\$3,710,000

Neither alternative appears cost effective at this time for two reasons. First, existing NC 111 is expected to experience a level of service D in the design year of 2011. Widening NC 111 to a standard two-lane cross-section, or providing a two-lane road on new location will not significantly increase the level of service in the design year. Projected LOS is still only a D. Secondly, accidents on NC 111 between the airport and US 258 are fairly evenly distributed along the section, both in location and type of accident. Therefore, widening NC 111 is not expected to significantly reduce the number of accidents.

IV. OTHER COMMENTS AND CONCERNS

An environmental screening was conducted for this study. Widening or constructing on new location may require placing fill in wetlands. This project would likely be permitted under the Corps of Engineers Nationwide Section 404 Permit. A CAMA Permit or Consistency Determination would be required. Habitat in the project area is suitable to the Red-cockaded Woodpecker, known to occur in Onslow County. No archaeological sites have been identified along NC 111, and no public parks will be affected along NC 111.

A section of NC 111 passes through the Catherine Lake Historic District, a property listed in the National Register of Historic Places. The District is on both sides of the road, therefore GS 121-12(a) or Sections 106 and 4(f) may apply. If further study of this alternative is undertaken in the future, a short new location section should be considered which would avoid this district.

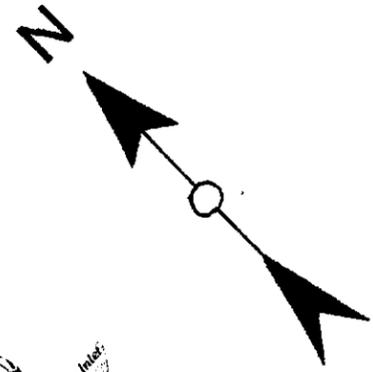
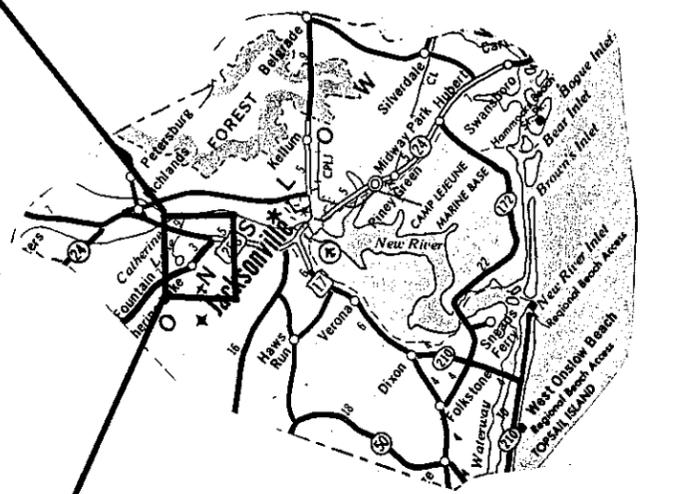
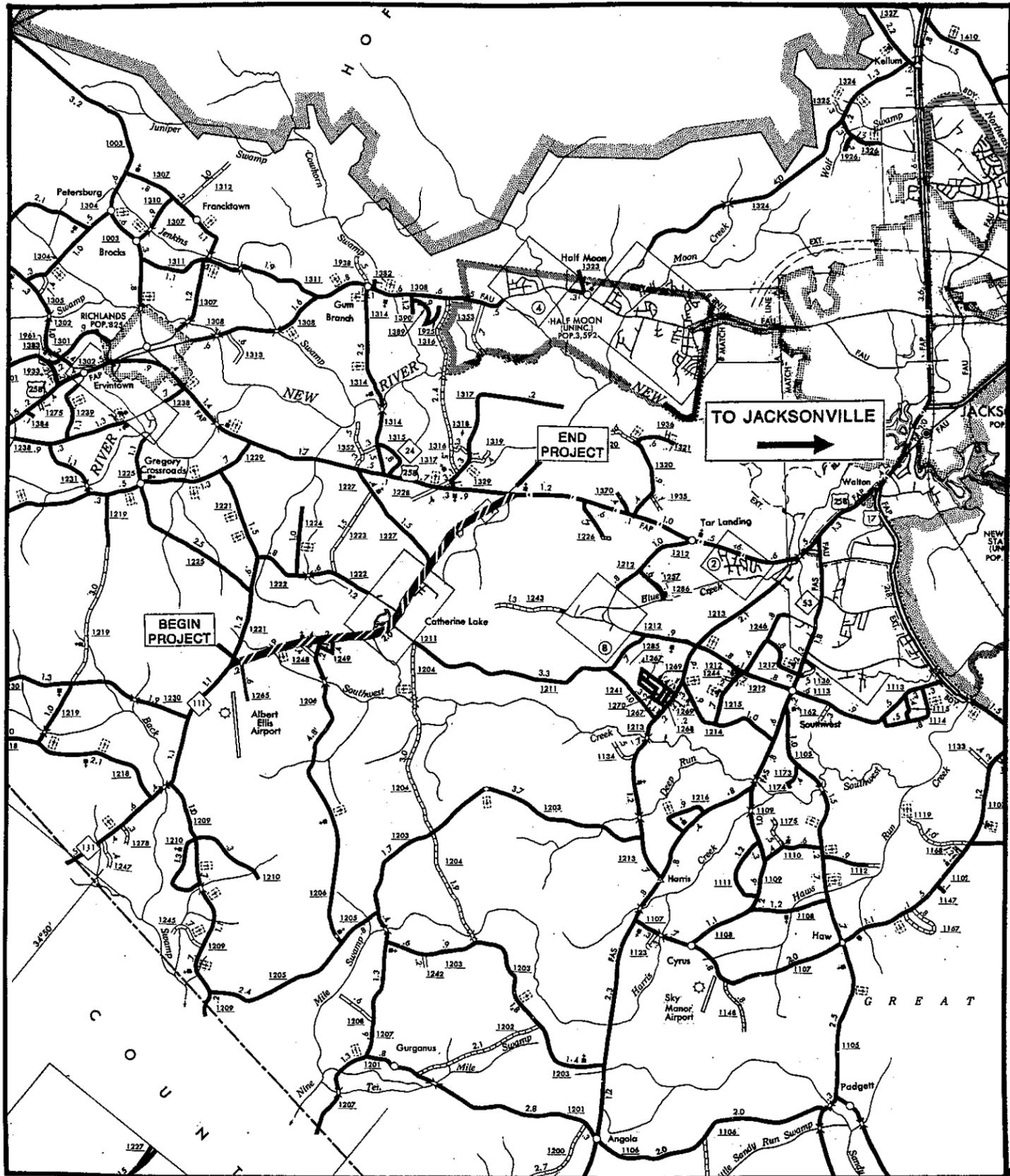
Alternative A is preferable to Alternative B for reasons other than cost:

1. It is questionable whether traffic will use Alternative B when it is completed, since NC 111 will still be the shortest route from Jacksonville to Ellis Airport and I-40.

2. Alternative B passes through several significant historical and archaeological sites which date from the colonial period. The roadway would intersect Venters Farm Historic District, which is on the National Register of Historic Places. Immediately east of the Historic District is the site of the old chapel at the original Richlands. Several houses, a mill, and a tavern were also located at that site in the 1700's. It is now a potential archaeological site. East of US 258 near the suggested intersection of Alternative B and US 258 is the Avirett Stephens Plantation, a property also on the National Register of Historic Places.

3. More endangered species are potentially threatened. While Alternative A possibly threatens the habitat of the Red-cockaded Woodpecker, Alternative B potentially threatens habitat of the Red-cockaded Woodpecker, Cooley's Meadowrue, and Rough-leaved Loosestrife.

4. Alternative B may cause four residential relocations, whereas Alternative A would not cause any relocations.



SAMPLE

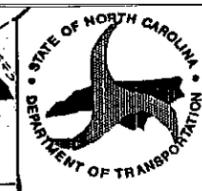
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION

**LOCATION MAP
 FEASIBILITY UNIT**

ONSLow COUNTY
 NC 111 FROM ALBERT J. ELLIS
 AIRPORT SR 1265 TO US 258
 R-2708

SCALE: 1" = 2 MILES DATE: JULY 1991

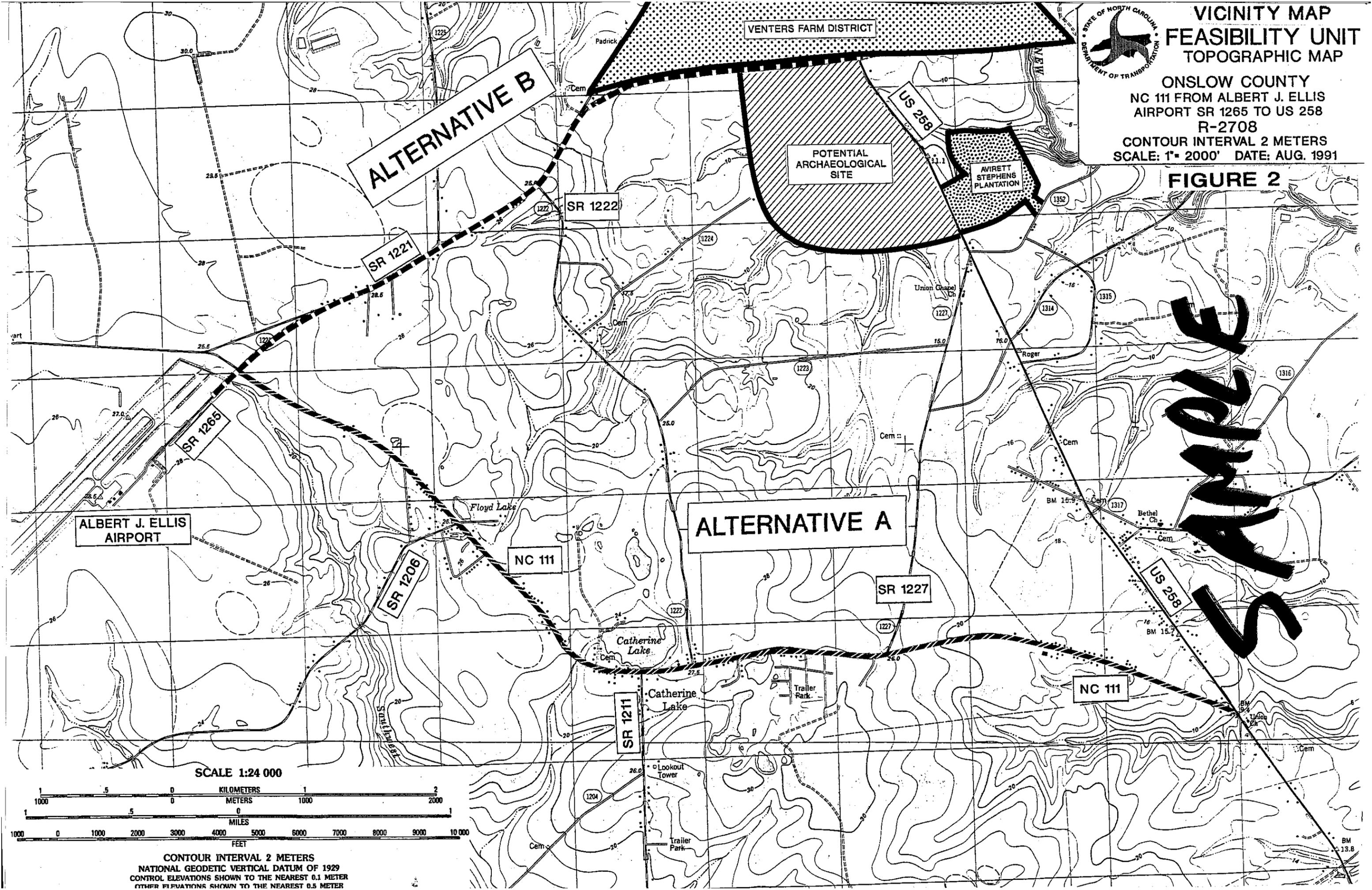
FIGURE 1



VICINITY MAP FEASIBILITY UNIT TOPOGRAPHIC MAP

ONSLOW COUNTY
NC 111 FROM ALBERT J. ELLIS
AIRPORT SR 1265 TO US 258
R-2708
CONTOUR INTERVAL 2 METERS
SCALE: 1" = 2000' DATE: AUG. 1991

FIGURE 2

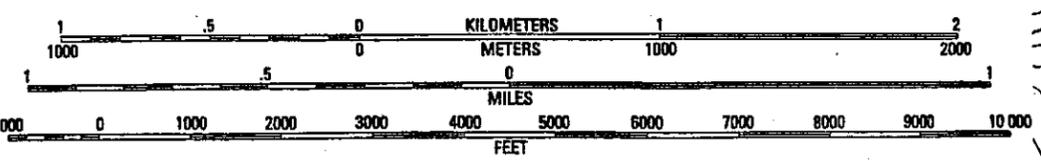


ALTERNATIVE B

ALTERNATIVE A

DRAFT

SCALE 1:24 000



CONTOUR INTERVAL 2 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
CONTROL ELEVATIONS SHOWN TO THE NEAREST 0.1 METER
OTHER ELEVATIONS SHOWN TO THE NEAREST 0.5 METER