



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

JAMES B. HUNT JR.  
GOVERNOR

E. NORRIS TOLSON  
SECRETARY

March 16, 1998

MEMORANDUM TO: Mr. Charles Ward, Member, Board of Transportation  
Mr. D. R. Conner, P.E., Division Engineer, Division 1  
Mr. David D. King  
Mr. W. H. Webb, P.E.  
Mr. J. M. Lynch, P.E. (6) Attention: Roberto Canales, P.E.  
Congestion Management Engineer  
Mr. J. B. Williamson  
Mr. H. F. Vick, P.E. (2)  
Mr. R. L. Hill, P.E.  
Mr. G. T. Shearin, P.E.  
Mr. M. R. Poole, P.E.  
Mr. A. L. Avant (2)  
Mr. J. D. Lane  
Mr. T. A. Peoples, P.E.  
Mr. David Smith, P.E.

FROM: David G. Modlin, Ph.D., P.E.  
Head of Feasibility Studies

A handwritten signature in black ink, appearing to read "David G. Modlin".

SUBJECT: Feasibility Study # U-3815, Manteo, Virginia Dare Road  
(US 64-264) from NC 345 to Fernando Street (NC 400-  
SR 1131), Dare County.

Our staff has completed a feasibility study for the subject proposed project. This brief analysis suggests improvements that would be logical if the project were to be funded. A copy of our report is attached for your information.

DGM/joa

Attachment

cc: Mr. L. A. Sanderson, P.E.  
Mr. D. R. Morton, P.E.  
Mr. David W. Conner, Sr., P.E.



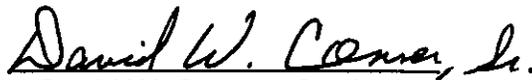
FEASIBILITY STUDY

**Manteo  
Virginia Dare Road (US 64-264)  
from NC 345  
to Fernando Street (NC 400-SR 1131)  
Dare County**

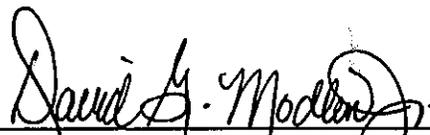
**Division 1**

**U-3815**

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



David W. Conner, Sr., P.E.  
Highway Planning Engineer



David G. Modlin, Jr., Ph.D., P.E.  
Head of Feasibility Studies

2/26/98  
Date

U-3815

Manteo

Virginia Dare Road (US 64-264)  
from NC 345  
to Fernando Street (NC 400-SR 1131)  
Dare County

Division 1

## I. General Description

This feasibility study describes studied improvements to Virginia Dare Road (US 64-264) in Manteo. The improvements include the addition of a northbound lane from approximately 1,000 feet (304.8 m) north of NC 345 to Fernando Street (NC 400-SR 1131) and the construction of a fly-over at NC 345. The project location is shown on Figure 1 and a detail of the fly-over configuration is shown on Figure 2.

The studied improvements will provide for a 4-lane, 56-foot (17.1-m) wide (face-to-face) curb-and-gutter facility from NC 345 to Fernando Street and includes a northbound 14-foot (4.2-m) wide outside travel lane, a northbound 12-foot (3.6-m) wide inside travel lane, a southbound 14-foot (4.2-m) wide travel lane, and a 12-foot (3.6-m) wide interior turn lane. The 14-foot (4.2-m) wide outside lanes are necessary to accommodate bicycle traffic.

The studied fly-over will allow for continuous eastbound travel on US 64-264 and will relieve congestion at the NC 345 intersection.

For construction of the studied improvements, an additional 25 feet (7.6 m) of right-of-way will be required on the east side of the existing roadway from approximately 1,000 feet (304.8 m) north of NC 345 to Fernando Street (NC 400-SR 1131). Approximately 3.5 acres (1.4 hectares) of additional land will be required for construction of the fly-over.

It is anticipated that there will not be any residences or businesses relocated as a result of adding the additional lane, and that no residences and 2 businesses will be relocated as a result of construction of the fly-over.

The total cost of the project, including construction and right-of-way, is estimated to be \$6,100,000 as shown below:

	<u>Right-of-way</u>	<u>Construction</u>	<u>Total</u>
Add one lane to the north side of Virginia Dare Road	\$1,740,000	\$1,600,000	\$3,340,000
Construct fly-over at NC 345	2,760,000	3,100,000	5,860,000
Totals	<u>\$4,500,000</u>	<u>\$4,700,000</u>	<u>\$9,200,000</u>

This study is the initial step in the planning and design process for this project and is not the product of exhaustive environmental or design investigations. The purpose of this study is to describe the proposed project including costs, and to identify potential problems that may require consideration in the planning and design phases.

## II. Need for Project

The purpose of this project is to improve the traffic carrying capacity and accident experience of Virginia Dare Road. This project was requested by the Town of Manteo to help relieve congestion from traffic entering the town.

Virginia Dare Road is designated as a Principle Arterial in the North Carolina Statewide Functional Classification System. At the time of this report, there was not an adopted thoroughfare plan for the Manteo area.

Within the project terminii, Virginia Dare Road is heavily developed commercially, on both sides of the roadway. Development includes restaurants, motels, building supply businesses, major retail businesses, boat dealerships, an ABC Store, a veterinary hospital, and the Manteo Middle School. There is some residential development on the east side of the roadway near the south project terminus.

Within the project terminii, existing Virginia Dare Road is 3-lane, 44-foot (13.4-m) wide, curb-and-gutter facility. The roadway includes one 14-foot (4.2-m) wide travel lane in each direction with a 12-foot (3.6-m) wide center turn lane. Adjacent to each travel lane is a 2-foot (0.6-m) wide concrete gutter. From NC 345 to Patty Lane, there is a 6-foot (1.8-m) wide, asphalt pedestrian walkway/bicycle path located behind the curb-line on the east side of the roadway. From Patty Lane to Fernando Street, there are 5-foot (1.5-m) wide concrete sidewalks located behind the curb-line on both sides of the roadway.

Virginia Dare Road is an integral part of the "Mountains to the Sea" bicycle route system.

At the south project terminus, US 64-264 and NC 345 currently create a 3-legged signalized intersection with Virginia Dare Road approaching the intersection from the north, NC 345 approaching the intersection from the south, and US 64-264 from Nags Head, approaching the intersection from the east.

East of the south project terminus, US 64-264 is a 4-lane shoulder section including two 12-foot (3.6-m) wide eastbound travel lanes, one 12-foot (3.6-m) wide westbound travel lane, and one 16-foot (4.9-m) wide interior turn lane. At the intersection, westbound US 64-264 includes a right-turn lane onto Virginia Dare Road, a left-turn lane onto NC 345. Eastbound US 64-264 includes one lane accepting left-turn traffic from Virginia Dare Road and one lane accepting right-turn traffic from NC 345.

South of the south project terminus, NC 345 is a 2-lane shoulder section with 12-foot (3.6-m) wide travel lanes and soil shoulders. At US 64-264, NC 345 has been widened to include an eastbound right-turn lane to Nags Head, a through lane to Virginia Dare Road, and one lane southbound from the intersection.

As part of Transportation Improvement Program Project No. R-2551, the US 64-264/NC 345 intersection is scheduled to be redesigned as a 4-legged signalized intersection (see Figure 1 and Figure 2). The redesigned intersection will include an exclusive right-turn lane on the westbound approach, from Nags Head, with the lane continuing approximately 1,000 feet (304.8 m) north on Virginia Dare Road.

In addition to the previously described NC 345 intersection, the Bowsertown Road/Greenville Street (SR 1129) intersection is signalized.

At the north project terminus, Fernando Street (NC 400/SR 1131) intersects Virginia Dare Road. On the east side of Virginia Dare Road, Fernando Street is a 2-lane roadway with 10-foot (3.0-m) wide travel lanes. It is the main entrance to the Elizabeth II, a State historic site and tourist attraction.

The 1997 Average Daily Traffic (ADT) volume on Virginia Dare Road (within the project terminii) is estimated to be approximately 15,400 vehicles per day (vpd). The estimated ADT for the year 2025 is 29,500 vpd. Truck traffic is estimated to make up 4% of daily traffic.

It is estimated that Virginia Dare Road is currently operating at Level of Service E and will reach Level F in the very near future. If an additional northbound lane is constructed, it is estimated that the northbound Level of

Service will improve to Level B. Also, if an additional northbound lane is constructed and the roadway is striped as a 4-lane undivided roadway, it is estimated that the overall Level of Service will improve to Level C.

During the three-year period from February 1, 1994 thru January 31, 1997, there were 73 accidents reported on Virginia Dare Road within the project limits. There were no fatalities reported during this period, but 17 of the accidents resulted in injuries. The accident rate along this segment of roadway is 361.4 accidents per 100 million vehicle miles (acc/100mvm). The 1996 statewide rate for urban US routes is 196.6 acc/100mvm.

### **III. Description of Project**

This feasibility study describes studied improvements to Virginia Dare Road (US 64-464) in Manteo. The improvements include the addition of a northbound lane from approximately 1,000 feet (304.8 m) north of NC 345 to Fernando Street (NC 400-SR 1131) and the construction of a fly-over at NC 345. The project location is shown on Figure 1 and a detail of the fly-over configuration is shown on Figure 2.

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The studied fly-over will allow for continuous eastbound travel on US 64-264 and will relieve congestion at the NC 345 intersection.

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It is anticipated that there will not be any residences or businesses relocated as a result of adding the additional lane, and that no residences and 2 businesses will be relocated as a result of construction of the fly-over.

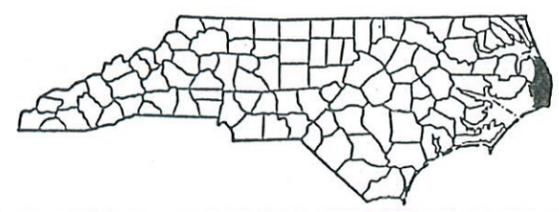
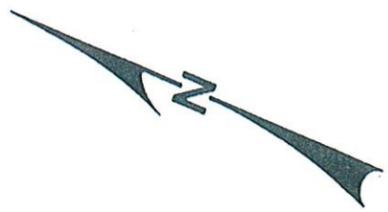
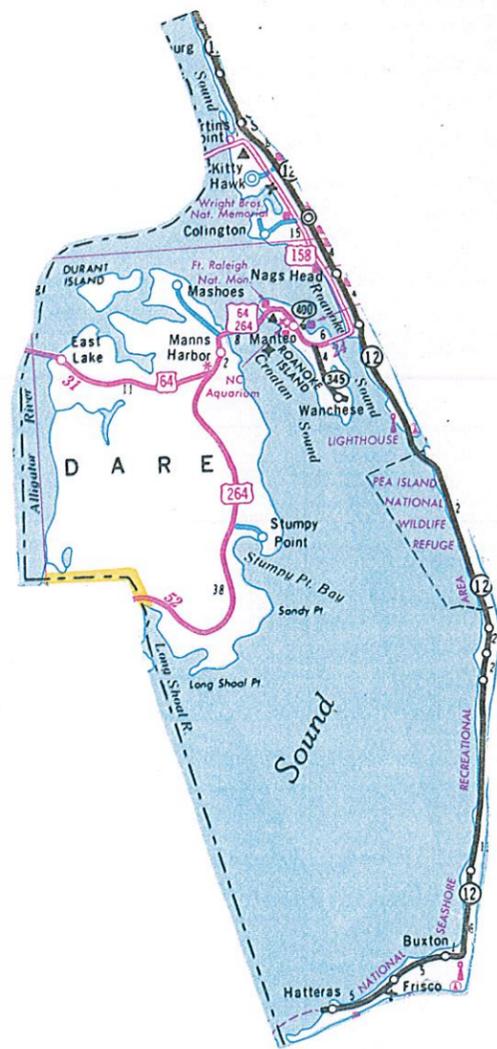
The total cost of the project, including construction and right-of-way, is estimated to be \$6,100,000 as shown on the following page:

	<u>Right-of-way</u>	<u>Construction</u>	<u>Total</u>
Add one lane to the north side of Virginia Dare Road	\$1,740,000	\$1,600,000	\$3,340,000
Construct fly-over at NC 345	2,760,000	3,100,000	5,860,000
Totals	<u>\$4,500,000</u>	<u>\$4,700,000</u>	<u>\$9,200,000</u>

#### **VI. Other Comments**

An environmental screening was not conducted for this study. However, no impacts to historic properties or wetlands are anticipated.

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



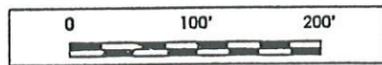
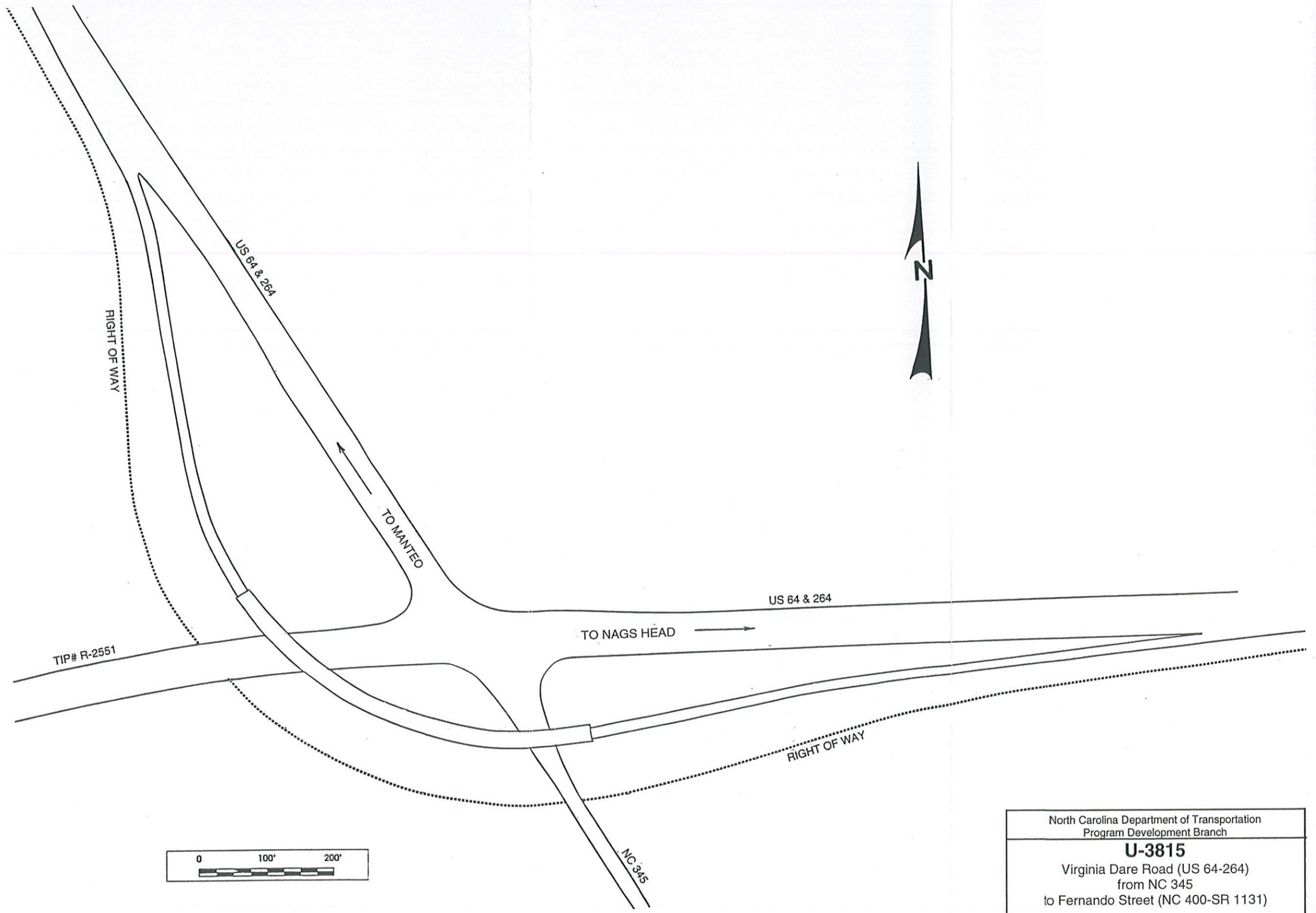
LEGEND	
	U-3815
	R-2551

North Carolina Department of Transportation  
 Program Development Branch

**U-3815**  
 Virginia Dare Road (US 64-264)  
 from NC 345  
 to Fernando Street (NC 400-SR 1131)

Manteo, Dare County

DIVISION 1 FIGURE 1



North Carolina Department of Transportation Program Development Branch	
<b>U-3815</b>	
Virginia Dare Road (US 64-264) from NC 345 to Fernando Street (NC 400-SR 1131)	
Manteo, Dare County	
DIVISION 1	FIGURE 2