

FEASIBILITY STUDY

Rocky Mount

SR 1006 (McKendree Church Road)

from US 301 to NC 43

Edgecombe County

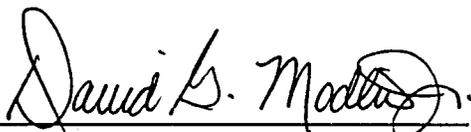
Division 4

U-3819

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



Kim L. So
Highway Planning Engineer



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

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Date

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SR 1006 (McKendree Church Road) from US 301 to NC 43 in Rocky Mount

Edgecombe County

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I. GENERAL DESCRIPTION

This feasibility study evaluates the potential for improvements to SR 1006 (McKendree Church Road) from US 301 to NC 43 in Rocky Mount, Edgecombe County (see Figure 1). The project is approximately 4.8 miles (7.7 km) in length.

Four alternates were evaluated in this study. The first two alternates propose upgrading the existing 22-foot (6.7-m) wide roadway to 24 feet (7.3 m) wide with 8-foot (2.4-m) shoulders (2-foot (0.6-m) paved). In Alternate 2, a section of McKendree Church Road would be realigned to enhance safety.

Alternates 3 and 4 involve widening of McKendree Church Road to multilanes with improvement to the horizontal realignment. The studied typical section is a four-lane, 52-foot (15.9-m) wide face-to-face, curb and gutter section with 10-foot (3.1-m) berms.

The estimated project costs for the studied alternates are as follows:

	Alternate 1	Alternate 2	Alternate 3	Alternate 4
Right-of-Way	\$ 250,000	\$ 320,000	\$ 2,360,000	\$ 1,620,000
Construction	<u>\$ 3,950,000</u>	<u>\$ 3,900,000</u>	<u>\$ 8,900,000</u>	<u>\$ 8,900,000</u>
Total	\$ 4,200,000	\$ 4,220,000	\$11,260,000	\$10,520,000

The recommended alternate is Alternate 1.

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 Transportation Needs Committee of Edgecombe County.

McKendree Church Road is classified as a Rural Minor Collector on the Statewide Functional Classification System. On the Rocky Mount Thoroughfare Plan, it is classified as a Major Thoroughfare.

Existing McKendree Church Road within the project limits is a two-lane, 22-foot (6.7-m) wide, shoulder section with 4 to 6-foot (1.2 to 1.8-m) wide shoulders. Approximately 60 feet (21.4 m) of right-of-way may be claimed. The project corridor lies within an area that is mostly rural residential and partly agricultural.

The two bridges on the project corridor have relatively short remaining lives. Bridge Number 57 has a sufficiency rating of 69.3 and a remaining life of 7 years. Bridge Number 58, which has a sufficiency rating of 16.9 and a remaining life of 3 years, is programmed in the 1998-2004 TIP for replacement as B-3838.

Estimated 1997 average daily traffic (ADT) on McKendree Church Road varies from 2,200 vehicles per day (vpd) near NC 43 to 3,000 vpd near US 301. In the design year 2020, the traffic volume is estimated to range from 4,300 to 5,800 vpd. The existing McKendree Church Road is operating at a level of service (LOS) B, and is anticipated to operate at a LOS C in the design year 2025. If widened to multi-lanes, McKendree Church Road would operate at a LOS A through the design year.

During the period from March, 1994, through February, 1997, there were 73 accidents reported along McKendree Church Road. This resulted in an accident rate of 538.7 accidents per 100 million vehicle miles (acc/100mvm) compared to a statewide average of 207.6 acc/100mvm for this type of facility. One fatality and 39 injuries were reported during this period. The studied improvements to McKendree Church Road are expected to reduce the accident rate.

CSX Railroad has two (2) tracks crossing the project corridor near US 301. The tracks carry 22 freight trains and 6 passenger trains per week at an average speed of 10 miles per hour (16 kmh) and 79 mph (127 kmh) respectively. The exposure index, a product of the design year traffic and the number of trains per day, at this location is 162,400, which exceeds the threshold of 15,000 that warrants a grade separation in a rural area. However, the railroad tracks are approximately 500 feet (153 m) from US 301 Business and 700 feet (214 m) from US 301 Bypass. Due to the proximity of the railroad to US 301, it is not feasible to provide a grade separation at the existing crossing. It is recommended that this crossing be protected with gates on all four quadrants.

III. STUDIED IMPROVEMENTS

This feasibility study evaluates the potential for the improvements of SR 1006 (McKendree Church Road) from US 301 to NC 43 in Rocky Mount, Edgecombe County (see Figure 1). The project is approximately 4.8 miles (7.7 km) in length.

Four alternates were evaluated in this study. The first two alternates propose upgrading the existing 22-foot (6.7-m) wide roadway to 24 feet (7.3 m) wide with 8-foot (2.4-m) shoulders (2-foot (0.6-m) paved). In Alternate 2, a section of McKendree Church Road would be realigned to enhance safety.

Alternates 3 and 4 involve widening of McKendree Church Road to multilanes with improvement to the horizontal realignment. The studied typical section is a four-lane, 52-foot (15.9-m) wide face-to-face, curb and gutter section with 10-foot (3.1-m) berms.

Alternate 1

Upgrade the existing roadway to a desired typical section with two 12-foot (3.7-m) wide travel lanes and 8-foot (2.4-m) wide shoulders (2-foot (0.6-m) paved). This alternate follows the general alignment of the existing roadway from US 301 to SR 1136 (Baie Road) and follows SR 1136 to SR 1124 (Temperance Hall Road). Then SR 1136 is extended to NC 43 as shown on Figure 2. Approximately 350 feet (106.8 m) of existing McKendree Church Road would be realigned to form a "T" intersection with SR 1136 (see Figure 1).

The eastern project terminus at NC 43 would include a 12-foot (3.7-m) wide left-turn lane. NC 43 at this terminus would also need to be widened to include a 12-foot (3.7-m) wide left-turn lane. Additional right-of-way would be needed to provide the left-turn lane. It is anticipated that a traffic signal would be required at the new intersection. SR 1124 would be terminated with a cul-de-sac just south of NC 43 (see Figure 2). The existing short connector from SR 1124 to NC 43 would be removed.

A 60-foot (30.5-m) wide right-of-way with no control of access is recommended. It is estimated that this alternate would require no relocation of residences or businesses. The estimated project cost for this alternate is \$4,200,000 (\$250,000 for right-of-way and \$3,950,000 for construction).

Alternate 2

Upgrade the existing roadway to a desired typical section with 12-foot (3.7-m) wide travel lanes and 8-foot (2.4-m) wide shoulders (2-foot (0.6-m) paved). This alternate follows the existing alignment of McKendree Church Road. Approximately 0.8 mile (1.3 km) of McKendree Church Road just east of

Bridge Number 58 would be realigned to enhance safety. Each end of the existing roadway would be cul-de-saced as shown in Figure 1.

A 60-foot (30.5-m) wide right-of-way with no control of access is recommended. It is estimated that this alternate would require no relocation of residences or businesses. The estimated project cost for Alternate 2 is \$4,220,000 (\$320,000 for right-of-way and \$3,900,000 for construction).

Alternate 3

This alternate has the same alignment as Alternate 1. The studied typical section is a four-lane, 52-foot (15.9-m) wide face-to-face, curb and gutter section with 10-foot (3.1-m) berms. Bridges Number 57 and 58 would have a clear deck width of 52 feet (15.9 m).

A 100-foot (30.5-m) wide right-of-way with no control of access is recommended. It is estimated that this alternate would require the relocation of 8 residences and 1 business. The estimated project cost for is \$11,260,000 (\$2,360,000 for right-of-way and \$8,900,000 for construction).

Alternate 4

This alternate has the same alignment as Alternate 2. The studied typical section is a four-lane, 52-foot (15.9-m) wide face-to-face, curb and gutter section with 10-foot (3.1-m) berms. Bridges Number 57 and 58 would have a clear deck width of 52 feet (15.9 m).

A 100-foot (30.5-m) wide right-of-way with no control of access is recommended. It is estimated that this alternate would require no relocation of residences or businesses. The estimated project cost for is \$10,520,000 (\$1,620,000 for right-of-way and \$8,900,000 for construction).

The estimated project costs for the studied alternates are as follows:

	Alternate 1	Alternate 2	Alternate 3	Alternate 4
Right-of-Way	\$ 250,000	\$ 320,000	\$ 2,360,000	\$ 1,620,000
Construction	<u>\$ 3,950,000</u>	<u>\$ 3,900,000</u>	<u>\$ 8,900,000</u>	<u>\$ 8,900,000</u>
Total	\$ 4,200,000	\$ 4,220,000	\$11,260,000	\$10,520,000

Traffic analysis indicates that a two-lane facility currently operates at a LOS B, and is anticipated to operate at a LOS C in the design year 2025. If widened to multi-lanes, McKendree Church Road would operate at a LOS A through the design year.

The recommended alternate is Alternate 1.

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

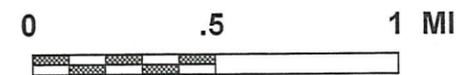
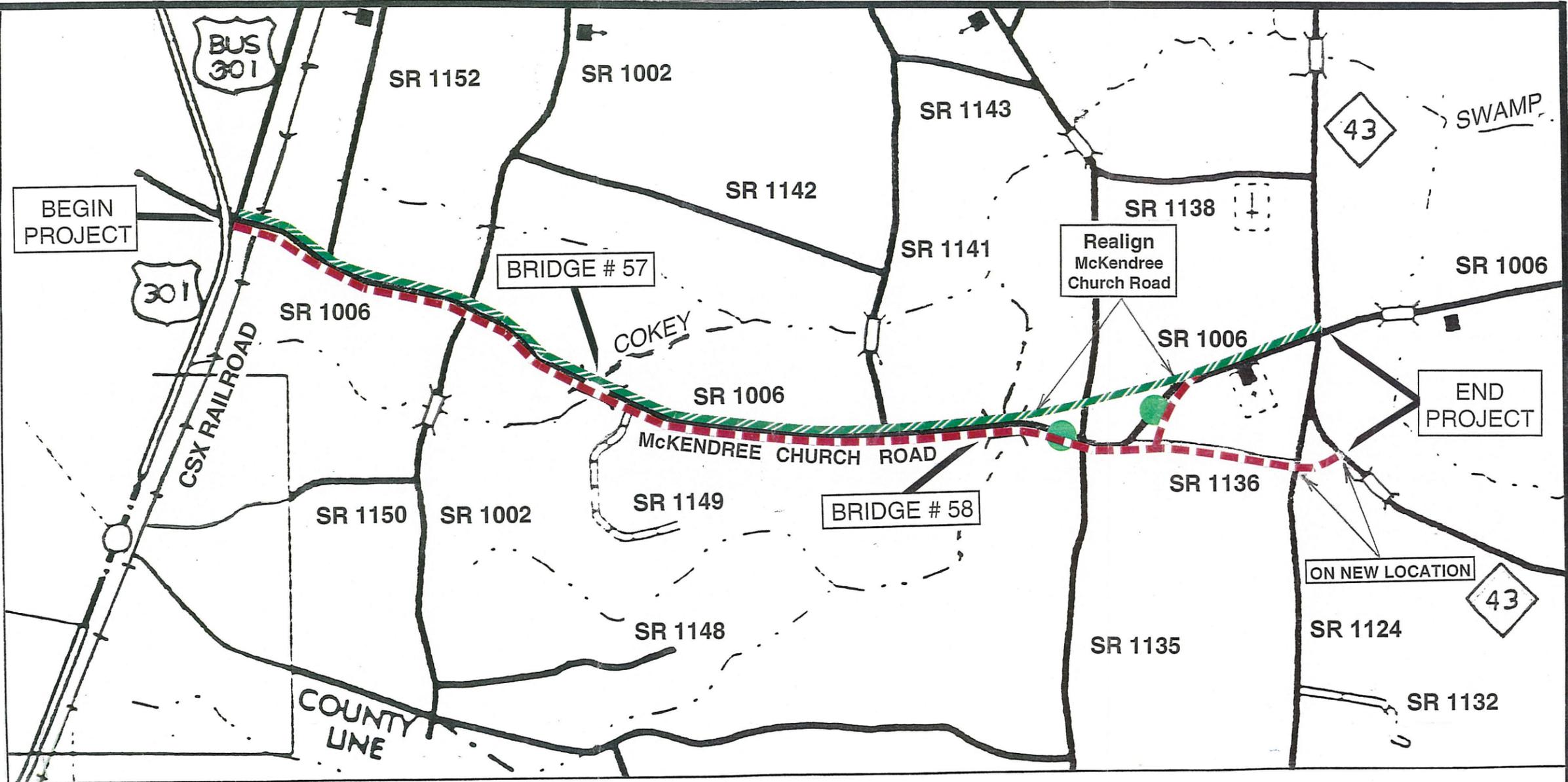
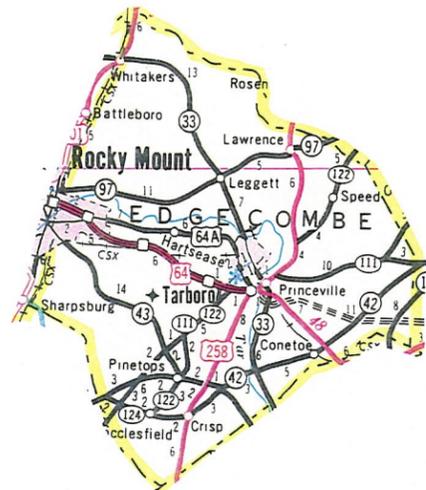
Bridge Number 58 is currently programmed for replacement (B-3838). Bridge Number 57 would be replaced with a new structure, 40-foot (12.2-m) clear deck width under recommended Alternate 1. The estimated cost for replacing Bridge Number 57 is included in Alternate 1 and 2 construction cost.

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.

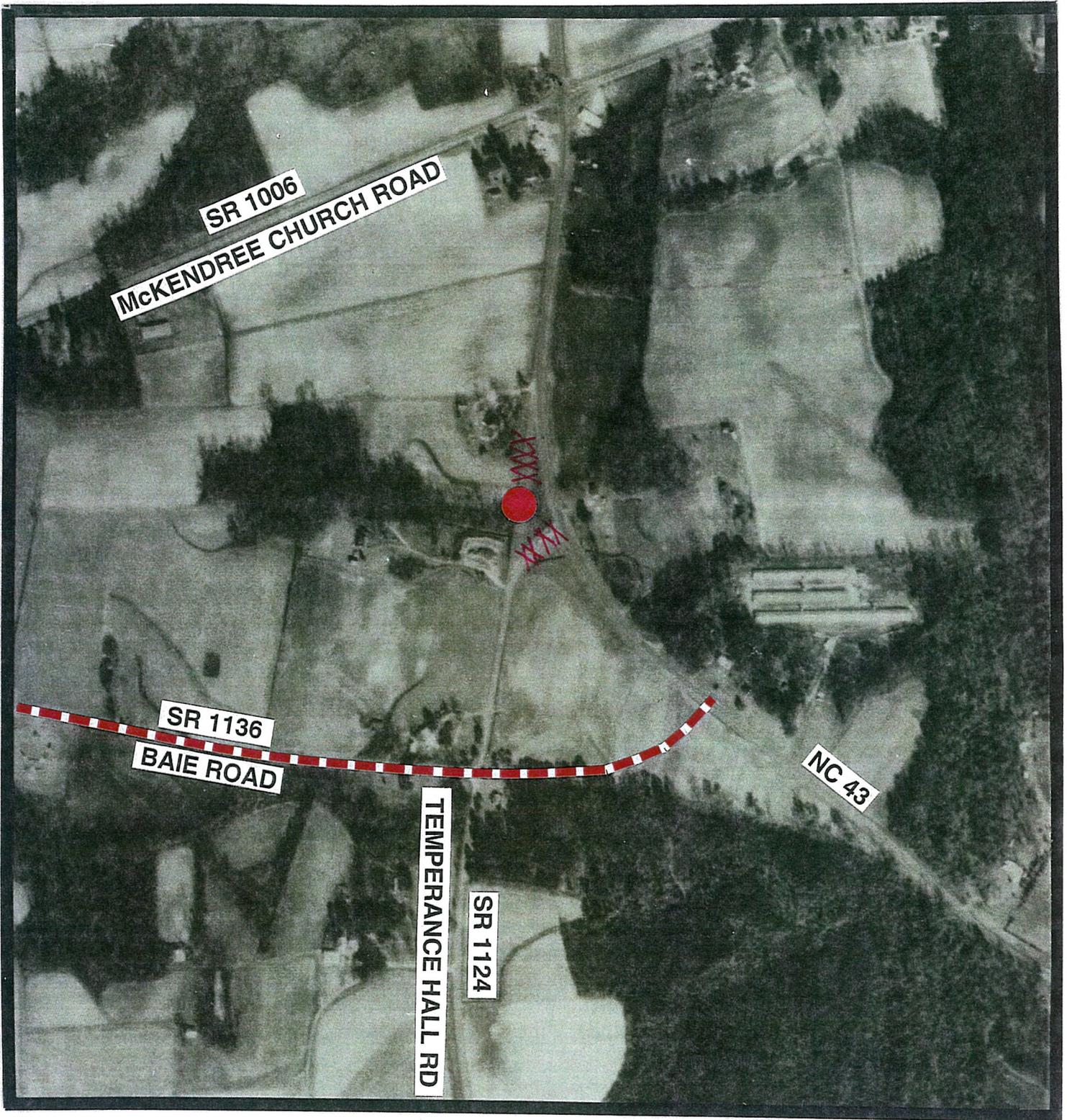
No recommendation for bicycle accommodations was received from the NCDOT Office of Bicycle and Pedestrian Transportation.



LEGEND	
	ALTERNATES 1 & 3
	ALTERNATES 2 & 4
	ALTERNATES 2 & 4 (CUL DE SACS)



NC DEPARTMENT OF TRANSPORTATION FEASIBILITY STUDIES UNIT
U-3819 SR 1006 (McKendree Church Road) from US 301 to NC 43
Rocky Mount Edgecombe County
DIVISION 4 FIGURE 1



LEGEND	
	ALTERNATE 1 & 3
	CUL DE SAC
	REMOVE PAVEMENT

NC DEPARTMENT OF TRANSPORTATION FEASIBILITY STUDIES UNIT	
U-3819	
SR 1006 (McKendree Church Road) from US 301 to NC 43	
Rocky Mount Edgecombe County	
DIVISION 4	FIGURE 2