FEASIBILITY STUDY

Chapel Hill
Intersection Improvements
SR 1740 (Dobbins Drive) & SR 1734 (Erwin Road)
Orange County
U-3305

Prepared by
Program Development Branch
Division of Highways
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Date

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I. GENERAL DESCRIPTION

This preliminary study describes the proposed relocation of the intersection of SR 1740 (Dobbins Drive) and SR 1734 (Erwin Road) in Chapel Hill. The study location and vicinity are shown on Figure 1. It is proposed to relocate SR 1740 approximately 200 feet (61 m) north of the current point of intersection with SR 1734, as shown on Figure 2. The proposed cross-section will be a two-lane, two-way, rural shoulder section with a 24-foot (7.3-m) wide pavement and soil shoulders 8 feet (2.4 m) wide. The total length of construction will be approximately 800 feet (244 m). The required right-of-way in the northeast quadrant has been acquired by the Town of Chapel Hill for this project, and the required right-of-way in the northwest quadrant will be acquired under this project by NCDOT. It is proposed to signalize the new intersection and coordinate the signal phasing with the nearby intersection of SR 1734 and US 15-501. The estimated cost, including construction and right-of-way is $400,000. No businesses or residences are expected to require relocation.

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 needs, recommend a treatment including costs, and identify potential problem areas that require consideration in the planning and design phases.

II. NEED FOR PROJECT

The purpose of this project is to improve traffic operations at the intersection of SR 1740 and SR 1734, and at the nearby intersection of SR 1734 and US 15-501. An improvement at this location was requested by the Town of Chapel Hill, through the Durham - Chapel Hill - Carrboro Metropolitan Planning Organization.

SR 1740 serves as a service road for US 15-501 and runs parallel to and on the north side of US 15-501. The current intersection of SR 1740 and SR 1734 is controlled by stop

signs on SR 1740. The intersection is approximately 100 feet (30.5 m) north of the signalized intersection of SR 1734 and US 15-501. Southbound vehicles on SR 1734, waiting for the signal at US 15-501, block the existing SR 1740 - SR 1734 intersection. The additional storage space resulting from the relocation of SR 1740 should alleviate this blockage, and will make signalization of the service road intersection feasible.

The only development in the immediate vicinity of the proposed new intersection is an electric power sub-station in the northeast quadrant. No new right-of-way will be required from the sub-station property. South of the intersection, US 15-501 is a 4-lane, median divided, facility.

The total volume of traffic entering the new intersection for the years 1994 and 2004 is estimated at 17,000 vehicles per day (vpd) and 22,000 vpd respectively. The Level of Service (LOS) is estimated to be Level C in 1994 and Level C in 2004.

III. RECOMMENDATIONS

It is recommended to relocate the intersection of SR 1740 (Dobbins Drive) and SR 1734 (Erwin Road) in Chapel Hill. The study location and vicinity are shown on Figure 1. It is proposed to relocate SR 1740 approximately 200 feet (61 m) north of the current point of intersection with SR 1734, as shown on Figure 2. The proposed cross-section will be a two-lane, two-way, rural shoulder section with a 24-foot (7.3-m) wide pavement and soil shoulders 8 feet (2.4 m) wide. The total length of construction will be approximately 800 feet (244 m). The required right-of-way in the northeast quadrant has been acquired by the Town of Chapel Hill, and the required right-of-way in the northwest quadrant will be acquired under this project. It is proposed to signalize the new intersection and coordinate the signal phasing with the nearby intersection of SR 1734 and US 15-501.

It is recommended that the northbound approach consist of an exclusive left turn lane and a combination through and right-turn lane. The eastbound approach should include an exclusive right-turn lane and a combined through and left-turn lane. All other approaches will be single lane approaches.

The total estimated cost including construction and right-of-way is $400,000 as follows:

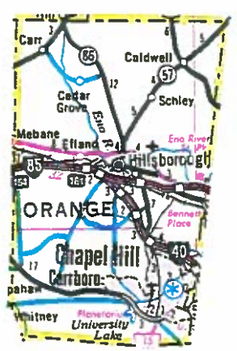
Construction.....	$300,000
Right-Of-Way.....	100,000
Total	$400,000

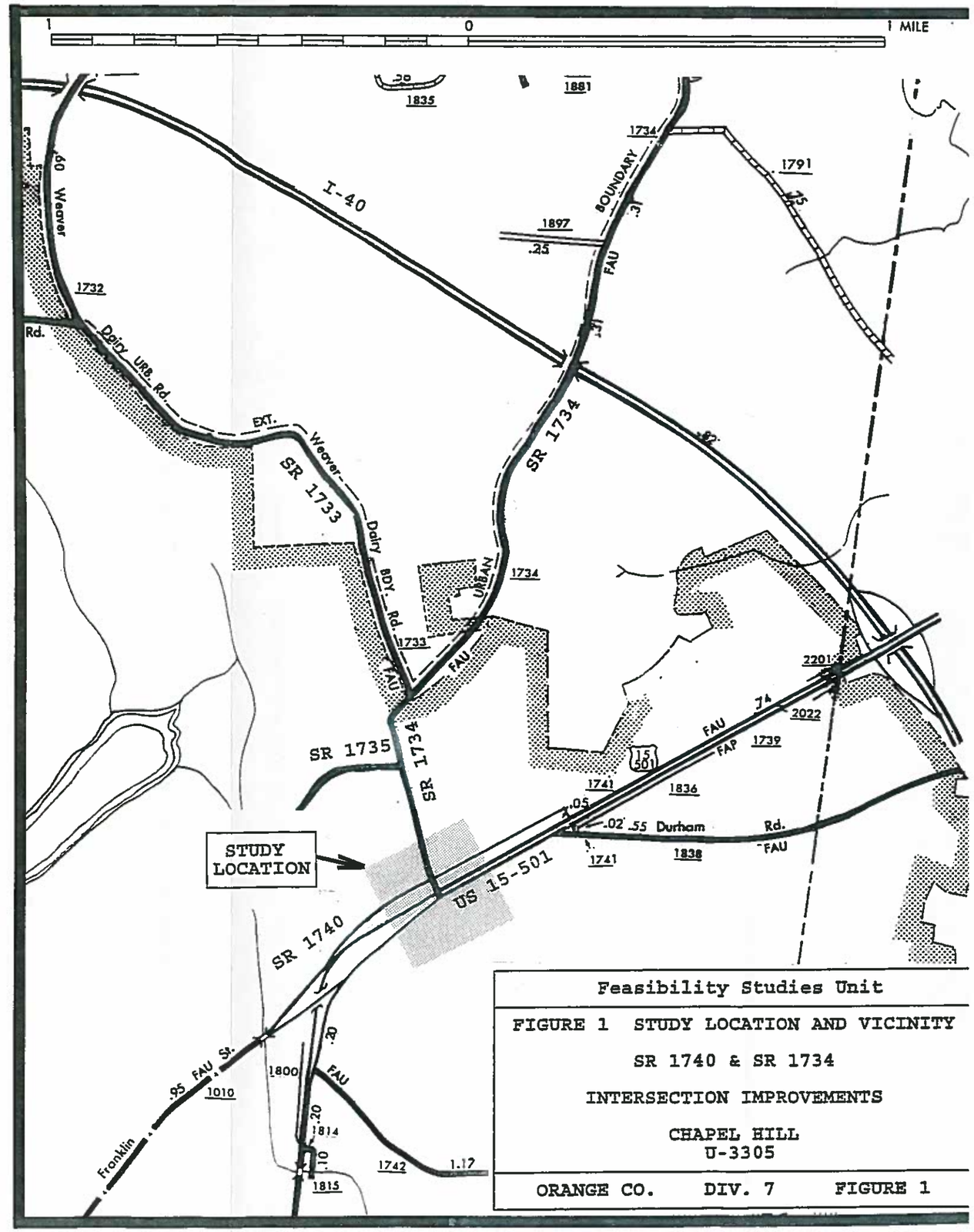
No residential or business relocations are anticipated due to this project.

V. OTHER COMMENTS

An environmental screening was not conducted for this study. There will be some wetlands involved in this project. No historic properties or endangered species are anticipated.

A corridor study of US 15/501 has been completed by a consultant. The corridor study calls for an interchange at this location in the future. Generally, the service road relocation proposed under Project U-3305 is compatible with the horizontal alignment proposed in the corridor study.





Feasibility Studies Unit

FIGURE 1 STUDY LOCATION AND VICINITY

SR 1740 & SR 1734

INTERSECTION IMPROVEMENTS

CHAPEL HILL
U-3305

ORANGE CO. DIV. 7 FIGURE 1

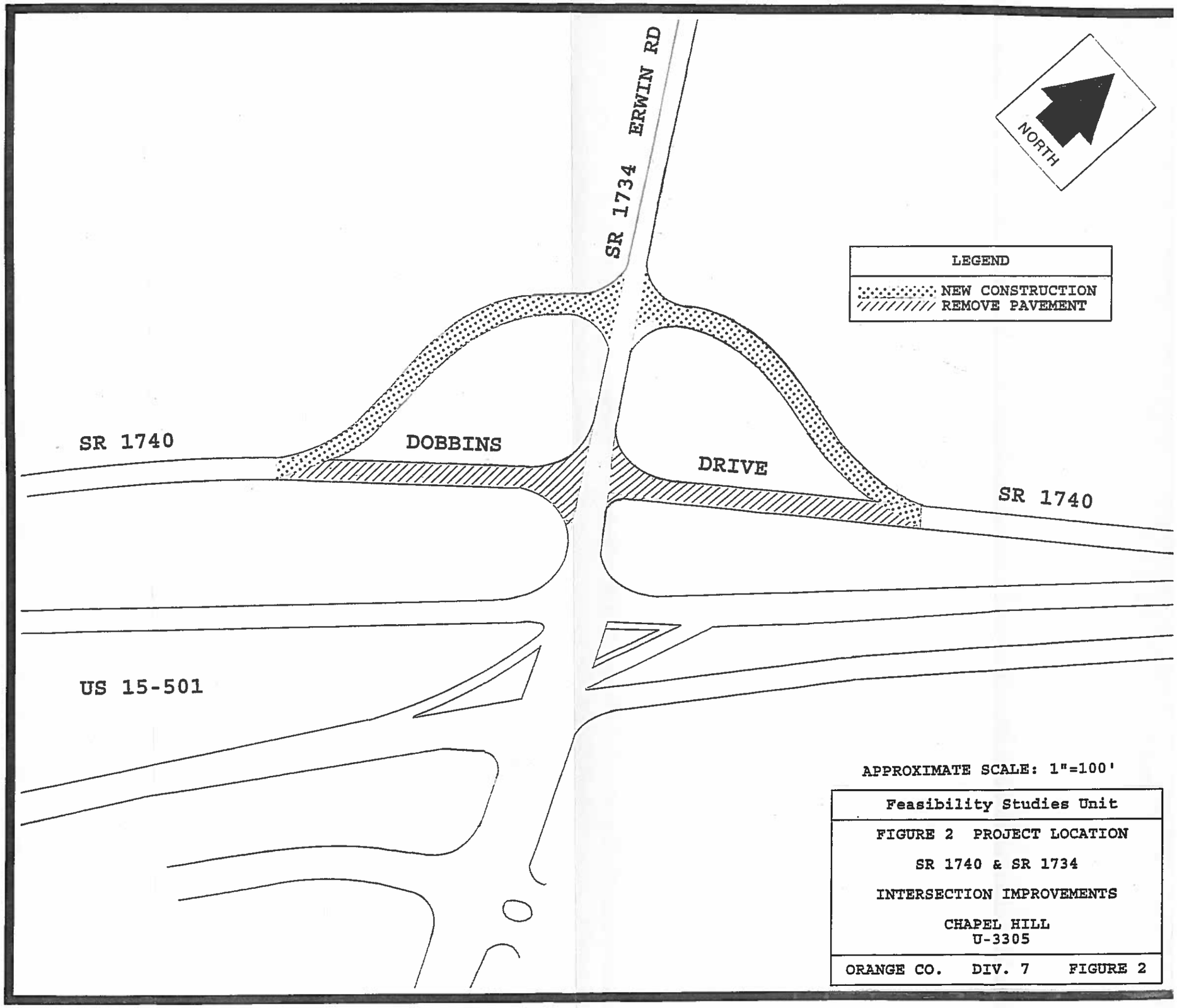


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FIGURE 2 PROJECT LOCATION

SR 1740 & SR 1734

INTERSECTION IMPROVEMENTS

CHAPEL HILL
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ORANGE CO. DIV. 7 FIGURE 2