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FEASIBILITY STUDY

NC 191, From US 25 to NC 280,
Henderson County,
R-2588

Prepared by
Planning and Research Branch
Division of Highways
N. C. Department of Transportation

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4/3/96
Date

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NC 191, From US 25 to NC 280,
Henderson County,
R-2588

I. DESCRIPTION

This report covers a preliminary study of the proposed upgrading of NC 191 in Henderson County. As shown in Figure 1, this study extends from US 25 in Hendersonville northward to NC 280 near Mills River, for a total length of approximately 7.0 miles. The project is included in the 1990-1996 Transportation Improvement Program (T.I.P.) for feasibility study and/or right-of-way protection. It is not currently funded.

II. PURPOSE OF PROJECT

Existing Route Characteristics

NC 191 appears on the Hendersonville Thoroughfare Plan (adopted 1982) as a major thoroughfare, and serves as a major collector for the fast growing residential areas northwest of the city. Outside the city limits, NC 191 is designated as rural major collector in the County Functional Classification Plan.

The studied section of road was constructed in the late 1920's and has a basic paved width of 22 feet with variable 4 to 10-foot unpaved shoulders. Small sections of irregular curb and gutter exist inside the city limits.

At the south end of the project, NC 191 forms a Y-intersection with US 25 which has a 5-lane curb and guttered cross section. It has southbound left and right-turn lanes at this signalized intersection. At the north end of the project, NC 280 forms an unsignalized tee intersection with free flow NC 191, and has a 2-lane section with eastbound right and left-turn lanes at their junction.

All intersections on NC 191 are at grade, with signals at US 25, SR 1180 (Blythe Street), West Henderson High School, and Rugby Junior High School. The latter two also have pavement widening to accommodate left-turn lanes.

Horizontal and vertical alignments are good. Safe passing sight distance of 1500 feet or more is available along approximately 50% of the project length.

There are three bridges along the route. They are listed as follows with pertinent information:

Bridge No.	Location	Length (Ft.)	Width (Ft.)	Age (Yrs.)	Rating (New=100)
64	Branch	24	36	43	51.2
121	French Broad Rv.	141	28	35	67.6
129	French Broad Rv.	280	28	35	65.8

The existing facility traverses rolling terrain. The adjacent land use is primarily dense residential with some small commercial within the city limits, changing to sparse commercial and residential mixed with pastures and woodlands north of the city limits. Speed limits are as follows:

SECTION From	To	Speed Limit
NC 280	SR 1331	45 mph
SR 1331	SR 2044	55 mph
SR 2044	Rugby Junior High	35 mph
Rugby Junior High	SR 1439	45 mph
SR 1439	US 25	35 mph

Traffic Volumes, Capacity, and Accident Record

Current traffic volumes on NC 191 range from a high of approximately 10,600 vehicles per day (vpd) near US 25, to a low of approximately 7000 vpd near NC 280. Traffic volumes northward from Hendersonville remain near 10,000 vpd as far as Mountain Home (SR 1365), at which point a significant drop in volume occurs. By the year 2010, it is estimated that traffic volumes will range from a high of 21,300 vpd near US 25, to a low of 13,900 vpd at NC 280.

The existing facility can carry approximately 5000 vpd in rural areas, and 8000 vpd in urban areas at a desirable level of service C. Thus, it does not have adequate capacity to accommodate the existing traffic volumes throughout the entire project.

Accident data for the past three years reveals a total of 193 accidents. This yields an accident rate of 272 accidents per hundred million vehicle miles. This is above the state average of 214 accidents per hundred million vehicle miles for similar rural, two-lane, NC routes. The predominant accident types were rear-end (53%), angle (34%), and running-off-road (28%) accidents.

Need for Project

The existing route has capacity deficiencies along the entire project length, and by the year 2010 will be seriously over capacity. Roadway upgrades are needed to accommodate the existing and future capacity demands brought on by development.

III. RECOMMENDATIONS AND COSTS

It is recommended that improvements consist of widening the existing 22-foot pavement to a 5-lane, 64-foot face-to-face, curb and gutter facility for the entire length.

The use of a curb and gutter facility in this area will minimize disruption and damages to the existing roadside development. The use of curb and gutter will however necessitate the lowering of the existing 55 mph speed limit indicated above to 45 mph or below. This reduction is to conform with the Federal Highway Administration's policy of allowing curb and gutter only on facilities with a limit of 45 mph or lower for safety concerns. As the area is becoming increasingly urbanized, it is anticipated that a lower limit along the section currently posted 55 mph would soon be posted regardless of this project's implementation.

The three bridges along the route are anticipated to be replaced with newer and wider structures as part of this project.

The total estimated cost of the recommended improvements is $24,900,000, including $17,400,000 for roadway construction and $7,500,000 for right-of-way. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

IV. ALTERNATIVES

Should construction staging for the project be considered desirable from a funding standpoint, it is recommended the project be divided into two segments described as follows:

Section	From	To	Length (miles)	Costs Construction	Right-of-Way	Total
A	US 25	SR 1365	4.25	$9,100,000	$6,500,000	$15,600,000
B	SR 1365	NC 280	2.75	$8,300,000	$1,000,000	$ 9,300,000

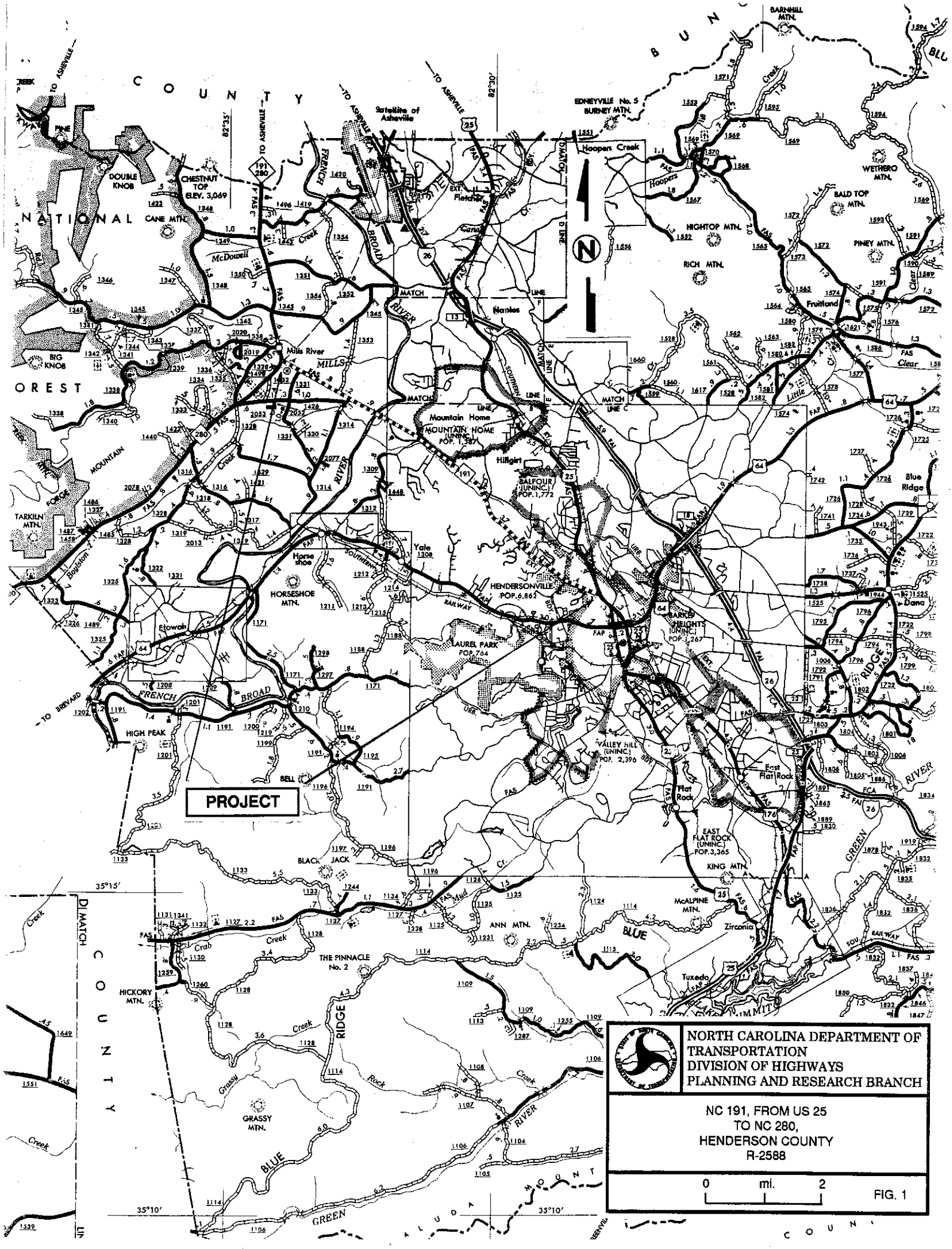
It is recommended that Section A should be given first priority due to more development and correspondingly higher traffic volumes.

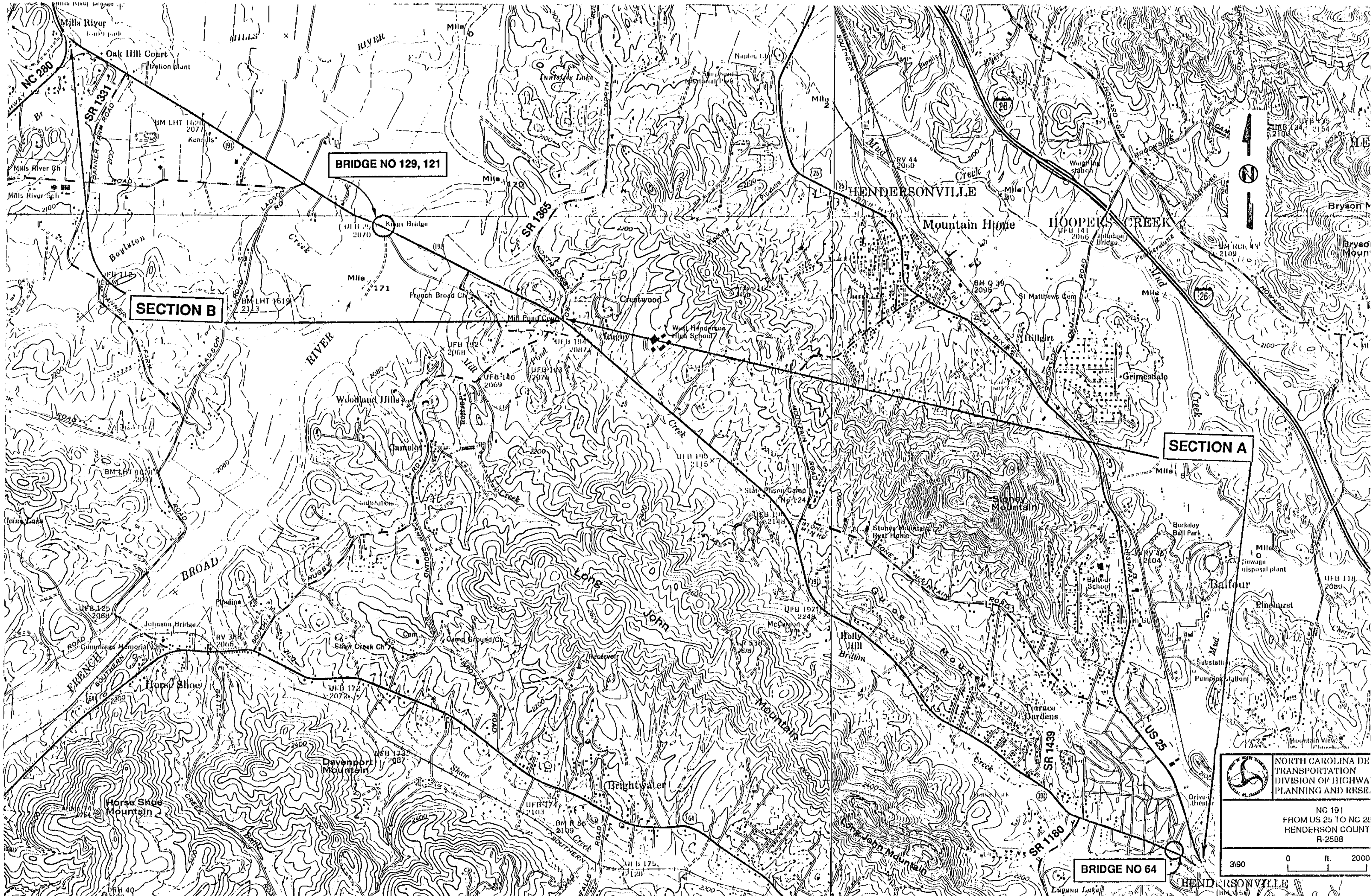
V. OTHER COMMENTS

Negative environmental impacts of this project are: (1) loss of some pasture and woodlands; (2) loss of some wetlands at stream and river crossings; (3) increased noise for roadside development; (4) relocation of approximately 20 residences and 10 businesses.

If this project is to be implemented at a future date, all feasible alternatives and their associated impacts will have to be evaluated in a planning and environmental document prior to that time, and a final decision made as to the most appropriate improvement.

MH/plr


PROJECT
NATIONAL
FOREST
COUNTY
Satellite of Asheville
Hoopers Creek
Fletcher
Mills River
Mountain Home
MOUNTAIN HOME (UNINC.) POP. 1,387
Hillgirt
BALFOUR (UNINC.) POP. 1,772
HENDERSONVILLE POP. 6,862
BARKER HEIGHTS (UNINC.) POP. 1,267
LAUREL PARK POP. 764
VALLEY HILL (UNINC.) POP. 2,396
EAST FLAT ROCK (UNINC.) POP. 3,365
Flat Rock
East Flat Rock
Yale
Horse shoe
HORSESHOE MTN.
Etowah
HIGH PEAK
BELL
BLACK JACK
ANN MTN.
THE PINNACLE No. 2
HICKORY MTN.
GRASSY MTN.
KING MTN.
McALPINE MTN.
Zirconia
Tuxedo
Blue Ridge
Dana
Fruitland
Hoopers
Clear
Little
Crab Creek
Mud Cr.
Grassy Creek
Rock Creek
Boylston
McDowell
Cane
FRENCH BROAD RIVER
MILLS RIVER
BLUE RIDGE
GREEN RIVER
TO ASHEVILLE
TO BREVARD
TO ASHEVILLE
82°35'
82°30'
35°15'
35°10'
N
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH
NC 191, FROM US 25
TO NC 280,
HENDERSON COUNTY
R-2588
0 mi. 2
FIG. 1


BRIDGE NO 129, 121
SECTION B
SECTION A
BRIDGE NO 64
NC 280
SR 1331
SR 1365
SR 1439
SR 1180
US 25
Mills River
Oak Hill Court
Filtration plant
Kennels
Mills River Ch
Mills River Sch
BANNER FARM ROAD
LADSON RD
Boylston
Creek
Kings Bridge
Mile 170
Mile 171
French Broad Ch
Mill Pond Creek
Crestwood
Rugby
West Henderson High School
Woodland Hills
Camelot
RIVER
BROAD
FRENCH
Johnston Bridge
Cummings Memorial Ch
Horse Shoe
Horse Shoe Mountain
Devenport Mountain
Shaw Creek Ch
Camp Ground Ch
Long John Mountain
Brightwater
State Prison Camp No 124
STONEY MTN RD
Stoney Mountain Rest Home
Stoney Mountain
Holly Hill
Brittain
McCarson Cem
Guice Mountain
Terrace Gardens
Laguna Lake
HENDERSONVILLE
Mountain Home
HOOPERS CREEK
Mud Creek
Johnson Bridge
St Matthews Cem
Hillgirt
Grimesdale
Berkeley Ball Park
Sewage disposal plant
Balfour
Balfour School
Pinehurst
Substation
Pumping station
Mountain View Church
Drive-in theat
Bryson M
Weighing station
HOWARD GAP ROAD
BROOKSIDE
NORTH CAROLINA DE
TRANSPORTATION
DIVISION OF HIGHWA
PLANNING AND RESE
NC 191
FROM US 25 TO NC 28
HENDERSON COUNT
R-2588
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ft.
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