I-85
North of SR 2120 (Exit 81) in Rowan County to
US 29-52-70/I-85 Business (Exit 87) in Davidson County
Rowan-Davidson Counties
Federal Aid Project No. NHF-85-3(164)80
State Project No. 8.1631403
T.I.P. Project No. I-2304A

Administrative Action

Finding of No Significant Impact

U.S. Department of Transportation

Federal Highway Administration

and

N.C. Department of Transportation

Submitted Pursuant to 42 U.S.C. 4332(2)(c)

APPROVED:

12/1/03 for Teresa Hart
Date
Gregory J. Thorpe, Ph.D.
Environmental Management Director
Project Development and Environmental Analysis Branch, NCDOT

12/15/03 for Eric Alston
Date
John F. Sullivan, III
Division Administrator, FHWA

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December 2003

Documentation Prepared in Project Development and Environmental Analysis Branch by:

Jackie Obediente 12/01/03
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12/1/03
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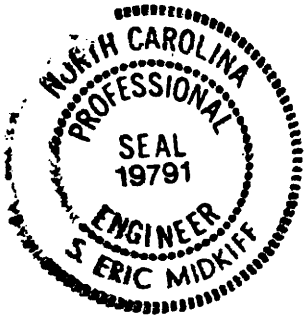

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Federal Aid Project No. NHF-85-3(164)80
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Commitments Developed Through Project Development and Design

Project Development and Environmental Analysis Branch

Because the subject project lies within a Federal Energy Regulatory Commission (FERC)-licensed hydroplant project boundary (the Yadkin Project), approval for land transfer must be obtained by NCDOT in the form of a FERC license revision. Coordination with the proper FERC officials shall take place, and the process to obtain a FERC permit will be followed. (See section VI. of this document for details on FERC procedures).

Geotechnical Unit

It is anticipated that the proposed widening of I-85 and interchange reconstruction along I-85 will encroach on one property identified as an underground storage tank (UST) site. The project has been designed to minimize impacts to this UST site to prevent the possibility of long-term, costly remediation. This impacted site will be further evaluated before the project's construction.

Structure Design Unit

The Structure Design Unit will coordinate with the Norfolk Southern Corporation, Duke Power, and the North Carolina Railroad concerning the highway improvements affecting the freight railroads. The Structure Design Unit will also coordinate with NCDOT Rail Division, Norfolk Southern Corporation, and North Carolina Railroad for the future high-speed passenger rail corridor between Charlotte and Raleigh.

Project Development and Environmental Analysis Branch

Due to its historical significance, Bridge # 46, which carries US 29-70 over the Yadkin River in the southbound direction, will remain in place but will be closed to vehicular traffic. The bridge will remain in place to serve pedestrian and bicycle traffic. Ownership, liability, and maintenance responsibilities are currently being discussed by the Rowan and Davidson County Commissioners, the Transportation Museum, and the

State Historic Preservation Office (SHPO). It is anticipated that these issues will be resolved before the project construction.

The issues related to ownership, liability, and maintenance responsibilities have not been resolved by the above-mentioned parties. These issues continue to be discussed by the local officials.

Right of Way Branch

It is anticipated that thirteen Geodetic Survey markers will be impacted by this project. The North Carolina Geodetic Survey will be contacted prior to construction regarding the relocation of survey markers along the project.

Project Development and Environmental Analysis Branch / Structure Design Unit

Removal of Bridge #137, which spans the Yadkin River, results in potentially 1,254 cubic yards of temporary fill. NCDOT will implement Best Management Practices for Bridge Demolition and Removal.

Upon further analysis of the amount of temporary fill resulting from bridge demolition, it was determined that only the amount of fill from the substructure would result in temporary fill. The likely potential amount of fill resulting from bridge demolition will be approximately 430 cubic yards. NCDOT will implement Best Management Practices for Bridge Demolition and Removal.

Project Development and Environmental Analysis Branch

The project may have an impact on a low income community in the Williams Trailer Park area located along I-85 south of SR 2124 (Hackett Road). During the project development process, no concerns have been raised by the public or local government officials concerning environmental justice issues. NCDOT will aggressively seek participation of this low-income community in the public involvement process.

NCDOT held two meetings with the citizens of the Williams Trailer Park. The first meeting was held in the Spencer Town Hall on 6/19/2001, and the second meeting was held in the North Carolina Transportation Museum on 6/24/2002. During these meetings, the design was presented to the trailer park residents, and their input and concerns related to the project were obtained. In addition to these meetings, a more detailed analysis was performed to determine the impacts to this area, and the determination has been made that this project does not create impacts related to Environmental Justice for the Williams Trailer Park. (See section VI. of this document for more information.)

Project Development and Environmental Analysis Branch / Design Services Unit

Based on preliminary studies, five areas were identified as possible noise barrier locations. These noise barriers were determined to be unreasonable, due to the cost of the noise reduction benefits versus the cost of the abatement measures. However, the project will be re-evaluated for noise abatement measures once more detailed designs are complete.

The project was re-evaluated for noise abatement measures. Noise mitigation in the form of a wall was analyzed for several areas along the project. For the I-2304AA section, one location, known as Barrier Location 2 (see page D-27 in Appendix D), it was determined that a barrier in this location is considered reasonable and feasible by NCDOT guidelines. Hence, a noise wall is recommended in this area. Further coordination with the affected residents and/or businesses will take place concerning this proposed noise wall. (See Section VI for a summary of the noise study).

Project Development and Environmental Analysis Branch / Design Services Unit/Construction Unit

A roadside memorial exists within the project limits, however it is not anticipated to be impacted by this project. This memorial, dedicated in 1929 by the North Carolina Historic Commission, which currently owns the property, was investigated for its historical significance. It was determined that this Trading Ford Monument is not eligible for the National Register of Historic Places (see page A-10 in Appendix A for concurrence form). Based on this site visit and other information compiled by NCDOT, no additional archaeological work was deemed necessary for this site. The Historic Preservation Office has requested that the bronze plaque be returned to them if the monument has to be removed during construction. Additionally, NCDOT will coordinate with local officials and SHPO to determine if there is a more suitable location for the marker.

Design Services Unit / Structure Design Unit

In accordance with the FERC requirements, a Construction Permit will be issued to NCDOT once all requested information is reviewed and approved by FERC. The construction permit will contain a condition, among many others, that with regard to existing bridges, that NCDOT will be required to remove all concrete down to the existing muck line so that it will not be a hazard or act as a "catch" for floating debris.

Project Development and Environmental Analysis Branch

The biological conclusion for the bald eagle was revised to "Not Likely to Adversely Affect" (see section page 20, Section G of this document). This conclusion was approved by the USFWS (see concurrence form, Appendix A, page A-30). Because

eagles may potentially nest in this area prior to bridge construction, NCDOT will re-survey for bald eagles prior to the project's construction.

I-85
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Rowan-Davidson Counties
Federal Aid Project No. NHF-85-3(164)80
State Project No. 8.1631403
T.I.P. Project No. I-2304A

FINDING OF NO SIGNIFICANT IMPACT

Prepared by the Project Development and Environmental Analysis Branch
Division of Highways
North Carolina Department of Transportation
In Consultation with
The Federal Highway Administration

I. TYPE OF ACTION

This is a Federal Highway Administration (FHWA) administrative action, Finding of No Significant Impact (FONSI).

The FHWA has determined this project will not have any significant impact on the human environment. This FONSI is based on the Environmental Assessment, which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. The Environmental Assessment provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FHWA takes full responsibility for the accuracy, scope, and content of the Environmental Assessment.

II. DESCRIPTION OF PROPOSED ACTION

The North Carolina Department of Transportation (NCDOT), proposes to improve I-85 from north of SR 2120 (Exit 81) in Rowan County to US 29-52-70 / I-85 Business (Exit 87) in Davidson County. TIP Project I-2304A is divided into two sections, I-2304AA and I-2304AB. The I-2304AA section begins just north of SR 2120 in Rowan County and ends just north of NC 150 in Davidson County. The I-2304AB section begins just north of NC 150 and ends just north of I-85 business. The project is scheduled in the 2004-2010 Transportation Improvement Program (TIP) to begin right of way acquisition in Federal Fiscal Year (FFY) 2003 for part AA and FFY 2004 for part AB. Construction for parts AA and AB are scheduled to begin FFY 2006.

The NCDOT proposes to widen the subject section of I-85 to an 8-lane facility with a 46ft (14.0m) median. Interchanges and service roads along the project will be designed and revised as needed to accommodate the proposed mainline widening, and inadequate structures will be replaced. The project is 6.8 miles (10.9 km) in length.

This project has an estimated total cost of $149,618,500, including $144,200,000 for construction and $5,418,500 for right of way acquisition. The 2004-2010 Transportation Improvement Program (TIP) has allocated $147,816,000 for the proposed project including $3,300,000 for right of way acquisition, $137,300,000 for construction, and $7,216,000 spent in prior years.

III. SUMMARY OF BENEFICIAL AND ADVERSE ENVIRONMENTAL IMPACTS

This project is driven by the need to relieve congestion and improve traffic flow along I-85 within the subject project area. Traffic flow will be improved while providing adequate access and connectivity for area residents and businesses. Improvements to this section of I-85 are needed to effectively accommodate increased traffic demand along I-85 on a regional level as well as to establish congruency among the regional system. Safety will also be improved with the removal and reconstruction of interchanges and service roads.

It is anticipated that 24 residences and 4 businesses will be relocated as a result of the proposed project. Based on traffic noise analyses, it is predicted that approximately 146 receptors will experience traffic noise impacts (see Section VI., part C. of this document). Since the completion of the Environmental Assessment, the project was re-evaluated for noise abatement measures. Noise mitigation in the form of a wall was analyzed for several areas along the project. At one location, known as Barrier Location 2 (see page D-9 in Appendix D), it was determined that a barrier in this location is considered reasonable and feasible by NCDOT guidelines. Hence, a noise wall is recommended in this area. Further coordination with the affected residents and/or businesses will take place concerning this proposed noise wall.

The total anticipated wetland impacts (Palustrine Emergent and Palustrine Forested Wetlands) are 3.58 acres (14,492.4m^2). The anticipated total length of streams impacted for the I-85 widening study corridor is 2,800ft (853.4m). The anticipated surface water impact for the bridge replacement on SR 1147 over South Potts Creek is 120.0ft (36.6m). No federally protected threatened or endangered species will be impacted. No sites listed in the National Register of Historic Places will be involved. No prime farmland impacts are expected. The proposed improvements will not cause significant negative impacts to air quality. No significant impacts to plant and animal life are expected.

Because impacts to jurisdictional surface waters and wetlands are anticipated, in accordance with provisions of section 404 of the Clean Water Act (33 U.S.C. 1344), a permit will be required from the COE for the discharge of dredged or fill material into "Waters of the United States." Due to the breadth of the proposed wetland impacts, a Section 404 Individual Permit will be necessary.

A North Carolina Division of Water Quality (DWQ) Section 401 Water Quality Certification is required prior to the issuance of the Section 404. Section 401 Certification allows surface waters to be temporarily impacted for the duration of the construction or other land manipulations, and ensures that the state's water quality standards will not be violated. Because the subject project lies within a Federal Energy Regulatory Commission (FERC)-licensed hydroplant project boundary (the Yadkin Project), approval for land transfer must be obtained by NCDOT in the form of a FERC license revision.

In accordance with the NCDOT Traffic Noise Abatement Policy, the Federal/State governments are no longer responsible for providing noise abatement measures for new development for which building permits are issued within the noise impact area of a proposed highway after the Date of Public Knowledge. The Date of Public Knowledge of the location of the proposed highway project will be the approval date of CE's, FONSI's, ROD's, or the Design Public Hearing, which ever comes later. For development occurring after this public knowledge date, local governing bodies are responsible for insuring that noise compatible designs are utilized along the proposed facility.

IV. COORDINATION AND COMMENTS

A. Circulation of Environmental Assessment

The Environmental Assessment was approved by the NC Division of Highways and the FHWA on November 6, 2000. The approved Environmental Assessment was circulated to the following federal, state, and local agencies for review and comments. An asterisk (*) indicates a written response was received from the agency. Copies of the correspondence received are included in the Appendix A of this document.

* United States Environmental Protection Agency
  U.S. Fish & Wildlife Service – Asheville
  U.S. Army Corps of Engineers – Asheville, Wilmington, Raleigh
  Federal Energy Regulatory Commission - Atlanta
  N.C. Department of Administration - State Clearinghouse
  N.C. Department of Environment and Natural Resources (DENR)
  N.C. DENR – Division of Land Resources
  N.C. DENR – Division of Forest Resources
* North Carolina Department of Cultural Resources
  - State Historic Preservation Office
  N.C. Department of Environment and Natural Resources
  N.C. DENR – Division of Water Quality
  N.C. DENR – Division of Soil and Water Conservation
* N.C. Wildlife Resources Commission
  N.C. Department of Cultural Resources – Division of Archives and History
  Public Schools of North Carolina – Department of Public Instruction
  National Marine Fisheries
  Geological Survey
  Davidson County
  Rowan County
* Alcoa Primary Metals
* FineTex, Inc.
* City of Salisbury
* Scenic North Carolina
  Town of Spencer

B. Comments Received on Environmental Assessment

1. United States Environmental Protection Agency (EPA)

COMMENT: "In reviewing the document, EPA is concerned regarding the level of involvement from the potential impacted residents (EJ communities). As these residents fall in the low-income category, has an effort been made to individually contact these residents and insure that they are completely informed of the project's impacts on them and involve them in the

decision-making process. Just advertising that an informational workshop will be held is not sufficient if the impacted residents do not have a voice in project alignment section/alternatives. If this has been done, please provide EPA with a mailing list on these impacted residents (Area #1, Area #4, Area #6 – 23 potential relocatees) and the level of their involvement in your project decision-making process."

RESPONSE: The following specific project commitment is found in the EA and FONSI:

"Project Development and Environmental Analysis Branch
The project may have an impact on a low income community in the Williams Trailer Park area located along I-85 south of SR 2124 (Hackett Road). During the project development process, no concerns have been raised by the public or local government officials concerning environmental justice issues. NCDOT will aggressively seek participation of this low-income community in the public involvement process."

As referred to in this commitment, NCDOT held two meetings with the citizens of the Williams Trailer Park (see Appendix B for meeting notices). The first meeting took place in the Spencer Town Hall on 6/19/2001, and the second meeting took place in the North Carolina Transportation Museum on 6/24/2002. The purpose of these meetings was to present and explain the design to the trailer park residents, and to obtain their input and concerns related to the project. For more information on this issue, see the "Additional Information" section of this document (Section VI.).

COMMENT: "EPA would like to see and review the proposed wetland mitigation plan once final project alignment has been determined. The EPA would like to see functional value replacement of any wetland takes involving the proposed project. One possibility would be to coordinate wetlands mitigation requirements with similar activities associated with the Yadkin Hydroelectric Project and the High Rock impoundment."

RESPONSE: The wetland mitigation plan will be submitted to the EPA for review, upon completion. The activities associated with the Yadkin Hydroelectric Project and the High Rock impoundment will be investigated.

COMMENT: "A large portion of the project would involve roadway and bridge removal as the interchanges are replaced and modified for the widening of I-85. The EA does not mention how the pavement aggregate and structures would be removed, and the ultimate disposition of this material. EPA encourages the maximum reuse of the materials rather than landfill disposal."

RESPONSE: Because the uniqueness of each project, at this time, no specific removal and disposal methods can be mentioned. As a general guideline, for existing structures and pavement removal, the NCDOT Standard Specification guidelines will be followed. The guidelines for existing structure removal can be found in section 402, and the guidelines for existing pavement removal can be found in section 250 in the NCDOT Standard Specification book. Also, for existing structures removal, the NCDOT Best Management Practices for Bridge Demolition and Removal will be followed.

Recycling is a possible option on every project, and is encouraged by the DOT whenever feasible. Contractors frequently recycle aggregate material on their project such as incidental stone and often retain crushed recycled asphalt pavement in stockpiles at their shops for use in future projects. Concrete pavement recycling requires crushing and metal separation. Extra equipment and truck loading and unloading operations are required to recycle this material onsite, therefore adding to the overall cost of the project.

COMMENT: "The proposed project does not utilize the flexibility provided in the Transportation Equity Act for the 21st Century (TEA-21) for incorporating transportation enhancements (TE's) in Federal-Aid projects. Why were no TE's incorporated in this project? TE's which may be incorporated in this project include wildlife/critter crossings across the Interstate, bike/hiking trails in the surrounding area, and community improvements/enhancements. Since new alignment/reconstruction is being proposed for the project, it would seem appropriate to incorporate community/environmental enhancement features into the new construction."

RESPONSE: The TEA's for the 21st century is classified under the Community Enhancements Program through the NCDOT Program Development Branch. In order to incorporate transportation enhancements through this program, a local sponsor must submit an application to this program. The application is reviewed by several committees, and if approved, goes to the Board of Transportation for final approval. An application has not been submitted by a local sponsor, therefore the transportation enhancements are not incorporated in this project. The NCDOT Program Development Branch can be contacted for more information on the application dates and process.

COMMENT: "The EA does not describe the land use changes which would occur with the project. New interchange and interchange configurations and service

roads will result in extensive commercial development in these areas of the project."

RESPONSE: Following the publication of the EA, additional studies were conducted to assess the project's direct and indirect impacts on land use. See section VI. for the results of these additional studies.

COMMENT: "In reviewing the noise impacts analysis in the appendix, there are a large number of receptors that would experience a substantial impact. Most are residences, but there is a "rest home" (ID #24) listed in Table N4. In regard to the "rest home", is the surrounding outdoor area of the home utilized by the residents, and would the noise impacts from the proposed project adversely impact the residents of the "rest home"?"

RESPONSE: NCDOT Noise and Air specialists were contacted concerning this matter. There are no outside activity areas for this "rest home" that can be affected by this project.

2. North Carolina Wildlife Resources Commission

COMMENT: "We are concerned over the impacts to high quality wetlands associated with the Yadkin River crossing. NCDOT should explore ways to minimize impacts to this area."

RESPONSE: In order to avoid and minimize impacts to the high quality wetlands associated with the Yadkin River Crossing, Bridge # 137, which carries I-85 over the Yadkin River, and Bridges # 22 and # 18, which carry I-85 over the Southern Railroad, will be replaced by dual structures which will span the Yadkin River, its adjacent wetlands, and the Southern Railroad. This will result in the avoidance of approximately 7.35 acres (2.97 hectares) of wetlands. This information can be found on page 12 of the Environmental Assessment.

COMMENT: "We were unable to find detailed information on impacts to jurisdictional streams. This information should be included in the Finding of No Significant Impact (FONSI) for this project."

RESPONSE: Page 44 of the Environmental Assessment, second paragraph, states the following: "The Yadkin River, South Potts Creek, North Potts Creek, and the 16 unnamed tributaries are jurisdictional surface waters under Section 404 of the Clean Water Act (33 U.S.C. 1344). Discussion of the biological, physical and water quality aspects of these streams are presented in previous sections of this report." This classifies all streams discussed in the Environmental Assessment as jurisdictional, therefore, the

impacts to these streams can be found in Table 10, page 32 of the Environmental Assessment.

3. North Carolina Department of Cultural Resources – State Historic Preservation Office

COMMENT: "We recommend that the GPS or other detailed map work yet to be conducted at Fort York be added as an environmental commitment."

RESPONSE: Because this project is creating no adverse affect on the Fort York site, the request for mapping does not need to be added as an environmental commitment. However, detailed mapping has already been performed by NCDOT Location and Surveys and the NCDOT Archaeology unit, and has been forwarded to SHPO. See page A-11 in Appendix A of this document.

COMMENT: "Page 26, section 5b refers only to work to be conducted at Fort York. Since an archaeological survey was conducted for this project by Nora Sheehan, we recommend the results be summarized in this section."

RESPONSE: The results from the archaeological survey conducted by Nora Sheehan are included in the FONSI. See section V., "Revisions to the Environmental Assessment".

COMMENT: "We also recommend that our letter be included in Appendix A."

RESPONSE: The letter is included on page A-9 in Appendix A of this document.

COMMENT: "Receipt of GPS or other detailed mapping of the fort, which we will add to our report copies and site files, will complete the archaeological Section 106 process for this project."

RESPONSE: The North Carolina Department of Cultural Resources State Historic Preservation Office has received copies of the report and site files. See page A-11 in Appendix A of this document.

4. Alcoa Primary Metals

Letter dated December 4, 2000:

COMMENT: "Yadkin will review the NCDOT environmental assessment along with comments from agencies in order to assure necessary information is gathered, leading to informed decision-making. Yadkin will then provide you with its substantive comments. As a reminder, Yadkin will not be able to grant permission to use the Project property for the proposed bridge until at least 45 days after FERC notification. The notification to

FERC will include the results of the agency consultation process as well as Yadkin's own comments."

RESPONSE: Comment noted.

Letter dated May 17, 2001:

COMMENT: "As a FERC licensee of the Project, Yadkin is the entity responsible for obtaining any necessary FERC approval or notification. As also stated in the December 4, 2000 letter, Yadkin will notify FERC of the proposed improvements once all outstanding issues identified by agencies and Yadkin are resolved, and Yadkin's review is complete."

RESPONSE: Comment noted.

COMMENT: "It is unclear from the EA exactly which activities connected with the proposed improvements will occur within the Project boundary and/or on Alcoa Power Generating, Inc. (APGI) property outside the Project boundary. It appears that dredge and fill, shoreline stabilization, and certain other temporary construction activities may occur within the Project boundary and/or on APGI property outside the Project boundary. Additionally it appears that permanent structures, such as bridge abutements, may also be located within the Project boundary and/or on APGI property outside the project boundary. Please provide detailed information with regard to which temporary and permanent activities are proposed within the Project boundary and/or on APGI property outside the project boundary. Please also provide a map that shows the location of proposed temporary and permanent activities with respect to the Project boundary and on APGI property outside the project boundary."

RESPONSE: A meeting was held on August 21, 2002 with FERC representatives and NCDOT to discuss the requirements for the FERC permit. As a result of this meeting, coordination between NDOT and FERC representatives is taking place. See section VI for information on the FERC permit requirements.

COMMENT: "In the event NCDOT is proposing temporary and/or permanent activity within the Project boundary and/or on APGI property outside the project boundary, please be aware that NCDOT will need permission from Yadkin to perform temporary construction activity and locate permanent structures preferably in the form of a temporary easement or lease for construction activity and in the form of a permanent easement for the location of permanent structures. Therefore, it is critical that the information requested in Item No. 2 above, be of sufficient detail to allow Yadkin to determine what form of conveyance is appropriate and the conditions for any conveyance. Until real property issues between NCDOT and Yadkin

are resolved, Yadkin will not be able to issue final approval for proposed improvements."

RESPONSE: Comment noted.

COMMENT: "Please note that Yadkin will not issue its final approval for the project until it has received from the US Army Corps of Engineer (USACE) copies of the Section 404 permits required for the bridge replacement."

RESPONSE: NCDOT will submit the Section 404 permit to Yadkin to receive final approval for the project.

COMMENT: "Yadkin also will not issue final approval until it has received copies of any other required federal, state, and local permits for the bridge replacement including specifically a section 401 Water Quality Certification (WQC) from the NC Department of Water Quality (DWQ)."

RESPONSE: NCDOT will submit all required permits to Yadkin for final approval for the project.

COMMENT: "On EA page 35, NCDOT states that project construction may result in impacts to high surface waters including increased concentration of toxic compounds from highway runoff, construction, toxic spills, and increased traffic. In light of this potential receipt of the WQC from DWQ and the 404 permit from the USACE will be critical. Please note that any construction permit issued by Yadkin for those portions of the project occurring within the Project boundary and/or on APGI property outside the project boundary will contain conditions regarding compliance with all state and federal permits."

RESPONSE: Comment noted.

COMMENT: "On EA pages 48-49, NCDOT states that since no bald eagles or nests were seen during its site visits, project construction would not affect the bald eagle. Please be aware that there have been recent observations of bald eagles and bald eagles nests downstream of the proposed bridge site by Yadkin and NCWRC staff."

RESPONSE: An assessment of the status of the bald eagle along the Yadkin River chain (including High Rock Lake) was conducted on April 23, 2003. Within view of the I-85 bridge, potential habitat does exist for the bald eagle (tall trees with a clear view to open water). There were no bald eagles or nests observed within a mile of the I-85 bridge replacement. This study documented two pairs of nesting eagles, the closest pair of which was 4 miles south of the project site, situated downstream on High Rock Lake.

In addition, there are no known nests within a mile of the bridge as documented by NC Natural Heritage Program database (August 7, 2003). Currently, there are no nesting eagles within a mile of the bridge project, and the project is not likely to impact the bald eagle; however, because eagles may potentially nest in this area prior to bridge construction, the Biological Conclusion for bald eagle is "Not Likely to Adversely Affect". Concurrence has been obtained from the U.S. Fish and Wildlife Service (USFWS) on this biological conclusion (see Appendix A, page A-30). Prior to the project's construction, the project corridor will be re-surveyed for all threatened and endangered species.

COMMENT: "As noted in Yadkin's December 4, 2000 letter, it appears that a portion of the proposed improvements may be located in a Medium Cultural Resources Probability Zone as designated in the SMP. On the other hand, the Summary of Environmental Impacts in the EA states, "No sites listed in the National Register of Historic Places will be involved." Please provide a copy of any comments received from the North Carolina Department of Cultural Resources (NCDCR) on this EA. Yadkin is particularly interested in comments from NCDCR with regard to impacts, if any, to cultural resources in the Medium Cultural Resources Probability Zone. In particular, Yadkin is interested if NCDCR has commented on a portion of the Colonial Trading Path identified by Historical Research in its letter dated November 24, 2000."

RESPONSE: A copy of the correspondence received from the NCDCR can be found on pages A-9 through A-13 and A-31 in Appendix A of this document.

The area suggested as the location of the Trading Path was surveyed by NCDOT archaeologists in January, 2000. A total of 19 shovel tests were excavated in the area east of the highway to check for sub-surface remains and artifacts that would indicate physical remains of an archaeological site. Eight of the tests were positive, yielding a small number of artifacts. At that point, a larger test unit was excavated (1 x 1 meter square) by hand. These artifacts were found on an eroded toe slope above UT-16 (as referenced in the EA) and were judged to be the remains of various prehistoric occupations of the site (documented in report as site 31RW203). The site had been eroded and disturbed by modern activity and lacked the integrity and research potential to provide any further significant information. Therefore, that site is not eligible for the National Register.

On the west side of the highway, a power transmission line, service roads, and drainage ditches have altered the natural landform and no features of prehistoric or early origin could be detected. It is very possible that the Indian Trading Path did cross this area, following the small creek.

However, it is nearly impossible to discern any features that could be directly related to the Historic Trading Path because the landforms in the area have been extensively altered by natural flooding events and by modern construction and erosion caused by farming and development.

NCDCR has reviewed the archaeological reports for the project and has concluded the project is in compliance with Section 106 of the National Historic Preservation Act (See pages A-9 through A-13 and A-31 of Appendix A).

COMMENT: "Once Yadkin has determined that the EA is complete, Yadkin will be able to discuss with NCDOT the issuance of a Construction Permit for those parts of the proposed project, including removal of existing Bridge #137, that occupy lands or waters within the FERC Project boundary or other APGI lands. Please note that the Construction Permit will contain a condition, among many others, that with regard to the existing bridge, NCDOT will be required to remove all concrete down to the reservoir/river bottom so that it will not be a hazard or act as a "catch" for floating debris."

RESPONSE: Comment noted.

COMMENT: "Finally, please provide evidence of consultation with, and if received, comments from, US Fish and Wildlife Service, US Army Corps of Engineers, and Rowan and Davidson Counties on this EA."

RESPONSE: Comments on the EA are included in this document, in Appendix A. The US Army Corps of Engineers, Rowan County, and Davidson County were sent copies of the EA, however, these agencies did not provide comments on the EA. A copy of the correspondence from the US Fish and Wildlife Service is included in Appendix A.

5. Scenic North Carolina

COMMENT: "On-grade separated interchanges that are to be a part of this project, please investigate the use of a 'modern roundabout' interchange design as one of the alternatives considered for this project."

RESPONSE: The areas for potential roundabouts are located at the interchange ramps. Signalized intersections, as well as roundabouts, were investigated at these locations. It was determined that signalized intersections would adequately handle the projected traffic.

COMMENT: "Unmanaged access to highway-oriented services causes inconvenience and disrupts the very purpose of an interchange, which is to move traffic

between the freeway and arterial. Advanced planning and access management can reduce traffic conflicts and create a balance between access and mobility needs. As part of the planning process for this roadway improvement, NCDOT should work with the local governments in the area to review issues and problems in managing interchange area development and set forth strategies to improve planning and management of interchange areas."

RESPONSE: At the Scoping Meeting, Local Officials Meeting, and the Citizens Informational Workshop, local officials were able to voice their concerns and provide input on the interchange areas. The project has been planned with consideration of local government concerns.

6. City of Salisbury

COMMENT: "I-85 is frequently closed temporarily at the Yadkin River due to haz-mat spills, truck accidents, or ice (maybe once a month). When this happens, two lanes of interstate traffic are detoured to cross the Yadkin River via US Highway 29. With the proposed realignment, US Highway 29 will be rerouted to follow the interstate across the Yadkin River. The old interstate bridges over the river will be demolished, and the Wil Cox Bridge (currently two lanes of US 29) will be closed to vehicular traffic. As a result, the interstate will be increased to four lanes of traffic in each direction, but the alternate route across the river will be reduced to only one lane in each direction. The Rowan County I-85 Incident Management Task Force, chaired by Ms. Patti Newsome of NCDOT'S Division 9 office, has expressed concern that the proposed alignment will not provide an adequate alternate route to cross the Yadkin River. The Task Force's concern has been shared with the Highway Design Unit of NCDOT, but the Environmental Assessment does not address this issue."

RESPONSE: With the new alignment and wider bridges, the frequency of truck or other accidents would be significantly reduced, thus reducing the need for a multi-lane detour route. The additional cost of constructing an unwarranted four lane road to serve as a detour route would be prohibitive. To help reduce the closure of the bridge due to ice, and to help reduce accidents, an automatic bridge de-icing system is proposed for the bridges over the Yadkin River.

Therefore, upon completion of this project, it is anticipated that the new NC 150 interchange and US 29 will adequately accommodate any re-routed traffic through Salisbury in the event of a hazardous spill or accident.

7. Finetex, Inc.

COMMENT: "We are very concerned with the closing of Willow Creek Drive because it denies Finetex one of our two required property accesses. The proposed extension of Hinkle Drive (SR 2181) is an acceptable replacement to the closure of the Willow Creek connection providing Hinkle Drive (SR 2181) extends to the southern end of Finetex's property. The present proposal addresses our security concerns and gives Finetex the two required means of access to the facility."

RESPONSE: Willow Creek Drive will be closed at the railroad crossing due to safety issues related to its at-grade intersection with the railroad. Hinkle Drive will extend to the southern end of Finetex's property.

COMMENT: "The proposal (extending Hinkle Drive to Hackett Road) made during the Citizens Informational Workshop creates a security problem for Finetex. Limiting access to the property and providing security for our employees is required by Federal Regulations. Finetex is covered by 40 CFR 264.14 security requirements for Large Quantity Hazardous Waste Generators, 40 CFR 112.7 security requirements for our Spill Prevention Control and Countermeasure Plan, and 29 CFR 1910 for providing a safe and secure work environment for our employees. These requirements are the reason for our concern with connecting Hinkle Drive to Hackett Road and exposing a side of the facility to uncontrolled access."

RESPONSE: The NCDOT will not extend Hinkle Drive to Hackett Road.

COMMENT: "An additional concern is the new service road on the west side of I-85 and north of Long Ferry Road. It is our understanding that the new service road will cover a small but highly significant part of our property off of Long Ferry Road. This property is part of the Finetex wastewater disposal system. Finetex has invested a great deal of capitol in developing the property for that purpose and is needed to keep Finetex in operation. Our Spray Irrigation System Permit (WQ0001077) has several requirements that could be impacted by construction of a road on the property: (WQ0001077) has several requirements that could be impacted by construction of a road on the property:

1. "Public access to the land application site shall be controlled."
2. "A buffer of 400 feet shall be maintained between the wetted area and places of public assembly under separate ownership."
3. "Adequate measures shall be taken to prevent wastewater runoff from the site."

Finetex is willing to absorb related cost necessary to comply with No. 1 to accommodate the I-85 expansion.

No. 2 creates a serious problem for us because it reduces our utility of the spray irrigation disposal system. This problem can be solved if the Division of Highways is willing to move the exit/access road approximately 20-100 feet to coincide with the existing property boundaries. Please refer to the enclosed map.

In addressing No. 3, the total water flow to and from our spray irrigation field is critical. Runoff from the redesigned Hinkle Road access must not run across our property.

Nos. 2 and 3 are both critical to the successful compliance with our permit and continued economic business operation of Finetex. Our request is for the Division of Highways to address these last two issues."

RESPONSE: This section of the project is part of a separate TIP Project, # I-2511BC. The project engineer for I-2511BC has addressed this issue, stating that the possibility of revising this service road was investigated. The proposed service road was modified to the extent that it no longer encroaches on the property of Finetex, Inc. within the limits of this project. Recommendations from NCDOT's Hydraulics Unit have not yet been received, therefore the construction limits are subject to change in order to accommodate the necessary drainage.

C. Comments Received During and Following the Public Hearing

Following the circulation of the Environmental Assessment, an informal Public Hearing was held at the Transportation Museum in Spencer on July 26, 2001. A copy of the public hearing notice and a copy of the handout presented at the public hearing are included in the Appendix C of this report. Approximately 170 citizens attended the public hearing. Overall, the comments made by the attendees indicated support for improvements to I-85. The majority of comments received pertained to impacts to individual properties resulting from the project.

V. REVISIONS TO ENVIRONMENTAL ASSESSMENT

A. Results from Fort York Archaeological Study

Fort York was determined to be potentially eligible for the National Register. However, since the proposed I-85 improvements will not affect the site, the only additional work recommended for the site is the production of a detailed, scaled map of the remains of the earthen fortifications that are located in proximity to the highway improvements. This mapping was completed, and was submitted to SHPO. In SHPO's letter dated September 4, 2001, it states that receipt of the map completes the archaeological portion of the Section 106 process for this project (see page A-11 of Appendix A).

An archaeological survey was conducted for Fort York. On the west side of I-85, a high bluff is located above the Yadkin River. The remains of Civil War-era earthen fortifications (Fort York) are present on the bluff. Below is a summary of the archaeological findings:

No.	Topography	Time Period	Description	Recommendation
31Dv654**	Bluff above Yadkin River	Historic/19th Century Military	Remains of earthen fortifications related to Civil War-era Fort York	NR eligible; will not be adversely impacted by project

This site was used for comparison in the investigations for the Addendum to the Archaeological Study (see Section VI of this document for a summary of the study). Ground surface cross sections were taken across this documented earthwork to use in comparison to the suspected berm, which is located south of the railroad tracks and across I-85 and US 29/70 from 31Dv654**.

B. Updated Cost Estimate

This project has an estimated total cost of $149,618,500, including $144,200,000 for construction and $5,418,500 for right of way acquisition. The 2004-2010 Transportation Improvement Program (TIP) has allocated $147,816,000 for the proposed project including $3,300,000 for right of way acquisition, $137,300,000 for construction, and $7,216,000 spent in prior years.

C. Trading Ford Monument

NCDOT was made aware of a roadside memorial dedicated in 1929 by the North Carolina Historic Commission, which currently owns the property. This monument was investigated, and the information was presented to the State Historic Preservation Office. It was determined that this Trading Ford Monument is not eligible for the National Register of Historic Places (see page A-10 in Appendix A for concurrence form). Based on this site visit and other information compiled by NCDOT, no additional archaeological

work was deemed necessary for this site. However, the Historic Preservation Office has requested that the bronze plaque be returned to them if the monument has to be removed during construction (See the Environmental Commitments section of this document). No further action is required by NCDOT to comply with Section 106 concerning the monument; however, NCDOT will coordinate with local officials and SHPO to determine if there is a more suitable location for this monument.

D. Revisions to Wetland and Stream Impacts

As a result of a verification meeting with the Army Corps of Engineers, Wetland I is not to be included as an anticipated wetland impact. Also, UT 6 and UT 9 are not to be included as impacted streams. Below are the revised tables showing impacts to streams and wetlands:

Anticipated Impacts to Wetland Areas in the Project Study Corridor.

	DWQ Rating	Impact in ft^2 (m^2)
Total PEM Wetlands1		**85,895 (7,979.9)**
Wetland A	37	105 (9.8)
Wetland B	38	1,900 (176.5)
Wetland D	39	110 (10.2)
Wetland J	47	73,600 (6,837.7)
Wetland R	34	10,180 (945.8)
Total PFO Wetlands2		**70,100 (6,512.5)**
Wetland C	36	11,500 (1,068.4)
Wetland K	47	3,790 (352.1)
Wetland M	36	1,250 (116.1)
Wetland P	36	53,560 (4,975.9)
Total Wetlands		**155,995ft^2 = 14,492.4 m^2 = 3.58 Acres**

1PEM Wetlands= Palustrine Emergent Wetlands.
2PFO Wetlands= Palustrine Forested Wetlands.

Streams Impacted in the Project Study Corridor from I-85 Widening.

Stream	Tributary to	Type	Width ft (m)	Depth ft (m)	Substrate	Comments	Length Impacted ft (m)
UT 1	N.PottsCr.	Perennial	3.0 (0.9)	0.5 (0.1)	Sand/gravel	some flow, impounded	50.0 (15.2)
UT 2	N.PottsCr.	Perennial	2.0 (0.6)	0.5 (0.1)	sand/silt	impounded	200.0 (61.0)
UT 3	S.Potts Cr.	Perennial	3.0 (0.9)	0.5 (0.1)	sand/gravel	some erosion	500.0 (152.4)
UT 4	S.Potts Cr.	Perennial	1.0 (0.3)	0.5 (0.1)	clay/gravel	some erosion	300.0 (91.5)
South Potts Creek	Yadkin R.	Perennial	8.0 (2.4)	1.0 (0.3)	sand	good flow, some erosion	200.0 (61.0)
UT 7	S.Potts Cr.	Perennial	2.0 (0.6)	0.5 (0.1)	sand	some flow	100.0 (30.5)
UT 8	S.Potts Cr.	Perennial	2.0 (0.6)	0.5 (0.1)	sand	2 channels, good flow	100.0 (30.5)
UT 10	UT 9	Perennial	3.0 (0.9)	0.5 (0.1)	sand	good flow	250.0 (76.2)
UT 11	UT 9	Perennial	2.0 (0.6)	0.5 (0.1)	sand	some flow	500.0 (152.4)
UT 12	UT 9	I/P*	2.0 (0.6)	0.5 (0.1)	sand	little flow	150.0 (45.7)
UT 13	Yadkin R.	Intermittent	2.0 (0.6)	0.5 (0.1)	sand	little flow	150.0 (45.7)
UT 14	UT 13	Intermittent	2.0 (0.6)	0.5 (0.1)	sand	only pools	100.0 (30.5)
UT 16	Yadkin R.	Perennial	6.0 (1.8)	1.0 (0.3)	sand/gravel	good flow	200.0 (61.0)
						Total Impacts – 2,800 ft (853.4 m)	

I/P* – This stream changes from intermittent to perennial approximately 2500ft (762m) from SR 1285 (Seven Oaks Drive).

E. Bridge #392 Replacement

Due to safety issues related to converting this existing one-way bridge to a two-way bridge, Bridge # 392 will be replaced under this project. This bridge was built in 1951. It is 873ft (266.1m) long with a deck width of 31.3ft (9.5m) and a roadway width of 28ft (8.5m). It is currently a one-way bridge that carries two lanes of US 29 northbound traffic. The bridge will be replaced in place and will be reconstructed to carry two-way traffic, one lane in each direction. Best Management Practices for Bridge Demolition and Removal will be implemented for this project. The superstructure for Bridge # 392 is composed of a reinforced concrete deck on I-beams. The substructure contains end bents that are composed of reinforced concrete caps with steel piles, and the interior bents consist of reinforced concrete posts and beams. The concrete from the substructure could potentially contribute to the temporary fill resulting from bridge demolition debris. The resulting temporary fill would be approximately 390 cubic yards. NCDOT will implement the Best Management Practices for Bridge Demolition and Removal.

The cost of this replacement will be approximately $2,255,000. No wetlands or streams will be impacted as a result of this replacement. Best Management Practices for Bridge Demolition and Removal will be followed during the demolition of this bridge.

Because of Bridge #392's close proximity to the historic Wil Cox Bridge, the State Historic Preservation Office was consulted to determine whether the bridge replacement will affect the historic bridge. It was determined that the replacement will have No

Adverse Effect on the Wil Cox Bridge (see page A-12 and A-13 in Appendix A of this document).

F. Cul-de-sac Extension near Belmont Interchange

SR 3159 (Belmont Road) is located in the southeast corner of the proposed Belmont Boulevard interchange. At the public hearing, the public hearing map that was presented to the public showed this road ending at a cul-de-sac approximately 600ft(182.9m) east of the Belmont Boulevard interchange service road. The location of the cul-de-sac prohibited access to the remaining portion of this property that lies to the west of this proposed cul-de-sac, whereas the original conditions of the project that were presented at the workshop allowed for access to the entire property. The property owner requested that this cul-de-sac be moved further west, in order to access the entire property. The designs were modified to reflect this request.

G. Bald Eagle Biological Conclusion

The federally-threatened bald eagle (*Haliaeetus leucocephalus*) is listed by the U. S. Fish and Wildlife Service (USFWS) as occurring in Davidson and Rowan Counties. Within view of the I-85 bridge, potential habitat does exist for the bald eagle (tall trees with a clear view to open water). An assessment of the status of the bald eagle along the Yadkin River chain (including High Rock Lake) was conducted by the Center for Conservation Biology (College of William and Mary) and Alcoa Power Company. The area was flown on April 23, 2002 in a high-wing Cessna 172 aircraft at about 328 ft (100 meters) altitude to survey for nesting eagles. The survey flight concentrated on the area between the lake shoreline and approximately 0.6 mi. (1 km) outward.

There were no bald eagles or nests observed within a mile of the I-85 bridge replacement. This study documented two pairs of nesting eagles, the closest pair of which was 4 miles south of the project site, situated downstream on High Rock Lake. In addition, there are no known nests within a mile of the bridge as documented by NC Natural Heritage Program database (August 7, 2003).

Currently, there are no nesting eagles within a mile of the bridge project, and the project is not likely to impact the bald eagle; however, because eagles may potentially nest in this area prior to bridge construction, the Biological Conclusion for bald eagle is "Not Likely to Adversely Affect". Concurrence has been obtained from the U.S. Fish and Wildlife Service (USFWS) on this biological conclusion (see Appendix A, page A-30).

H. Replacement of Bridge #137 over Yadkin River

For the Yadkin River crossing, dual bridges have been incorporated into the preliminary design. However, the Department desires the flexibility to choose either dual bridges or a single wide bridge during final design.

VI. ADDITIONAL INFORMATION

A. Williams Trailer Park Environmental Justice Information

During the preliminary planning stages of this project, a Community Impact Assessment was developed for the study corridor of the project (included in the Environmental Assessment). As a result of this assessment, concerns were raised related to the Williams Shady Trailer Park. Based on demographic information, the trailer park was viewed as a potential Environmental Justice area. As a result, NCDOT explored design and alignment alternatives that would avoid, minimize or mitigate impacts to this area. Also, as a result of this assessment, NCDOT committed to aggressively seek participation of this low-income community during the public involvement process. The Environmental Commitment can be found in the Environmental Assessment.

The demographic focus for this study is the area in Block 1006 of Block Group 1 of Tract 50901 in the Census 2000 (see map on page D-76 in Appendix D). The statistical characteristics of the focus block have been compared to the characteristics of the overall tract, the Town of Spencer, the City of Salisbury, Rowan County, and the State of North Carolina. Based on the supplemental Community Impact Assessment (See Appendix D, page D-68), it can be concluded that Block 1006 which encompasses the Williams Trailer Park, does contain a "meaningfully greater" minority population as compared to Rowan County. The relocation report (I-2304A EA Appendix 1) prepared in August 2000 also noted a higher percentage of minority population among the households to be relocated in comparison with the county, stating there were 8 minority households out of a total of 24 (33.3%).

Economic statistics are only available from the Census at the block group level and may not solely represent the mobile home park. The inability to focus in on a block more closely surrounding the mobile home park makes it difficult to draw conclusions from the data. According to the census information representing Block Group 1 this Block Group is not a low income area. However, based on information gathered from the relocation report and field visits, it is apparent that this the Williams Trailer Park area indeed could be classified as a low income area. The relocation report prepared in August 2000 (I-2304A EA Appendix 1) states that 20 of the 24 units potentially affected by the project have a household income of less than $25,000 which is notably lower than the median income at the block group, tract, county and state levels.

Because this area was determined to meet the requirements for environmental justice for both race and income, impact issues were addressed using the Fundamental Principles of Environmental Justice, as outlined below:

1) *To avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and/or low-income populations.*

The "No Build" alternative is the only alternative that would avoid substantial impacts to the trailer park, however this alternative does not meet the purpose of the project and is not recommended. Because of the closeness of the trailer park to existing I-85, any improvements to the interstate would necessitate substantial relocations.

The recommended alternative impacts 14 trailers in the trailer park. As discussed on page 24 of the Environmental Assessment (EA), NCDOT considered a design alternative that would minimize impacts to this area by reducing the number of potential relocations from 14 to 9. This alternative is described in section III.B.2. in the EA (page 17) as "Reconstruction of Yadkin River Bridge Near Existing Location". This alternative was not feasible because it would not allow maintenance of traffic along I-85 during construction of the project due to grade changes required in the area. Therefore, the recommended alternative is the only feasible alternative option for this project.

NCDOT examined the impact issues for possible mitigation. This effort was closely tied to the enhanced outreach for the area as detailed below under section 2. In response to resident requests to keep the community together NCDOT explored the possibility of moving the displaced units to vacant lots within the William Shady Trailer Park. However, this process was not possible because of a Town of Spencer zoning regulation that prohibits new units to be placed on industrially zoned properties (as discussed in Appendix D on page D-74). NCDOT disclosed this information to the residents in second meeting and addressed the relocation process. After hearing what their potential benefits may be if they were to be moved, the vast majority of the trailer park residents indicated that they would prefer to be moved.

NCDOT also examined the potential indirect impacts of the project on the portions of the property not purchased for right of way. The analysis (shown in Appendix D, page D-68) concludes that the project does not significantly increase the conversion rate of this particular parcel from residential to industrial use because of the following:

- access will not be notably improved as the mobile home park parcel already has easy access to I-85 in either direction.
- there is a lack of development pressure in the area.
- the Town of Spencer has planned for this parcel and surrounding parcels to be industrial since its rezoning in 1993.
- The overall plan, zoning and regulations, specifically the aspect that no additional mobile homes can be added to the lot, have had a negative effect on whether the property remains residential in the future.

2) *To ensure the full and fair participation by all potentially affected communities in the transportation-decision making process.*

To fulfill the Environmental Commitment listed in the Environmental Assessment, NCDOT held two meetings exclusively for the Williams Trailer Park Residents. The purpose of these meetings was to gather input from the residents, and to address their concerns. Several NCDOT representatives were present at these meetings, including personnel from the Project Development and Environmental Analysis Branch, Roadway Design Unit, Right of Way and Relocation Unit, Citizens Participation Unit, and staff from the local Division office.

The first meeting was held on June 19, 2001 in the Spencer Town Hall (see meeting notice in Appendix B, page B-1), in which approximately 12 residents were in attendance. At this meeting, it was concluded that these residents wanted to stay together as a community. For this reason, NCDOT further investigated options that would avoid or minimize impacts to this trailer park, and explored possibilities of moving existing units further back on the Williams Trailer Park site.

After investigating these alternatives, a second meeting was scheduled with the Williams Trailer Park Community. This meeting was held on June 24, 2002 (see meeting notice in Appendix B, page B-2) at the North Carolina Transportation Museum. At this meeting, approximately 15 people were in attendance. NCDOT disclosed the findings of the investigations and the Right of Way and Relocation Unit presented the relocation benefits and procedures. After hearing what their options were and potential benefits may be if they were to be moved, the vast majority of the trailer park residents indicated that they would prefer to move.

3) *To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.*

The displaced residents will receive the same benefits as all other relocatees that are being impacted by the I-2304A project.

As a result of these analyses, it can be concluded that the I-2304A project does not create impacts related to Environmental Justice for the Williams Trailer Park.

B. Direct and Indirect Impacts on Land Use

Following the publication of the EA, additional studies were conducted to assess the project's direct and indirect impacts on land use.

1. Local/Regional Goals and Objectives

Both Davidson and Rowan Counties are interested in encouraging a variety of developments and expanding their respective tax bases. Both counties have staffed economic development commissions that coordinate industrial recruitment activities.

1) Direct/Secondary Impacts:

The project will not directly stimulate any particular development, however, it may indirectly encourage commercial and industrial development on land along its length.

- Commercial Development

The additional lanes and expanded interchanges, provided by the project, may enhance I-85's attractiveness as a commercial location. If so, additional highway commercial businesses, such as motels, convenience stores, truck stops, furniture stores, outlet shops, and fast-food restaurants might be encouraged to locate along the highway. In Davidson Co., such development could occur along the northern side of I-85. Appropriately zoned land served by public utilities is available on that side of the highway. The county has also indicated a willingness to consider rezoning requests for such use. No environmental problems should impede development in this area. The county's demographic and income characteristics may support such development. One of the most attractive locations for commercial development may be the area east of the NC 150 interchange and south of Old Salisbury Rd. Other locations where highway commercial activity may be most likely to develop may be the interchanges where Clark Rd. and Belmont Rd. join I-85. Land along I-85 in Rowan County is zoned and being marketed for industrial development. It is unlikely, therefore, that commercial development will occur along the project in Rowan Co.

- Industrial Development

Good road networks and easy access to interstate highways are important concerns for industries seeking new locations. The project will improve traffic flow along I-85 and create interchanges that extend into undeveloped land along the interstate. These improvements may enhance the industrial development potential of land along I-85 in both Davidson and Rowan Counties. Appropriately zoned land with water and sewer service exists along the highway in both counties. No environmental problems exist that might hinder such development and both counties are actively seeking to attract new industries. The project area has a large, growing population, most of which is already employed in manufacturing or industrial jobs. This population should provide a good employment base for any new industries. In Davidson Co., industrial development may be most likely to occur along the southern side of I-85. Large sections of undeveloped land are available on this side of the

highway. Extensions and improvements to such roads as Seven Oaks Dr., SR 1138, and Belmont Rd. will provide access into these areas from I-85. This area currently lacks public utilities. Therefore, any stimulus for industrial development provided by the project may not be realized until water and sewer service is extended to this area. In Rowan Co. industrial development might occur along both sides of I-85. Large tracts of appropriately zoned land on both sides of the highway are already listed with the Rowan County Economic Development Commission. Water and sewer service has already been extended into the area on the northern side of I-85 and service should be extended to the southern side within two years.

2) Cumulative Impacts

Over the past several years, some large industrial plants as well as some highway commercial businesses, such as truck stops, restaurants, and furniture stores have developed along the Davidson Co. section of the project. Large industrial plants have also developed along the Rowan Co. section. The land along the project is zoned for such development and local infrastructure can support it. By relieving congestion along I-85 and creating access to adjacent undeveloped areas, the project may enhance the development potential of land along the interstate and continue these development trends."

C. Design Noise Report Summary

A design noise report was performed for the I-2304AA and I-2304AB sections. This re-evaluation presents a more detailed analysis of the improvements for both sections.

a. I-2304AA [from just north of SR 2120 in Rowan County to just north of NC 150 in Davidson County] (refer to report in Appendix D, on page D-1) - A total of 101 residences and 7 businesses will be impacted by highway traffic noise with the construction of the AA section. 95 of these residences and 2 businesses located in three separate areas meet NCDOT feasibility and reasonableness requirements for noise abatement measures. In the areas where noise walls were evaluated as possible mitigation of impacted receptors, two were found to exceed the cost criteria of $25,000 per benefited residence, and therefore noise walls are not recommended. However one location known as Barrier location 2 (see page D-7) met the cost criteria as outlined in the NCDOT guidelines as being reasonable and feasible for construction, and is therefore recommended. Further coordination with the affected residents and/or businesses will take place concerning this proposed noise wall.

b. I-2304AB [just north of NC 150 and ends just north of I-85 business] (refer to report in Appendix D, on page D-28) - A total of 38 sites will be impacted by highway traffic noise with the construction of the AB section. There are 11 sites impacted in Section 1 (see page D-36 for details), which extends from the

beginning of the project to the Belmont Rd. Interchange. They are either spaced some distance apart, commercial, or have a barely perceptible change. There are 26 impacted sites in Section 2 (page D-36 for details), which extends from the Belmont Rd. Interchange to the I-85 Business split. Sixteen of these sites are either isolated, commercial, near local road conflicts, or are too far from the ROW for barrier feasibility and reasonability. However, three barriers were evaluated for the remaining 10 impacted sites in this section (see page D-38 in for details). Barrier 1 had 4 benefited receivers, however it exceeded the cost criteria of $25,000 per benefited residence. Due to the topography and the homes increasing in distance from the ROW, the cost per benefited receptor also exceeded the cost criteria for Barrier 2 and Barrier 3. Section 3 (page D-37) had one impacted site. As a result of these barrier studies for the AB section, no barriers are proposed.

As a result of these detailed analyses, a total of 146 receptors will experience traffic noise impacts. As a result of barrier studies, one location in the I-2304AA section met the cost criteria as outlined in the NCDOT guidelines as being reasonable and feasible for construction, and is therefore recommended. Further coordination with the affected residents and/or businesses will take place concerning the proposed noise wall.

D. FERC Permit Information

1. Background Information

Under the Federal Power Act, Alcoa Power Generating Inc. (APGI) is licensed by the Federal Energy Regulatory Commission (FERC) to operate hydroelectric Project No. 2197. Yadkin is the division of APGI responsible for operating the Project. High Rock Reservoir is in one of the developments of the Project. APGI owns the land under the normal full pool (655' contour, Yadkin datum) of High Rock Reservoir. The area for a portion of the proposed I-85 improvements is on property owned by APGI and within the Project. Under its license, Yadkin may only exercise certain authority including the granting of permission to use Project lands for non-Project purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. In order to ensure that these values are maintained, Yadkin has adopted a Shoreline Management Plan (SMP), including Subdivision Access Approval, Multi-use Facility Permitting, and Industrial Approval Procedures, which was approved by FERC on November 9, 2000. In accordance with its FERC license for the Project and the SMP, Yadkin must also receive from NCDOT a record demonstrating consultation with federal, state, and county resource agencies. Once all outstanding issues identified by agencies and Yadkin are resolved and Yadkin's review is complete, Yadkin must notify FERC of the proposed I-85 improvements and wait 45 days to see if FERC responds before Yadkin can grant permission for use of the Project property.

2. Information Requested by FERC

a. Detailed information regarding temporary and permanent activities – Once the right of way limits are finalized, and final designs are complete, NCDOT will provide to ALCOA information on which temporary and permanent activities are proposed within the Project Boundary and/or on APGI property outside of the Project boundary. NCDOT will also provide a detailed map that shows the location of the proposed temporary and permanent activities. This data must be approved by ALCOA and FERC before the project Let date.

b. Section 404 Permits and Section 401 Water Quality Certification (WQC) – Once permit drawings are received, NCDOT will apply for the Section 401 water quality certification and the Section 404 permit. Upon receipt of the 401 certification and 404 permit, NCDOT will submit them to ALCOA for their review. These permits must be approved by ALCOA and FERC prior to the project Let date.

c. In the event that NCDOT is proposing temporary and/or permanent activity within the Project boundary and/or on APGI property located outside the Project boundary, NCDOT will request permission from Yadkin to perform temporary construction activities and locate permanent structures preferably in the form of a temporary easement or lease for construction activity, and in the form of a permanent easement for the location of permanent structures. Therefore, it is critical that the information described in section "a" above, be of sufficient detail to allow Yadkin to determine what form of conveyance is appropriate and the conditions for any conveyance. Until real property issues between NCDOT and Yadkin are resolved, Yadkin will not be able to issue final approval for the proposed improvements.

Once Yadkin has determined that the Environmental Assessment is complete, and all requested information has been reviewed and approved by FERC, Yadkin will be able to discuss with NCDOT the issuance of a Construction Permit for those parts of the proposed project, including removal of existing Bridge #137, that occupy lands or waters within the FERC Project Boundary or other APGI lands. The construction permit will contain a condition, among many others, that with regard to existing bridges, NCDOT will be required to remove all concrete down to the existing muck line so that it will not be a hazard or act as a "catch" for floating debris.

E. NEPA/404 Merger Team Meeting

Concurrence Point 1, Purpose and Need, and Concurrence Point 2, the Alternatives to be Studied, were reached on August 22, 2000 at a NEPA/404 Merger Team Meeting. This meeting is discussed in the Environmental Assessment (EA). A signature from the U.S. Fish and Wildlife Service for Concurrence Points 1 and 2 was not included in the

EA, however a copy of this signed form can be found in Appendix A on page A-25 of this document signifying USFWS Concurrence.

A NEPA/404 Merger Team Meeting to discuss concurrence Point 3, the Least Environmentally Damaging Practicable Alternative (LEDPA), was held on November 14, 2001. The following agency representatives were in attendance: U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, North Carolina Division of Water Quality, North Carolina Department of Transportation, U.S. Fish and Wildlife Service, North Carolina Wildlife Resources Commission, and the Federal Highway Administration. The purpose of this meeting was to submit information to the Merger Team so that concurrence may be reached on Point 3, the LEDPA, for this project.

Concurrence Point 3, the LEDPA, was reached on December 13, 2001. A copy of the concurrence form can be found in Appendix A on pages A-26 through A-28. It was concurred that the following points represent the Least Environmentally Damaging Practicable Alternative for this project:

Capacity Alternative

- 8-lane widening with interchange modification and bridge replacements

Structural Alternative

- Replace Bridge #137 over the Yadkin River with dual structures on new location to the east of the existing structure

Service Road Alternative

- Do not provide a service road connection from the new interchange to the Belmont Road interchange

The signed concurrence form dated December 13, 2001 represents the Merger Team's concurrence on the purpose and need, the "alternatives to be carried forward in the NEPA study", and the Least Environmentally Damaging Practicable Alternative.

F. Interstate Access Revision

An Interstate Access Revision was reviewed by the Federal Highway Administration (FHWA) on December 14, 2000 (see page A-5 in Appendix A), in which they found the proposed interchange revisions and access points acceptable. Approval of the Final Environmental Document (the FONSI) constitutes the final approval of the access point revisions, as requested.

G. Addendum to the Archaeological Study

The purpose of this additional investigation and addendum was to determine the nature and origin of a large scale topographic feature, which is threatened by the

construction of the proposed new I-85 bridge over the Yadkin River. No archaeological sites were recorded at this location during the 1999 survey. Speculations have been made that this berm, located south of the railroad tracks and across I-85 and US 29/70 from 31Dv654**, may represent the remains of an outlying Civil War-era military earthwork and warranted further investigation. Field inspections by NCDOT and other archaeologists, and newly researched background information, suggested other, non-military scenarios. After consultations with SHPO/OSA, FHWA, and other parties, it was determined that further investigation, including archaeological testing and a detailed synthesis of additional historic background research, was necessary to interpret the feature acceptably.

Gathered from both primary and secondary sources, the historical background information compiled during this investigation is not conclusive. The Official Records contains various telegrams calling for the reinforcement of the river crossing, though it is uncertain if or where supplemental defenses were constructed. The substantial historical synopsis does, however, provide meaningful, comprehensive documentation of the Civil War activities associated with General Stoneman's third and final raid, including the riverside skirmish for the trestle bridge. For this purpose alone, it is a very informative synthesis of military records and personal accounts of the final months of the War.

Additional research of available maps produced no military representations of the skirmish, hence, no additional information for possible outlying defenses. The investigation did generate useful visual records of the area, documenting the extent and magnitude of twentieth-century disturbances. Aerial photography taken during the 1950's is perhaps the most revealing, showing the possible creation of the berm during a period of massive earthmoving for the construction of I-85.

The results of the archaeological fieldwork provided specific data useful for the interpretation of the earthen berm. A series of ground surface cross sections was recorded across the suspected berm. For comparison, ground surface cross sections were also taken across not only a similar berm feature but also a documented earthwork at 31Dv654**. Charts generated from this data show that the earthen berm in question lacks many of the surface characteristics (shape, scale, and consistency) associated with known Civil War entrenchments. Based on this information, the earthen berm appears to represent either a component or result of a larger event, rather than its own discreet entity.

In order to obtain stratigraphic information, and excavation trench was placed across the earthen feature, which yielded a small assortment of cultural materials. The profile of the excavation unit shows a thin, disturbed A-horizon overlying natural subsoil. No buried horizons or ground surfaces were identified. In addition, there was no evidence of piled earth or a ditch, fundamental elements of military trenches. Finally, cultural material collected from the upper portion of the berm was manufactured decades after the War, providing a much later date for its deposit and age of the berm.

In summary, the earthen berm did not meet the archaeological expectations of a military earthwork. Archaeological data suggests that the topographic feature is a remnant landform of large-scale earth removal from the mid-twentieth century. Coupled with the aerial photography from the 1950's, this earthen berm should be described as an embankment delineating modern earth borrowing activity.

As a result of the exhaustive background research and intensive field investigation, no new archaeological resources were identified within the project's proposed Area of Potential Effect (APE). The landform feature subjected to subsurface archaeological evaluation represents natural topography that has been truncated on one side by modern earthmoving activities. No additional investigations are recommended for the project as currently designed. The SHPO agreed with NCDOT's findings concerning this archaeology addendum (see page A-31 for letter from SHPO). A complete copy of the "Addendum to the Archaeological Study" for I-2304A can be located in the files of the Office of State Archaeology.

VII. ONLY PRACTICABLE ALTERNATIVE WETLAND FINDING

Executive Order 11990, "Protection of Wetlands," established a national policy to avoid, to the extent possible, adverse impacts on wetlands and to avoid direct or indirect support of new construction wherever there is a practicable alternative.

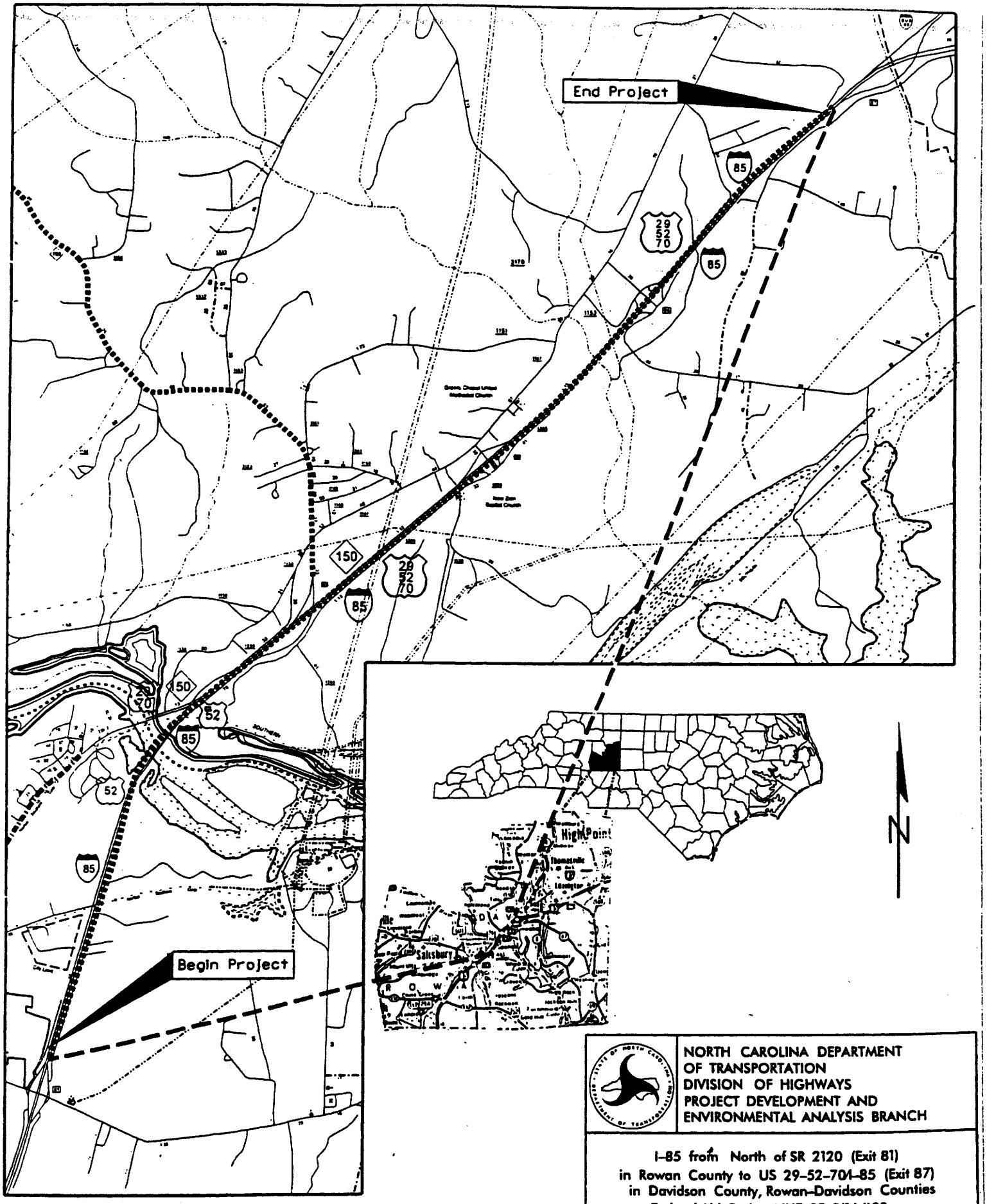
NCDOT will not be able to totally avoid wetlands because widening of the highway also requires service road relocation, and interchange reconstruction. However, some avoidance measures have been undertaken so far as a result of coordination through the NEPA/404 merger meetings. The proposed bridges over the Yadkin River will span the river and the wetlands associated with the river. This will result in the avoidance of approximately 7.35 acres (2.97 hectares) of wetlands. Also, the 7 Oaks Drive (SR 1285) service road extension was shortened per the resource agencies' comments. Approximately 1.85 acres (0.74 hectares) of wetlands were avoided.

It was determined there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

VIII. BASIS FOR FINDING OF NO SIGNIFICANT IMPACT

Based upon a study of the impacts of the proposed project, as documented in the EA, and upon comments received from federal, state, local agencies, and the general public, it is the finding of the FHWA and the NCDOT that this project will not have a significant adverse impact upon the human or natural environment. The project is not controversial from an environmental standpoint. No significant impacts to natural, social, ecological, cultural, or scenic resources are expected. The proposed project is consistent with local plans and will not disrupt any communities. The project has been extensively coordinated with federal, state, and local agencies. In view of the above evaluation, it has been determined a FONSI is applicable for this project. Therefore, neither an Environmental Impact Statement nor further environmental analysis is required.

FIGURES



NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

I-85 from North of SR 2120 (Exit 81)
in Rowan County to US 29-52-70-85 (Exit 87)
in Davidson County, Rowan-Davidson Counties
Federal Aid Project NHF-85-3(164)80
State Project 8.1631403, TIP Project I-2304A

FIGURE 1

APPENDIX A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

December 28, 2000

4EAD-OEA

Mr. William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch
North Carolina Division of Highways
P.O. Box 25201
Raleigh, North Carolina 27611

ATTN: Eric Midkiff, Unit Head

SUBJECT: **Comments Concerning Federal Environmental Assessment for Improvements to I-85 from North of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in Davidson County, Federal Aid Project No. NHF-85-3(164)80, State Project No. 8.1631403, TIP No. I-2304A**

Dear Mr. Gilmore:

Pursuant to Section 309 of the Clean Air Act, EPA, Region 4 has reviewed the subject document, an environmental assessment on the impacts caused through improvement of I-85 from north of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in Davidson County. The Federal-Aid Highway project will involve:

1) Widening the subject section of I-85 to an 8-lane facility with a 46ft (14.0m) median; and

2) Constructing interchanges and service roads along the project that will be designed and revised as needed to accommodate the proposed mainline widening and replacement of inadequate structures.

Having reviewed the environmental document, EPA has some environmental concerns regarding potential Environmental Justice community displacements, wetlands, roadway materials disposal, land-use changes, noise and lack of transportation enhancements on a major Federal-Aid Interstate project.

While seeing the need for increasing capacity and improving safety to provide an acceptable level of service along the subject section of I-85 through the design year of 2025, care should be taken to balance these needs with those of the environment.

The following concerns are areas where EPA would like additional information or consideration taken:

1) In reviewing the document. EPA is concerned regarding the level of involvement from the potential impacted residents (EJ communities). As these residents fall in the low-income category. has an effort been made to individually contact these residents and insure they are completely informed of the projects impacts on them and involve them in the decision-making process. Just advertising that an informational workshop will be held is not sufficient if the impacted residents do not have a voice in project alignment selection/alternatives. If this has been done, please provide EPA with a mailing list on these impacted residents (Area #1. Area #4. & Area #6 - 23 potential relocatees) and the level of their involvement in your project decision-making process.

2) EPA would like to see and review the proposed wetland mitigation plan once final project alignment has been determined. The EPA would like to see functional value replacement of any wetland takes involving the proposed project. One possibility would be to coordinate wetlands mitigation requirements with similar activities associated with the Yadkin Hydroelectric Project and the High Rock impoundment.

3) A large portion of the project would involve roadway and bridge removal as the interchanges are replaced and modified for the widening of I-85. The EA does not mention how the pavement aggregate and structures would be removed. and the ultimate disposition of this material. EPA encourages the maximum reuse of the materials rather than landfill disposal.

4) The proposed project does not utilize the flexibility provided in the Transportation Equity Act for the 21st Century (TEA-21) for incorporating transportation enhancements (TE's) in Federal-Aid projects. Why were no TE's incorporated in this project? TE's which may be incorporated in this project include wildlife/critter crossings across the Interstate. bike / hiking trails in the surrounding area. and community improvements / enhancements. Since new alignment / reconstruction is being proposed for the project, it would seem appropriate to incorporate community / environmental enhancement features into the new construction.

5) The EA does not describe the land use changes which would occur with the project. New interchange and interchange configurations and service roads will

result in extensive commercial development in these areas of the project.

6) In reviewing the noise impacts analysis in the appendix, there are a large number of receptors that would experience a substantial impact. Most are residences, but there is a "rest home" (ID #24) listed in Table N4. In regard to the "rest home", is the surrounding outdoor area of the home utilized by the residents, and would the noise impacts from the proposed project adversely impact the residents of the "rest home"?

In conclusion, EPA believes that the proposed Federal Aid Interstate I-85 Highway project has merits, but care should be taken to fully address Environmental Justice (EJ) roadway materials disposal, wetland, land-use and noise issues. In addition, consideration should be made to incorporate transportation enhancements into the proposed project to make the project more friendly to the human and natural environment.

Thank you for the opportunity to comment. If we can be of further assistance in this matter, Ted Bisterfeld (404-562-9621) or Neel Vanikar (404-562-9703) will serve as initial points of contact.

Sincerely,

Heinz J. Mueller, Chief
Office of Environmental Assessment
Environmental Accountability Division

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
9721 Executive Center Drive N
St. Petersburg, Florida 33702

December 15, 2000

Mr. William D. Gilmore
Planning & Environmental Branch
N.C. Division of Highways
P.O. Box 25201
Raleigh, North Carolina 27611

Dear Mr. Gilmore:

Please reference your November 17, 2000, request for comments on the Federal Environmental Assessment (EA) for Improvements to I-85 from north of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in Davidson County, Federal Aid Project No. NHF-85-3(164)80, State Project No.8.1631403, TIP No. I-2304A. Due to the location of this work, there will be no impact to trust resources for which the National Marine Fisheries Service is responsible. Therefore, we will offer no comments on this EA.

We appreciate the opportunity to provide these comments.

Sincerely,

for Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

cc: FWS, ATLA, GA
FWS, Raleigh, NC
EPA, ATLA, GA
NCDENR, Raleigh, NC
NCDENR, Morehead City, NC
COE, Wilmington, NC
F/SER4

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601
December 14, 2000

IN REPLY REFER TO
HO-NC

Mr. William Gilmore, P.E.
Manager of Planning and
Environmental Branch
Division of Highways
Raleigh, North Carolina

Subject: Draft Report titled: "Interstate access revisions to I-85 from north of SR 2120(exit 81) to US 29-52-70/I-85 Business (Exit 87) Rowan and Davison Counties." Federal Aid Project No. NHF-85-3(164)80, TIP No. I-2304A.

Dear Mr. Gilmore:

The subject report describes proposed revisions to existing I-85 interchanges and access points just north of the Yadkin River in Davidson County. The revisions are part of a state project that proposes to widen I-85 from two (2) lanes to four (4) lanes in each direction. The requested revisions involve consolidation of existing US 29/70, NC 150, and Clark Road (SR 1295) interchanges and replacing them with one full movement interchange in the vicinity of NC 150. In addition, the Belmont Boulevard (SR 1133) interchange will be modified.

The proposed improvements would provide a LOS D along the entire project through the design year 2025, while the ramp connections of the new interchange would operate at LOS B or C. The project will provide a 46-foot median, which could be used in the future for additional widening to increase mainline capacity.

We conducted an engineering and operational acceptability review of the proposed interchange revisions and access points and found them acceptable. Approval of the final environmental document for this project will constitute our final approval of these access point revisions as requested. If you have any questions, please contact Mr. Felix Davila at (919) 856-4350, extension 106.

Sincerely yours,

John C. Wentworth

For Nicholas L. Graf, P.E.
Division Administrator

cc: Mr. John E. Alford, PE, NCDOT

North Carolina
Department of Administration

James B. Hunt, Jr., Governor

Katie G. Dorsett, Secretary

January 4, 2001

Mr. Burt Tasaico
N.C. Department of Transportation
Planning and Environmental Branch
Transportation Bldg. - 1534 MSC
Raleigh, NC 27699-1534

Dear Mr. Tasaico:

Re: SCH File # 01-E-4220-0329; Environmental Assessment Proposed Improvements to I-85, from North of SR 2121 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in Davidson County; TIP #I-2304A

The above referenced project has been reviewed through the State Clearinghouse Intergovernmental Review Process. Attached to this letter are comments made by agencies reviewing this document.

Should you have any questions, please do not hesitate to call me at (919) 807-2425.

Sincerely,

Chrys Baggett

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Attachments

cc: Region F
Region G

116 West Jones Street Raleigh, North Carolina 27603-8003 Telephone 919-807-2425

NCDENR

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Environmental Review Coordinator

RE: 01E-0329 I-85 Improvements Davidson County

DATE: December 28, 2000

The Department of Environment and Natural Resources has reviewed the proposed information. The applicant is encouraged to consider the attached recommendations from the NC Wildlife Resources Commission and should also continue to work with our agencies as this project moves forward.

Thank you for the opportunity to review.

Attachment
Attachments

1601 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1601
PHONE 919-733-4984 FAX 919-715-3060 WWW.ENR.STATE.NC.US/ENR/

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

12/23
1/4/00 per Heather

STATE NUMBER: 01-E-4220-0329 F02
DATE RECEIVED: 11/30/2000
AGENCY RESPONSE: 12/25/2000
REVIEW CLOSED: 12/30/2000

NC 1/4 3/26/01

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORD
DEPT OF CUL RESOURCES
ARCHIVES-HISTORY BLDG - MSC 4617
RALEIGH NC

RECEIVED
DEC 12/18
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CENTRALINA COG
DENR LEGISLATIVE AFFAIRS
DEPT OF AGRICULTURE
DEPT OF CUL RESOURCES
PIEDMONT TRIAD COG

PROJECT INFORMATION
APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
ERD: Environmental Assessment
DESC: Proposed Improvements to I-85, from North of SR 2121 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in Davidson County; TIP #I-2304A
CROSS-REFERENCE NUMBER: 99-E-4220-0121

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date. If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:

☐ NO COMMENT

☒ COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Earley

DATE: 3/26/01

DEC 2000

Jackie Obediente

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

March 27, 2001

MEMORANDUM

To: William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch

From: David Brook DB for David Brook
Deputy State Historic Preservation Officer

Re: Proposed Improvements to I-85, from North of SR 2121 (Exit 81) to U.S. 29-52-70/I-85 Business (Exit 87), Rowan and Davidson Counties, CH 99-E-4220-0121

We have received information concerning the above project from the State Clearinghouse. We offer the following comments.

We recommend that the GPS or other detailed map work yet to be conducted at Fort York be added as an environmental commitment in the green pages of the document.

Page 26, section 5b refers only to work to be conducted at Fort York. Since an archeological survey was conducted for this project by Nora B. Sheehan, we recommend the results be summarized in this section.

We also recommend that our comment letter on the revised report be included in Appendix A.

Receipt of the GPS or other detailed mapping of the fort, which we will add to our report copies and site files, will complete the archaeological Section 106 process for this project.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919/733-4763.

cc: SCH
FHwA
Brain Overton, PDEA, NCDOT

	Location	Mailing Address	Telephone/Fax
Administration	507 N. Blount St. Raleigh, NC	4617 Mail Service Center. Raleigh 27699-4617	(919) 733-4763 •733-8653
Restoration	515 N. Blount St. Raleigh , NC	4613 Mail Service Center. Raleigh 27699-4613	(919) 733-6547 •715-4801
Survey & Planning	515 N. Blount St. Raleigh, NC	4618 Mail Service Center. Raleigh 27699-4618	(919) 733-4763 •715-4801

Federal Aid # NHF-85-3(164)80 *TIP #* I-2304A *County*: Rowan/Davidson

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description: Reconstruct I-85 from north of SR 2120 in Rowan Co. to US 29-52-70 in Davidson Co.

On 05/07/2002, representatives of the

- ☑ North Carolina Department of Transportation (NCDOT)
- ☑ Federal Highway Administration (FHWA)
- ☑ North Carolina State Historic Preservation Office (HPO)
- ☐ Other

Reviewed the subject project at

- ☐ Scoping meeting
- ☑ Historic architectural resources photograph review session/consultation
- ☐ Other

All parties present agreed

- ☐ There are no properties over fifty years old within the project's area of potential effects.
- ☐ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- ☑ There are properties over fifty years old within the project's Area of Potential Effects (APE), but based on the historical information available and the photographs of each property, the property identified as Trading Ford Monument is considered not eligible for the National Register and no further evaluation of it is necessary.
- ☐ There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- ☐ All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- ☐ There are no historic properties affected by this project. (*Attach any notes or documents as needed*)

Signed:

Mary Pope Furr — 5.7.2002
Representative, NCDOT — Date

Michael C. Stanyar — 5/7/02
FHWA, for the Division Administrator, or other Federal Agency — Date

Renee Gledhill-Earley — 5-7-02
Representative, HPO — Date

David Brook — 5/8/02
State Historic Preservation Officer — Date

If a survey report is prepared, a final copy of this form and the attached list will be included.

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

September 4, 2001

MEMORANDUM

To: William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch

From: David Brook
Deputy State Historic Preservation Officer

Re: Proposed Improvements to I-85, from North of SR 2121 (Exit 81) to U.S. 29-52-70/I-85 Business (Exit 87), Rowan and Davidson Counties, CH 99-E-4220-0121

Thank you for conducting the field GPS mapping work at Fort York prior to any construction activities. We will add the map of the fort to our report copies and site files.

Receipt of this map completes the archaeological portion of the Section 106 process for this project.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919/733-4763.

DB:kgc

cc: Steve Lund, ACOE
FHwA

bc: Claggett/Novick
County
RF

	Location	Mailing Address	Telephone/Fax
inistration	507 N. Blount St. Raleigh, NC	4617 Mail Service Center, Raleigh 27699-4617	(919) 733-4763 •733-8653
oration	515 N. Blount St. Raleigh , NC	4613 Mail Service Center, Raleigh 27699-4613	(919) 733-6547 •715-4801
ey & Planning	515 N. Blount St. Raleigh, NC	4618 Mail Service Center, Raleigh 27699-4618	(919) 733-4763 •715-4801

Federal Aid # **NHF-85-3(164)80** *TIP #* **I-2304A** *County*: **Rowan/Davidson**

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Replace Bridge No. 392 as a part of the reconstruction of I-85 from north of SR 2120 in Rowan Co. to US 29-52-70 in Davidson Co.

On 9/17/2002, representatives of the

- [x] North Carolina Department of Transportation (NCDOT)
- [ ] Federal Highway Administration (FHWA)
- [x] North Carolina State Historic Preservation Office (HPO)
- [ ] Other

Reviewed the subject project and agreed

- [ ] There are no effects on the National Register-listed property/properties located within the project's area of potential effect and listed on the reverse.
- [ ] There are no effects on the National Register-eligible property/properties located within the project's area of potential effect and listed on the reverse.
- [ ] There is an effect on the National Register-listed property/properties located within the project's area of potential effect. The property/properties and the effect(s) are listed on the reverse.
- [x] There is an effect on the National Register-eligible property/properties located within the project's area of potential effect. The property/properties and effect(s) are listed on the reverse.

Signed:

Mary Pope Furr — 9.17.2002
Representative, NCDOT — Date

[signature] — 10/1/02
FHWA, for the Division Administrator, or other Federal Agency — Date

Renee Gledhill-Earley — 9/17/02
Representative, HPO — Date

David Brook — 10/1/02
State Historic Preservation Officer — Date

Properties within the area of potential effect for which there is no effect. Indicate if property is National Register-listed (NR) or determined eligible (DE).

Properties within the area of potential effect for which there is an effect. Indicate property status (NR or DE) and describe the effect.

Wil-Cox Bridge (Bridge #46) - No adverse effect with environmental commitments.

Reason(s) why the effect is not adverse (if applicable).

Wil-Cox Bridge (Bridge #46) - No adverse effect because construction of bridge #392 will not impact Bridge #46 & NCDOT will use a sympathetic bridge railing on the new Bridge.

Initialed: NCDOT MPJ FHWA RHA HPO eye

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

STATE NUMBER: 01-E-4220-0329 F02
DATE RECEIVED: 11/30/2000
AGENCY RESPONSE: 12/25/2000
REVIEW CLOSED: 12/30/2000

CLEARINGHOUSE COORD REGION F
CENTRALINA COG
PO BOX 35008
CHARLOTTE NC

REVIEW DISTRIBUTION
CC&PS - DEM, NFIP
CENTRALINA COG
DENR LEGISLATIVE AFFAIRS
DEPT OF AGRICULTURE
DEPT OF CUL RESOURCES
PIEDMONT TRIAD COG

PROJECT INFORMATION
APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
ERD: Environmental Assessment
DESC: Proposed Improvements to I-85, from North of SR 2121 (Exit 81) in Rowan County to US 29-52-70/i-85 Business (Exit 87) in Davidson County; TIP #I-2304A
CROSS-REFERENCE NUMBER: 99-E-4220-0121

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date. If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:

☐ NO COMMENT

☑ COMMENTS ATTACHED

SIGNED BY: Audrey Y. McCorkle

DATE: 12/28/00

RECEIVED
DEC 2 [illegible]
STATE CLEARINGHOUSE

We were unable to find detailed information on impacts to jurisdictional streams. This information should be included in the Finding of No Significant Impact (FONSI) for this project. Any on-site stream relocations should be designed using natural stream design and construction techniques. This may necessitate that additional right-of-way be aquired in the area of the stream relocations.

At this time, we concur with the EA for this project. Thank you for the opportunity to comment on this EA. If we can be of any further assistance please call me at (919) 528-9886.

cc: U.S. Fish and Wildlife Service, Raleigh

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

MEMORANDUM

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs, DENR

FROM: David Cox, Highway Project Coordinator
Habitat Conservation Program

DATE: December 22, 2000

SUBJECT: North Carolina Department of Transportation (NCDOT) Environmental Assessment (EA) for I-85 improvements, from north of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in Davidson County, Davidson and Rowan counties, North Carolina. TIP No. I-2304A, SCH Project No. 01-E-0329.

Staff biologists with the N. C. Wildlife Resources Commission have reviewed the subject EA and are familiar with habitat values in the project area. The purpose of this review was to assess project impacts to fish and wildlife resources. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

NCDOT proposes to widen existing I-85 along the subject section from 4-lanes to an 8-lane section with a 46-foot median. Interchanges and service roads will be improved as necessary to accommodate the mainline widening. The project includes replacing the bridges over Yadkin River. The total project length is approximately 6.8 miles. Impacts to wetlands are expected to total approximately 3.6 acres with an undetermined length jurisdictional streams impacted.

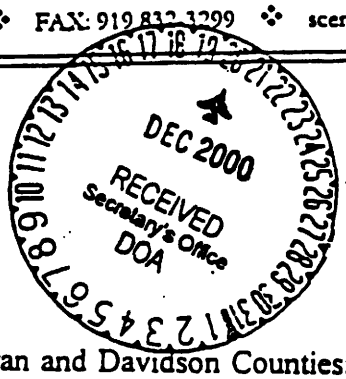
We have reviewed the data contained in the EA. We are concerned over the impacts to high quality wetlands associated with the Yadkin River crossing. NCDOT should explore ways to minimize impacts to this area. Construction techniques will factor into our comments on the '404' permits for this project. NCDOT should explore bridge construction techniques that minimize the need for temporary haul roads and wetland fill.

Mailing Address: Division of Inland Fisheries • 1 Service Center • Raleigh, NC 27699-1721
Telephone: (919) 733-3633 e: Fax: (919) 715-7643

Scenic North Carolina

P.O. Box 628 ❖ Raleigh, NC 27602 ❖ 919 832-3687 ❖ FAX: 919 832-3299 ❖ scenic.nc@att.net

December 14, 2000



State Clearinghouse
N.C. Department of Administration
1302 Mail Service Center
Raleigh, North Carolina 27699-1302

RE: SCH # 01E42200329 -- Widening of Interstate 85, Rowan and Davidson Counties; TIP # I-2304A

To Whom It May Concern:

Please consider the following comments as this project moves forward:

1. Consideration of Roundabout Interchanges. On grade-separated interchanges that are to be a part of this project, please investigate the use of a "modern roundabout" interchange design as one of the alternatives considered for this project. In many circumstances, modern roundabout interchanges have been found to have cost, safety, operational, and aesthetic advantages over other interchange designs.

   Other state highway department are also considering the use of roundabouts at interchanges. The use of roundabouts at interchanges is discussed in the Caltrans Design Information Bulletin 80 [http://www.dot.ca.gov/hq/oppd/dib/db80.htm] on page 3 under "Reduction of Queue Storage Requirements," which states:

   > Possible applications may be found at existing diamond interchanges, where high left turn volumes can cause signals to fail. By constructing a pair of roundabouts at the ramp intersections, capacity improvements to the interchange can be accomplished without the costly requirement of widening the structure to carry additional lanes over or under the freeway.

   When changes to an intersection or freeway interchange are proposed, all feasible and prudent alternatives, including the roundabout, should be considered. This will allow decision-makers to compare the overall cost and effectiveness (safety improvement, delay reduction, community enhancement, and other factors) of the various alternatives, and select the best one. The roundabout will not be the best alternative in every situation, but this can only be shown through an objective study of the alternatives.

   The Federal Highway Administration (FHWA) has recently published a methodology for comparing roundabouts to other types of traffic control. The analysis includes looking at safety benefits, operational benefits, environmental benefits, construction costs, and operational and maintenance costs, and can be found beginning on page 70 of FHWA's

Roundabouts: An Informational Guide. Please use this method of analysis to compare the roundabout and traffic signal alternatives before making a decision about the appropriate form of traffic control at this interchange.

2. Promote Land Development and Access Management Strategies at Interchange Areas. Unmanaged access to highway-oriented services causes inconvenience and disrupts the very purpose of an interchange, which is to move traffic between the freeway and arterial. Advanced planning and access management can reduce traffic conflicts and create a balance between access and mobility needs. As part of the planning process for this roadway improvement, NCDOT should work with the local governments in the area to review issues and problems in managing interchange area development and sets forth strategies to improve planning and management of interchange areas. An excellent document on this topic can be downloaded at the following website:

   http://www.cutr.eng.usf.edu/research/access_m/pdf/interchange_report.pdf

3. Road Safety Audit. Please consider a "road safety audit" as part of the project design process. In a road safety audit, a team of experts attempts to identify potentially dangerous features of the highway operating environment. First used in Australia and New Zealand, the Federal Highway Administration has concluded that road safety audits hold promise for maximizing the safety of roadway design and operations. More information about road safety audits is available at:

   http://www.tfhrc.gov/pubrds/pr97-10/p42.htm

Please provide a detailed, written response to this letter. Please include this letter and the responses in the environmental document for this project.

Sincerely,

Dale McKeel

Subject: [Fwd: NC Intergovernmental Review Process]
Date: Tue, 19 Dec 2000 14:49:42 -0800
From: Hilda Threatt <hthreatt@centralina.org>
Organization: Centralina Council of Governments
To: Audrey McCaskill <amccaskill@centralina.org>

Subject: NC Intergovernmental Review Process
Date: Tue, 19 Dec 2000 14:40:10 -0500
From: Dan Mikkelson <dmikk@ci.salisbury.nc.us>
To: "'admin@centralina.org'" <admin@centralina.org>
CC: Wendy Brindle <Wbrin@ci.salisbury.nc.us>

Please forward this e-mail to Audrey McCaskill. Comments are in reference to State Application Identifier Number 01-0329 (I-85 from exit 81 to exit 87: TIP project I-2304A)

Commenter's name: Dan Mikkelson, Salisbury City Engineer
PO Box 479
Salisbury, NC 28145
704-638-5200
December 19, 2000

The City of Salisbury has two comments to submit regarding the widening of I-85 from exit 81 to exit 87:
1. The Environmental Assessment states that Bridge #46 (Wil-Cox Bridge) will remain in place and be converted to serve bicycle and pedestrian traffic. Although the bridge is outside of our political jurisdiction, the Salisbury City Council is on record supporting efforts to preserve the historic bridge. The City's support was presented to the NC Board of Transportation at the TIP Public Hearing in Lexington on November 9, 2000.

2. I-85 is frequently closed temporarily at the Yadkin River due to haz-mat spills, truck accidents, or ice (maybe once a month). When this happens, two lanes of interstate traffic are detoured to cross the Yadkin River via US Highway 29. With the proposed realignment, US Highway 29 will be rerouted to follow the interstate across the Yadkin River. The old interstate bridges over the river will be demolished, and the Wil-Cox Bridge (currently 2 lanes of US 29) will be closed to vehicular traffic. As a result, the interstate will be increased to four lanes of traffic in each direction, but the alternate route across the river will be reduced to only one lane in each direction. The Rowan County I-85 Incident Management Task Force, chaired by Ms. Patti Newsome of NCDOT's Division 9 office, has expressed concern that the proposed alignment will not provide an adequate alternate route to cross the Yadkin River. The Task Force's concern has been shared with the Highway Design Unit of NCDOT, but the Environmental Assessment does not address this issue.

J. Okubrake

Finetex®

January 24, 2001

To: Mr. William D. Gilmore, P. E., Manager
Project Development and Environmental Analysis Branch
N.C. Division of Highways
PO Box 25201
Raleigh, NC 27611

From: Kirby Atwood, Compliance Coordinator
Finetex, Inc.
PO Box 164
Spencer, NC 28159

Sir,

Thank you for forwarding a copy of the Environmental Assessment to our attention. It is obvious that you and your staff have done an excellent job of putting together this Environmental Assessment.

The Finetex Spencer facility is located adjacent to the southbound lane of I-85 in the project area. We are very concerned with the closing of Willow Creek Drive because it denies Finetex one of our two required property accesses. The proposed extension of Hinkle Drive (SR 2181) is an acceptable replacement to the closure of the Willow Creek connection providing Hinkle Drive (SR 2181) extends to the southern end of Finetex's property. The present proposal addresses our security concerns and gives Finetex the two required means of access to the facility.

The proposal (extending Hinkle Drive to Hackett Road) made during the Citizens Informational Workshop creates a security problem for Finetex. Limiting access to the property and providing security for our employees is required by Federal regulations. Finetex is covered by 40 CFR 264.14 security requirements for Large Quantity Hazardous Waste Generators, 40 CFR 112.7 security requirements for our Spill Prevention Control and Countermeasure Plan, and 29CRF 1910 for providing a safe and secure work environment for our employees. These requirements are the reason for our concern with connecting Hinkle Drive to Hackett Road and exposing a side of the facility to uncontrolled access.

An additional concern is the new service road on the west side of I-85 and north of Long Ferry Road. It is our understanding that the new service road will cover a small but highly significant part our property off of Long Ferry Road. This property is part of the Finetex wastewater disposal system. Finetex has invested a great deal of capitol in developing the property for that purpose and is needed to keep Finetex in operation. Our Spray Irrigation System Permit (WQ0001077) has several requirements that could be impacted by construction of a road on the property:

1. "Public Access to the land application site shall be controlled."

2. "A buffer of 400 feet shall be maintained between the wetted area and places of public assembly under separate ownership."

3. "Adequate measures shall be taken to prevent wastewater runoff from the site."

FINETEX INC., P.O. BOX 216, ELMWOOD PARK, NEW JERSEY 07407 (201) 797-4686 FAX: (201) 797-6558
P.O. BOX 164 SPENCER NORTH CAR A-20 28159 (704) 633-8028 FAX: (704) 633-3746

Finetex is willing to absorb related cost necessary to comply with No. 1 to accommodate the I-85 Expansion.

No. 2 creates a serious problem for us because it reduces our utility of the spray irrigation disposal system. This problem can be solved if the Division of Highways is willing to move the exit/access road approximately 20-100 feet to coincide with the existing property boundaries. Please refer to the enclosed map.

In addressing No. 3, the total water flow to and from our spray irrigation field is critical. Runoff from the redesigned Hinkle Road access must not run across our property.

Nos. 2 and 3 are both critical to the successful compliance with our permit and continued economic business operation of Finetex. Our request is for the Division of Highways to address these last two issues.

PLEASE NOTE: The correct spelling of our company's name is Finetex (not Fin Tex). Also, you have incorrectly reported Finetex as a textile manufacturer. We are a specialty chemical manufacturer.

Finetex would appreciate meeting with a representative from your office to confirm the proposed location of the new service road as it relates to our Long Ferry Rd. property. Please contact me at (704) 633-8028 extension 209.

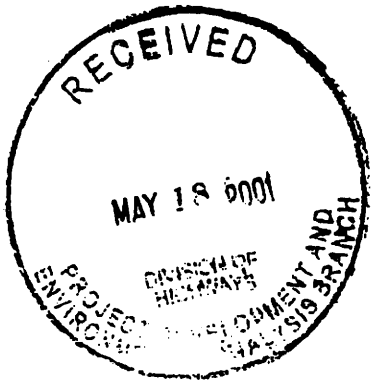
Thank you,

Kirby Atwood

Cc: Roger Porter, President
Bob Scala, Vice President

Alcoa Primary Metals

Alcoa Power Generating Inc.
Yadkin Division
PO Box 576
Badin, North Carolina 28009-0576
Tel: 1-888-886-1063
Fax: 1-704-422-5776



May 17, 2001

Via Certified Mail

Mr. William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch
N.C. Department of Transportation
P.O. Box 25201
Raleigh, NC 27611

RE: Alcoa Power Generating Inc. Request For Additional Information And Comments On The North Carolina Department Of Transportation Environmental Assessment For Improvements To I-85 In Rowan And Davidson Counties

Mr. Gilmore,

Alcoa Power Generating Inc. (APGI), through its Yadkin Division (Yadkin), has initiated its review of the Environmental Assessment (EA) and supplemental documents as prepared and submitted by the North Carolina Department of Transportation (NCDOT) for proposed improvements to I-85, North of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in Davidson County (November 2000). The proposed improvements include replacement of Bridge #137 with two bridges that will span the Yadkin River and its adjacent wetlands. Existing Bridge #137, which also spans the Yadkin River, will be removed after the proposed project's construction.

I-2304

Yadkin is beginning its review of the EA from the perspective of examining potential impacts resulting from the proposed improvements on the Yadkin River and its adjacent wetlands and on adjoining lands owned by APGI. Yadkin is performing its review in compliance with its Subdivision Access Approval, Multi-Use Facility Permitting, and Industrial Procedures, July 1999 (Procedures, copy previously provided). Yadkin's initial review indicates that Yadkin needs additional information from NCDOT. The purpose of this letter is to identify additional information that will assist Yadkin in conducting the review.

1. In its letter dated December 4, 2000 to NCDOT, Yadkin informed NCDOT that portions of the proposed improvement would be located within the FERC-licensed Yadkin Hydroelectric Project (FERC Project No. 2197) and/or on property owned by APGI outside the Project boundary. In the Summary of Special Project Commitments of the EA, NCDOT states, "Because the subject project lies within a Federal Energy Regulatory Commission (FERC)-licensed hydroplant project boundary (the Yadkin Project), approval for land transfer must be obtained by NCDOT in the form of a FERC license revision. Coordination

with the proper FERC officials shall take place, and the process to obtain a FERC permit will be followed." As FERC licensee of the Project, Yadkin is the entity responsible for obtaining any necessary FERC approval or notification. As also stated in the December 4, 2000 letter, Yadkin will notify FERC of the proposed improvements once all outstanding issues identified by agencies and Yadkin are resolved and Yadkin's review is complete.

2. It is unclear from the EA exactly which activities connected with the proposed improvements will occur within the Project boundary and/or on APGI property outside the Project boundary. It appears that dredge and fill, shoreline stabilization, and certain other temporary construction activities may occur within the Project boundary and/or on APGI property outside the Project boundary. Additionally, it appears that permanent structures, such as bridge abutments, may also be located within the Project boundary and/or on APGI property outside the Project boundary. Please provide detailed information with regard to which temporary and permanent activities are proposed within the Project boundary and/or on APGI property outside the Project boundary. Please also provide a map that shows the location of proposed temporary and permanent activities with respect to the Project boundary and APGI property outside the Project boundary.

3. In the event that NCDOT is proposing temporary and/or permanent activity within the Project boundary and/or on APGI property located outside the Project boundary, please be aware that NCDOT will need permission from Yadkin to perform temporary construction activity and locate permanent structures preferably in the form of a temporary easement or lease for construction activity and in the form of a permanent easement for the location of permanent structures. Therefore, it is critical that the information requested in Item No. 2, above, be of sufficient detail to allow Yadkin to determine what form of conveyance is appropriate and the conditions for any conveyance. Until real property issues between NCDOT and Yadkin are resolved, Yadkin will not be able to issue final approval for the proposed improvements.

4. As noted in Yadkin's December 4, 2000 letter, a portion of the proposed improvements appears to be located in a Conservation Zone as designated by Yadkin's Shoreline Management Plan (SMP) due to the presence of forested wetlands. In its comments dated December 22, 2000, North Carolina Wildlife Resources Commission (NCWRC) expressed concern over the impacts on high quality wetlands associated with the Yadkin River crossing and stated that construction techniques will factor into its comments on the Section 404 permits for the project. Please note that Yadkin will not issue its final approval for the project until it has received from the US Army Corps of Engineers (USACE) copies of the Section 404 permits required for the bridge replacement.

5. Yadkin also will not issue final approval until it has received copies of any other required federal, state, and local permits for the bridge replacement including specifically a Section 401 Water Quality Certification (WQC) from the NC Department of Water Quality (DWQ).

6. On EA page 35, NCDOT states that project construction may result in impacts to surface waters including increased concentration of toxic compounds from high way runoff, construction, toxic spills and increased traffic. In light of this

potential, receipt of the WQC from DWQ and the 404 permit from the USACE will be critical. Please note that any construction permit issued by Yadkin for those portions of the project occurring within the Project boundary and/or APGI property outside the Project boundary will contain conditions regarding compliance with all state and federal permits.

7. On EA pages 48-49, NCDOT states that since no bald eagles or nests were seen during its site visits, project construction would not affect the bald eagle. Please be aware that there have been recent observations of bald eagles and bald eagle nests downstream of the proposed bridge site by Yadkin and NCWRC staff.

8. As noted in Yadkin's December 4, 2000 letter, it appears that a portion of the proposed improvements may be located in a Medium Cultural Resources Probability Zone as designated in the SMP. On the other hand, the Summary of Environmental Impacts in the EA states, "No sites listed in the National Register of Historic Places will be involved." Please provide a copy of any comments received from North Carolina Department of Cultural Resources (NCDCR) on this EA. Yadkin is particularly interested in comments from NCDCR with regard to impacts, if any, to cultural resources in the Medium Cultural Resources Probability Zone. In particular, Yadkin is interested if NCDCR has commented on a portion of the Colonial Trading Path identified by Historical Research in its letter dated November 24, 2000.

9. Once Yadkin has determined that the EA is complete, Yadkin will be able to discuss with NCDOT the issuance of a Construction Permit for those parts of the proposed project, including removal of existing Bridge #137, that occupy lands or waters within the FERC Project Boundary or other APGI lands. Please note that the Construction Permit will contain a condition, among many others, that with regard to the existing bridge, NCDOT will be required to remove all concrete down to the reservoir/river bottom so that it will not be a hazard or act as a "catch" for floating debris.

10. Finally, please provide evidence of consultation with, and if received, comments from, US Fish and Wildlife Service, US Army Corps Of Engineers, and Rowan and Davidson Counties on this EA.

As noted above, responses to this additional information request will assist Yadkin in conducting its review of the NCDOT EA.

If you have any questions or if we may assist you further, please call me at (704) 422-5606.

Gene Ellis

Gene Ellis
Environmental and Natural Resources Manager

e-mail: Sarah Verville – LVA
Norm Pierson – APGI
Pat Shaver – APGI
Coralyn Benhart – Alcoa
Bob Smet – APGI

Section 404/NEPA Merger Project Team Meeting Agreement

Concurrence Point No. 1. Purpose and need.
Concurrence Point No. 2. Alternatives to be carried forward in the NEPA study.

Project Name/Description: I-85 Widening and Improvements, between Spencer and Lexington, Rowan and Davidson Counties, TIP Project I-2304A, AID 199821203.

The Project Team concurs with the purpose and need, and the "alternatives to be carried forward in the NEPA study", as stated on the attached dated August 22, 2000.

USACE _____ NCDOT _____

USEPA _____ USFWS Mylle C Smith 10/2/00

NCDWQ _____ NCWRC _____

NCDCR _____ FHWA _____

Proposed improvements to I-85 from North of SR 2120 (Exit 81) in Rowan County to US 29-52-70 / I-85 Business (Exit 87) in Davidson County, TIP Project I-2304A, Federal Aid No. NHF-85-3(164)80, State Project No. 8.1631403, AID No. 199821203

Concurrence Point 1. Purpose and Need (August 22, 2000)

It is the purpose of the project to provide an acceptable level of service along the subject section of I-85 through the design year 2025. It is also the intent of the project to improve traffic flow while providing adequate access and connectivity for area residents and businesses. Improvements to this section of I-85 are needed to effectively accommodate increased traffic demand along I-85 on a regional level, as well as establishing congruency among the regional system.

It is also the purpose of the project to address the structural deficiencies of the bridges, pipes and culverts along the project while maintaining traffic along I-85. Two bridges along the project have been targeted for replacement because of structural and capacity inadequacies. Bridge #137, which carries I-85 over the Yadkin River, was built in 1955. It has 10 years of remaining life and a sufficiency rating of 64.2. Bridge #404, which carries SR 1147 over South Potts Creek, is a one lane bridge built in 1921. It has a sufficiency rating of 52.3 and a remaining life of 15 years.

Concurrence Point 2. Alternatives to be Studied (August 22, 2000)

A. Capacity Alternatives

1. 8-lane widening with interchange modification and bridge replacements
2. 6-lane widening with interchange modification and bridge replacements

B. Structural Alternatives

1. Replace Bridge #137 over the Yadkin River with dual structures on new location to the east of the existing structure
2. Replace Bridge #137 over the Yadkin River with dual structures at the location of the existing structure

C. Service Road Alternatives

1. Provide a service road from the proposed new interchange to the Belmont Road interchange
2. Do not provide a service road connection from the new interchange to the Belmont Road interchange

D. No Build

Section 404 / NEPA Merger Project Team Meeting Agreement

Concurrence Point 1. Purpose and Need
Concurrence Point 2. Alternatives to be carried forward in the NEPA study
Concurrence Point 3. Least Environmentally Damaging Practicable Alternative (LEDPA)

Project Name / Description:

Proposed improvements to I-85 from North of SR 2120 (Exit 81) in Rowan County to US 29-52-70 / I-85 Business (Exit 87) in Davidson County, TIP Project I-2304A, Federal Aid No. NHF-85-3(164)80, State Project No. 8.1631403, AID No. 199821203

The project team has concurred on this date of December 13, 2001, with the purpose and need, the "alternatives to be carried forward in the NEPA study", and the Least Environmentally Damaging Practicable Alternative, as stated on the attached dated December 13, 2001.

	Name	Date
USACE	Eric C. Alsmeyer	12/17/01
USEPA	Name	12/13/01
NCDWQ	Cynthia J. VanderWiele	12.13.01
NCDCR	See 11/7/01 e-mail (attached)	
NCDOT	Jackie Obregon	12/28/01
USFWS	Name	12/13/01
NCWRC	Name	12/13/01
FHWA	Name	1/2/02

Concurrence Point 3. Least Environmentally Damaging Practicable Alternative (December 13, 2001)

The North Carolina Department of Transportation proposes to improve I-85 from north of SR 2120 (Exit 81) in Rowan County to US 29/70/I-85 Business (Exit 87) in Davidson County. The existing four-lane facility is to be widened to an 8-lane interstate facility with a 46ft (14.0m) median. The interchanges and service roads along the project will be revised to accommodate the proposed widening. Inadequate structures along the project will be replaced to conform to current design standards.

It was concurred that the following points represent the Least Environmentally Damaging Practicable Alternative for this project:

Capacity Alternative

- 8-lane widening with interchange modification and bridge replacements

Structural Alternative

- Replace Bridge #137 over the Yadkin River with dual structures on new location to the east of the existing structure

Service Road Alternative

- Do not provide a service road connection from the new interchange to the Belmont Road interchange

Alsmeyer, Eric C SAW COPY 19982203

From: Renee Gledhill-Earley [renee.gledhill-earley@ncmail.net]
Sent: Wednesday, November 07, 2001 10:21 AM
To: Eric Alsmeyer
Subject: I2304-A Concurrence point 3

Eric:
I've checked all of our files and don't feel that I need to attend the meeting on this project that is set for 11/14 at 10:30AM. DOT has documented the archaeological site we were concerned about (a fort) and we are working on a plan to keep the old bridge in place and cared for. I'll be happy to go along with the group on this, if the old bridge will stay in place.

Renee Gledhill-Earley

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This message does not necessarily represent the policy of the Department of Cultural Resources.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

September 12, 2003

Mr. Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Thorpe:

Subject: Endangered Species Concurrence for Improvements to I-85 from North of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87), Including Replacing the Bridge over Upper High Rock Lake in Davidson County, North Carolina, Federal Aid No. NHF-85-3(164)80, State Project No. 8.1631403, TIP No. I-2304A

As requested by the North Carolina Department of Transportation, we have reviewed the natural resources report and biological conclusion for federally protected species for the subject project. Our comments are provided in accordance section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

According to the information provided, potential habitat for the federally threatened bald eagle (*Haliaeetus leucocephalus*) exists in the project area near the proposed bridge replacement over the Yadkin River. Based on field surveys and the distance from known nest locations, we concur with your conclusion of "not likely to adversely affect" for the bald eagle for the subject project. We believe the requirements under section 7(c) of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

If you have questions about these comments, please contact Ms. Marella Buncick of our staff at 828/258-3939, Ext. 237. In any future correspondence concerning this project, please reference our Log Number 4-2-98-243.

Sincerely,

Brian P. Cole
Field Supervisor

cc:
Mr. Eric Alsmeyer, U.S. Army Corps of Engineers, Raleigh Regulatory Field Office. 6508 Falls of the Neuse Road, Suite 120, Raleigh, NC 27615

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources

October 27, 2003

MEMORANDUM

TO: Greg Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: David Brook RSR for David Brook

SUBJECT: Improve I-85, from north of SR 2120 to north of US 29-70, I-2304, Davidson and Rowan Counties, ER92-8556, CH99-E-4220-0121

Thank you for your letter of August 26, 2003, transmitting an addendum to the archaeological report for the subject project. We apologize for the delay in our comments. This was occasioned by our requesting review by the State Archaeologist as well as other knowledgeable division staff.

We recommend that a site plan be included (about pp. 49-50). It should illustrate the general topography and clearly label placement of all fieldwork units.

We agree with the addendum's conclusions and look forward to receipt of the final report.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: J. L. Skip Browder, North Carolina Railroad Company
H. Gene Ellis, Alcoa, Yadkin Division, Badin, NC
Diane Dillon Hooper, Historic Salisbury Foundation, Inc.
Kaye Brown Hirst, Rowan Museum, Inc.
Ann Brownlee, Salisbury, NC
Matt Wilkerson, NCDOT

APPENDIX B

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

May 22, 2001

Mr. Stephen B. Jacobs, BAS, PA
699 Joyce Circle
High Point, North Carolina 27265

Subject: I-85 Widening Project in Rowan and Davidson Counties
TIP No. I-2304

Dear Mr. Jacobs

The subject project impacts several mobile homes in the Williams Shady Mobile Home Park. As the Administrator of Mr. Williams' estate and the Power of Attorney for the heirs of the property encompassed by the Mobile Home Park, we ask that you notify the tenants of the following meeting.

Meeting Location: **Spencer Town Hall**
600 South Salisbury Avenue

Meeting Date and Time: **June 19, 2001 at 7:30 p.m.**

Meeting Purpose: **Discuss and receive comments concerning the impacts of the proposed widening and reconstruction of I-85 from north of SR 2120 in Rowan County to US 29-52-70/I-85 Business in Davidson County**

I have enclosed enough copies of this letter for you to deliver to the tenants of Mobile Home Park. The letter includes a location map of the project on the reverse side of this letter. Please encourage all the tenants to come to the meetings, as we are very interested in their opinions concerning this project. We will provide light refreshments at the meeting. Anyone requiring special services to attend and participate in the meeting should contact me at least ***one week prior to the date of the meeting***.

Thank you for your cooperation in arranging this meeting with the community. If you or any of the residents have questions before the meeting, please call me at 919-250-4092.

Sincerely,

Leigh Lane
Public Involvement and Community Studies Unit
Office of Human Environment, PDEA

Cc: Buddy Gettys, Honorable Mayor of Spencer
Larry Smith, Town of Spencer
Lisa Perdue, Town of Spencer

NOTICE OF A SMALL GROUP MEETING
FOR THE WIDENING OF I-85 FROM NORTH OF SR 2120 (LONG FERRY ROAD) TO US 29-52-70/I-85 BUSINESS

Project 8.1631403 I-2304A Davidson/Rowan Counties

The North Carolina Department of Transportation will hold the above Small Group Meeting on Monday, June 24, 2002 at 7:00PM at the North Carolina Transportation Museum, 411 South Salisbury Avenue, Spencer, NC.

Interested individuals may attend this meeting beginning at the above stated time. Department of Transportation representatives will be present to answer questions and receive comments relative to the proposed project.

The purpose of this meeting is to present information, answer questions, and receive comments regarding this project. This project proposes the widening of I-85 from north of SR 2120 (Long Ferry Road) to US 29-52-70/I-85 Business in Davidson and Rowan Counties.

Anyone desiring additional information may contact Ms. Jackie Obediente, 1548 Mail Service Center, Raleigh, NC 27699-1548, phone (919) 733-7844 ext. 228 or e-mail her at jyobediente@dot.state.nc.us.

NCDOT will provide auxiliary aids and services for disabled persons who wish to participate in this workshop to comply with the American Disabilities Act. To receive special services, please contact Ms. Obediente at the above address or phone number or fax (919) 733-9794 as early as possible so that arrangements can be made.

APPENDIX C

NOTICE OF AN OPEN FORUM COMBINED PUBLIC HEARING ON THE PROPOSED WIDENING OF I-85 FROM NORTH OF SR 2120 (EXIT 81) IN ROWAN COUNTY TO US 29-52-70/I-85 IN DAVIDSON COUNTY

Project 8.1631403 **I-2304** **Rowan and Davidson Counties**

The North Carolina Department of Transportation will hold the above open forum public hearing on July 26, 2001 between the hours of 5:00 p.m. and 8:00 p.m. at the North Carolina Transportation Museum located at 411 South Salisbury Avenue in Spencer, North Carolina.

Interested individuals may attend this informal drop in hearing at their convenience between the above stated hours. Department of Transportation personnel will be available to provide information and answer individual questions regarding this project.

The project proposes to widen I-85 from the existing four lane divided highway to an eight lane divided highway. In addition, interchanges and service roads are proposed to be altered to improve safety along this stretch of I-85. Anyone desiring additional information may contact Ms. Leigh Lane at 1583 Mail Service Center, Raleigh, NC 27699-1583, phone at 919-250-4092, or email at llane@dot.state.nc.us.

A copy of the Environmental Assessment describing the project and a map setting forth the location and design are available for public review at the **Rowan County Manager's Office located at 202 North Main Street in Salisbury and the Spencer Town Hall located at 600 South Salisbury Avenue in Spencer.**

NCDOT will provide auxiliary aids and services for disabled persons who wish to participate in the hearing to comply with ADA. To receive special services, please contact Ms. Lane at the above address or phone number or fax (919)-250-4208 to provide adequate notice prior to the date of the meeting so that arrangements can be made.

I-85

From North of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in Davidson County

T.I.P. Number I-2304A
Project Number 8.1631403
Federal Aid Number NHF-85-3(164)80

OPEN FORUM PUBLIC HEARING

North Carolina Transportation Museum
Spencer, NC

July 26, 2001

Purpose of Hearing

Today we are holding an "Open Forum" public hearing. This is a format where individuals may drop in anytime and speak with a representative of the Division of Highways about this project. This gives citizens the opportunity to ask questions and receive information one on one style. We find this style works well when there is a project of this nature where many individual property owners are expected to have questions about the effects of the project on their property. The opportunity to offer comments about the project is still provided, either through comments spoken to representative or through written comments submitted as a part of the hearing. The written comments will be accepted for a period of 15 days following today's hearing. The attached comment sheet includes an address where these comments may be sent. A tape recorder will be available for us to record your comments as another option for you to voice your opinion. These comments will be transcribed and included as part of the public hearing record.

Now that the opportunity is here, you are encouraged to ask questions and submit comments about this project. All input will be reviewed and discussed by Department staff at a post hearing meeting. Changes requested will be considered as to how they will affect the safety, cost, and design integrity of the project. Those changes that meet these criteria may be made to the project.

Purpose of Project

I-85 has become very congested in Rowan and Davidson Counties. This type of congestion not only slows traffic and makes driving uncomfortable, but also creates a high accident potential, especially on a high-speed highway. In addition, there is a very high percentage of truck traffic.

As shown below, traffic volumes are expected to increase dramatically over the next twenty years.

Year	Location	Traffic Volume (Vehicles per day)
1998	South of I-85 Business	57,200
1998	South of NC 150	56,000
2025	South of I-85 Business	114,400
2025	South of NC 150	113,000

Review of accident information along this section of I-85 reveals that the accident rate is similar to the accident rates on other rural interstates throughout North Carolina. However, the fatality accident rate on this section is higher than the fatality accident rate for other rural interstates in North Carolina. Further review of the accident data reveals that several of the accidents were concentrated in and around the interchange areas along the subject project. Rear-end collisions and vehicles running off the road constitute the largest percentage of the accidents. The proposed project will help reduce the number of these types of accidents as well as the overall safety of the highway.

As traffic volumes have increased over the years, the interchanges along this project including US 29/70 Interchange, NC 150 interchange, Clark Road interchange, Belmont Boulevard interchange, and US 29/70/I85 Business interchange no longer provide safe access to adjoining roads. Left-hand entrance and exit ramps along with inadequate distances between interchanges create traffic flow problems for merging and diverging vehicles. In addition, there are several bridges along the project that are structurally deficient. The proposed interchanges and bridges for this project are designed to meet the latest state and national standards.

Project Description

The North Carolina Department of Transportation propose to widen I-85 from north of SR 2120 (Long Ferry Road) (Exit 81) in Rowan County to US 29/70/I-85 Business (Exit 87) in Davidson County to an 8-lane interstate with a 46-foot median. The interchanges and service roads along the project will be revised to accommodate the proposed widening. Inadequate bridges along the project will be replaced to conform to current design standards. The following information outlines proposed interchanges and a few of the proposed service road revisions:

Willow Creek Drive (SR 2180) is a service road originating at Long Ferry Road (SR 2120) on the east side of I-85. The road parallels I-85 northward intersecting Hackett Road, which crosses under I-85. The intersection is awkward, involving a railroad crossing and a very sharp turn. The proposed project eliminates this intersection by ending Hackett Road to the west of I-85. Willow Creek Drive would be reconstructed to the east of its existing location throughout its length, but will not connect to Hackett Road to provide access under I-85.

Hinkle Lane (SR 2181) is a service road beginning at SR 2120 on the west side of I-85. The proposed project would reconstruct Hinkle Lane to the west and extend that road approximately 1500 feet to the north to improve access to Finetex.

The existing configuration and closeness of the US 29/70, NC 150, and Clark Road interchanges negatively affect traffic flow as well as add to driver confusion. In order to provide safe traffic flow the proposed project would replace these 3 interchanges with one full movement interchange. The interchange would be located in the vicinity of the existing NC 150 interchange and would be a partial cloverleaf with loops and ramps in the southeast and northwest quadrants.

Access to US 29/70 would be accommodated by a service road from the new interchange on the west side of I-85. The new interchange would also provide direct access to Seven Oaks Drive (SR 1285) to the east and NC 150 to the west.

Also along the east side of I-85, a service road would be provided parallel to I-85 and would continue to north of the existing Clark Road Interchange. The Clark Road Interchange is proposed to be eliminated.

The Belmont Boulevard Interchange will be reconstructed into a partial cloverleaf interchange. The ramps and loops of the interchange will be located on the south side. The new interchange will be constructed slightly to the south of the existing interchange.

Nine bridges along the project will be replaced or removed without replacement. Bridge #46 which carries 2 lanes of US 29/70 over the Yadkin River in the southbound direction, will remain in place but will be closed to vehicular traffic. NCDOT, Rowan and Davidson County Commissioners, the Transportation Museum, and the State Historic Preservation Office is discussing opportunities to keep this bridge open to pedestrians and bicycle traffic.

Project Information

Length:	7 miles	
Typical Section:	Widen to 8-lane divided highway separated by a 46-foot median (see enclosed figure)	
Right of Way:	Minimum of 300 feet	
Relocations:	Residences (33)	
	Businesses (4)	
Estimated Costs:	Right of Way	($5,419,000)
	Construction	($138,240,000)
	Total	($143,659,000)

Proposed Cross Section for Interstate 85
8-lane Section

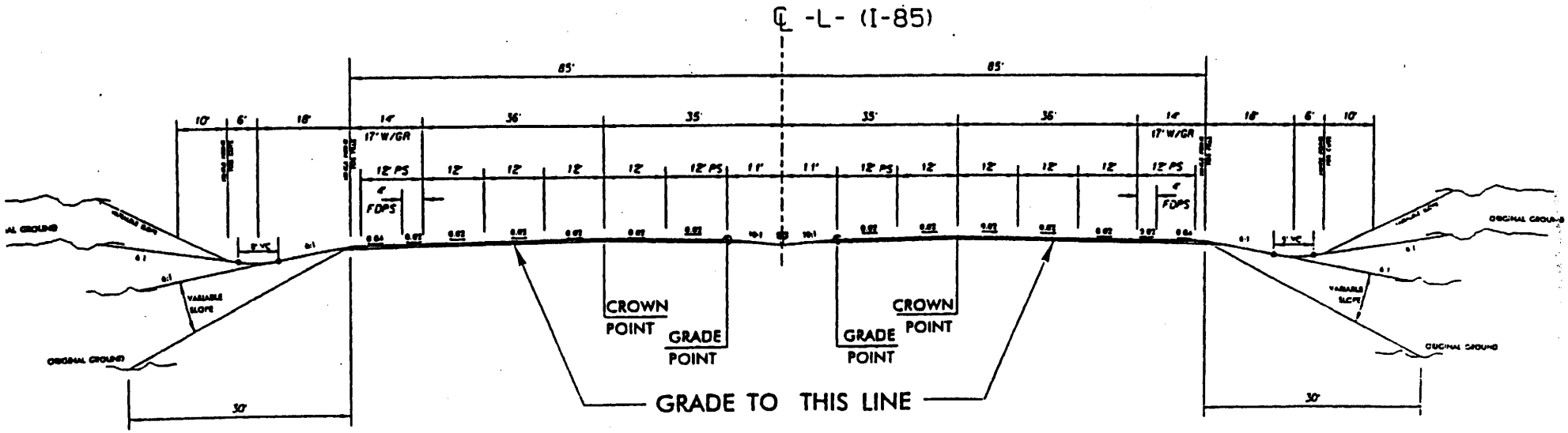

Figure 4A

Tentative Schedule

From Just North of SR 2120 to Just North of NC 150 (I-2304AA)

Right of Way:	Fiscal Year 2003
Construction:	Fiscal Year 2007

From Just North of NC 150 to I-85 Business (I-2304 AB)

Right of Way:	Fiscal Year 2005
Construction:	Fiscal Year 2007

State-Federal Relationship

This is a proposed Federal-Aid Highway Project and will be constructed under the Federal-Aid Highway Program. Funding for this project will be 80% from Federal funds and 20% from State funds. The North Carolina Department of Transportation (NCDOT) is responsible for the selection, scheduling, location, design, and construction of the project. NCDOT is responsible for 100% of the maintenance of the roadway after it is built. The Federal Highway Administration is responsible for the review and approval of the previously- mentioned activities to ensure that the project is designed and constructed to Federal-Aid standards.

Right of Way Procedures

Upon completion of the final design, the proposed right of way limits will be staked on the ground. A Right of Way Agent familiar with the project plans and impacts will contact individual property owners. Professionals familiar with real estate values will evaluate or appraise the property. After the appraisal is reviewed for completeness and accuracy, the Right of Way Agent will make a written offer to the property owner. Compensation for the property will be based on the current market value of the property at its highest and best use. The Department of Transportation must:

1. Treat all owners and tenants equally.
2. Fully explain the owner's rights.
3. Pay just compensation in exchange for property rights.
4. Furnish relocation advisory assistance.

Relocation Information

If you are a Relocatee, that is, if your residence or business is to be acquired as a part of the project, additional assistance in the form of advice and compensation is available to you. An agent can provide you with assistance on locations of comparable housing and/or commercial establishments, moving procedures, and moving aid. Moving expenses may be paid for you. Additional monetary compensation is available to help homeowners cope with mortgage increases, increased value of comparable homes, closing costs, etc. A similar program is available to assist business owners. Your Agent can explain this assistance in greater detail.

NOTE: Pamphlets summarizing right of way procedures and relocatee advisory assistance are available upon request.

COMMENT SHEET

I-85

From North of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) in

Open Forum Public Hearing

I-2304A Project 8.1631403 Rowan and Davidson

July 26, 2001

NAME: _____

ADDRESS: _____

COMMENTS AND\OR QUESTIONS:

Comments may be mailed to:
Leigh B. Lane
Public Involvement and Community Studies Unit
Project Development and Environmental Analysis Branch
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 250-4092 Fax: (919) 250-4208
E-mail: llane@dot.state.nc.us

APPENDIX D

Design Noise Report
I-2304AA

DESIGN NOISE REPORT

Interstate 85, from North of SR 2120 in Rowan County
to North of of NC 150 in Davidson County
State Project 8.1631403, TIP # I-2304AA

PROJECT LOCATION/DESCRIPTION

This project involves widening and relocation of Interstate 85 to a eight-lane divided interstate with a partial cloverleaf interchange at US 29-52-70 / NC 150. The project includes the the reconfiguration of SR 1138 / SR 1139 and NC 150. A shifting of the horizontal alignment of SR 1285 will also occur as a part of this project. The project begins north of SR 2120 in Rowan County and terminates north of NC 150 in Davidson County. Figure 1 illustrates the project study area. Access will be fully controlled on the majority of the project, (posted speed limit to be 65 mph). Access will be partially controlled for SR 1139, SR 1138 (no posted speed limit). Access will be partially controlled for SR 1285 and NC 150 (north of the interchange)(posted speed limits to be 45 mph.) Access will be partially controlled for Service Road 'B' (NC 150 south of the interchange) and Service Road 'D' (posted speed limits to be 55 mph.)

PROCEDURE

This design noise report presents a more detailed analysis of the improvements for this section of Interstate 85. As part of this evaluation, current existing noise levels were measured in the vicinity of the proposed project. Predictions were also made of the maximum design year peak hour traffic noise levels expected by receptors in the vicinity of the project. The procedure used to predict future noise levels in this study was the Federal Highway Administration Traffic Noise Model, version 1.1 (FHWA TNM).

CHARACTERISTICS OF NOISE

Noise is basically defined as unwanted sound. It is emitted from many sources including airplanes, factories, railroads, power generating plants, and highway vehicles. Highway noise, or traffic noise, is usually a composite of noises from engine exhaust, drive train, and tire-roadway interaction.

The magnitude of noise is usually described by its sound pressure. Since the range of sound pressure varies greatly, a logarithmic scale is used to relate sound pressures to some common reference level, usually the decibel (db). Sound pressures described in decibels are called sound pressure levels and are often defined in terms of frequency-weighted scales (A, B, C, or D).

The weighted-A scale is used almost exclusively in vehicle noise measurements because it places most emphasis on the frequency characteristics that correspond to a human's subjective response to noise. Sound levels measured using A-weighting are often expressed as dBA. Throughout this report, references will be made to dBA, which means an A-weighted decibel level. Several examples of noise pressure levels in dBA are listed in Table 1.

Review of Table 1 indicates that most individuals in urbanized areas are exposed to fairly high noise levels from many sources as they go about their daily activities. The degree of disturbance or annoyance of unwanted sound depends essentially on three things:

1. The amount and nature of the intruding noise,

2. The relationship between the background noise and the intruding noise, and

3. The type of activity occurring where the intruding noise is heard.

In considering the first of these three factors, it is important to note that individuals have different hearing sensitivity to noise. Loud noises bother some more than others and some individuals become angered if an unwanted noise persists. The time patterns of noise also enter into a person's judgment of whether or not a noise is objectionable. For example, noises occurring during sleeping hours are usually considered to be more objectionable than the same noises in the daytime.

With regard to the second factor, individuals tend to judge the annoyance of an unwanted sound in terms of its relationship to noise from other sources (background noise). The blowing of a car horn at night, when background noise levels are approximately 45 dBA, would generally be much more objectionable than the blowing of a car horn in the afternoon, when background noise levels might be 55 dBA.

The third factor is related to the disruption of an individual's activities due to noise. In a 60 dBA environment, normal conversation would be possible while sleep might be difficult. Work activities requiring high levels of concentration may be interrupted by loud noises while activities requiring manual effort may not be interrupted to the same degree.

Over a period of time, individuals tend to accept the noises which intrude into their daily lives, particularly if the noises occur at predicted intervals and are expected. Attempts have been made to regulate many of these types of noises including airplane noises, factory noise, railroad noise, and highway traffic noise.

In relation to highway traffic noise, methods of analysis and control have developed rapidly over the past few years.

Sound pressure levels in this report are referred to as Leq (h). The hourly Leq, or equivalent sound level, is the level of constant sound which in an hour would contain the same acoustic energy as the time-varying sound. In other words, the fluctuating sound levels of traffic noise are represented in terms of a steady noise level with the same energy content.

NOISE ABATEMENT CRITERIA

To determine if highway noise levels are compatible with various land uses, the FHWA has developed noise abatement criteria and procedures to be used in the planning and design of highways. These abatement criteria and procedures are in accordance with Title 23 Code of Federal Regulations (CFR), Part 772, U.S. Department of Transportation, Federal Highway Administration (FHWA), Procedures for Abatement of Highway Traffic Noise and Construction Noise. A summary of the FHWA Noise Abatement Criteria (NAC) for various land uses is presented in Table 2. One factor for considering traffic noise mitigation is when future noise levels either approach or exceed the criteria levels for each activity category. Title 23 CFR, Section 772.11 (a) states, "In determining and abating traffic noise impacts, primary consideration is to be given to exterior areas. Abatement will usually be necessary only where frequent human use occurs and a lowered noise level would be of benefit." For this project, the identified receptors are residential (category B) and business (category C) with 3 churches and evaluated as category E. No receptors were identified for activities A or D.

AMBIENT NOISE LEVELS

Ambient noise is that which results from natural and mechanical sources and human activity, and that which is considered to be usually present in a particular area. The purpose of this noise level information was to quantify the existing acoustic environment and to provide a base for assessing the impact for future noise levels from the project on the residential neighborhoods. Figure 2 displays the study area and the location of the noise measurement sites. Field measurements were taken at representative locations using a Nor116 Precision Sound-Level Meter. The microphone was located at a strategic point 50 feet from the center line of the near lane of travel and at an elevation approximately 5 feet above the existing ground. The duration of the sampling period at these measurement sites was 20 minutes. The ambient noise levels are listed in Table 3.

PROCEDURE FOR PREDICTING FUTURE NOISE LEVELS

The prediction of highway traffic noise is a complicated procedure. Generally, traffic is composed of a large number of variables which describe different vehicles driving at different speeds through a continually changing highway configuration and surrounding terrain. Obviously, to assess the problem certain assumptions and simplifications must be made.

The TNM traffic noise prediction model uses the number and type of vehicles on the planned roadway, their speeds, the physical characteristics of the road (horizontal and vertical alignment, grades, cut or fill sections, etc.), receptor location and height, and, if applicable; barrier type, barrier ground elevation, and barrier top elevation.

The noise predictions made in this report are highway-related noise predictions for the traffic conditions during the year being analyzed. Design hour and level-of-service (LOS) C volumes were compared for the proposed alternative. The volume which resulted in the noisiest conditions was used with posted speeds to predict future noise levels. During all other time periods, the noise levels will be no greater than those indicated in this report.

First, this computerized model was used to determine the number of land uses (by type) which would be impacted during the peak hour in the design year 2025. The basic approach was to select receptor locations at 25, 50, 100, 200, 400, 800, and 1600 feet from the center of the near traffic lane (adaptable to both sides of the roadway). The result of this procedure was a grid of receptor points along the project alignment. Using this grid, noise levels were calculated for each identified receptor along the project. Receptors calculated to approach or exceed the FHWA NAC or to experience a substantial increase will be analyzed in detail in subsequent sections of this report.

The Leq traffic noise exposures associated with this project are listed in Table 4. Information included in this table is a listing of all receptors in close proximity to the project, their ambient and predicted noise levels, and the estimated noise level increases for each.

The exposure impacts of the project are listed in Table 5 and are noted in terms of those receptors expected to experience traffic noise impacts by approaching or exceeding the FHWA NAC or by a substantial increase in exterior noise levels. Other information included in Table 5 is the maximum extent of the 67 dBA and the 72 dBA noise level contours and the predicted noise levels at 50, 100, and 200 feet for each roadway segment. The 67 dBA and 72 dBA noise level contours are generally used to assess the exposure impacts of land uses since receptors, particularly residential receptors which are located within the 67 dBA noise level contour, could be expected to experience traffic noise levels above the FHWA NAC. Furthermore, this information is provided to assist local authorities in exercising land use control over the

remaining undeveloped lands adjacent to the roadway and to prevent further development of incompatible activities and land uses.

Table 6 indicates the change in exterior traffic noise levels for the project's identified receptors. Decreases or no increase in noise levels are typical on relocation projects due to the physical shifting of the roadway further away from these receptors.

TRAFFIC NOISE IMPACT ANALYSIS/ABATEMENT MEASURES

Traffic noise impacts occur when a) the predicted design year noise levels approach or exceed those values shown for the appropriate activity category of the FHWA Noise Abatement Criteria (Table 2), with approach values being 1 dBA less than shown in the table; or b) the predicted design year noise levels substantially exceed existing noise levels, as defined in Table 7.

For proposed federal roadway projects, the FHWA requires that States consider noise abatement measures for receptors which fall in either category. The following discussion addresses the applicability of these measures to the proposed project.

Highway Alignment Selection

Alignment selection involves the horizontal or vertical orientation of the proposed improvements in such a way as to minimize impacts and costs. The selection of alternative alignments for noise abatement purposes must consider the balance between noise impacts and other engineering and environmental parameters. For noise abatement, horizontal alignment selection is primarily a matter of locating the roadway at a sufficient distance from noise sensitive areas. This project calls for building the relocated freeway in a corridor of land already reserved for its construction and use. Thus, substantially altering the horizontal alignment of the freeway is not reasonable or feasible from a planning and design standpoint.

Changes in the vertical alignment can be effective in limiting noise impacts of certain highway facilities. However, no major alterations in the vertical alignment are necessary for noise purposes in the design of this project. The planned vertical alignment is suitable for the substantial number of heavy trucks that will use this facility. The operation of heavy trucks can be adversely affected if the vertical grades are excessively steep and/or long. The planned vertical alignment also takes into account the grade-separated roadway crossings and interchanges designed along this project.

Traffic System Management Measures

Traffic system management measures which limit vehicle type, speed, volume and time of operations are often effective noise abatement measures. For this project, traffic management measures are not considered appropriate for noise abatement due to their effect on the capacity and level-of-service on the proposed roadway.

Past project experience has shown that a reduction in the speed limit of 10 mph would result in a noise level reduction of approximately 1 to 2 dBA. Because most people cannot detect a noise reduction of up to 3 dBA and because reducing the speed limit would reduce roadway capacity, it is not considered a viable noise abatement measure. This and other traffic system management measures, including the prohibition of truck operations, are not considered to be consistent with the project's objective of providing a high-speed, controlled access facility.

Noise Barriers

Noise barriers reduce noise levels by blocking the sound path between a roadway and noise sensitive areas. This measure is most often used on high-speed, controlled access facilities where noise levels are high and there is adequate space for continuous barriers. Noise barriers may be constructed from a variety of materials, either individually or combined, including concrete, wood, metal, earth and vegetation.

Due to several traffic noise impacts predicted for the 2025 design year, a noise barrier evaluation was conducted for this project. The evaluation was accomplished in two steps. First, a qualitative barrier evaluation was performed for each impacted receptor which considered each receptor's FHWA NAC activity category, source-receptor relationships, impacted site densities, and the ability to have continuous barriers. The qualitative evaluation resulted in the selection of three potential barrier locations, to possibly reduce or eliminate future noise impacts of residences along Interstate 85.

There were other areas predicted to be impacted, but these sites did not pass the qualitative evaluation. Single-family residences and businesses along NC 150, Old US 29-70 and Salisbury Rd. (SR 1147) were impacted,however, these receptors will continue to have direct driveway access, and a continuous barrier that would be needed for a sufficient noise level reduction could not be built. Receptors in the form of businesses along Service Rd. 'D' and adjacent to I-85 were not included in the barrier evaluation since, unless special conditions exist, it generally is not considered reasonable to provide abatement for businesses since they usually prefer high visibility from the highway. Also these receptors where isolated.

For a noise barrier to provide sufficient noise reduction it must be high enough and long enough to shield the receptor from significant sections of the highway. Access openings in the barrier severely reduce the noise reduction provided by the barrier. It then becomes economically unreasonable to construct a barrier for a small noise reduction. Safety at access openings (driveways, crossing streets, etc.) due to restricted sight distance is also a concern. Furthermore, to provide a sufficient reduction, a barrier's length would normally be eight (8) times the distance from the barrier to the receptor. For example, a receptor located 50 feet from the barrier would normally require a barrier 400 feet long. An access opening of 40 feet (10 percent of the area) would limit its noise reduction to approximately 4 dBA (FUNDAMENTAL AND ABATEMENT OF HIGHWAY TRAFFIC NOISE, Report No. FHWA-HHI-HEV-73-7976-1, USDOT, chapter 5, section 3.2, page 5-27).

The second step of the barrier evaluation involved the computer modeling of noise barriers at the candidate locations, using the FHWA's TNM (version 1.1) barrier simulation model. The analysis was accomplished by developing barriers with TNM, which would meet minimum noise reduction goals at the impacted sites, by estimating the cost of the barrier, and by determining the cost per benefited receptor. The NCDOT defines benefited receptors as all receptors, impacted and non-impacted, which, by placement of the noise mitigation measure, receive a minimum noise level reduction of 5 dBA.

In order for a noise barrier to be considered feasible, it must meet, among other factors, the following conditions:

1. Provide a minimum insertion loss of 5 dBA, preferable 8 dBA or more (for receptors adjacent to the project);

2. Located in an acoustic environment where no other noise sources are present.

3. Suitable for construction given the topography of the location.

A primary consideration of the reasonableness of noise barrier installation is that it costs no more than $25,000 per benefited receptor (those impacted or non-impacted receptors receiving 5 dBA or more reduction).

BARRIER LOCATION 1 - Interstate 85 (Right Side) near the Begin of Project and south of the interchange
Impacted Residences 6 – 8, 9, 13-15,20-21,24-27, 29-30

Noise mitigation in the form of a wall was analyzed for impacted residences and along Interstate 85 near the Begin of Project, south of the proposed interchange (Figure 3). The barrier studied was one designed to mitigate all receptors in this area, a total of 16 residences. The total length of this barrier is 2697 feet and it would be located between I-85 and Service Rd. '2'. The exposed surface of the wall will average 19 feet in height with a minimum height of 8 feet and a maximum height of 24 feet. This mitigation measure would effectively benefit (provide at least a 5 dBA reduction) 16 of the analyzed receptors at a cost of $764,800. Thus, the cost per benefited receptor is $47,800.

Since this barrier does not meet the cost criterion of a maximum expenditure of $25,000 per benefited residence, established in the NCDOT Noise Abatement Guidelines, the walls are not considered reasonable and feasible by NCDOT guidelines. Hence, we do not recommend the construction of a noise wall in this area.

BARRIER LOCATION 2 - Interstate 85 (Left Side) south of the interchange
Impacted Residences 34, 36, 40-48, 51-61 & 63-98
Impacted Business 38-39

Noise mitigation in the form of a wall was analyzed for impacted residences along Interstate 85 and Service Rd. 'B' (Figure 3). The barrier studied was designed for mitigation of all receptors in this area, a total of 58 residences & 2 businesses. A wall was studied to eliminate or reduce noise impacts in this area. The total length of this barrier is 5200 feet and it would be located between Interstate 85 and Service Rd. 'B'. The exposed surface of the wall will average 18 feet in height, with a minimum height of 10 feet and a maximum height of 24 feet. This mitigation measure would effectively benefit (provide at least a 5 dBA reduction) 53 of the analyzed residences and business at a cost of $1,205,800. Thus, the cost per benefited receptor is $22,750.

Since this barrier does meet the cost criterion of a maximum expenditure of $25,000 per benefited residence, established in the NCDOT Noise Abatement Guidelines, the walls are considered reasonable and feasible by NCDOT guidelines. Hence, we do recommend the construction of a noise wall in this area.

BARRIER LOCATION 3 - Interstate 85 (Left Side) near the End of Project & north of the interchange
Impacted Residences 107-108, 110-119, 122-124, 143-150.

Noise mitigation in the form of a wall was analyzed for impacted residences along Interstate 85 and Salisbury Rd. (SR 1147) (Figure 3). The barrier studied was designed for mitigation of all receptors in this area, a total of 23 residences. A wall was studied to eliminate or reduce noise impacts in this area. The total length of this barrier is 3800 feet and it would be located between Interstate 85 and Salisbury Rd. (SR 1147). The exposed surface of the wall will average 23 feet in height, with a minimum height of 10 feet and a maximum height of 24 feet. This mitigation measure would effectively benefit (provide at least a 5 dBA reduction) 9 of the analyzed residences at a cost of $1,306,300. Thus, the cost per benefited receptor is $145,145.

Since this barrier does not meet the cost criterion of a maximum expenditure of $25,000 per benefited residence, established in the NCDOT Noise Abatement Guidelines, the walls are not considered reasonable and feasible by NCDOT guidelines. Hence, we do not recommend the construction of a noise wall in this area.

CONSTRUCTION NOISE

The major construction elements of this project are expected to be earth removal, hauling, grading, and paving. General construction noise impacts, such as temporary speech interference for passersby and those individuals living or working near the project, can be expected particularly from paving operations and from the earth moving equipment during grading operations. Overall, construction noise impacts are expected to be minimal, since the construction noise is relatively short in duration and is generally restricted to daytime hours. Furthermore, the transmission loss characteristics of surrounding wooded areas and other natural and man-made features are believed to be sufficient to moderate the effects of intrusive construction noise.

SUMMARY

Noise impacts are an unavoidable consequence of roadway projects. A total of 101 residences and 7 businesses will become impacted by highway traffic noise with the construction of this project. 95 of these residences and 2 businesses located in three separate areas, meet NCDOT feasibility and reasonableness requirements for noise abatement measures. In areas where noise walls were evaluated as possible mitigation of impacted receptors, two were found to exceed the cost criteria of $25,000 per benefited residence, and are not, therefore, recommended. In lieu of concrete walls, or where walls are not recommended, vegetative plantings could be provided for visual screening. However one location met the cost criteria as outlined in the NCDOT guidelines as being reasonable and feasible for construction , and is therefore recommended.

Furthermore a total of 112 residences and 11 businessess will be impacted by highway traffic noise as a result of not constructing this project or the "No Build" alternative. It should also be noted that a total of 57 residences and 10 businesses are impacted at the existing level.

It is anticipated that there will be approximately 20 relocations as result of construction of this project.

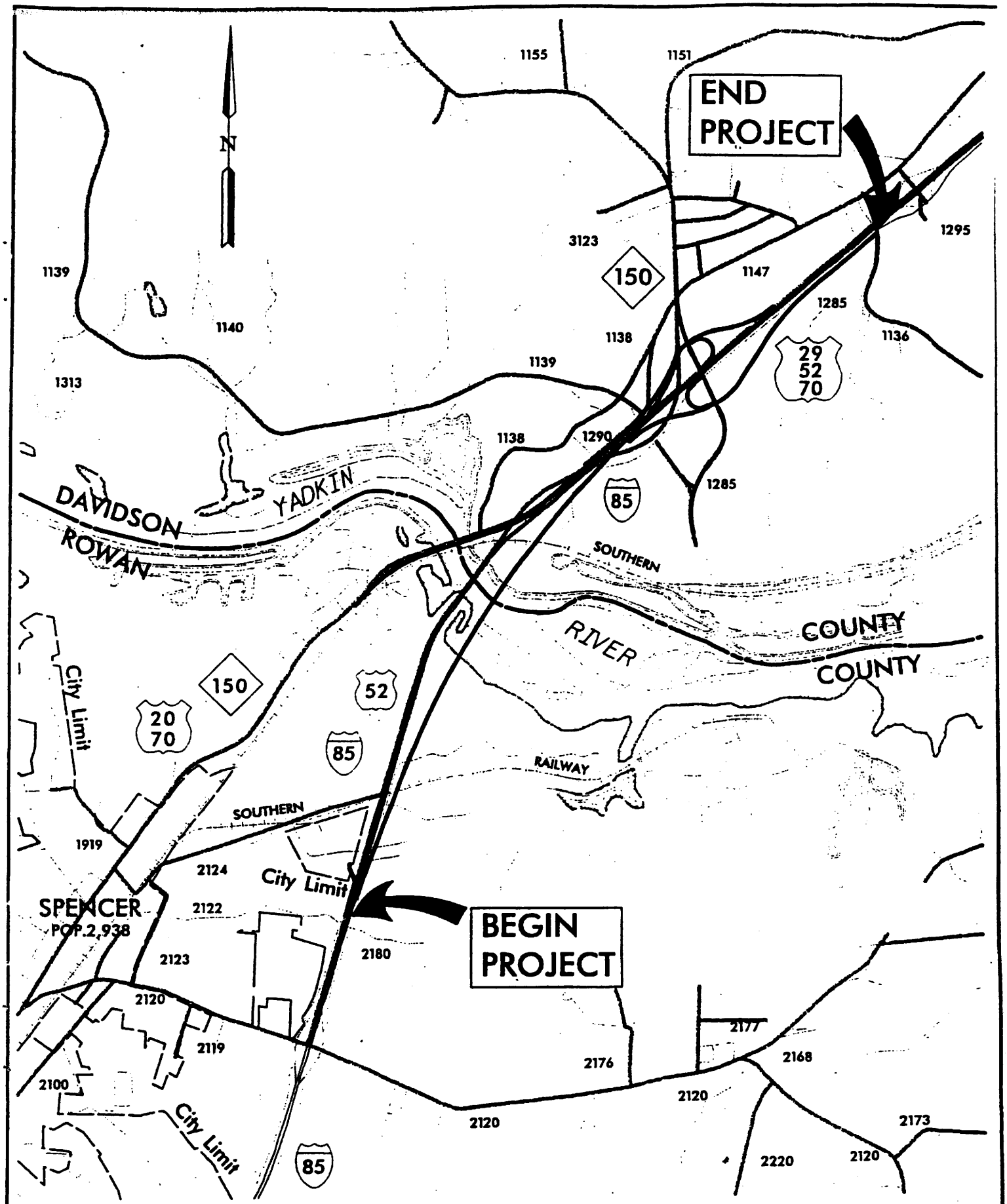

Figure 1 – PROJECT LOCATION

I-85, from North of SR 2120 in Rowan County to North of NC 150 in Davidson County
TIP # I-2304AA, State Project 8.1631403

TABLE 1

HEARING: SOUNDS BOMBARDING US DAILY

DECIBELS		
140	Shotgun blast, jet 100 ft away at takeoff	PAIN
	Motor test chamber	HUMAN EAR PAIN THRESHOLD
130		
	Firecrackers	
120	Severe thunder, pneumatic jackhammer	
	Hockey crowd	
	Amplified rock music	UNCOMFORTABLY LOUD
110		
	Textile loom	
100	Subway train, elevated train, farm tractor	
	Power lawn mower, newspaper press	
	Heavy city traffic, noisy factory	LOUD
90		
	Diesel truck 40 mph 50 ft. away	
80	Crowded restaurant, garbage disposal	
	Average factory, vacuum cleaner	
	Passenger car 50 mph 50 ft. away	MODERATELY LOUD
70		
	Quiet typewriter	
60	Singing birds, window air-conditioner	
	Quiet automobile	
	Normal conversation, average office	QUIET
50		
	Household refrigerator	
	Quiet office	VERY QUIET
40		
	Average home	
30	Dripping faucet	
	Whisper 5 ft. away	
20	Light rainfall, rustle of leaves	
		AVERAGE PERSON'S THRESHOLD OF HEARING
	Whisper	JUST AUDIBLE
10		
0		THRESHOLD FOR ACUTE HEARING

Sources: World Book, Rand McNally Atlas of the Human Body, Encyclopedia Americana, "Industrial Noise and Hearing Conversation: by J. B. Olishifski and E. R. Harford (Researched by N. Jane Hunt and published in the Chicago Tribune in an illustrated graphic by Tom Heinz.

TABLE 2

NOISE ABATEMENT CRITERIA

Hourly A-Weighted Sound Level - decibels (dBA)

Activity Category	Leq(h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation area, playgrounds, active sports areas, parks, residence, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	---	Undeveloped lands
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Title 23 code of Federal Regulations (CFR) Part 772, U. S. Department of Transportation, Federal Highway Administration.

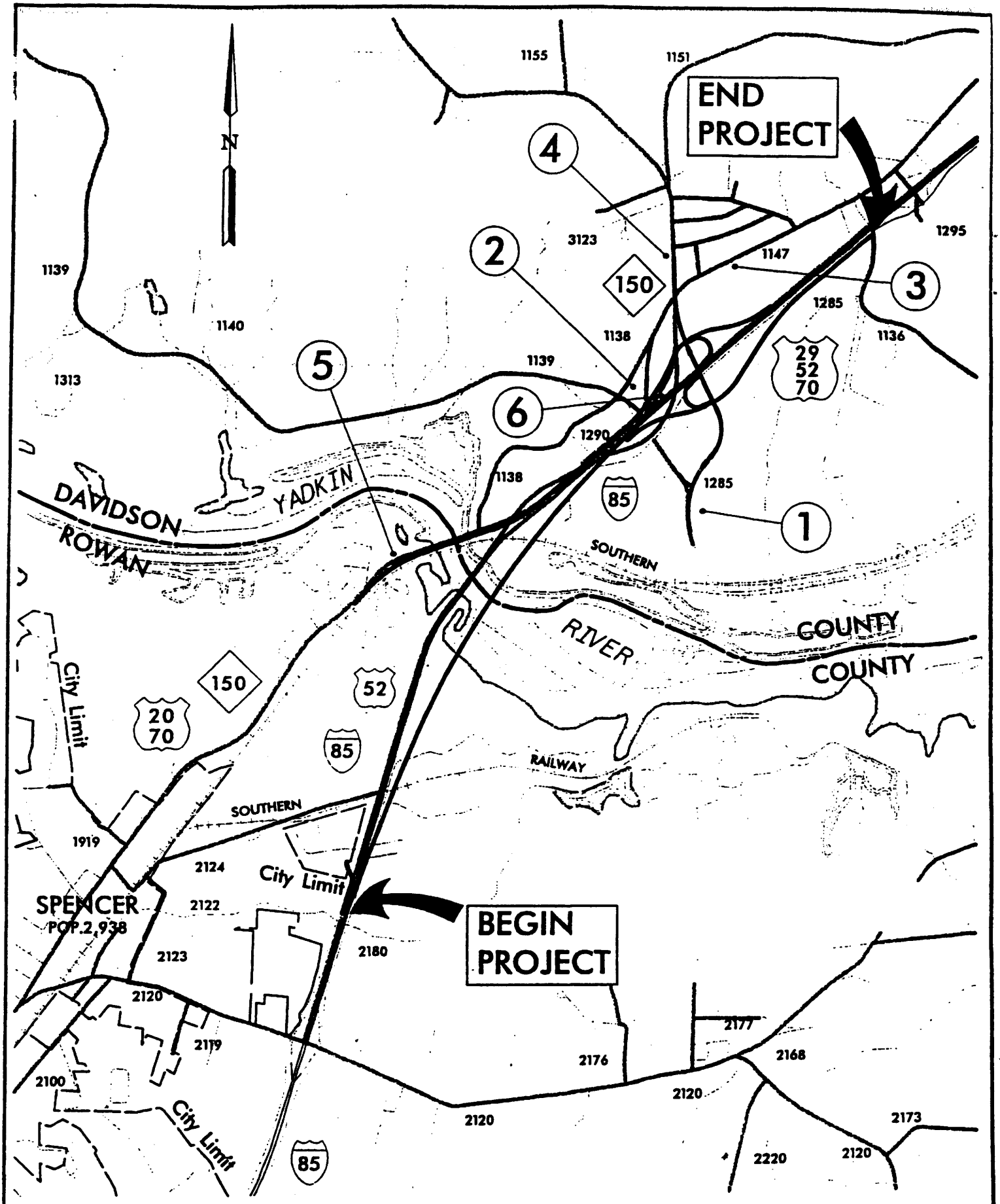

Figure 2 – AMBIENT MEASUREMENT SITES

I–85, from North of SR 2120 in Rowan County to North of NC 150 in Davidson County
TIP # I–2304AA, State Project 8.1631403

TABLE 3

AMBIENT NOISE LEVELS
(Leq)

Interstate 85
From North of SR 2120 in Rowan County to North of NC 150 in Davidson County
State Project # 8.1631403, TIP # I-2304AA

SITE	LOCATION	DESCRIPTION	NOISE LEVEL (dBA)
1	Clark Road (SR 1136) (*) South of SR 1285	Grass Area	53.5
2	Old US 29-70 (SR 1138) South of SR 1290	Gravel / Dirt Area	59.2
3	Salisbury Rd. (SR 1147) East of NC 150	Grass Area	61.0
4	NC 150 North of SR 1147	Grass Area	61.4
5	US 29-70 / NC 150 @ NC Finishing Plant	Asphalt Area	62.3
6	Interstate 85 @ NC 150 Westbound Ramp	Grass Area	79.4

NOTE: These sites represent a measurement of traffic noise at 50 feet from the center of the nearest travel lane. (Unless otherwise indicated)

(*) Indicates Background Ambient Reading

TABLE 4

LEQ TRAFFIC NOISE EXPOSURES

- I-2304AA

INTERSTATE 85 - BEGIN PROJECT TO SOUTH OF INTERCHANGE

Receptor I.D.	Receptor Land Use	Receptor Category	Ambient Noise Level	Predicted Level -L-	Predicted Level -Y-	Max. Predicted Noise Level	Noise Level Increase	"No-Build" Max. Pred. Noise Level	"No Build" Noise Level Increase
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
1	Business	C	76.0			78.2	2.2	77.4	1.4
2	Business	C	65.0			67.9	2.9	66.2	1.2
3	Residence	B	75.2			-	Relocated	77.0	1.8
4	Residence	B	73.4			-	Relocated	74.7	1.3
5	Residence	B	71.9			-	Relocated	73.0	1.1
6	Residence	B	70.5			75.7	5.2	71.6	1.1
7	Residence	B	67.4			69.4	2.0	68.7	1.3
8	Residence	B	66.5			68.2	1.7	67.6	1.1
9	Residence	B	64.8			66.9	2.1	66.2	1.4
10	Residence	B	75.0			-	Relocated	76.8	1.8
11	Residence	B	72.6			-	Relocated	73.9	1.3
12	Residence	B	71.1			-	Relocated	72.3	1.2
13	Residence	B	64.7			67.2	2.5	66.3	1.6
14	Residence	B	64.3			66.8	2.5	65.8	1.5
15	Residence	B	63.7			66.2	2.5	65.1	1.4
16	Residence	B	75.1			-	Relocated	76.8	1.7
17	Residence	B	72.5			-	Relocated	73.9	1.4
18	Residence	B	71.4			-	Relocated	72.8	1.4
19	Residence	B	66.2			67.9	1.7	67.6	1.4
20	Residence	B	65.3			67.6	2.3	66.8	1.5
21	Residence	B	64.4			67.0	2.6	65.9	1.5
22	Residence	B	74.2			-	Relocated	76.1	1.9
23	Residence	B	70.1			-	Relocated	71.6	1.5
24	Residence	B	67.6			68.2	0.6	69.1	1.5
25	Residence	B	64.7			67.7	3.0	66.2	1.5

RECEPTOR IMPACTED BY APPROACHING OR EXCEEDING THE NOISE ABATEMENT CRITERIA LEVELS.

TABLE 4 - continued -

LEQ TRAFFIC NOISE EXPOSURES

I-2304AA

INTERSTATE 85 - BEGIN PROJECT TO SOUTH OF INTERCHANGE

Receptor I.D.	Receptor Land Use	Receptor Category	Ambient Noise Level	Predicted Level -L-	Predicted Level -Y-	Max. Predicted Noise Level	Noise Level Increase	"No-Build" Max. Pred. Noise Level	"No Build" Noise Level Increase
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
26	Residence	B	63.5			67.1	3.6	65.1	1.6
27	Residence	B	63.2			66.3	3.1	64.7	1.5
28	Residence	B	69.4			-	Relocated	71.1	1.7
29	Residence	B	65.3			70.2	4.9	67.1	1.8
30	Residence	B	62.9			68.1	5.2	64.8	1.9
31	Business	C	63.1			64.1	1.0	65.5	2.4
32	Business	C	64.2			65.3	1.1	67.0	2.8
OLD US29-70 (SR 1138)									
33	Residence	B	65.7			65.4	-0.3	67.9	2.2
34	Residence	B	66.0	67.1	51.2	67.5	1.5	67.2	1.2
35	Residence	B	64.4	64.3	57.9	65.2	0.8	65.5	1.1
36	Residence	B	66.0	66.8	54.2	67.0	1.0	66.5	0.5
37	Church	E	40.5	41.5	35.2	39.9	-0.6	42.0	1.5
38	Business	C	76.9	74.6	65.7	76.0	-0.9	78.1	1.2
39	Business	C	73.3	73.7	60.6	73.5	0.2	74.3	1.0
40	Residence	B	65.9	67.3	59.6	66.4	0.5	67.3	1.4
41	Residence	B	65.1	66.7	58.1	66.2	1.1	66.5	1.4
42	Residence	B	65.3	67.7	55.7	68.2	2.9	66.8	1.5
43	Residence	B	75.7	76.9	65.4	77.3	1.6	77.4	1.7
44	Residence	B	65.3	67.9	58.6	67.7	2.4	66.5	1.2
45	Residence	B	65.9	68.5	60.6	68.7	2.8	67.5	1.6
46	Residence	B	66.4	69.7	57.1	69.7	3.3	68.1	1.7
47	Residence	B	66.7	69.6	60.1	70.1	3.4	68.6	1.9
48	Residence	B	67.3	70.1	61.0	70.0	2.7	69.4	2.1
49	Residence	B	68.0			-	Relocated	70.1	2.1

RECEPTOR IMPACTED BY APPROACHING OR EXCEEDING THE NOISE ABATEMENT CRITERIA LEVELS.

TABLE 4 - continued -

LEQ TRAFFIC NOISE EXPOSURES

I-2304AA

OLD US 29-70 (SR 1138)

Receptor I.D.	Receptor Land Use	Receptor Category	Ambient Noise Level	Predicted Level -L-	Predicted Level -Y-	Max. Predicted Noise Level	Noise Level Increase	"No-Build" Max. Pred. Noise Level	"No Build" Noise Level Increase
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
50	Residence	B	70.7			-	Relocated	72.9	2.2
51	Residence	B	64.4	65.2	60.2	66.0	1.6	67.6	3.2
52	Residence	B	64.0	64.7	59.7	66.3	2.3	67.5	3.5
53	Residence	B	63.7	64.6	59.5	66.1	2.4	66.9	3.2
54	Residence	B	63.3	64.6	58.1	65.8	2.5	66.6	3.3
55	Residence	B	63.4	65.4	57.8	67.1	3.7	66.5	3.1
56	Residence	B	64.2	66.9	59.0	67.7	3.5	66.7	2.5
57	Residence	B	64.2	67.4	57.0	67.3	3.1	66.8	2.6
58	Residence	B	64.8	68.0	57.9	67.6	2.8	67.6	2.8
59	Residence	B	65.6	68.7	59.4	68.1	2.5	68.5	2.9
60	Residence	B	62.6	66.4	53.9	65.7	3.1	66.2	3.6
61	Residence	B	63.6	67.7	56.9	67.9	4.3	66.8	3.2
62	Residence	B	73.9			-	Relocated	75.8	1.9
63	Residence	B	71.0	74.9	62.7	75.8	4.8	73.1	2.1
64	Residence	B	72.9	76.9	65.2	78.1	5.2	75.1	2.2
65	Residence	B	71.2	75.4	62.5	76.5	5.3	73.9	2.7
66	Residence	B	69.9	74.5	60.6	75.2	5.3	72.8	2.9
67	Residence	B	68.4	73.5	59.7	73.9	5.5	71.2	2.8
68	Residence	B	66.4	71.8	58.4	72.2	5.8	69.4	3.0
69	Residence	B	65.6	70.9	58.3	71.3	5.7	68.4	2.8
70	Residence	B	68.4	72.9	59.1	73.5	5.1	71.1	2.7
71	Residence	B	67.5	72.3	58.8	73.0	5.5	70.6	3.1
72	Residence	B	66.9	71.4	59.4	72.3	5.4	69.5	2.6
73	Residence	B	66.2	70.5	60.7	71.1	5.1	69.1	2.9
74	Residence	B	65.5	69.9	60.1	70.4	4.9	68.2	2.7

RECEPTOR IMPACTED BY APPROACHING OR EXCEEDING THE NOISE ABATEMENT CRITERIA LEVELS.

TABLE 4 - continued -

LEQ TRAFFIC NOISE EXPOSURES

I-2304AA

OLD US 29-70 (SR 1138)

Receptor I.D.	Receptor Land Use	Receptor Category	Ambient Noise Level	Predicted Level -L-	Predicted Level -Y-	Max. Predicted Noise Level	Noise Level Increase	"No-Build" Max. Pred. Noise Level	"No Build" Noise Level Increase
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
75	Residence	B	65.3	68.7	61.1	69.7	4.4	67.8	2.5
76	Residence	B	65.1	68.5	61.0	69.5	4.4	67.0	1.9
77	Business	C	72.6			-	Relocated	74.8	2.2
78	Residence	B	68.7	73.0	62.8	74.1	5.4	71.0	2.3
79	Residence	B	67.4	72.2	60.1	72.9	5.5	69.7	2.3
80	Residence	B	66.0	70.9	58.6	71.3	5.3	68.4	2.4
81	Residence	B	64.5	69.4	56.0	69.7	5.2	66.8	2.3
82	Residence	B	63.8	68.7	55.6	69.1	5.3	66.2	2.4
83	Residence	B	63.9	69.1	58.1	69.3	5.4	67.2	3.3
84	Residence	B	63.6	68.2	57.2	68.6	5.0	67.0	3.4
85	Residence	B	67.6	66.7	57.4	67.5	-0.1	66.1	-1.5
86	Residence	B	62.8	66.7	58.2	67.8	5.0	66.6	3.8
87	Residence	B	62.9	66.3	58.7	67.6	4.7	66.5	3.6
88	Residence	B	62.8	66.8	60.8	68.4	5.6	66.9	4.1
89	Residence	B	62.7	66.1	60.2	68.0	5.3	67.0	4.3
90	Residence	B	62.2	65.9	60.5	67.8	5.6	67.1	4.9
91	Residence	B	64.0	67.3	61.0	69.0	5.0	67.5	3.5
92	Residence	B	62.3	66.6	58.1	67.8	5.5	66.4	4.1
93	Residence	B	62.4	66.2	58.0	66.4	4.0	64.5	2.1
94	Residence	B	62.4	65.7	58.0	66.3	3.9	64.3	1.9
95	Residence	B	62.0	66.3	59.1	67.4	5.4	66.0	4.0
96	Residence	B	61.8	66.5	59.4	67.8	6.0	65.9	4.1
97	Residence	B	61.4	66.6	59.2	67.7	6.3	66.1	4.7
98	Residence	B	61.2	66.5	59.4	67.7	6.5	66.0	4.8

RECEPTOR IMPACTED BY APPROACHING OR EXCEEDING THE NOISE ABATEMENT CRITERIA LEVELS.

TABLE 4 - continued -

LEQ TRAFFIC NOISE EXPOSURES

I-2304AA

NC 150 EAST

Receptor I.D.	Receptor Land Use	Receptor Category	Ambient Noise Level	Predicted Level -L-	Predicted Level -Y-	Max. Predicted Noise Level	Noise Level Increase	"No-Build" Max. Pred. Noise Level	"No Build" Noise Level Increase
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
99	Residence	B	59.6			66.2	6.6	65.7	6.1
100	Residence	B	58.9			66.0	7.1	65.3	6.4
101	Residence	B	57.6			65.8	8.2	64.6	7.0
102	Residence	B	56.8			65.6	8.8	64.1	7.3
103	Residence	B	56.5			65.0	8.5	63.4	6.9
104	Residence	B	56.2			64.6	8.4	62.7	6.5
105	Residence	B	59.1			66.2	7.1	64.9	5.8
106	Business	C	61.9			67.6	5.7	66.5	4.6
SALISBURY RD. (SR 1147)									
107	Residence	B	60.1			65.9	5.8	64.0	3.9
108	Residence	B	63.3			68.1	4.8	66.7	3.4
109	Business	C	63.7			68.0	4.3	66.7	3.0
110	Residence	B	65.4			69.7	4.3	67.9	2.5
111	Residence	B	65.5			69.8	4.3	68.0	2.5
112	Residence	B	66.6			70.6	4.0	69.2	2.6
113	Residence	B	66.0			69.9	3.9	68.4	2.4
114	Residence	B	66.3			69.9	3.6	68.7	2.4
115	Residence	B	66.8			69.6	2.8	69.2	2.4
116	Residence	B	68.6			72.1	3.5	70.7	2.1
117	Residence	B	67.7			69.9	2.2	69.9	2.2
118	Residence	B	74.1			77.9	3.8	76.1	2.0
122	Residence	B	63.7			68.2	4.5	67.8	4.1
123	Residence	B	64.8			70.2	5.4	69.6	4.8
124	Residence	B	64.8			69.8	5.0	69.2	4.4
143	Residence	B	63.2			66.2	3.0	65.8	2.6

RECEPTOR IMPACTED BY APPROACHING OR EXCEEDING THE NOISE ABATEMENT CRITERIA LEVELS.

LEQ TRAFFIC NOISE EXPOSURES

I-2304AA

SALISBURY ROAD (SR 1147)

	Receptor I.D.	Receptor Land Use	Receptor Category	Ambient Noise Level	Predicted Level -L-	Predicted Level -Y-	Max. Predicted Noise Level	Noise Level Increase	"No-Build" Max. Pred. Noise Level	"No Build" Noise Level Increase
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
	144	Residence	B	62.7			67.0	4.3	65.9	3.2
	145	Residence	B	63.3			67.3	4.0	66.5	3.2
	146	Residence	B	57.8			63.7	5.9	62.9	5.1
	147	Residence	B	60.2			69.3	9.1	68.5	8.3
	148	Residence	B	62.4			69.0	6.6	68.1	5.7
	149	Residence	B	64.3			69.2	4.9	67.8	3.5
	150	Residence	B	63.6			70.0	6.4	68.3	4.7
@	151	Residence	B	65.2			67.9	2.7	68.3	3.1
@	152	Residence	B	65.9			67.8	1.9	68.8	2.9
@	153	Residence	B	66.3			69.9	3.6	70.4	4.1
@	154	Residence	B	66.5			69.9	3.4	70.6	4.1
@	155	Residence	B	66.1			67.8	1.7	69.7	3.6
@	156	Residence	B	65.9			67.1	1.2	69.8	3.9
@	157	Business	C	67.0			67.6	0.6	71.4	4.4
	INTERSTATE 85 - NORTH OF INTERCHANGE TO END PROJECT									
	119	Residence	B	73.1			77.6	4.5	75.0	1.9
	120	Residence	B	77.5			-	Relocated	79.1	1.6
	121	Residence	B	79.0			-	Relocated	80.4	1.4
	125	Business	C	72.1			-	Relocated	74.5	2.4
	126	Business	C	70.7			75.0	4.3	72.7	2.0
	127	Business	C	71.1			74.5	3.4	73.2	2.1
	128	Business	C	71.0			75.1	4.1	73.4	2.4
	129	Business	C	72.1			76.3	4.2	74.7	2.6
	130	Business	C	73.8		–	-	Relocated	75.9	2.1
	131	Church	E	42.8			45.0	2.2	44.0	1.2

RECEPTOR IMPACTED BY APPROACHING OR EXCEEDING THE NOISE ABATEMENT CRITERIA LEVELS.

@ RECEPTORS LOCATED OUTSIDE OF THE PROJECT LIMITS

TABLE 4

LEQ TRAFFIC NOISE EXPOSURES

I-2304AA

US 70-20 / NC 150

Receptor I.D.	Receptor Land Use	Receptor Category	Ambient Noise Level	Predicted Level -L-	Predicted Level -Y-	Max. Predicted Noise Level	Noise Level Increase	"No-Build" Max. Pred. Noise Level	"No Build" Noise Level Increase
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)
US 70-20 / NC 150									
132	Church	E	32.9			37.0	4.1	37.8	4.9
133	Business	C	69.5			65.7	-3.8	74.0	4.5
134	Business	C	66.7			66.6	-0.1	69.1	2.4
SR 1285									
135	Residence	B	56.6			60.0	3.4	59.7	3.1
136	Residence	B	57.2			61.0	3.8	61.4	4.2
137	Residence	B	57.8			61.1	3.3	63.7	5.9
138	Business	C	58.4			60.9	2.5	59.7	1.3
139	Residence	B	59.0			62.2	3.2	62.4	3.4
140	Residence	B	59.6			62.5	2.9	62.3	2.7
141	Residence	B	59.9			62.4	2.5	62.3	2.4
142	Residence	B	61.6			64.7	3.1	63.9	2.3

RECEPTOR IMPACTED BY APPROACHING OR EXCEEDING THE NOISE ABATEMENT CRITERIA LEVELS.

TABLE 5

FHWA NOISE ABATEMENT CRITERIA SUMMARY

Interstate 85
From North of SR 2120 in Rowan County to North of NC 150 in Davidson County
State Project # 8.1631403, TIP # I-2304AA

DESCRIPTION	MAXIMUM PREDICTED Leq NOISE LEVELS (dBA)*			CONTOUR DISTANCES (MAXIMUM)**		APPROXIMATE NUMBER OF IMPACTED RECEPTORS ACCORDING TO TITLE 23 CFR PART 772				
	50'	100'	200'	72 dBA	67 dBA	A	B	C	D	E
Interstate 85 Begin Project to South of Interchange	82	79	76	466'	969'	0	16	1	0	0
Old US 29-70 (SR 1138)	60	56	51	<25'	<25'	0	57	2	0	0
NC 150 East	67	63	57	25'	53'	0	5	0	0	0
Salisbury Road (SR 1147)	64	60	54	<25'	34'	0	22	0	0	0
Interstate 85 North of Interchange to End of Project	82	79	76	466'	969'	0	1	4	0	0
US 70-29 / NC 150	68	64	60	26'	57'	0	0	0	0	0
SR 1285	59	56	50	<25'	<25'	0	0	0	0	0
					TOTAL	0	101	7	0	0

* 50', 100', and 200' distances are measured from center of nearest travel lane.
** 72 dBA and 67 dBA contour distances are measured from center of nearest travel lane.

TABLE 6

TRAFFIC NOISE LEVEL INCREASE SUMMARY

Interstate 85
From North of SR 2120 in Rowan County to North of NC 150 in Davidson County
State Project # 8.1631403, TIP # I-2304AA

SEGMENT	RECEPTOR EXTERIOR NOISE LEVEL INCREASES														* SUBSTANTIAL NOISE INCREASES
	≤0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	≥25	
Interstate 85 Begin Project to South of Interchange	1	8	8	3	0	0	0	0	0	0	0	0	0	0	0
Old US 29-70 (SR 1138)	7	8	17	29	1	0	0	0	0	0	0	0	0	0	0
NC 150 East	0	0	0	1	5	2	0	0	0	0	0	0	0	0	0
Salisbury Road (SR 1147)	0	1	12	8	1	1	0	0	0	0	0	0	0	0	0
Interstate 85 North of Interchange to End of Project	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0
US 70-29 / NC 150	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SR 1285	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	10	18	50	42	7	3	0	0	0	0	0	0	0	0	0
NO BUILD	1	80	50	14	5	0	0	0	0	0	0	0	0	0	0

* See Table 7 Definition of Substantial Increase

TABLE 7

DEFINITION OF SUBSTANTIAL INCREASE

Hourly A-Weighted Sound Level - decibels (dBA)

Existing Noise Level in Leq(h)	Increase in dBA from Existing Noise Levels to Future Noise Levels
≤50	≥15
>50	≥10

Source: North Carolina DOT Noise Abatement Guidelines

TABLE 8

RELATIONSHIP BETWEEN DECIBEL, ENERGY AND LOUDNESS

A-Level Down	Remove ____% of Energy	Divide Loudness By
3 dBA	50	1.2
6 dBA	75	1.5
10 dBA	90	2
20 dBA	99	4

TABLE 9

BARRIER ATTENUATION

Reduction in Sound Level	Reduction in Acoustic Energy	Degree of Difficulty
5 dBA	70%	Simple
10 dBA	90%	Attainable
15 dBA	97%	Very Difficult
20 dBA	99%	Nearly Impossible

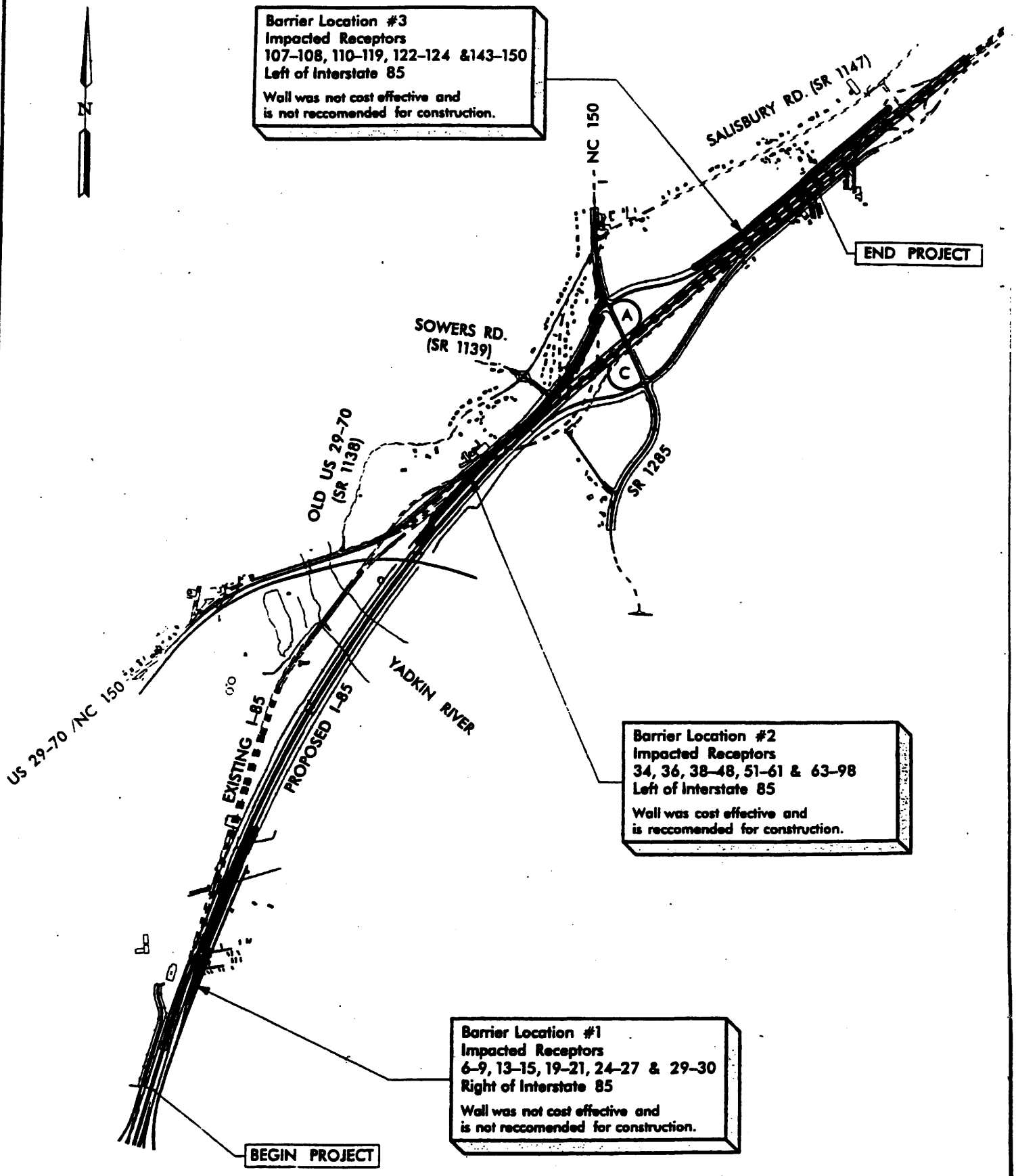

Figure 3 – NOISE WALL LOCATIONS

I-85, from North of SR 2120 in Rowan County to North of NC 150 in Davidson County
TIP # I-2304AA, State Project 8.1631403

Design Noise Report
I-2304AB

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DESIGN NOISE REPORT

I-85 WIDENING
DAVIDSON COUNTY
NORTH CAROLINA
STATE PROJECT 8.1631403 (I-2304AB)
F.A. PROJECT NHF-85-3 (164) 80

Introduction

This proposed project consists of widening I-85 to an 8-lane facility with a variable 46-foot to 70-foot median. Due to the I-85 Business Interchange, 10 lanes will be needed between the Belmont Rd. interchange and the I-85 business interchange. Interchanges will be revised to eliminate the existing Clark Blvd. (SR 1265) access point and totally rebuild the Belmont Rd. (SR 1133) interchange. The proposed project covers a distance of approximately 3.6 miles and is shown in Figure 1. The North Carolina Department of Transportation's (NCDOT) estimate of average daily traffic shows a significant increase in projected traffic volumes. The construction of the I-85 widening is expected to relieve anticipated congestion problems.

Procedure

A preliminary analysis of the probable traffic noise impacts of this project is contained in the project's November 6, 2000 Environmental Assessment (EA). This Design Noise Report presents a more detailed analysis of the proposed widening of I-85.

The EA used the Leq descriptor. The equivalent sound pressure level, Leq (A-weighted), is formulated in terms of the equivalent steady state noise level, which in a defined period of time contains the same noise (acoustic) energy as a time-varying noise during the same period of time. The Leq is an energy summation integration, and as such does not rely on statistical parameters like the L_{10} scheme. Leq has a significant advantage over the L_{10} scheme since the L_{10} scheme cannot adequately consider single event noises. This report utilizes the Leq noise descriptor.

As part of this evaluation, current and future noise levels were determined along and in the vicinity of I-85. The project limits and the ambient (current) noise measurement sites are shown in Exhibit 1 and listed in Table 3. The maximum Design Year 2025 peak hour traffic levels were predicted for the study area and are shown in Exhibit 2. The proposed I-85 widening typical section is shown in Exhibit 3. Future noise levels were predicted with the use of the FHWA Traffic Noise Model (TNM) 1.1.

Characteristics of Noise

Noise is basically defined as unwanted sound. It is emitted from many sources including airplanes, factories, railroads, power generation plants, and highway vehicles. Highway traffic noise, is usually a composite of noises from engine exhaust, drive train, and tire-roadway interaction.

The magnitude of noise is usually described by its sound pressure. Since the range of sound pressure varies greatly, a logarithmic scale is used to relate sound pressures to some common reference level, usually the decibel (dB). Sound pressures described in decibels are called sound pressure levels and are often defined in terms of frequency weighted scales (A, B, C, or D).

The weighted-A scale approximates the frequency response of the human ear by placing the most emphasis on the frequency range of 1,000 to 6,000 Hertz. Because the A-weighting scale closely describes the response of the human ear to sound, it is used almost exclusively in vehicle noise measurements. Sound levels measured using A-weighted are often expressed as dBA. Throughout this report, references will be made to dBA, which means an A-weighted decibel level. Several examples of noise pressure levels are listed in Table 1.

Review of Table 1 indicates that most individuals in urbanized areas are exposed to fairly high noise levels from many sources as they go about their daily activities. The degree of disturbance or annoyance of unwanted sound depends essentially on three things: 1) the amount and nature of the intruding noise, 2) the relationship between the background noise and the intruding noise, and 3) the type of activity occurring where the noise is heard.

In considering the first of these three factors, it is important to note that individuals have different hearing sensitivity to noise. Loud noises bother some more than others and some individuals become roused to anger if an unwanted noise persists. The time patterns of noise also enter into and individual's judgement of whether or not a noise is objectionable. For example, noises occurring during sleeping hours are usually considered to be much more objectionable than the same noises in the daytime.

With regards to the second factor, individuals tend to judge the annoyance of an unwanted noise in terms of its relationship to noise from other sources (background noise). The blowing of a car horn at night when background noise levels are approximately 45 dBA would generally be much more objectionable than the blowing of a car horn in the afternoon when the background noises might be 55 dBA.

The third factor is related to the interface of noise with the activities of individuals. In a 60-dBA environment, normal conversation would be possible while sleep might be difficult. Work activities requiring high levels of concentration may be interrupted by loud noises while activities requiring manual effort may not be interrupted to the same degree.

Over a period of time, individuals tend to accept the noises which intrude into their lives. Particularly if noises occur at predicted intervals and are expected. Attempts have been made to regulate many of these types of noises including airplane noise, railroad noise, factory noise, and highway traffic noise. In relation to traffic noise, methods of analysis and control have developed rapidly over the past few years.

Noise Abatement Criteria

A noise analysis was conducted in accordance with Title 23 of the Code of Federal Regulations, Part 772 (23 CFR, Part 772). In order to determine if highway noise levels are compatible with various land uses, the FHWA has developed noise abatement criteria (NAC) and procedures to be used in the planning and design of highways. A summary of the NAC for various land uses is presented in Table 2. Most of the identified receptors within the vicinity of the I-85 widening were classified as B (residential).

Noise abatement must be considered if the NAC Leq values are approached or exceeded, or if there are substantial increases over the ambient noise levels. The North Carolina Department of Transportation (NCDOT) has adopted Noise Abatement Guidelines to define terms used in noise abatement. The NCDOT definition of "approach" is 1 dBA less than shown in Table 2. "Substantial" increase is defined as either a 15-dBA or greater increase above existing noise levels less than or equal to 50 dBA, or a 10-dBA increase above existing noise levels greater than 50 dBA.

Abatement is only necessary where frequent human use occurs and in which a lowered noise level would be of benefit. Exceptions to this rule include areas where serenity and quiet are considered essential even though the areas may not be subject to frequent human use.

Ambient Noise Levels

The ambient noise is that which results from natural and mechanical sources as well as human activity, which is considered to usually be present in a particular area. A noise monitoring program was conducted in the study area along the I-85 widening project utilizing a Bruel & Kjaer 2238 integrating sound level meter in order to measure ambient noise levels. The instrument was calibrated at 94 dB. Noise measurements were conducted at 5 sites within the study area to represent a mixture of all of the receptors. The measurements of noise levels were conducted using the standard data collection techniques as outlined in the 1996 FHWA report, *Measurement of Highway-Related Noise.* These 5 sites are listed in Table 3. The purpose of this noise level information was to quantify the existing acoustic environment and to provide a base for assessing the impact of noise levels for residences, businesses, and other noise sensitive receptors. The field measured and extrapolated ambient noise levels are shown in Table 4. The ambient noise levels range from 47 dBA near local roads to 81 dBA adjacent to I-85.

The measured sites were modeled based on the traffic counts taken during the field measurements. The objective was to establish a model that calibrated with the TNM projections within 3 dBA. This was accomplished. Differences in measured and

modeled result from queuing or bunching of vehicles and in particular, trucks. The TNM model values are corrected to match measured values.

Procedure for Predicting Future Noise Levels

Traffic noise impacts occur when the predicted traffic noise levels either a) approach (1 dBA less than shown in Table 3) or exceed values shown for the appropriate activity category of the FHWA NAC table, Table 2, in Title 23 Code of Federal Regulations (CFR) Part 772, U.S. Department of Transportation, FWHA, or b) substantially exceed existing noise levels. Substantial increase exists for increases of 15 or more dBA for existing noise levels less than or equal to 50 dBA and also for increases of 10 or more dBA for existing levels greater than 50 dBA. Consideration for noise abatement can be applied to receptors, which fall into either category.

The prediction of highway traffic noise is a complicated procedure. In general, highway traffic noise is composed of a large number of variables, which describe different vehicles driving at different speeds through continually changing highway configurations with the applicable surrounding terrain. In order to assess the problem certain assumptions and simplifications must be made.

The TNM traffic noise prediction model requires and uses the following information: number and type of vehicles on the planned roadway, travel speeds, physical characteristics of the road (i.e., curvature or change in elevation), as well as the location and elevation of the receptors. If applicable, the TNM model also takes into account existing topographical characteristics, barrier type, barrier ground elevations, and barrier top elevation.

The noise predictions made in this report are highway-related noise predictions for the traffic conditions during Design Year 2025. Design hour traffic volumes were compared to the level of service C volumes. The smaller value of actual versus Level of Service (L O S) of C is used. Free flow in traffic produces higher noise levels. During all other time periods, the noise levels are not expected to be greater than those indicated in this report.

The computerized model was utilized to determine the number of land uses (by type) which would be impacted during the peak hour in Design Year 2025. Predicted noise levels vary from receptor to receptor, depending on a receptor's distance from the noise source and ground attenuation. The location of the receptors is shown in Exhibit 4.

The TNM reference values at the different traffic sections on the I-85 widening are shown in Table 5. All specific site noise projections and pertinent data are shown in Appendix A.

Table 6 lists the maximum extent of the 67 dBA and 72 dBA noise level contours and the predicted noise level at 100, 200, and 400 feet for the I-85 widening. The extent of the 67 dBA and 72 dBA noise level contours are generally used to assess the exposure impacts of land uses since receptors, particularly residential receptors, which are located

within the 67 dBA noise level contour, and commercial receptors which are located within the 72 dBA contour, could be expected to experience traffic noise levels above the FHWA NAC. Furthermore, this information can assist local authorities in exercising land use control over the remaining undeveloped lands adjacent to the roadway in local jurisdiction and to prevent further development of incompatible activities and land uses. Noise abatement is not considered for sites constructed after the design hearing of July 26, 2001.

Table 7 lists the estimated exterior traffic noise level increases for the identified receptors. This table identifies 38 impacted receivers (32 residential and 6 commercial sites) which are expected to approach the NAC criteria of 66 and 71 dBA, respectively.

Abatement Measures

The NCDOT has adopted noise abatement guidelines to determine the need, feasibility, and reasonableness of noise abatement measures on all major highway projects.

The three main traffic noise abatement measures reviewed for this report consist of the following: highway alignment selection, traffic system management measures, and noise barriers.

Highway alignment selection involves the horizontal and vertical orientation of the proposed improvements in such a way as to minimize overall impacts and costs. The selection of alternative alignments for noise abatement purposes must consider the balance between noise impacts and other engineering and environmental parameters. For noise abatement, horizontal alignment selection is primarily a matter of locating the roadway at a sufficient distance from noise sensitive areas. During the planning process, noise impacts were considered in the ultimate selection of the preferred alternative. The current alignment location and elevation were used as a basis to provide the best possible balance between transportation needs and environmental parameters, including noise effects. Because of the many factors involved in the alignment selection and roadway design process, altering either the proposed horizontal or vertical alignment would not prove to be a viable solution.

Traffic system management measures, which limit vehicle type, speed, volume, and time of operations, are often effective abatement measures. For this proposed project, traffic management measures are not considered appropriate for noise abatement due to their negative impact to the capacity and level of service of the proposed facility.

Physical measures to abate anticipated traffic noise levels by blocking the sound path between a roadway and noise sensitive areas can often be applied with a measurable degree of success along highway sections, which restrict access to abutting properties. Facilities such as the I-85 widening, with full control of access, permit the application of noise barriers, which effectively absorb, and reflect highway traffic noise emissions. Noise barrier measures may include earth berms as well as artificial noise abatement walls that may be constructed from a variety of materials including concrete, wood, brick, metal, or some combination of these materials. However, these mitigating measures may

not be feasible or reasonable in all cases, particularly for receptors with frontage along primary, secondary or service roads in the study area.

Reduction of traffic noise from the proposed roadway may not necessarily lower levels at these receptors to within the recommended NAC. Likewise, for isolated receptors, or where the application of physical abatement measures may not achieve at least a 5-dBA reduction in the predicted traffic noise levels, the application of abatement measures may not be practical on the basis of the probable noise reduction in relation to the benefits provided as compared to the cost. The cost per receptor includes the cost of physical noise abatement (walls, berms, etc.) and any additional earthwork, guardrail, and/or right-of-way, if applicable. In addition, barrier heights in excess of 25 feet for abatement may not be practical from an economic and/or structural standpoint.

The feasibility of barrier installation as outlined by the NCDOT deals primarily with the engineering considerations. The following items should be considered in order to determine feasibility:

- Can a barrier be built given the topography of the location?
- Can a minimum of 5 dBA noise reduction be achieved given certain access, drainage, safety, or maintenance requirements?
- Are other noise sources present in the area?
- The insertion loss (IL) provided by the wall will be a minimum of 5 dBA, but preferably 8 dBA or more. (IL is the difference in predicted noise levels before and after insertion of some type of shielding.)

The reasonableness of barrier installation as defined by NCDOT should show that common sense and good judgement were used in arriving at a decision. A determination of reasonableness should include such items as:

- The abatement measure must be cost-effective. Cost effectiveness is defined as $25,000.00 per effectively protected (5 dBA or more reduction) residence.
- The exposed height of the wall does not exceed a maximum of 25 feet.
- The receptor is located a distance from the proposed wall of four or more times the height of the wall.
- The change in noise levels between design year traffic levels and existing noise levels must exceed 3 dBA, a barely perceptible change.
- There is a documented support of the benefited residents 5 dBA or more reduction) for placement of the abatement measures.

- Unless special conditions exist, it is not considered reasonable to provide noise abatement for impacted businesses or isolated receptors. Businesses generally prefer visibility. Based on NCDOT's past project experience, it is considered unreasonable to provide abatement for isolated residences, due to cost of abatement versus the benefits provided.

- Unless special conditions exist and effective abatement can be provided, it is not considered reasonable to provide noise abatement on non-controlled or partial access controlled facilities.

- The noise barrier will be located beyond the clear recovery zone or be incorporated into safety devices.

- Unless special conditions exist, it is not considered reasonable to construct walls on the shoulder because of safety, drainage problems, trash accumulation, etc.

- In areas of impacted receptors where abatement measures have been considered, a vegetative barrier may be considered for aesthetic screening even though an acoustical barrier is not justified.

For a barrier to provide significant noise reduction it must be high enough and long enough to shield the receptor from significant sections of the highway. Access openings in the barrier severely reduce the noise reduction provided by the barrier. It then becomes economically unreasonable to construct a barrier for a small noise reduction. Safety at access openings (driveways and connecting streets) due to restricted sight distances is also a concern. To provide a substantial reduction, a barrier's length would normally be eight times the distance from the barrier to the receptor. For example, a receptor located 50 feet from the barrier would require a barrier approximately 400 feet long. An access opening of 40 feet (10 percent of the area) would limit its noise reduction to approximately 4 dBA. (*Fundamentals and Abatement of Highway Traffic Noise*, Report No. FHWA-HHI-HEV-73-7976-1, USDOT, chapter 5, section 3.2, page 5-27).

For the purpose of this analysis, a cost of $15 per square foot was applied to all proposed noise barriers.

In Section 1 from the beginning of the project to Belmont Rd., approximately 1.4 miles north, there are 11 impacted sites. Receivers numbered 1,2,6,7 and 9 are considered isolated locations. For six receivers, there is a barely perceptible change (3 dBA or less). There are also two commercial sites with a 4 dBA increase. The two churches will have interior levels of 46 and 48 dBA which are below the threshold of 52 dBA for interior conditions. Therefore for Section 1, no barriers are feasible or reasonable.

Section 2 covers 1.5 miles from Belmont Rd. to the I-85 business interchange. Sites 15 and 16 are 5 dBA over the criterion but are commercial in nature. Sites 17,26, 32, 35 – 37 are sites separated some distance. The church , site 33, is below the interior threshold

of 52 dBA. Receptors 18 – 21 are located on Kines Rd. Receivers 18 and 19 are on opposite sides of Kines Rd. separated by 210 feet. Receivers 20 and 21 are 215 and 315-feet away from the right-of-way, respectively. A barrier would not be reasonable for sites 18 – 21. Also receiver 21 has a 3 dBA change which denotes it as unreasonable. Receivers 23 – 25 are approximately 300 feet from the ROW behind a commercial site. A service road also separates receiver 23 – 25 from the proposed widening. A barrier is not feasible.

Three barriers were evaluated for three clusters of residences, i.e. barrier 1 for receivers 27 – 31, barrier 2 for receivers 34 – 35 and barrier 3 for receivers 36 – 38. The barrier locations are shown in Exhibit 4. Barrier perspectives and data are in Appendix B. Table 8 depicts the data for the studied walls. Cost and benefited receivers are shown in Table 9 for the three barriers. Barrier 1 benefits four receivers but cost of $48,000 per receiver is over the $25,000 limit. Barrier 2 has two benefited receivers for a cost of $29,200 per receiver. Barrier 3 has a $54,000 value per receiver. As all the walls are over the $25,000 limit, no walls are proposed.

Section 3 extends approximately 0.6 mile north of the I-85 interchange to the end of the project. One commercial business is impacted. No abatement measures are proposed.

Construction Noise

The major construction elements of this project are expected to be earth removal, hauling, grading, and paving of Y-lines only. General construction noise impacts, such as temporary speech interface for passers-by and those individuals living or working near the project, can be expected particularly from paving operations and from earth moving equipment during grading operations.

Mitigation of construction noise and vibration could be accomplished through the development of a construction noise plan. Such a plan could include such measures as the limitation of certain construction vehicles or activities during the evening, weekends, or holidays. Some construction noise impacts may, at certain times, be intrusive to residents living near areas of heavy construction, however, considering the relatively short-term nature of construction noise, these impacts are not expected to be substantial.

Summary

Noise impacts are an unavoidable consequence of highway projects. Due to relatively low development densities along the corridor, impacted receivers were minimized. All three churches adjacent to the route are located sufficient distance from the ROW such that the interior values are below the threshold of 52 dBA.

Sites impacted (11) in Section 1 from the beginning of the project to the Belmont Rd. Interchange are either spaced some distance apart, commercial, or have a barely perceptible change.

Section 2 from the Belmont Rd. Interchange to the I-85 business spilt included 26 impacted sites. Sixteen of these sites are either isolated, commercial, near local road conflicts, or are too far from the ROW for barrier feasibility and reasonability. Three barriers were evaluated for the remaining ten impacted sites as follows:

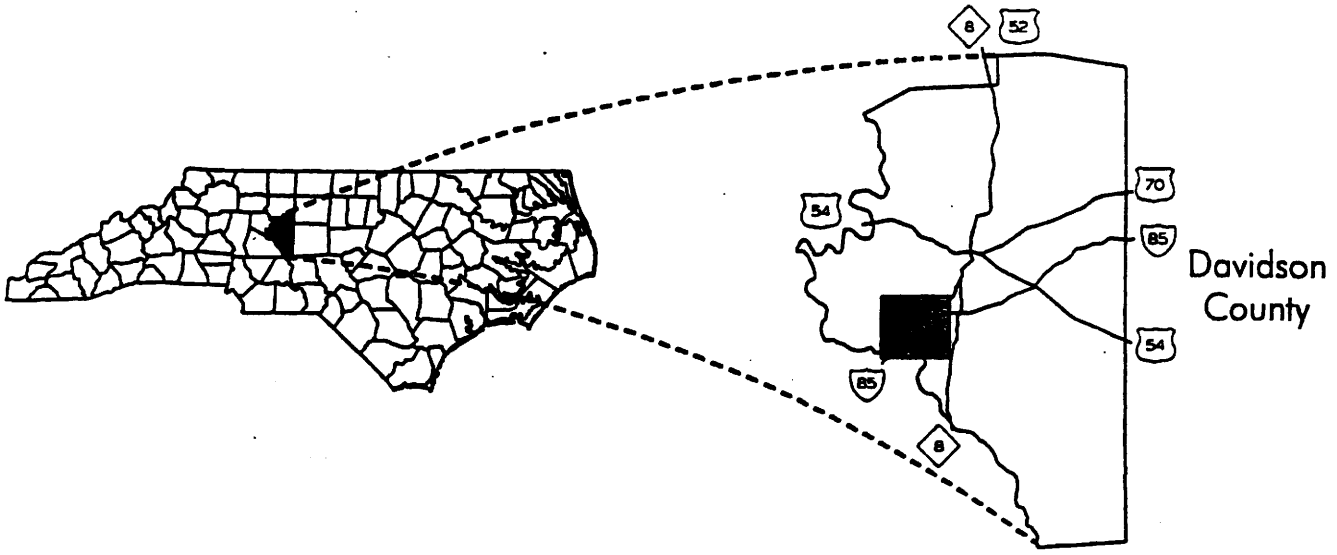
> Barrier 1 includes five mobile homes on the right of station 111+50 to 1118L. A service road is between the depressed freeway and the homes. While Barrier 1 had 4 benefited receivers, the cost of $48,000 per receiver is over the threshold of $25,000. Therefore, Barrier 1 is not reasonable.
>
> Barrier 2 is located left of station 1101L Two mobile home receptors are located on a road almost perpendicular to the proposed widening. Due to the topography and the homes increasing in distance from the ROW, the cost of per benefited receiver was $29,100. Therefore, barrier 2 is also not reasonable.
>
> Barrier 3 includes 3 impacted mobile homes located left of station 1113L on a street that is on an approximate 35-degree skew away from the direction of the ROW. Again because of the topography and the skew away from the ROW, only one receiver was benefited. As the cost is over the threshold, barrier 3 is not proposed.

Section 3 had one impacted commercial site.

No barriers are proposed on the project. Contingent on funding, vegetative plantings could be provided for visual screenings in areas of extreme concerned areas adjacent to sensitive locations. These would be considered aesthetic measures during the landscaping of the project.

This report completes the noise analysis for I-2304AB in accord with Title 23 CFR772 and State requirements.

I–85 FROM NORTH OF NC 150 TO NORTH OF I–85 BUSINESS (I–2304AB) STUDY AREA



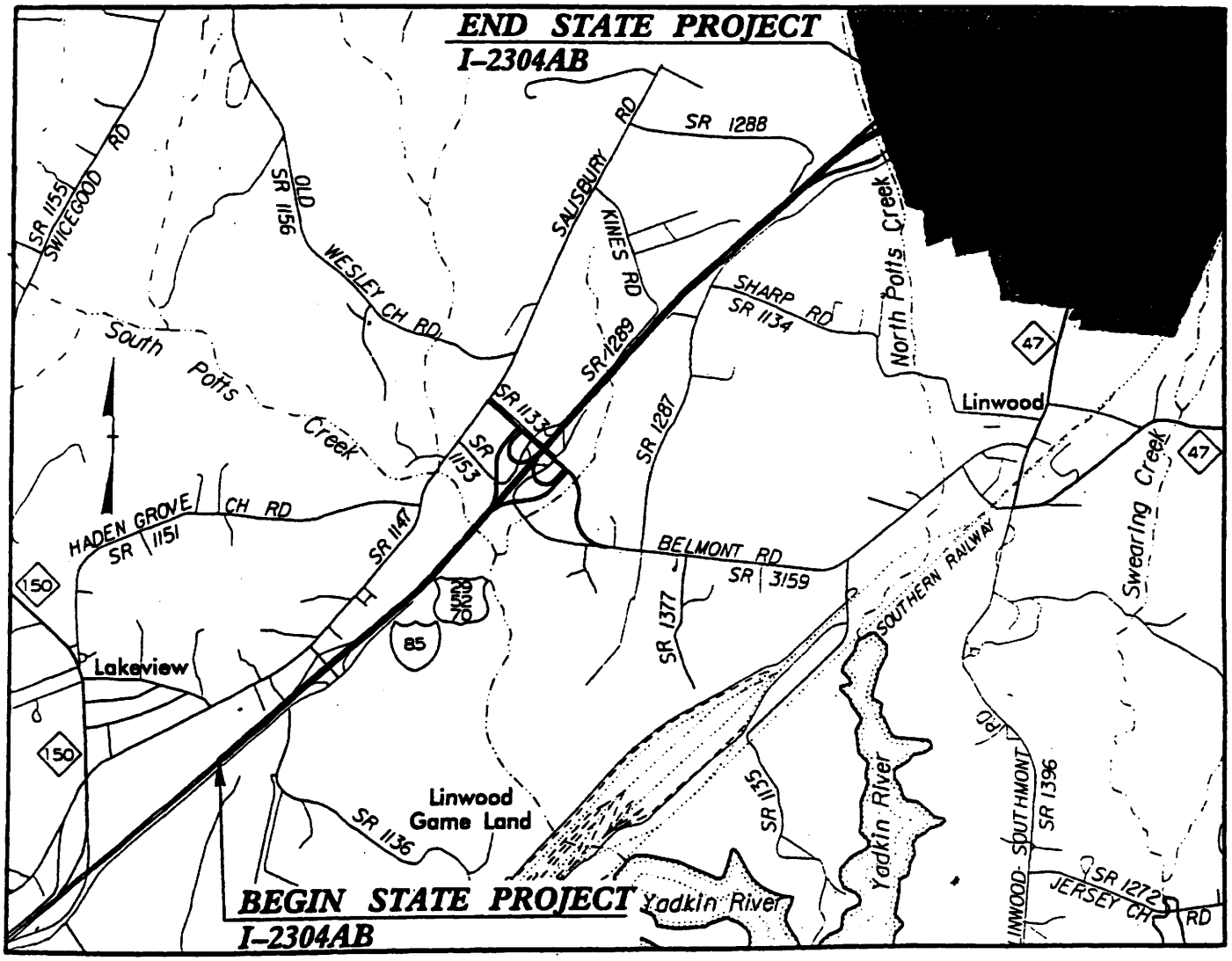


FIGURE 1

Table 1

HEARING: SOUNDS THAT BOMBARD US DAILY

Decibels		
140	Shotgun blast, jet 100 ft. away at takeoff	Pain Human ear pain threshold
130		
120	Firecrackers Severe thunder, pneumatic jackhammer Hockey crowd Amplified rock music	Uncomfortably Loud
110		
100	Textile loom Subway train, elevated train, farm tractor Power lawn mower, newspaper press Heavy city traffic, noisy factory	Loud
90		
80	Diesel truck 40 mph 50 feet away Crowded restaurant, garbage disposal Average factory, vacuum cleaner Passenger car 50 mph 50 feet away	Moderately Loud
70		
60	Quiet typewriter Singing birds, window air conditioner Quiet automobile Normal conversation, average office	Quiet
50		
40	Household refrigerator Quiet office	Very Quiet
30	Average home Dripping faucet Whisper 5 feet away	
20	Light rainfall, rustle of leaves Whisper	Average person's threshold of hearing Just audible
10		
0		Threshold for acute hearing

SOURCE:

World Book, Rand McNally Atlas of the Human Body, Encyclopedia Americana, "Industrial Noise and Hearing Conversation" by J.B. Olishifski and E.R. Harford (Researched by N. Jane Hunt and published in the Chicago Tribune in an illustrated graphic by Tom Heinz.)

Table 2

NOISE ABATEMENT CRITERIA

Activity Category	Leq (hr)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B
D		Undeveloped Lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source:
Title 23 Code of Federal Regulations (CFR) Part 772, US Department of Transportation, Federal Highway Administration.

Table 3 - Summary of Ambient Noise Readings July 18, 2002								
Measured Site No. & Description	Posted Speed (mph)	Start Time	Stop Time	Cars (vph)	Medium Trucks (vph)	Heavy Trucks (vph)	Feet From Road	Ambient Noise Level (Leq)
1. NB I-85 at 0.5 Mile North of SR 1295	65	9:27	9:47	760	64	251	50	79.9
2. NB I-85 at Sta 1083+00 L	65	10:10	10:30	911	52	280	25	81.4
3. NB I-85 at Sta 1165+00 L	65	10:45	11:05	597	40	160	25	78.9
4. NB Old Salisbury Road Adjacent Greer's Chapel United Methodist Church	45	11:20	11:40	22	2	1	25	58.9
5. SB I-85 Business at 0.5 mile north of Linwood Street Interchange	65	12:45	1:05	425	32	86	25	80.0

Table 4 - Adjusted Ambient Reference Noise Levels (dBA)

Site No.	Measured	Modeled	Correction	Reference Point Interval - (feet) Corrected Levels (25)	(50)	(100)	(200)	(400)	(800)
1 – NB I-85 at O.5 Mile North of SR 1295.	79.9	Not Used as Site 2 Increased Traffic							
2 – NB I-85 at Sta 1083+00 L	81.4	84.1	-2.7	82.7	77.7	73.4	68.8	64.1	59.2
3 – NB I-85 at Sta 1165+00 L	78.9	81.9	-3.0	80.2	75.2	70.8	66.2	61.5	56.6
4 – NB Old Salisbury Road Adjacent Greers Chapel United Methodist Church	58.9	60.5	-1.6	58.9	54.3	51.3	44.5		
5 – SB I-85 Business at 0.5 Mile North of Linwood Street Interchange	80.0	79.4	+0.6	81.3	76.4	71.9	67.2	62.6	57.9

Table 5
I-2304AB Noise Reference Values (dBA)
Design Year 2025

File No.& ADT	Description	Reference Distances (feet)				
		50	100	200	400	800
112400 8-Lane Divided	Sta 980+00 L(Begin of Project) to Sta 1057+00 L (Belmont Rd.)	84.2	78.0	72.6	66.7	61.7
107800 10-Lane Divided	Sta 1057+00 L (Belmont Rd) to Sta 1136+80 L (I-85 Business)	85.6	79.3	73.5	67.6	62.9
74400 7-Lane Divided	Sta 1136+80 L (I-85 Business) to Sta 1170+00 L (End of Project)	82	76.5	71.6	65.8	60.7
33400 4-Lane Divided	I-85 Business	77.2	71.7	65.9	61.0	56.6

Table 6 - NCDOT - FHWA Noise Abatement Criteria Summary I-2304AB

Description	Maximum Predicted Leq Noise Levels (dBA)			Maximum Contour Distances (Feet) at 67/72 dBA (1)	Approximate No. of Impacted Receivers				
	100 ft.	200 ft.	400 ft.		A	B	C	D	E
Section 1 Sta 980+00 L (Begin of Project) to Sta 1057+00 L (Belmont Rd)	78	73	67	361/190		9	2		
Section 2 Sta 1057+00 L (Belmont Rd) to Sta 1136+80 L (I-85 Business)	79	74	68	406/208		23	3		
Section 3 Sta 1136+80 L (I-85 Business) to Sta 1170+00 L (End of Project)	77	72	66	328/171			1		
TOTALS					0	32	6	0	0

(1) Distances are from the edge of the through lanes.

Table 7 - Traffic Noise Level Increase Summary
I-2304AB

Description	Receptor Exterior Noise Level Increases							Substantial Noise Level Increase Criteria (1)	Exceeds Approaching Criteria (2)	Impacts Due to Both Criteria (3)
	< 0	1- 4	5- 9	10- 14	15- 19	20- 24	>25			
Section 1 Sta 980+00 L (Begin of Project) to Sta 1057+00 L (Belmont Rd)		13	1					0	11	0
Section 2 Sta 1057+00 L (Belmont Rd.) to Sta 1136+80 L (I-85 Business)		10	17					0	26	0
Section 3 Sta 1136+80 L (I-85 Business) to Sta 1170+00 L (End of Project)			2					0	1	0
Totals	0	23	20	0	0	0	0	0	38	0

(1) As defined by only a substantial increase
(2) As defined by NCDOT approach NAC criteria
(3) As defined by both criteria

Table 8 - Expected Noise Barrier Effectiveness Studied Barriers 1, 2, & 3

Receptor Number / Barrier Study I D No. In ( ) **	Without Barrier			With Barrier		
	(1) Existing Noise Level (dBA)	(2) Predicted Noise Level (dBA)	(2) – (1) Noise Level Increase (dBA)	(3) Predicted Noise Level (dBA)	(2) – (3) Noise Level Decrease (dBA)	(3) – (1) Net Noise Impact (dBA)
Barrier 1 Right Station 1109+50 to 1118+50						
27 (27)	69	76	7	71	5 *	2
28 (28)	69	77	8	69	8 *	0
29 (29)	70	77	7	67	10 *	-3
30 (30)	67	73	6	68	5 *	1
31 (31)	65	70	5	69	1	4
Barrier 2 Left Station 1101 +00						
34 (1101+00A)	71	80	9	70	10 *	-1
35 (1101+00B)	68	75	7	70	5 *	2
Barrier 3 Left Station 1113+00						
36 (1113+00)	69	76	7	70	6 *	1
37 (1114+00)	66	70	4	69	1	3
38 (1113+50)	67	69	2	68	1	1

* Site used to determine feasibility and reasonability if decrease 5 or greater

** See Appendix B

Table 9 - Noise Barrier Summary					
Barrier Location	Benefited Receptors	Barrier Length (ft)	Barrier Height (ft)	Estimated Barrier Cost $15/sq.ft	Cost per Benefited Receptor
Barrier 1 Right Station 1109+50 L to 1118+50 L	4	900	12 - 20	$192,000	$48,000
Barrier 2 Left Station 1101+00 L	2	350	8 - 12	$58,200	$29,100
Barrier 3 Left Station 1113+00 L	1	450	8	$54,000	$54,000

APPENDIX A

DESIGN NOISE REPORT - I-85 WIDENING - PROJECT I-2304AB - DAVIDSON COUNTY

Rec. Num.	Rec. Descrip.	Rec. Location L-Line Station	Location Rt. or Lt. -1	FHWA NAC Cat.	Main Line Ft. from CL Rdwy	Back Dist. Ft.	Ref. Level Leq	Ahead Dist. Ft.	Ref. Level leq	Future Main Line Noise Level (Leq)	Maximum Future Noise Level (Leq)	Ambient Ft. from CL Near Lane	Back Dist. Ft.	Ref. Level Leq	Ahead Dist. Ft.	Ref. Level Leq	Ambient Noise Level (Leq)	Noise Level Increase (Leq) (2)
1	Res.	982+30	Lt	B	180	100	78	200	72.6	73.4	73	185	100	73.4	200	68.8	69	4 *
2	Res.	983+30	Lt	B	500	400	66.7	800	61.7	65.1	65	505	400	64.1	800	59.2	62	3
3	Comm	983+80	Rt	C	190	100	78	200	72.6	73.0	73	192	100	73.4	200	68.8	69	4*
4	Church	983+80	Rt	E	470	400	66.7	800	61.7	65.5	66/46	472	400	64.1	800	59.2	63	3
5	Comm	1000+00	Lt	C	240	200	72.6	400	66.7	71.0	71	260	200	68.8	400	64.1	67	4*
6	Res.	1004+00	Lt	B	175	100	78	200	72.6	73.6	74	196	100	73.4	200	68.8	69	5*
7	Res.	1004+00	Lt	B	405	400	66.7	800	61.7	66.6	67	426	400	64.1	800	59.2	64	3*
8	Res.	1006+00	Lt	B	430	400	66.7	800	61.7	66.2	66	425	400	64.1	800	59.2	64	2*
9	Res.	1011+30	Lt	B	360	200	72.6	400	66.7	67.6	68	380	200	68.8	400	64.1	64	4*
10	Church	1012+50	Lt	E	350	200	72.6	400	66.7	67.8	68/48	365	200	68.8	400	64.1	65	3
11	Res.	1016+90	Lt	B	400	200	72.6	400	66.7	66.7	67	415	200	68.8	400	64.1	64	3*
12	Res.	1017+90	Lt	B	420	400	66.7	800	61.7	66.3	66	435	400	64.1	800	59.2	64	2*
13	Res.	1022+90	Lt	B	430	400	66.7	800	61.7	66.2	66	445	400	64.1	800	59.2	63	3*
14	Res.	1026+50	Lt	B	300	200	72.6	400	66.7	69.1	69	315	200	68.8	400	64.1	66	3*

15	Comm	1064+00	Rt	C	280	200	73.5	400	67.6	70.6	71	310	200	68.8	400	64.1	66	5°
16	Comm	1066+50	Lt	C	180	100	79.3	200	73.5	74.4	74	190	100	73.4	200	68.8	69	5°
17	Res.	1090+00	Rt	B	160	100	79.3	200	73.5	75.4	75	170	100	73.4	200	68.8	70	5°
18	Res.	1092+40	Lt	B	190	100	79.3	200	73.5	73.9	74	205	200	68.8	400	64.1	69	5°
19	Res.	1094+50	Lt	B	110	100	79.3	200	73.5	78.5	78	118	100	73.4	200	68.8	72	6°
20	Res.	1094+80	Lt	B	310	200	73.5	400	67.6	69.8	70	320	200	68.8	400	64.1	66	4°
21	Res.	1095+00	Lt	B	415	400	67.6	800	62.9	67.3	67	425	400	64.1	800	59.2	64	3°
22	Comm	1099+00	Rt	C	150	100	79.3	200	73.5	75.9	76	150	100	73.4	200	68.8	71	5°
23	Res.	1101+00	Rt	B	450	400	67.6	800	62.9	66.8	67	450	400	64.1	800	59.2	63	4°
24	Res.	1102+00	Rt	B	400	400	67.6	800	62.9	67.6	68	400	400	64.1			64	4°
25	Res.	1103+20	Rt	B	330	200	73.5	400	67.6	69.2	69	325	200	68.8	400	64.1	65	4°
26	Res.	1107+10	Rt	B	290	200	73.5	400	67.6	70.3	70	290	200	68.8	400	64.1	66	4°
27	Res.	1111+50	Rt	B	205	200	73.5	400	67.6	73.3	76	205	200	68.8	400	64.1	69	7°
28	Res.	1113+00	Rt	B	180	100	79.3	200	73.5	74.4	77	180	100	73.4	200	68.8	69	8°
29	Res.	1114+50	Rt	B	158	100	79.3	200	73.5	75.5	77	158	100	73.4	200	68.8	70	7°
30	Res.	1116+00	Rt	B	257	200	73.5	400	67.6	71.4	73	257	200	68.8	400	64.1	67	6°
31	Res.	1118+00	Rt	B	296	200	73.5	400	67.6	70.2	70	296	200	66.8	400	64.1	65	5°
32	Res.	1126+20	Rt	B	300	200	73.5	400	67.6	70.0	70	300	200	66.8	400	64.1	65	5°
33	Church	1135+00	Rt	E	360	200	73.5	400	67.6	68.5	68/48	360	200	66.8	400	64.1	65	3

34	Res.	1101+00	Lt	B	135	100	79.3	200	73.5	76.8	80	144	100	73.4	200	68.8	71	9*
35	Res.	1101+00	Lt	B	210	200	73.5	400	67.6	73.1	75	219	200	68.8	400	64.1	68	7*
36	Res.	1113+00	Lt	B	185	100	79.3	200	73.5	74.1	76	180	100	73.4	200	68.8	69	7*
37	Res.	1114+00	Lt	B	268	200	73.5	400	67.6	71.0	69	263	200	68.8	400	64.4	67	2*
38	Res.	1113+50	Lt	B	318	200	73.5	400	67.6	69.5	70	315	200	68.8	400	64.4	66	4*
39	Res.	1118+00	Lt	B	155	100	79.3	200	73.5	75.6	76	145	100	73.4	200	68.8	71	5*
40	Res.	1125+20	Lt	B	140	100	79.3	200	73.5	76.5	76	135	100	73.4	200	68.8	71	5*
41	Res.	1136+80	Lt	B	310	200	73.5	400	67.6	69.8	70	310	200	68.8	400	64.4	66	4*
42	Comm	1163+00	Lt	C	300	200	71.6	400	65.8	68.2	68	300	200	66.2	400	61.5	63	5
43	Comm	1169+00	Lt	C	200	200	71.6			71.6	72	180	100	70.8	200	66.2	67	5*

Notes

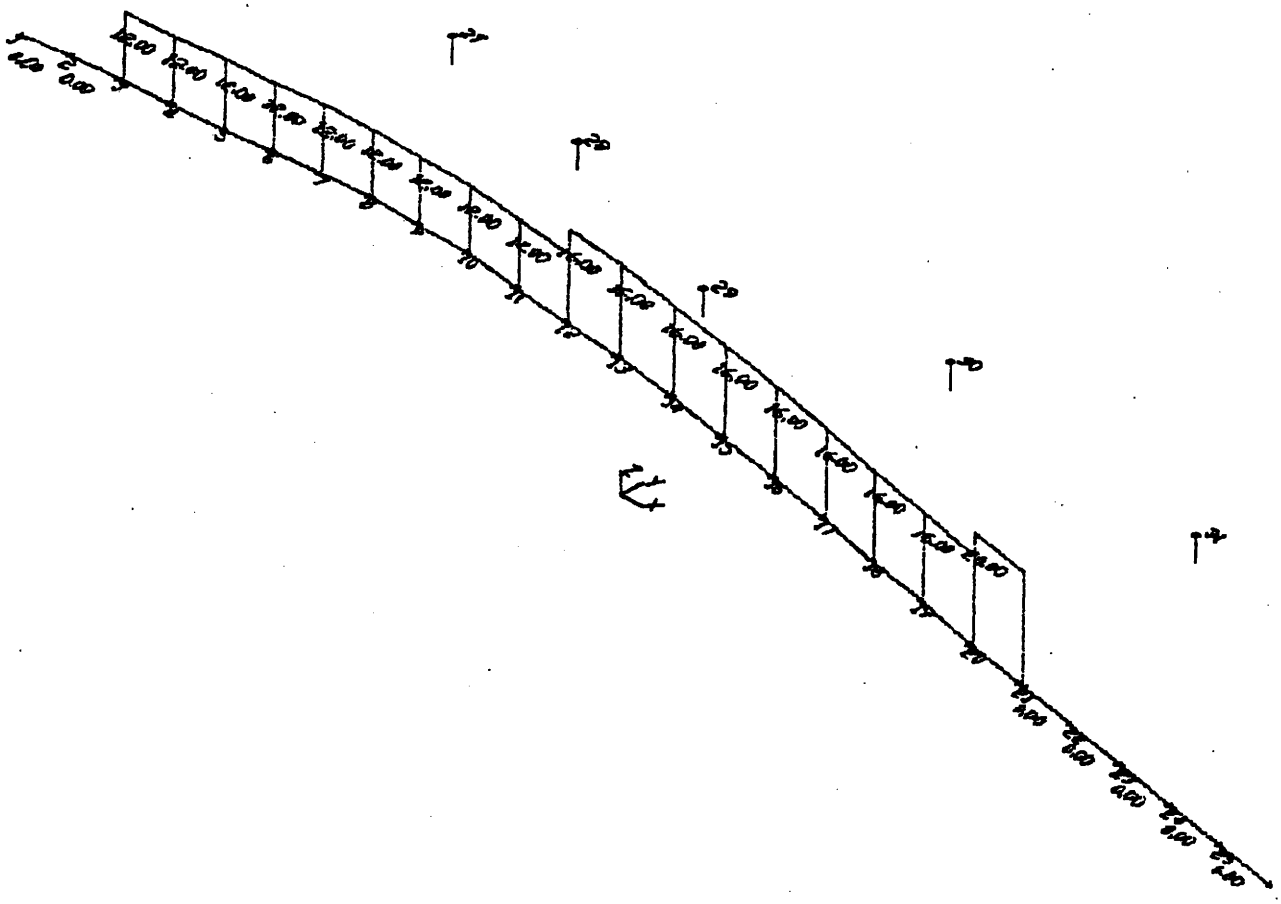
All Noise Levels Are Hourly A-Weighted

(1) Left or Right From L- Line as Viewed Ahead on Stastioning ie. North

(2) An * Notes a traffic Noise Impact per 23 CFR 7-7-2 and NCDOT Criteria

Church Noise Levels Noted as Exterior/Interior

APPENDIX B



CASE 2 RT STA. 1113		Sheet 1 of 1	13 Aug 2002
Barrier View-CASE 2		Project/Contract No. I2304AB	
Run name: B85r1		TNM Version 1.1, Sep. 2000	
Scale: <DNA - due to perspective>		Analysis By: Gary Holly	
Roadway:	⟶	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	⟶	Contour Zone:	polygon
Building Row:	— —	Parallel Barrier:	═══
Terrain Line:	———	Skew Section:	⟶

	27	2	70.9	4.7	5	-0.3	Barrier1	4	12
							Barrier1	5	12
							Barrier1	2	12
							Barrier1	6	12
							Barrier1	3	12
							Barrier1	7	12
							Barrier1	1	12
							Barrier1	8	12
							Barrier1	9	12
							Barrier1	10	12
28"		4	69.3	8	5	3	Barrier1	9	12
							Barrier1	10	12
							Barrier1	8	12
							Barrier1	11	12
							Barrier1	7	12
							Barrier1	6	12
							Barrier1	5	12
							Barrier1	4	12
							Barrier1	3	12
							Barrier1	12	12
29"		5	67.3	9.5	5	4.5	Barrier1	13	12
							Barrier1	12	12
							Barrier1	11	12
							Barrier1	14	12
							Barrier1	15	12
							Barrier1	10	12
							Barrier1	16	12
							Barrier1	17	12
							Barrier1	21	12
							Barrier1	18	12
30"		6	67.7	5.4	5	0.4	Barrier1	21	12
							Barrier1	22	12
							Barrier1	23	12
							Barrier1	24	12
							Barrier1	25	12
							Barrier1	19	12
							Barrier1	17	12
							Barrier1	16	12
							Barrier1	15	12
							Barrier1	18	12
31"		8	69	1.2	5	-3.8	Barrier1	21	12
							Barrier1	22	12
							Barrier1	24	12
							Barrier1	23	12
							Barrier1	25	12
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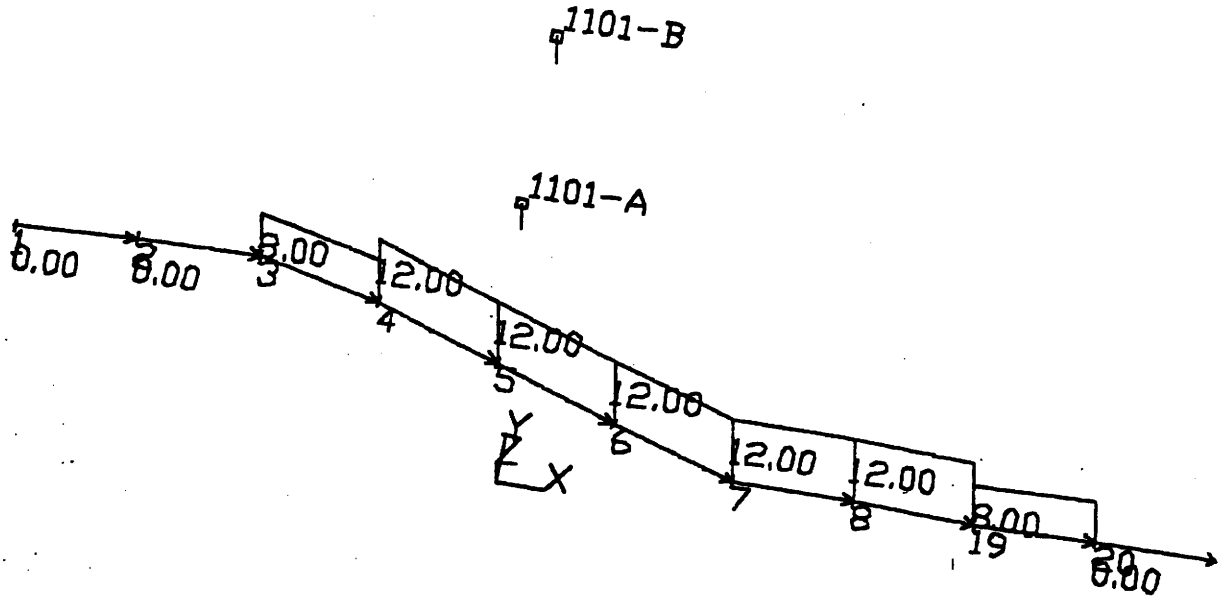
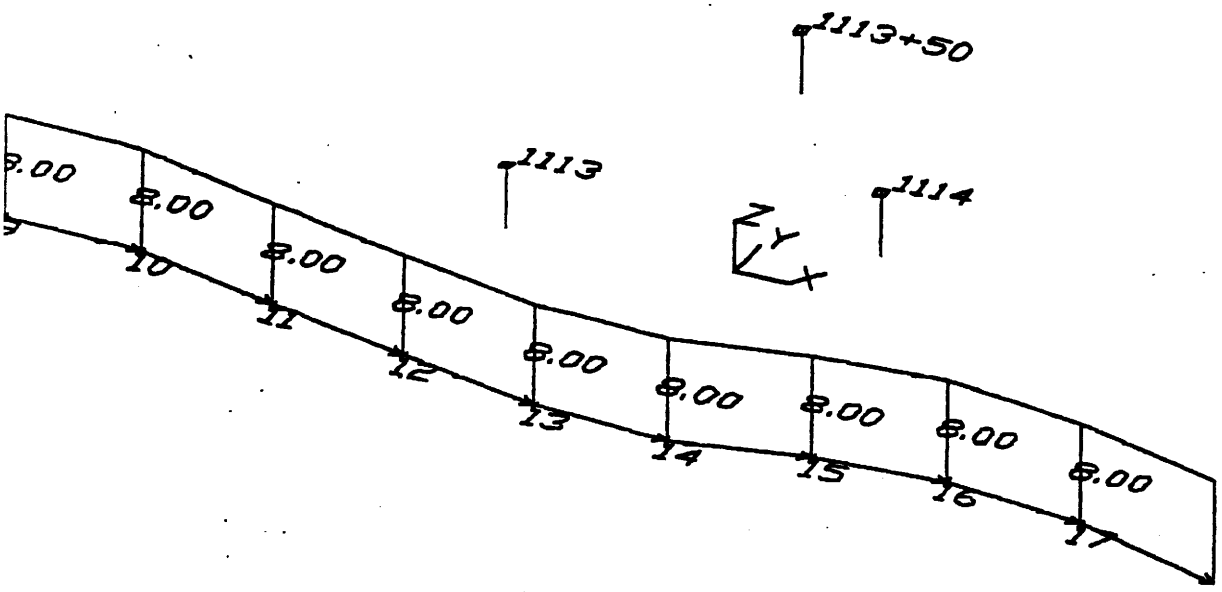
							Barrier1	20	12
							Barrier1	18	12
							Barrier1	17	12
							Barrier1	16	12



Potential Walls Rt 1101 & 1113+50		Sheet 1 of 1	23 Jul 2002
Barrier View-BARRIER 2 LT CASE 1		Project/Contract No. I2304AB	
Run name: b85lt		TNM Version 1.1, Sep. 2000	
Scale: <DNA - due to perspective>		Analysis By: Gary Holly	
Roadway:	——→	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	⊢——→	Contour Zone:	polygon
Building Row:	— —	Parallel Barrier:	═══
Terrain Line:	———	Skew Section:	—→

1101-A	2	69.7	10.2	8	2.2	Left 2	5	12	62
						Left 2	4	12	61.2
						Left 2	19	12	59
						Left 2	3	12	58.3
						Left 2	6	12	58
						Left 2	7	12	57.7
						Left 2	20	12	57.2
						Left 2	8	12	56.8
						Left 2	2	12	56.3
						Left 2	1	12	54.4
1101-B"	3	69.7	5	8	-3	Left 2	19	12	57.4
						Left 2	5	12	57.3
						Left 2	20	12	57.2
						Left 2	4	12	56.1
						Left 2	6	12	55.8
						Left 2	3	12	55.6
						Left 2	7	12	55.5
						Left 2	8	12	55.2
						Left 2	2	12	54.7
						Left 2	1	12	53.3
Left 2"					$58,200				



Potential Walls Rt 1101 & 1113+50		Sheet 1 of 1	23 Jul 2002
Barrier View-BARRIER 3 LT CASE 1		Project/Contract No. I2304AB	
Run name: b85lt		TNM Version 1.1, Sep. 2000	
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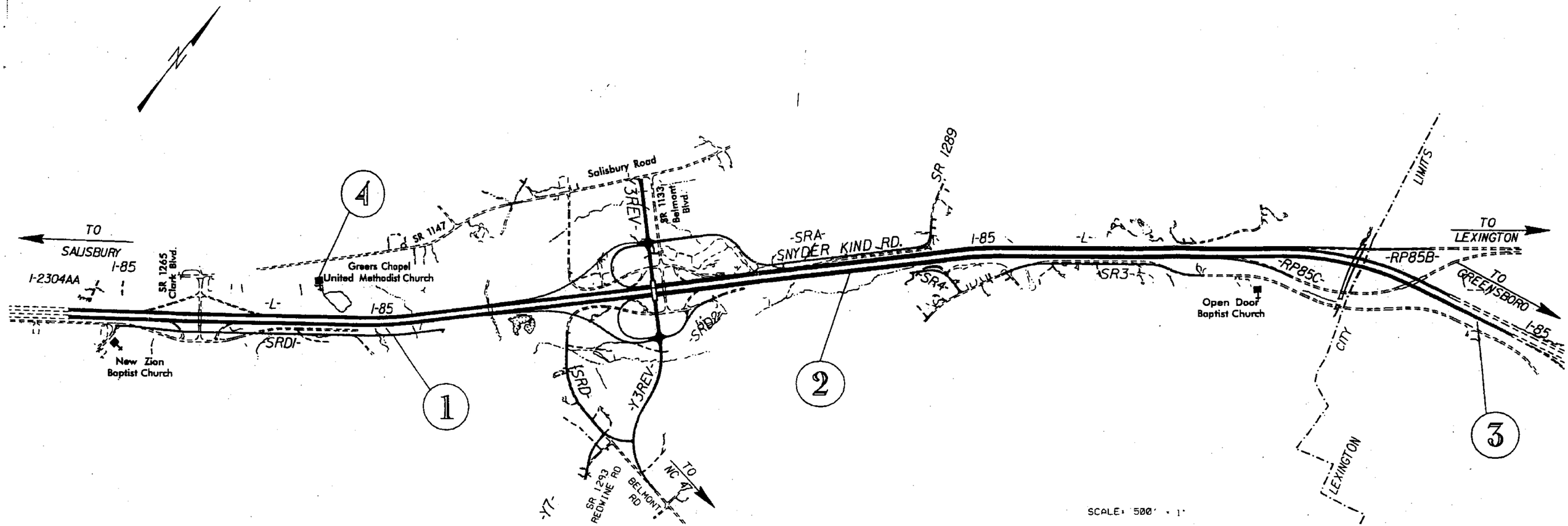
Roadway:	——→	Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:	⊢——→	Contour Zone:	polygon
Building Row:	— —	Parallel Barrier:	═══
Terrain Line:	———	Skew Section:	—→

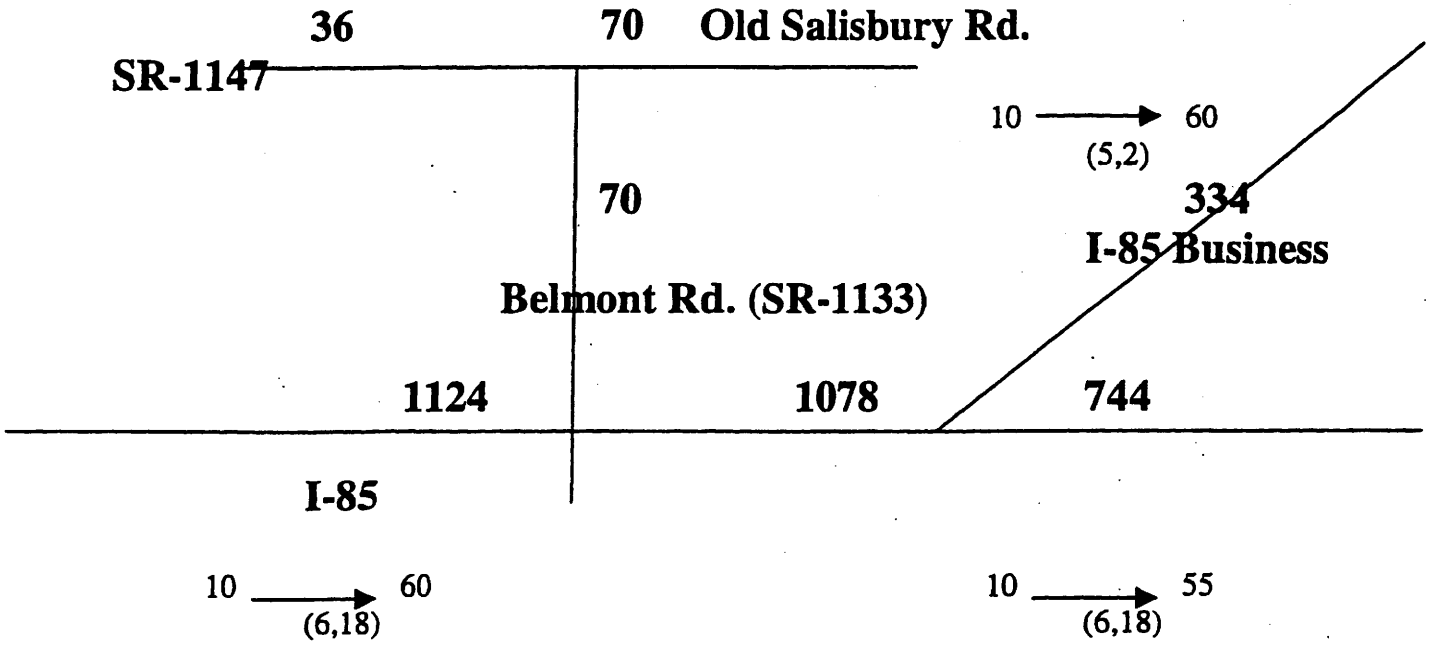
1113	4	70.2	6	8	-2	Left 3	12	12	60.2
						Left 3	13	12	59.5
						Left 3	11	12	59.5
						Left 3	10	12	57.5
						Left 3	14	12	57.2
						Left 3	9	12	55
						Left 3	15	12	53.7
						Left 3	16	12	51
						Left 3	17	12	49.5
						Left 2	20	12	48.2
1113+50"	5	68.8	0.9	8	-7.1	Left 3	13	12	53.6
						Left 3	12	12	53.3
						Left 3	14	12	53.2
						Left 3	11	12	52.4
						Left 3	15	12	52.2
						Left 3	10	12	51.3
						Left 3	16	12	50.6
						Left 3	9	12	50
						Left 3	17	12	49.5
						Left 2	20	12	48
1114"	6	68.2	0.9	8	-7.1	Left 3	13	12	54.2
						Left 3	14	12	54.1
						Left 3	15	12	53.6
						Left 3	12	12	53.3
						Left 3	16	12	52.2
						Left 3	11	12	52
						Left 3	17	12	50.9
						Left 3	10	12	50.6
						Left 2	20	12	49.7
						Left 2	19	12	48.9
Left 3"					$54,000				

EXHIBIT 1



I–2304AB
CURRENT AMBIENT NOISE SITES
EXHIBIT 1

EXHIBIT 2



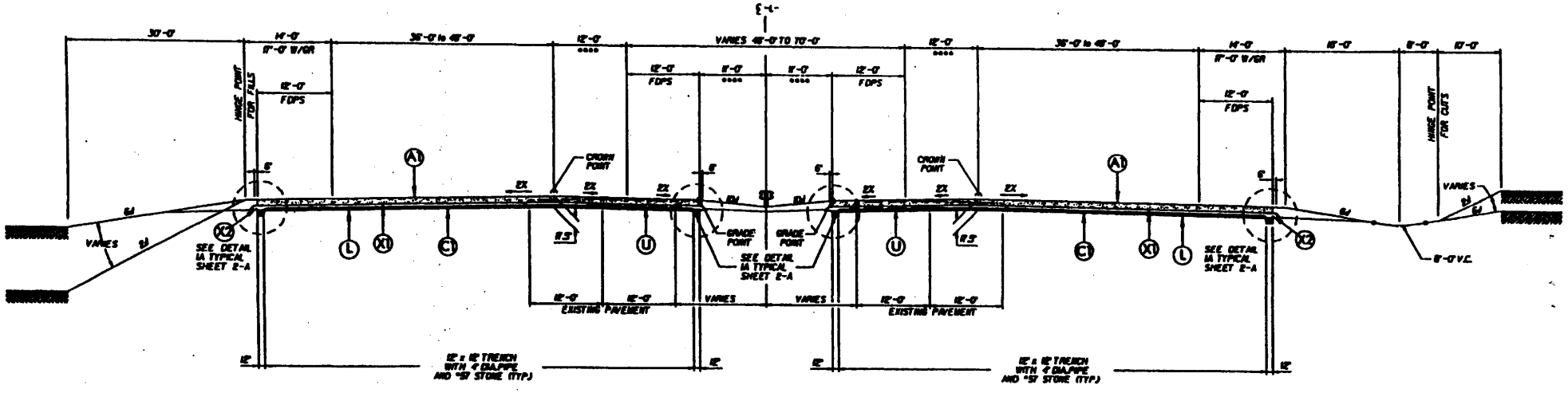
YEAR 2025 ESTIMATED ADT IN HUNDREDS

Hourly Volume ⟶ Spilt
(Light Trucks, Heavy Trucks)

LEGEND

EXHIBIT 2

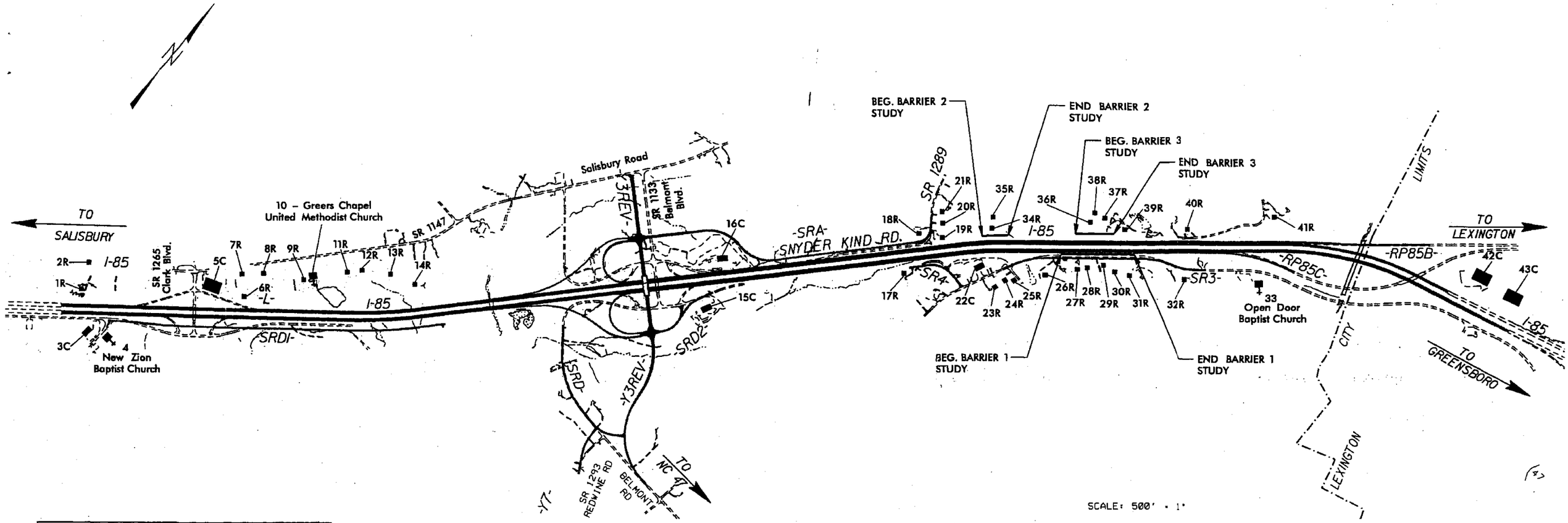
EXHIBIT 3



TYPICAL SECTION
FOR
PROPOSED I-85 WIDENING

EXHIBIT 4

Barrier 1 Rt. Station 1109+50 to 1118+50 at ROW Adjacent to Service Rd.
Barrier 2 Lt. Station 1100+00 to 1103+50 at ROW
Barrier 3 Lt. Station 1111+50 to 1116+00 at ROW



LEGEND

- ■ RECEPTOR SITE
- 1R RESIDENTIAL RECEPTOR SITE NUMBER (TYPICAL)
- 3C COMMERCIAL RECEPTOR SITE NUMBER (TYPICAL)
- —— STUDIED BARRIER LOCATION/LIMITS

I–2304AB
NOISE BARRIER/RECEPTOR LOCATIONS
EXHIBIT 4

Community Impact Assessment: Williams Trailer Park

Introduction

This CIA provides supplemental information for TIP No. I-2304, Project No. 81631491, FA Project No. IR-85-3(127) 80. Described as I-85 From North of SR 2120 (Exit 81) in Rowan County to US 29-52-70/I-85 Business (Exit 87) South of Lexington. The additional information is provided to target the demographic features of the area and impacts in and around the Williams Shady Mobile Home Park. Several homes in the mobile home park would be relocated due to the widening of I-85 and the associated service road through this area. Past field visits and coordination meetings with residents of the mobile home park, as well as more detailed relocation information, indicate that this mobile home park houses a low-income population with relatively high proportion of minorities. (I-2304A Environmental Assessment, November, 2000, Page 24 and Appendix 1) The supplemental data seems consistent with these findings when that data was narrowed down to a small geographic area most closely encompassing the mobile home park.

Community Profile

The demographic focus for this study is the area around Block 109 of Block Group 1 of Tract 50901 in the 1990 census and Block 1006 of the same block group in Census 2000. (see map) Block 109 was consolidated with Block 1006 (which is larger) in Census 2000. Block 1006 represents a fairly large area, some of it well removed from the Williams Shady Mobile Home Park. Economic statistics are only available at the block group level and may not represent the mobile home park as well. The statistical characteristics of the focus block or block group have been compared to the characteristics of the overall tract, the Town of Spencer, the City of Salisbury, Rowan County, and the State of North Carolina.

Population

Table 1 demonstrates the total population and population trends for Block Groups 109 (1990) and 1006 (2000), Tract 50901 Block Group 1, Tract 50901, the Town of Spencer, the City of Salisbury, Rowan County, and North Carolina. Growth in Tract 50901 (26.9%) was quite rapid from 1990-2000, exceeding the State growth rate of 21.4%. Growth in the Block Group 1 was 17.4%, which closely mirrored the County's growth rate of 17.8% and was slightly higher than the Salisbury's growth rate of 14.6% and Spencer's growth rate of 12.6%.

Table 1. Population Growth, 1990-2000

	Population		Change, 1990-2000	
Area	1990	2000	#	%
Tract 50901 Block Group 1-Block 109 (1990)/Block 1006 (Census 2000)	103	170	N/A	N/A
Tract 50901 Block Group 1	1551	1821	270	17.4%
Tract 50901	3025	3840	815	26.9%
Town of Spencer	3219	3430	405	12.6%
City of Salisbury	23,087	26,462	3375	14.6%
Rowan County	110,605	130,340	19735	17.8%
North Carolina	6,628,637	8,049,313	1,420,676	21.4%

Source: US Census Bureau, 1990 & 2000 and NCDOT GIS (Census Data 1990)

Population by Race/Ethnicity (1990 and 2000)

Tables 2 and 3 display the population by race/ethnicity for 1990 and 2000. In 1990, the percentage of black and Hispanic populations in Tract 50901 Block Group 1-Block 109, which contains Williams Shady Mobile Home Park (40.8% black, 5.8% Hispanic), were notably higher than the surrounding Tract 50901 Block Group 1 (8.8% black, 1.0% Hispanic) and Tract 50901 (4.5% black, 0.9% Hispanic). The percentage of black and Hispanic populations were also higher in Block 109 than the Town of Spencer (22.3% black, 0.9% Hispanic), the City of Salisbury (35.0% black, 0.4% Hispanic), Rowan County (16.0% black, 0.6% Hispanic), and North Carolina (22.0% black, 1.0% Hispanic), respectfully. For Census 2000, Tract 50901 Block Group 1, Block 1006 was the smallest level available for obtaining data on the area. Tract 50901 Block Group 1, Block 1006 does indicate a notable difference in the percentage of black (34.1%) or Hispanic (1.8%) when compared to the larger Tract 50901 (4.2% black, 1.0% Hispanic) or Rowan County (16.0% black, 3.8% Hispanic) although to a lesser extent than did Block Group 1, Block 109 in 1990. The differences between the 1990 data for Tract 50901, Block Group 1, Block 109 in Table 2 and 1990 data for Tract 50901, Block Group 1, Block 1006 in Table 3 suggests that the larger block (Block 1006 in 2000) may not be as representative of the Williams Shady Mobile Home Park. The relocation report (I-2304A EA Appendix 1) prepared in August 2000 also noted a higher percentage of minority population among the households to be relocated in comparison with the county, stating there were 8 minority households out of a total of 24 (33.3%).

Table 2. Population by Race, 1990

	Tract 50901 Block Group 1-Block 109*		Tract 50901 Block Group 1		Tract 50901		Town of Spencer		City of Salisbury		Rowan County		North Carolina	
Race	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%	Pop.	%
White	58	56.3%	1415	91.2%	2,880	95.2%	2460	76.4%	14,769	64.0%	91,960	83.1%	5,011,248	75.6%
Black or African American	42	40.8%	136	8.8%	136	4.5%	718	22.3%	8087	35.0%	17,681	16.0%	1,455,340	22.0%
American Indian or Alaska Native	0	---	0	---	9	0.3%	11	0.3%	75	0.3%	485	0.4%	82,606	1.2%
Asian & Native Hawaiian and Pacific Islander	0	---	0	---	0	0.0%	15	0.5%	135	0.6%	340	0.3%	50,395	0.8%
Other Race	3	2.9%	0	---	N/A	N/A	15	0.5%	21	0.09%	139	0.2%	29,048	0.4%
Two or More Races	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	103	100%	1551	100%	3025	100%	3219	100%	23,087	100%	110,605	100%	6,628,637	100%
Hispanic or Latino (Any Race)**	6	5.8%	15	1.0%	27	0.9%	28	0.9%	93	0.4%	579	0.6%	69,020	1.0%

Source: Missouri Census Data Center and US Census Bureau, 1990, SF3

*Note: In Census 2000, Tract 50901 Block Group 1-Block 109 was consolidated into the larger Tract 50901 Block Group 1. Williams Shady Mobile Home Park is contained within Block 109.

**Note: Hispanic or Latino is classified by the U.S. Census as being of any race.

Table 3. Population by Race, 2000

	Tract 50901 Block Group 1- Block 1006*		Tract 50901 Block Group 1		Tract 50901		Town of Spencer		City of Salisbury		Rowan County		North Carolina	
Race	**Pop.**	**%**	**Pop.**	**%**	**Pop.**	**%**	**Pop.**	**%**	**Pop.**	**%**	**Pop.**	**%**	**Pop.**	**%**
White	109	64.1%	1623	89.1%	3591	93.5%	2,338	68.2%	15,391	57.7%	103,340	79.3%	5,802,165	72.1%
Black or African American	58	34.1%	134	7.4%	162	4.2%	883	25.7%	10,081	37.8%	20,876	16.0%	1,734,154	21.5%
American Indian or Alaska Native	0	---	0	---	16	0.45%	26	0.8%	108	0.40%	667	0.5%	100,956	1.3%
Asian	0	---	59	3.2%	59	1.5%	0	---	371	1.4%	808	0.6%	111,292	1.4%
Native Hawaiian and Pacific Islander	0	---	0	---	0	---	0	---	26	0.10%	60	0.05%	3,699	0.05%
Other Race	3	1.8%	5	0.3%	5	0.13%	183	5.3%	347	1.3%	2514	1.9%	185,138	2.3%
Two or More Races	0	---	0	---	7	0.18%	0	---	352	1.3%	1583	1.2%	111,909	1.4%
Total	**170**	**100%**	**1821**	**100%**	**3840**	**100%**	**3430**	**100%**	**26,676**	**100%**	**130,340**	**100%**	**8,049,313**	**100%**
Hispanic or Latino(Any Race)**	3	1.8%	38	2.1%	38	1.0%	220	6.4%	1001	3.8%	4892	3.8%	372,964	4.6%

Source: Missouri Census Data Center and US Census Bureau, 2000, SF3
*Note: In Census 2000, Tract 50901 Block Group 1-Block 109 was consolidated into the larger Tract 50901 Block Group 1. Williams Shady Mobile Home Park is contained within Block 109
**Note: Hispanic or Latino is classified by the U.S. Census as being of any race.

Income

Unlike racial data, income date was unavailable at the block level of Census 1990 or 2000. Tables 4a and 4b do not represent a notable difference in per capita income or median household income for Tract 50901 Block Group 1 and larger surrounding areas. The inability to focus in on a block more closely surrounding the mobile home park, makes it difficult to draw conclusions from the 1990 or 2000 data. However, the relocation report prepared in August 2000 (I-2304A EA Appendix 1) states that 20 of the 24 units potentially affected by the project have a household income of less than $25,000 which is notably lower than the median income at the block group, tract, county and state levels.

Table 4a. Median Household Income, 1990-2000

	Median Household Income		Change, 1990-2000	
Area	**1990**	**2000**	**$**	**% change**
Tract 50901 Block Group 1	$27,295	$38,320	$11,025	40.4%
Tract 50901	$27,327	$41,425	$14,098	51.6%
Town of Spencer	$23,160	$36,687	$13,527	58.4%
City of Salisbury	$24,081	$32,923	$8,842	36.7%
Rowan County	$26,354	$37,494	$11,140	42.7%
North Carolina	$26,647	$39,184	$8,673	32.5%

Source: Missouri Census Data Center and US Census Bureau, 1990 & 2000
Notes: The 1990 Census provides M.H.I. for the year 1989. The 2000 Census provides M.H.I. for the year 1999.

Table 4a. Per Capita Income, 1990-2000

	Per Capita Income		Change, 1990-2000	
Area	1990	2000	$	% change
Tract 50901 Block Group 1	$13,190	$18,894	$5,704	43.2%
Tract 50901	$13,113	$20,414	$7,281	55.5%
Town of Spencer	$10,750	$16,354	$5,604	52.1%
City of Salisbury	$12,953	$18,864	$5,911	45.6%
Rowan County	$12,018	$18,071	$6,053	50.4%
North Carolina	$12,885	$20,307	$7,422	57.6%

Source: Missouri Census Data Center and US Census Bureau, 1990 & 2000
Notes: The 1990 Census provides P.C.I. for the year 1989. The 2000 Census provides P.C.I. for the year 1999.

Housing Values

The I-2304A EA report states many of the dwellings in the project area are dilapidated and do not meet decent, safe and sanitary housing requirements. Site visits to the area confirm that the mobile home park houses many low income residents in dilapidated mobile homes.

Mobile home values from the Census were evaluated alongside overall housing values to target the characteristics of mobile homes within Block Group 1. Again, this is not as targeted as Block 109 information from the 1990 Census, but it still allows a narrowing of information to more closely represent the Williams Shady Mobile Home Park. Table 5 indicates median mobile home values in Tract 50901 Block Group 1 ($32,500) are lower than overall median mobile home values for Tract 50901 ($43,000) and Rowan County ($41,900). While the value is higher than the median mobile home value of the City of Salisbury ($21,400), the data is consistent with observed descriptions of the Williams Shady Mobile Home Park as housing of a somewhat lower income population. The Town of Spencer had a mobile home value of $13,250 in 1990 and $10,000 in 2000. Census data indicates that there are few owner-occupied mobile homes in Spencer, so these numbers are not representative of a large number of mobile homes. Block Group 1 median mobile home values ($32,500) are quite a bit lower than median housing values ($112,500) for the overall housing stock in Block Group 1.

Table 5: Median Value Owner-Occupied Housing Units, 1990-2000	Median Value All Owner-Occupied Housing Units			Median Value All Owner-Occupied Mobile Home Units		
Area	1990	2000	% change	1990	2000	% change
Tract 50901 Block Group 1	$58,600	$112,500	92.0%	N/A	$32,500	N/A
Tract 50901	$61,600	$136,800	122.1%	N/A	$43,000	N/A
Town of Spencer	$42,400	$80,700	90.3%	$13,250	$10,000	-24.5%
City of Salisbury	$54,500	$93,800	72.1%	$18,219	$21,400	14.9%
Rowan County	$53,900	$95,200	76.6%	$23,684	$41,900	76.9%
North Carolina	$65,300	$108,300	65.8%	$23,418	$34,400	46.9%

Source: Missouri Census Data Center and US Census Bureau, 1990 & 2000

Poverty Level

Table 6 indicates the percentage of persons living below the poverty level are lower in Tract 50901 Block Group 1 than the surrounding area. As indicated previously, the large nature of Block Group 1 makes it difficult to make conclusions about the Williams Shady Mobile Home Park. As noted previously, the relocation report (I-2304A EA Appendix 1) prepared in August 2000 states 20 of the 24 units potentially affected by the project have a household income of less than $25,000.

Table 6: Persons Living Below Poverty Level, 1990-2000

	Persons Living Below Poverty Level		Persons Living Below Poverty Level	
Area	1990	% of Population Below Poverty Level	2000	% of Population Below Poverty Level
Tract 50901 Block Group 1	65	4.6%	126	6.6%
Tract 50901	197	6.5%	303	7.9%
Town of Spencer	358	11.8%	315	9.5%
City of Salisbury	3277	14.2%	3892	16.0%
Rowan County	10,087	9.1%	13,372	10.6%
North Carolina	723,614	10.9%	958,667	12.3%

Environmental Justice

Executive Order 12989, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" issued by President Clinton in 1994 provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental affects of its programs, policies, and activities on minority populations and low-income populations." Guidance from the Council on Environmental Quality defines a low-income population as those "identified with the annual statistical poverty thresholds from the Bureau of Census' Current Population Reports. It further defines that a minority population should be defined when a) "the minority population if the affected area exceeds 50 percent" or b) "minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis."

Census 2000, Tract 50901 Block Group 1, Block 1006, the lowest geographic area capturing the Williams Shady Mobile Park in the 2000 has a black population of 34.1%, which is meaningfully greater than the general population in Rowan County which has a 16.0% black population. Based on this description, environmental justice must be examined based on the impact to this area. The area does not meet environmental justice criteria based on a low income population. The only adverse effect to a minority population under consideration for the Williams Shady Mobile Home parcel is whether or not this project increases the conversion rate of this parcel from residential use to industrial use.

Site Visit

A site visit to the project area supported previous observations that the Williams Shady Mobile Home Park is a low-income community with many of the mobile homes appearing to be substandard. No interviews were conducted with residents of the park, so it was impossible to verify the presence of a large percentage of minority residents in the park demonstrated in Census data. The site visit also revealed large parcels of undeveloped industrial zoned land in the both the immediate vicinity of the mobile home park and larger surrounding area.

Land Use, Zoning, and Infrastructure

The Williams Shady Mobile Home is located in the extraterritorial jurisdiction of the Town of Spencer and it is a nonconforming use in an area that is zoned industrial. The mobile home park is located in a area where the Town desires an industrial corridor. According to the planner for the Town of Spencer, the area was rezoned to an industrial use in 1993 and the mobile home park was grandfathered in as a nonconforming use. The classification of this parcel as a nonconforming use prevents any additional mobile homes (even those being relocated by the road improvement) from being placed on the property. Several mobile homes, which appear to have been lost due to people moving, have not been allowed to be replaced and the lots are still vacant. NCDOT made a request to the Town of Spencer that they consider allowing mobile homes removed as a result of the road project to be relocated to the vacant lots in the rear of the Williams Shady Mobile Home Park. The Town refused to grant this request because of the regulation of the zoning on this property. The regulation on this parcel also discourages the property owner from making improvements to the property and limits the economic viability of this land for its current use.

Currently the industrial zoned land surrounding the Williams Shady Mobile Home Park is vacant and no known industrial projects are planned at this time. The Town Planner has noted an increase in informal inquiries since the announcement of future improvements and widening of the I-85 corridor, but he has not received specific information about future industrial development in the corridor near Williams Shady Mobile Home Park. FineTex, a chemical plant, is located to the west of the Williams Shady Mobile Home Park across I-85. No other industries exist in the immediate project area. Despite the Town's plans for this area to become an industrial corridor, it is doubtful that the I-85 improvements would bring specific notable development pressure to the mobile home park parcel to increase the conversion rate of this land to industrial use.

This pressure is low for a number of reasons. First, with no specific industrial development plans in this area and an abundance of industrially zoned land, potential users may give preference to the larger parcels in the area. Second, the Town places a higher value on the vacant industrial sites on the West side of I-85 as the land is closer to existing services. The Mobile Home Park is located on the East side of I-85 and will probably not be in an area where the Town strongly encourages initial industrial development in the corridor. Third, this area is currently not serviced by water and sewer. The City of Salisbury provides water and sewer service in Spencer and its ETJ. Because of supply and cost issues, the Spencer Town Planner is doubtful that the City of Salisbury would extend water and sewer service at all for residential development in the area South of the Williams Shady Mobile Home Park. Although, the planner does believe the City of Salisbury would be more likely to consider water and sewer extensions for a job generating industrial facility, questions remain about the feasibility of an extension to this area given the other vacant parcels closer to existing facilities.

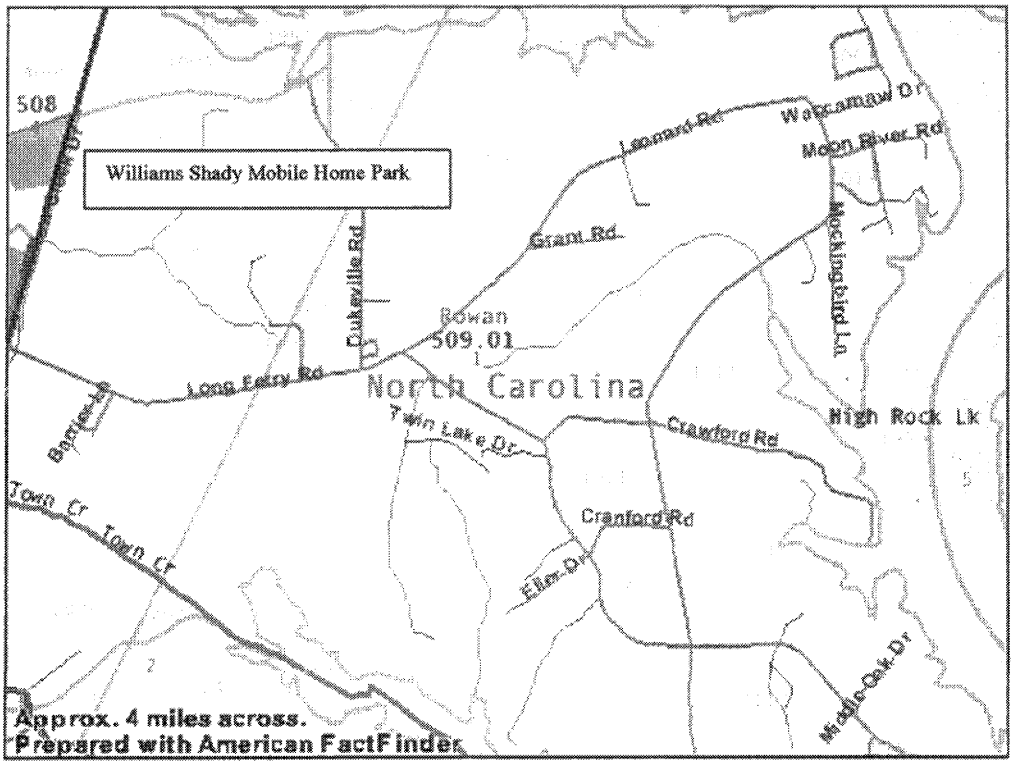
Impacts of the Road Project on Future Land Use

The widening of I-85 and its accompanying service road will relocate eleven (possibly twelve) of the mobile homes in the Williams Shady Mobile Home Park. This leaves fifteen or sixteen mobile homes in the park. While the I-85 widening will have an impact on the land use throughout the length of the project, it is doubtful that the project will significantly increase the conversion rate of the Williams Shady Mobile Home Park to an alternative industrial use. This is based on the facts that access will not be notably improved as the mobile home park parcel already has easy access to I-85 in either direction. Second that there is a lack of development pressure in the area. Third, the Town of Spencer has planned for this parcel and surrounding parcels to be industrial since its rezoning in 1993. The overall plan, zoning and regulations, specifically the aspect that no additional mobile homes can be added to the lot, have had a negative effect on whether the property remains residential in the future. As rents are lost as mobile homes are moved and not replaced the property owner will have a growing economic incentive to seek a conforming use. This trend will continue with or without the roadway project. As each unit is lost the property owner will have to determine if the upkeep required is worth the income generated by the mobile homes remaining. The property owner will be fairly compensated for the property (in the proposed right-of-way) acquired through the right-of-way acquisition process. There will be little effect on the economic viability of the remaining property not purchased.

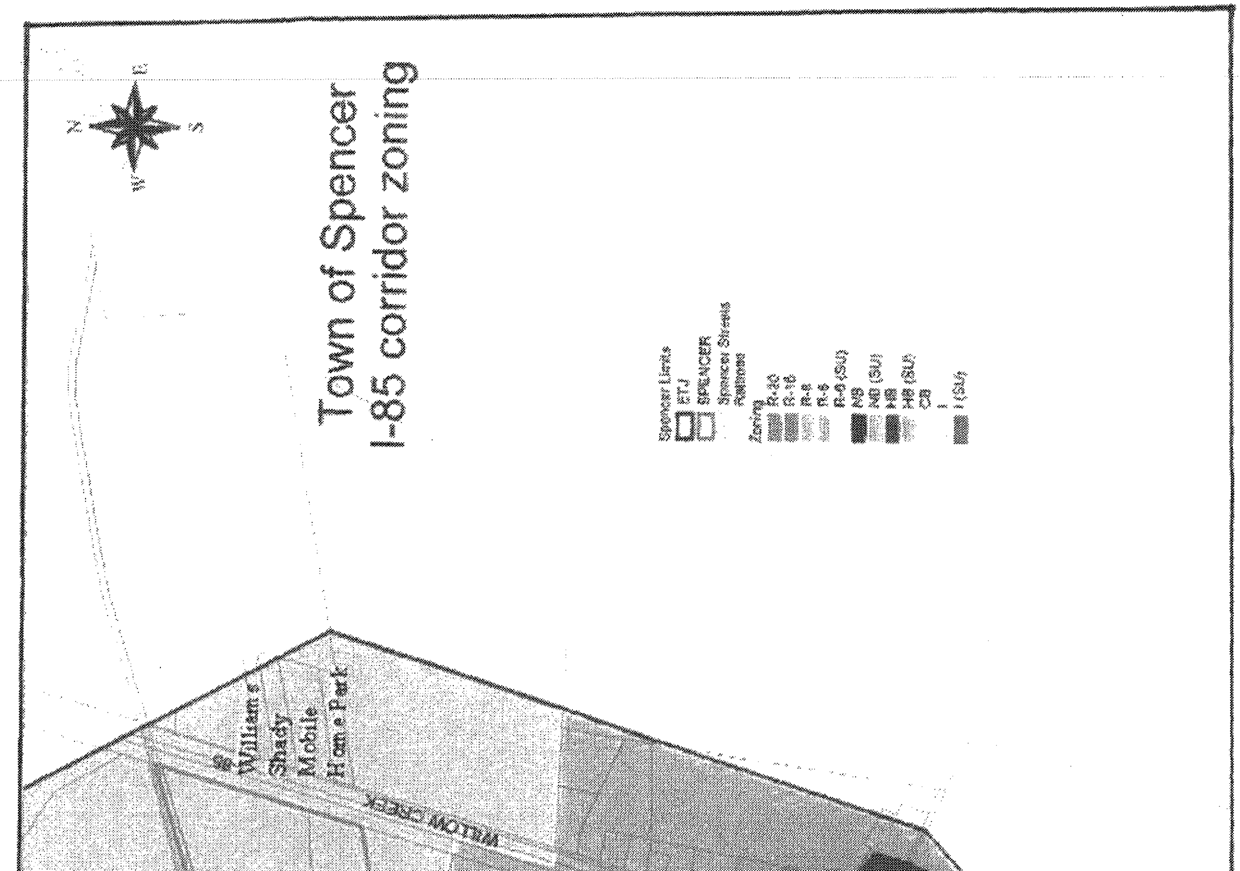
Other Issues

Another issue that might appear on this parcel is the legal requirement for an "uneconomic remnant". This paragraph is for discussion purposes only and right of way agents will make final decisions on the issue. These requirements basically state that if the remaining portion of the parcel not within the right of way is decreased in value or developable value by a significant amount (typically 70 to 80 percent) NCDOT can offer to purchase the property. Because the property is zoned industrial this value should be determined by property acreage rather then the number of residential units. This parcel is currently 8.395 acres and will be reduced 2.373 acres or only 28.3% to 6.022 acres as a result of the service road and accompanying right-of-way. Given the current industrial land requirements and preferences in this area it is likely (especially considering the limited street frontage of the parcel) that the property may require combination with adjacent parcels, with or without the portion purchased by NCDOT, to have a property of suitable size for industrial development. With these characteristics it is unlikely that the remaining parcel will qualify as an uneconomic remnant for industrial use. Again keep in mind the appropriate right-of-way agents, who may wish to further examine this possibility, will make the actual interpretation and decision on these requirements.

1990 Census Block and Block Group Information



2000 Census Block and Block Group Information


Town of Spencer
I-85 corridor zoning
N
E
S
W
Spencer Limits
ETJ
SPENCER
Spencer Streets
Railroads
Zoning
R-20
R-15
R-8
R-6
R-6 (SU)
NB
NB (SU)
HB
HB (SU)
CB
I
I (SU)
Williams Shady Mobile Home Park
WILLOW CREEK
HACKETT
I-85
LONG FERRY
MONTCLAIR
SNIDER
FIVE ROW
SOWERS

:#9030205

KM DATA, INC. WARRANTY RENEWAL NOTICE

CUSTOMER:
JANICE STAFFORD
NC DOT
1548 MAIL SERVICE CENTER
RALEIGH, NC 27699-1548

EQUIPMENT LOCATION

2728 CAPITAL BLVD. S-240
PARKER-LINCOLN

NOTICE DATE: 03/2/09 PREVIOUS PURCHASE ORDER /CHECK/EFT# **7906**

CURRENT WARRANTY/SERVICE EXPIRATION DATE: **4/1/09**

EQUIPMENT TYPE:**SAMSUNG** MODEL#:**4521F** SERIAL #:**BADY817391**

ANNUAL MAINTENANCE PRICE: $125.00 **KM DATA TAG: 4155**

COST WITHOUT MAINTENANCE CONTRACT: $125.00/hr., plus parts and travel.

The above equipment will expire off of warranty/service at the above date. In order to continue uninterrupted service and support coverage please call KM Data, Inc. or send a Purchase Order referencing the above information.

BENEFITS OF A SERVICE CONTRACT.

Price includes all parts and labor needed to service your fax.
Free on-site loaner if your fax needs to be removed or is down for more than one day.
Free firmware updates from manufacturer.
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EFFECTIVE 1/1/04: ALL FAX MUST USE A SURGE PROTECTOR, POWER AND FAX LINE.

IN ORDER TO KEEP OUR ANNUAL MAITENANCE THE LOWEST IN THE AREA, SUPPLIES ARE NOT COVERED. This includes consumable items like: paper, toner, drums, developer, inkjets, donor film, thermal paper. Printer consumables are not covered like: maintenance kits, toners, drums and transfer belts. Also not covered: machine abuse, broken parts due to user, damage from natural disaster and vandalism. Customer must use name brand consumables or consumables approved by KM Data, Inc.

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KM Data, Inc.
PO BOX 1415
CARY, NC 27512-1415

MAJOR CREDIT CARDS ACCEPTED!

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PHONE: 919-387-5900 (OUTSIDE TRIANGLE AREA=1800-310-0522)
FAX: 919-387-3877
EMAIL: rudolph@kmdata.com
WEB SITE: www.kmdata.com

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E-PROCUREMENT APPROVED VENDOR/ "NON-CATALOG" ITEMS
R=RECYCLED/COMPATIBLE

FAX SUPPLY REORDER FORM FAX #919-387-3877

EQUIPMENT MODEL	ITEM	ITEM #	UNIT	PRICE	#	TOTAL PRICE
BROTHER 4000/8000 SERIES	TONER	BTN460R	EA	$65.00	R	
BROTHER 4000/8000 SERIES	DRUM	BDR400	EA	$145.00	R	
MURATEC F60/65/70 SERIES	FILM	MPF155/100	2 ROLLS	$62.00		
MURATEC MFX-3050	TONER	MDK3050	EA	$175.00		
MURATEC F110	TONER	MDK110	EA	$99.00		
MURATEC F112/114	TONER	MDK112/MDK114	EA	$99.00		
MURATEC F95, 98, 100, 120, 150, 160	TONER	MTS120R	EA	$78.00	R	
MURATEC F95, 98, 100, 120, 150, 160	DRUM	MDK120R	EA	$99.00	R	
MURATEC F95, 98, 100, 120, 150, 160	TONER	MTS120	EA	$105.00		
MURATEC F95, 98, 100, 120, 150, 160	DRUM	MDK120	EA	$125.00		
MURATEC F320, 360	TONER	MTS320R	EA	$125.00	R	
MURATEC F320, 360	TONER	MTS320	EA	$160.00		
MURATEC F320, 360	DRUM	MDK40360	EA	$95.00		
MURATEC F300, 305	TONER	MTS300R	EA	$99.00	R	
MURATEC F300, 305	TONER	MTS300	EA	$125.00		
MURATEC F520, 560	TONER	MTS565R	EA	$135.00	R	
MURATEC F520, 525, 560, 565	TONER	MTS565	EA	$155.00		
MURATEC F520, 560 SERIES	DRUM	MDK560	EA	$90.00		
OKIFAX B2520, B2540	TONER	K56120401	EA	$159.00		
OKIFAX B4545	TONER	K52116101	EA	$169.00		
OKIFAX B4545	DRUM	K56120301	EA	$119.00		
OKIFAX 84, 87, 4580	TONER	K52111701	EA	$35.00		
OKIFAX 84, 87, 4580	DRUM	K40709901	EA	$140.00		
OKIFAX 5300, 5400, 5650	TONER	K52106701	EA	$35.00		
OKIFAX 5300, 5400, 5650	TONER	K5650	6 PACK	$189.00		
OKIFAX 5300, 5400, 5650	DRUM	KMD1	EA	$155.00	R	
OKIFAX 5300, 5400, 5650	DRUM	K56116901	EA	$199.00		
OKIFAX 5700, 5750, 5900, 5950	TONER	K40815606	EA	$35.00		
OKIFAX 5700, 5750, 5900, 5950	TONER	K5700	6 PACK	$189.00		
OKIFAX 5780, 5980	TONER	K52112901	EA	$49.00		
OKIFAX 5780, 5980	TONER	K5980	6 PACK	$276.00		
OKIFAX 5700, 5900 SERIES	DRUM	K40433318	EA	$225.00		
OKIFAX 5700, 5900 SERIES	DRUM	KMD2	EA	$175.00	R	
SAMSUNG 5100, 5100P, 531P	TONER	STDR510P	EA	$99.00		
SAMSUNG 5100, 4100P, 531P	TONER	S5100	EA	$84.00	R	
SAMSUNG 555P	TONER	S555P	EA	$99.00		
SAMSUNG 6800, 6900, 730	TONER	STDR685	EA	$199.00		
SAMSUNG 6800, 6900, 730	TONER	S6800	EA	$135.00	R	
SAMSUNG 560, 565P, 4216F, 755P	TONER	S4216	EA	$99.00		
SAMSUNG 560, 565P, 4216F, 755P	TONER	S560	EA	$89.00	R	
SAMSUNG 560R	TONER	S560R	EA	$99.00		
SAMSUNG 560R	TONER	S560RR	EA	$84.00	R	
SAMSUNG 4521F	TONER	S4521	EA	$99.00		
SAMSUNG 4720F	TONER	S4720 HI YIELD	EA	$139.00		
SAMSUNG 4725FN	TONER	S4725	EA	$99.00		
SAMSUNG 5530FN	TONER	S5530	EA	$179.00		
SAMSUNG 5530FN	TONER	S5530R	EA	$149.00	R	

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CONTACT: _____ _____

PHONE: _____ PHONE: _____

PURCHASE ORDER # _____ CREDIT CARD# _____ EX _____ SEC CODE _____

UPDATE: 3/09

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FED ID# 56-1929479 APEX, NC 27539

E-PROCUREMENT APPROVED VENDOR, "NON-CATALOG" ITEMS

EQUIPMENT/MODEL	PART#	YIELD	PRICE	# ORDERED	PRICE
HEWLETT-PACARD					
HP 5si, 8000	6R906	16,500	$139.00		
1000, 1200, 1220	6R932	3,500	$79.00		
1010, 1012,1015	Q2612A	2,000	$89.50		
1100, 3200	6R927	2,500	$59.50		
1150	200-Q2624A	4,000	$99.00		
1300	6R957	4,000	$79.00		
2100, 2200	6R928	5,000	$92.00		
2300	6R936	6,000	$105.50		
2420, 2430	200-Q6511X	12,000	$152.00		
4000, 4050	200-27X	10,000	$99.00		
4100	200-C8061XC	10,000	$105.00		
4200	200-Q1338AC	12,000	$130.00		
4250, 4350	200-Q5942X	20,000	$169.00		
4300	200-Q1339A	18,000	$149.00		
4345MFP	200-Q5945A	18,000	$165.00		
5000, 5100	200-29X	18,000	$115.00		
8100, 8150	200-82X	20,000	$142.00		
9000, 9040, 9050	6R958	33,000	$189.00		
P2015, M2727	200-Q7553X	7,000	$130.00		
P3005, M3027MFP, M3035	200-Q7551X	13,000	$165.00		
HP MAINTENANCE KITS (RECYCLED/COMPATIBLE), CORE RETURN REQUIRED					
4000, 4050	200-C4118	200,000	$239.00		
4100, 4101, 4150	200-C8057	200,000	$269.00		
4200	Q2429-69001	200,000	$299.00		
4250, 4350	Q5421A	225,000	$299.00		
5si, 8000	C3971-67901	350,000	$259.00		
8100, 8150	C3914A	350,000	$259.00		
9000, 9040, 9050	C9152A	350,000	$399.00		
LEXMARK NEW COMPATIBLES					
E310, 312	L13T0101	6,000	$90.00		
E320, 322	L08A0478	6,000	$105.00		
OPTRA S SERIES	L1382620	17,600	$99.00		
T420	L12A7315	10,000	$125.00		
T430	L12A8325	12,000	$125.00		
T520, 522	L12A6735	20,000	$125.00		
T610, 612, 614, 616	L12A5845	25,000	$115.00		
T620, 622	L12A6765	30,000	$125.00		
T630, T632, T634	12A7362CPT	21,000	$135.00		
T640, 642, T644	L64035XA	21,000	$125.00		

LEXMARK MAINTENANCE KITS: CALL FOR PRICING. ALL COPIER SUPPLIES-CALL FOR PRICING

ON-SITE PRINTER SERVICE: ALL HEWLETT-PACKARD PRINTERS, LEXMARK, OKI DATA

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CONTACT: _____ CONTACT: _____

PHONE: _____ PHONE: _____

PURCHASE ORDER # _____ CREDIT CARD # _____ DATE _____ CODE _____

PRINTER REORDER FORM FAX # 919-387-3877

MG

TOWN OF MOUNT GILEAD

Fax Transmittal Form

TO Hannah Cockburn

Name: NC DOT
Organization Name/Dept:
CC:
Phone number:
Fax number: 919-733-9794

Urgent
For Review
Please Comment

FROM

Mary Lucas

Phone: 910-439-5111
Fax: 910-439-1336
E-mail: mtgileadclerk@carolina.rr.com

Date sent: 3-13-09
Time sent:
Number of pages including cover page: 2

MESSAGE:

Hannah —

Resolution passed by Mt Gilead Town Board

MG

P.O. BOX 325
110 WEST ALLENTON ST.
MT. GILEAD NC 27306-0325

Phone: 910-439-5111
Fax: 910-439-1336

RESOLUTION OF ENDORSEMENT FOR THE DESIGNATION OF THE

INDIAN HERITAGE TRAIL SCENIC BYWAY EXTENSION

A motion was made by Benjamin Blake and seconded by Lewis Dorsett for the adoption of the following resolution and upon being put to a vote, was duly adopted.

WHEREAS, the North Carolina Department of Transportation has developed a system of designated scenic byways across the state; and

WHEREAS, The purpose of the Scenic Byway Program is to identify and highlight scenic roads with unusual, exceptional or unique intrinsic qualities; and

WHEREAS, Designated scenic byways provide rural areas with additional tourism opportunities while interpreting and preserving distinctive geologic, natural and cultural features; and

WHEREAS, Designation of this byway will provide visitors a glimpse of our unique local history, geography and culture along the 'road less traveled'.

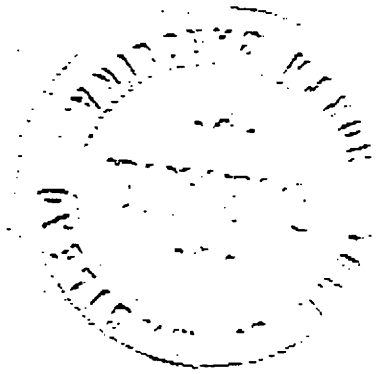
NOW THEREFORE, BE IT RESOLVED that the Mt. Gilead Town Council hereby endorses the designation of the Indian Heritage Trail Scenic Byway Extension, and further, requests the Board of Transportation give the proposed byway extension its most serious consideration.

ADOPTED, this the 10th day of March, 2009.

Hon. Earl S. Poplin

Mayor

Town of Mt. Gilead



Mary Lucas, Clerk

Town of Mt. Gilead