DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

REPLY TO
ATTENTION OF:

February 22, 2011

Regulatory Division

Action ID: SAW-2011-00350

NC Department of Transportation
PDEA, Bridge Project Development Unit
Attn: Tracy A. Walter
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Walter:

Reference the letter of December 9, 2010, requesting scoping comments on a proposed bridge replacement project for Bridge 29 on SR 1001, over Cub Creek, in Wilkes County, North Carolina. This project is identified as TIP B-4676.

Based on the limited amount of information provided in the referenced letter, it appears the proposed project may impact jurisdictional waters. Department of the Army (DA) permit authorization, pursuant to Section 404 of the Clean Water Act of 1977, as amended, will be required for the discharge of excavated or fill material in waters of the United States or any adjacent wetlands in conjunction with this project, including disposal of construction debris. Specific permit requirements will depend on design of the projects, extent of fill work within the waters of the United States, including wetlands, construction methods, and other factors. All activities, including temporary construction, access, and dewatering activities, should be included in the project planning. The following items need to be addressed in the project Environmental Assessment (EA) or Categorical Exclusion (CE) document:

a. The EA/CE should contain the amount of permanent and temporary impacts to waters and wetlands as well as a description of the type of habitat that will be affected by the proposed project. In addition, a jurisdictional determination should be conducted for evaluation of impacts from each of the considered alternatives.

b. Off-site detours are always preferable to on-site (temporary) detours in streams and/or wetlands. If an on-site detour is the recommended action, justification should be provided that demonstrates that alternatives with lower aquatic impacts are not practicable. On-site detours, unless constructed on a spanning structure or on a previous detour that was used in a past construction activity, can cause permanent aquatic impacts due to sediment consolidation resulting from the on-site detour itself and associated heavy equipment. Substantial sediment consolidation in aquatic systems may in turn cause fragmentation of the feature and impair the

ecological and hydrologic functions of streams and wetlands. Thus, on-site detours constructed in aquatic features can result in more than minimal wetland impacts. These types of impacts may be considered as permanent wetland impacts. Please note that an onsite detour constructed on a spanning structure can potentially avoid permanent impacts and should be considered whenever an on-site detour is the recommended action. For projects where a spanning structure is not feasible, the NCDOT should investigate the existence of previous onsite detours at the site that were used in previous construction activities. These areas should be utilized for onsite detours whenever possible to minimize aquatic impacts.

For proposed projects and associated on-site detours that cause minimal losses of streams and wetlands, an approved restoration and monitoring plan will be required prior to issuance of a DA nationwide or Regional general permit. For proposed projects and associated on-site detours that cause significant streams and/or wetland losses, an individual DA permit and a compensatory mitigation proposal for the unavoidable wetland impacts may be required.

c. Project commitments should include the removal of all temporary fills from waters and wetlands and "time-of-year" restrictions on in-stream work if recommended by the NC Wildlife Resources Commission. In addition, if undercutting is necessary for temporary detours, the undercut material should be stockpiled on an upland site and later used to restore the site.

d. All restored areas should be planted with endemic vegetation including trees, if appropriate. For projects proposing a temporary onsite detour in jurisdictional features, the entire detour area, including any previous detour from past construction activities, should be removed in its entirety.

e. If applicable, the EA/CE should discuss and recommend bridge demolition methods and shall include the impacts of bridge demolition and debris removal in addition to the impacts of constructing the bridge. The EA should also incorporate the bridge demolition policy recommendations pursuant to the NCDOT policy entitled "Bridge Demolition and Removal in Waters of the United States" dated September 20, 1999.

f. Lengthening existing bridges can often benefit the ecological and hydrological functions of the associated wetlands and streams. Most bridge approaches are connected to earthen causeways that were built over wetlands and streams. Replacing these causeways with longer bridges would allow previously impacted wetlands to be restored. In an effort to encourage this type of work, mitigation credit for wetland restoration activities can be provided to offset the added costs of lengthening an existing bridge.

Should you have any questions please call me at the Raleigh Field Office at 919-554-4884.

Sincerely,

Monte Matthews
Project Manager, Raleigh
Regulatory Field Office

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

JAN 18 2011 lcr

January 13, 2011

MEMORANDUM

To: Tracy Walter-Bridge Project Planning Engineer, NCDOT PDEA

From: Amy Euliss, NC Division of Water Quality, Winston Salem Regional Office

Subject: Scoping comments on proposed Replacement of Bridge No. 29 on SR 1001 (Oakwood Road) over Cub Creek in Wilkes County, TIP B-4676.

Reference your correspondence dated December 9, 2010 in which you requested comments for the referenced project. Preliminary analysis of the project reveals the potential for impacts to streams and/or jurisdictional wetlands in the project area. More specifically, impacts to:

Stream Name	River Basin	Stream Classification(s)	Stream Index Number	303(d) Listing
Cub Creek	Yadkin-Pee Dee	C	12-41	Not listed

Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Quality requests that NCDOT consider the following environmental issues for the proposed project:

Project Specific Comments:

1. The Division would like additional information regarding the project. Specifically, we would like to see further discussion regarding the proposed future 4-lane section of SR 1001, and discussion as to why the bridge crossing is not being considered as part of this project. Also, please discuss the alternatives analysis for the widening of SR 1001, including if different locations of the bridge crossing are being considered as part of those alternatives.

2. The Division would like to notify NCDOT that there is a Clean Water stream restoration project immediately upstream of the stream crossing.

General Project Comments:

3. The environmental document shall provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan

with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

4. Environmental assessment alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ *Stormwater Best Management Practices*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.

5. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

6. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.

7. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.

8. If a bridge is being replaced with a hydraulic conveyance other than another bridge, NCDWQ believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).

9. If the old bridge is removed, no discharge of bridge material into surface waters is allowed unless otherwise authorized by the US ACOE. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.

10. Whenever possible, NCDWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) shall not be placed in the stream when possible.

11. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NCDWQ's *Stormwater Best Management Practices.*

12. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

13. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species should be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

14. Placement of culverts and other structures in waters, streams, and wetlands shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

15. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel shall be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

16. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3624/Nationwide Permit No. 6 for Survey Activities.

17. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

18. All work in or adjacent to stream waters shall be conducted in a dry work area unless otherwise approved by NCDWQ. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures should be used to prevent excavation in flowing water.

19. Sediment and erosion control measures shall not be placed in wetlands and streams.

20. Borrow/waste areas shall avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas could precipitate compensatory mitigation.

21. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

22. Heavy equipment shall be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

23. In most cases, NCDWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure shall be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed and restored to the natural ground elevation. The area shall be stabilized with grass and planted with native tree species. Tall fescue shall not be used in riparian areas.

24. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

Thank you for requesting our input at this time. NCDOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Amy Euliss at (336) 771-4959.

cc: Monte, US Army Corps of Engineers, Raleigh Field Office
Federal Highway Administration
Chris Militscher, Environmental Protection Agency (electronic copy only)
Marla Chambers, NC Wildlife Resources Commission (electronic copy only)
Wetlands/401 Transportation Permitting Unit
File Copy

Project Tracking No. (Internal Use)

10-12-0004

NO PREHISTORIC OR HISTORIC PROPERTIES PRESENT/AFFECTED FORM

PROJECT INFORMATION

Project No:	B-4676	*County:*	Wilkes
WBS No:	33831.1.1	*Document:*	Minimum Criteria Sheet
F.A. No:	BRZ-1001(29)	*Funding:*	☐ State ☒ Federal

Federal (USACE) Permit Required? ☒ Yes ☐ No *Permit Type:* USACE

Project Description:
The project calls for the replacement of Bridge No. 29 over Cub Creek on SR 1001 (Oakwoods Road). The archaeological Area of Potential Effects (APE) for the project is defined as a 300-foot (91.44 m) wide corridor that extends 150 feet (45.72 m) east and 150 feet (45.72 m) west from the present center of SR 1001. The APE begins at the intersection of SR 1001 with NC 18/SR 2510 (Old US 421/East Main Street) and runs south for a distance of 0.27 miles (0.43 km) to the intersection of SR 1001 with Forest Hill Drive.

SUMMARY OF FINDINGS

The North Carolina Department of Transportation (NCDOT) reviewed the subject project and determined:

Archaeology

☒ There are no National Register-listed or Study Listed properties within the project's area of potential effects.

☐ No subsurface archaeological investigations are required for this project.

☒ Subsurface investigations did not reveal the presence of any archaeological resources.

☒ Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.

☐ All identified Archaeological sites located within the APE have been considered and all compliance for archaeological resources 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 present or affected by this project. (*Attach any notes or documents as needed*)

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:

The project area is situated in the town of Wilkesboro, North Carolina, and south of the Yadkin River in Wilkes County. The project area is located on the Wilkesboro quad (Figure 1).

A map review and site file search was conducted at the Office of State Archaeology (OSA) on December 21, 2010. No previously recorded archaeological sites have been identified within the presently defined APE or adjacent to the APE, but eight sites (31WK14, 31WK15, 31WK71, 31WK184–31WK186, 31WK197, and 31WK198) have been recorded within a mile radius of the project area. In addition, there are no existing National Register (NR), State Study List (SL), Locally Designated (LD), Determined Eligible (DE), or Surveyed Site (SS) properties within or adjacent to the APE. Topographic maps, USDA soil survey maps, aerial photographs (Google and NCDOT), historic maps (North Carolina maps website) and Google street view application were utilized/inspected to gage environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, residential, hydrological, and other erosive type disturbances within the surrounding archaeological APE. An archaeological reconnaissance and field survey of the project area was conducted on January 4–5, 2010, to help assess the project area.

SR 1001 and Bridge No. 29 run roughly north to south and are situated in the Cub Creek/Yadkin River floodplain (Figures 2 and 3). Cub Creek is a tributary for the Yadkin River, which is part of the Yadkin-Pee Dee drainage basin (Figure 4). Development is generally light toward the northern and southern ends of the APE with residential houses and businesses. The majority of the undeveloped project area to the south of Cub Creek is used for a plant nursery to grow evergreen shrubs known as arborvitaes (Figures 5 and 6). To the north of Cub Creek and west of SR 1001, the project area primarily consists of Cub Creek park (Figures 7 and 8). The area to the east of SR 1001 and north of Cub Creek consist of houses situated on graded hillslope and a gravel parking lot for the nursery (Figure 9). Disturbance from the nursery is greater than originally expected. The nursery property is pot marked from the removal of shrubs. The excavated shrubs leave holes that measure about 50 to 60 cm (20 to 24 in) in diameter and extend 30 to 50 cm (12 to 20 in) in depth (Figure 10). The removal of this much soil would impact possible subsurface archaeological features considering the top layer of soil extends on average 25 cm (10 in) below the surface before subsoil is encountered. Other disturbances include a sewer corridor that runs parallel to Cub Creek on its north side (Figures 11 and 12). The sewer corridor also extends south of Cub Creek. It appears from recent ground disturbance that the sewer corridor was improved.

A review of the USDA soil survey maps indicates the soil series within the APE is primarily Toccoa sandy loam (ToA) (see Figure 2). This series consists of deep, well-drained, and very permeable soils with a slope of 0 to 3 percent. A total of ten shovel test pits (STPs) were excavated on this soil within the APE. From these excavations, the upper layer or A horizon is 25 cm (10 in) thick and is dark yellowish brown (10YR 4/4) sandy loam. Any cultural material would have been found within this horizon. It is followed by a sterile C horizon, which is strong brown (7.5YR 4/6) or dark yellowish brown (10YR 4/6) sandy clay loam that extends at least 50 cm (20 in) below the surface. Other potential soil series within the APE that could have yield cultural material are Masada sandy clay loam (MaC2) and Rion fine sandy loam (RnE). These two soil series are located at the southern end of the APE. Four STPs were excavated on the Masada sandy clay loam. This soil series consists of well-drained but eroded soils with moderate permeability on 8 to 15 percent slope. The A horizon is approximately 25 to 30 cm (10 to 12 in) thick and is dark yellowish brown (10YR 4/4) sandy clay loam. The second layer is a sterile B horizon that is strong brown (7.5YR 5/6) clay that extends at least 50 cm (20 in) below the surface. The Rion soil series also consists of well-drained soils, but this particular Rion soil type is located on 25 to 60 percent slope. No

STPs were excavated on this soil series due to the steep slope. The remaining three soil series are Masada-Urban land complex (MuC), Pacolet-Urban land complex (PrC), and Udorthents-Urban land complex (UfB). They are plotted at the northern and southern ends of the APE. These soils are associated with urban development and are unlikely to yield intact prehistoric archaeological deposits. No STPs were excavated on these soils due to disturbance from development and steep hillslope.

The site file search revealed eight sites within a mile of the APE. Five of these sites (31WK14, 31WK15, 31WK71, 31WK197, and 31WK198) are situated north of the Yadkin River. Sites 31WK184–31WK186 are located to the southwest along Cub Creek. Six of the sites (31WK14, 31WK15, 31WK185, 31WK186, 31WK197, and 31WK198) yielded only prehistoric artifacts. Site 31WK14 contains Late Archaic and Late Woodland period components. The site's eligibility for the National Register of Historic Places (NRHP) is unassessed, and it appears to have been impacted by urban development according to aerial photographs. Site 31WK15 is a large prehistoric site that dates to the Early Archaic, Late Archaic, and Woodland periods. It eligibility has not been assessed as well; however it appears to be currently located under a shopping center and parking lot. Site 31WK185 is a small Late Woodland period site that is considered ineligible for the NRHP. Site 31WK186 dates to an unidentified prehistoric period, and it too is recommended ineligible for the NRHP. Site 31WK197 yielded artifacts from an undefined Woodland period, and its eligibility is unassessed. Likewise, site 31WK198 dates from undefined Archaic and Woodland periods and is unassessed. One site, 31WK184, yielded both prehistoric and historic artifacts. The prehistoric component dates to the Middle Archaic period, while the historic component dates from the mid 19th through mid 20th centuries. The site is not eligible for the NRHP. The final site, 31WK71, has no available information other than its location. The site form is missing at OSA. In addition, four of the sites (31WK15, 31WK71, 31WK185, and 31WK186) are situated upon Toccoa sandy loam. A review of previous archaeological surveys in the area revealed only one recent study near the project area. In 1986, DOT archaeologist investigated the replace of Bridge No. 53 over the Yadkin River along NC-18 (TIP B-1432). Due to nearby disturbances, only three STPs could be excavated and no archaeological sites were identified during the study.

During the current investigation, an archaeological survey consisting of 14 STPs was conducted along either side of SR 1001 within the APE (see Figure 2). Seven STPs were excavated north of Cub Creek with all seven being located on the west side of SR 1001. No STPs were excavated on the east side due to disturbance, slope, and a gravel parking lot. To the south of Cub Creek, another seven STPs were excavated with five to the east and two to the west. Slope and houses limited the number of STP on the west side. All STPs were initially excavated at 30-m intervals. A possible quartz flake was recovered from STP 3. Three additional STPs were excavated at 15-m intervals in relation to the angle of SR 1001 in order to delineate the possible prehistoric site. All three were negative. Upon further analysis of the possible flake in the office, it was determined that the artifact was a small piece of broken quartz and non-cultural. None of the other STPs excavated at 30-m intervals yielded cultural material.

A review of historic maps of the region show only general features concerning the surrounding countryside. It is not until 1918 with the Hearn, Jurney, and Perkins' soil map for Wilkes County that the project area is depicted in any great detail (Figure 13). According to an overlay of this map with a modern map provided by the North Carolina maps website, a bridge has been at this location since at least the early 20th century. However, the road layout south of Cub Creek is altered with the main route heading east instead of south. The current alignment does not appear on maps until the 1960s. The 1918 map along with other early 20th century maps show no structures along Cub Creek except for the old bridge. The other structures that appear within the APE on the early maps are situated to the north along Old US 421/East Main Street. These structures would be located within the developed portion of the APE, and it appears unlikely any historic archaeological remains are still present.

The archaeological investigations along the SR 1001 for the replacement of Bridge 29 consisted of 11

STPs excavated at 30-m intervals with additional three STPs excavated at 15-intervals within the APE. No cultural material was recovered from any of the STPs. A review of the previously identified sites in the area show no known archaeological sites within or adjacent to the APE. Historic maps for the region also suggest no remains are present for significant historic structures within the APE. In addition, disturbance from the removal of shrubs from the nursery property has hindered the likelihood of encountering a significant and intact archaeological site. Therefore, it is unlikely any archaeological sites that are potentially eligible for the NRHP are present within the project area. No further archaeological work is recommended within the APE for the replacement of Bridge No. 29 and subsequent improvement to SR 1001. If the project expands and impacts subsurface areas beyond the defined APE, further archaeological consultations might be necessary.

SUPPORT DOCUMENTATION

See attached: Map(s), Previous Survey Info, Photos, Correspondence, Photocopy of notes from survey.

Signed:

11/07/11

Cultural Resources Specialist, NCDOT — Date

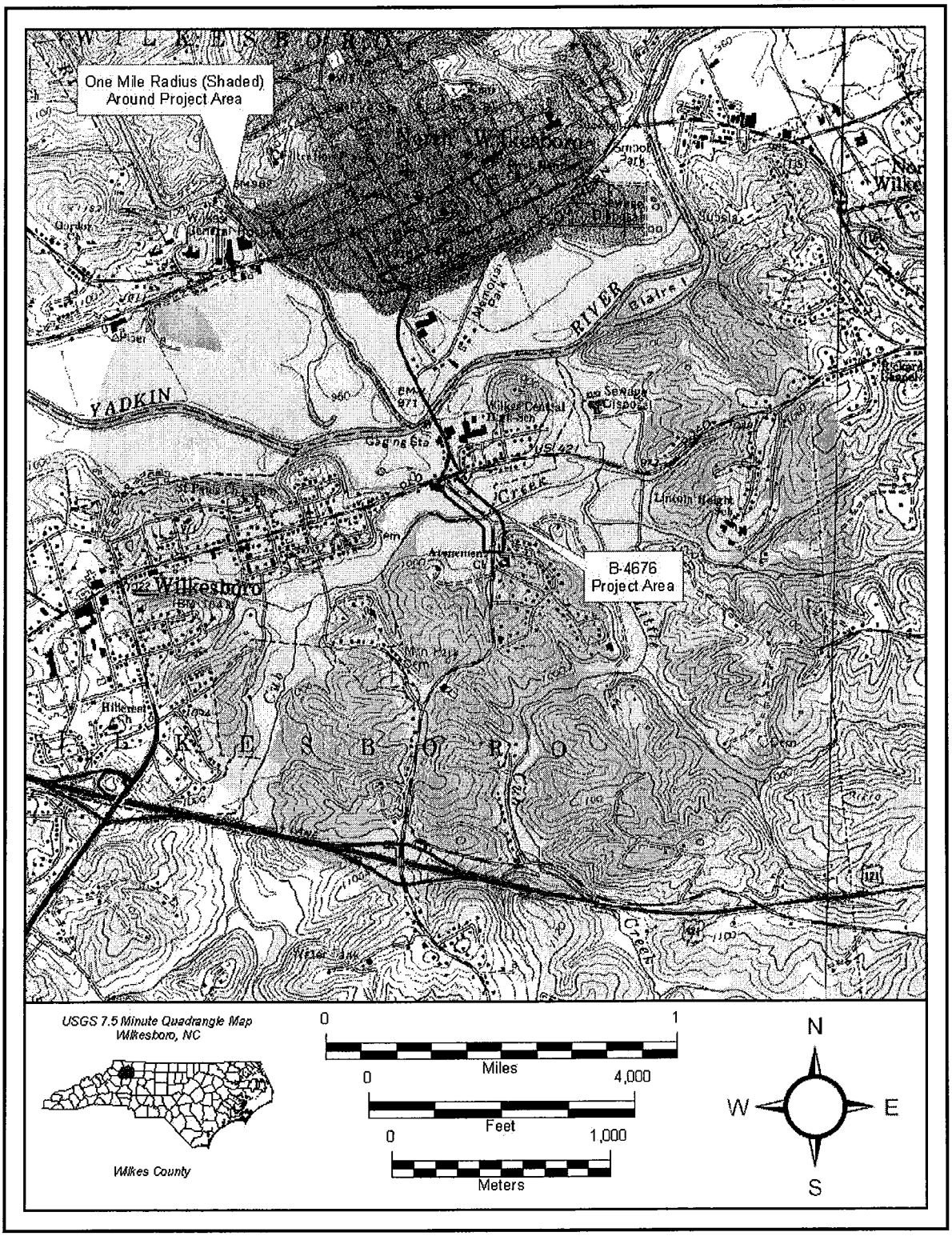


Figure 1. Topographic Setting of Project Area, Wilkesboro, NC, USGS 7.5' Topographic Quadrangle (USGS 1966).

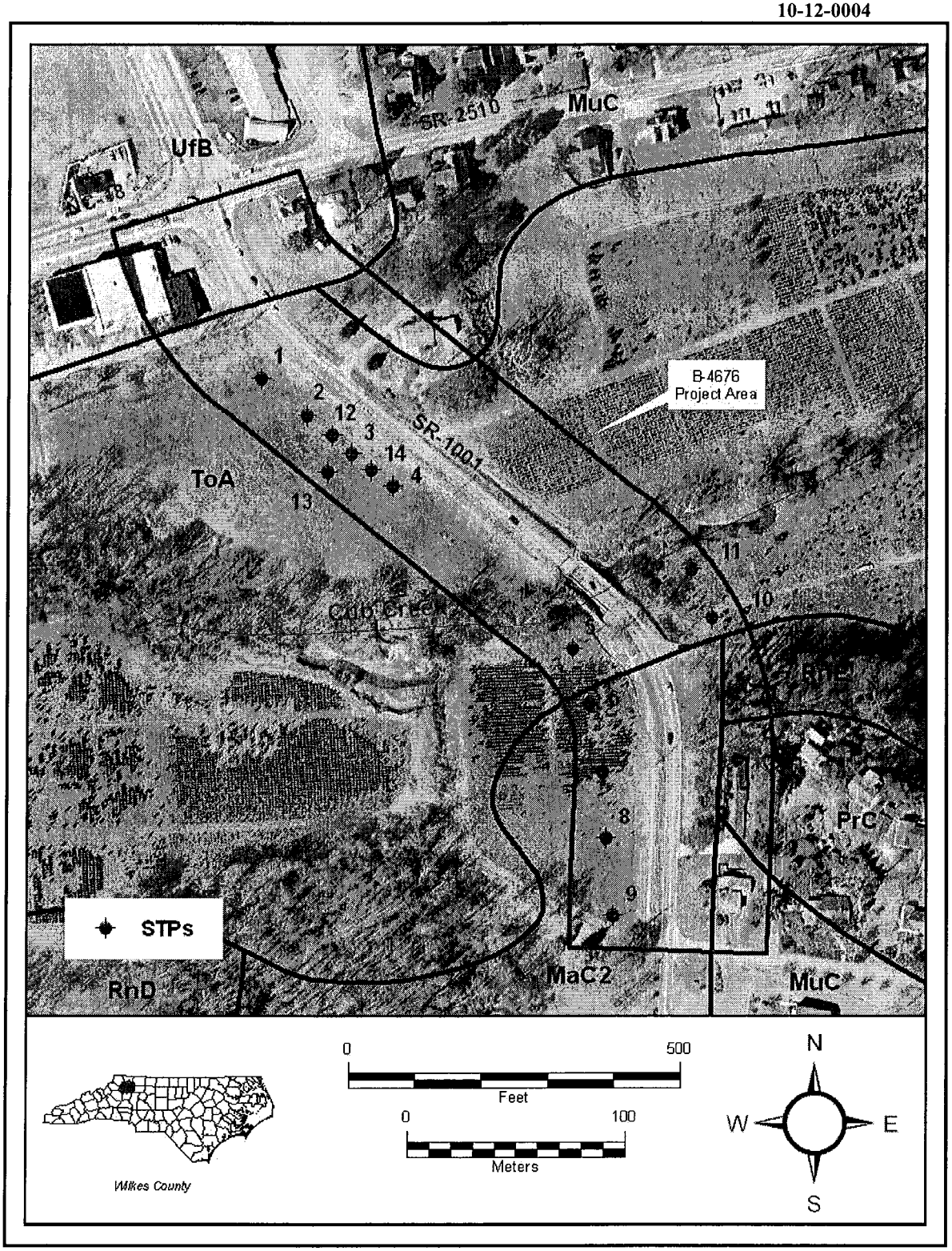


Figure 2. Aerial photograph showing project area, soil map, and STP placement.

Figure 3. Bridge No 29 over Cub Creek, facing southeast.

Figure 4. Cub Creek, facing west.

Figure 5. General View of Project Area south of Cub Creek and west of SR 1001 showing plant nursery, facing north.

Figure 6. General View of Project Area south of Cub Creek and west of SR 1001 showing plant nursery, facing south.

Figure 7. General View of Project Area north of Cub Creek and west of SR 1001 showing Cub Creek Park, facing northwest.

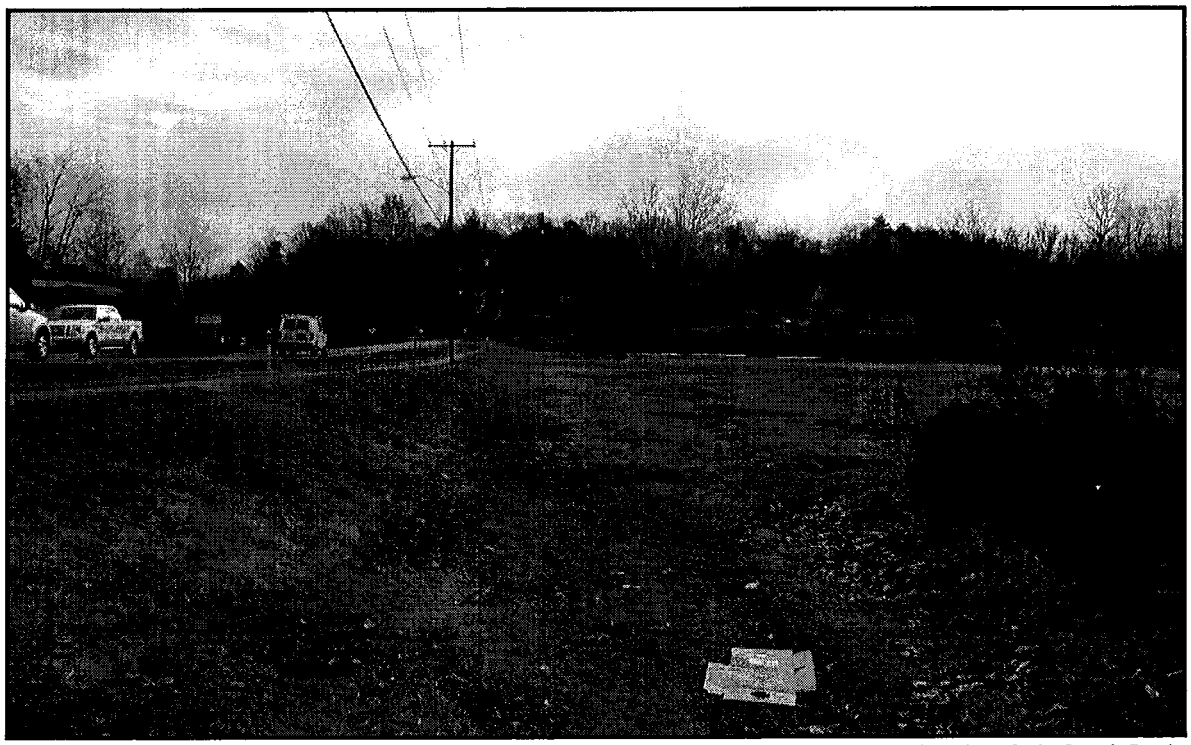


Figure 8. General View of Project Area north of Cub Creek and west of SR 1001 showing Cub Creek Park, facing southeast.

Figure 9. General View of Project Area north of Cub Creek and east of SR 1001 showing nursery parking lot and graded hillslope, facing northwest.

Figure 10. Disturbance from the removal of shrubs on the nursery property.

Figure 11. View of sewer corridor through Cub Creek Park, facing west.

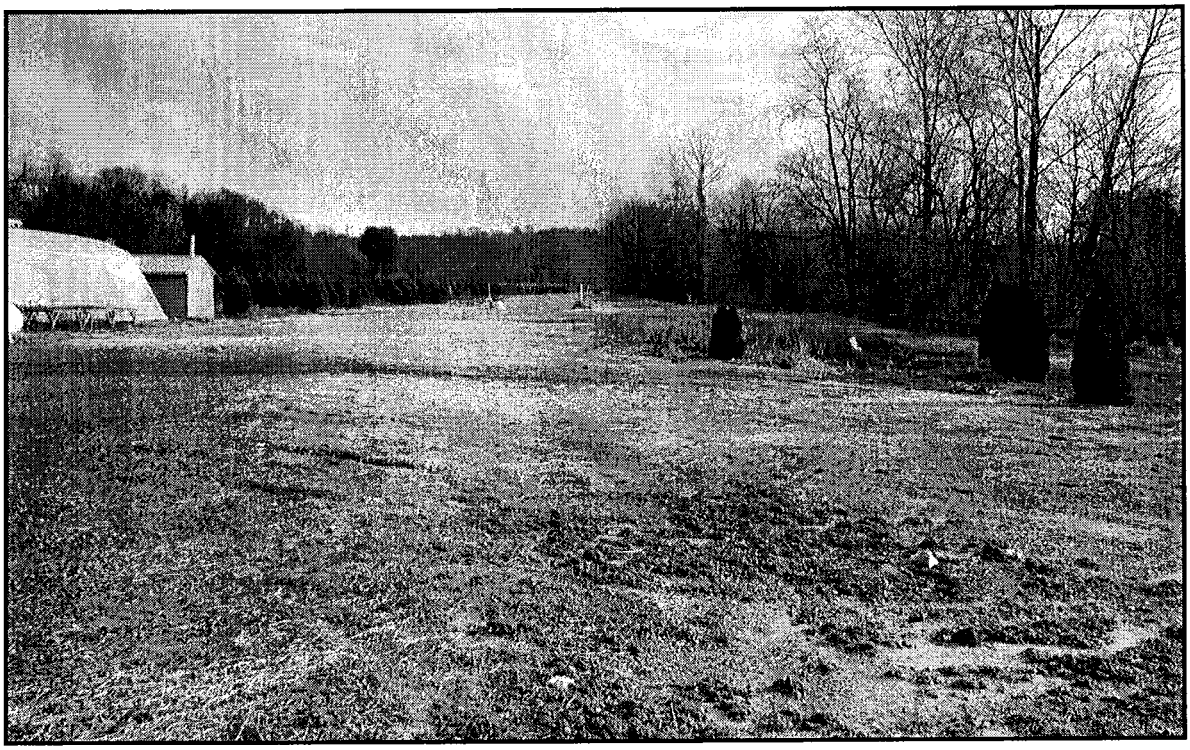


Figure 12. View of sewer corridor through nursery, facing east.

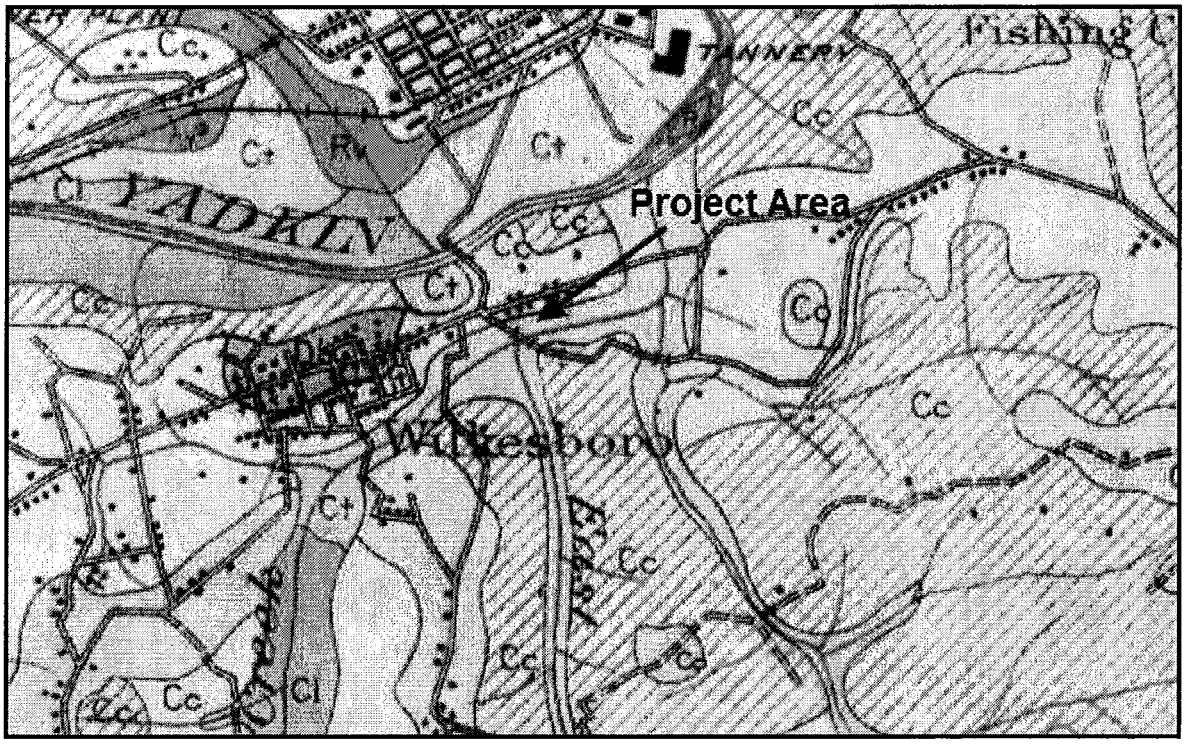


Figure 13. Hearn, Jurney, and Perkins' 1918 soil map for Wilkes County showing the project area.

Project Tracking No. (Internal Use)

10-12-0004

NO HISTORIC PROPERTIES PRESENT/AFFECTED FORM

PROJECT INFORMATION

Project No:	B-4676	*County:*	Wilkes
WBS No:	33831.1.1	*Document:*	
F.A. No:		*Funding:*	☐ State ☒ Federal

Federal (USACE) Permit Required? ☒ Yes ☐ No *Permit Type:*

Project Description:
Replace Bridge No 29 over Cub Creek on SR 1001 (Oakwoods Rd) in Wilkesboro.

SUMMARY OF FINDINGS

The North Carolina Department of Transportation (NCDOT) reviewed the subject project and determined:

☐ 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 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 and 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 present or affected by this project. (*Attach any notes or documents as needed*)

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:
Review of HPO quad maps, historic designations roster, and indexes was undertaken on January 3, 2011. Based on this review, there were no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects. The bridge is located near the Wilkesboro Historic District but not within or adjacent to the district boundaries. There are two properties at the intersection of Oakwood Road (SR 1001) and Main Street; a commercial block c. 1910 and a house c. 1940. Neither of there properties meet the criteria for National Register Eligibility. No historic properties will be affected by the construction of this bridge.

SUPPORT DOCUMENTATION

See attached: Map and photos.

Signed:

Shellagh Spillers 1-3-2011

Cultural Resources Specialist, NCDOT Date

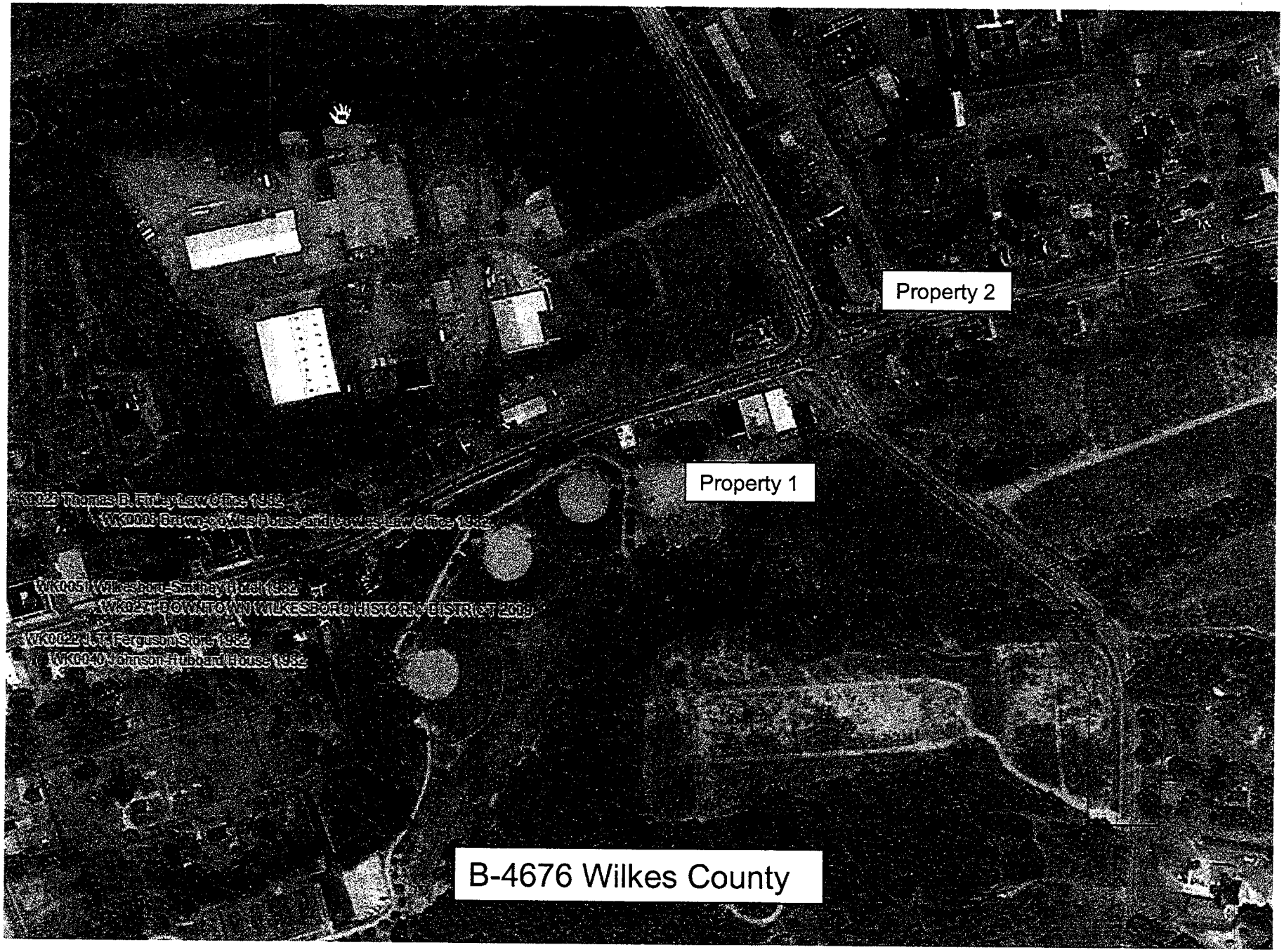
Representative, HPO Date

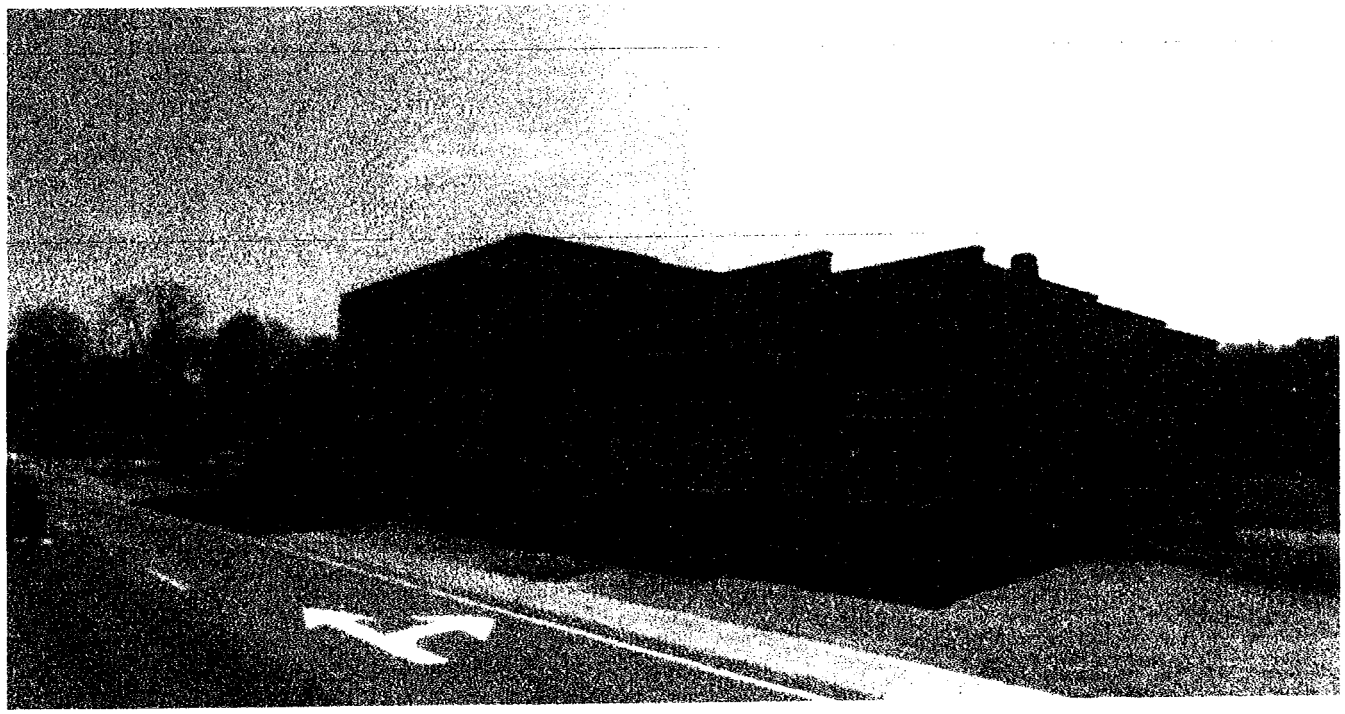
HPO/OSA Comments:

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

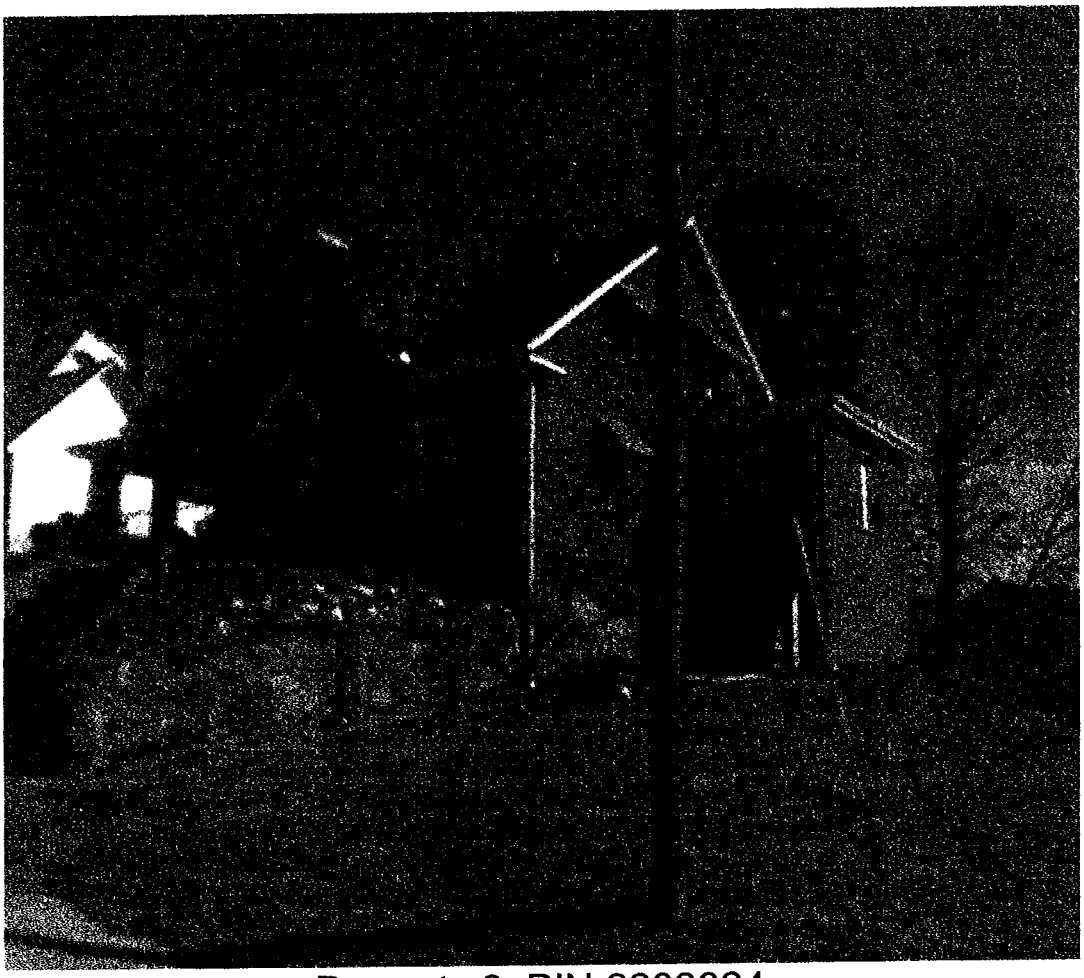
WILKES COUNTY
REPLACE BRIDGE NO. 29 ON SR 1001
OVER CUB CREEK
B-4676

PROJECT STUDY AREA


Property 2
Property 1
B-4676 Wilkes County



Property 1: PIN 2201521



Property 2: PIN 2203024

Walter, Tracy A

From: Gilstrap, Jesse W
Sent: Thursday, December 16, 2010 2:33 PM
To: Walter, Tracy A
Cc: Gettier, Lawrence; Coats, Scott B
Subject: RE: STIP Project No. B-4676: Replacement of Bridge No. 29 on SR 1001 (Oakwood Road) over Cub Creek in Wilkes County

Tracy,

We have no input at this time. Thanks

Jesse

Jesse W. Gilstrap
Project Design Engineer
Work Zone Traffic Control
919-662-4383
919-771-2745 (fax)

From: Gettier, Lawrence
Sent: Friday, December 10, 2010 10:44 AM
To: Gilstrap, Jesse W
Subject: FW: STIP Project No. B-4676: Replacement of Bridge No. 29 on SR 1001 (Oakwood Road) over Cub Creek in Wilkes County

Lawrence Gettier, PE
Regional Work Zone Traffic Control Engineer - West
Traffic Management Unit
Transportation Mobility and Safety Division
North Carolina Department of Transportation
1580 Mail Service Center
Raleigh, North Carolina 27699-1580
919-250-4159 lgettier@ncdot.gov

From: Bourne, John S
Sent: Friday, December 10, 2010 8:49 AM
To: Gettier, Lawrence; Dunlop, James H
Subject: FW: STIP Project No. B-4676: Replacement of Bridge No. 29 on SR 1001 (Oakwood Road) over Cub Creek in Wilkes County

FYI

From: Walter, Tracy A
Sent: Friday, December 10, 2010 8:05 AM
To: Walls, Richard J; Harris, James B; Norman, Thomas P; Memory, John R; Perfetti, Gregory R; Holderman, Daniel D; Leggett, Calvin W; Lane, James D; Bourne, John S; Mosher, Robert F; Strickland, Neal O; Chang, David S; Wainaina, Njoroge W; Dishman, Ivan H
Subject: STIP Project No. B-4676: Replacement of Bridge No. 29 on SR 1001 (Oakwood Road) over Cub Creek in Wilkes County

The Project Development and Environmental Analysis Branch is resuming the process of project development, environmental and engineering studies for the replacement of Bridge No. 29 in Wilkes County. This project is included in the North Carolina State Transportation Improvement Program.

A Feasibility Study (FS-0711B) has identified the need for SR1001 to be widened to accommodate 4-lanes in the future. NCDOT proposes to replace the existing bridge, with a two lane structure, along an alignment which will lend to a future 4-lane section. NCDOT has previously studied an alignment which will replace the existing structure on a new alignment to the west of existing; using the existing structure to maintain traffic. An alignment which will replace the existing structure along a new alignment to the east; maintaining traffic on existing structure, as recommended by the feasibility study, will be added.

We would appreciate any information you might have that would be helpful in evaluating potential environmental impacts of the project including recommendation of alternates to be studied. Your comments will be used in the preparation of a federally funded Categorical Exclusion, prepared in accordance with the National Environmental Policy Act. It is desirable that your agency respond by March 31 so that your comments can be used in the selection of a preferred alternative. Copies of the vicinity map and aerial are located on the Project Store (Roadway Server) at: PDEA\Project Development\Images.

If you have any questions concerning this project, please contact me at (919) 850-2716. Please include the STIP Project Number in all correspondence and comments.

Tracy Walter
PDEA Project Planning Engineer

FEASIBILITY STUDY

Town Of Wilkesboro
Widen SR 1001 (Oakwoods Road)
From US 421 Bypass
To NC 18-268 (Main Street)

Wilkes County

Division 11

FS–0711B

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

R. N. Prince
Feasibility Studies Engineer

Derrick W. Lewis. P.E.
Feasibility Studies Unit Head

11-22-2010
Date

Town of Wilkesboro

Widen SR 1001 (Oakwoods Road)
From US 421 Bypass
To NC 18-268 (Main Street),
Wilkes County.

FS-0711B

I. General Description

This feasibility study describes the operational and safety improvements to SR 1001 (Oakwoods Road) from US 421 to NC 18/268/SR 2510 (East Main Street), a distance of approximately 1.3-miles. The project location is shown on the Location Map. As part of the study, two (2) different cross-sections where considered, the details of which are as follows:

- **Alternative 1:** Two-lane section constructed asymmetrically on 130-feet of right of way sufficient for an ultimate 4-lane section. The proposed facility is approximately 32-foot wide with a 14-foot wide travel lane, sidewalks and curb and gutter on the western side, while the eastern side is a shoulder section with a 12-foot travel lane with a 4-foot paved shoulder. (Please see Figure 1).

- **Alternative 2:** Four-lane divided curb and gutter section, 79 feet wide face-to-face of curbs with a 23-foot raised grass median, consisting of 12-foot inside lanes and 14-foot outside lanes on 130-feet of right-of-way. The alignment will be symmetrical about the centerline except for some proposed realignments and bridge replacement with sidewalk on both sides. (Please see Figure 2).

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

II. Background

The purpose of this project is to improve the safety carrying capacity as well as provide accommodations for pedestrian and bicyclist connectivity in the area including the Wilkesboro Cub Creek Park located within the project corridor.

SR 1001 (Oakwoods Road) is classified as an Urban local route in the North Carolina functional classification system and a Major Thoroughfare in the city Municipal Thoroughfare Plan.

The development along SR 1001 (Oakwoods Road) is primarily residential with some commercial property and Cub Creek Park.

There is one bridge located on this project, Bridge No. 29. TIP Project B-4676 proposes to replace bridge no. 29 over Cub Creek in Wilkes County; however, due to this feasibility request for the widening of SR 1001, with some realignment, it was put on hold.

The Town of Wilkesboro and Division 11 Engineer support this project.

TIP project B-4676 proposes to replace Bridge No. 29 over Cub Creek. We recommend this project be coordinated in such a matter as not to preclude the future widening of SR 1001 as proposed in this study.

III. Traffic and Safety

There is one existing traffic signal within the project limits, located at the intersection of SR 1001 (Oakwoods Road) and US 18/268/SR 2510 (E. Main Street).

The current year Average Daily Traffic (ADT) along SR 1001 (Oakwoods Road) between US 421 and NC 18/268 is 11,300 vehicles per day (vpd) in 2010 and is projected to be 17,400 vpd in the 2035 Design Year (DY). Truck traffic along Oakwood Road is estimated to be up to 3% of the ADT.

The existing two-lane sections on Oakwood Road currently operate at a LOS D or better. If no improvements are made, Oakwood Road will degrade to an Level of Service (LOS) F by the 2035 design year. However, if the recommended 4-lane improvements are implemented, Oakwood Road will operate at a LOS C or better in the 2035 design year.

Between July, 2007 and June, 2010, 19 accidents occurred within the project limits. There were 3 injury accidents, 16 property damage only accidents and no fatalities as a result of these incidents. The accident rate for this 1.3-mile portion of roadway is 238.35 crashes per 100 million vehicle miles of travel (acc/100mvm), which is lower than the 2005-2007 statewide rate of 369.89 crashes/100mvm for two-lane undivided rural secondary routes. However, of the 19 crashes, 6 of these were recorded under wet conditions. This resulted in a wet crash rate in the project area of 74.32 crashes per 100 million vehicle miles of travel (acc/100mvm), which is higher than the statewide wet crash rate of 56.05 acc/100mvm, but still less than the wet Critical Crash rate of 105.60 acc/100mvm.

The above average wet accident rate suggest there might be safety and operational deficiencies along this particular section; however, with the proposed improvements it is anticipated the number and severity of these types of crashes will be reduced.

IV. Description of Alternatives

It is proposed to improve Oakwoods Road (SR 1001) from US 421 Bypass to East Main Street (NC 18/268/SR 2510), a distance of approximately 1.3-miles. The project location is shown on Location Map. There are two (2) alternatives in this study.

The cost estimates below include removal and replacement of Bridge No.29 and the extension of Call Street on the eastern side of the project.

The details of the proposed Alternatives are as follows:

- ***Alternative 1:*** Widening of SR 1001 (Oakwoods Road) from US 421 Bypass to NC 18/268/SR 2510 (East Main Street) to a two-lane section asymmetrically placed within 130-foot of right of way for an ultimate 4 lane divided curb and gutter section. The proposed cross section is approximately 32-foot of pavement with a 14-foot wide travel lane, sidewalk and curb and gutter on the western side, while the eastern side is a shoulder section with a 12-foot travel lane with a 4-foot paved shoulder.

  Turn-lanes:

  - Left-turn-lane from SR 1001 traveling west onto Call Street.
  - Left-turn-lane from SR 1001 traveling east onto Call Street Extension.
  - Right-turn-lane from Forest Hill Drive (South of Stratford Road) onto SR 1001.
  - Right-turn-lane from Edgewood Drive onto SR 1001.
  - Left-turn-lane from SR 1001 onto Edgewood Drive.
  - Left-turn-lane from SR1001 onto US 18/268.
  - Right-turn-lane from SR1001 onto SR 2510.
  - Right-turn-lane from NC 18/268 onto SR 1001.
  - Extension of Call Street eastward.

  Under the proposed improvements for Alternative 1 it is anticipated there will be three (3) residential and six (6) business relocations. The total cost of this alternative is estimated to be $13,700,000.

Construction	$8,100,000
Right-of-Way	$4,800,000
Utilities	$800,000
Estimated Project Cost	$13,700,000

- ***Alternative 2:*** Widening of SR 1001 (Oakwood Road) from US 421 Byp. to NC 18/268/SR 2510 (East Main Street) to a four-lane divided curb and gutter section, 79-feet wide face-to-face of curbs with a 23-foot raised grass median, consisting of 12-foot inside lanes and 14-foot outside lanes on 130-feet of right-of-way, with sidewalks on both sides.

  Turn-lanes:

  - Left-turn-lane from SR 1001 traveling west onto Call Street.
  - Right-turn-lane from SR 1001 traveling east onto Call Street extension.
  - Left-turn-lane southward from SR 1001 onto Call Street extension.
  - Left-turn-lane from Forest Hill Drive (South of Stratford Road) onto SR 1001.
  - Right-turn-lane from SR 1001 onto Forest Hill Drive (South of Stratford Road).
  - Left-turn-lane from SR 1001 onto Forest Hill Drive (South of Stratford Road).
  - Left-turn-lane from Edgewood Drive onto SR 1001.
  - Left-turn-lane traveling south from SR 1001 onto Edgewood Drive.
  - Right-turn-lane from SR1001 onto SR 2510.
  - Extension of Call Street eastward.

  Under the Alternative 2 proposal, it is anticipated there will be three (3) residences and six (6) businesses relocated. The total cost of this alternative is estimated to be $16,300,000.

Construction	$10,700,000
Right-of-Way	$4,800,000
Utilities	$800,000
Estimated Project Cost	$16,300,000

V. Community Issues

A detailed investigation of community issues was not conducted for this feasibility study. However; minimum impacts to schools, parks, recreation areas (Club Creek Park) and community facilities are anticipated with this project.

There is a significant pedestrian population that uses the Oakwoods Road corridor due to the Cub Creek Park were 2-feet added to the outside lanes to accommodate bicyclist.

Lutheran Church of the Atonement is located between Sunset Drive and Forest Hill Drive south of Edgewood Drive on SR 1001.

VI. Natural and Environmental Issues

A detailed environmental study was not conducted for this feasibility study. However, existing information available for this project area has been screened for environmental and historic concerns. Minimum environmental and historic impacts are anticipated.

There is no indication of threatened or endangered species in the area based on available GIS data maintained by the National Heritage program.

VII. Summary

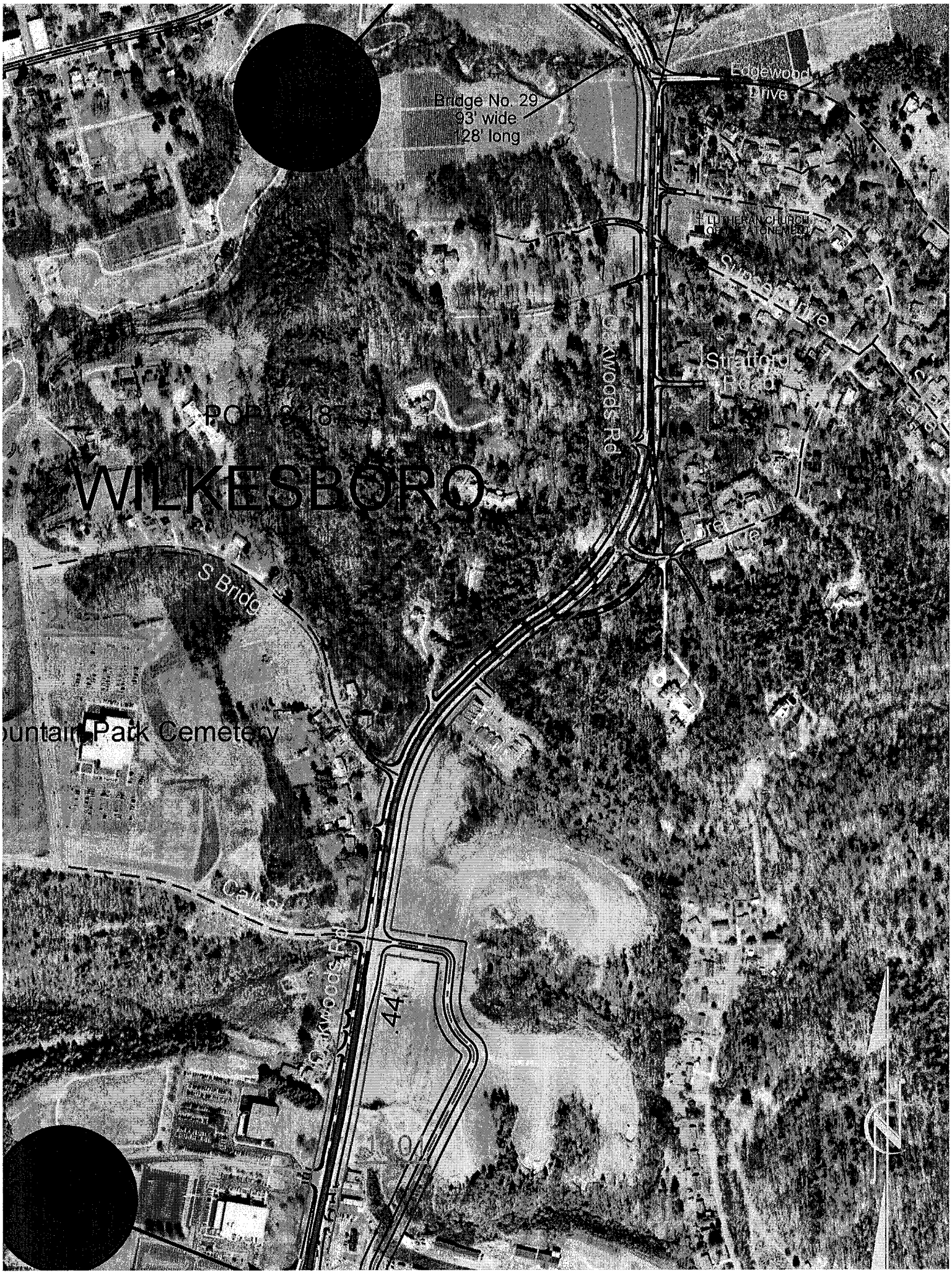
Alternative 1: It was determined the two-lane would be operating at a LOS "D" in the current year and not able to accommodate the project's traffic volumes in the 2035 design year. Therefore, a two-lane section on a four-lane right-of-way is not considered a long term solution. The appropriate auxiliary turn lanes should be provided as well as improvements to the horizontal alignment along some sections of SR 1001 and the replacement of Bridge No. 29 (B-4676), also the extension of Call Street from the existing Call Street to Edgewood Road. Because of these factors, Alternative #1 would be considered an interim solution for the proposed SR 1001 widening.

Alternative 2: This section is recommended because it will accommodate the growing traffic demands of the areas projected traffic volume in the 2035 design year. It would also accommodate the anticipated growth of residential and commercial development as well as provide infrastructure for pedestrian and bicycles to the Cub Creek Park. This alternative proposes to upgrade Oakwood Road from US 421 Byp. to US 18/268/SR 2510 to a four-lane divided curb and gutter section, 79-feet wide face-to-face of curbs with a 23-foot raised grass median, consisting of 12-foot inside lanes and 14-foot outside lanes on 130-feet of right-of-way. This alternative also improves the horizontal alignment along some sections of SR 1001. In addition to providing a positive separation between traffic, the raised grass median will provide a refuge for pedestrians. The estimated cost of the recommended alignment is $15,900,000.

VIII. Additional Comments

There is a church (Lutheran Church, The Atonement) located at the intersection of Oakwood Road and Forest Hill Drive, however minimum impact is anticipated.


END
PROJECT
Bridge No. 29
93' wide
128' long
Edgewood
Drive
LUTHERAN CHURCH
OF THE ATONEMENT
Stratford
Road
Oakwoods Rd
POP. 8,187
WILKESBORO
S Bridge
Mountain Park Cemetery
Oakwoods Rd
44
BEGIN
PROJECT
N


Bridge No. 29
93' wide
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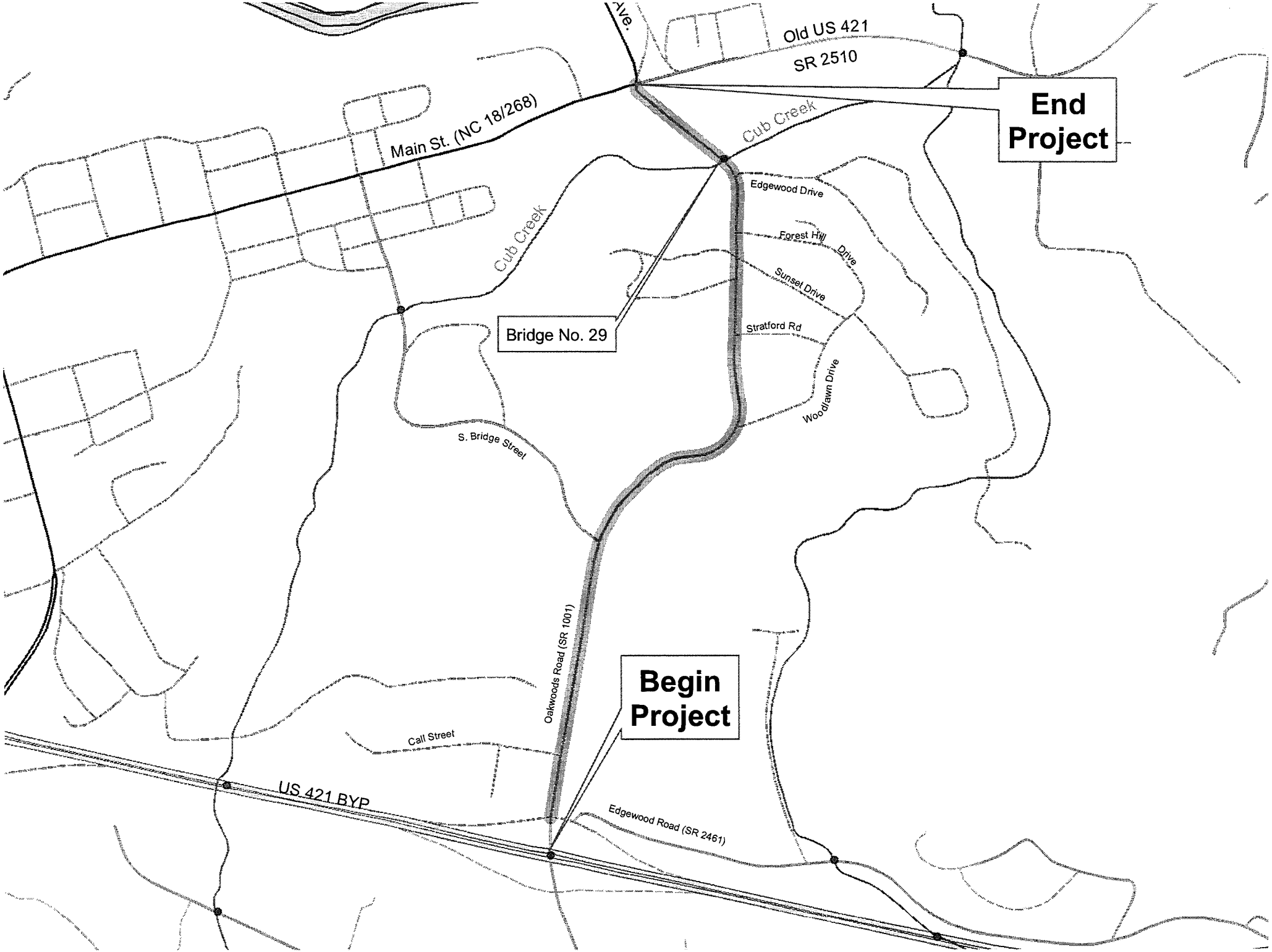

Old US 421
SR 2510
End Project
Main St. (NC 18/268)
Cub Creek
Edgewood Drive
Forest Hill Drive
Sunset Drive
Stratford Rd
Woodlawn Drive
Cub Creek
Bridge No. 29
S. Bridge Street
Oakwoods Road (SR 1001)
Begin Project
Call Street
US 421 BYP
Edgewood Road (SR 2461)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

Nov 26, 2007

MEMORANDUM TO: Robert N. Prince
Feasibility Studies
Program Development Branch

FROM: Keith G. Dixon
Western Traffic Forecasting Group
Transportation Planning Branch

SUBJECT: Traffic Forecast for FS-0711B
Wilkes County, Widening of SR 1001-Oakwoods Rd

Please find the 2007/2035 traffic forecast diagrams and transmittal memo for FS-0711B attached.

The base-year and horizon-year forecast AADTs include passenger cars, motorcycles, trucks, and buses. Travel demand for pedestrians and bicycles are not included in the forecast.

Please note the addition of Call Street Extension to the horizon year 2035 forecast diagram. Conversations with Barry Bush, property and development manager for J.C. Faw Properties in Wilkesboro, and John Frey, Wilkesboro planner, indicate the proposed development of 150 condo/townhouse units and a 30,000 square foot shopping center on the east-side SR 1001-Oakwoods Rd opposite Call St. This development would include the addition of Call Street Extension which would provide access to the condo/townhouse units and the shopping center. According to J.C. Faw Properties, this development should be completed by 2013. This development along SR 1001-Oakwoods Rd and the addition of Call Street Extension are key assumptions in the 2035 forecast.

If it is determined that development in the project area will proceed in a manner that is inconsistent with these assumptions, please feel free to request updated projections from the Transportation Planning Branch. The use of straight-line interpolation to estimate AADT for years between 2007 and 2035 is not recommended.

If we can be of any further assistance please do not hesitate to contact me at 715-5482x364, email: kdixon1@dot.state.nc.us or Elina Zlotcheko at 715-5482 x372, email: ezlotchenko@dot.state.nc.us.

cc (with Attachments):

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
STATEWIDE PLANNING BRANCH
1554 MAIL SERVICE CENTER
RALEIGH NC 27699-1554

TELEPHONE: 919-733-4705
FAX: 919-733-2417
WEBSITE: WWW.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Jay Bennett, P. E.
Sarah Smith, P. E.
Deborah Hutchings, P. E.
BenJetta L. Johnson, P.E.
Hardee Cox
File Copy: FS-0711B Wilkes County

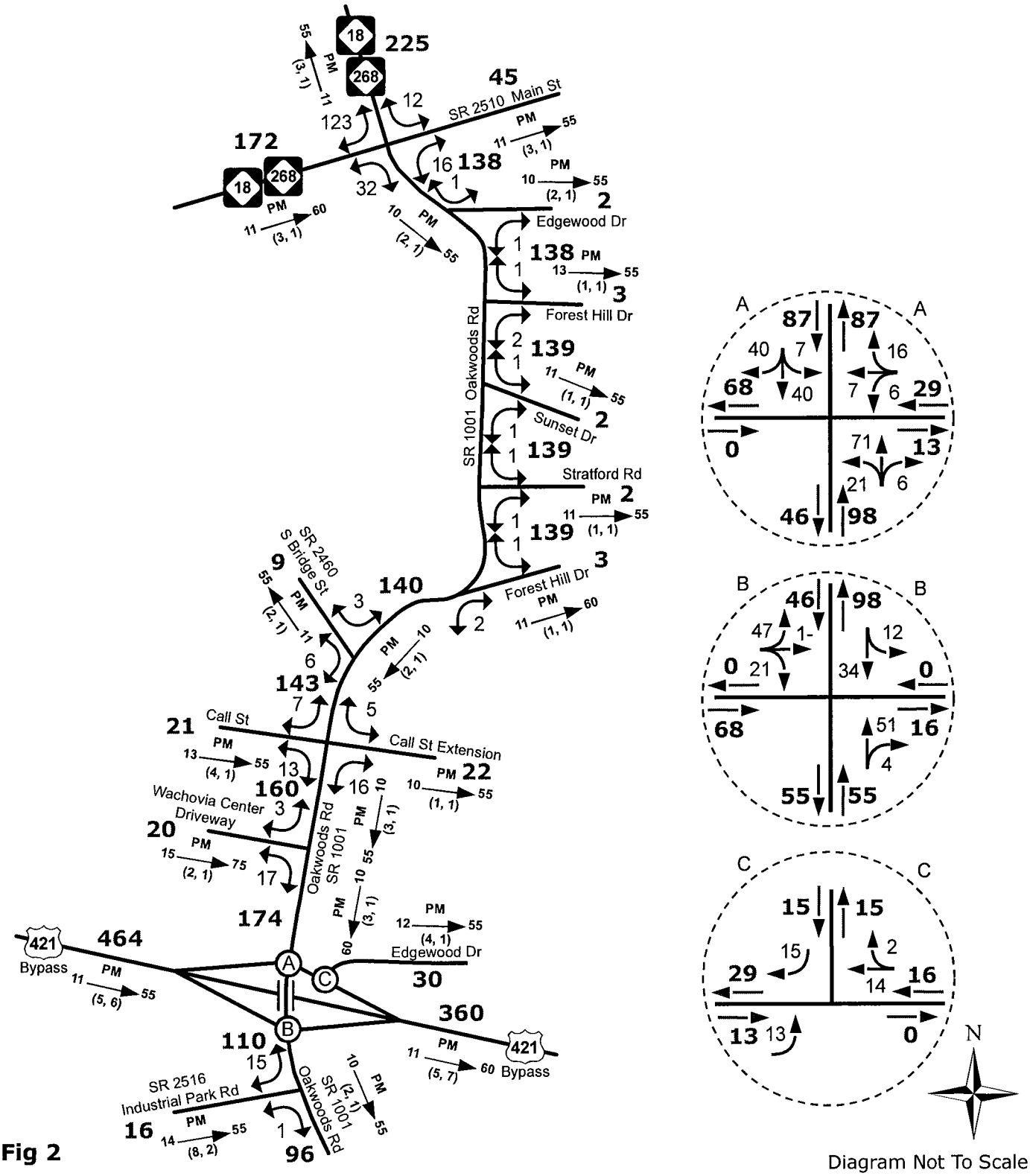
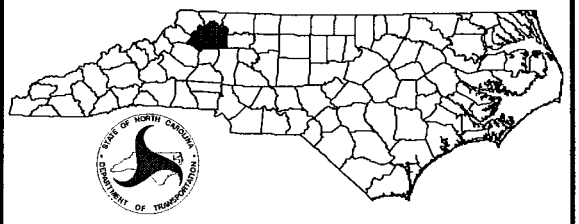


Fig 2

Diagram Not To Scale

2035 AVERAGE ANNUAL DAILY TRAFFIC WITH TRUCK, DHV AND DIRECTIONAL PERCENTAGES		
COUNTY: Wilkes		WBS: 34263.1.1
TIP: FS-0711B	DIV: 11	DATE: Nov 26, 2007
LOCATION: Intersection of US 421 Bypass & SR 1001-Oakwoods Rd, Wilkesboro		
PROJECT: SR 1001 - Oakwoods Rd Widening		
PREPARED BY: Keith G. Dixon		



LEGEND

###	Number of Vehicles Per Day in 100s
1-	Less Than 50 VPD
###	Turning Volume VPD
PM DHV → D (d, t)	
DHV	Design Hour Volume % = K30
PM	PM Peak Period
D	Peak Hour Directional Split %
→	Direction of D %
(d, t)	Duals %, TT-STs %

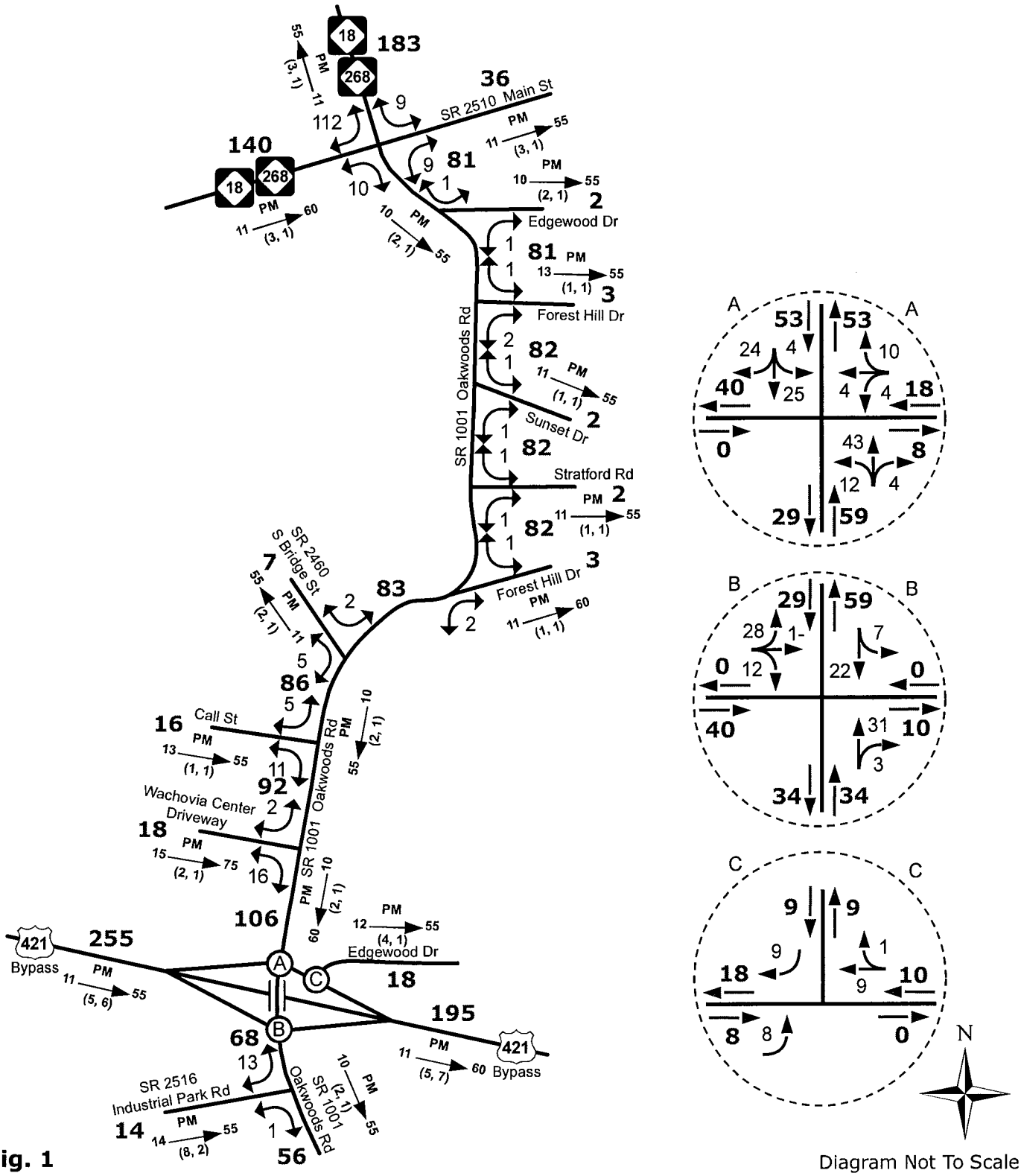


Fig. 1

Diagram Not To Scale

2007 AVERAGE ANNUAL DAILY TRAFFIC
WITH TRUCK, DHV AND DIRECTIONAL PERCENTAGES

COUNTY: Wilkes		WBS: 34263.1.1
TIP: FS-0711B	DIV: 11	DATE: Nov 26, 2007
LOCATION: Intersection of US 421 Bypass & SR 1001-Oakwoods Rd, Wilkesboro		
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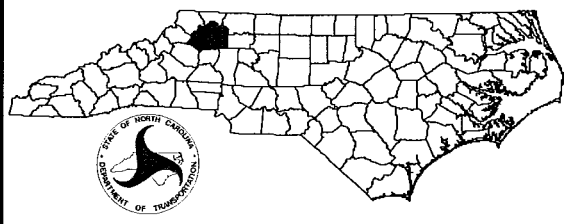

LEGEND

###	Number of Vehicles Per Day in 100s
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PM	PM Peak Period
D	Peak Hour Directional Split %
→	Direction of D %
(d, t)	Duals %, TT-STs %