



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

May 8, 2006

US Army Corps of Engineers
Regulatory Field Office
6508 Falls of Neuse Road, Suite 120
Raleigh, NC 27615

ATTENTION: Mr. Todd Tugwell
NCDOT Coordinator

Dear Sir:

Subject: **Nationwide Permit 33 Application** for the replacement of Bridge No. 527 on SR 1001 over North Buffalo Creek, Guilford County. Federal Project No. BRSTP-1001(18), WBS No. 33000.1.1, State Project No. 8.2494901, T.I.P. No. B-3337, Division 7.

Please see the enclosed Categorical Exclusion, PCN, permit drawings, and design plans for the subject project. The North Carolina Department of Transportation (NCDOT) proposes to replace the 113-foot Bridge No. 527 in its existing location. The new structure will be a 2-span 33" steel plate girder bridge, approximately 127-feet in length, with concrete deck slab, 1 span at 42' & 1 span at 85'. The bridge will have 1 bent that will be located on the bank on the south end of the structure. The total superstructure width will be 78' wide overall with 5'-6" sidewalks on both side and a clear roadway width of 65'. The bridge will be built utilizing staged constructed with traffic maintained on site. To avoid substantial right of way impacts, the replacement bridge will have approximately the same roadway grade as the existing structure. The new crossing will include horizontal clearance for a 10-foot wide pathway beneath the bridge along the south side of North Buffalo Creek.

The City of Greensboro plans to widen SR 1001 (Church Street) to a five lane curb and gutter typical section. Their standard five lane typical section includes four 11-foot lanes and 10-foot center turn lane and will include 2-feet of additional pavement to the outside travel lanes for bicycle accommodations. Therefore, the roadway approaches are 64'-6" face to face curb and gutter roadway with sidewalks on both sides is proposed to accommodate their future plans for the route to provide 5-lanes and accommodate bicycles. An 8-foot berm will be provided on both sides of the approach roadway to accommodate 5-foot sidewalks. The new structure will be

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
NATURAL ENVIRONMENT UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1334 or
919-715-1335

FAX: 919-715-5501

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING
2728 CAPITAL BLVD. SUITE 240
RALEIGH NC 27604

approximately 75'-6" wide between the railing faces to accommodate the requested five-lane roadway with 3, 11'-6" lanes; 2, 13' outside lanes with 2' offsets to the curb face for bicycle accommodations; and 5'-6" sidewalks on both sides of the bridge.

A temporary work pad will be used for removal of the existing bridge.

IMPACTS TO WATERS OF THE UNITED STATES

The project is located in the Cape Fear River Basin (sub-basin 03-06-02). This area is part of Hydrologic Cataloging Unit 03030002 of the South Atlantic-Gulf Coast Region. The section of North Buffalo Creek crossed by the subject bridge has been assigned Stream Index Number 16-11-14-1 (8/1/85) by the N.C Division of Water Quality. North Buffalo Creek is a third-order stream with a best usage classification of C NSW. No designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply I (WS-I), or Water Supply (II), waters occur within 1.0 mile of the study corridor.

North Buffalo Creek is listed on the 2002 List of impaired waters [Section 303(d)] for the Cape Fear River Basin. Listed waters do not meeting water quality standards or have impaired uses. North Buffalo Creek is listed due to impaired biological integrity and high levels of fecal coliform and ammonia. "Design Standards for Sensitive Watersheds" will not be used because North Buffalo Creek is not impaired due to sedimentation.

There will be 75-feet (0.021 acres) of temporary impacts to North Buffalo Creek resulting from the construction of a temporary work pad placed instream, parallel to the stream along the interior bend of the stream. The work pad will be used for removal of the existing bridge. There will be no permanent impacts to North Buffalo Creek resulting from the replacement of Bridge No. 527.

There are no wetlands located in the project area.

Construction of the new bridge will require relocation of existing aerial power lines and cable television line located on the eastern side of bridge as well as existing underground telephone lines. Existing telephone, cable, and telephone lines will be relocated to poles located further east outside of the project area. No jurisdictional impacts will result from the relocation of these utilities.

Bridge Demolition

Existing Bridge No. 527 is approximately 113 ft long with a clear roadway width of 44-feet. The superstructure consists of a reinforced concrete deck on I-beams with 5-foot sidewalks on both sides of the bridge. Sidewalks are only present on the east side approaches and do not extend beyond the project limits. The substructure consists of end bents of reinforced concrete caps on steel piles and an interior bent of reinforced concrete post and beam on spread footings. There are no bents located in the water.

There is potential for components of the existing deck and rails to be dropped into waters of the United States during demolition. The resulting temporary fill associated with the concrete deck

and rails is approximately 177 cubic yards. If removal of substructure will create disturbance in the streambed, a turbidity curtain will be used.

All guidelines for bridge demolition and removal will be followed in addition to Best Management Practices for the Protection of Surface Waters. This project is classified as Case 3 in there are no special restrictions other than those outlined in Best Management Practices for the Protection of Surface Waters and Bridge Demolition and Removal.

Restoration Plan

Following construction of the bridge, all material used in the construction of the structure will be removed. The impact area associated with the bridge is expected to recover naturally, since the natural streambed and plant material will not be removed. NCDOT does not propose any additional planting in this area. Class I riprap and filter fabric will be used for bank stabilization. Pre-project elevations will be restored. NCDOT will restore stream to its pre-project contours.

Schedule: The project calls for a letting of January 19, 2007 with a date of availability of February 7, 2007. It is expected that contractor will choose to start construction in February 2007.

Removal and Disposal Plan: The contractor will be required to submit a reclamation plan for the removal of and disposal of all material off-site at an upland location. The contractor will use excavation equipment for removal of any earthen material. Heavy-duty trucks, dozers, cranes and various other pieces of mechanical equipment necessary for construction of roadways and bridges will be used on site. All material placed in the stream will be removed from the stream at that time. The contractor will have the option of reusing any of the materials that the engineer deems suitable in the construction of project. After the erosion control devices are no longer needed, all temporary materials will become the property of the contractor.

MITIGATION OPTIONS

Avoidance and Minimization and Compensatory Mitigation: The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during the planning and NEPA compliance stages; minimization measures were incorporated as part of the project design.

According to the Clean Water Act (CWA) §404(b)(1) guidelines, NCDOT must avoid, minimize, and mitigate, in sequential order, impacts to waters of the US. The following is a list of the project's jurisdictional stream avoidance/minimization activities proposed or completed by NCDOT:

Avoidance/Minimization

- The proposed project will completely span North Buffalo Creek, allowing for pre-project stream flows to maintain the current water quality, aquatic habitat, and flow regime.

- The new bridge will be built in the same location and have approximately the same grade as the existing bridge.
- Traffic will be maintained on site by utilizing staged construction and maintaining one lane of traffic in each direction during the construction period.
- The design of the new bridge is such that backwater elevation will not encroach the current 100-year floodplain or modify flood characteristics.
- Temporary construction impacts due to erosion and sedimentation will be minimized through implementation of stringent erosion control schedule and use of Best Management Practices (BMPs).
- The contractor will follow contract specifications pertaining to erosion control measures as outlined in 23 CFR 650 Subpart B and Article 107-13 entitled “Control of Erosion, Siltation, and Pollution” (NCDOT, Specifications for Roads and Structures). These measures include the use of dikes, berms, silt basin, and other containment measures to control runoff; elimination of construction staging areas in floodplains and adjacent to the 10-foot wide pathway beneath the bridge along the south side of North Buffalo Creek.

Mitigation:

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in jurisdictional waters of the US and that the proposed action includes all practicable methods to avoid and/or minimize jurisdictional stream impacts that may result from such use. Project impacts are temporary there are no permanent impacts. Therefore, no mitigation is proposed.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of March 8, 2006, the United States Fish and Wildlife Service (USFWS) lists one federally protected species for Guilford County, the bald eagle (*Haliaeetus leucocephalus*). The project area does not contain suitable habitat for the bald eagle. There are no large bodies of open water that might serve as bald eagle habitat. The nearest large body of water, Richland Lake, is approximately 3.0 miles to the north. Tall, old trees, which might serve as perching sites, do grow near the stream, but the lack of open water access is probably a key limiting factor for the species. NHP records document no occurrences of bald eagles within 5.0 miles of the study corridor, and no eagles were sighted during the site visit on June 13, 2001, therefore, a biological conclusion of No Effect was determined.

REGULATORY APPROVALS

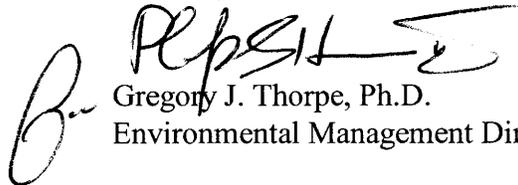
Section 404 Permit: Application is hereby made for the Department of Army Section 404 for a Nationwide Permit 33 authorizing for the above-described activities and the use of a temporary workpad in the stream for removal of the existing bridge.

Section 401 Permit: We also hereby request a 401 General Water Quality Certification (WQC) 3366. The NCDOT will adhere to all general conditions of these WQCs. Therefore, written concurrence from the NCDWQ is not required. In accordance with 15A NCAC 2H 0.0501(a)

and 15A NCAC 2B 0.200 we are providing two copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, as notification.

A copy of this permit application will be posted on the NCDOT website at: <http://www.ncdot.org/doh/preconstruct/pe/>. If you have any questions or need additional information, please call Erica McLamb at 715-1521.

Sincerely,



Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

cc:

w/attachment

- Mr. John Hennessy, NCDWQ (2 copies)
- Mr. Travis Wilson, NCWRC
- Mr. Gary Jordan, USFWS
- Dr. David Chang, P.E., Hydraulics
- Mr. Greg Perfetti, P.E., Structure Design
- Mr. Mark Staley, Roadside Environmental
- Mr. J. M. Mills, P.E., Division Engineer
- Mr. Jerry Parker, DEO

w/o attachment

- Mr. Jay Bennett, P.E., Roadway Design
- Mr. Omar Sultan, Programming and TIP
- Mr. Art McMillan, P.E., Highway Design
- Mr. Elmo Vance, PDEA Project Planning Engineer
- Mr. Scott McLendan, USACE, Wilmington

Office Use Only:

Form Version March 05

USACE Action ID No. _____ DWQ No. _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:

- Section 404 Permit
- Section 10 Permit
- 401 Water Quality Certification
- Riparian or Watershed Buffer Rules
- Isolated Wetland Permit from DWQ
- Express 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: NW33

3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:

4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here:

5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:

II. Applicant Information

1. Owner/Applicant Information

Name: Gregory J. Thorpe, Ph.D., Environmental Management Director
Mailing Address: 1598 Mail Service Center

Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794
E-mail Address: _____

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: N/A
Company Affiliation: _____
Mailing Address: _____

Telephone Number: _____ Fax Number: _____
E-mail Address: _____

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: Replacement of bridge 527 on SR1001 over North Buffalo Creek
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3337
3. Property Identification Number (Tax PIN): N/A
4. Location
County: Guilford Nearest Town: Greensboro
Subdivision name (include phase/lot number): N/A
Directions to site (include road numbers/names, landmarks, etc.): From 220 (Wendover Ave), travel north on Church St. (SR1001), past Moses Cone Memorial Hospital approximately half a mile.
5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
Decimal Degrees (6 digits minimum): 36.0979°N 79.7811°W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: North Buffalo Creek
8. River Basin: Cape Fear River Basin
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The project area consists of a mixture of commercial, service, and residential development. The section where the crossing is located is part of the Greensboro designated bicycle route called Carolina Circle.

10. Describe the overall project in detail, including the type of equipment to be used: Bridge No. 527 will be replaced on existing location with a temporary work for use during removal of the old bridge. Heavy duty excavation equipment will be used such as trucks, dozers, cranes and other various equipment necessary for roadway construction.

11. Explain the purpose of the proposed work: To replace a deteriorating bridge

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. NA

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.
NA

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: Jurisdictional impacts include temporary impacts due to the construction of a temporary work pad to be constructed instream, around the interior bent, parallel to the stream
2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
NA					
Total Wetland Impact (acres)					

3. List the total acreage (estimated) of all existing wetlands on the property: 0 acres
4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
1	North Buffalo Creek	Temporary damming and dewatering for construction of work pad	Perennial	35	75 (temp)	0.021 (temp)
Total Stream Impact (by length and acreage)					75	0.021

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact	Name of Waterbody	Type of Impact	Type of Waterbody	Area of
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Site Number (indicate on map)	(if applicable)		(lake, pond, estuary, sound, bay, ocean, etc.)	Impact (acres)
NA				
Total Open Water Impact (acres)				

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	.021
Wetland Impact (acres):	0
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	.021
Total Stream Impact (linear feet):	75

7. Isolated Waters

Do any isolated waters exist on the property? Yes No

Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

8. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): uplands stream wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): NA

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): _____

Current land use in the vicinity of the pond: _____

Size of watershed draining to pond: _____ Expected pond surface area: _____

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. Please refer to the cover letter page 3

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

Compensatory mitigation is not needed as this project has only temporary impacts.

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): NA
 Amount of buffer mitigation requested (square feet): NA
 Amount of Riparian wetland mitigation requested (acres): NA
 Amount of Non-riparian wetland mitigation requested (acres): NA
 Amount of Coastal wetland mitigation requested (acres): NA

IX. Environmental Documentation (required by DWQ)

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes No
2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?
 Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.
 Yes No
3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes No

X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify _____)? Yes No
2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1	NA	3 (2 for Catawba)	
2		1.5	
Total			

* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. No mitigation is required

XI. Stormwater (required by DWQ)

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. NA

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.
N/A

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?
Yes No

Is this an after-the-fact permit application? Yes No

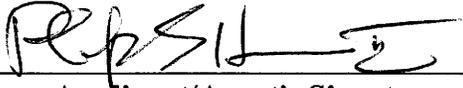
XIV. Cumulative Impacts (required by DWQ)

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes No
If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <http://h2o.enr.state.nc.us/nwetlands>. If no, please provide a short narrative description: _____

XV. Other Circumstances (Optional):

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

None



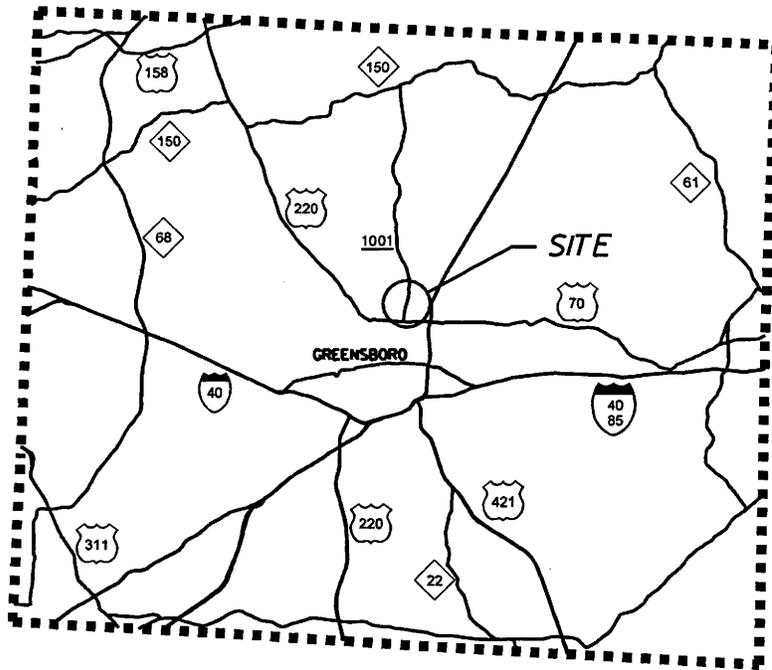
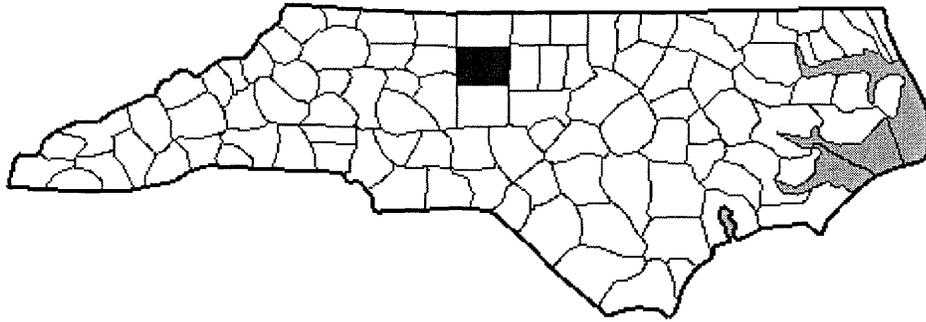
5/8/06

Applicant/Agent's Signature

Date

(Agent's signature is valid only if an authorization letter from the applicant is provided.)

NORTH CAROLINA



0 1 2 3 4 5 10 MILES

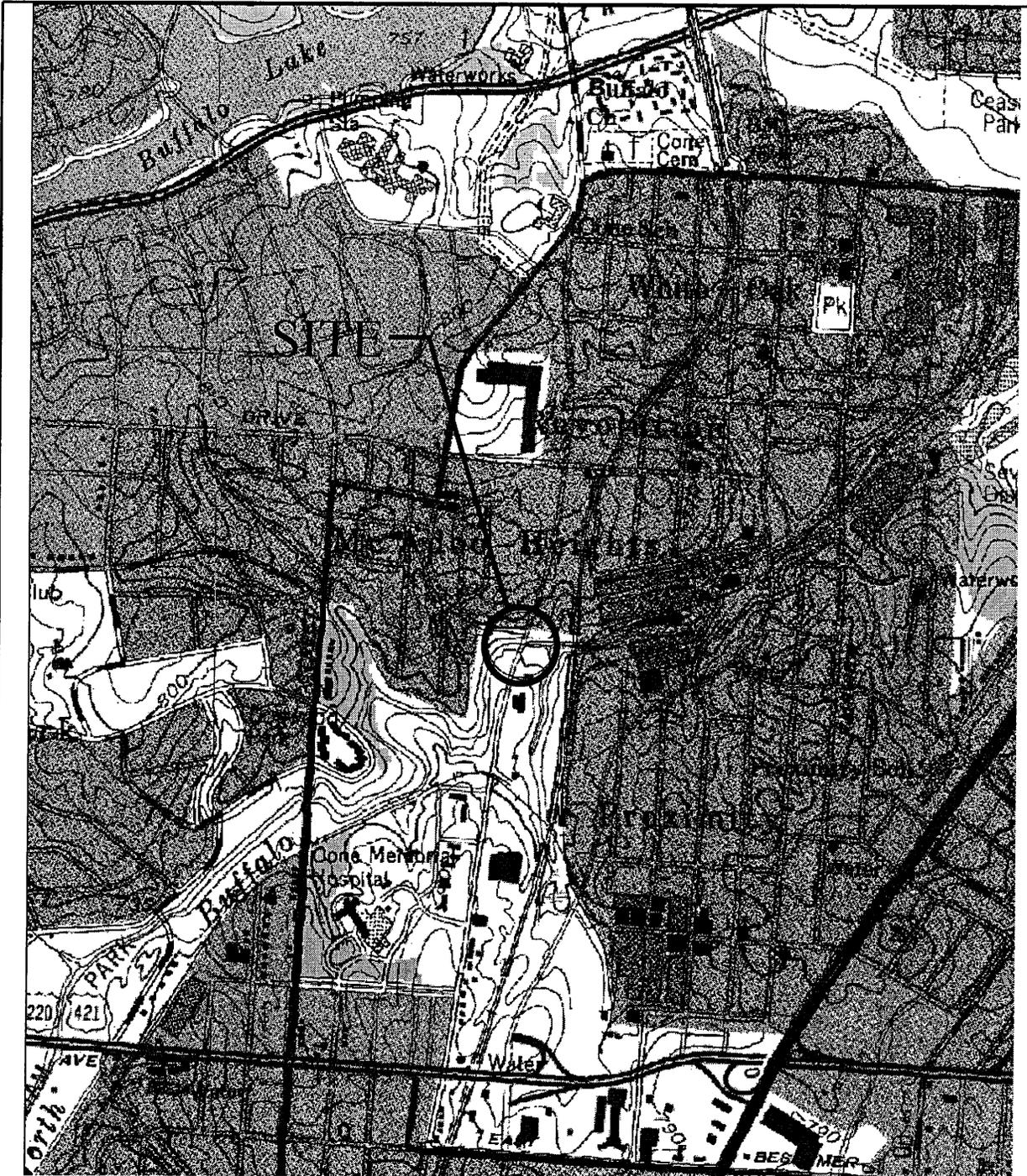
VICINITY MAP

NCDOT
DIVISION OF HIGHWAYS
PROJECT: 33000.1.1 (B-3337)
GUILFORD COUNTY

REPLACE BRIDGE NO. 527
OVER NORTH BUFFALO CREEK ON SR 1001

SHEET 1 OF 7

JULY 2005



SITE MAP

**N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS**

GUILFORD COUNTY

PROJECT: 33000.1.1 - B-3337

**BRIDGE #527 OVER
NORTH BUFFALO CREEK ON SR 1001**

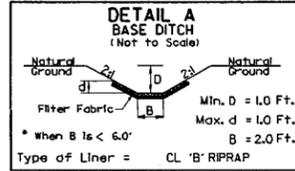
SHEET 2 OF 7

JULY 2005

8/17/99

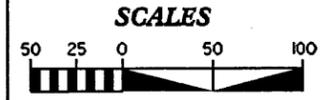
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3337-2" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 855013.549(M) EASTING: 1768716.620(M) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999950530 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3337-2" TO L- STATION 16+50.00 IS S 59° 41' 26.23" E 24.49' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29



L- STA 20+00.00 LT
EST. DDE = 2 CY
EST. CL 'B' RIPRAP = 4 TONS
EST. FILTER FABRIC = 18 SY.
L = 70 FT.
MIN. SLOPE = 0.5%

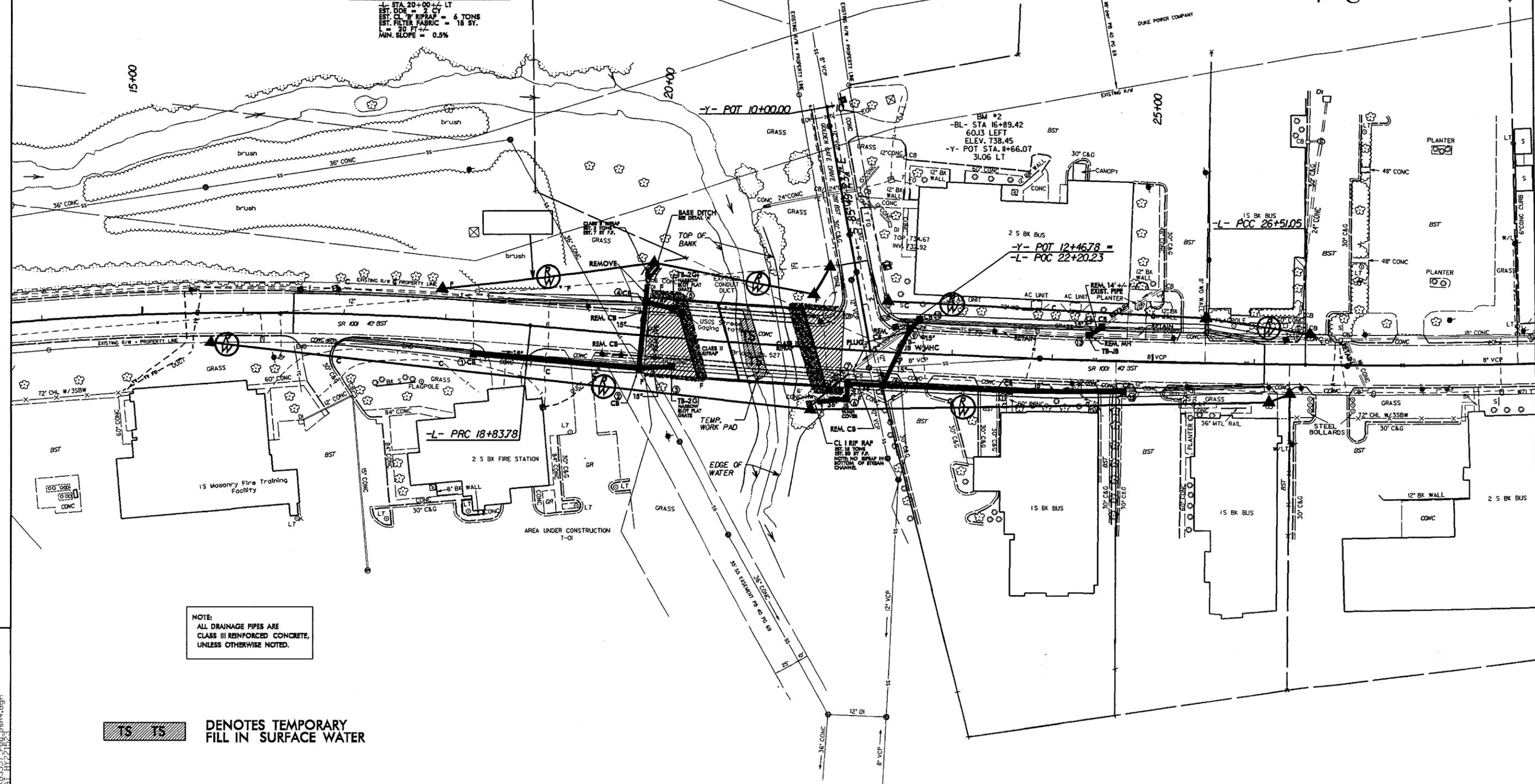
English



PROJECT REFERENCE NO. B-3337		SHEET NO. 4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
TGS		TGS ENGINEERS 978 WALNUT STREET, SUITE 141 CARY, NC 27511 PH (919) 319-8850	

page 3 of 7

REVISIONS



NOTE:
ALL DRAINAGE PIPES ARE CLASS III REINFORCED CONCRETE, UNLESS OTHERWISE NOTED.

DENOTES TEMPORARY FILL IN SURFACE WATER

IMPACTED NORTH BUFFALO CREEK SURFACE WATER

SEE SHEET 5 FOR -L- PROFILE

08-JUL-2005 09:39
r:\hydro\projects\B3337-rfy\psh4.dgn
adurfield AL H222523

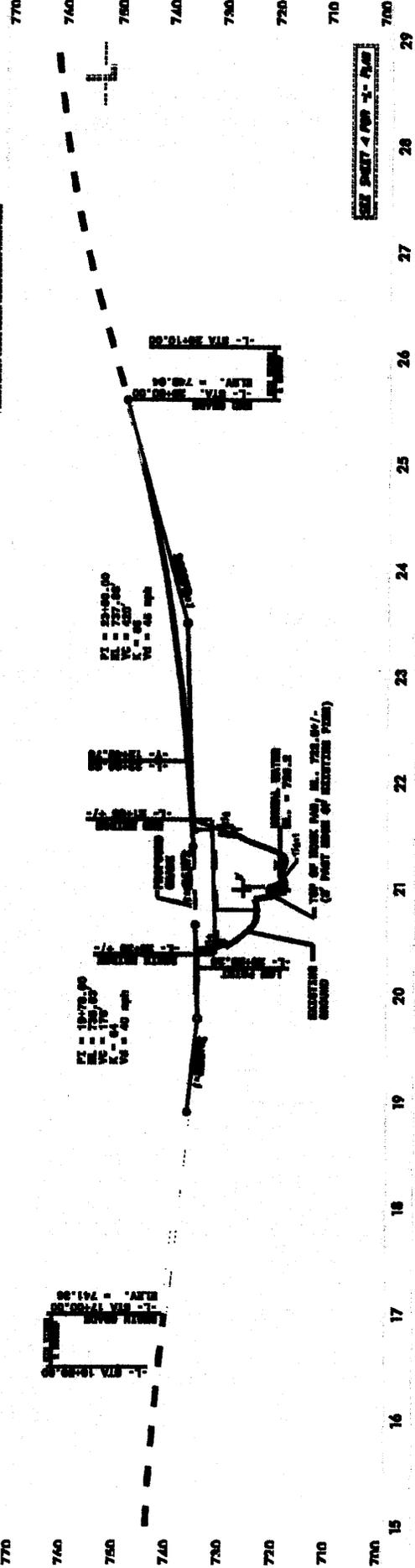
Page 2 of 2

SEE SHEET 4 FOR 1" x 1" PLAN

ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED

ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED

ALL DIMENSIONS IN FEET UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED



TEMPORARY WORK PAD



ESTIMATED QUANTITIES:
CL 12' IMP ASP 60 TONS
CL 12' IMP ASP 145 TONS

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	CREEKSIDE PROFESSIONAL BUILDING ASSOC.	1517 N. CHURCH ST. GREENSBORO, NC 27405
2	CITY OF GREENSBORO	BOX 3136 GREENSBORO, NC 27402

NCDOT

DIVISION OF HIGHWAYS

GUILFORD COUNTY

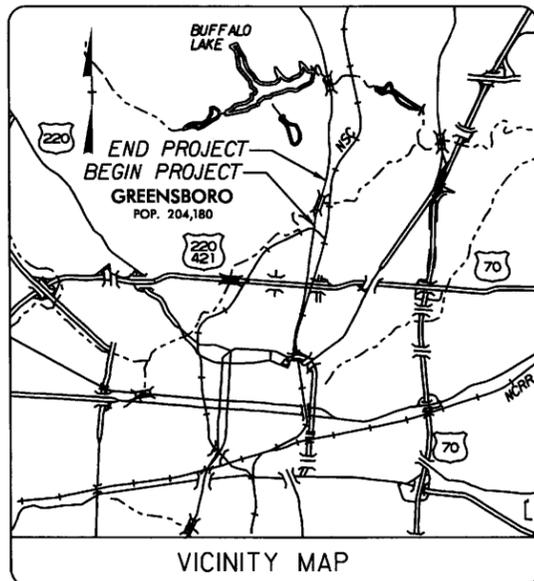
PROJECT: 33000.1.1 (B-3337)

**BRIDGE NO. 527 OVER
NORTH BUFFALO CREEK
ON SR 1001**

09/08/09

CONTRACT: TIP PROJECT: B-3337

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

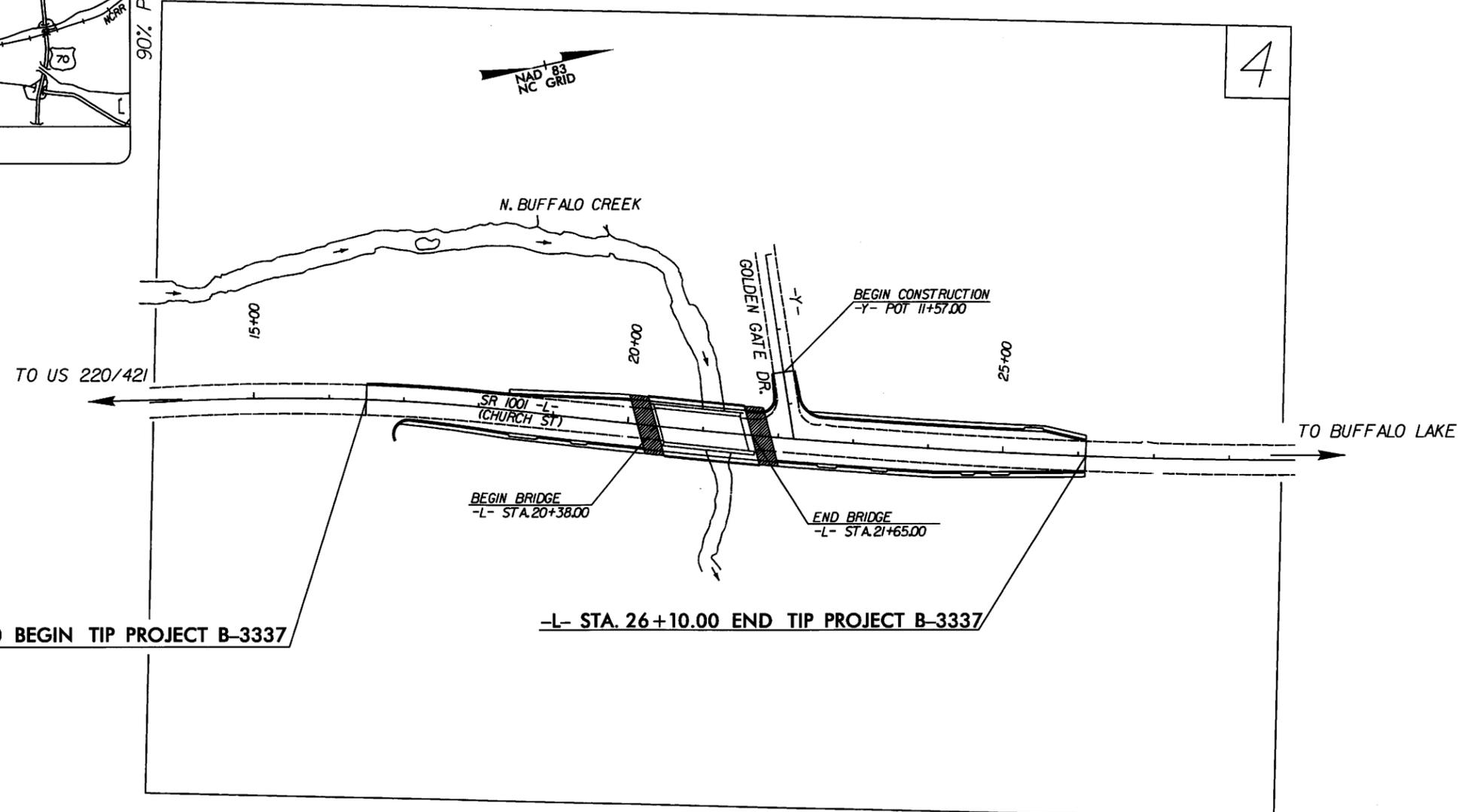


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

GUILFORD COUNTY

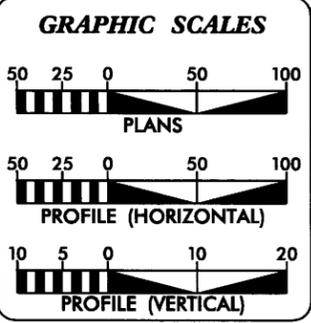
LOCATION: BRIDGE NO. 527 OVER NORTH BUFFALO CREEK ON SR 1001 (CHURCH ST)
TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3337	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33000.1.1	BRSTP-1001(18)	PE	
33000.2.2	BRSTP-1001(18)	RW, UTIL.	



-L- STA 16+50.00 BEGIN TIP PROJECT B-3337

-L- STA. 26+10.00 END TIP PROJECT B-3337



DESIGN DATA

ADT 2006 =	17,200
ADT 2026 =	19,200
DHV =	9 %
D =	65 %
T =	3 % *
V =	40 MPH
* (TTST 1% + DUAL 2%)	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3337 =	0.158 MI
LENGTH STRUCTURE TIP PROJECT B-3337 =	0.024 MI
TOTAL LENGTH TIP PROJECT B-3337 =	0.182 MI

PLANS PREPARED BY:
TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 29, 2005

LETTING DATE:
JANUARY 16, 2007

NCDOT CONTACT:

PLANS PREPARED FOR:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr.
Raleigh, NC 27610

CHARLES L. FLOWE, PE
PROJECT ENGINEER

W. CRAIG PARKER, PE
PROJECT DESIGN ENGINEER

DOUG TAYLOR, PE
PROJECT ENGINEER - ROADWAY DESIGN

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE DESIGN ENGINEER

**DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**

APPROVED DIVISION ADMINISTRATOR

DATE

10/25/06

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	⊙
Property Corner	⊙
Property Monument	⊙
Parcel/Sequence Number	⊙ 123
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	-o-o-o-
Proposed Chain Link Fence	-□-□-□-
Proposed Barbed Wire Fence	-◇-◇-◇-
Existing Wetland Boundary	-~~~
Proposed Wetland Boundary	-~~~
Existing Endangered Animal Boundary	-~~~
Existing Endangered Plant Boundary	-~~~

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG Tank Cap	⊙
Sign	⊙
Well	⊙
Small Mine	⊙
Foundation	⊙
Area Outline	⊙
Cemetery	⊙
Building	⊙
School	⊙
Church	⊙
Dam	⊙

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	----- JS -----
Buffer Zone 1	----- BZ 1 -----
Buffer Zone 2	----- BZ 2 -----
Flow Arrow	----->
Disappearing Stream	----->
Spring	⊙
Swamp Marsh	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	-----
Switch	-----
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	-----
Existing Right of Way Marker	-----
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	----- TDE -----
Proposed Permanent Drainage Easement	----- PDE -----
Proposed Permanent Utility Easement	----- PUE -----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C -----
Proposed Slope Stakes Fill	----- F -----
Proposed Wheel Chair Ramp	-----
Curb Cut for Future Wheel Chair Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	-----
Pavement Removal	-----

VEGETATION:

Single Tree	-----
Single Shrub	-----
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	-----
Proposed Power Pole	-----
Existing Joint Use Pole	-----
Proposed Joint Use Pole	-----
Power Manhole	-----
Power Line Tower	-----
Power Transformer	-----
UG Power Cable Hand Hole	-----
H-Frame Pole	-----
Recorded UG Power Line	-----
Designated UG Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	-----
Proposed Telephone Pole	-----
Telephone Manhole	-----
Telephone Booth	-----
Telephone Pedestal	-----
Telephone Cell Tower	-----
UG Telephone Cable Hand Hole	-----
Recorded UG Telephone Cable	-----
Designated UG Telephone Cable (S.U.E.*)	-----
Recorded UG Telephone Conduit	-----
Designated UG Telephone Conduit (S.U.E.*)	-----
Recorded UG Fiber Optics Cable	-----
Designated UG Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	-----
Water Meter	-----
Water Valve	-----
Water Hydrant	-----
Recorded UG Water Line	-----
Designated UG Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Satellite Dish	-----
TV Pedestal	-----
TV Tower	-----
UG TV Cable Hand Hole	-----
Recorded UG TV Cable	-----
Designated UG TV Cable (S.U.E.*)	-----
Recorded UG Fiber Optic Cable	-----
Designated UG Fiber Optic Cable (S.U.E.*)	-----

GAS:

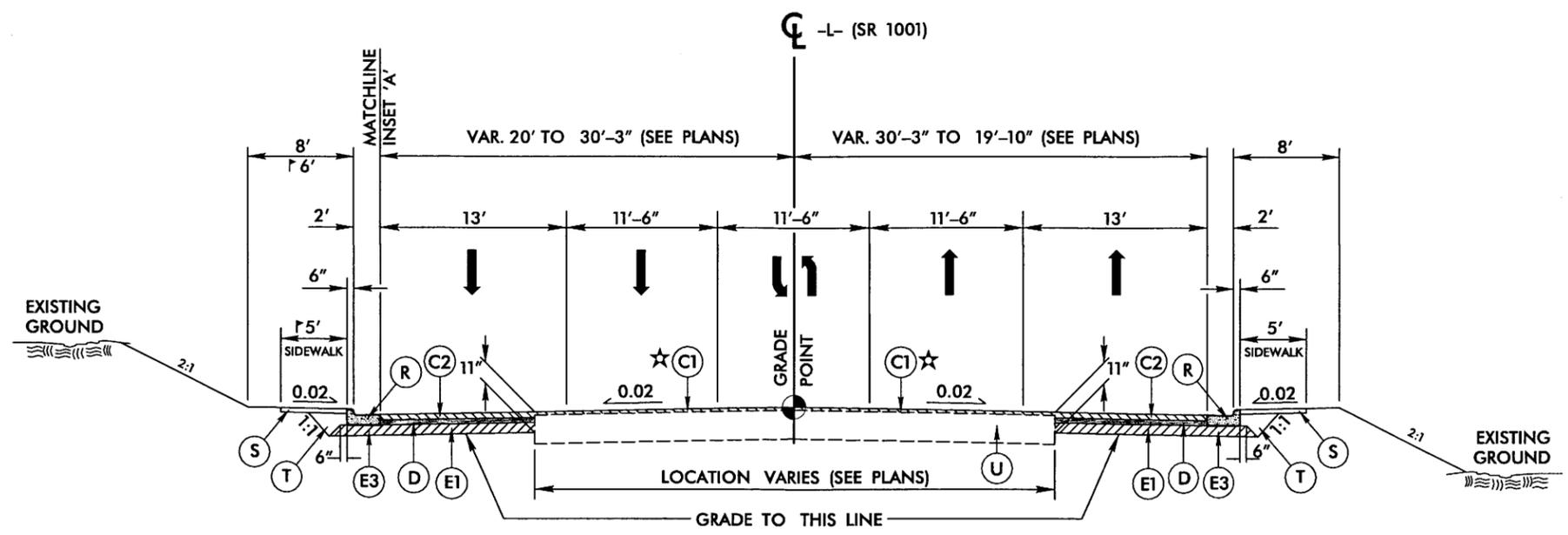
Gas Valve	-----
Gas Meter	-----
Recorded UG Gas Line	-----
Designated UG Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

Sanitary Sewer Manhole	-----
Sanitary Sewer Cleanout	-----
UG Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

Utility Pole	-----
Utility Pole with Base	-----
Utility Located Object	-----
Utility Traffic Signal Box	-----
Utility Unknown UG Line	-----
UG Tank; Water, Gas, Oil	-----
AG Tank; Water, Gas, Oil	-----
UG Test Hole (S.U.E.*)	-----
Abandoned According to Utility Records	-----
End of Information	-----



TYPICAL SECTION NO. 1

NOTE: TRANSITION FROM EXISTING TO TYPICAL NO. 1 FROM -L- STA. 16+50.00 TO 17+00.00 AND FROM -L- STA. 25+60.00 TO 26+10.00

USE TYPICAL SECTION NO. 1 AS FOLLOWS:
 -L- STA. 17+00.00 TO 20+38.00 (BEGIN BRIDGE)
 -L- STA. 21+65.00 (END BRIDGE) TO 25+60.00

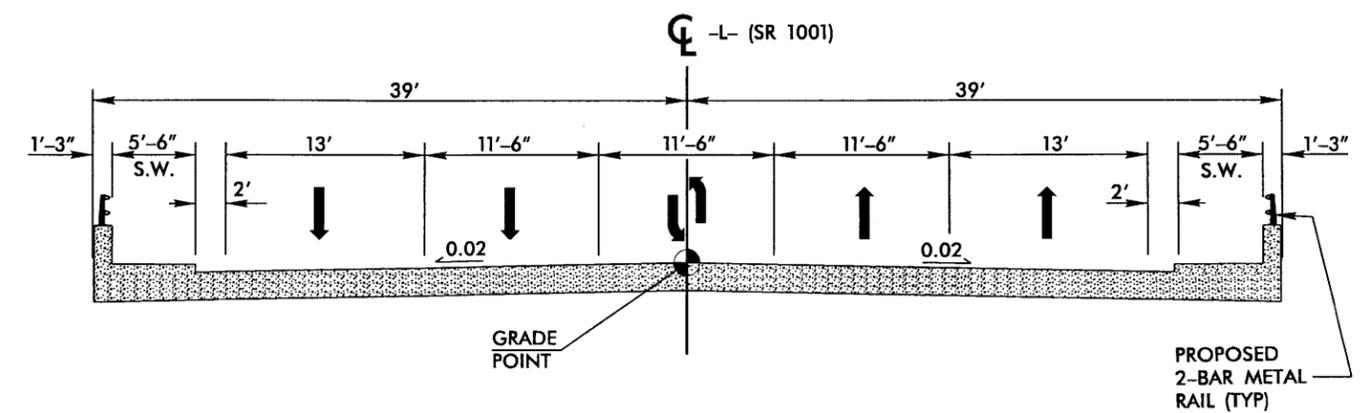
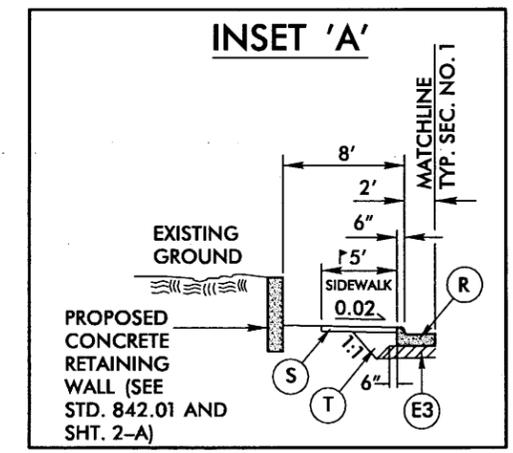
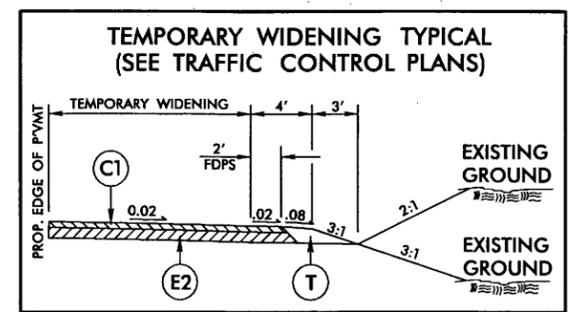
NOTES:
 6' BERM WITH NO SIDEWALK FROM -L- STA. 16+50.00 LT TO 18+40.00 LT

☆ EXISTING PAVEMENT TO BE MILLED APPROXIMATELY 1 1/2" BEFORE PLACING SURFACE COURSE.

USE INSET 'A' AS FOLLOWS:
 -L- STA. 23+70+/- LT. TO 24+30+/- LT.

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
R	2'-6" CONCRETE CURB AND GUTTER.
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION ON STRUCTURE

-L- STA. 20+38.00 TO 21+65.00

6/2/99
 S:\ME\PROJECTS\B-3337\DRAWINGS\PAVEMENT\2-TYPICAL SECTION ON STRUCTURE.DWG
 TGS ENGINEERS
 SUITE 141
 975 WALNUT STREET
 CARY, NC 27511
 PH (919) 319-8850

COMPUTED BY: JLT DATE: 2-21-06
 CHECKED BY: WCP DATE: 2-28-06

PROJECT NO. B-3337 SHEET NO. 3-A

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF EARTHWORK
 (Cubic Yard Volumes)

LINE	Station	Station	Uncl. Excav.	Undercut Excav.	Embank. +%	Borrow	Waste
-L-	16+50.00	20+38.00	620		212	0	408
BRIDGE							
-L-	21+65.00	26+10.00	980		134	0	846
TOTAL			1,600		346	0	1,254
Loss due to Clearing & Grubbing			0			0	
Earth Waste to replace Borrow						0	0
Shoulder Material							
GRAND TOTAL			1,600			0	1,254
Est. Undercut Contingency				200			
SAY:			1,700	200		0	1,300

Pavement Structure Volume = 702 Cu. Yd. DDE = 2 Cu. Yd.
 Shoulder Borrow for Temporary Widening = 30 Cu. Yd.

**SUMMARY OF EXISTING ASPHALT
 PAVEMENT REMOVAL**

LINE	Station	Station	LOC LT/RT/CL	AREA SY
-L-	20+04	20+48	CL	130
-L-	21+47	21+97	CL	156
-L-	18+50	20+00	RT	111
-L-	22+00	23+00	RT	88
TOTAL:				485
SAY:				500

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE 350

NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, SHOULDER BORROW, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".

GUARDRAIL SUMMARY

LINE	BEG. STA.	END STA.	LOC.	LENGTH			WARRANT POINT		"N" DIST FROM E.O.L.	TOTAL BERM WIDTH	FLARE LENGTH		W		GRAU 350	CAT-1	ANCHORS				REMOVE AND RESET	IMP. ATTN. TYPE 350			REMOVE EXISTING GRDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPR. END	TRAIL. END			APPR. END	TRAIL. END	APPR. END	TRAIL. END			AT-1	III	XI MOD	M-350		EA	G	NG		
-L-	19+58.05	20+51.80	RT	93.75			BRIDGE		7.5'	8'	75		1.5												REMOVE AND RESET FOR TRAFFIC CONTROL	
-L-	18+67.83	20+24.08	LT	156.25			BRIDGE	BRIDGE	7.5'	8'	75	75												156.25		
-L-	21+51.68	21+85+/-	LT		62.5		BRIDGE		7.5'	8'							1		1*					62.5	* SHOP CURVED TYPE III ANCHOR - SEE DETAIL SHEET 2-A REMOVE AND RESET FOR TRAFFIC CONTROL	
-L-	21+78.20	23+28.20	RT	68.75			BRIDGE		7.5'	8'		50			1									68.75		
SUB-TOTALS:				318.75	62.5																					
LESS ANCHOR DEDUCTIONS																										
GRAU-350 3@50 ft				150																						
TYPE AT-1 1@6.25 ft					6.25																					
TYPE III 4@ 18.75 ft				56.25	18.75																					
ANCHOR TOTALS				206.25	25																					
GRAND TOTALS				112.5	37.5										3			1		4					156.25	225
SAY				125	50																			156.25	225	

ADDITIONAL GUARDRAIL POSTS = 5

DRAINAGE NOTES

1. PROPOSED AND TEMPORARY DRAINAGE ALONG THE RIGHT SIDE OF -L- (CHURCH STREET) WILL BE CONSTRUCTED DURING PHASE I OF CONSTRUCTION.
2. TEMPORARY TRAFFIC BEARING STEEL PLATES SHALL BE UTILIZED TO COVER AND PROTECT DRAINAGE STRUCTURES LOCATED UNDER TEMPORARY WIDENING PAVEMENT DURING PHASE I OF CONSTRUCTION AND WHILE UNDER TRAFFIC DURING PHASE II CONSTRUCTION.
3. 26" GRATES LOCATED IN THE BRIDGE APPROACH SLAB ON THE RIGHT SIDE OF -L- SHALL BE TRAFFIC BEARING AND WELDED TO THE GRATE TO KEEP THEM IN PLACE WHILE UNDER TRAFFIC DURING PHASE II CONSTRUCTION.
4. ONCE TEMPORARY PAVEMENT IS NO LONGER NEEDED DURING PHASE II CONSTRUCTION, REMOVE TEMPORARY DRAINAGE AND COMPLETE CONSTRUCTION OF PROPOSED CATCH BASINS ALONG THE RIGHT SIDE OF -L-.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3337-2"

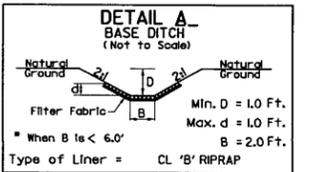
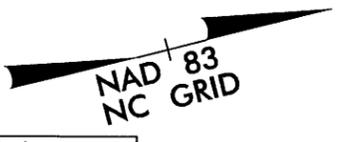
WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 855013.549(11) EASTING: 1768716.620(11)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999950530

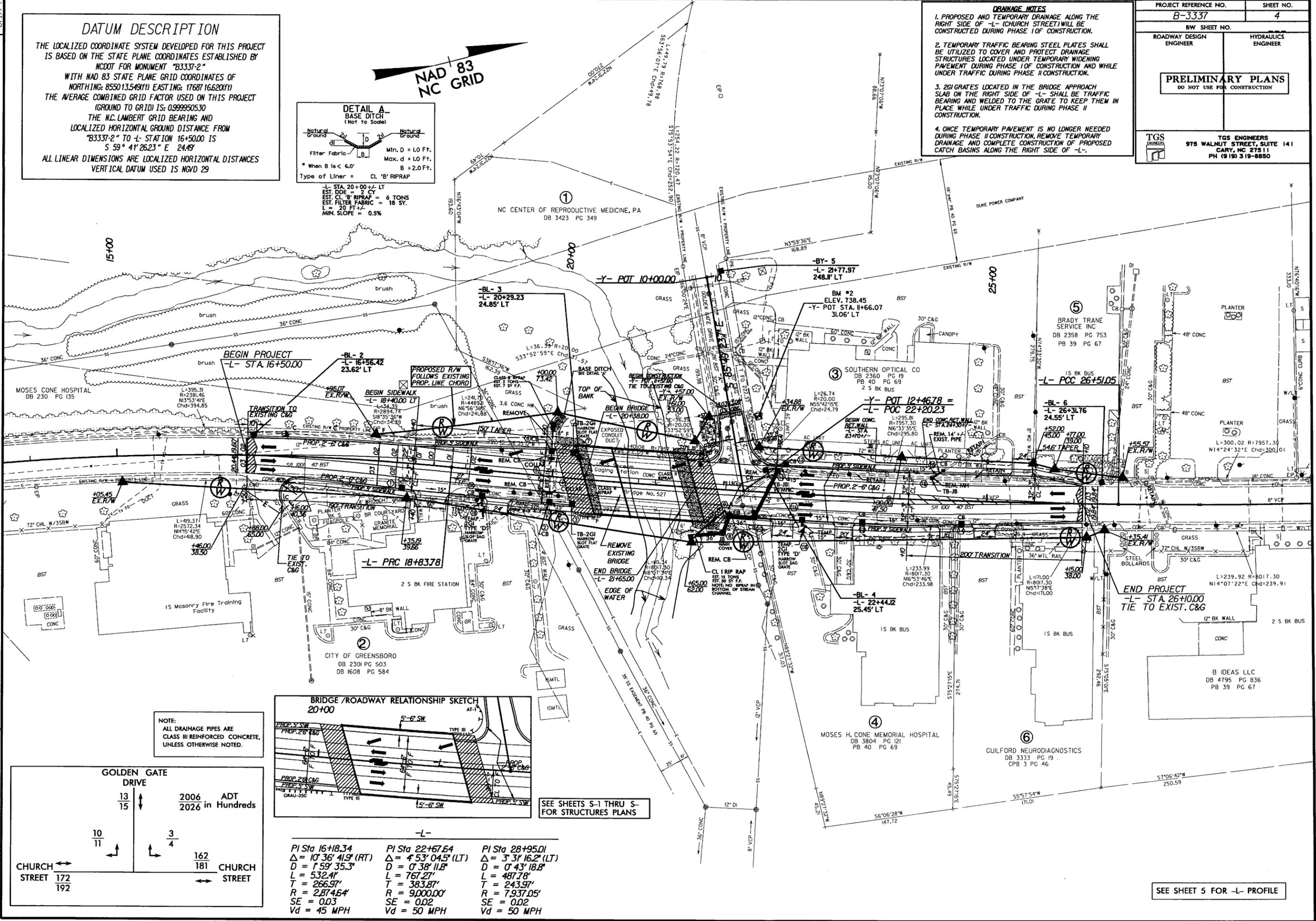
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3337-2" TO -L- STATION 16+50.00 IS S 59° 41' 26.23" E 24.89'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

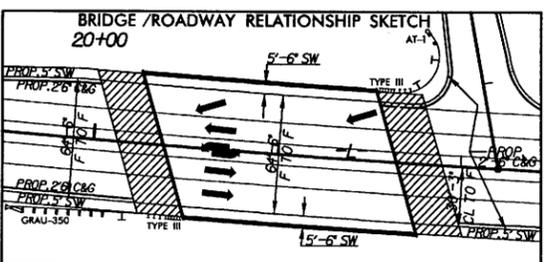
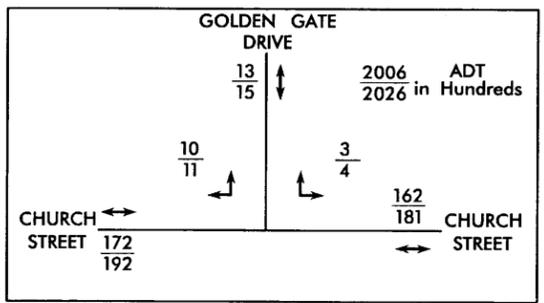
VERTICAL DATUM USED IS NGVD 29



REVISIONS



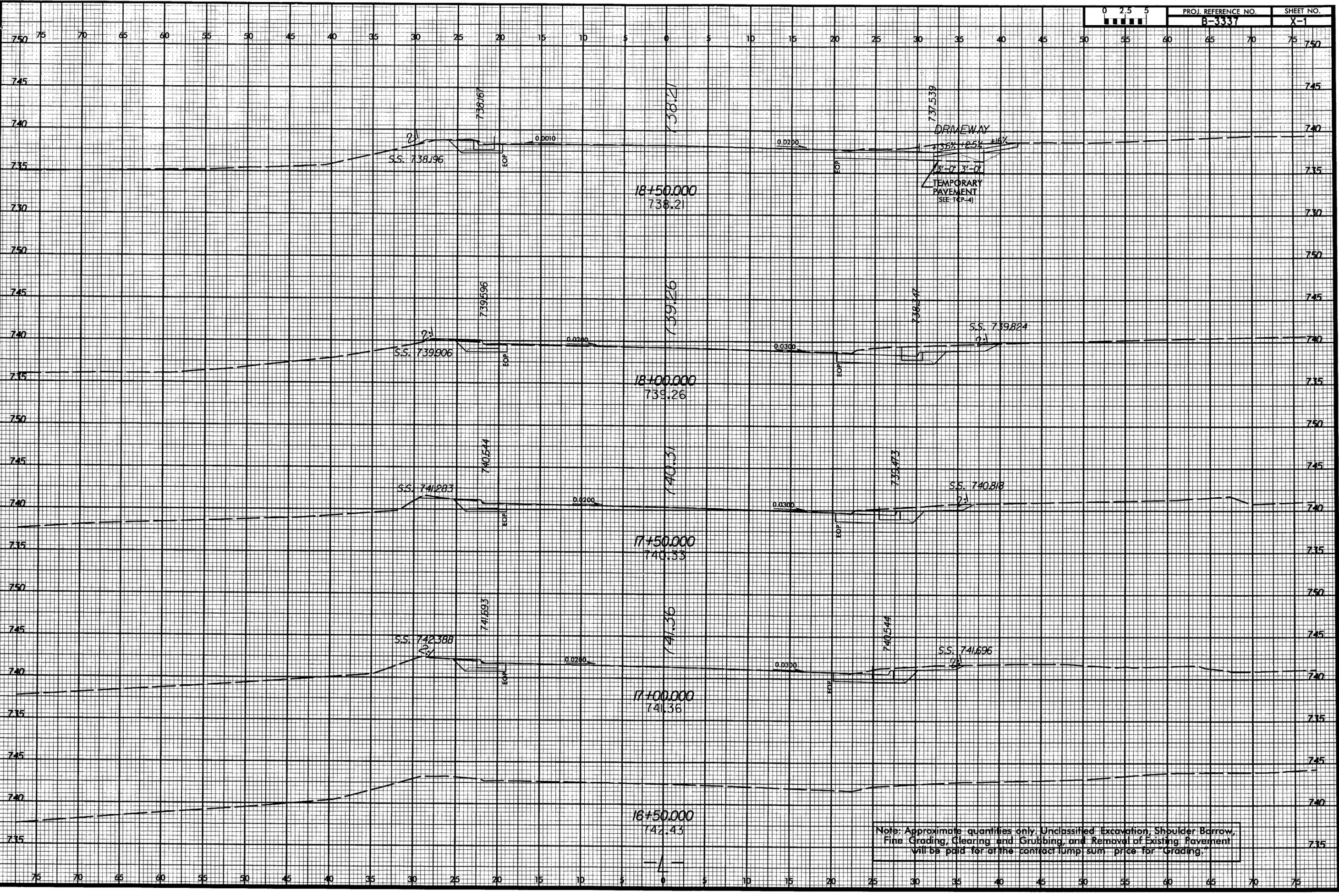
NOTE:
 ALL DRAINAGE PIPES ARE CLASS III REINFORCED CONCRETE, UNLESS OTHERWISE NOTED.



SEE SHEETS S-1 THRU S- FOR STRUCTURES PLANS

-L-		
PI Sta 16+18.34	PI Sta 22+67.64	PI Sta 28+95.01
$\Delta = 10' 36" 41.9" (RT)$	$\Delta = 4' 53" 04.5" (LT)$	$\Delta = 3' 31" 16.2" (LT)$
$D = 1' 59" 35.3"$	$D = 0' 38" 11.8"$	$D = 0' 43" 18.8"$
$L = 532.4'$	$L = 767.27'$	$L = 487.78'$
$T = 266.97'$	$T = 383.87'$	$T = 243.97'$
$R = 2,874.64'$	$R = 9,000.00'$	$R = 7,937.05'$
$SE = 0.03$	$SE = 0.02$	$SE = 0.02$
$Vd = 45 MPH$	$Vd = 50 MPH$	$Vd = 50 MPH$

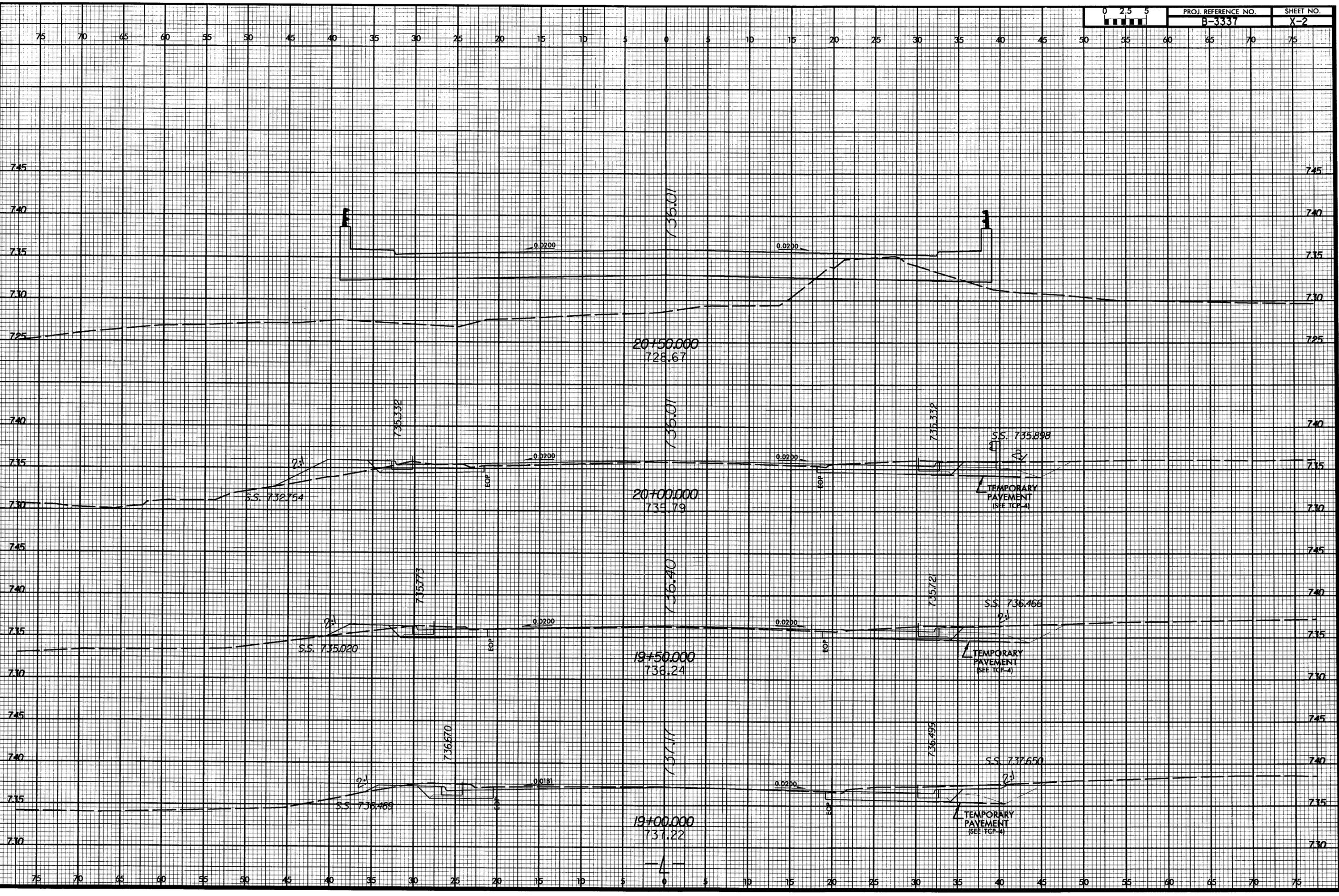
SEE SHEET 5 FOR -L- PROFILE



Note: Approximate quantities only. Unclassified Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

B-224/03
 SYSTEM TIME: 08:08:00
 D:\CNS\SS\NAME:

8/23/04



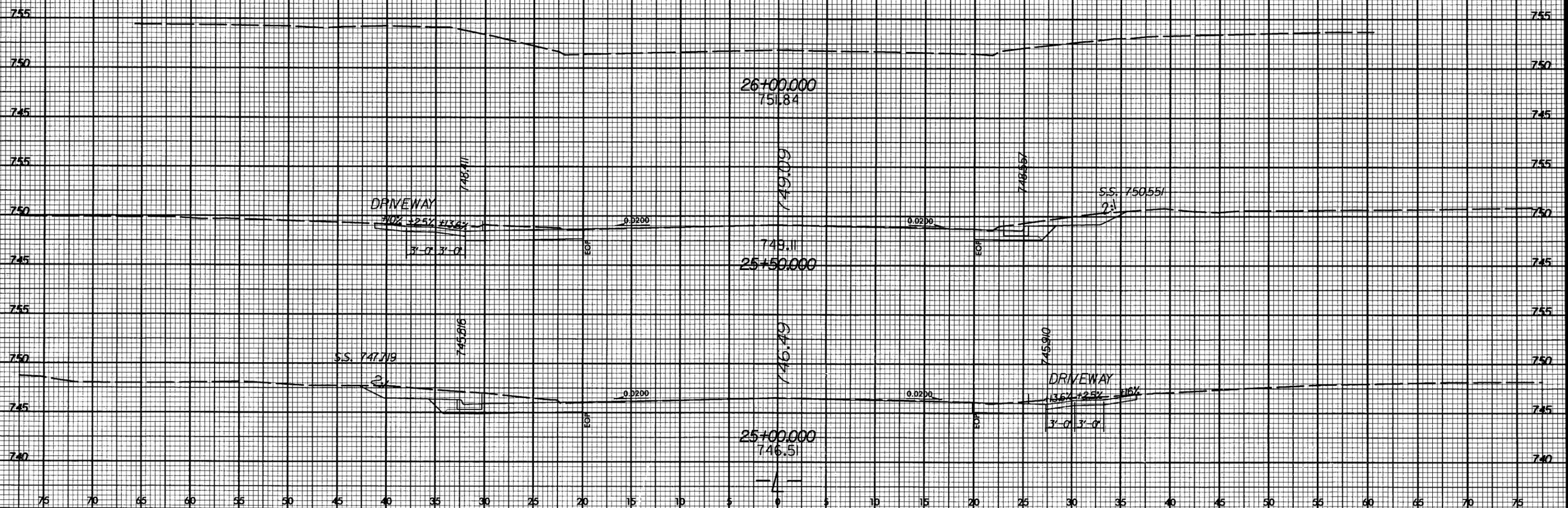
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$USCRNMI\$\$\$\$\$

0 2.5 5

PROJ. REFERENCE NO.
B-3337

SHEET NO.
X-5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75



SYSTEMS
DESIGN
SERVICES

Guilford County
Bridge No. 527 on SR 1001 (Church Street)
over North Buffalo Creek
Federal Aid Project No. BRSTP-1001(18)
State Project No. 8.2494901
T.I.P. No. B-3337

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

APPROVED:

2/19/04
DATE

Gregory J. Thorpe
for Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch, NCODT

2/19/04
DATE

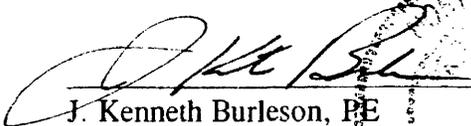
John F. Sullivan, III
for John F. Sullivan, III, PE
Division Administrator, FHWA

Guilford County
Bridge No. 527 on SR 1001 (Church Street)
over North Buffalo Creek
Federal Aid Project No. BRSTP-1001(18)
State Project No. 8.2494901
T.I.P. No. B-3337

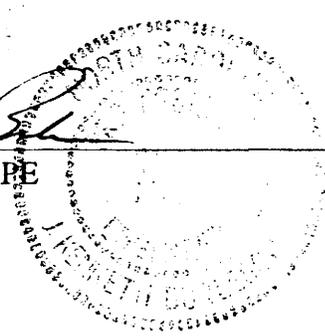
CATEGORICAL EXCLUSION

February 2004

Document Prepared by:
TGS Engineers

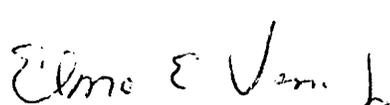


J. Kenneth Burleson, PE
Project Manager



2/5/04
Date

For the North Carolina Department of Transportation



Elmo E. Vance
Project Manager
Consultant Engineering Unit

SUMMARY OF ENVIRONMENTAL COMMITMENTS

Guilford County
Bridge No. 527 on SR 1001 (Church Street)
over North Buffalo Creek
Federal Aid Project No. BRSTP-1001(18)
State Project No. 8.2494901
T.I.P. No. B-3337

In addition to the standard Nationwide Permit No. 23 Conditions, the General Nationwide Permit Conditions, Section 404 Only Conditions, Regional Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for the Protection of Surface Waters, Design Standards Sensitive Watersheds, Best Management Practices for Bridge Demolition and Removal, General Certification Conditions, and Section 401 Conditions of Certification, the following commitments have been agreed to by NCDOT:

Division 7 and Highway Design:

1. The new crossing will include horizontal clearance for a 10-foot (3-meter) wide pathway beneath the bridge along the south side of North Buffalo Creek.

Guilford County
Bridge No. 527 on SR 1001 (Church Street)
over North Buffalo Creek
Federal Aid Project No. BRSTP-1001(18)
State Project No. 8.2494901
T.I.P. No. B-3337

INTRODUCTION: Bridge No. 527 is included in the 2004-2010 North Carolina Department of Transportation Improvement Program and in the Federal-Aid Bridge Replacement Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED STATEMENT

Bridge Maintenance Unit records indicate the bridge has a sufficiency rating of 48.9 out of a possible 100 for a new structure. The bridge is considered structurally deficient. The replacement of this inadequate structure will result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located in the central part of Guilford County in Greensboro just north of the central business district (Figure 1). SR 1001 (Church Street) is classified as an Urban Collector route in the Statewide Functional Classification System. At the crossing, Church Street is three lanes wide and accommodates a city bus route. This section of SR 1001 (Church Street) is a part of the Greensboro designated bicycle route called the Carolina Circle (Figure 1a).

The land use in the immediate vicinity of Bridge No. 527 is a mixture of commercial, service and residential. North of the bridge there are medical and service uses. North of the bridge and to the west of Church Street are older established single-family homes and schools. Greensboro Fire Station 1 and a fire training center is immediately southeast of the bridge. This complex includes fire, administration, maintenance, training and logistics functions. A larger concentration of medical buildings are south of the bridge near Moses Cone Hospital. According to the Greensboro city planner, there is little suitable empty space for additional development (Figure 2).

The land in the southwest quadrant is owned by Moses Cone Hospital and is leased to the City of Greensboro who in turn has an agreement with the Audubon Society to preserve the natural area.

In the vicinity of the bridge, SR 1001 has a 44-foot (13.4-meter) curb and gutter cross section accommodating 2 northbound and 1 southbound travel lanes with 6-foot (1.8-meter) grass shoulders (Figure 3). The roadway grade is relatively uniform throughout the project. The existing bridge is on a tangent. The roadway is situated approximately 18 feet (5.5 meters) above the North Buffalo Creek stream bed.

Bridge No. 527 is a two-span structure. The superstructure consists of a reinforced concrete deck on I-beams with 5-foot (1.5-meter) sidewalks on both sides of the bridge. Sidewalks are only present on the east side approaches and do not extend beyond the project limits. The substructure consists of end bents of reinforced concrete caps on steel piles and interior bents of reinforced concrete piers and bents on spread footings. The existing bridge (see Figure 3) was constructed in 1965 and is in fair condition. The overall length of the structure is 113 feet (34.4 meters). The clear roadway width is 44 feet (13.4 meters). The posted weight limit on this bridge is 25 tons for single vehicles and 28 tons for truck-tractors semi-trailers.

The current traffic volume of 16,800 vehicles per day (VPD) is expected to increase to 19,500 VPD by the year 2030. The projected volume includes 1 percent truck-tractor semi-trailer (TTST) and 2 percent dual-tired vehicles (DT). The posted speed limit on this section of SR 1001 is 35 miles (56 kilometers) per hour.

There are no utilities attached to the existing structure, but power and telephone lines are overhead as they cross North Buffalo Creek. There is a USGS gage station (Gage No. 02095271 'North Buffalo Creek at Church Street at Greensboro, NC') attached to the southwest corner of the bridge. Utility impacts are anticipated to be medium.

The City of Greensboro Parks & Recreation Department is planning to construct a trail along the south side of North Buffalo Creek through the project area. They have requested that the design for the bridge replacement include providing clearance for this trail to pass underneath Church Street thus eliminating an at-grade crossing of Church Street.

Sixteen accidents were reported in the vicinity of Bridge No. 527 during the period from June 2000 through May 2003.

Fifty-eight school busses cross this bridge daily.

III. ALTERNATIVES

A. Project Description

The recommended replacement structure will consist of a 3-span bridge approximately 125 feet (38 meters) in length. To avoid substantial right of way impacts, the replacement bridge will have approximately the same roadway grade as the existing structure. The new crossing will include horizontal clearance for a

10-foot (3-meter) wide pathway beneath the bridge along the south side of North Buffalo Creek.

The City of Greensboro plans to widen SR 1001 (Church Street) to a five-lane curb and gutter typical section. Their standard five lane typical section includes four 11-foot (3.3-meter) lanes and a 10-foot (3-meter) center turn lane. As bicycle accommodations are needed at this crossing, 2 feet (0.6-meters) of additional pavement width is proposed for the outside travel lanes. Therefore, a 62-foot (19-meter) face-to-face curb and gutter roadway with sidewalks on both sides is proposed to accommodate their future plans for the route to provide 5-lanes and accommodate bicycles. The new structure will be approximately 73 feet (22.3 meters) wide between the railing faces to accommodate the requested five-lane roadway with 5.5-foot (1.7-meter) sidewalks on both sides of the bridge (Figure 4). An 8-foot (2.4-meter) berm will be provided on both sides of the approach roadway to accommodate 5-foot (1.5-meter) sidewalks (Figure 5). Pavement markings for 13-foot (4-meter) wide outside lanes on both the bridge and approach outside travel lanes will accommodate bicycle traffic.

B. Build Alternatives

Due to the adjacent development along the northern approach and the restrictive land use constraints along the southern approach, a single construction alternative has been developed and coordinated with the City of Greensboro for replacing Guilford County Bridge No. 527 over North Buffalo Creek.

Alternative 1 (Preferred) replaces the bridge in the existing location. Traffic will be maintained on-site by utilizing staged construction. One lane of traffic in each direction will be maintained throughout the construction period. The project length is approximately 960 feet (292.7 meters) long and will have a 40 mile per hour (64 kilometers per hour) design speed.

C. Alternatives Eliminated from Further Study

Alternatives replacing the crossing on a new alignment adjacent to the existing alignment were eliminated from further study due to the proximity of existing development and the restrictive land use in the area.

The “do-nothing” or “no-build” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the high volume traffic service provided by this roadway.

“Rehabilitation” of the old bridge is not feasible due to its age and determined condition. The latest bridge inspection report describes widespread rusting of the metal components, cracking of the concrete components and scour at the abutment caps.

D. Preferred Alternative

Alternative 1 (Preferred) replaces Bridge No. 527 in its existing location utilizing staged construction to maintain traffic on-site during construction. This alternative minimized damages to the adjacent development along the northern approach and avoids the restrictive land use constraints along the southern approach.

The NCDOT Division 7 Engineer and the City of Greensboro concur with the recommendation of Alternative 1 as the preferred alternative.

IV. ESTIMATED COSTS

The estimated costs for the preferred alternative, based on current prices, are as follows:

	Alternative 1
Structure	\$765,000.00
Roadway Approaches	243,325.00
Structure Removal	61,120.00
Misc. & Mob.	230,555.00
Eng. & Contingencies	200,000.00
Total Construction Cost	\$ 1,500,000.00
Right-of-way Costs	327,000.00
Total Project Cost	\$ 1,827,000.00

The estimated cost of the project, shown in the 2004-2010 NCDOT Transportation Improvement Program (TIP), is \$1,587,000 including \$97,000 for right-of-way, \$1,350,000 for construction and \$140,000 prior years' expense.

V. NATURAL RESOURCES

Materials and research data in support of this investigation have been derived from a number of sources including applicable U.S. Geological Survey (USGS) topographic

mapping (Greensboro, NC 7.5 minute quadrangle, 1995), U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI) mapping Greensboro, NC NWI quadrangle, 1995), and aerial photography (scale:1 inch=100 feet).

A. Methodology

A natural resources field investigation for Bridge No. 527 was conducted on June 13, 2001. During the site visit, the study corridor was walked and visually surveyed for substantial features. For purposes of the field investigation and to assure proper area coverage, the study corridor was assumed to be approximately 1000 feet (305 meters) in length (500 feet [152.4 meters] to the south and north of the existing structure), with a width extending approximately 200 feet (61 meters) west and 100 feet (30.5 meters) east of the SR 1001 centerline. Plant community area and jurisdictional area calculations provided in this report are based on a 100-foot (30.5-meter) corridor centered on the existing alignment. Final impacts will be limited to cut-and-fill boundaries of the project. Stream area to be shaded is based on approximate bridge and stream widths. Special concerns evaluated in the field include 1) potential habitat for protected species and 2) wetlands and water quality protection in North Buffalo Creek.

Bridge No. 527 is located along SR 1001 (Church Street) at North Buffalo Creek within the city limits of Greensboro, North Carolina. The study corridor includes the channel and a portion of the floodplain adjacent to North Buffalo Creek. The section of North Buffalo Creek involved with the bridge replacement enters the study corridor from the southwest, parallels the west side of Church Street, then flows under the subject bridge and exits the study corridor to the east. North Buffalo Creek enters a confluence with Reedy Fork River approximately 10 miles (16.1 kilometers) to the northeast. Land use within the study corridor is primarily paved impervious surfaces and developed land, but does include a successional shrub assemblage and scattered trees along both banks of North Buffalo Creek.

Plant community descriptions are based on a classification system utilized by North Carolina Natural Heritage Program (NHP) (Schafale and Weakley 1990). When appropriate, community classifications were modified to better reflect field observations. Vascular plant names follow nomenclature found in Radford *et al.* (1968), with adjustments made to reflect more current nomenclature (Kartesz 1998). Jurisdictional areas were evaluated using the three-parameter approach following U.S. Army Corps of Engineers (COE) delineation guidelines (DOA 1987). Jurisdictional areas were characterized according to a classification scheme established by Cowardin *et al.* (1979). Geographical distribution and habitat requirements of terrestrial wildlife and aquatic organisms mentioned in this document were obtained by supportive literature (Webster *et al.* 1985, Potter

et al. 1980, Martof *et al.* 1980, Rohde *et al.* 1994, Menhinick 1991, Palmer and Braswell 1995). Fish and wildlife nomenclature follow current standards. Water quality information for area streams and tributaries was derived from available sources (DWQ 1996a, DWQ 1996b). Quantitative sampling was not undertaken to support existing data.

The most current FWS listing of federally protected species with ranges extending into Guilford County was obtained prior to initiation of the field investigation. In addition, NHP records documenting presence of federally or state listed species were consulted before commencing the field investigation.

B. Physiography and Soils

The study corridor is located within the North American Southern Outer Piedmont and is underlain by the Amphibolite and Biotite Gneiss geologic formation. The landscape is characterized by broad, gently sloping uplands, narrow convex ridges, and moderately steep valley slopes. Study corridor elevations rise from approximately 735 feet (224 meters) National Geodetic Vertical Datum (NGVD) at stream side to 800 feet (243.8 meters) NGVD at the southern terminus of the study corridor (Greensboro, NC USGS quadrangle).

The Natural Resources Conservation Service (SCS 1977) indicates that only one soil series, Mecklenburg-Urban land complex is mapped within the study corridor. The Mecklenburg-Urban land complex series consists of moderately deep, nearly level, well-drained soil on 2-10 percent slopes along major streams and creeks. This series typically forms in areas receiving heavy development and topography modification to fit desired uses. Mecklenburg-Urban land complex is considered to be non-hydric with no hydric inclusions in Guilford County (NRCS 1991).

C. Water Resources

1. Waters Impacted

The study corridor is located within sub-basin 03-06-02 of the Cape Fear River Basin (DWQ 1996b). This area is part of USGS accounting unit 03030002 of the South Atlantic-Gulf Coast Region. The section of North Buffalo Creek crossed by the subject bridge has been assigned Stream Index Number 16-11-14-1 by the N.C. Division of Water Quality (DWQ 1996a). The drainage area for this project is 14.2 square miles (36.8 square kilometers).

2. Stream Characteristics

North Buffalo Creek is a third-order stream within a watershed primarily

characterized by forest and urban land. Within the study corridor, North Buffalo Creek is wide and deeply entrenched, exhibits weak sinuosity and developed riffle/pool sequencing. The stream has been straightened on the west side of the study corridor. Stream width is approximately 35 feet (10.7 meters) at the point of the bridge crossing. The banks drop steeply from the floodplain approximately 8 feet (2.4 meters) on each side of the stream, are composed of fine textured soil, and rise abruptly to the narrow floodplain. The substrate is composed primarily of coarse sand and pebbles with some man inserted rip-rap cobble in areas that the channel has been modified.

During the field survey, the water level was below bankfull, flow velocity was moderate, and depths along the study corridor varied from 0.5 to 3.0 feet (0.2 to 0.9 meter). Persistent emergent aquatic vegetation was not observed. The stream was clear during the field visit, with visibility to the bottom in pools.

3. Best Usage Classification and Water Quality

Classifications are assigned to waters of the State of North Carolina based on the existing or contemplated best usage of various streams or segments of streams in the basin. A best usage classification of C has been assigned to North Buffalo Creek. The designation C denotes water supply waters that are suitable for aquatic life propagation and protection, agriculture, and secondary recreation. Secondary recreation refers to wading, boating, and other uses not involving human body contact with waters on an organized or frequent basis.

No designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply I (WS-I), or Water Supply II (WS-II) waters occur within 1.0 mile (1.6 kilometers) of the study corridor. No watershed Critical Area (CA) occurs within 1.0 mile (1.6 kilometers) of the study corridor.

The Division of Water Quality (DWQ) has initiated a whole-basin approach to water quality management for the 17 river basins within the state. Water quality for the proposed study corridor is summarized in the Cape Fear River basin management plan. Water quality in North Buffalo Creek is currently designated Poor based on macroinvertebrate and fish samples. The stream has been monitored approximately 0.9 mile (1.5 kilometers) downstream of the study corridor and currently has a use support rating of Not Supporting. Sub-basin 03-06-02 supports eight major point-source dischargers responsible for discharging 67.30 million gallons per day (254.76 million liters per day). The sub-basin also

supports 31 minor point-source dischargers responsible for discharging 2.16 million gallons per day (8.18 million liters per day). Non-point source pollution and agriculture are the prime sources of impairment within this sub-basin (DWQ 1996a). There are two major and four minor point-sources that discharge directly into North Buffalo Creek.

4. Anticipated Impacts to Water Resources

The preferred alternative includes complete bridging of North Buffalo Creek to maintain the current water quality, aquatic habitat, and flow regime. Temporary construction impacts due to erosion and sedimentation will be minimized through implementation of a stringent erosion control schedule and the use of Best Management Practices (BMPs). The contractor will follow contract specifications pertaining to erosion control measures as outlined in 23 CFR 650 Subpart B and Article 107-13 entitled "Control of Erosion, Siltation, and Pollution" (NCDOT, Specifications for Roads and Structures). These measures include the use of dikes, berms, silt basins, and other containment measures to control runoff; elimination of construction staging areas in floodplains and adjacent to waterways; re-seeding of herbaceous cover on disturbed sites; management of chemicals (herbicides, pesticides, de-icing compounds) with potential negative impacts on water quality; and avoidance of direct discharges into streams by catch basins and roadside vegetation.

For the preferred alternative, the proposed bridge replacement will allow for continuation of pre-project stream flows in North Buffalo Creek, thereby protecting the integrity of this waterway. Long-term impacts resulting from construction are expected to be negligible. In order to minimize impacts to water resources, NCDOT BMPs for the Protection of Surface Waters will be strictly enforced during the entire life of the project.

There is potential for components of the deck and rails to be dropped into waters of the United States, resulting in a temporary fill of approximately 176.57 cubic yards (134.9 cubic meters). NCDOT's BMPs for Bridge Demolition and Removal must be applied for the removal of this bridge.

D. Biotic Resources

1. Plant Communities

Two distinct plant communities were identified within the study corridor: riparian shrub assemblage and disturbed/maintained land. These plant communities are described below.

Riparian Shrub Assemblage- Riparian shrub assemblage occurs on the floodplain and along the banks of North Buffalo Creek. This is a disturbed community and shows signs of succeeding to mesic mixed hardwood forest. The assemblage supports species indicative of a mesic environment. Scattered trees include American sycamore (*Fagus grandifolia*), tulip poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), and American elm (*Ulmus americana*). A developed shrub layer includes saplings of the canopy, as well as red maple (*Acer rubrum*), boxelder (*A. negundo*), silver maple (*A. saccharum*), and white mulberry (*Morus alba*). The dense understory is dominated by elderberry (*Sambucus canadensis*), while jewelweed (*Impatiens capensis*), and various knotweeds (*Polygonum* spp.) also occur. Scattered vines are common along ecotonal boundaries and include poison ivy (*Toxicodendron radicans*), greenbrier (*Smilax rotundifolia*), Japanese honeysuckle (*Lonicera japonica*), and Virginia creeper (*Parthenocissus quinquefolia*).

Disturbed/Maintained Land - Disturbed/maintained land occurs along the SR 1001 right-of-way and within a power line corridor adjacent to the west side of SR 1001. The roadside right-of-way area is approximately 10 feet (3.0 meters) wide. The power line corridor west of the road is approximately 30 feet (9.1 meters) wide. These areas support an herb/grass assemblage which includes bluegrass (*Poa* sp.), fescue (*Festuca* sp.), goldenrod (*Solidago* sp.), broomsedge (*Andropogon virginicus*), blackberries (*Rubus* spp.), dog fennel (*Eupatorium capillifolium*), vetch (*Vicia* sp.), English plantain (*Plantago lanceolata*), pokeberry (*Phytolacca americana*), and cranesbill (*Geranium carolinianum*). Scattered shrubs within this community include smooth sumac (*Rhus glabra*), Chinese privet (*Ligustrum sinense*), and red mulberry (*Morus rubra*).

2. Plant Community Impacts within the Study Corridor

Plant community areas are estimated based on the amount of each plant community present within the corridor. A summary of potential plant community areas within the preferred alternative corridor is presented in the following table.

Plant Community Impacts Table: Area of each plant community within the preferred corridor. Measurements are given in acres, with hectares in parentheses.

Plant Community	Alternative 1 (Preferred)
	Permanent
Maintained/ Disturbed Land	0.19 (0.08)
Riparian Shrub Assemblage	0.12 (0.05)
TOTAL:	0.31 (0.13)

Actual impacts are expected to be less than the areas represented here since impacts will be limited to cut-and-fill boundaries.

From an ecological perspective, impacts of upgrading the existing bridge are minimal. No new fragmentation of plant communities will be created by the preferred alternative, as the project will result only in relocation of community boundaries. The preferred alternative may only claim narrow strips of adjacent natural communities.

Roadside-forest ecotones typically serve as vectors for invasive species into local natural communities. An example of an undesirable invasive species utilizing roadsides is kudzu (*Pueria lobata*). The establishment of a hardy groundcover on road shoulders as soon as practicable will limit the availability of construction areas to invasive and undesirable plants.

3. **Wildlife**

No mammals were observed within the study corridor; however, tracks were observed of raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis marsupialis*). Evidence of recent beaver (*Castor canadensis*) activity was seen within the stream channel and on the stream bank. Other Mammals expected to occur within the study corridor include eastern mole (*Scalopus aquaticus*), eastern pipistrelle (*Pipistrellus subflavus*), eastern cottontail (*Sylvilagus floridanus*), gray squirrel (*Sciurus carolinensis*), white-footed mouse (*Peromyscus leucopus*), weasel (*Mustela frenata*), Norway rat (*Rattus norvegicus*), and gray fox (*Urocyon cinereoargenteus*).

Bird species that were identified during the field visit are northern cardinal (*Cardinalis cardinalis*), eastern bluebird (*Sialia sialis*), northern mockingbird (*Mimus polyglottos*), American robin (*Turdus migratorius*),

common grackle (*Quiscalus quiscula*), mallard (*Anas platyrhynchos*), song sparrow (*Melospiza melodia*), brown-headed cowbird (*Molothrus ater*), European starling (*Sturnus vulgaris*), Carolina chickadee (*Poecile carolinensis*), chimney swift (*Chaetura pelagica*), blue jay (*Cyanocitta cristata*), house finch (*Carpodacus mexicanus*), mourning dove (*Zenaida macroura*), and eastern towhee (*Pipilo erythrophthalmus*). The stream side habitat may also be expected to support northern flicker (*Colaptes auratus*), red-headed woodpecker (*Melanerpes erythrocephalus*), common yellowthroat (*Geothlypis trichas*) red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), blue jay (*Cyanocitta cristata*), barred owl (*Strix varia*), belted kingfisher (*Megaceryle alcyon*), tufted titmouse (*Baeolophus bicolor*), white-breasted nuthatch (*Sitta carolinensis*), gray catbird (*Dumetella carolinensis*), and white-throated sparrow (*Zonotrichia albicollis*).

No terrestrial reptile or amphibian species were observed within the study corridor. Species that might be expected in this habitat are Fowler's toad (*Bufo woodhousei*), five-lined skink (*Eumeces fasciatus*), ringneck snake (*Diadophis punctatus*), rat snake (*Elaphe obsoleta*), rough green snake (*Opheidrys aestivus*), eastern ribbon snake (*Thamnophis sauritus*), and eastern box turtle (*Terrapene carolina*).

No aquatic amphibian or reptile was observed during field investigations. North Buffalo Creek provides suitable habitat for aquatic and semi-aquatic reptiles including snapping turtle (*Chelydra serpentina*) and northern water snake (*Nerodia sipedon*). Typical amphibian species for this habitat type include northern cricket frog (*Acris gryllus*) and green frog (*Rana clamitans*). Only one mollusk was observed within the study corridor, the Asian clam (*Corbicula fluminea*). Crayfish chimneys were observed outside of the banks and adjacent to the stream.

No sampling was undertaken in North Buffalo Creek to determine fishery potential. Small minnows were seen during visual surveys, but no larger fish were noted. Species which may be present in North Buffalo Creek include redbfin pickerel (*Esox americanus*), golden shiner (*Notemigonus crysoleucas*), rosyside dace (*Clinostomus funduloides*), bluehead chub (*Nocomis leptcephalus*), whitefin shiner (*Notropis niveus*), greenfin shiner (*N. chloristius*), margined madtom (*Noturus insignis*), and redbreast sunfish (*Lepomis auritus*). Migratory fish are not expected to occur within the study corridor.

4. Anticipated Impacts to Wildlife

Due to the limited extent of infringement on natural communities, the

proposed bridge replacement will not result in substantial loss or displacement of known terrestrial animal populations. No substantial habitat fragmentation is expected since potential improvements will be restricted to or adjoining existing roadside margins. Construction noise and associated disturbances will have short-term impacts on avifauna and migratory wildlife movement patterns. Long-term impacts are expected to be inconsequential. Impacts associated with turbidity and suspended sediments resulting from construction of bridge bents will affect benthic populations on a short-term basis. Temporary impacts to downstream habitats from increased sedimentation during construction will be minimized by the implementation of stringent erosion control measures.

E. Special Topics

1. Waters of the United States

Surface waters within the embankments of North Buffalo Creek are subject to jurisdictional consideration under Section 404 of the Clean Water Act as "waters of the United States" (33 CFR section 328.3). North Buffalo Creek is characterized on NWI mapping as a riverine, lower perennial, permanently flooded stream with an unconsolidated bottom (R2UBH). The field visit verified this characterization, finding North Buffalo Creek to be a perennial stream with an unconsolidated bottom of sand, gravel, and pebbles.

Vegetated wetlands are defined by the presence of three primary criteria: hydric soils, hydrophytic vegetation, and evidence of hydrology at or near the surface for a portion (12.5 percent) of the growing season (DOA 1987). No vegetated wetlands subject to jurisdictional consideration under Section 404 of the Clean Water Act as "waters of the United States" (33 CFR section 328.3) occur within the study corridor.

Within the study corridor, jurisdictional areas are limited to the open waters of North Buffalo Creek. Replacement of Bridge No. 527 will result in no direct impacts to jurisdictional areas.

There is potential that components of the bridge deck and rails may be dropped into waters of the United States during construction. The resulting temporary fill associated with bridge removal is approximately 176.57 cubic yards (135.0 cubic meters). This project can be classified as Case 3 according to the DOT "Policy on Bridge Demolition and Removal in Waters of the United States" where no special restrictions other than those outlined in Best Management Practices for Protection of Surface Waters.

2. Permits

This project is being processed as a Categorical Exclusion (CE) under Federal Highway Administration (FHWA) guidelines. The COE has made available Nationwide Permit (NWP) #23 (61 FR 65874, 65916; December 13, 1996) for CEs due to expected minimal impact. DWQ has made available a General 401 Water Quality Certification for NWP #23. However, authorization for jurisdictional area impacts through use of this permit will require written notice to DWQ. In the event that NWP #23 will not suffice, minor impacts attributed to bridging and associated approach improvements are expected to qualify under General Bridge Permit 031 issued by the Wilmington COE District. Notification to the Wilmington COE office is required if this general permit is utilized.

3. Mitigation

Fill or alteration of streams may require compensatory mitigation in accordance with 15 NCAC 2H .0506(h). However, compensatory mitigation is not expected to be offered for this project due to the avoidance of impacts to jurisdictional areas. Utilization of BMPs is recommended in an effort to further minimize impacts. A final determination regarding mitigation rests with the COE and DWQ.

F. Protected Species

1. Federally Species

Species with the federal classification of Endangered, Threatened, or officially Proposed for such listing are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The term "Endangered species" is defined as "any species which is in danger of extinction throughout all or a significant portion of its range", and the term "Threatened species" is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (16 U.S.C. 1532). Bald eagle (*Haliaeetus leucocephalus*) is the only federally protected species listed for Guilford County (February 18, 2003 FWS list). Bald eagle is considered "Threatened" by FWS.

Bald Eagle - The bald eagle is a large raptor with a wingspan greater than 6.0 feet (1.8 meters). Adult bald eagles are dark brown with a white head and tail. Immature eagles are brown with whitish mottling on the tail, belly, and wing linings. Bald eagles typically feed on fish but may

also take birds and small mammals. In the Carolinas, nesting season extends from December through May (Potter *et al.* 1980). Bald eagles typically nest in tall, living trees in a conspicuous location near open water. Eagles forage over large bodies of water and utilize adjacent trees for perching (Hamel 1992). Disturbance activities within a primary zone extending 750 to 1500 feet (229 to 458 meters) from a nest tree are considered to result in unacceptable conditions for eagles (FWS 1987). The FWS recommends avoiding disturbance activities, including construction and tree cutting within this primary zone. Within a secondary zone, extending from the primary zone boundary out to a distance of 1.0 mile (1.6 kilometers) from a nest tree, construction and land-clearing activities should be restricted to the non-nesting period. The FWS also recommends avoiding alteration of natural shorelines where bald eagles forage, and avoiding significant land-clearing activities within 1500 feet (458 meters) of known roosting sites.

The study corridor contains no large bodies of open water that might serve as bald eagle habitat. The nearest large body of water, Richland Lake, is approximately 3.0 miles (4.8 kilometers) to the north. Tall, old trees which might serve as perching sites do grow near the stream, but lack of open water access is probably a key limiting factor for the species within the study corridor. NHP records document no occurrences of bald eagle within 5.0 miles (8.0 kilometers) of the study corridor, and no eagles were observed during the site visit.

BIOLOGICAL CONCLUSION: The North Buffalo Creek study corridor contains no suitable open water habitat for bald eagles. No nearby occurrences have been documented by the NHP, and no eagles were seen during the site survey. Based on these factors and professional judgment, the proposed project will not affect bald eagle. **NO EFFECT**

2. Federal Species of Concern

The February 18, 2003 FWS list includes a category of species designated as “Federal species of concern” (FSC). A species with this designation is one that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing). There is one FSC species with ranges that extend into Guilford County, the Carolina Darter (*Etheostoma collis lepidinon*).

3. State Species

Plant and animal species which are on the North Carolina state list as Endangered, Threatened, Special Concern, Candidate, Significantly Rare, or Proposed (Amoroso 1999, LeGrand and Hall 1999) receive limited protection under the North Carolina Endangered Species Act (G.S. 113-331 *et seq.*) and the North Carolina Plant Protection Act of 1979 (G.S. 106-202 *et seq.*). No species with these designations are documented within 1.0 mile (1.6 kilometers) of the study corridor.

VI. CULTURAL RESOURCES

A. Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally-funded, licensed, or permitted) on properties included in the National Register of Historic Places and to afford the Advisory Council a reasonable opportunity to comment on such undertakings.

B. Historic Architecture

A field survey of the Area of Potential Effects (APE) was conducted on March 1, 2000. All structures within the APE were photographed, and later reviewed by NCDOT architectural historians and the State Historic Preservation Office (HPO). None of the properties were considered eligible, and in a concurrence form dated June 1, 2000 the State Historic Preservation Officer (SHPO) concurred that there are no historic architectural resources either listed in or eligible for listing in the National Register of Historic Places within the APE. A copy of the concurrence form and the SHPO's memorandum of January 3, 2001 are included in the Appendix.

C. Archaeology

The State Historic Preservation Officer (SHPO), in a memorandum dated January 3, 2001 stated that "We have conducted a review of the project and are aware of no properties of architectural, historic, or archaeological significance which would be affected by the project. Therefore, we have no comment on the project as currently proposed." Based upon this memorandum, no archaeological investigations are required. A copy of the SHPO's memorandum is included in the Appendix.

VII. ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The project is a Federal "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of current NCDOT standards and specifications.

The project is not in conflict with any plan, existing land use, or zoning regulation. No substantial change in land use is expected to result from construction of the project.

No substantial impact on families or communities is anticipated. Right of way acquisition will be minimized by the preferred alternative. No relocatees are expected with the implementation of the Preferred Alternative. The Relocation Report is included in the Appendix.

In compliance with Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations) a review was conducted to determine whether minority or low income populations were receiving disproportionately high and adverse human health or environmental impacts as a result of this project. The investigation determined the project would not disproportionately impact any minority or low income populations.

No adverse effect on public facilities or services is anticipated. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The project does not require taking lands from any known Section 4(f) properties. There is one wildlife refuge in the vicinity of the project. The land in the southwest quadrant is owned by Moses Cone Hospital and is leased to the City of Greensboro who in turn has an agreement with the Audubon Society to preserve the natural area. The Audubon Society's agreement with the City of Greensboro could result in this land being determined a wildlife refuge of local significance. However, the project has been developed so that no land is taken from and no impacts are anticipated to this property. There are no lands of publicly-owned parks, recreational facilities, or wildlife and waterfowl refuges of National, State, or local significance taken by the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impacts to prime and important farmland soils by all land acquisition and construction projects. Prime and important farmland soils are defined by the Natural Resources Conservation Service (NRCS). Since there are no prime or

important farmlands in the immediate vicinity as a result on the urban character of the land uses, the Farmland Protection Policy does not apply.

The project is located in Guilford County, which is within the Greensboro-Winston Salem-High Point nonattainment area for ozone(O₃) as defined by the EPA. The 1990 Clean Air Act Amendments (CAAA) designated these areas as "moderate" nonattainment areas for O₃. However, due to improved monitoring data, these areas were redesignated as maintenance for O₃ on November 8, 1993. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Guilford County. The Greensboro Urban Area 2025 Long Range Transportation Plan (LRTP) and the 2004-2010 Metropolitan Transportation Improvement Program (MTIP) have been determined to conform to the intent of the SIP. The USDOT air quality conformity approval of the LRTP was October 1, 2001 and the USDOT air quality approval of the MTIP was October 1, 2003. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There have been no substantial changes in the project's design concept or scope, as used in the conformity analysis.

This project is an air quality "neutral" project, so it is not required to be included in the regional emission analysis (if applicable) and a project level CO analysis is not required. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D.0520. This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act Amendments and the NEPA process and no additional reports are necessary.

Since the project is located along the existing alignment and will not substantially increase traffic volumes, the impact of noise levels will not be substantial due to the existing development within the project area. Noise levels will increase during construction, but the increase will only be temporary. Also, construction activities are usually conducted only during daylight hours along project of this nature. Therefore, traffic noise reports are considered unnecessary. This noise assessment completes the requirements for evaluating highway traffic noise in Title 23 of the Code of Federal Regulations, Part 772

Guilford County is a participant in the National Flood Insurance Program. The project area is included in a detailed study for North Buffalo Creek in Guilford County. Bridge No. 527 is located in a 100 year Federal Emergency Management Agency (FEMA) floodplain. The base floodway elevation is listed as 737 feet (224.6 meters). The floodplain for North Buffalo Creek at the project crossing is shown in Figure 6. The final design of the bridge will be such that the backwater elevation will not encroach beyond the current 100-year floodplain limits. The length of the new structure may be increased or decreased as necessary to accommodate peak flows as determined by further hydrologic studies. The proposed replacement will not adversely affect the existing floodplain, or

modify flood characteristics, and will have minimal impacts on the floodplain due to roadway encroachment. The existing drainage pattern will not be affected.

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Water Quality, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no underground storage tanks/hazardous wastes sites within the project area.

On the basis of the above discussion, it is concluded that no substantial adverse environmental effects will result from implementation of the project.

VIII. PUBLIC INVOLVEMENT

On November 15, 2000, a scoping letter was mailed to federal, state and local agencies to solicit input regarding this bridge replacement. Extensive coordination with City of Greensboro officials was conducted during the development of the preferred alternative. In September 2003, a project newsletter describing the preferred alternative was mailed to nearby property owners and other interested parties. A Citizens Informational Workshop was held on Thursday, October 9, 2003, in the NCDOT Division 7 Office. No issues were raised during the workshop and no additional written comments have been received.

X. AGENCY COMMENTS

City of Greensboro – Director of Transportation

Comment: We propose that the bridge needs to accommodate 5 lanes with wide outside lanes for bicycle traffic and sidewalks on both sides.

Response: Coordination with the City of Greensboro resulted in the proposed 62-foot (19-meter) face-to-face curb and gutter width on the bridge with sidewalks on both sides. An 8-foot (2.4-meter) berm will be provided on both sides of the approach roadway to accommodate 5-foot (1.5-meter) sidewalks. Pavement markings for 13-foot (4-meter) wide outside lanes on both the bridge and approach outside travel lanes will accommodate bicycle traffic.

Comment: We recommend that the Alternate 1 construction staging proposal be selected.

Response: Alternate 1 with construction staging is the preferred alternative for this project.

Comment: The City's Parks & Recreation Department is planning to construct a trail

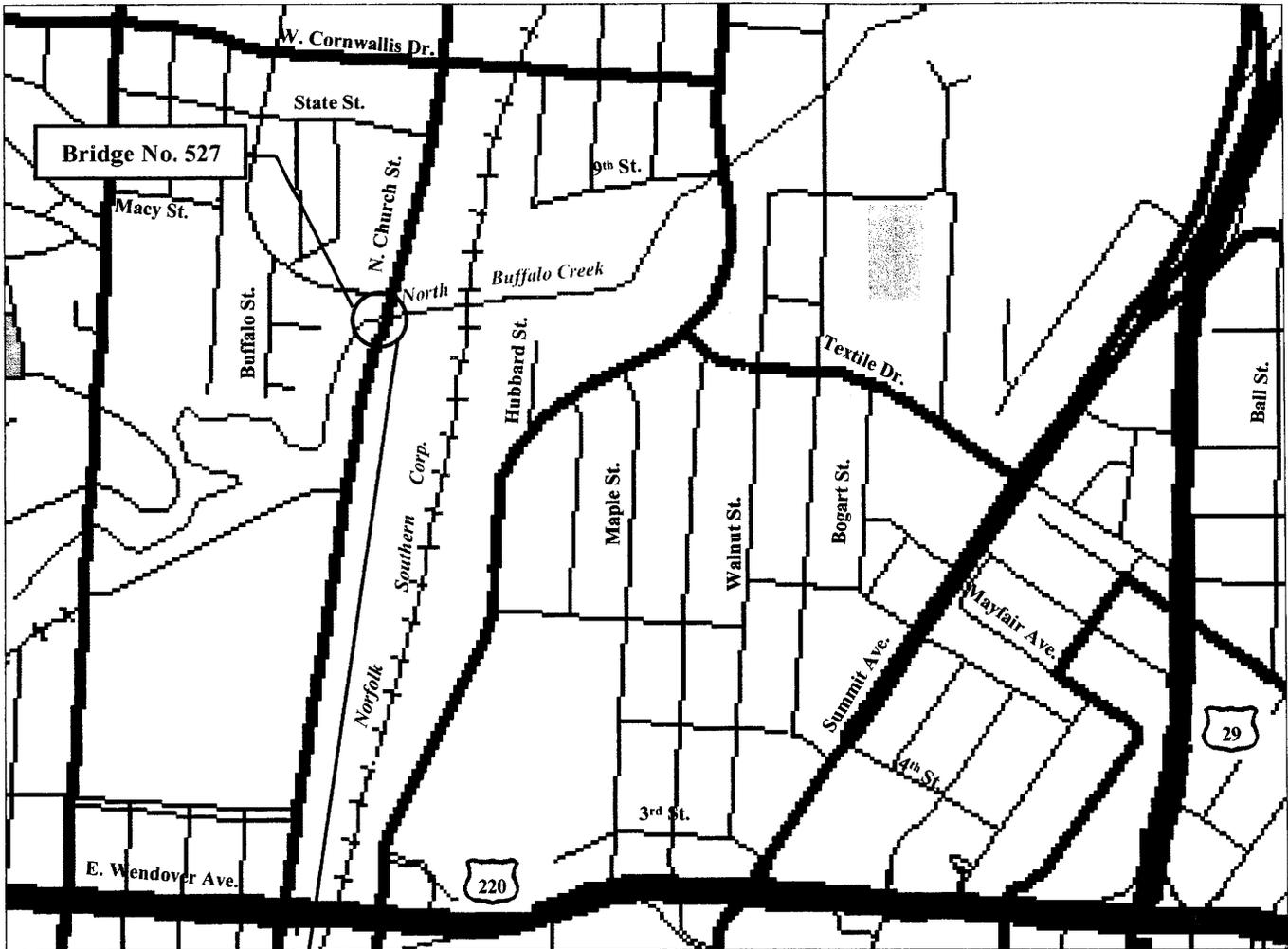
(along the south side of North Buffalo Creek) that will connect an existing trail west of the project to a proposed park in northeast Greensboro. The Parks & Recreation Department respectfully request that the design for the bridge include providing clearance for the trail to pass underneath thus eliminating an at-grade crossing.

Response: The new crossing will include horizontal clearance for a 10-foot (3-meter) wide pathway beneath the south end of the bridge and access will be allowed beneath the new crossing for this pathway.

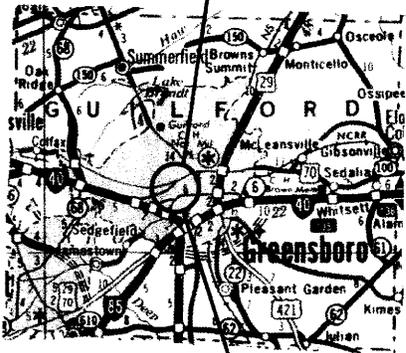
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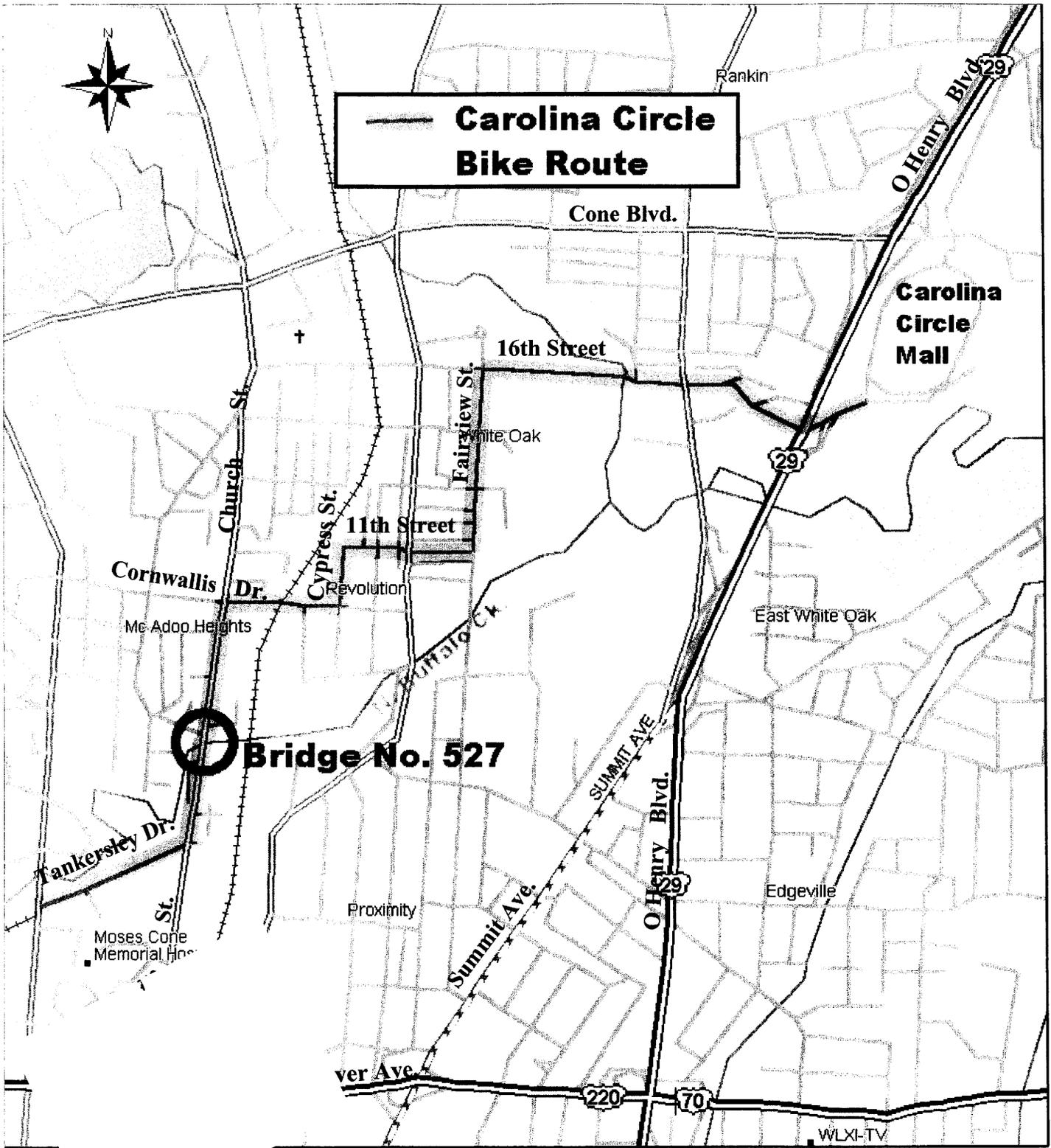
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APPROXIMATE SCALE



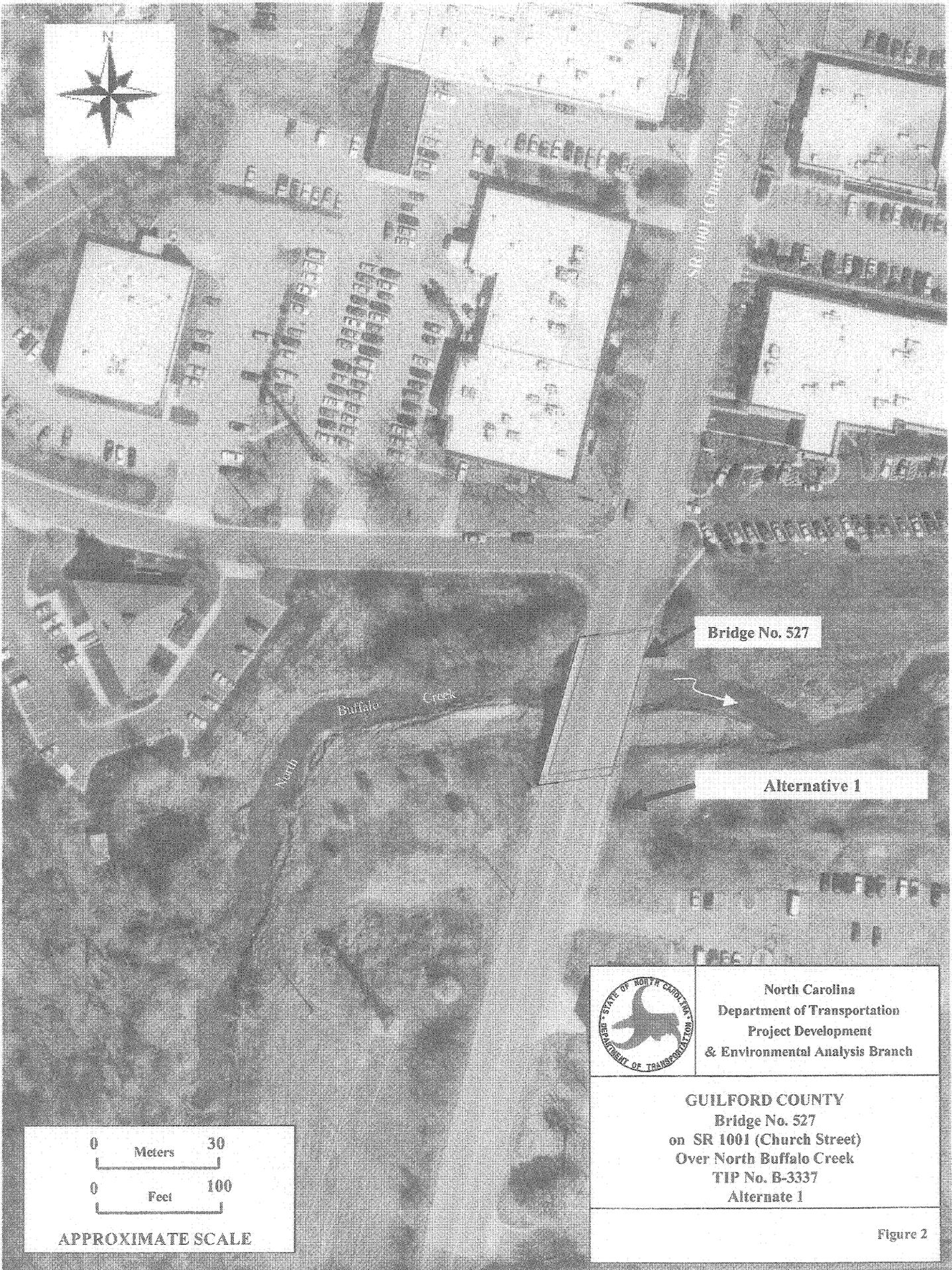
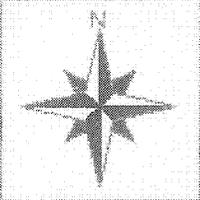
	<p>North Carolina Department of Transportation Project Development & Environmental Analysis Branch</p>
<p>GUILFORD COUNTY Bridge No. 527 on SR 1001 (Church Street) over North Buffalo Creek Greensboro, NC TIP No. B-3337</p>	
<p>Figure 1</p>	



GRAPHIC SCALE



	<p>North Carolina Department of Transportation Project Development & Environmental Analysis Branch</p>
<p>GUILFORD COUNTY Bridge No. 527 on SR 1001 (Church Street) over North Buffalo Creek Greensboro, NC TIP No. B-3337</p>	
<p>Figure 1 a</p>	



Bridge No. 527

Alternative 1



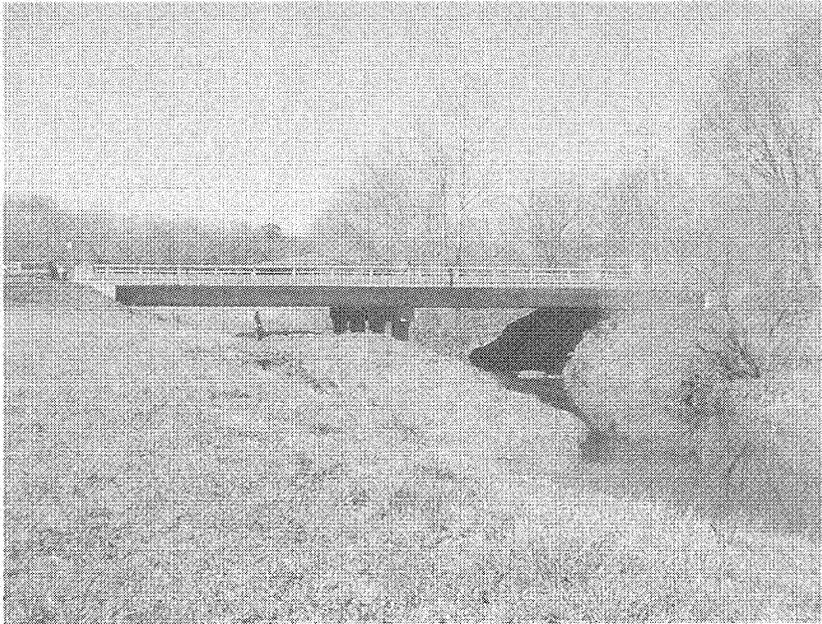
North Carolina
Department of Transportation
Project Development
& Environmental Analysis Branch

GUILFORD COUNTY
Bridge No. 527
on SR 1001 (Church Street)
Over North Buffalo Creek
TIP No. B-3337
Alternate 1

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0 Feet 100

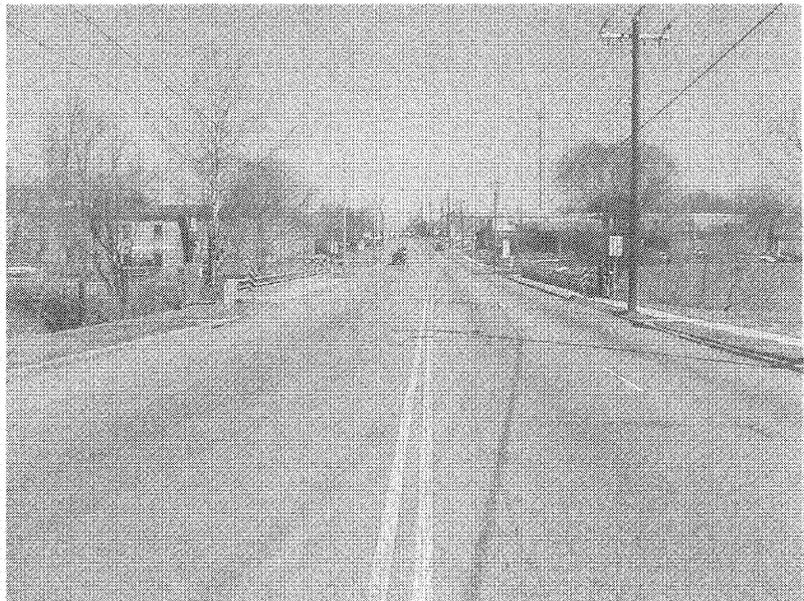
APPROXIMATE SCALE

Figure 2



Bridge No. 527

Looking North



Looking South

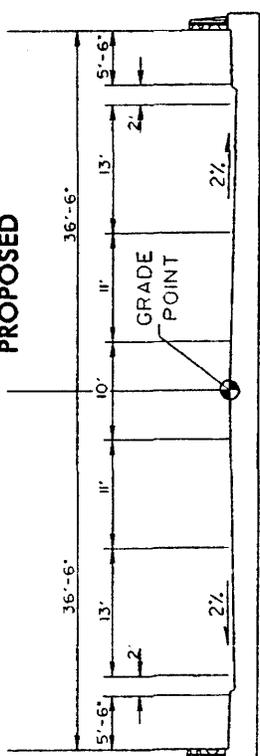


North Carolina
 Department of Transportation
 Project Development
 & Environmental Analysis Branch

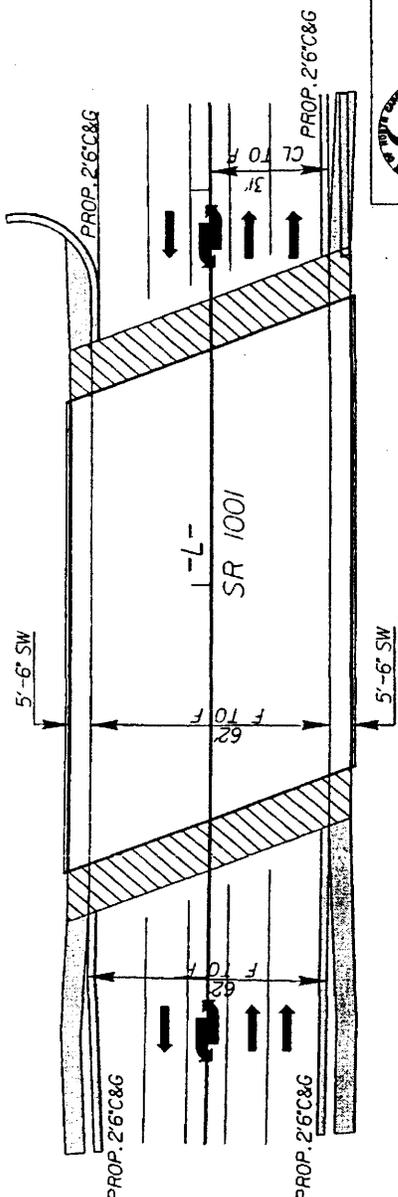
GUILFORD COUNTY
 Bridge No. 527
 on SR 1001 (Church Street)
 Over North Buffalo Creek
 TIP No. B-3337

Figure 3

CL -L- (SR 1001)
PROPOSED



BRIDGE NO. 527 ON SR 1001 (-L-)
OVER NORTH BUFFALO CREEK



FUNCTIONAL CLASSIFICATION: URBAN COLLECTOR

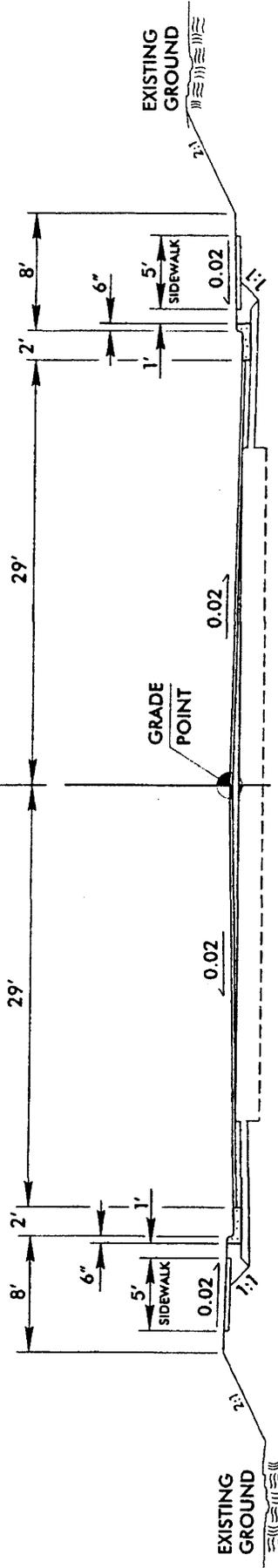
AVERAGE DAILY TRAFFIC	
(EXISTING)	2003 = 16,800
(DESIGN YR.)	2030 = 19,500



North Carolina
Department of Transportation
Project Development
& Environmental Analysis Branch

GUILFORD COUNTY
Bridge No. 527
on SR 1001
over North Buffalo Creek
TIP No. B-3337

CL- (SR 1001)



TYPICAL APPROACH ROADWAY SECTION
(PROPOSED)

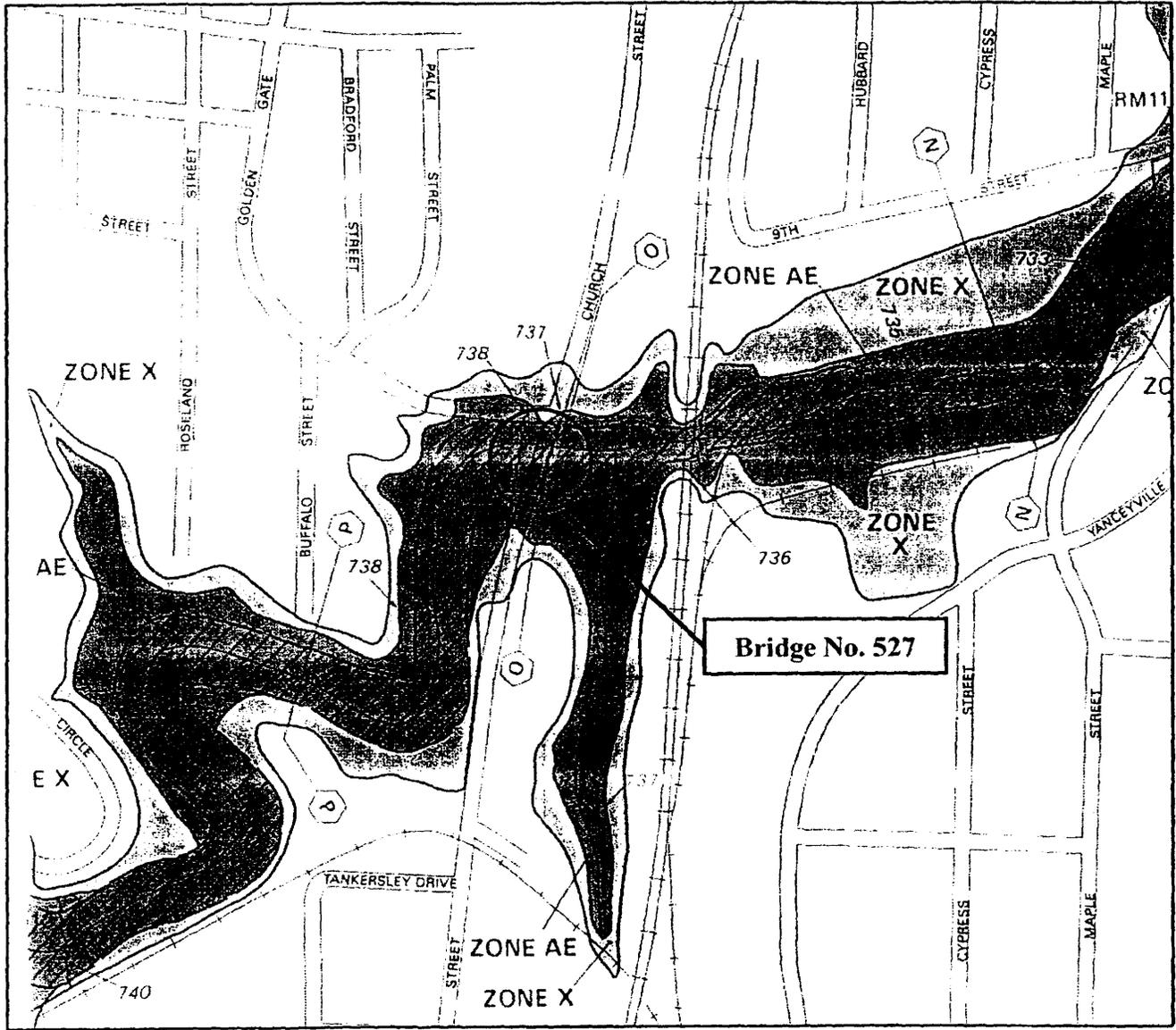
FUNCTIONAL CLASSIFICATION: URBAN COLLECTOR

AVERAGE DAILY TRAFFIC	
(EXISTING)	2003 = 16,800
(DESIGN YR.)	2030 = 19,500



North Carolina
Department of Transportation
Project Development
& Environmental Analysis Branch

GUILFORD COUNTY
Bridge No. 527
on SR 1001
over North Buffalo Creek
TIP No. B-3337



FEMA – Floodplain Map of Project Area



APPROXIMATE SCALE

	<p>North Carolina Department of Transportation Project Development & Environmental Analysis Branch</p>
<p>GUILFORD COUNTY Bridge No. 527 on SR 1001 (Church Street) over North Buffalo Creek TIP No. B-3337</p>	
<p>Figure 6</p>	

APPENDIX



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

December 22, 2000

Mr. William D. Gilmore, P.E., Manager
NCDOT
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Gilmore:

Thank you for your November 15, 2000, requests for information from the U.S. Fish and Wildlife Service (Service) on the potential environmental impacts of proposed bridge replacements in Guilford County, North Carolina. This report provides scoping information and is provided in accordance with provisions of the Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-667d) and Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543). This report also serves as initial scoping comments to federal and state resource agencies for use in their permitting and/or certification processes for this project.

The North Carolina Department of Transportation (NCDOT) proposes to replace the following bridge structures:

1. B-3337 Bridge No. 527 on SR 1001 over North Buffalo Creek;
2. B-3652 Bridge No. 20 on SR 4121 over Deep River, and
3. B-3851 Bridge No. 21 on SR 3163(421) over US 29/70.

The following recommendations are provided to assist you in your planning process and to facilitate a thorough and timely review of the project.

Generally, the Service recommends that wetland impacts be avoided and minimized to the maximum extent practical as outlined in Section 404 (b)(1) of the Clean Water Act Amendments of 1977. In regard to avoidance and minimization of impacts, we recommend that proposed highway projects be aligned along or adjacent to existing roadways, utility corridors, or previously developed areas in order to minimize habitat fragmentation and encroachment. Areas exhibiting high biodiversity or ecological value important to the watershed and region should be avoided. Crossings of streams and associated wetland

systems should use existing crossings and/or occur on a structure wherever feasible. Where bridging is not feasible, culvert structures that maintain natural water flows and hydraulic regimes without scouring, or impeding fish and wildlife passage, should be employed. Highway shoulder and median widths should be reduced through wetland areas. Roadway embankments and fill areas should be stabilized by using appropriate erosion control devices and techniques. Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons.

The National Wetlands Inventory (NWI) maps of the Greensboro and High Point East 7.5 Minute Quadrangles indicate there may be wetland resources in the specific work areas. However, while the NWI maps are useful for providing an overview of a given area, they should not be relied upon in lieu of a detailed wetland delineation by trained personnel using an acceptable wetland classification methodology. Therefore, in addition to the above guidance, we recommend that the environmental documentation for this project include the following in sufficient detail to facilitate a thorough review of the action.

1. The extent and acreage of waters of the U.S., including wetlands, that are to be impacted by filling, dredging, clearing, ditching, or draining. Acres of wetland impact should be differentiated by habitat type based on the wetland classification scheme of the National Wetlands Inventory. Wetland boundaries should be determined by using the 1987 Corps of Engineers Wetlands Delineation Manual and verified by the U.S. Army Corps of Engineers (Corps).
2. If unavoidable wetland impacts are proposed, we recommend that every effort be made to identify compensatory mitigation sites in advance. Project planning should include a detailed compensatory mitigation plan for offsetting unavoidable wetland impacts. Opportunities to protect mitigation areas in perpetuity, preferably via conservation easement, should be explored at the outset.

The document presents a number of scenarios for replacing each bridge, ranging from in-place to relocation, with on-site and off-site detours. The Service recommends that each bridge be replaced on the existing alignment with an off-site detour.

The enclosed list identifies the federally-listed endangered and threatened species, and Federal Species of Concern (FSC) that are known to occur in Guilford County. The Service recommends that habitat requirements for the listed species be compared with the available habitats at the respective project sites. If suitable habitat is present within the action area of the project, biological surveys for the listed species should be performed. Environmental documentation that includes survey methodologies, results, and NCDOT's recommendations based on those results, should be provided to this office for review and comment.

FSC's are those plant and animal species for which the Service remains concerned, but further biological research and field study are needed to resolve the conservation status of these taxa. Although FSC's receive no statutory protection under the ESA, we would

encourage the NCDOT to be alert to their potential presence, and to make every reasonable effort to conserve them if found. The North Carolina Natural Heritage Program should be contacted for information on species under state protection.

The Service appreciates the opportunity to comment on this project. Please continue to advise us during the progression of the planning process, including your official determination of the impacts of this project. If you have any questions regarding these comments, please contact Tom McCartney at 919-856-4520, Ext. 32.

Sincerely,



Dr. Garland B. Pardue
Ecological Services Supervisor

Enclosure

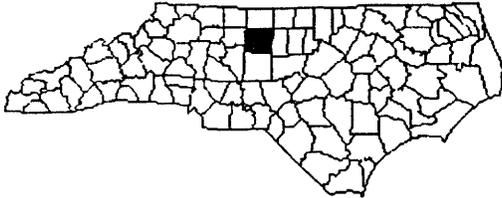
cc: COE, Raleigh, NC (Eric Alsmeyer)
NCDWQ, Raleigh, NC (John Hennessy)
NCDNR, Creedmoor, NC (David Cox)

FWS/R4:TMcCartney:TM:12/22/00:919/856-4520 extension 32:\3brdggui.lfd

Updated: 02/18/2003

U.S. Fish & Wildlife Service

GUILFORD COUNTY



Common Name	Scientific Name	Status
Vertebrates		
<u>Bald eagle</u>	<i>Haliaeetus leucocephalus</i>	Threatened(Proposed for delisting)
Carolina darter	<i>Etheostoma collis lepidinon</i>	FSC

KEY:

Status	Definition
Endangered -	A taxon "in danger of extinction throughout all or a significant portion of its range."
Threatened -	A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."
Proposed -	A taxon proposed for official listing as endangered or threatened.
C1 -	A taxon under consideration for official listing for which there is sufficient information to support listing.
FSC -	A Federal species of concern--a species that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing).
T(S/A) -	Threatened due to similarity of appearance (e.g., <u>American alligator</u>)--a species that is threatened due to similarity of appearance with other rare species and is listed for its protection. These species are not biologically endangered or threatened and are not subject to Section 7 consultation.
EXP -	A taxon that is listed as experimental (either essential or nonessential). Experimental, nonessential endangered species (e.g., red wolf) are treated as threatened on public land, for consultation purposes, and as species proposed for listing on private land.

Species with 1, 2, 3, or 4 asterisks behind them indicate historic, obscure, or incidental records.

*Historic record - the species was last observed in the county more than 50 years ago.

**Obscure record - the date and/or location of observation is uncertain.

***Incidental/migrant record - the species was observed outside of its normal range or habitat.



☒ North Carolina Wildlife Resources Commission ☒

512 N. Salisbury Street, Raleigh, North Carolina 27604-1188, 919-733-3391
Charles R. Fullwood, Executive Director

TO: John Conforti
Project Engineer, NCDOT

FROM: David Cox, Highway Project Coordinator
Habitat Conservation Program

DATE: January 2, 2001

SUBJECT: NCDOT Bridge Replacements in Anson, Cabarrus, Catawba, Cleveland, Davie, Forsythe, Gaston, Guilford, Mecklenburg, Randolph, Rockingham, and Stanly counties of North Carolina. TIP Nos. B-3404, B-3421, B-3822, B-3828, B-3637, B-3835, B-3454, B-3839, B-3840, B-3337, B-3652, B-3851, B-3677, B-3506, B-3694, and B-3700.

Biologists with the N. C. Wildlife Resources Commission (NCWRC) have reviewed the information provided and have the following preliminary comments on the subject project. Our comments are provided in accordance with 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).

On bridge replacement projects of this scope our standard recommendations are as follows:

1. We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.
2. Bridge deck drains should not discharge directly into the stream.
3. Live concrete should not be allowed to contact the water in or entering into the stream.
4. If possible, bridge supports (bents) should not be placed in the stream.
5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should

be planted with a spacing of not more than 10'x10'. If possible, when using temporary structures the area should 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 revegetate naturally and minimizes disturbed soil.

6. A clear bank (riprap free) area of at least 10 feet should remain on each side of the stream underneath the bridge.
7. In trout waters, the N.C. Wildlife Resources Commission reviews all U.S. Army Corps of Engineers nationwide and general '404' permits. We have the option of requesting additional measures to protect trout and trout habitat and we can recommend that the project require an individual '404' permit.
8. In streams that contain threatened or endangered species, NCDOT biologist Mr. Tim Savidge should be notified. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.
9. In streams that are used by anadromous fish, the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997)" should be followed.
10. In areas with significant fisheries for sunfish, seasonal exclusions may also be recommended.
11. Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.
12. Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.
13. All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.
14. Heavy equipment should 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.
15. Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural stream bottom when construction is completed.
16. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

If corrugated metal pipe arches, reinforced concrete pipes, or concrete box culverts are used:

1. The culvert must be designed to allow for fish passage. Generally, this means that the culvert or pipe invert is buried at least 1 foot below the natural stream bed. If

multiple cells are required the second and/or third cells should be placed so that their bottoms are at stream bankfull stage (similar to Lyonsfield design). This could be accomplished by constructing a low sill on the upstream end of the other cells that will divert low flows to another cell. This will allow sufficient water depth in the culvert or pipe during normal flows to accommodate fish movements. If culverts are long, notched baffles should be placed in reinforced concrete box culverts at 15 foot intervals to allow for the collection of sediments in the culvert, to reduce flow velocities, and to provide resting places for fish and other aquatic organisms moving through the structure.

2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.
3. Culverts or pipes should be situated so that no channel realignment or widening is required. Widening of the stream channel at the inlet or outlet of structures usually causes a decrease in water velocity causing sediment deposition that will require future maintenance.
4. Riprap should not be placed on the stream bed.

In most cases, we prefer 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 should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.

Project specific comments:

1. B-3404 – Anson County – Bridge No. 314 over South Fork Jones Creek. We have no specific comments. We are not aware of any threatened or endangered species in the project vicinity.
2. B-3421 – Cabarrus County – Bridge No. 266 over Norfolk and Southern Railway. No comment.
3. B-3822 – Catawba County – Bridge No. 8 over unnamed tributary to the Catawba River. We request that High Quality Sedimentation and Erosion Control Measures be used due to the DWQ water quality classification of WS-IV. We are not aware of any threatened or endangered species in the project vicinity.
4. B-3828 – Cleveland County – Bridge No. 233 over Buffalo Creek. We have no specific comments. We are not aware of any threatened or endangered species in the project vicinity.
5. B-3637 – Davie County – Bridge No. 37 over I-40. No comment.
6. B-3835 – Davie-Forsyth counties – Bridge No. 35 over the Yadkin River. We request that High Quality Sedimentation and Erosion Control Measures be used due to the DWQ water quality classification of WS-IV. We request that the new bridge span the adjacent wetlands

entirely. The old fill causeways should then be removed and graded to natural ground level. We are not aware of any threatened or endangered species in the project vicinity.

7. B-3454 – Forsyth County – Bridge No. 260 over Muddy Creek. We have no specific comments. We are not aware of any threatened or endangered species in the project vicinity.
8. B-3839 – Forsyth County – Bridge No. 139 over Fishers Branch. We have no specific comments. We are not aware of any threatened or endangered species in the project vicinity.
9. B-3840 – Gaston County – Bridge No. 52 over South Crowders Creek. We have no specific comments. We are not aware of any threatened or endangered species in the project vicinity.
10. B-3337 – Guilford County – Bridge No. 527 over North Buffalo Creek. We have no specific comments. We are not aware of any threatened or endangered species in the project vicinity.
11. B-3652 – Guilford County – Bridge No. 20 over the Deep River. SR 4121 crosses the Deep River just below the dam of High Point City Lake. This area supports good numbers of sunfish and may support a tailrace fishery. Therefore, we request that no in-water work be performed from April 1 to May 31. We request that High Quality Sedimentation and Erosion Control Measures be used due to the DWQ water quality classification of WS-IV. We are not aware of any threatened or endangered species in the project vicinity.
12. B-3851 – Guilford County – Bridge No. 21 over US 29/70. No comment.
13. B-3677 – Mecklenburg County – Bridge No. 36 over Greasy Creek. We have no specific comments. We are not aware of any threatened or endangered species in the project vicinity.
14. B-3506 – Randolph County – Bridge No. 226 over Richland Creek. Richland Creek is a medium sized stream that supports good populations of sunfish. Therefore, we request that no in-water work be performed from April 1 to May 31. We are not aware of any threatened or endangered species in the project vicinity.
15. B-3694 – Rockingham County – Bridge No. 55 over the Belews Lake Spillway. This bridge appears to be just downstream of the Belews Lake dam. This area supports good numbers of sunfish and may support a tailrace fishery. Therefore, we request that no in-water work be performed from April 1 to May 31. We request that High Quality Sedimentation and Erosion Control Measures be used due to the DWQ water quality classification of WS-IV. We are not aware of any threatened or endangered species in the project vicinity.
16. B-3700 – Stanly County – Bridge No. 187 over Long Creek. This segment of Long Creek may support the state listed Carolina darter. Therefore, we request that High Quality Sedimentation and Erosion Control Measures be used to minimize project impacts to this species.

We request that NCDOT routinely minimize adverse impacts to fish and wildlife resources in the vicinity of bridge replacements. The NCDOT should install and maintain sedimentation control measures throughout the life of the project and prevent wet concrete from contacting water in or entering into these streams. Replacement of bridges with spanning structures of some type, as opposed to pipe or box culverts, is recommended in most cases. Spanning structures allow wildlife passage along streambanks, reducing habitat fragmentation and vehicle related mortality at highway crossings.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (919) 528-9886. Thank you for the opportunity to review and comment on these projects.



North Carolina Department of Cultural Resources

James B. Hunt, Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
William S. Price, Jr., Director

January 3, 2001

MEMORANDUM

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

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

Re: Replace Bridge No. 527 on State Road 1001 over North Buffalo Creek,
B-3337, Guilford County, ER 01-8185

Thank you for your letter of November 15, 2000, concerning the above project.

We have conducted a review of the project and are aware of no properties of architectural, historic, or archaeological significance which would be affected by the project. Therefore, we have no comment on the project as currently proposed.

The above comments are made pursuant to Section 106 of 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

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

Project Description: Replace Bridge No. 527 on SR 1001 over North Buffalo Creek

On June 1, 2000, representatives of the

- North Carolina Department of Transportation (NCDOT)
- Federal Highway Administration (FHWA)
- North Carolina State Historic Preservation Office (SHPO)

Reviewed the subject project at

- a scoping meeting
- photograph review session/consultation
- other

All parties present agreed

- there are no properties over fifty years old within the project's area of potential effect.
- there are no properties less than fifty years old which are considered to meet Criterion Consideration G within the project's area of potential effect.
- there are properties over fifty years old (list attached) within the project's area of potential effect. but based on the historical information available and the photographs of each property, properties identified as _____ are considered not eligible for the National Register and no further evaluation of them is necessary.
- there are no National Register-listed properties located within the project's area of potential effect.

Signed:

Mary Pope 6-1-00
 Representative, NCDOT Date

Michael C. Dawson 6/1/00
 FHWA, for the Division Administrator, or other Federal Agency Date

April Montgomery 6/1/00
 Representative, SHPO Date

David Paul Deputy 6/9/00
 State Historic Preservation Officer Date

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



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 23, 2004

Mr. Jeff Harris
Guilford County Schools
131 Franklin Blvd.
Greensboro, NC 27401

Subject: Guilford County Bridge Replacements

Dear Mr. Harris:

This letter is to update you on the status of the replacement of three bridges in Guilford County. The North Carolina Department of Transportation has completed the project development and environmental analysis and begun the design phase for all three of the following projects.

Replacement of Guilford Co. Bridge No. 527 on SR 1001 (Church Street) over N. Buffalo Creek in Greensboro, Federal-Aid Project No. BRSTP-1001(18) State Project No. 8.294901, T.I.P. No. B-3337. This project replaces Bridge No. 527 at the existing location using stage construction to maintain traffic on-site during construction.

Replacement of Guilford County Bridge No. 21 on SR 3163 (Old US 421, Market Street) over US 29/70/220 in Greensboro, Federal Aid Project No. BRSTP-3163(3) State Project No. 8.2495901, T.I.P. No. B-3851. This project replaces the structure slightly north of the existing location. The construction will be staged and traffic will be maintained on-site during construction.

Replacement of Guilford County Bridge No. 20 on SR 4121 (High Point Road) over Deep River in Jamestown, State Project No. 8.2495801, Federal Project No. BRSTP-4121(2), TIP No B-3652. This project replaces the existing bridge on the existing alignment. A temporary detour structure and approaches will be provided to the south of the existing structure to maintain traffic on-site during construction.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

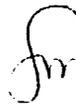
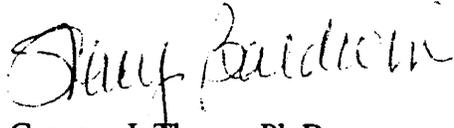
TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

The NCDOT is in the process of designing the proposed bridge replacements. If you would like to check the design status of this project please contact Ms. Cathy Houser, P.E. at NCDOT Design Services Unit at (919) 250-4128. Construction is anticipated to begin in 2005 for all three of these projects. If you have any questions or comments concerning the project development please contact Mr. Elmo Vance of the Branch at (919) 733-7844, extension 263.

Sincerely,



Gregory J. Thorpe, Ph.D.
Environmental Management Director,
Project Development and Environmental Analysis Branch

cc: Cathy Houser, P.E.
Stacy Baldwin, P.E.

LU11410



GUILFORD COUNTY SCHOOLS

December 4, 2000

William D. Gilmore
NC Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548

SUBJECT: Effects on Guilford County School Buses in Relation to Bridge Replacement Projects B-3337, B-3851 and B-3652.

Dear Mr. Gilmore:

The purpose of this letter is to respond with input solicited by NC DOT in regards to the above named bridge replacement projects. Transportation routing software, TIMS, was used to compile data concerning the number of crossings by buses daily and alternated routes available. Separated below by project number and description are the effects of each project to school bus routes and possible ways to overcome the project's impact.

Bridge Replacement Project B-3337, Replace Bridge No. 527 on SR 1001 (N. Church St)

Data indicates that arranged school bus routes cross this bridge approximately 58 times daily. SR 1001 or N. Church St. is a major thoroughfare for bus travel, connecting E. Wendover Ave. to E. Cone Blvd. This street is utilized to access an elementary school, a high school and a school bus parking site. Although travel on this section is frequent, the project does not present a problem. Bus routes would be altered as to detour around this project. Streets used as detours include Elm St., Yanceyville St., E. Cornwallis Dr. and E. Northwood St. Currently, there are no bus stops that could not be accessed because of this project.

Bridge Replacement Project B-3851, Replace Bridge No. 21 on SR 3163 (E. Market St)

Data indicates that arranged school bus routes cross this bridge approximately 65 times daily. SR 3163 or E. Market St. is a major thoroughfare for bus travel connecting East Greensboro to the downtown area. Closure of this bridge would present a minimal problem since this section is used to travel between neighborhoods on the east and west sides of US 29/70. Bus routes would be altered as to detour around this project. Streets used as detours to the north would include E. Bessemer Ave. and Sullivan St., to the south McConnell Rd. and E. Lee St. Currently, there are no bus stops that could not be accessed because of this project.

B U I L D I N G F U T U R E S

131 Franklin Boulevard Greensboro, NC 27401
Phone (336) 370-8920 Fax (336) 370-8930

Bridge Replacement Project B-3652, Replace Bridge No. 20 on SR 4121 (W. Main St/Old US 29/70)

Data indicates that arranged school bus routes cross this bridge approximately 41 times daily. SR 4121 or W. Main St is a major thoroughfare for bus travel connecting West Jamestown and East High Point to the High, Middle and Elementary Schools in that area. Although travel on this section is frequent, the project does not present a problem as long as buses can travel Parkside Dr. as a detour. Otherwise, if Parkside Dr. can not be used, travel will be detoured using Scientific Rd and Dillion/Ragsdale Rd to access the neighborhoods east and west of the bridge. Extra time will accrue on routes that are currently tight time wise. Therefore, some of the routes will experience a change in stop sequence or new routes may be created to accommodate the change.

In summary, the above named bridge replacement projects will not present unworkable problems for the Guilford County Schools Transportation Department.

Sincerely,



Jeff Harris

TIMS Program Administrator II
Guilford County Schools



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 16, 2004

Mr. Jim Westmoreland
Director of Transportation
P.O. Box 3136
Greensboro, NC 27402

Subject: Replacement of Guilford Co. Bridge No. 527 on SR 1001 (Church Street)
over N. Buffalo Creek in Greensboro, Federal-Aid Project No. BRSTP-1001(18)
State Project No. 8.294901, T.I.P. No. B-3337

Dear Mr. Westmoreland:

This letter is to update you on the status of the replacement of Bridge No. 527 on Church Street over N. Buffalo Creek in Greensboro. The North Carolina Department of Transportation has completed the project development and environmental analysis and begun the design phase. The preferred alternative replaces Bridge No. 527 at the existing location using stage construction to maintain traffic on-site during construction.

The NCDOT is in the process of designing the proposed bridge replacement at the existing location. If you would like to check the design status of this project please contact Ms. Cathy Houser, P.E. at NCDOT Design Services Unit at (919) 250-4128. Construction is anticipated to begin in 2005.

If you have any questions or comments concerning the project development please contact Mr. Elmo Vance of the Branch at (919) 733-7844, extension 263.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory J. Thorpe".

Gregory J. Thorpe, Ph.D.
Environmental Management Director,
Project Development and Environmental Analysis

Branch

cc: Cathy Houser, P.E.
Stacy Baldwin, P.E.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

November 16, 2001

William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Subject: Bridge Replacement Project, TIP Project B-3337

Dear Mr. Gilmore:

The City of Greensboro Department of Transportation appreciates the Opportunity to comment on the proposed bridge replacement project on Church Street (SR 1001) over Buffalo Creek in Greensboro.

At our meeting with Ron Elmore and Ken Burlison we discussed (1) the proposed project by GDOT to widen Church Street north and south of the bridge replacement project location; (2) the proposed alternatives for construction staging and environmental concerns with an adjacent Audubon Natural Area; and (3) a proposed Parks & Recreation trail that is proposed to cross Church Street within the project limits.

1. City of Greensboro has identified the need to widen Church Street from Northwood Street (south of the project site) to Cone Boulevard (north of the project site). Funds for the street widening project are being provided by a municipal bond and construction is planned to begin as soon as 2005. The cross-section of our proposed Church Street widening exceeds the width of the bridge replacement project. We propose that the bridge needs to accommodate 5 lanes with wide outside lanes for bicycle traffic and sidewalks on both sides.
2. We recommend that the Alternate 1 construction staging proposal be selected. The natural Area is leased to the City of Greensboro for 99 years by the landowner Cone Hospital. And the local chapter of the National Audubon Society has an agreement with the City of Greensboro to preserve the natural area.
3. The City's Parks & Recreation Department is planning to construct a trail through the natural area that will connect an existing trail west of the natural area to a proposed park in northeast Greensboro (please see attached map). The project is funded by municipal bonds and expected construction by 2003. The Parks & Recreation Department respectfully request that the design for the bridge include providing clearance for the trail to pass underneath thus eliminating an at-grade crossing.

I appreciate the efforts to include us in your project planning efforts and the requests we have put forward. Please contact me or Tyler Meyer should you have any questions or need any additional information.

Sincerely,

Jim Westmoreland, P.E.
Director of Transportation

Cc: Ken Burlison, TGS Engineering
Ron Elmore, NCDOT
Tyler Meyer, GDOT Planning Manager

Attachments

City of Greensboro
North Carolina

B-3337

November 6, 2001

Jim Westmoreland, P.E.
Director
Greensboro Department of Transportation
P.O. Box 3136
Greensboro, NC 27402

Dear Jim,

Attached please find a map of the proposed trail, through the Tankersley Drive natural area, associated with NCDOT's plans for a new bridge on Church Street over Buffalo Creek. (A copy of the lease for this natural area and the agreement between the City and the T. Gilbert Pearson Chapter of the Audubon Society are also attached for your records.)

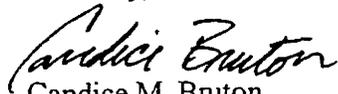
Through our request for a pedestrian underpass at this location, it is our desire to incorporate this new bridge into our plans for the Keeley Park Connector Route. As you may recall this bond project will connect the Latham Park Trail from its current terminus at Elm Street to Keeley Park by utilizing both sidewalk and trail. A pedestrian underpass will further our efforts considerably in making this connection.

Should there be an interim between the completion of the new bridge and the completion of the Keeley Park Greenway we would connect trail users to GDOT's future planned sidewalk on Church Street.

At your request we have reviewed NCDOT's bridge alternative options for this project. We found Alternative 1 to be suitable.

Please do not hesitate to call upon us for clarification of the enclosures.

Sincerely,



Candice M. Bruton
Assistant Trails Director
Greensboro Parks & Recreation Department
336-545-5961

RELOCATION REPORT

North Carolina Department of Transportation

E.I.S.
 CORRIDOR
 DESIGN

PROJECT:	B-3337	COUNTY:	Guilford	Alternate	1	of	1	Alternate	
I.D. NO.:	B-3337	F.A. PROJECT:	N/A						
DESCRIPTION OF PROJECT:		Replacement of bridge #527 on SR 1001 over Buffalo Creek							

ESTIMATED DISPLACEDS					INCOME LEVEL							
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	\$0 UP			
Residential	0	0	0	0	0	0	0	0	0			
Businesses	0	0	0	0	VALUE OF DWELLING			DSS DWELLING AVAILABLE				
Farms	0	0	0	0	Owners		Tenants		For Sale For Rent			
Non-Profit	0	0	0	0	0-20M	0	\$ 0-150	0	0-20M	1	\$ 0-150	0
					20-40M	0	150-250	0	20-40M	12	150-250	0
					40-70M	0	250-400	0	40-70M	60	250-400	0
					70-100M	0	400-600	0	70-100M	60	400-600	1
					100 UP	0	600 UP	0	100 UP	45	600 UP	11
					TOTAL	0		0		178		12

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.
	<input checked="" type="checkbox"/>	1. Will special relocation services be necessary?
	<input checked="" type="checkbox"/>	2. Will schools or churches be affect by displacement?
<input checked="" type="checkbox"/>		3. Will business services still be available after project?
	<input checked="" type="checkbox"/>	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	<input checked="" type="checkbox"/>	5. Will relocation cause a housing shortage?
	<input checked="" type="checkbox"/>	6. Source for available housing (list).
	<input checked="" type="checkbox"/>	7. Will additional housing programs be needed?
	<input checked="" type="checkbox"/>	8. Should Last Resort Housing be considered?
	<input checked="" type="checkbox"/>	9. Are there large, disabled, elderly, etc. families?
	<input checked="" type="checkbox"/>	10. Will public housing be needed for project?
<input checked="" type="checkbox"/>		11. Is public housing available?
<input checked="" type="checkbox"/>		12. Is it felt there will be adequate DSS housing available during relocation period?
	<input checked="" type="checkbox"/>	13. Will there be a problem of housing within financial means?
<input checked="" type="checkbox"/>		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? N/A

REMARKS (Respond by Number)

3. The services are available elsewhere.

Negative Report

11. Greensboro Housing Authority
 12. Several homes available in area.
 14. Business sites for rent available in area.

	10/2/03 Date		10-10-03 Date
Right of Way Agent		Approved by	