

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	<u><b>B-4839</b></u>
W.B.S. No.	<u><b>38609.1.FD1</b></u>
Federal Project No.	<u><b>BRZ-1006(026)</b></u>

A. Project Description:

The proposed project will replace Bridge No. 96 on SR 1006 (Grantham School Road) over Thoroughfare Swamp in Wayne County. Bridge No. 96 is 70 feet long with 24 feet of clear roadway width. The replacement structure will be a bridge approximately 100 feet long providing a minimum 27-foot 10-inch clear roadway width, consisting of two 11-foot lanes and 2-foot 11-inch offsets to the bridge rail. The bridge length is based on functional design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately one foot above the existing structure.

The approach roadway will extend approximately 500 feet from each end of the new bridge. The approaches will be widened to two 11-foot lanes and 2-foot paved shoulders. The widening will also include 2-foot grass shoulders on each side (7-foot grass shoulders where guardrail is included). The roadway will be designed as a Rural Collector using Sub-Regional Tier Guidelines with a 60 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1 and Section D).

The proposed project is included in the 2016-2025 North Carolina State Transportation Improvement Program (STIP). The project is scheduled for right-of-way acquisition and construction in state fiscal years 2018 and 2020, respectively.

B. Purpose and Need:

The purpose of the proposed project is to replace an obsolete bridge.

When this project was initially programmed in the STIP, NCDOT Bridge Management Unit records indicated Bridge No. 96 had a sufficiency rating of 17.41 out of a possible 100 for a new structure. The bridge was considered structurally deficient due to the substructure condition of 3 out of 9 according to Federal Highway Administration (FHWA) standards. The structure was also considered to be functionally obsolete due to the structural evaluation of 3 out of 9. Due to recent repairs to sustain the usefulness of the structure until its replacement, the sufficiency rating has increased to 44.46 out of a 100. Bridge No. 96 currently carries 1,200 vehicles per day (2016) and is expected to carry 1,500 vehicles per day by the year 2040. The posted weight limits for Bridge No. 96 are 19 tons for single vehicles and 28 tons for truck tractor semi-trailers.

Bridge No. 96 was built in 1954. The superstructure and substructure of Bridge No. 96 have timber elements that are 62 years old. Timber components have a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few elements are damaged or prematurely deteriorated. However, past a certain degree of

deterioration, most timber elements become impractical to maintain and upon eligibility are programmed for replacement. Timber components of Bridge No. 96 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities, therefore the bridge is approaching the end of its useful life.

C. Proposed Improvements:

Circle one or more of the following Type II improvements which apply to the project:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).
  - a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
  - b. Widening roadway and shoulders without adding through lanes
  - c. Modernizing gore treatments
  - d. Constructing lane improvements (merge, auxiliary, and turn lanes)
  - e. Adding shoulder drains
  - f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
  - g. Providing driveway pipes
  - h. Performing minor bridge widening (less than one through lane)
  - i. Slide Stabilization
  - j. Structural BMP's for water quality improvement
2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.
  - a. Installing ramp metering devices
  - b. Installing lights
  - c. Adding or upgrading guardrail
  - d. Installing safety barriers including Jersey type barriers and pier protection
  - e. Installing or replacing impact attenuators
  - f. Upgrading medians including adding or upgrading median barriers
  - g. Improving intersections including relocation and/or realignment
  - h. Making minor roadway realignment
  - i. Channelizing traffic
  - j. Performing clear zone safety improvements including removing hazards and flattening slopes
  - k. Implementing traffic aid systems, signals, and motorist aid
  - l. Installing bridge safety hardware including bridge rail retrofit
3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
  - a. Rehabilitating, reconstructing, or replacing bridge approach slabs
  - b. Rehabilitating or replacing bridge decks
  - c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
  - d. Replacing a bridge (structure and/or fill)

4. Transportation corridor fringe parking facilities.
5. Construction of new truck weigh stations or rest areas.
6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
7. Approvals for changes in access control.
8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.
10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.
13. Acquisition and construction of wetland, stream and endangered species mitigation sites.
14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

The estimated costs, based on 2016 prices, are as follows:

Total Construction Cost	\$ 975,000
Right-of-way Costs	0
Right-of-way Utility Costs	27,300
Total Project Cost	\$ 1,002,300

The total cost included in the 2016-2025 STIP for the project is \$1,155,000, which includes \$105,000 for right of way acquisition and \$1,050,000 for construction.

**Estimated Traffic:**

Base Year 2016	-	1,200 vpd
Design Year 2040	-	1,500 vpd
TTST	-	6%
Dual	-	Unknown

**Accidents:** There were no reported crashes in the vicinity of the project during the three-year period between February 2012 and February 2015.

**Design Exceptions:** There are no anticipated design exceptions for this project.

**Pedestrian and Bicycle Accommodations:** This portion of SR 1006 is not a part of a designated bicycle route nor is it listed in the STIP as a bicycle project. Neither permanent nor temporary bicycle or pedestrian accommodations are required for this project.

**Bridge Demolition:** Bridge No. 96 will be removed and replaced using top-down construction methods which will result in no fill in the stream.

**Alternatives Considered:**

**No Build** – The no build alternative would result in eventually closing the road which is unacceptable given the volume of traffic served by SR 1006.

**Rehabilitation** – The bridge was constructed in 1954 and the timber materials within the bridge are reaching the end of their useful life. Rehabilitation would require replacing the timber components which would constitute effectively replacing the bridge.

**Offsite Detour** – Bridge No. 96 will be replaced on the existing alignment. Traffic will be detoured offsite (see Figure 1) during the construction period. The offsite detour for this project would include SR 1108, SR 1110, NC 55 and SR 1111. The majority of traffic on the road is through traffic. The detour is approximately six miles long and would result in 2.5 miles of additional travel for the average road user.

Based on NCDOT detour evaluation guidelines, an offsite detour is preferred for this project. At the field scoping meeting, it was determined Wayne

County School buses can operate with an offsite detour utilizing existing driveways for turnarounds. The condition of all roads, bridges and intersections along the detour are acceptable without improvement. The Wayne County EMS Director response stated that the overall impact on emergency response services would be low if the bridge was closed for up to a year.

**Onsite Detour** – An onsite detour was not evaluated due to the presence of an acceptable offsite detour.

**Staged Construction** – Staged construction was not considered because an acceptable offsite detour was available and the cored slab bridge is not suitable for staged construction.

**New Alignment** – Given that the alignment for SR 1006 is acceptable, a new alignment was not considered as an alternative.

**Other Agency Comments:**

A request for input was sent to external agencies in January 2015. No comments have been received to date.

**Public Involvement:**

A letter was sent to all property owners affected directly by this project in February 2015. Property owners were invited to comment. No comments have been received to date.

E. Threshold Criteria

The following evaluation of threshold criteria must be completed for Type II actions.

<u>ECOLOGICAL</u>	<u>YES</u>	<u>NO</u>
(1) Will the project have a substantial impact on any unique or important natural resource?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) Does the project involve habitat where federally listed endangered or threatened species may occur?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Will the project affect anadromous fish?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(4) If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(5) Will the project require the use of U. S. Forest Service lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(6) Will the quality of adjacent water resources be adversely impacted by proposed construction activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(7) Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(8) Will the project require fill in waters of the United States in any of the designated mountain trout counties?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(9) Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>PERMITS AND COORDINATION</u>	<u>YES</u>	<u>NO</u>
(10) If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(11) Does the project involve Coastal Barrier Resources Act resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(12) Will a U. S. Coast Guard permit be required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(13) Could the project result in the modification of any existing regulatory floodway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(14) Will the project require any stream relocations or channel changes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

	<u>YES</u>	<u>NO</u>
(15) Will the project induce substantial impacts to planned growth or land use for the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(16) Will the project require the relocation of any family or business?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(17) Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(18) If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(19) Will the project involve any changes in access control?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(20) Will the project substantially alter the usefulness and/or land use of adjacent property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(21) Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(22) Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(23) Is the project anticipated to cause an increase in traffic volumes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(24) Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(25) If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(26) Is there substantial controversy on social, economic, or environmental grounds concerning the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(27) Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(28) Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(29) Will the project affect any archaeological remains which are important to history or pre-history?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- |      |   |                          |                     |
|------|---|--------------------------|---------------------|
| (30) | Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)? | <input type="checkbox"/> | <u>  <b>X</b>  </u> |
| (31) | Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?  | <input type="checkbox"/> | <u>  <b>X</b>  </u> |
| (32) | Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?   | <input type="checkbox"/> | <u>  <b>X</b>  </u> |

F. Additional Documentation Required for Unfavorable Responses in Part E

**Response to Question 2:** Although not listed for Wayne County, the US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration, the US Army Corps of Engineers, and NCDOT for the northern long-eared bat (NLEB) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is “May Affect, Likely to Adversely Affect”. The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Wayne County.

**Response to Question 4:** Approximately 0.16 acres of wetland will be temporarily impacted during construction, assuming temporary impacts extend 25-feet from the slope stakes shown in the functional design.

**Response to Question 13:** Wayne County is a participant in the Federal Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). The project is within a Flood Hazard Zone, designated as Zone AE, for which the 100-year base flood elevations and corresponding non-encroachment area have been established. The NCDOT Hydraulics Unit will coordinate with FEMA to determine if a Conditional Letter of Map Revision (CLOMR) and a subsequent final Letter of Map Revision (LOMR) are required for this project. If required, the Division will submit sealed as-built construction plans to the Hydraulics Unit upon project completion certifying the project was built as shown on the construction plans.



G. CE Approval

TIP Project No.	<u>B-4839</u>
W.B.S. No.	<u>38609.1.FD1</u>
Federal Project No.	<u>BRZ-1006(026)</u>

Project Description:

The proposed project will replace Bridge No. 96 on SR 1006 (Grantham School Road) over Thoroughfare Swamp in Wayne County. Bridge No. 96 is 70 feet long with 24 feet of clear roadway width. The replacement structure will be a bridge approximately 100 feet long providing a minimum 27-foot 10-inch clear roadway width, consisting of two 11-foot lanes and 2-foot 11-inch offsets to the bridge rail. The bridge length is based on functional design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately one foot above the existing structure.

The approach roadway will extend approximately 500 feet from each end of the new bridge. The approaches will be widened to include a 26-foot pavement width providing two 11-foot lanes and 2-foot paved shoulders. The widening will also include 2-foot grass shoulders on each side (7-foot grass shoulders where guardrail is included). The roadway will be designed as a Rural Collector using Sub-Regional Tier Guidelines with a 60 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1).

Categorical Exclusion Action Classification:

TYPE II(A)  
 TYPE II(B)

Prepared By:

11/29/2016

Date

DocuSigned by:  
*Aaron M. Heustess*  
022B74744832464...  
Consultant Project Manager  
Aaron Heustess, P.E., Kimley-Horn and Associates, Inc.

Approved:

11/29/2016

Date

DocuSigned by:  
*James McInnis, Jr.*  
08B0E38DDF8141B...  
James McInnis, Jr., PE  
Project Engineer  
Project Development & Environmental Analysis Unit

11/29/2016

Date

DocuSigned by:  
*Gregory M. Blakeney*  
0A7CD76F1017425...  
Gregory Blakeney  
Project Planning Engineer  
Project Development & Environmental Analysis Unit

For Type II(B) projects only:

11/30/2016

Date

For

DocuSigned by:  
*William G. Marley III*  
F27AAAAB09D144E...  
John F. Sullivan, III, PE, Division Administrator  
Federal Highway Administration

**PROJECT COMMITMENTS:**

**Wayne County  
Bridge No. 96 on SR 1006  
Over Thoroughfare Swamp  
Federal-Aid Project BRZ-1006(026)  
WBS No. 38609.1.FD1  
TIP Project B-4839**

**Division Four Construction, Resident Engineer's Office – Offsite Detour**

In order to have time to adequately reroute school buses, Wayne County Schools will be contacted at (919) 705-6084 at least one month prior to road closure.

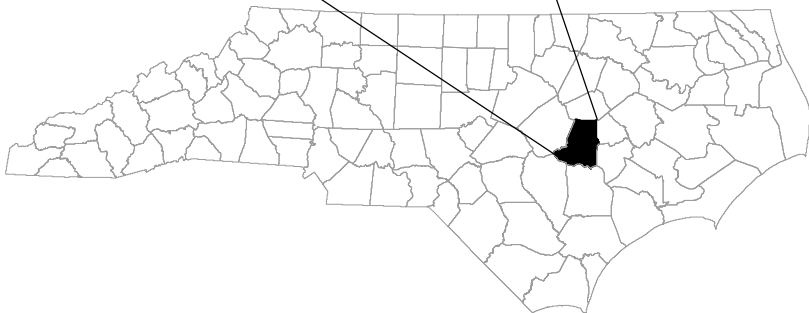
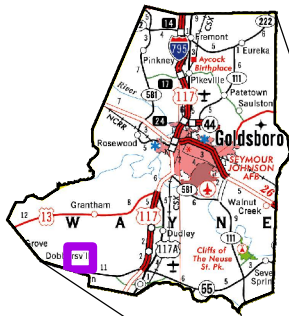
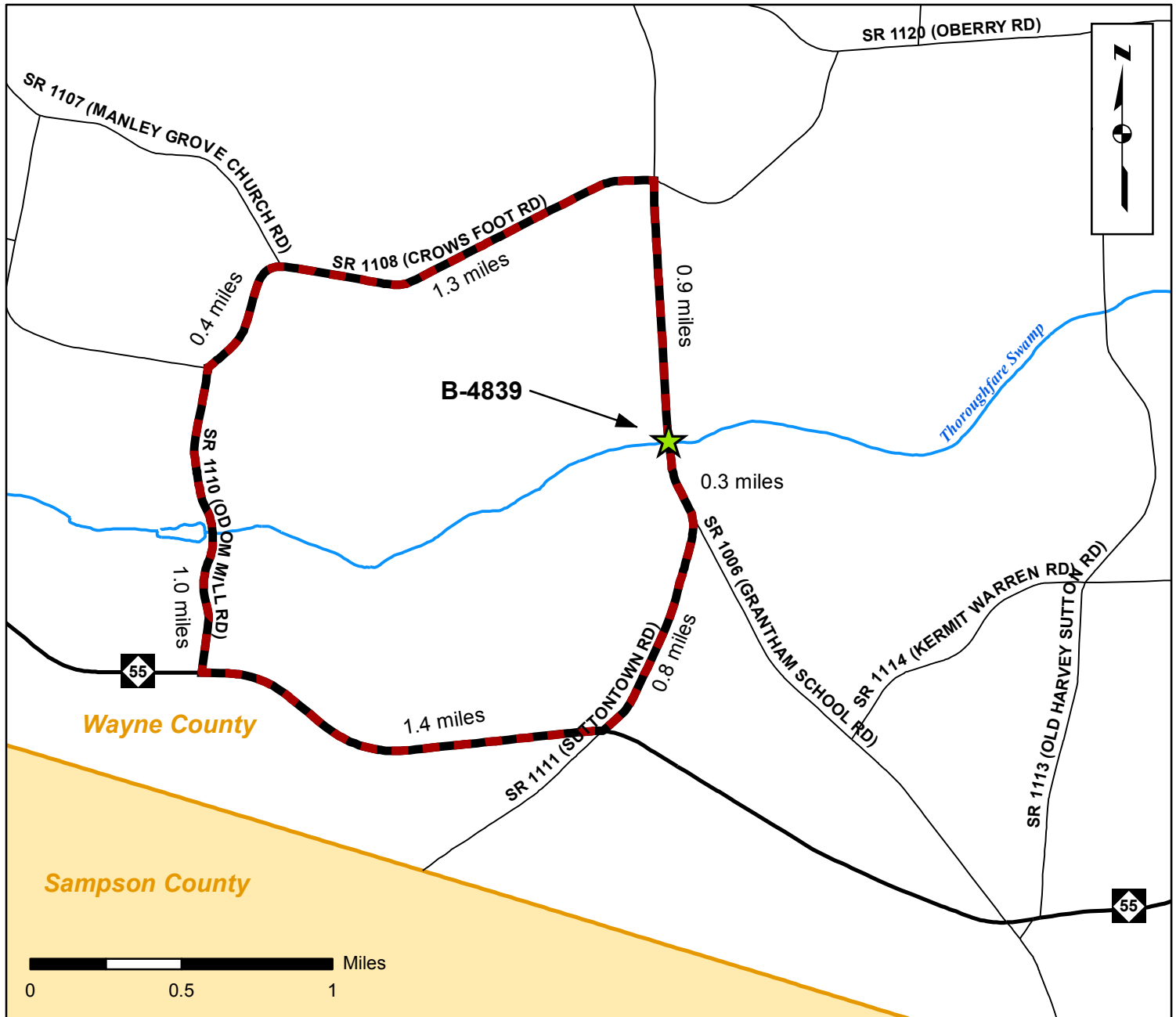
Wayne County Emergency Services will be contacted at (919) 731-1416 at least one month prior to road closure to make the necessary temporary reassignments to primary response units.


**Hydraulics Unit – FEMA Coordination**

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

**Division Construction-FEMA**

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.



 B-4839 Studied Detour Route



NORTH CAROLINA DEPARTMENT OF  
TRANSPORTATION  
DIVISION OF HIGHWAYS  
PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS UNIT

**WAYNE COUNTY  
REPLACE BRIDGE NO. 96 ON SR 1006  
OVER THOROUGHFARE SWAMP  
TIP PROJECT B-4839  
VICINITY MAP**

Figure 1



**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION  
**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

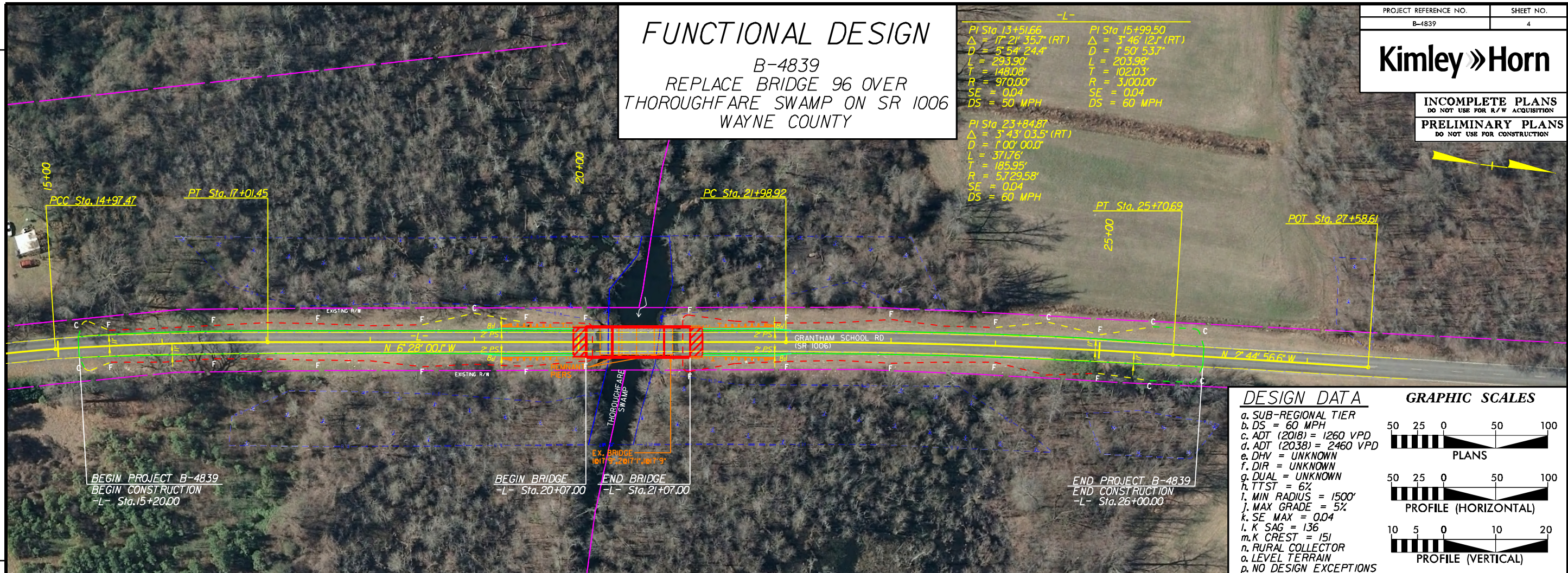
# FUNCTIONAL DESIGN

B-4839  
REPLACE BRIDGE 96 OVER  
THOROUGHFARE SWAMP ON SR 1006  
WAYNE COUNTY

PI Sta. 13+51.66  
Δ = 17° 21' 35.7" (RT)  
D = 5° 54' 24.4"  
L = 293.90'  
T = 148.08'  
R = 970.00'  
SE = 0.04  
DS = 50 MPH

PI Sta. 15+99.50  
Δ = 3° 46' 12" (RT)  
D = 1° 50' 53.7"  
L = 203.98'  
T = 102.03'  
R = 3,100.00'  
SE = 0.04  
DS = 60 MPH

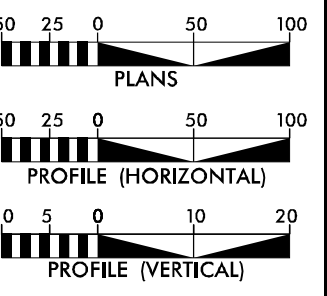
PI Sta. 23+84.87  
Δ = 5° 43' 03.5" (RT)  
D = 1° 00' 00.0"  
L = 371.76'  
T = 185.95'  
R = 5,729.58'  
SE = 0.04  
DS = 60 MPH



### DESIGN DATA

- a. SUB-REGIONAL TIER
- b. DS = 60 MPH
- c. ADT (2018) = 1260 VPD
- d. ADT (2038) = 2460 VPD
- e. DHV = UNKNOWN
- f. DIR = UNKNOWN
- g. DUAL = UNKNOWN
- h. TTST = 6%
- i. MIN RADIUS = 1500'
- j. MAX GRADE = 5%
- k. SE MAX = 0.04
- l. K SAG = 136
- m. K CREST = 151
- n. RURAL COLLECTOR
- o. LEVEL TERRAIN
- p. NO DESIGN EXCEPTIONS

### GRAPHIC SCALES

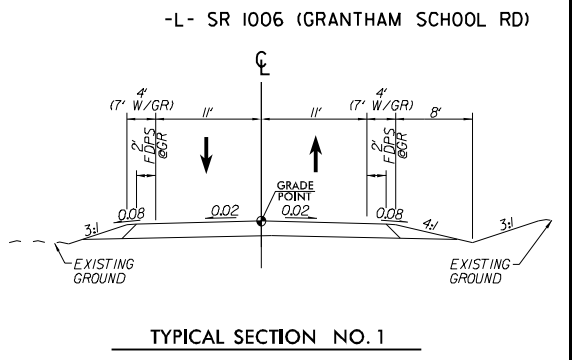
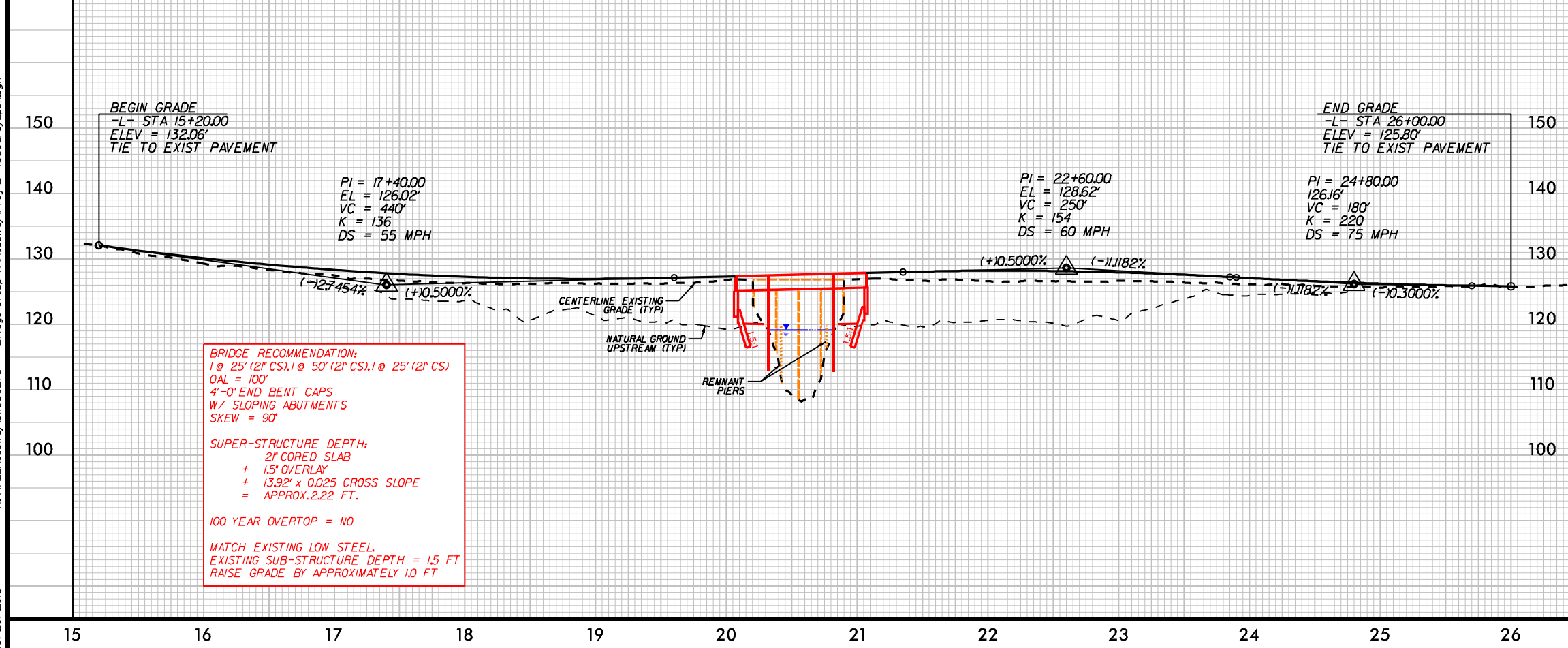


BEGIN PROJECT B-4839  
BEGIN CONSTRUCTION  
-L- Sta. 15+20.00

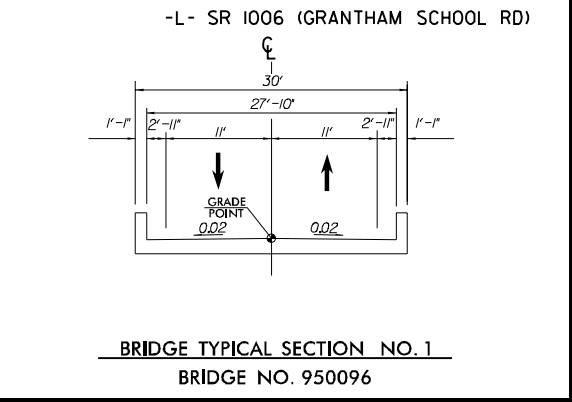
BEGIN BRIDGE  
-L- Sta. 20+07.00

END BRIDGE  
-L- Sta. 21+07.00

END PROJECT B-4839  
END CONSTRUCTION  
-L- Sta. 26+00.00



NOTE: CROSS SLOPE = 0.025 WHERE LONGITUDINAL GRADE < 0.5%



BRIDGE TYPICAL SECTION NO. 1  
BRIDGE NO. 950096

REVISIONS

K:\PAL\_Roadway\01026273 - Bridge Group\Roadway\Pro\B-4839\_rdy\_dsl.dgn 10/29/2015