

MINIMUM CRITERIA DETERMINATION CHECKLIST

TIP Project No. B-4840
W.B.S. Project No. 38610.1.1

Project Location: Bridge No. 264 on SR 1117 over Thunder Swamp in Wayne County

Project Description: The proposed project involves replacing Bridge No. 264 on SR 1117 (Thunder Swamp Road) over Thunder Swamp in Wayne County. The proposed project is included in the 2016-2025 North Carolina State Transportation Improvement Program (STIP). Right of way acquisition and construction are scheduled for state fiscal years 2018 and 2019, respectively, in the draft 2017-2027 STIP.

Bridge No. 264 is 53 feet long with a clear roadway width of 24 feet. The bridge is expected to carry 1,240 vehicles per day in the design year (2038). The posted weight limit on the bridge is 19 tons for single vehicles and 25 tons for truck-tractor semi-trailers. The bridge was constructed in 1951 and is approaching the end of its useful life.

The replacement structure will be a bridge approximately 100 feet long providing a 27-foot 10-inch clear deck width. The bridge will include two 10-foot lanes and 3-foot 11-inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately the same as the existing structure.

Construction along SR 1117 will extend approximately 350 feet from the south end of the new bridge and 300 feet from the north end of the new bridge. The existing approaches will be widened to 20 feet with two 10-foot lanes, and 3-foot grass shoulders will be provided on each side (6-foot shoulders where guardrail is included). The roadway will be designed as a Rural Local Route using Sub-Regional Tier Guidelines with a 60 mile per hour design speed.

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

The total cost for the project included in the draft 2017-2027 STIP is \$850,000. Of this total, \$75,000 is for right of way acquisition and \$775,000 is for construction. Current cost estimates for the project are as follows:

Right of Way Acquisition:	\$0
Utilities:	\$62,000
<u>Construction:</u>	<u>\$925,000</u>
Total:	\$987,000

These estimates are based on the functional design. As project development continues in the design phase, project costs will be updated.

Purpose and Need: The purpose of the proposed project is to replace a deficient and functionally obsolete bridge. NCDOT Bridge Management Unit records indicate Bridge No. 264 has a sufficiency rating of 28.24 out of a possible 100 for a new structure.

Anticipated Permit or Consultation Requirements: A Nationwide Permit (NWP) 3 (maintenance) will likely be required for impacts to “Waters of the United States” resulting

from this project. Other permits that may apply include a NWP No. 33 for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge demolition. The corresponding Water Quality Certifications (likely 4085 and 4094) will also be required.

The US Army Corps of Engineers holds the final discretion as to what permit will be required for the project.

Environmental Commitments: The list of project commitments is located at the end of the checklist.

Pedestrian and Bicycle Accommodations: This portion of SR 1117 is not a part of a designated bicycle route nor is it listed in the STIP as a bicycle project. No temporary bicycle or pedestrian accommodations are required for this project.

Bridge Demolition: Bridge No. 264 is constructed entirely of timber and steel. Based on standard demolition practices, it should be possible to remove with no resulting debris in the water.

Alternatives Considered:

No Build – The no build alternative would result in eventually closing the road. Given the volume of traffic served by SR 1117, this is not acceptable.

Rehabilitation – Rehabilitation of the old bridge is not practical due to its age and deteriorated condition.

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 of the availability of an acceptable offsite detour.

New Alignment – Given that the alignment for SR 1117 is acceptable, a new alignment was not considered as an alternative.

Offsite Detour – Bridge No. 264 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 will include NC 55, SR 1117, and SR 1140. The majority of traffic on the road is through traffic. The detour for the average road user would result in 2.2 miles of additional travel. School bus service in the area will be maintained by utilizing existing driveways for turnarounds.

Public Involvement:

A landowner notification 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.

PART A: MINIMUM CRITERIA

- | | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 1. Will the proposed project involve land disturbing activity of more than ten acres that will result in substantial, permanent changes in the natural cover or topography of those lands? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Will the proposed project require the expenditure of more than ten million dollars in public funds? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Is the proposed project listed as a type and class of activity which would qualify as a Non-Major Action under the Minimum Criteria rules? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

If “yes”, under which category?

Category #9

(Note: If either Category #8 or #15 is used, complete Part D of this checklist.)

If “yes” is selected for either Question 1 or 2 and “no” is selected for Question 3, then the project does not qualify as a Non-Major Action. A state environmental impact statement (SEIS) or state environmental assessment (SEA) will be required.

PART B: MINIMUM CRITERIA EXCEPTIONS

- | | YES | NO |
|--|--------------------------|-------------------------------------|
| 4. Does the proposed activity have a significant adverse effect on wetlands; surface waters such as rivers, streams, and estuaries; parklands; prime or unique agricultural lands; or areas of recognized scenic, recreational, archaeological, or historical value? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Will the proposed activity endanger the existence of a species on the Department of Interior’s threatened and endangered species list? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Would the proposed activity cause significant changes in land use concentrations that would be expected to create adverse air quality impacts? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Would the proposed activity cause significant changes in land use concentrations that would be expected to create adverse water quality or groundwater impacts? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Is the proposed activity expected to have a significant adverse effect on long-term recreational benefits? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Is the proposed activity expected to have a significant adverse effect on shellfish, finfish, wildlife, or their natural habitats? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. Will the proposed activity have secondary impacts or cumulative impacts that may result in a significant adverse impact to human health or the environment? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11. Is the proposed activity of such an unusual nature or does the proposed activity have such widespread implications, that an uncommon concern for its environmental effects has been expressed to NCDOT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Note: If any of Questions 4 through 11 in part B are answered “YES”, the proposed project does not qualify as a Non-Major Action. A SEIS or SEA will be required.

PART C: COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

YES NO

Ecological Impacts

- | | | | |
|-----|--|-------------------------------------|-------------------------------------|
| 12. | Is a federally protected threatened or endangered species, or its habitat, likely to be impacted by the proposed action? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 13. | Does the action require the placement of fill in waters of the United States? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 14. | Does the project require the placement of a significant amount of fill in high quality or relatively rare wetland ecosystems, such as mountain bogs or pine savannahs? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 15. | Does the project require stream relocation or channel changes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 16. | Is the proposed action located in an Area of Environmental Concern, as defined in the Coastal Area Management Act? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Cultural Resources

- | | | | |
|-----|---|--------------------------|-------------------------------------|
| 17. | Will the project have an “effect” on a property or site listed on the National Register of Historic Places? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 18. | Will the proposed action require acquisition of additional right of way from publicly owned parkland or recreational areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Question 12: 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 year for all NCDOT project with a federal nexus in Divisions 1-8, which includes Wayne County.

Question 13: The new bridge will require the placement of bents in the water and rip-rap on end slopes. This work is considered placement of fill in Waters of the US. In addition, the project will impact approximately 0.75 acres of wetland. This area is based on the functional design slope stakes (construction limit) plus a forty-foot buffer.

PART D: (To be completed when either category #8 or #15 of the rules is used.)

- 19. Project length:
 - 20. Right of Way width:
 - 21. Total Acres of Disturbed Ground Surface:
 - 22. Total Acres of Wetland Impacts:
 - 23. Total Linear Feet of Stream Impacts:
 - 24. Project Purpose:
-

Prepared by:

4/18/2017	<small>DocuSigned by:</small> <i>Aaron M. Heustess</i> <small>022B74744832464</small>
Date	Aaron Heustess, PE Consultant Project Manager Kimley-Horn and Associates, Inc

Reviewed by:

4/18/2017	<small>DocuSigned by:</small> <i>Gregory M. Blakeney</i> <small>0A7CD75F10174B5...</small>
Date	Greg Blakeney Project Planning Engineer Project Development & Environmental Analysis Unit

4/18/2017	<small>DocuSigned by:</small> <i>James McInnis Jr.</i> <small>08B0E38DDF8141B...</small>
Date	James McInnis Jr, PE Project Engineer Project Development & Environmental Analysis Unit

PROJECT COMMITMENTS:

**Wayne County
Bridge No. 264 on SR 1117
Over Thunder Swamp
W.B.S. No. 38610.1.1
STIP Project B-4840**

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.

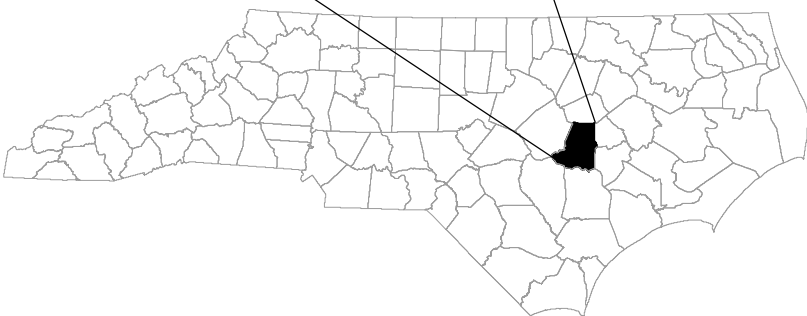
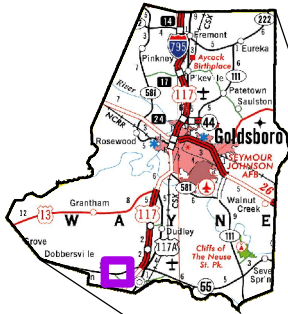
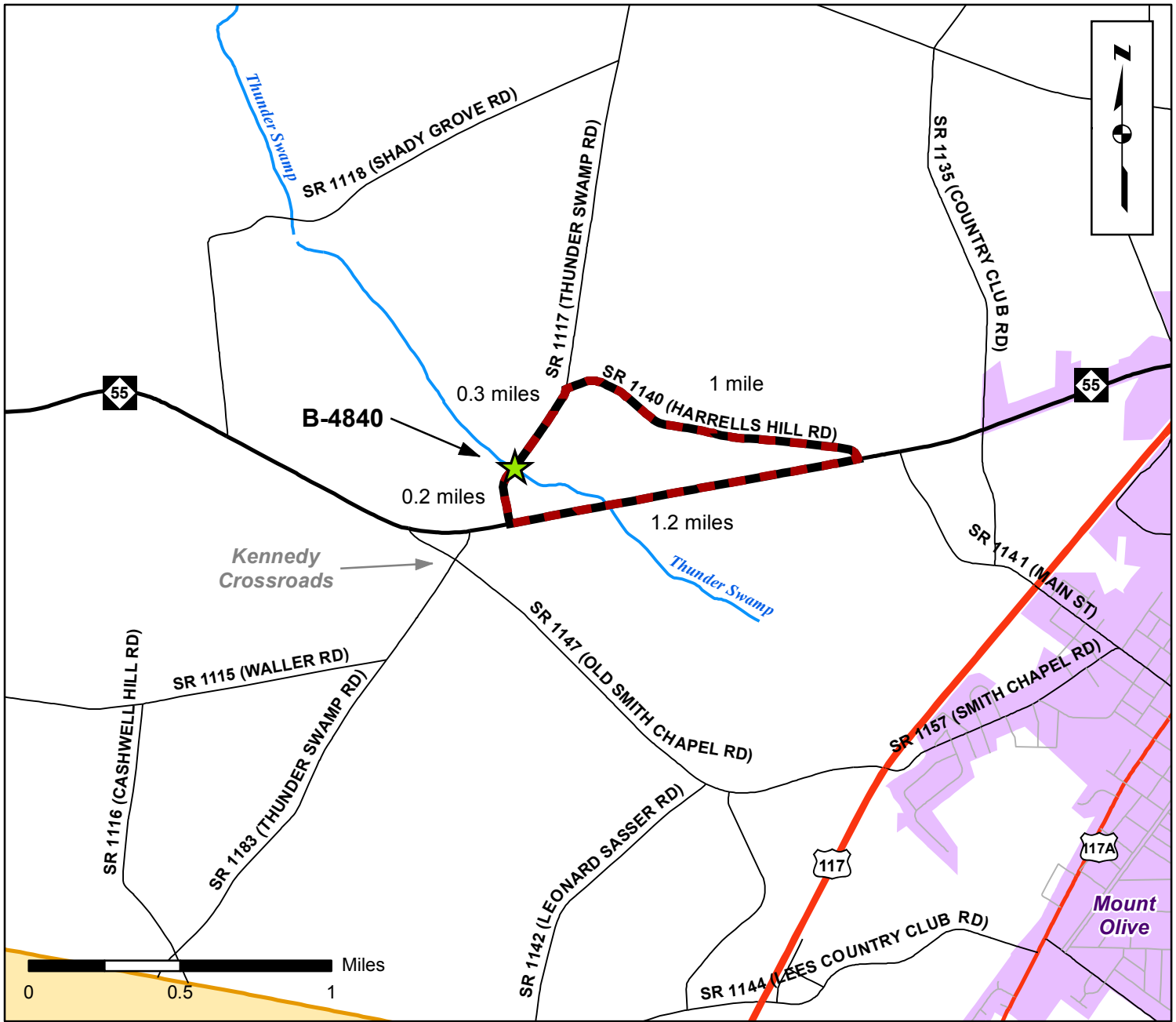
Wayne County Emergency Services will be contacted at (919) 731-1416 at least one month prior to road closure to make the necessary temporary reassignments to primary response units.


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-4840 Studied Detour Route



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

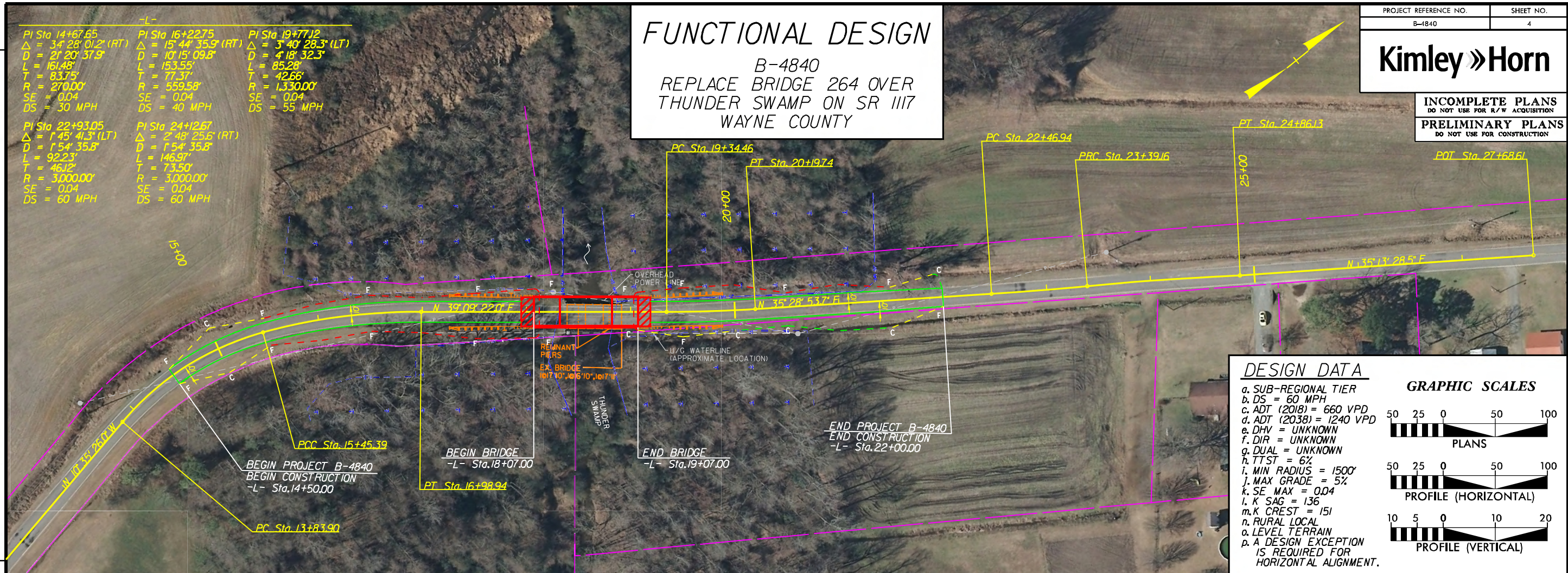
**WAYNE COUNTY
REPLACE BRIDGE NO. 264 ON SR 1117
OVER THUNDER SWAMP
TIP PROJECT B-4840
VICINITY MAP**

Figure 1

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

FUNCTIONAL DESIGN
B-4840
REPLACE BRIDGE 264 OVER
THUNDER SWAMP ON SR III7
WAYNE COUNTY

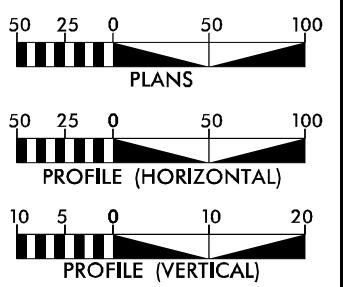
-L-		
PI Sta 14+67.65 Δ = 34° 28' 01.2" (RT) D = 21' 20" 37.9" L = 161.48' T = 83.75' R = 270.00' SE = 0.04 DS = 30 MPH	PI Sta 16+22.75 Δ = 15° 44' 35.9" (RT) D = 10' 15" 09.8" L = 153.55' T = 77.37' R = 559.58' SE = 0.04 DS = 40 MPH	PI Sta 19+77.12 Δ = 3° 40' 28.3" (LT) D = 4' 18" 32.3" L = 85.28' T = 42.66' R = 1,330.00' SE = 0.04 DS = 55 MPH
PI Sta 22+93.05 Δ = 1° 45' 41.3" (LT) D = 1' 54" 35.8" L = 92.23' T = 46.12' R = 3,000.00' SE = 0.04 DS = 60 MPH	PI Sta 24+12.67 Δ = 2° 48' 25.6" (RT) D = 1' 54" 35.8" L = 146.97' T = 73.50' R = 3,000.00' SE = 0.04 DS = 60 MPH	



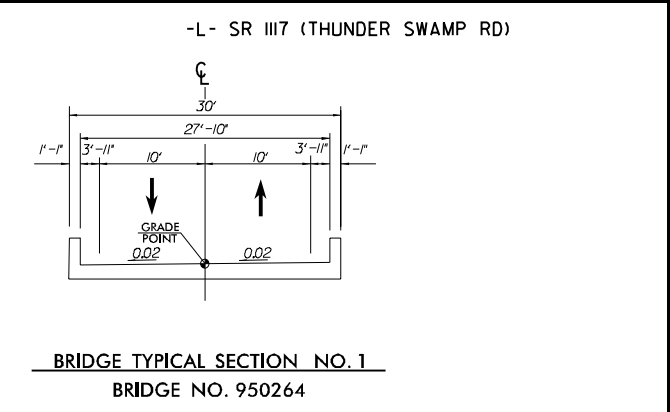
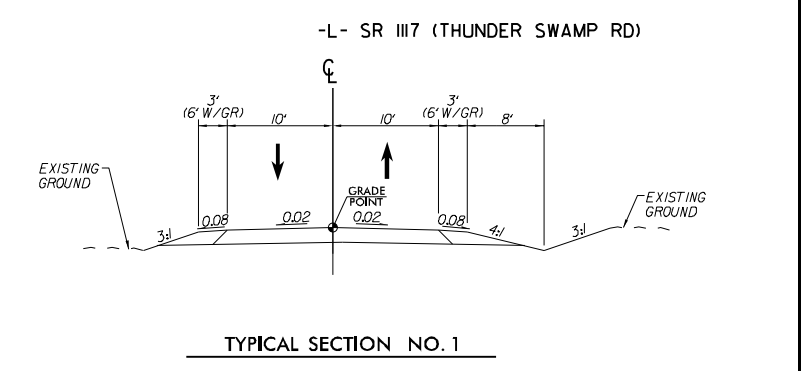
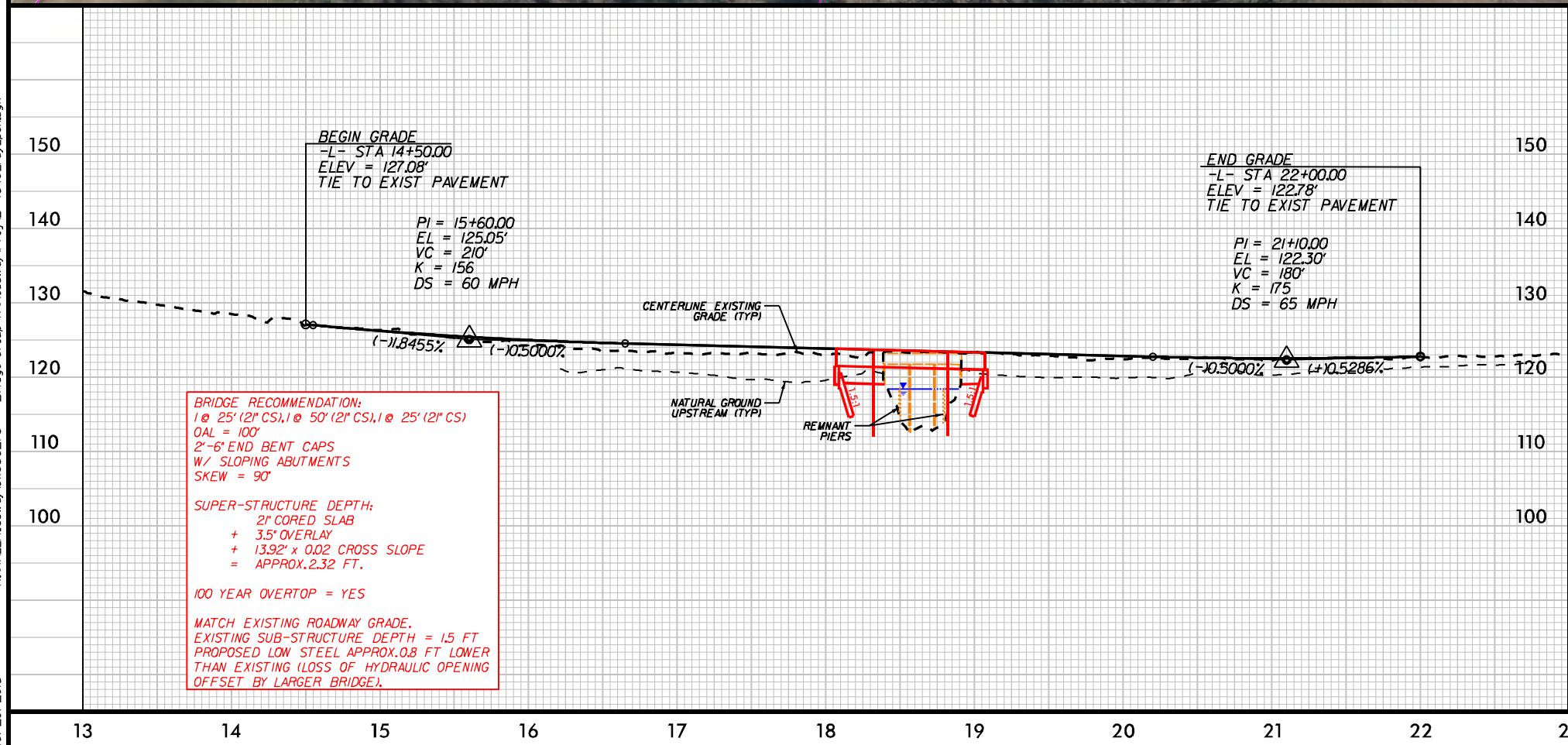
DESIGN DATA

- a. SUB-REGIONAL TIER
- b. DS = 60 MPH
- c. ADT (2018) = 660 VPD
- d. ADT (2038) = 1240 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 LOCAL
- o. LEVEL TERRAIN
- p. A DESIGN EXCEPTION IS REQUIRED FOR HORIZONTAL ALIGNMENT.

GRAPHIC SCALES



REVISIONS



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