



Permit Drawings Review Meeting

R-2828 – East of US 401 to I-40/US-70 Interchange

Interagency Meeting

August 1, 2019

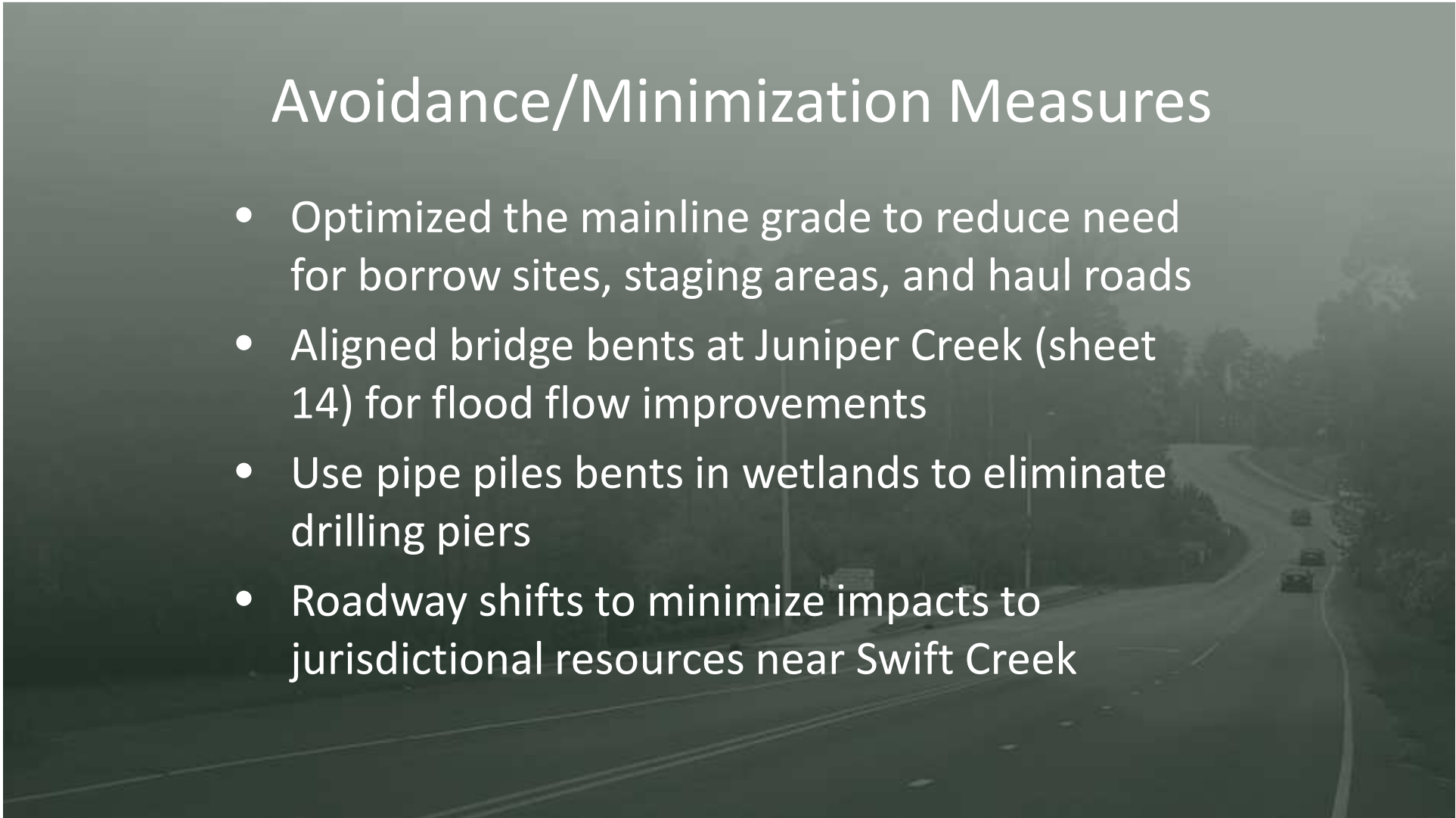
Project History

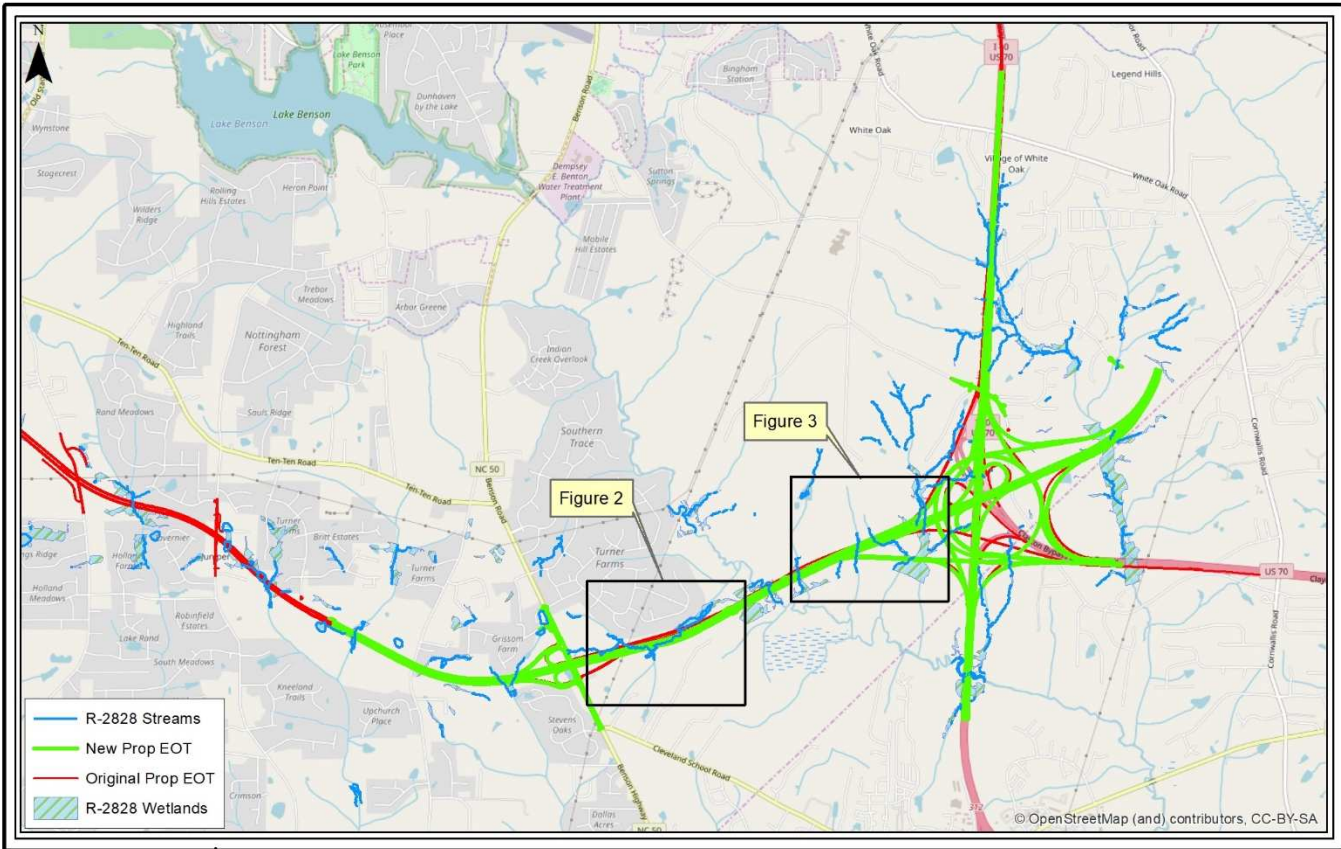
- Section 6002 Coordination Plan
- Permit application submitted September 12, 2018
- Phased permit for R-2828
- Project awarded to Lane/Blythe 11/21/18
- Quasi-4B Meeting 5/9/19
- Quasi-4C Meeting 8/1/19



Avoidance/Minimization Measures

- Optimized the mainline grade to reduce need for borrow sites, staging areas, and haul roads
- Aligned bridge bents at Juniper Creek (sheet 14) for flood flow improvements
- Use pipe piles bents in wetlands to eliminate drilling piers
- Roadway shifts to minimize impacts to jurisdictional resources near Swift Creek

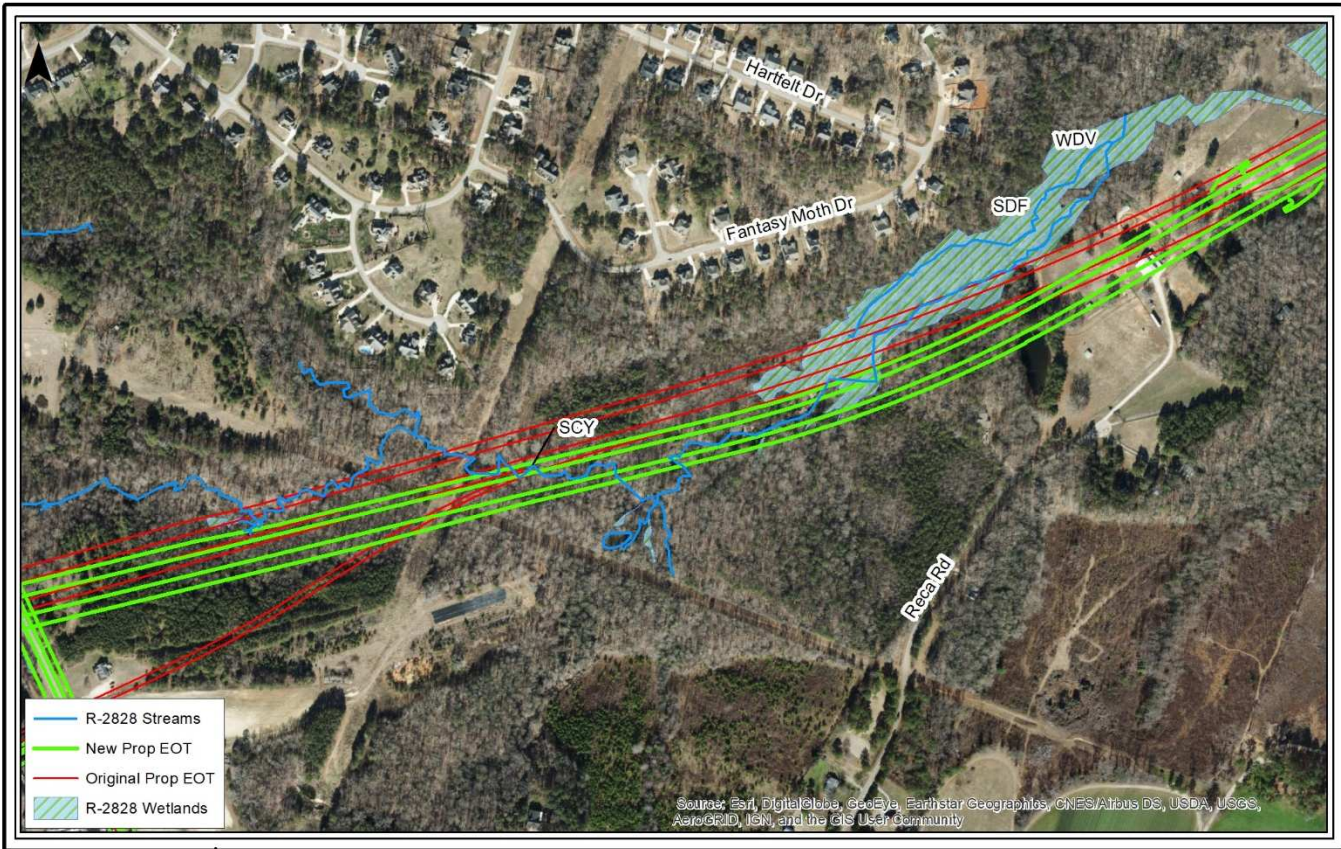




Roadway Shift
over Swift Creek Wetlands
 Complete 540 Triangle Expressway
 Southeast Extension:
 R-2828
 Wake County, North Carolina

Date: May 2019
 Scale: 0 1,000 2,000 Feet
 Job No.: 18-105
 Drawn By: NMS Checked By: MGW

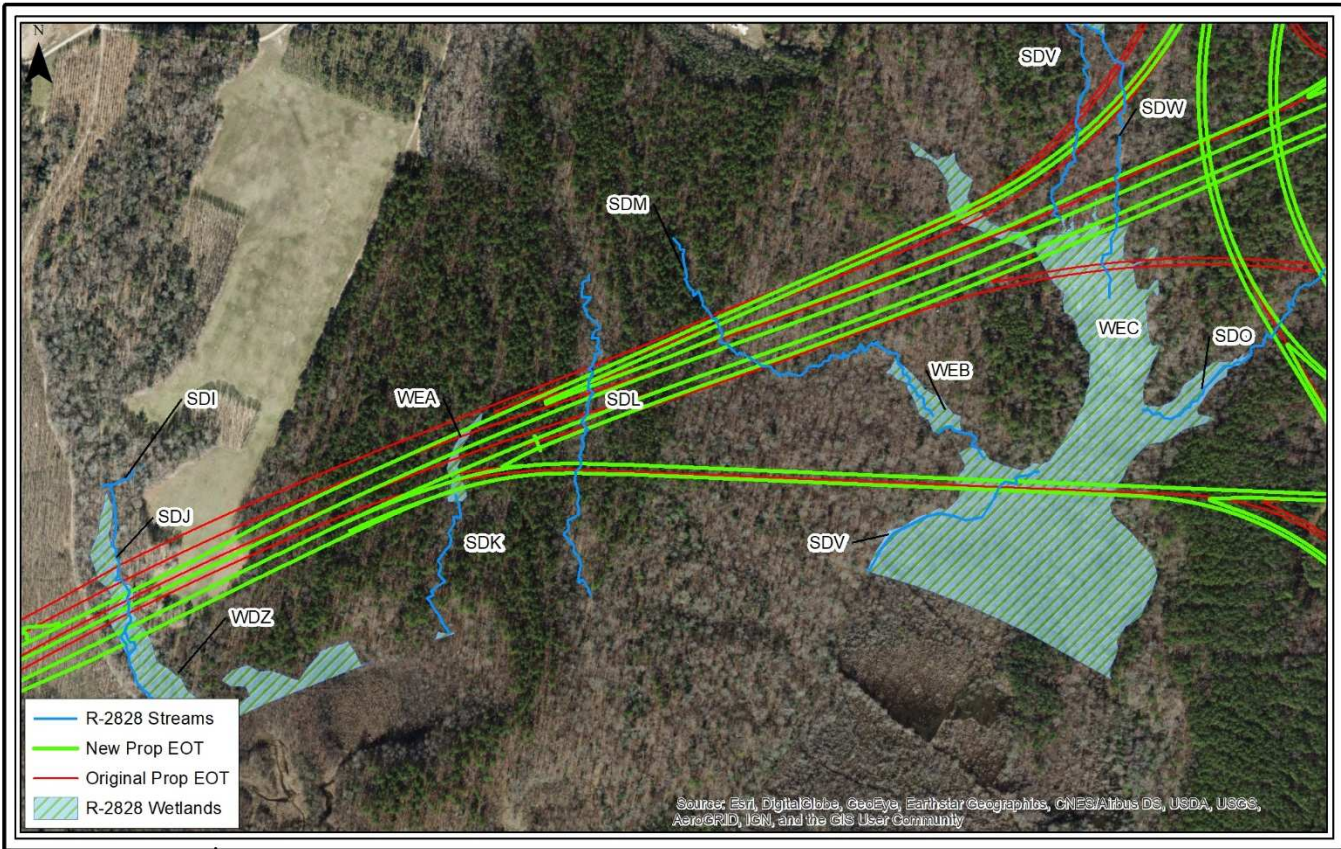
Figure
1



**Roadway Shift
over Swift Creek Wetlands**
Complete 540 Triangle Expressway
Southeast Extension:
R-2828
Wake County, North Carolina

Date:	May 2019
Scale:	0 125 250 Feet
Job No.:	18-105
Drawn By:	NMS
Checked By:	MGW

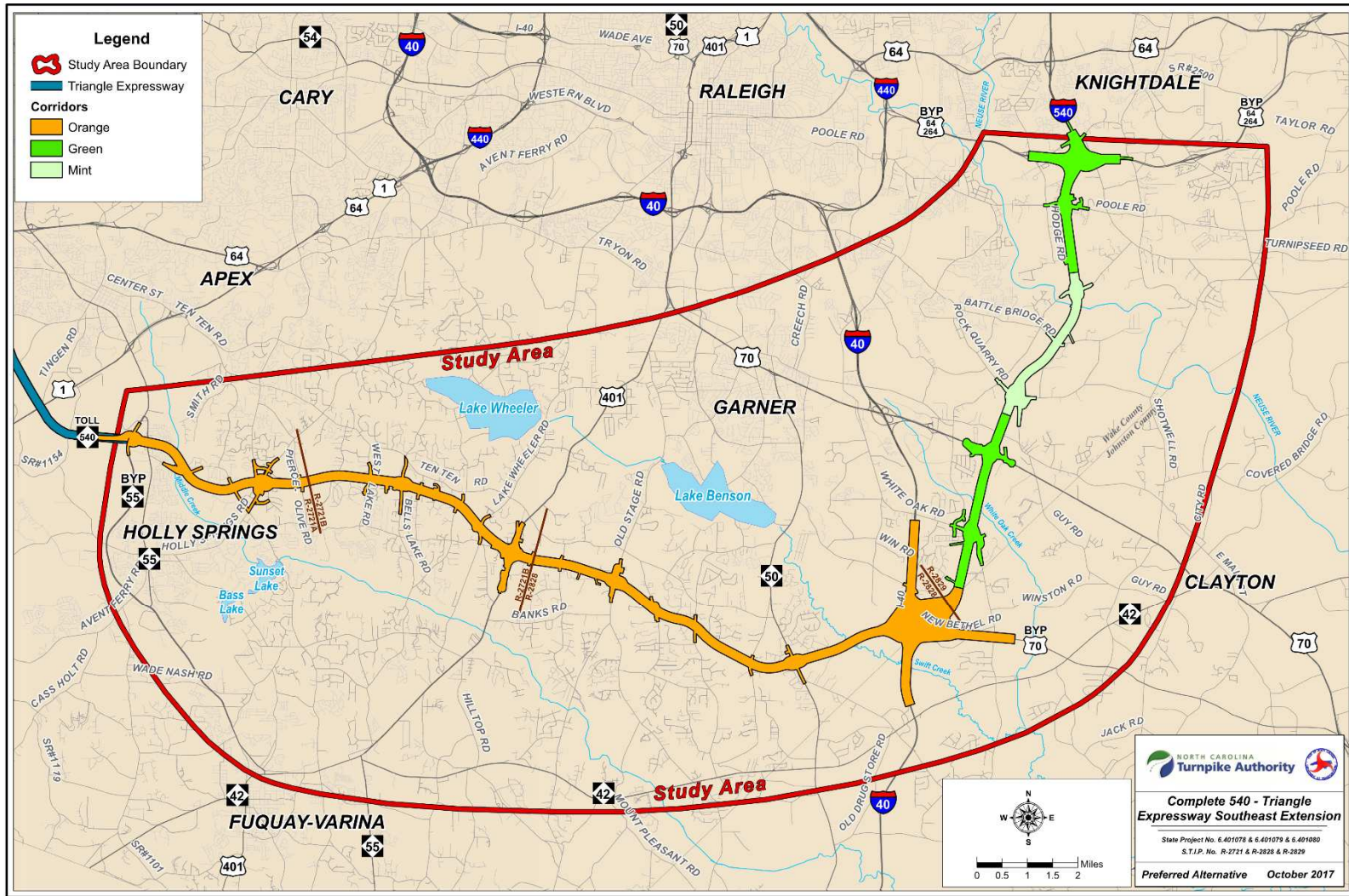
Figure
2

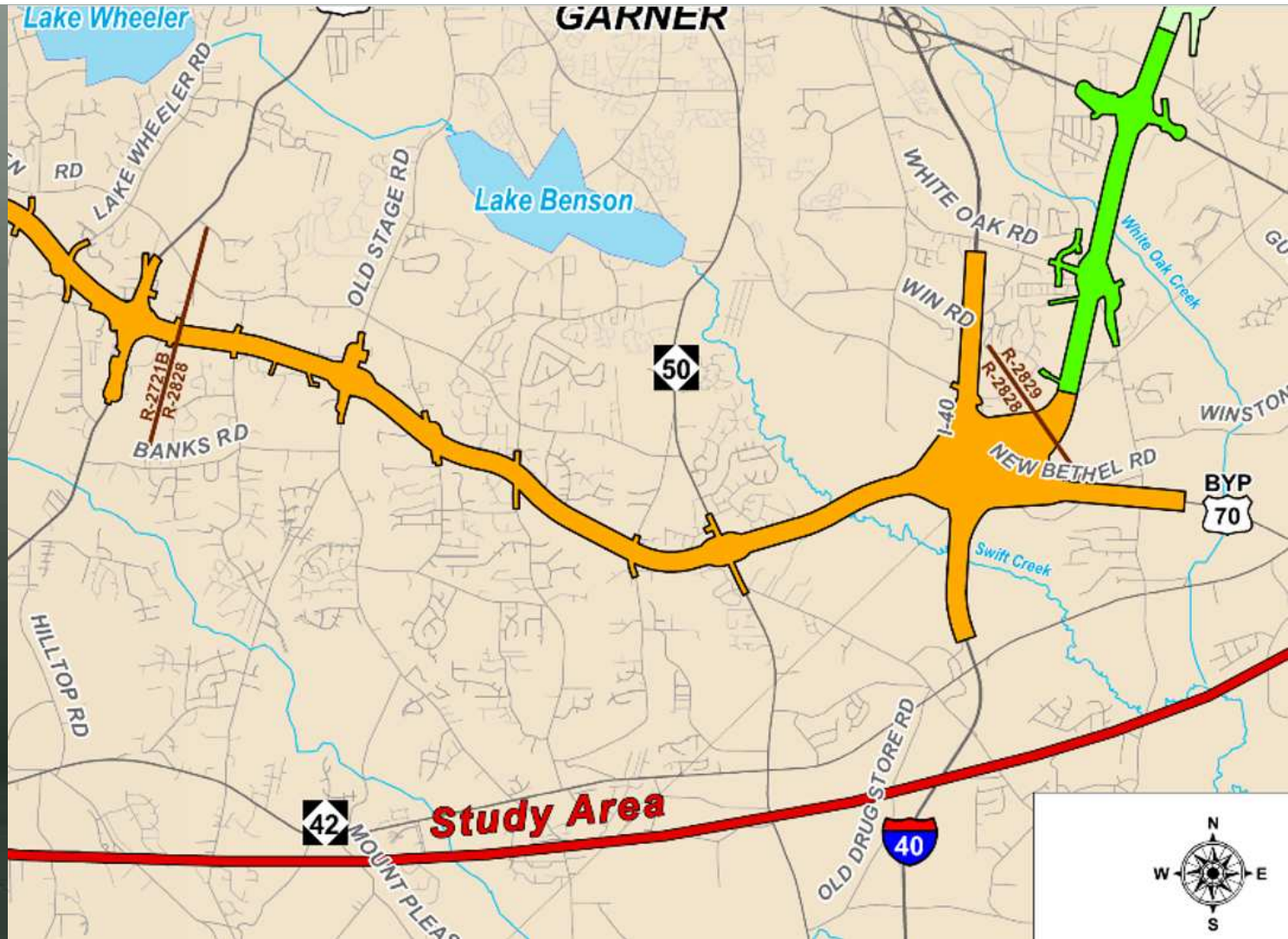


**Roadway Shift
 over Swift Creek Wetlands**
 Complete 540 Triangle Expressway
 Southeast Extension:
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Figure
3





General Hydraulic Design Commitments

- For all inlets and outlets at jurisdictional areas, countersunk riprap pads with underlying geotextile will be provided, including both stream bed and banks.
- For pipe outlets $< 36''$ or pipes with $< 1\%$, Class B riprap will be provided in stream bed and Class I riprap on stream banks. For pipes $\geq 36''$ that also have pipe slopes $> 1\%$, riprap will meet the following:
 - $< 48''$, use Class I riprap on both bed and banks.
 - $\geq 48''$, use Class II riprap on both bed and banks.

General Hydraulic Design Commitments

- For box culverts, use Class I or II riprap in stream beds, and Class II riprap for stream banks.
- Length of riprap and geotextile to be 4 x pipe diameter (or rise), but no less than 10 feet from pipe inlets, and 20 feet from pipe outlets
- Riprap will be used to fill in scour holes from the culvert invert to the end of the scour hole
- Toe Protection (Class B Riprap) will be placed along the toe of the fill slope in wetland areas

General Hydraulic Design Commitments

- The maximum pipe diameter to be used under the mainline (L) is 60 inches. For box culverts, the minimum rise is 8' and minimum span is 6'.
- No precast box culverts will be allowed.
- To the maximum extent practicable, the design shall direct roadway runoff through a hazardous spill basin with media filter before being discharged into Swift Creek or any tributaries to Swift Creek that are within 0.25 river mile of Swift Creek.

General Hydraulic Design Commitments

- There will be no construction in Swift Creek, or within 10 feet of the top of stream bank on either side.
- As per the revised Biological Assessment, during construction water quality monitoring will be performed for Swift Creek and tributaries within the project footprint and 0.25 mile downstream. Details regarding the monitoring are currently being developed by NCDOT.