



NEUSE RIVER & NEUSE RIVER GREENWAY TRAIL USER SAFETY PLAN

NC 540 (R-2829B)

Triangle Expressway Southeast Extension

from south of SR 2542 (Rock Quarry
Road) to I-87/US 64/US 264

**SUBMITTED
9/16/2024**

Submitted by

FLATIRON



In partnership with



*NC 540 Triangle Expressway Southeast Extension (R-2829B)
from south of SR 2542 (Rock Quarry Road) to I-87 / US 64 / US 264*

Neuse River and Neuse River Greenway Trail Safety Plan

The R-2829B project includes construction activities at, across and above the Neuse River and the existing Neuse River Greenway Trail. This plan provides details of the safety measures to be incorporated into the construction operations to ensure that users of both the Neuse River and the Neuse River Greenway Trail are informed of ongoing construction hazards and are protected from construction activities while passing through the construction area.

General Safety Procedures and Precautions:

Throughout the duration of construction, the Flatiron-Fred Smith JV will have the following measures in place for both the Neuse River and the Neuse River Greenway Trail:

- Flatiron-Fred Smith JV will comply with all Contract and RFP requirements while implementing this safety plan.
- As required per Division One of the NCDOT Standard Specifications Section 108-3, modified by the RFP, Flatiron-Fred Smith JV will provide a Site Specific Safety Plan (SSSP) prior to starting any work. The SSSP with spill control and response plan will be provided to all on-site staff and shall include details on spill prevention and cleanup, marine operations, and emergency/crisis management.
- This plan shall be reviewed annually, at a minimum, by Flatiron-Fred Smith JV and NCDOT to determine if any adjustments need to be made to improve the functionality of the plan or address any changes on-site.
- Regular safety inspections of all equipment will be performed monthly to ensure everything is in proper condition and working order.
- Contractor will have monitors and/or flaggers to direct river and greenway users away from active or hazardous construction areas and activities.
- Unless work is being performed outside of the allowable public use of the greenway (dawn to dusk), if an overhead operation is ongoing without a greenway trail detour or river user diversion in place, the contractor will have monitors / flaggers on each side of the construction zone to stop construction work while users pass beneath an overhead operation.

The greenway and river traffic will be shifted to the proposed detour / portage routes when any unprotected overhead work is ongoing in an area. When the new bridge girders are in place, the SIP decking is installed, and the overhangs with plywood protection are installed, this will prevent materials from falling onto the active portions of the greenway trail or Neuse River.

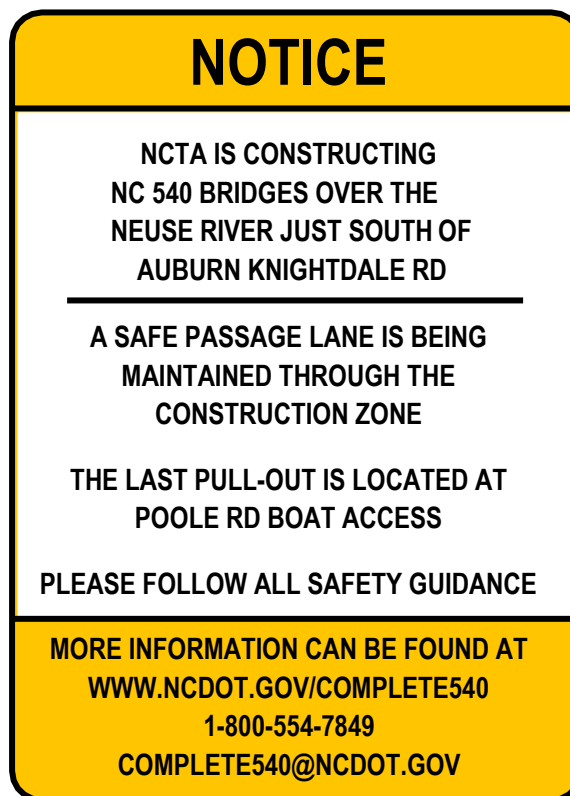
- In the event of a storm being forecast in the area that could result in localized flooding or overtopping the temporary access causeway, the Contractor will remove all materials and equipment in advance of the storm.

Neuse River Specific Safety Precautions:

Paddlers or other users of the Neuse River waterway will be protected from construction operations as follows:

- Advanced warning Signage will be installed and maintained by Flatiron-Fred Smith JV at the following canoe / kayak access points upstream and downstream of the project location:
 - Lower Milburnie Dam (1101 Old Milburnie Rd, Raleigh, NC 27604)
 - Anderson Point Boat Access (120 N Rogers Ln, Raleigh, NC 27610)
 - Poole Road Boat Access (6501 Poole Rd, Raleigh, NC 27610)
 - Mial Plantation Road Access (near 6008 Mial Plantation Rd, Raleigh, NC 27610)
 - Hwy 42 Boat Launch (2075 NC Highway 42 E, Clayton, NC)
 - Johnston County Water Plant (600 Clear Water Dr, Smithfield, NC 27577)

The signs will be similar to the image below:



- Ring Buoys will be staged on each side of the river shoreline both immediately upstream and downstream of the construction zone for emergency rescue operations. Each ring

buoy will be equipped with a minimum of 100 feet of rescue line and a throw bag, mounted on a 4x4 timber post.

- Buoys and signage will be installed in the river to direct river users through the safe portion of the waterway (see sketch NEUSE-01).
- The buoys and signage will provide a safe perimeter around the proposed construction access causeway on the northern bank of the river to warn against unauthorized access to the causeway and work area by river users.
- Signage will direct river users if the river passage is open or closed. The passage will be open when it is safe to pass under the proposed bridge construction and there are no overhead activities ongoing. The passage will be closed and require canoe portage when active overhead operations such as bridge girder erection or metal stay in place form installation. A portage route will be cleared and signed to allow for safe portage around the active construction. In addition, during these closed times, the Contractor will have monitors and flaggers further directing river users of the proper portage route.
- The Flatiron-Fred Smith JV will communicate when the portage route is required at least forty-five (45) days in advance of any construction activities to NCDOT Division 5 and NCTA staff and any other appropriate representatives that need this information.

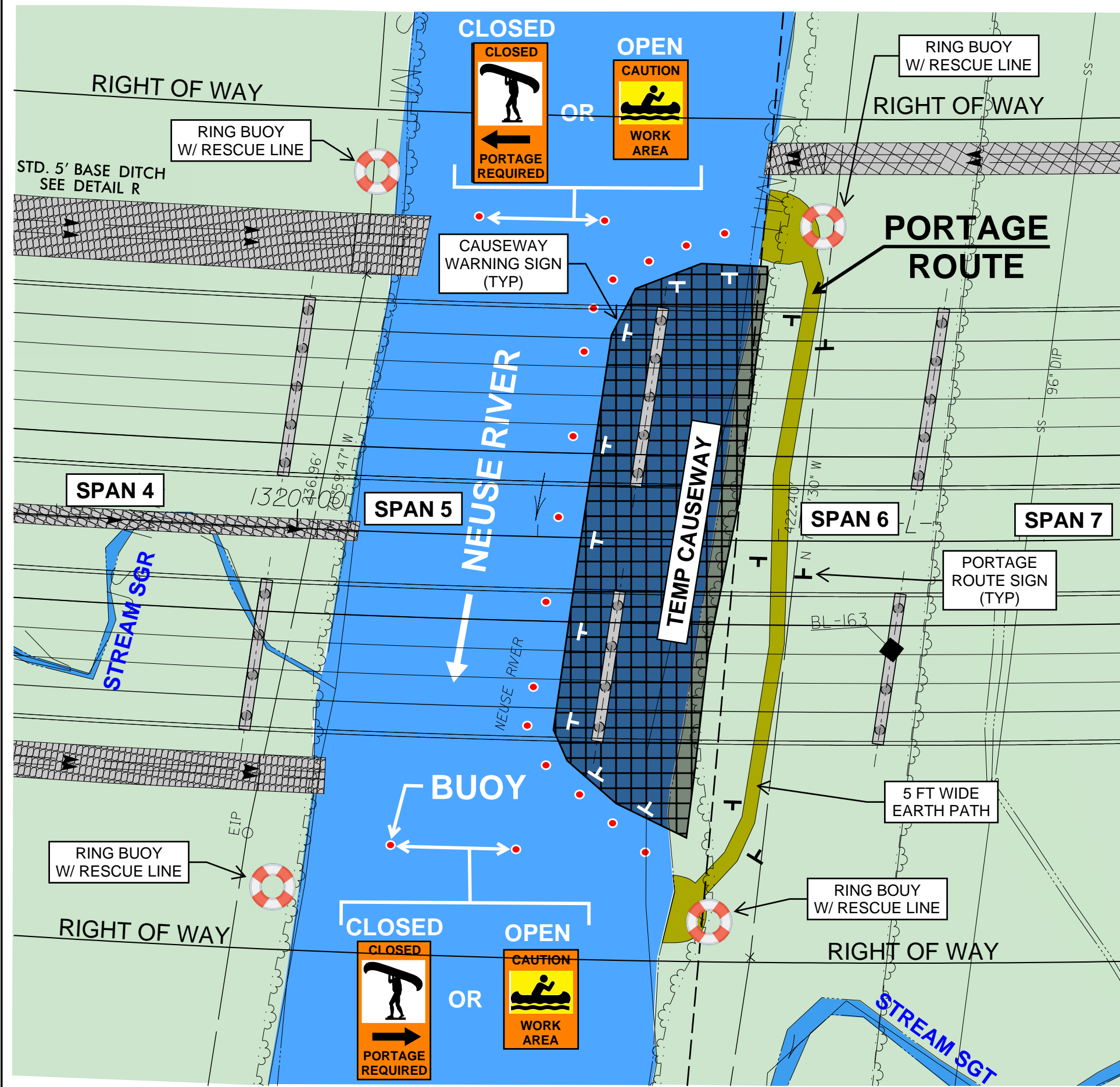
Neuse River Greenway Trail Specific Safety Precautions:

Users of the Neuse River Greenway Trail will be protected from construction operations as follows:

- A temporary trail detour route will be constructed and used to divert trail traffic away from active overhead construction activities (see sketches NEUSE-02 through NEUSE-04).
- Prior to beginning construction, orange safety fence will be placed on both sides of the existing greenway trail to keep greenway users on the trail and away from adjacent construction activities and equipment.
- During the first phase of the bridge construction, trail traffic can be maintained on the existing trail while Bridge Spans 4 through 11 are completed. The temporary greenway trail alignment and permanent greenway alignment revisions will be constructed during this phase of bridge construction.
- Once Span 4 of the bridge is completed, the orange safety fencing will be added to the temporary trail alignment and greenway trail traffic will be switched to the temporary detour route under completed Span 4.


- The Design-Build Team shall inform NCDOT Division 5 and NCTA at least forty-five (45) days in advance of any construction activities that would impact use of the Neuse River Greenway Trail.
- With the greenway traffic relocated, the construction of Bridge Spans 1 through 3 can be completed and the final greenway trail traffic will be shifted back to the permanent alignment.
- The Design-Build Team shall coordinate installation and removal of greenway protective measures with NCDOT Division 5 and NCTA when crossing the trail. No obstructions that impede the use of the trail shall be left in place after crossing the trail.

Details of the proposed user routing for both the Neuse River and the Neuse River Greenway Trail are provided on the following pages.




- PADDLE ACCESS:**
1. PRIOR TO CONSTRUCTION OF BRIDGE SPAN 5, PADDLER TRAFFIC WILL BE ROUTED THROUGH THE SOUTHERN SIDE OF THE RIVER USING FLOATING BOUYS AND CAUTION SIGNAGE AS SHOWN BELOW.
 2. DURING LIFTING OF SPAN 5 BEAMS OR OTHER OVERHEAD OPERATIONS FOR SPAN 5, THE RIVER WILL BE CLOSED TO PADDLERS USING THE "PORTAGE REQUIRED" SIGNAGE. NO CONSTRUCTION ACTIVITY IN SPAN 6 IS ALLOWED WHEN THE PORTAGE ROUTE IS IN USE.
 3. PLACE RING BOUYS FOR EMERGENCY USE AT EACH PORTAGE LANDING AND ON OPPOSITE SIDE OF RIVER..

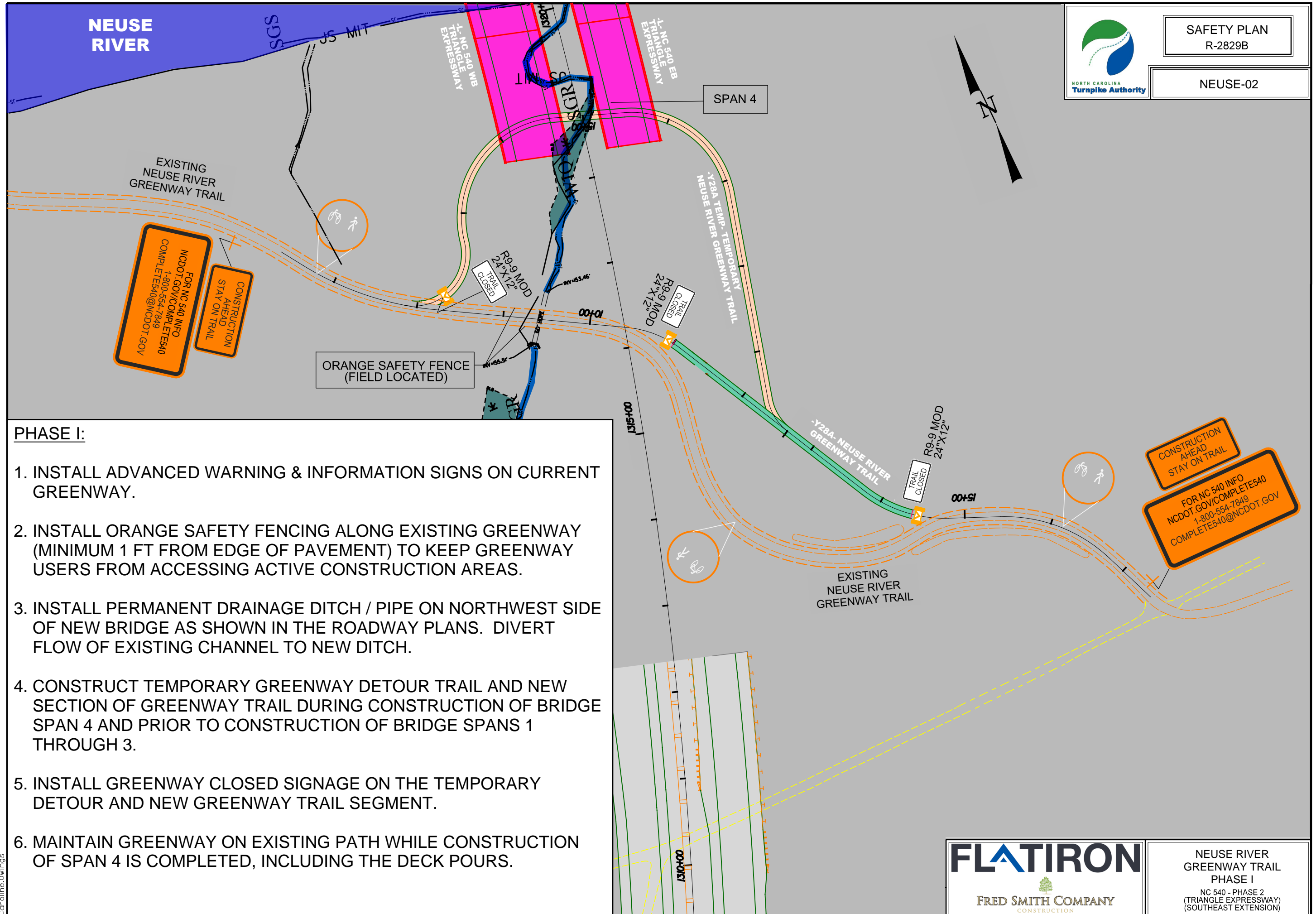
CAUTION SIGNAGE:



CAUSEWAY WARNING SIGN



PORTAGE ROUTE SIGN



PHASE I:

1. INSTALL ADVANCED WARNING & INFORMATION SIGNS ON CURRENT GREENWAY.
2. INSTALL ORANGE SAFETY FENCING ALONG EXISTING GREENWAY (MINIMUM 1 FT FROM EDGE OF PAVEMENT) TO KEEP GREENWAY USERS FROM ACCESSING ACTIVE CONSTRUCTION AREAS.
3. INSTALL PERMANENT DRAINAGE DITCH / PIPE ON NORTHWEST SIDE OF NEW BRIDGE AS SHOWN IN THE ROADWAY PLANS. DIVERT FLOW OF EXISTING CHANNEL TO NEW DITCH.
4. CONSTRUCT TEMPORARY GREENWAY DETOUR TRAIL AND NEW SECTION OF GREENWAY TRAIL DURING CONSTRUCTION OF BRIDGE SPAN 4 AND PRIOR TO CONSTRUCTION OF BRIDGE SPANS 1 THROUGH 3.
5. INSTALL GREENWAY CLOSED SIGNAGE ON THE TEMPORARY DETOUR AND NEW GREENWAY TRAIL SEGMENT.
6. MAINTAIN GREENWAY ON EXISTING PATH WHILE CONSTRUCTION OF SPAN 4 IS COMPLETED, INCLUDING THE DECK POURS.

FOR NC 540 INFO
NCDOT.GOV/COMPLETE540
1-800-554-7849
COMPLETE540@NCDOT.GOV

CONSTRUCTION
AHEAD
STAY ON TRAIL

CONSTRUCTION
AHEAD
STAY ON TRAIL

FOR NC 540 INFO
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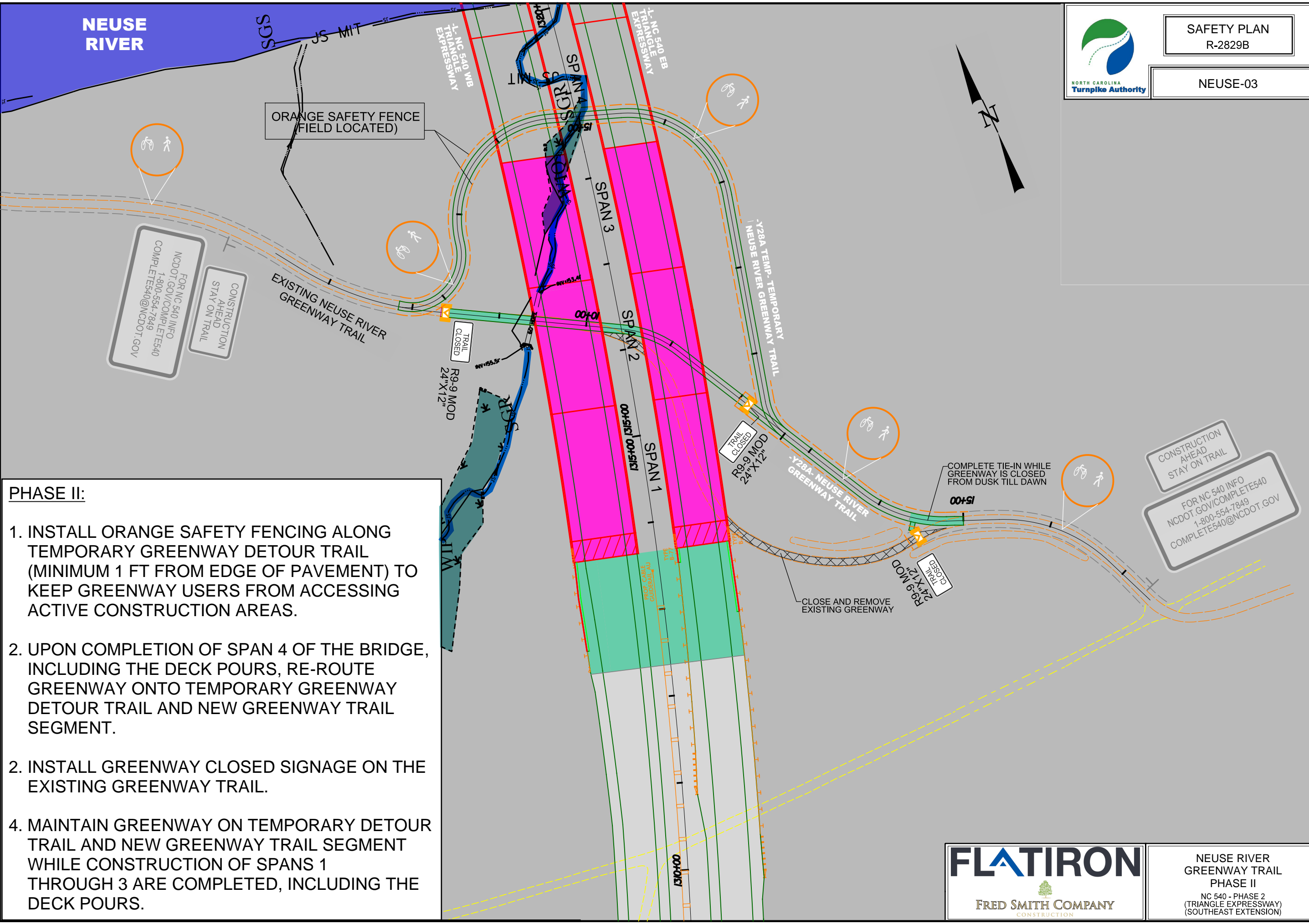
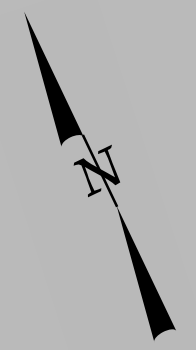


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Caroline Owings



SAFETY PLAN
R-2829B

NEUSE-03



PHASE II:

1. INSTALL ORANGE SAFETY FENCING ALONG TEMPORARY GREENWAY DETOUR TRAIL (MINIMUM 1 FT FROM EDGE OF PAVEMENT) TO KEEP GREENWAY USERS FROM ACCESSING ACTIVE CONSTRUCTION AREAS.
2. UPON COMPLETION OF SPAN 4 OF THE BRIDGE, INCLUDING THE DECK POURS, RE-ROUTE GREENWAY ONTO TEMPORARY GREENWAY DETOUR TRAIL AND NEW GREENWAY TRAIL SEGMENT.
2. INSTALL GREENWAY CLOSED SIGNAGE ON THE EXISTING GREENWAY TRAIL.
4. MAINTAIN GREENWAY ON TEMPORARY DETOUR TRAIL AND NEW GREENWAY TRAIL SEGMENT WHILE CONSTRUCTION OF SPANS 1 THROUGH 3 ARE COMPLETED, INCLUDING THE DECK POURS.

FOR NC 540 INFO
NCDOT.GOV/COMPLETE540
1-800-554-7849
COMPLETE540@NCDOT.GOV

CONSTRUCTION
AHEAD
STAY ON TRAIL

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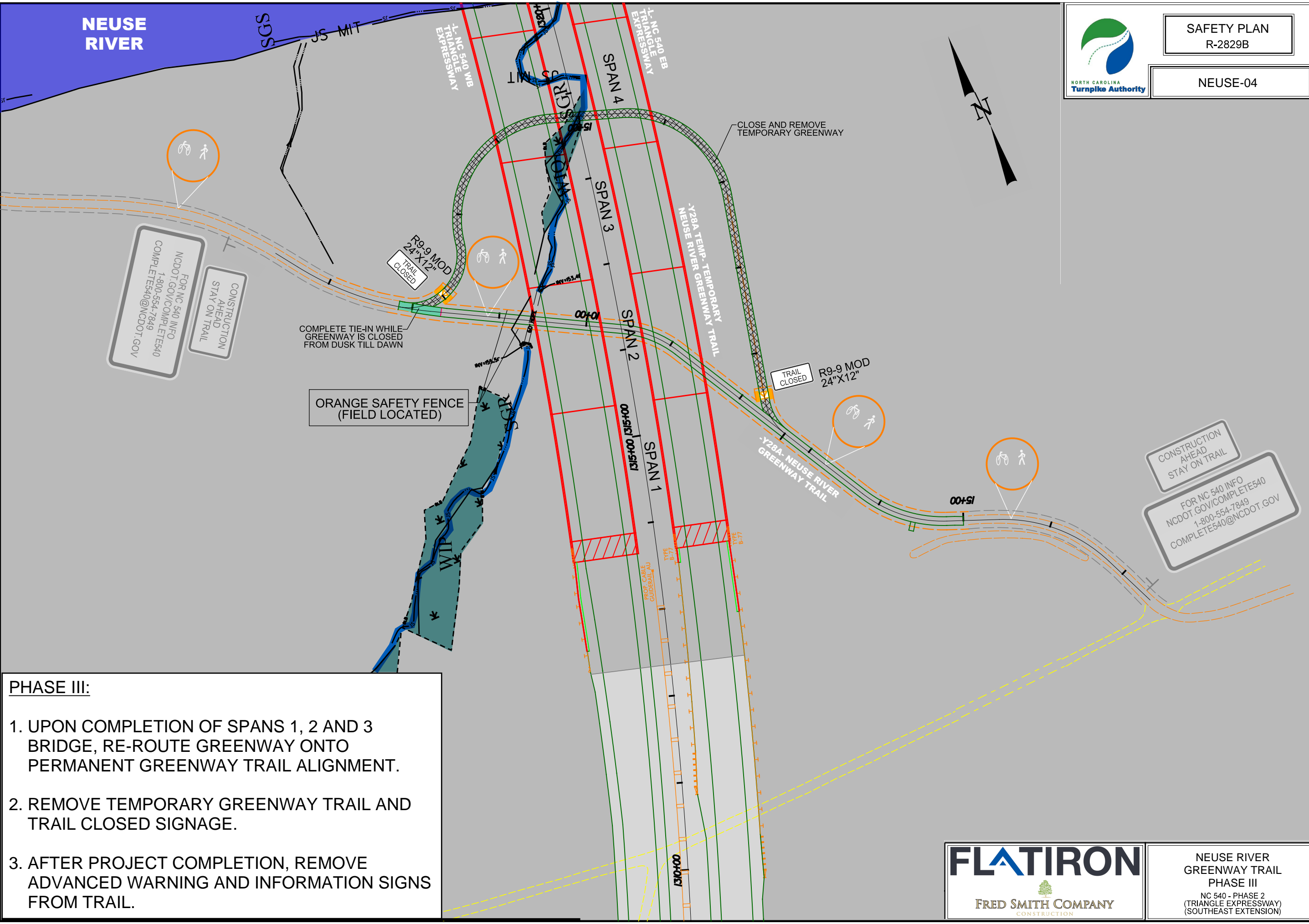
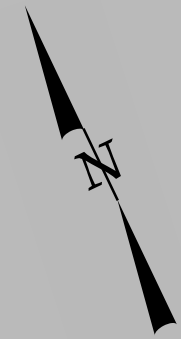
**NEUSE RIVER
GREENWAY TRAIL
PHASE II**
NC 540 - PHASE 2
(TRIANGLE EXPRESSWAY)
(SOUTHEAST EXTENSION)

3/28/2024
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Caroline Owings



SAFETY PLAN
R-2829B

NEUSE-04



PHASE III:

1. UPON COMPLETION OF SPANS 1, 2 AND 3 BRIDGE, RE-ROUTE GREENWAY ONTO PERMANENT GREENWAY TRAIL ALIGNMENT.
2. REMOVE TEMPORARY GREENWAY TRAIL AND TRAIL CLOSED SIGNAGE.
3. AFTER PROJECT COMPLETION, REMOVE ADVANCED WARNING AND INFORMATION SIGNS FROM TRAIL.

FOR NC 540 INFO
NCDOT.GOV/COMPLETE540
1-800-554-7849
COMPLETE540@NCDOT.GOV

CONSTRUCTION
AHEAD
STAY ON TRAIL

CONSTRUCTION
AHEAD
STAY ON TRAIL

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1-800-554-7849
COMPLETE540@NCDOT.GOV



**NEUSE RIVER
GREENWAY TRAIL
PHASE III**

NC 540 - PHASE 2
(TRIANGLE EXPRESSWAY)
(SOUTHEAST EXTENSION)

3/28/2024
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Caroline Owings