NCDOT Prestress Standard Repair Procedure for Non-Conformance Report (NCR)
SRP-03: Spalls For Top Flange Prestressed Concrete Girders– 04/05/2022

Standard Repair Procedures – In–plant Repairs Only

These standard procedures will only be applicable for spalls that have the following characteristics:

1. The width of the spall is less than the cantilevered flange width. (Total flange width – web thickness)/2.
2. The longitudinal length of the spall is 3 feet or less.
3. Steel and/or strand may or may not be exposed.

It is preferable to perform repairs prior to transfer of prestress, if possible.

Structures Management Unit Review Comments
The NCDOT Structures Management Unit recommends that the following standard repair procedures be followed for all girders in which spalls have been observed:

- Provide sawcut a minimum of 1" beyond the perimeter of the repair area, to a minimum depth of ½".
- Remove all unsound concrete within the repair area. Remove all concrete – unsound and sound – within the sawcut to a minimum depth of ½".
- If more than half the circumference of a reinforcing bar is exposed, remove additional concrete to 1" behind the bar. This does not apply to prestressed strands.
- For areas in which no steel is exposed, use adhesively anchored anchors, with a minimum ¼" diameter and a minimum 2" embedment into member, spaced at 6" grid, to provide mechanical bond for repair material. Provide the design concrete cover for studs.
- Do not damage rebar or strand.
- Form and place repair material to original shape.
- The repair material shall have a minimum compressive strength equal to or greater than that of the original beam concrete.
- The maximum size of aggregate in repair material should not exceed 2/3 of the minimum depth of the repair area.
- The repair material shall be on the NCDOT Approved Products List.
- Surface preparation, proportioning, mixing, placement, and curing of repair material should follow all manufacturer's recommendations.
- Perform repair operations in the presence of and to the satisfaction of the on-site NCDOT inspector.
- The Resident Engineer and the Area Construction Engineer may want to consider a price adjustment for the repaired member.

There shall be an NCR written and saved in the project file for future reference. The NCR will not be required to be submitted to SMU providing that the procedures outlined above are strictly followed.

If for any reason the above requirements cannot be met a NCR submittal will be required for review.

If you have any questions or comments, please contact James L. Bolden, Jr., PE at (919)707–6408 or Madonna Rorie, PE at (919)707-6508.

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