

STRUCTURE BULLETIN

NCDOT Construction Unit

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PITTED DECK SURFACE

Current Issues: Bridge Deck Finish

Have you ever poured a bridge deck and thought everything went well, only to see a pitted surface texture on the top of the deck when the burlap and plastic is eventually pulled off?

There are a lot of factors that affect the finish of a bridge deck, including proper inspection. Shadows, glare, angle, lack of light, and distance can impact your ability to properly inspect the surface texture of a bridge deck during the pour, especially if only inspected from the leading edge of the pour. To truly see how the screed is finishing, it is critical to inspect the deck finishing from all angles, including leading edge of pour, left and right overhangs, and behind the pour. The Contractor should have 2 work bridges that can also be used if need be. Identifying the problem is the first step. On the following page are some troubleshooting tips provided by Terex Bidwell, to help resolve some common finishing problems if they occur. Although it is the Contractor's responsibility and their means and methods, your knowledge could help point them on the right path for correcting the poor finish. Timely corrective action is key to a good deck!



TOO MUCH CONCRETE ON DRUMS

1. Current Issues: Bridge Deck Finish (Troubleshooting)
2. Construction Unit Staff Changes

Construction Unit:

The Construction Unit is here to help serve the Divisions and help them administer the Department's Construction Program as effectively and consistently as possible across the state. Please continue to utilize your Area Construction Engineer as your first point of contact for contractual or construction issues that you need assistance with and let us know how we can serve you better.

Staff Update:

[Darin Waller](#) has recently replaced Cameron Cochran as the **Western Regional Bridge Construction Engineer**. Cameron served the state well for many years as a Bridge Construction Engineer and is now working with Division 14. Darin comes with many years of structure experience, and we are excited to have him fill this roll.

[Mark Biggerstaff](#) has recently filled the role of ACE in Divisions 11 & 12 with the retirement of Doug Eller. Mark was previously an RE in Marion.

Troubleshooting Guide for Bridge Deck Finishing Problems

Symptom	Cause	Remedy
Open or pitted surface left by the rollers (rollers are plowing concrete)	Paving rollers are carrying too much concrete (the roll of concrete on the side of the rollers is too large)	Adjust the augers lower to leave a golf ball size roll at the front edge of the leading roller.
	Concrete may be placed too far ahead of the machine. Concrete may be drying out.	Limit concrete placement to within a maximum of 10' ahead of the paving machine.
Open or pitted surface left by the rollers (no concrete on side of the leading roller)	Augers are set too low and are removing too much concrete (paving rollers carrying no concrete roll)	Raise augers to leave a golf ball size of concrete at the front end of the leading roller.
Roll of concrete coming off the rear of paving rollers (rollers are leaving a ridge in the slab)	This condition may exist if the rear of the paving rollers is too low.	Raise the rear of the paving rollers by raising the back legs of the screed until the excess roll or ridge disappears. Normally, the rear of the paving rollers should be 1/8" to 3/16" higher than the front of the leading edge of the paving rollers. Note: The augers may need to be readjusted at this time.
	Finishing the wrong direction on a skewed bridge.	Finish from leading edge of the skew to the trailing edge of the skew. This is critical when finishing skewed decks.
The total finished surface is not sealed behind the drag pan.	The concrete may be abnormally dry (the surface may be drying from hot winds)	Ensure burlap drag stays wet. Fog the area with pressure washer to increase humidity (use with caution as too much water leads to scaling of the surface).
Drag pan is leaving an indentation in the surface, at the curb line or slab edge	There may be too much additional weight on the drag pan	Remove some or all of the added weight (usually concrete) from the pan.
	The pan is not being pulled straight.	Adjust and hook the chains to the pan so that all the chains are hooked with the same number of links from the pan.
	The pan is being pulled at a point too high by the pan hanger frame	Adjust the height of the hanger frame distance to the top of the pan to approximately 6"

Area Construction Engineers:

Div	Contact	Phone
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11&12	Mark Biggerstaff	828-803-9954
13&14	Aaron Powell	828-694-7971

If you have a topic you would like to see addressed in a future edition of the Structure Bulletin, please [email](#) us at dwall@ncdot.gov or ae@ncdot.gov

Videos:

Inspection training videos can be found on the [Construction Unit YouTube playlist](#).

Upcoming Training:

Let us know your needs....

Structure Bulletins

are now archived on the [Construction Unit](#) website under [Construction Resources](#).