

STRUCTURE BULLETIN

NCDOT Construction Unit

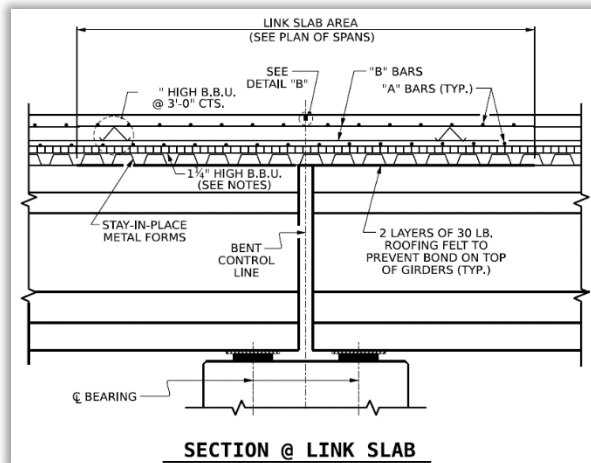
Current Issues: Link Slabs

What is a Link Slab? *A Link Slab is the portion of the deck over the joint that connects two adjacent deck spans, making the deck a continuous unit, while the girders remain simply supported.* Link

Slabs are used to eliminate or minimize the use of expansion joints. Although there are limitations on where they can be used, they are a good alternative to the Continuous-For-Live-Load (CFL) Diaphragms that many of our prestressed

concrete girder bridges call for. The link slab allows a small amount of girder rotation and movement by eliminating the bond between the bridge deck and the girders in the link slab region. There are several important requirements to look out for, including the following:

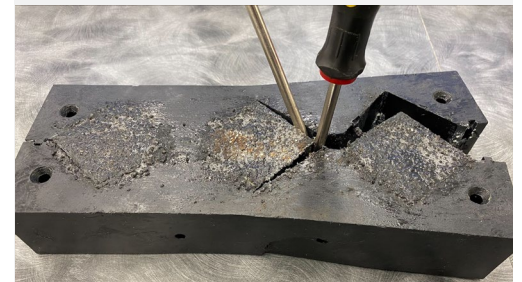
- 2 Layers of 30 lb. roofing felt placed on girders to prevent bond (Figure 1)
- Top of girders should not have a raked finish in link slab zone (Figure 2)
- No welding of forms or falsework to the top of girder permitted in link slab zone. (SIP's must use straps in lieu of welding angles (Figure 2)
- 1 ½" Deep Contraction Joint must be sawed at Bent Control Line within 24 hrs. (Figure 3)
- Overhang jack support hardware/inserts left permanently in place must be below the top of girder flange in this zone to prevent bond. (Figure 4)
- Falsework support is the responsibility of the contractor and there are different options they may propose, as long as it does not violate the requirements above and in the plans. Removable forms or additional falsework support may be required to meet the above criteria.



1. Current Issues: Link Slabs
2. Elastomeric Concrete Sampling
3. Training

Elastomeric Concrete Sampling:

Elastomeric Concrete is used as a "nosing" for Foam Joint Seal expansion joints on many of our bridges. Manufacturers of Elastomeric Concrete must submit yearly samples to be prequalified. The Department's [APL](#) can be checked to ensure the material is approved. In addition, field testing is required when installing elastomeric concrete. A minimum of six (6) 2-inch cube molds and three (3) 3-inch diameter x 6-inch cylinders will be taken by the DOT for each day's production. Due to the high bond of elastomeric concrete, it is critical that when making these samples, the **molds be given a light coat of Vaseline to help with removal of the samples.** M&T occasionally gets samples that are extremely difficult to remove from the molds and Vaseline seems to work best!



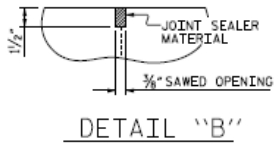
Link Slabs (cont'd):



Figure 1: 2 Layers of roofing felt placed in link slab zone to prevent bond between the deck and girder.



Figure 2: Top of Girder Flange is not raked. SIP Angles are not welded to girders, but instead utilize a metal strap for support.



A 1/2" DEEP CONTRACTION JOINT AT BENT CONTROL LINE SHALL BE SAWN WITHIN 24 HOURS OF POURING THE DECK. THE JOINT SHALL BE FILLED WITH JOINT SEALER MATERIAL. THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE B LOW MODULUS SILICONE SEALANT. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

Figure 3: Sawcut over bent control line within 24 hrs.



Figure 4: Overhang jack insert hardware recessed below top of girder flange to prevent bond

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Videos:

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

Training:

We are hopeful that we will be able to provide an in-person Structures Training this winter and are making some preliminary preparations. In the meantime, don't forget that anyone with an NCDOT email address has free access to the [AASHTO T3](#) online training courses. There are many good training courses on all types of construction topics, including High Strength Bolting, Bridge Rehab, Safety, Surveying, etc.

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

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