



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

MEMORANDUM TO: Project Engineers
Project Design Engineers

FROM: B. C. Hanks, P. E.
State Structures Engineer

DATE: June 21, 2018

SUBJECT: INDEPENDENT ASSURANCE SAMPLES
ON FEDERAL AID PROJECTS

To assist in the sampling of reinforcing steel on Federal Aid projects, the attached Design Manual [Figure 10-12](#) has been developed to ensure bars of adequate length are supplied to replace independent assurance sample bars.

During plan development include the Sample Bar Replacement Chart in the plans and the following revised General Drawing note for Federal Aid projects:

The Contractor shall provide independent assurance samples of reinforcing steel as follows: For projects requiring up to 400 tons (360,000 kg) of reinforcing steel, one 30 inch (760 mm) sample of each size bar used, and for projects requiring over 400 tons (360,000 kg) of reinforcing steel, two 30 inch (760 mm) samples of each size bar used. The sample bars should come from steel actually used in the project and the sample bars should be replaced by spliced bars as specified in the Sample Bar Replacement Chart. Payment for the sample bars and replacement reinforcing steel shall be considered incidental to various pay items.

This policy is effective with the September 2018 letting. Chapter 5 of the Design Manual, Design Manual Figures, and Standard Notes have been updated and are available on the Structures Management Unit website. Chapters 9 and 10 of the Design Manual will be revised at a later date.

A cell titled "Sample Bar Replacement Chart" has been created within the Structures Management standard cell library titled "Structures_English.cel".

Independent Assurance Samples
on Federal AID Projects
Page 2
June 21, 2018

BCH/DCM/THC/ksl

Attachment:

Figure 10-12

Cc: G. Muchane, P. E.
W. K. Fischer, P. E.
C. A. Peoples, P. E.
L. Sylvester, P. E.
T. M. Bruton, P.E.
W. L. McAbee, P. E., FHWA
Division Bridge Program Managers
Regional Bridge Construction Engineers
Area Construction Engineers

SAMPLE BAR REPLACEMENT	
SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:
SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH)
PLUS TWO SPLICE LENGTHS AND $f_y = 60\text{ksi}$.

SAMPLE BAR REPLACEMENT
FOR FEDERAL AID PROJECTS

FIGURE 10 - 12