I. Specifications

A. Anchor Studs shall conform to ASABE N190-98, except that threads and nominal diameters shall conform to ANSI B1.1M for class 6 bolts. Anchor Studs shall conform to:

- ASABE N190-98 Grade 55 (375 MPa minimum tensile strength)
- Heavy hex nuts shall conform to ASABE N193-98 (ASME ANSI) for class 6.5 bolts and shall conform to geometry defined in ANSI B18.2.4M. All nuts shall have a B1.1M class 6 threads.

B. Zn-coated anchor studs shall be finished according to either ASABE N193-98 Class C or ASABE N410-98 (ASME ANSI) for class 50/7. Hex nuts shall be zinc-coated according to either ASABE N193-98 Class C or ASABE N410-98 (ASME ANSI) for class 50.

C. Dimensional Tolerances Not Shown or Implied Are Intended to Be Those Consistent With the Proper Functioning of the Part, Including Its Appearance and Accepted Manufacturing Practices.

II. Intended Use

A. Anchor Studs are used to connect bridge railings to bridge decks and other concrete slabs.

III. Specifications

A. The geometry and material specifications for this bolt and nut are found in ASABE N190-98. The bolt shall have straight threads as defined in ANSI B1.1M for class 6 bolts. Bolt material shall conform to ASTM F18 for class 6.5 bolts (468 MPa minimum tensile strength). Zn-coated bolt heads shall be marked with the symbol, "ZC" as defined in ASTM F18 Section 9.

B. Nuts shall have a B1.1M class 6 threads. The geometry of the nut with the exception of the recess shown in the drawing shall conform to ANSI B1.1M style 1 for Zn-coated hex nuts (shown in red). Material for Zn-coated nuts shall conform to the requirements of ASTM F18 for class 5.

C. Zn-coated nuts shall conform to either ASABE N193-98 Class C. Zn-coated washers (shown in black) for class 50/7. Zn-coated washers shall be tapped oversized as specified herein. Fasteners shall be used except that a diameter allowance of 0.05 mm shall be used instead of 0.35 mm.

D. Dimensional Tolerances Not Shown or Implied Are Intended to Be Those Consistent With the Proper Functioning of the Part, Including Its Appearance and Accepted Manufacturing Practices.

II. Intended Use

A. These bolts and nuts are used in guard rail and median barrier designs. They are also used in guard rail terminals, designs and guard rail transitions.

EFFECTIVE DATE: MAY 1998

COMMONWEALTH OF PUERTO RICO
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY AND TRANSPORTATION AUTHORITY

METAL BARRIER
W-BEAM STRONG POST

HARDWARE

DATE: 01-25-98
REVISION: MB
STD. DWG: 5 OF 28