**General Notes:**

- **Design Specifications:** "Standard Specifications for Highway Bridges" adopted by ASHTO, 1989, including the 1990 and 1991 interim specifications and the "Ohio Supplement" to these specifications.
- **Thrie Beam Bridge Railing:** All thrie beam rails shall be in accordance with Item S17 except that all reference to deep beam rail shall be taken to include thrie beam rail. Additionally, provisions of TDD 26 shall apply except that the thrie beam rail element shall conform to ASHTO A 166, Type I, Class B.
- **Structural Steel Nipples:** Shall conform to ASTM A 36.
- **Structural Tubing:** Shall conform to the provisions of TDD 10 except that the "Drop Weight Tear Test" as per ASTM E 436 need not be performed.

**Note 1:** 5/8" dia. button head bolt (ASTM A 325) with plate washer under head and standard washer under the nut.

**Note 2:** 5/8" dia. high strength threaded anchors, bolts, nuts and washers shall conform to ASTM A 425. Anchors shall be embedded a minimum of 1" into the existing concrete parapet and anchored in accordance with supplemental specifications 85E and 95E.

**Guardrail Support Bracket Assembly:**

- **Galvanizing:** All guardrail support bracket assemblies, hardware and accessories shall be galvanized in accordance with TDD 10.

**Three Beam Expansion:** All bolts in the off structure end of the approach panel thrie beam rail section that spans the abutment shall be tightened as specified for expansion joints in TDD 26. If additional expansion joints are required in the thrie beam railing, their location shall be noted on the contract plans.

**Removal of Existing Aluminum Railings and Posts:** Shall be in accordance with Item S17. Payroll for removal shall be included with Item S17, railing.