NOTES

AT THE CONTRACTOR'S OPTION, FERRULES WITH OPEN OR CLOSED ENDS MAY BE USED.

COMPONENTS:

THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS SHALL CONSIST OF THE FOLLOWING:

- The guardrail anchor assembly shall consist of the following components:
- Ferrules shall be made from steel meeting the requirements of ASTM A307.
- Washers shall conform to or exceed the mechanical requirements of ASTM A307.
- Stainless steel bolts and washers may be used as an alternate for the 1" x 2" galvanized bolts and washers. They shall conform to or exceed the mechanical requirements of ASTM A307.
- The use of stainless steel bolts and washers may be furnished by the contractor.

THE GUARDRAIL ANCHOR ASSEMBLY WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RECUT AS NECESSARY TO INSURE FIT.

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THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS COMPLETE IN PLACE SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CLASS "A" SUPPORTS.

FERRULES TO BE PLUGGED DURING POURING OF SLAB AS RECOMMENDED BY THE MANUFACTURER.

PAYOUT FOR GUARDRAIL, POSTS, AND POST BASE PLATES IS INCLUDED IN ROADWAY PAY ITEMS.

PAYMENT FOR GUARDRAIL, POSTS, AND POST BASE PLATES IS INCLUDED IN ROADWAY PAY ITEMS.

THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

REVISIONS

PROJECT NO.        SHEET   OF  1
COUNTY:          1  2  3  4
STATION:               123                    456
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
STANDARD ANCHORAGE DETAILS FOR GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS

CHECKED BY:  ARB   6/88
CHECKED BY:     FCJ    6/88
DRAWN BY:  6/88
DATE:
SIGNATURES COMPLETED

REVISIONS

REV. 5/7/03    RWW/JTE
REV. 5/1/06R   KMM/GM
REV. 10/1/11              MAA/GM

1'-2'' S L A B

PLAN

SHOWN A GUARDRAIL ANCHOR ASSEMBLY SPACING.

SECTION A-A  SECTION B-B

SHOW IT NECESSARY MAXIMUM OF 1/4'' SHIM IF NECESSARY

ELEVATION

SIDE VIEW

GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS

GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 2".

A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, STRENGTH OF 90,000 PSI IS ACCEPTABLE.

B. 4 - 1" X 2" 1/2'' BOLTS WITH WASHERS. BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED.

C. WIRE STRUTS SHOWN IN THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS DETAIL SHEET MUST BE 1" X 2" GALVANIZED STEEL. SEE SPECIFICATIONS.

YIELD LOAD OF THE 1" X 2'' BOLT IS 21.8 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

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