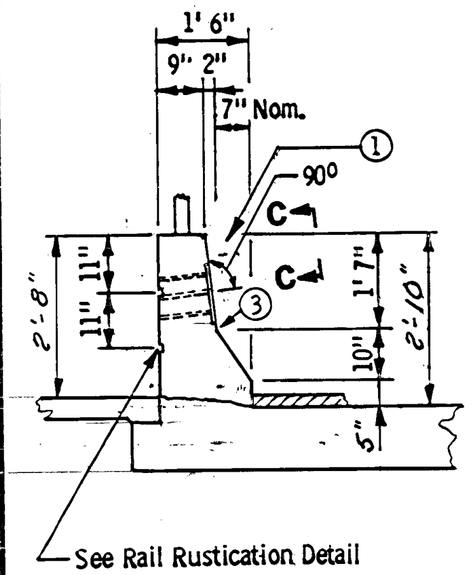
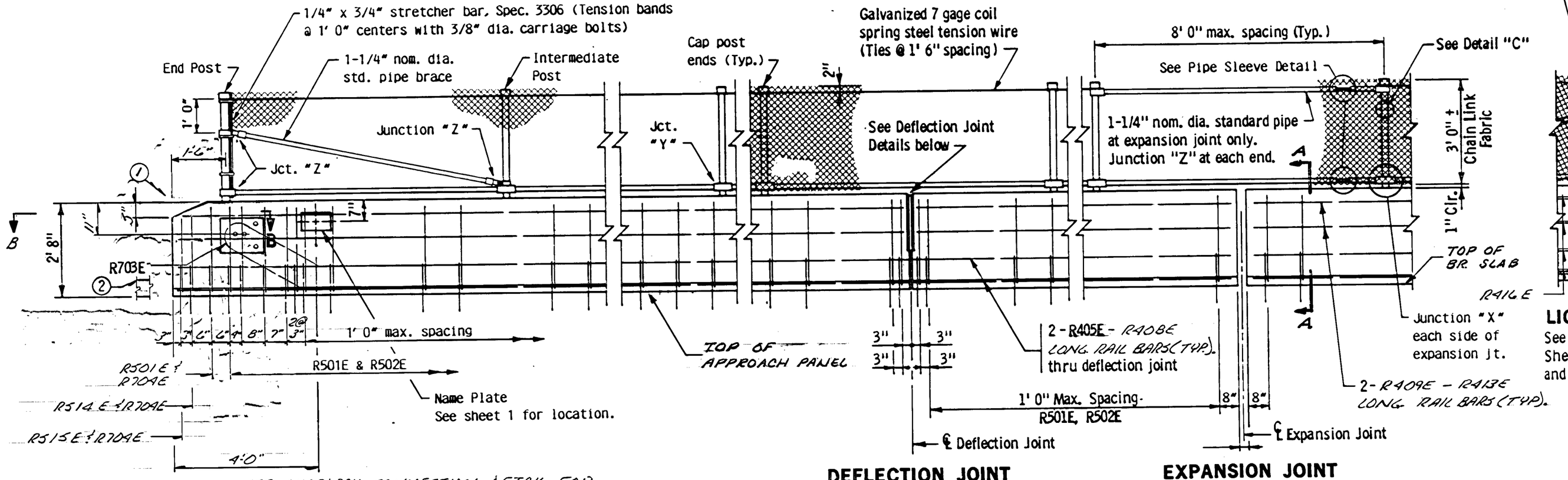



**END VIEW**



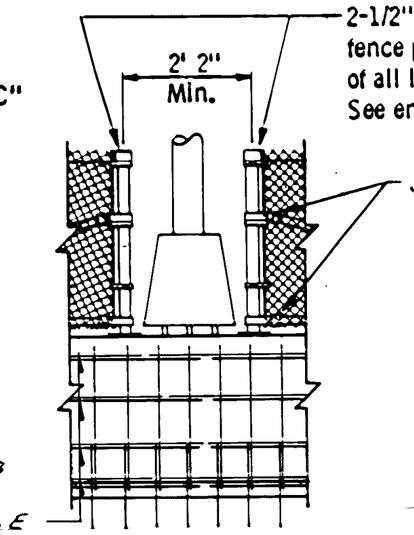

④ SEE GUARDRAIL CONNECTION DETAIL FOR WEST END OF RAIL ONLY. NO GUARDRAIL CONNECTION OR RAIL BEVEL REQ'D @ EAST END.
② Top of approach curb
③ 6" Minimum, 10" Maximum Radius

**INSIDE ELEVATION OF RAILING INTEGRAL END POST**

**DEFLECTION JOINT**

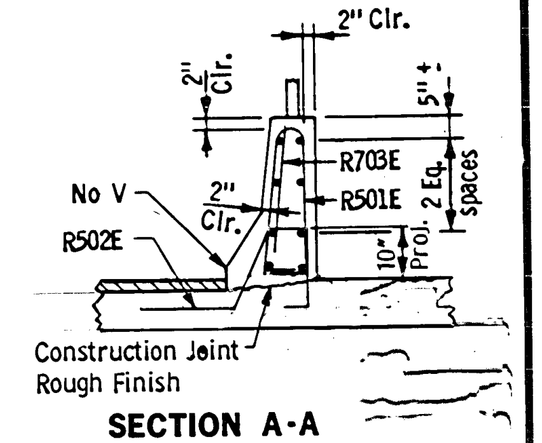
**EXPANSION JOINT**
(EXPANSION DEVICE NOT SHOWN)

An expansion joint is required only if an expansion device is used. Provide pipe sleeve in span between the vertical posts at expansion joint. See Superstructure Sheets for location.




**LIGHT STANDARD**

See Standard Bridge Detail Sheets for light anchorage and conduit system details.

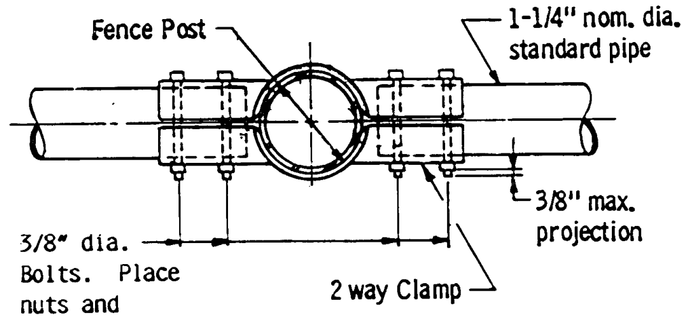


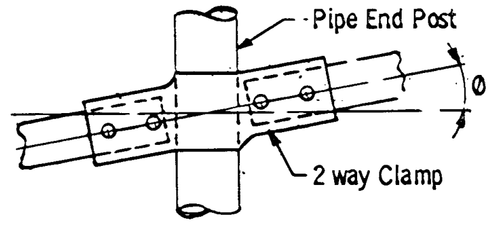

**SECTION A-A**

**BILL OF REINFORCEMENT FOR RAILING**

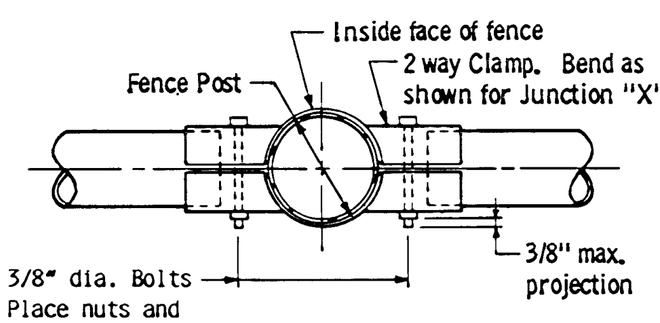
| BAR | NO. | LENGTH | SHAPE | LOCATION |
|---|---|---|---|---|
| R501E | 1339 | 6' 1" | Bent | Rail Vertical |
| R502E | 1335 | 5' 6" | Bent | Rail Vertical |
| R703E | 4 | 6' 6" | Bent | Integral End Post |
| R704E | 12 | 5' 6" | Bent | Integral End Post |
| R405E | 4 | 21'-11" | Straight | Rail Longitudinal |
| R406E | 4 | 21'-0" | Straight | Rail Longitudinal |
| R407E | 8 | 21'-6" | " | " " |
| ④ R408E | 200 | 22'-10" | " | " " |
| R409E | 8 | 10'-7" | " | " " |
| R410E | 8 | 11'-0" | " | " " |

Conc. Railing = 0.109 Cu. Yds. per ft. and 440 lbs. per ft.

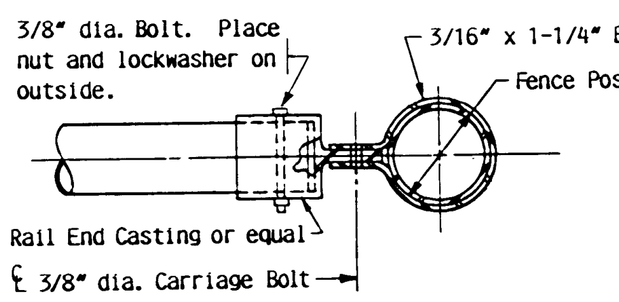



**JUNCTION "X"**




**JUNCTION "Y"**

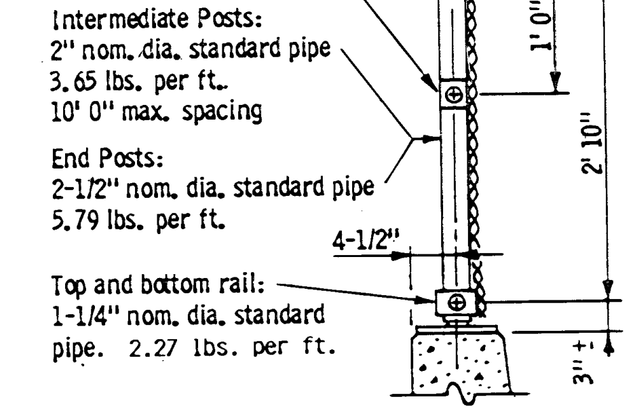



**JUNCTION "Z"**

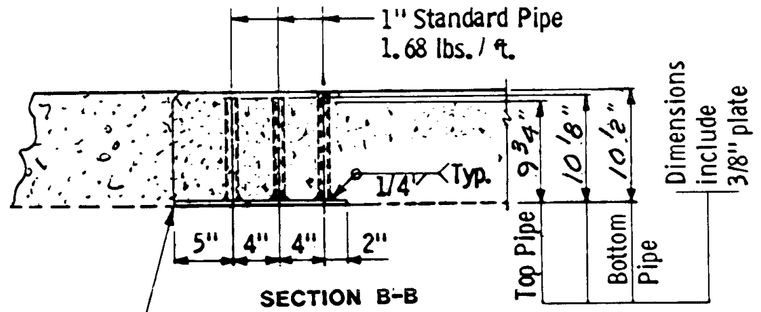
**RAIL RUSTICATION**

**2-WAY CLAMP BENDING TABLE**

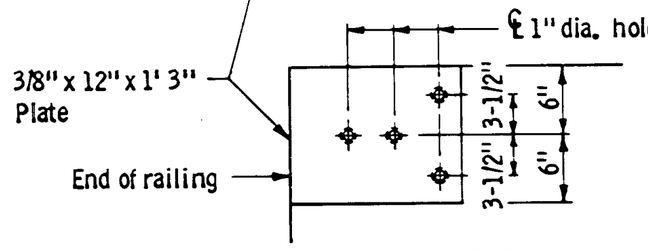
| Grade of Fence | Ø |
|---|---|
| 0° to 2° | 0° |
| 2° to 6° | 4° |
| 6° to 10° | 8° |




**TYPICAL SECTION THRU FENCE**
(Intermediate Post Shown)

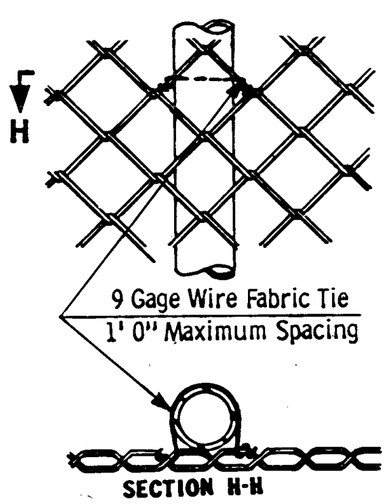



**SECTION B-B**
(Reinforcement not shown)



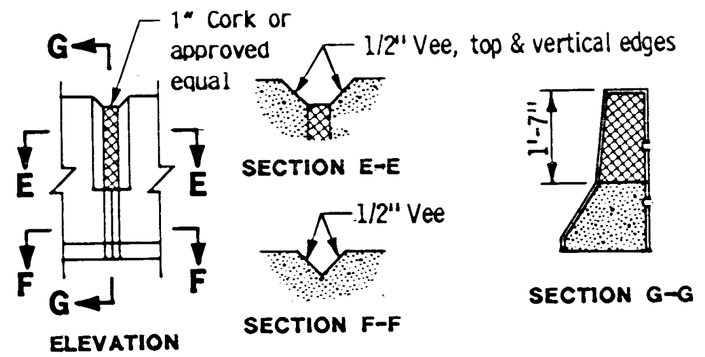

VIEW C-C

**GUARDRAIL CONNECTION DETAIL**




SECTION H-H

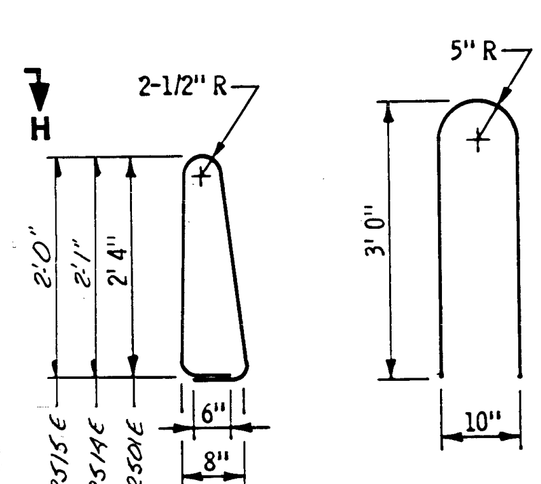
**DETAIL "C"**




**PIPE SLEEVE DETAIL**
For 4" maximum bridge expansion

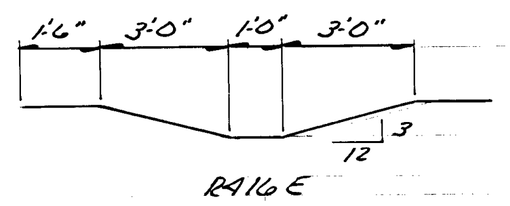



**DEFLECTION JOINT DETAILS**

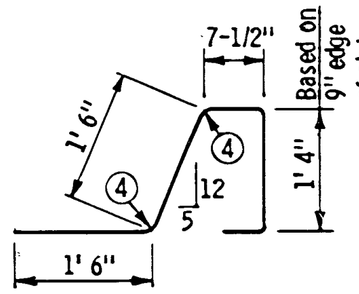



| | | | | |
|---|---|---|---|---|
| RAIIE | 16 | 10'-10" | STRT. | RAIL - LONG. |
| RAI2E | 32 | 16'-1" | " | " " |
| RAI3E | 229 | 16'-3" | " | " " |
| R514E | 4 | 5'-7" | BENT | " - VERT. |
| R515E | 4 | 5'-5" | " | " " |
| ① RAI6E | 16 | 10'-0" | " | " - LONG. |
| ⑤ RAI7E | 29 | 2'-4" | STRT. | " - VERT. |

④ 1'-6" LAP 25 LINES
⑤ SEE SHT. 25A FOR PLACEMENT DET.




RAI6E




④ R502E = 3-3/4" R704E = 5-1/4" inside dia.

**R502E & R704E**

## GENERAL NOTES

Bars marked with the suffix "E" shall be epoxy coated in accordance with Spec. 3301

Finish all edges of rail with 1/2" vee except where otherwise noted.

Fence post anchorages shall be Type B.

All posts shall have a means to securely hold the top tension wire in position and allow for the removal and replacement of a post without damaging the top wire.

Wire ties may be 9 gage galvanized steel or 0.179" minimum aluminum alloy conforming to ASTM B211, Alloy 1100-H18. Use 12-1/2 gage galvanized hog rings for tension wire ties.

End Post bracing is not to exceed 500 ft. maximum interval.

Concrete in the rail base shall be Mix No. 3X46

All material in the concrete base is included in the superstructure quantities.

For spacing of fence posts, joints and electrical grounds, see superstructure sheets.

Fence posts & anchorages shall be set vertical, unless otherwise noted.

See special provisions for requirements not included on this sheet and for basis of payment.

Guardrail connection shall be Structural Steel Spec. 3306 and galvanized after fabrication per Spec. 3394

The guard rail connection is included in the price bid for other items.

Maximum spacing of deflection joints shall be 20' 0".

The length of railing concrete is to be measured for payment between the outside faces of railing.

℄ of fence post anchorage shall be a minimum of 6" from joints.

C.P.88-09-116

| REVISED: | APPROVED: Nov. 26, 1985 | FIG. 5-397.156 |
|---|---|---|

| TITLE: BIKEWAY RAILING CONCRETE (TYPE J) & FENCE Integral End Post - No Sidewalk - w/o Wearing Course | DES: | DR: | APPROVED: | Bridge No. |
|---|---|---|---|---|
| | CHK: | CHK: | Sheet No. 32A of 46A Sheets | 02545 |