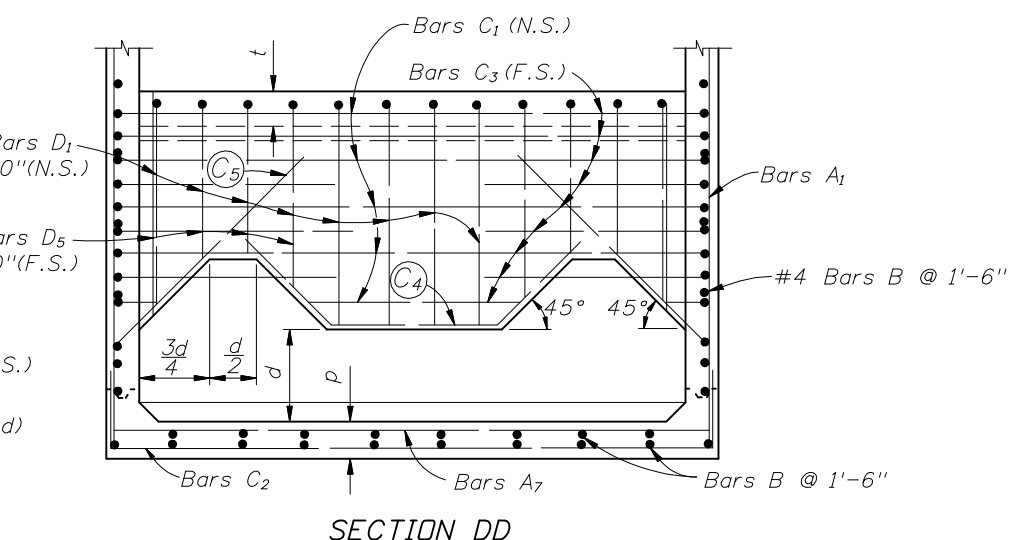
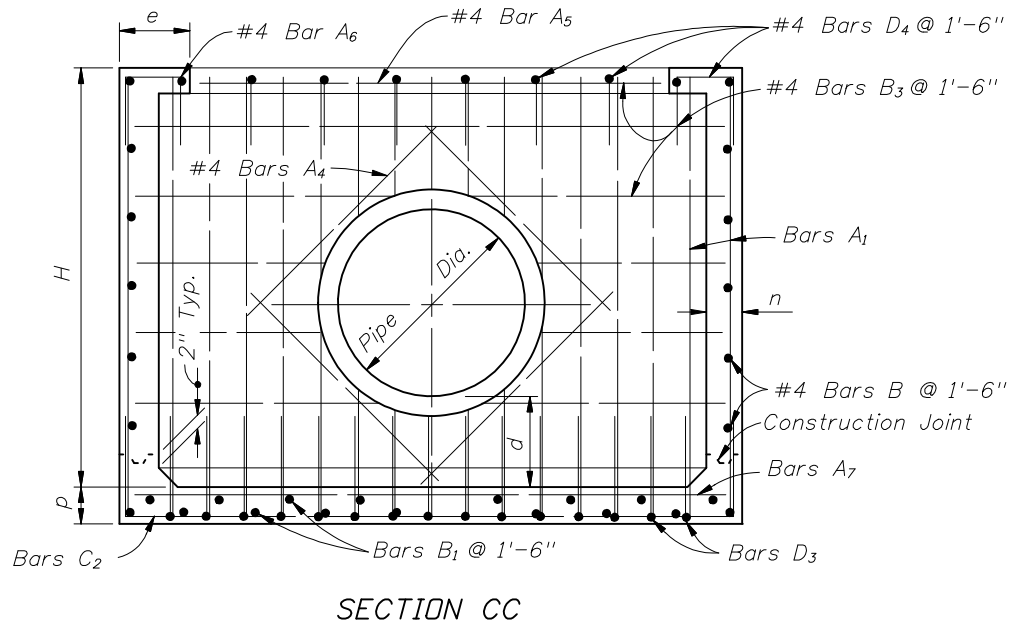
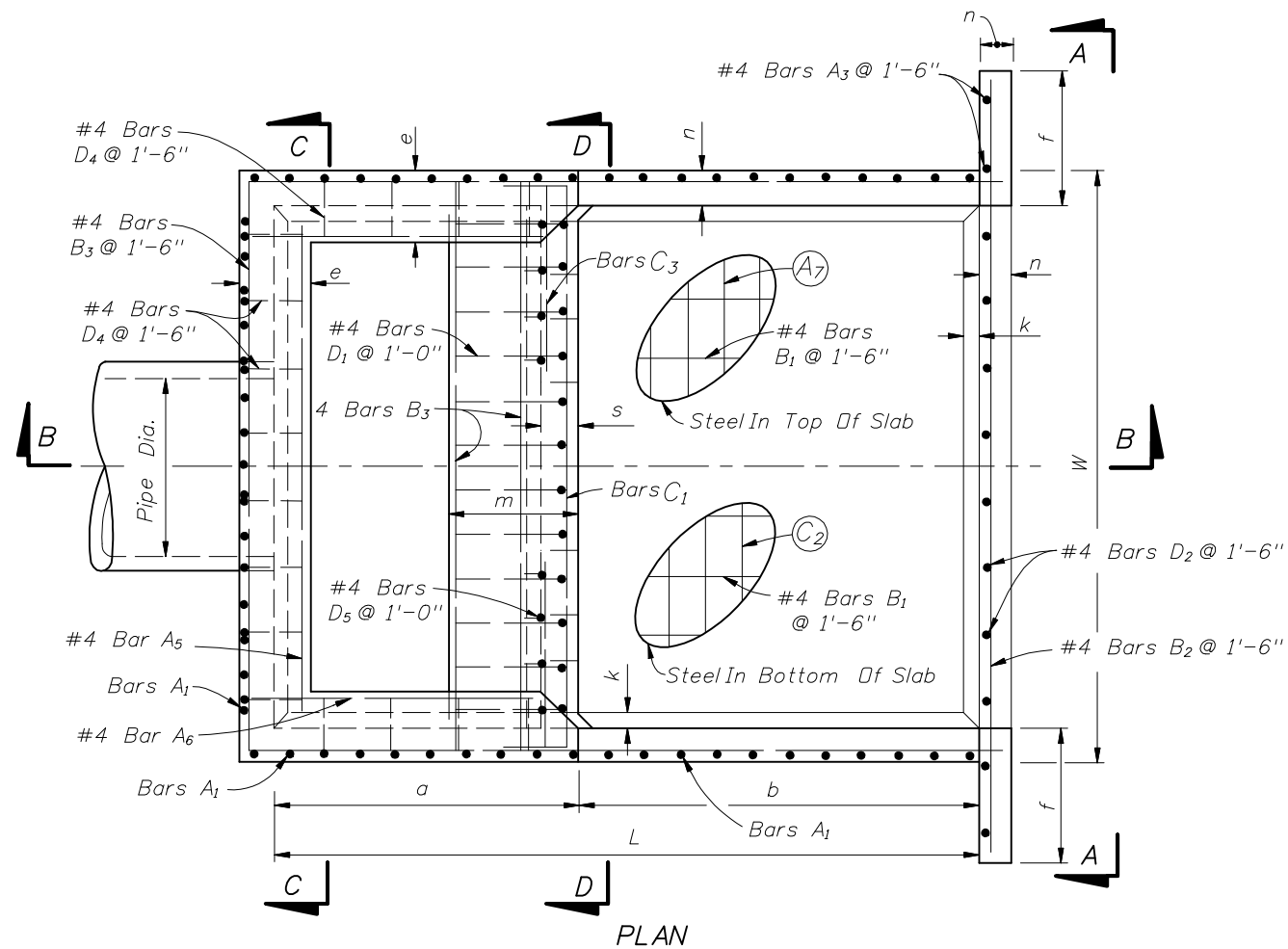


GENERAL NOTES

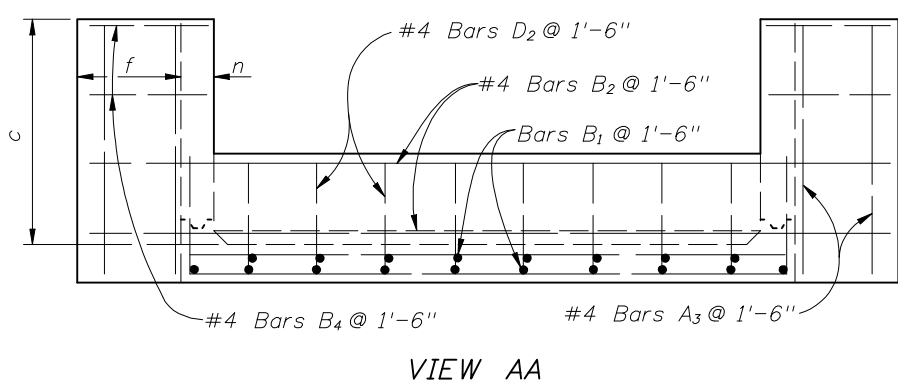
1. U-type concrete endwall energy dissipators are intended for use outside the clear zone.
2. Chamfer all exposed edges $\frac{3}{4}$ ".
3. Concrete shall be Class I, except ASTM C478 (4000 psi) concrete may be substituted for precast items manufactured in plants meeting the requirements of Section 449 of the Specifications.
4. Reinforcing steel shall have 2" min. cover.
5. Endwall to be paid for under the contract unit price for Class I Concrete (Endwalls), CY and Reinforcing Steel (Roadway), LB. Riprap to be paid for under the contract unit price for Riprap (Sand-Cement) (Roadway), CY. Cost of plastic filter fabric to be included in the contract unit price for riprap.
6. Fencing, when called for in the plans, to be paid for under the contract unit price for Fencing, Type B, LF. See Index No. 802 for details of Type B fencing.

| Pipe Size | | Q (Max) (cfs) | Dimensions | | | | | | | | | | | | | | | Concrete Class I (C.Y.) | Reinf. Steel (Lbs.) | Sand Cement Riprap C.Y. (Nom.) | |
|---------------|----------------|---------------------|------------|------|------|-----|-------|------|-----|------|-----|------|------|----|--------|----|---|-------------------------------|---------------------------|---|------|
| Dia. (In.) | Area (S.F.) | | Ft. - In. | | | | | | | | | | | | Inches | | | | | | |
| | | | W | H | L | a | b | c | d | e | f | g | m | n | p | s | t | | | | k |
| 30 | 4.91 | 59 | 9-0 | 6-3 | 10-8 | 4-7 | 6-1 | 3-4 | 1-4 | 1-2 | 2-6 | 3-0 | 1-11 | 6 | 6 1/2 | 7 | 7 | 3 | 6.72 | 736 | 10.6 |
| 36 | 7.07 | 85 | 10-5 | 7-3 | 12-4 | 5-3 | 7-1 | 3-10 | 1-7 | 1-3 | 3-0 | 3-6 | 2-3 | 7 | 7 1/2 | 8 | 8 | 3 | 10.34 | 1,072 | 13.6 |
| 42 | 9.62 | 115 | 11-10 | 8-0 | 14-0 | 6-0 | 8-0 | 4-5 | 1-9 | 1-6 | 3-0 | 3-11 | 2-6 | 8 | 8 1/2 | 9 | 8 | 4 | 14.82 | 1,429 | 17.5 |
| 48 | 12.57 | 151 | 13-3 | 9-0 | 15-8 | 6-9 | 8-11 | 4-11 | 2-0 | 1-7 | 3-0 | 4-5 | 2-10 | 9 | 9 1/2 | 10 | 8 | 4 | 20.36 | 2,000 | 22.1 |
| 54 | 15.90 | 191 | 14-8 | 9-9 | 17-4 | 7-4 | 10-0 | 5-5 | 2-2 | 1-10 | 3-0 | 4-11 | 3-0 | 10 | 10 1/2 | 10 | 8 | 4 | 27.19 | 2,659 | 27.2 |
| 60 | 13.63 | 236 | 16-1 | 10-9 | 19-0 | 8-0 | 11-0 | 5-11 | 2-5 | 1-11 | 3-0 | 5-4 | 3-4 | 11 | 11 1/2 | 11 | 8 | 6 | 34.49 | 3,552 | 32.5 |
| 66 | 23.76 | 285 | 17-3 | 11-6 | 20-6 | 8-8 | 11-10 | 6-5 | 2-7 | 2-1 | 3-0 | 5-9 | 3-7 | 12 | 12 1/2 | 12 | 8 | 6 | 42.82 | 4,472 | 38.3 |
| 72 | 28.27 | 339 | 18-6 | 12-3 | 22-0 | 9-3 | 12-9 | 6-11 | 2-9 | 2-3 | 3-0 | 6-2 | 3-9 | 12 | 12 1/2 | 12 | 8 | 6 | 50.68 | 5,426 | 44.5 |

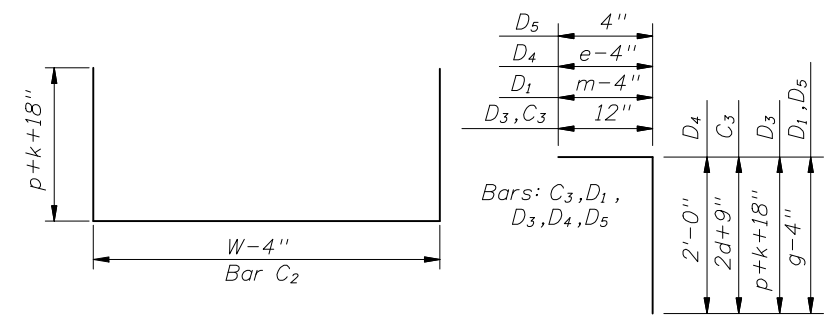
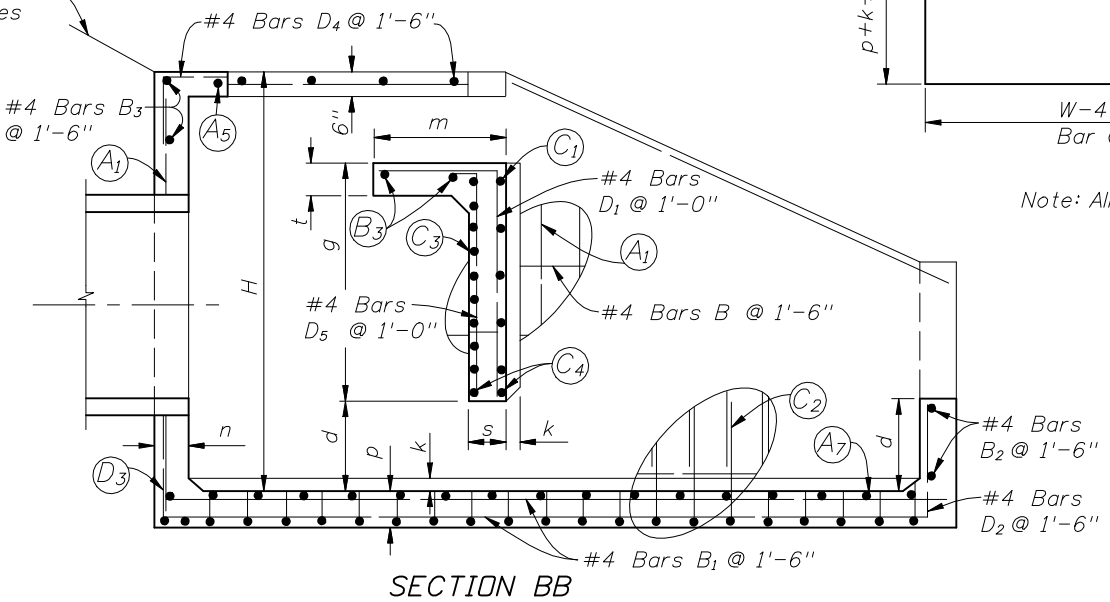




Note: Bars C₄ & C₅ (N.S. & F.S.) equivalent in size to C₃ (cut and bend as required)



Fill Slope Varies



Note: All bar dimensions are out to out.

| BARS | | | | | | | | | | | | |
|-----------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|
| Pipe Size | A ₁ | | A ₇ | | C ₁ | | C ₂ | | C ₃ | | D ₃ | |
| | Size (No.) | Spacing (Ft.-In.) | Size (No.) | Spacing (Ft.-In.) | Size (No.) | Spacing (Ft.-In.) | Size (No.) | Spacing (Ft.-In.) | Size (No.) | Spacing (Ft.-In.) | Size (No.) | Spacing (Ft.-In.) |
| 30" | 4 | 0-9½ | 4 | 1-6 | 5 | 0-11 | 4 | 0-9½ | 5 | 0-5½ | 4 | 0-9½ |
| 36" | 5 | 1-0 | 4 | 1-6 | 5 | 0-10 | 5 | 1-0 | 5 | 0-5 | 5 | 1-0 |
| 42" | 5 | 0-11 | 4 | 1-6 | 6 | 1-1 | 5 | 0-11 | 6 | 0-6½ | 5 | 0-11 |
| 48" | 5 | 0-9½ | 4 | 1-0 | 6 | 1-0 | 5 | 0-9½ | 6 | 0-6 | 5 | 0-9½ |
| 54" | 5 | 0-8½ | 4 | 0-10 | 7 | 1-1 | 5 | 0-8½ | 7 | 0-6½ | 5 | 0-8½ |
| 60" | 6 | 0-10 | 5 | 1-1 | 7 | 1-0 | 6 | 0-10 | 7 | 0-6 | 6 | 0-10 |
| 66" | 6 | 0-8½ | 5 | 0-11½ | 7 | 0-11 | 6 | 0-8½ | 7 | 0-5½ | 6 | 0-8½ |
| 72" | 6 | 0-7½ | 5 | 0-10 | 7 | 0-10 | 6 | 0-7½ | 7 | 0-5 | 6 | 0-7½ |

