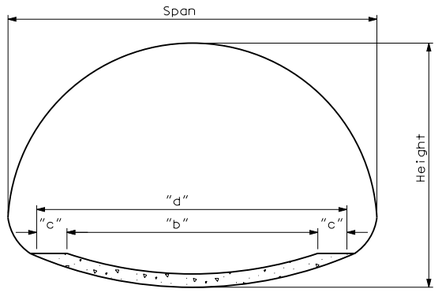
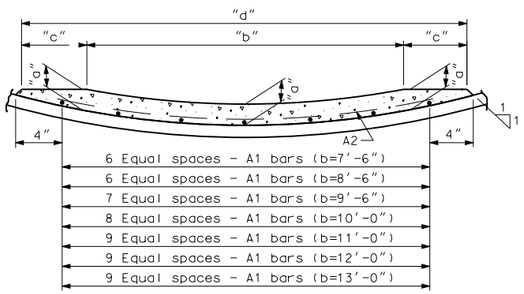
# CONCRETE FLOOR FOR STRUCTURAL PLATE PIPE ARCHES

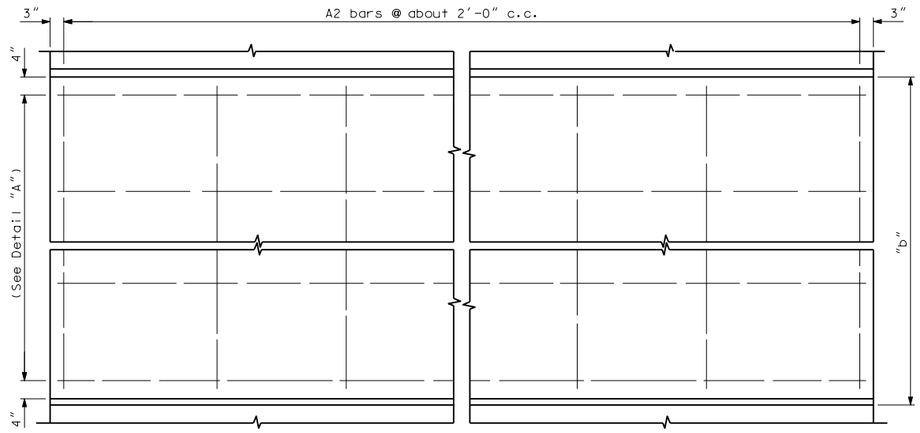
D-638-10



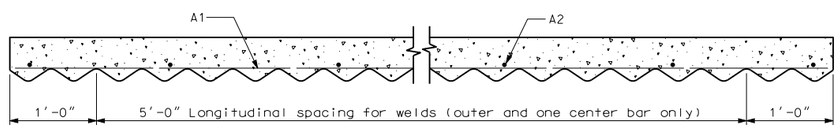

PIPE SECTION
(See Detail "A")



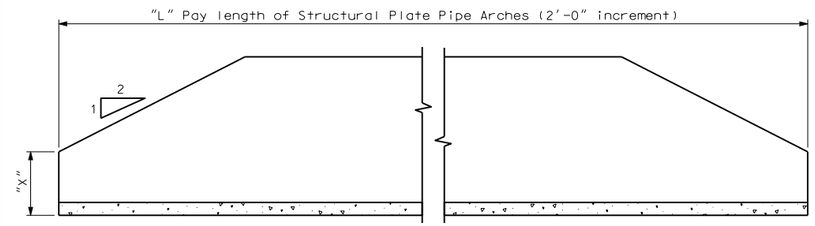

DETAIL "A"




PLAN
(Concrete floor)




SECTION ON CENTER LINE




LONGITUDINAL SECTION

| REINFORCING BARS | | | |
|---|---|---|---|
| BAR | SIZE | LENGTH | SHAPE |
| A1 | 4 | "L" minus 4" | Straight |
| A2 | 4 | (See Detail "A") | Straight |
| | | | |

| PIPE DIMENSIONS | | | | CONCRETE FLOOR | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AREA SQ. FT. | SPAN | HEIGHT | DIMENSION "x" | DIMENSION "a" | DIMENSION "b" | DIMENSION "c" | DIMENSION "d" | QUANTITIES PER FOOT OF LENGTH | |
| | | | | | | | | CONC. CL. AE-3 CU. YD. | REINF. STEEL LB. * |
| 55 | 10'-3" | 6'-9" | 2'-5" | 4" | 7'-6" | 7" | 8'-8" | 0.1253 | 10.01 |
| 58 | 10'-8" | 6'-11" | 2'-9" | 4" | 7'-6" | 9" | 9'-0" | 0.1266 | 10.23 |
| 61 | 10'-11" | 7'-1" | 2'-7" | 4" | 7'-6" | 10" | 9'-2" | 0.1279 | 11.34 |
| 64 | 11'-5" | 7'-3" | 2'-10" | 4" | 8'-6" | 8" | 9'-10" | 0.1409 | 10.79 |
| 67 | 11'-7" | 7'-5" | 2'-8" | 4" | 8'-6" | 9" | 10'-0" | 0.1421 | 10.90 |
| 71 | 11'-10" | 7'-7" | 2'-6" | 4" | 8'-6" | 10" | 10'-2" | 0.1432 | 11.01 |
| 74 | 12'-4" | 7'-9" | 2'-10" | 4" | 8'-6" | 10" | 10'-2" | 0.1592 | 11.01 |
| 78 | 12'-6" | 7'-11" | 2'-8" | 4" | 9'-6" | 8" | 10'-10" | 0.1573 | 12.13 |
| 81 | 12'-8" | 8'-1" | 2'-6" | 4" | 9'-6" | 10" | 11'-2" | 0.1564 | 12.35 |
| 85 | 12'-10" | 8'-4" | 2'-4" | 4" | 9'-6" | 10" | 11'-2" | 0.1574 | 12.35 |
| 89 | 13'-5" | 8'-5" | 2'-7" | 4" | 10'-0" | 10" | 11'-8" | 0.1666 | 13.35 |
| 93 | 13'-11" | 8'-7" | 2'-11" | 4" | 11'-0" | 8" | 12'-4" | 0.1799 | 14.47 |
| 97 | 14'-1" | 8'-9" | 2'-9" | 4" | 11'-0" | 9" | 12'-6" | 0.1809 | 14.58 |
| 101 | 14'-3" | 8'-11" | 2'-7" | 4" | 11'-0" | 10" | 12'-8" | 0.1820 | 14.69 |
| 105 | 14'-10" | 9'-1" | 2'-11" | 4" | 11'-0" | 11" | 12'-10" | 0.1829 | 14.80 |
| 109 | 15'-4" | 9'-3" | 3'-2" | 4" | 12'-0" | 9" | 13'-6" | 0.1960 | 15.25 |
| 113 | 15'-6" | 9'-5" | 3'-0" | 4" | 12'-0" | 10" | 13'-8" | 0.1973 | 15.36 |
| 118 | 15'-8" | 9'-7" | 2'-10" | 4" | 12'-0" | 11" | 13'-10" | 0.1985 | 15.47 |
| 122 | 15'-10" | 9'-10" | 2'-8" | 4" | 12'-0" | 12" | 14'-0" | 0.1995 | 15.58 |
| 126 | 16'-5" | 9'-11" | 3'-0" | 4" | 13'-0" | 10" | 14'-8" | 0.2127 | 16.03 |
| 131 | 16'-7" | 10'-1" | 2'-10" | 4" | 13'-0" | 11" | 14'-10" | 0.2137 | 16.14 |
| | | | | | | | | | |
| | | | | | | | | | |

* Add 1 lb. per bar splice

NOTES:

Bend A2 bars in field to fit curve of pipe culvert.
All field welding shall be considered incidental to the price bid per linear foot of floor.
Use 1'-8" lap to splice all A1 bars over 40' long.
All A1 bars shall be welded to pipe corrugation at 5'-0" intervals with 1"x¼" fillet welds. Welds on adjacent bars shall be staggered.

Concrete floor shall not be placed until after the fill has been completed.
All concrete shall be Class AE-3.

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

10-1-86

REVISIONS

| DATE | CHANGE |
|---|---|
| 06-03-03 | Layout revision |
| 12-01-04 | PE Stamp added |

This document was originally issued and sealed by MARK S. GAYDOS Registration Number PE- 4518, on 12/01/04 and the original document is stored at the North Dakota Department of Transportation