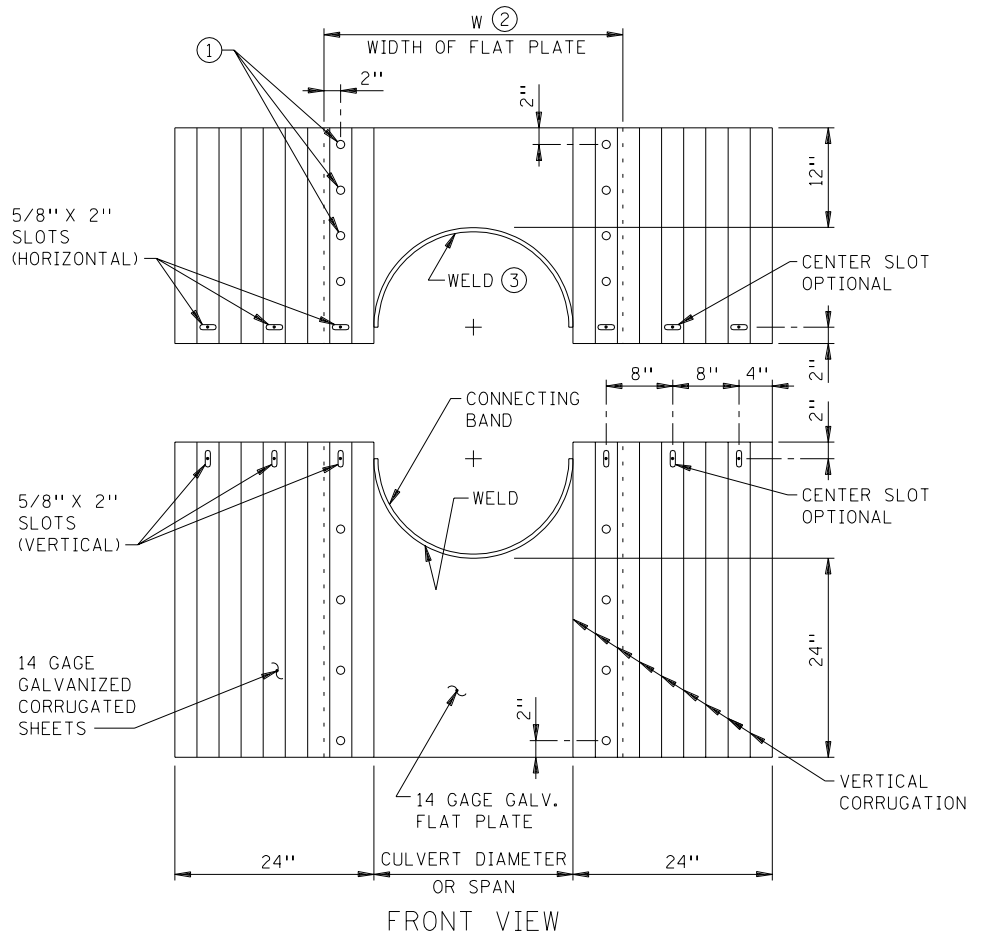
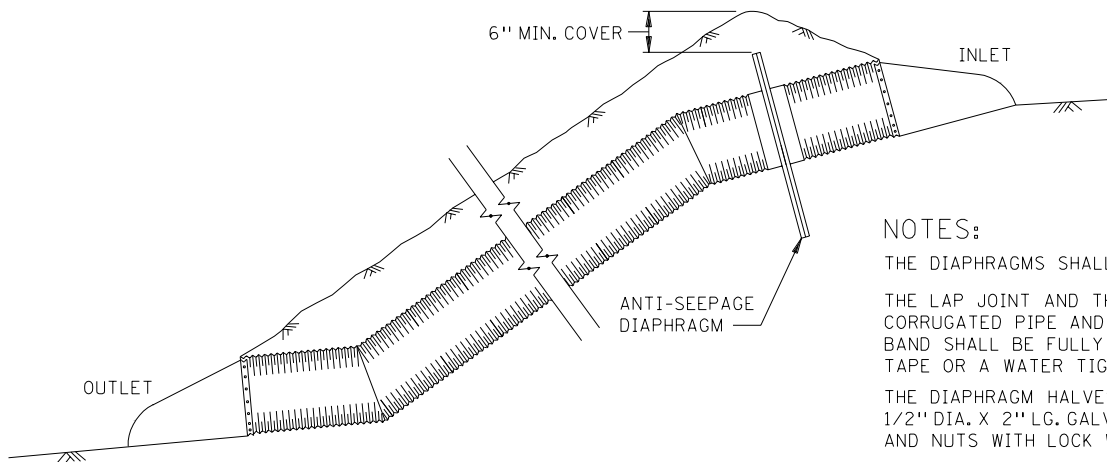


SIDE VIEW



FRONT VIEW



TYPICAL INSTALLATION

NOTES:

- THE DIAPHRAGMS SHALL BE 14 GAGE.
- THE LAP JOINT AND THE AREA BETWEEN THE CORRUGATED PIPE AND THE FLAT COUPLING BAND SHALL BE FULLY SEALED WITH MASTIC TAPE OR A WATER TIGHT SEAL.
- THE DIAPHRAGM HALVES TO BE CONNECTED WITH 1/2" DIA. X 2" LG. GALVANIZED HEX-HEAD BOLTS AND NUTS WITH LOCK WASHERS.
- DIAPHRAGM TO BE MINIMUM OF 4 FEET FROM FIELD JOINT OF PIPE.
- DIAPHRAGM TO BE COMPLETELY COVERED WITH SOIL.

- ① CONNECTION OF CORRUGATED SHEETS WITH FLAT PLATE MAY BE EITHER SHOP FABRICATED USING 3/8" DIA. X 3/4" RIVETS ON 6" MAXIMUM CENTERS OR FIELD BOLTED USING 3/8" DIA. X 1" GALVANIZED BOLTS ON 6" MAXIMUM CENTERS. OTHER CONNECTION METHODS MAY BE USED AS APPROVED BY THE OFFICE OF CONSTRUCTION & MATERIALS ENGINEERING.
- ② W = CULVERT DIAMETER OR SPAN + 6" EACH SIDE.
- ③ CONFORM TO FIT ROUND OR ARCH CULVERT. (ROUND PIPE SHOWN).

APPROVED Apr. 30, 1980

*R. O. Kipp*  
Acting  
Assistant Division Director  
Technical Services

STATE OF MINNESOTA  
DEPARTMENT OF TRANSPORTATION

ANTI-SEEPAGE DIAPHRAGM  
( FOR CMP AND CMP-A )

SPECIFICATION  
REFERENCE

2501

STANDARD  
PLATE  
NO.

3146C