NOTE:
1. Minimum number of studs shall be 4 at each side of the invert.
2. Recommended minimum plate thickness without burn-through for a %8 head stud is 0.07% (Page 14.2 for a 1/8" stud is 0.1150" (Page No. 11).
3. Temp strength of 0.770 through 0.830 in tensile wall strength exceed the culvert wall strength. Maximum load designs shall be limited by wall strength, and the selected number of studs shall be checked by wall strength.
4. The concrete shall be rounded with 3 inch radius on a 1/16 level at the ends of the inlet and outlet of the pipe.

PROCEDURES FOR CORRUGATED STEEL PIPE (CSP) CULVERT INVERT REPAIR:

1. Choose proper size of stud connectors. All connectors shall be welded to the pipe crest equally spaced on both sides of the invert transversely, minimum spacing between studs circumferentially shall be 3".
2. In cross section, limits of placement of the repair shall be made to subtend a minimum central angle of 120 degrees at the 4 o'clock and 8 o'clock positions of a circular culvert, but may be extended up to 180 degrees (to 2 o'clock and 9 o'clock positions), or to a lesser central angle if deemed necessary.
3. Minimum concrete cover above shear stud shall be %2", and studs shall have at least 1/2" of lateral concrete cover.
4. Provide welded wire fabric (WWF) to meet the temperature and shrinkage requirements for concrete pad. Tack weld or tie WWF to pipe crests at 12" spacing minimum each way.
5. WWF shall be placed with a minimum of 4" clear cover from the edge of concrete and shall be lapped %6 minimum.

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