

INSTRUCTION SHEET
FOR MISSOURI STANDARD DRAWINGS
29-N-625

9. Wall Steel

$$\text{Quantity of } A_{SV} = \frac{\pi \times D_a}{A_{SV} \text{ Spacing} / 12} = \text{_____ Bars}$$

$$\text{Length} = \text{Number of Bars} \times \left(H - \frac{3}{12} \right) = \text{_____ Lin. ft.}$$

$$\text{Quantity of } A_{SR} = \left(\frac{H - 2}{A_{SR} \text{ Spacing} / 12} \right) = \text{_____ Bars}$$

$$\text{Length of Bar} = \text{Quantity} \times \pi D_a = \text{_____ Lin. ft.}$$

$$\text{Quantity of Tie Bars} = \text{Same as } A_{SV} = \text{_____ Bars}$$

$$\text{Length of Tie Bars} = \text{Quantity} \times \frac{\text{Total Length}}{12} = \text{_____ Lin. ft.}$$

10. Drain Fill

$$\text{Area} = 1 \times \left(\frac{\text{Footing Depth}}{12} + 0.5 \right) + \left(\frac{H}{3} \times \frac{C_{ext}}{12} \right) + \left(\frac{H}{3} \times 1.5 \times \frac{H}{3} \right) = \text{_____ ft}^2$$

$$\text{Volume} = \text{Area} \times \left(D + \frac{2B}{12} \right) \times \frac{\pi}{27} = \text{_____ ft}^3 = \text{_____ cu. yd.}$$

$$\text{Volume of Floor Slab Drain} = 0.5 \times (D + 2B) \pi = \text{_____ ft}^3 = \text{_____ cu. yd.}$$

11. Iowa Spreadsheet

In lieu of computing concrete and steel quantities the Iowa Spreadsheet may be used.

- a. Use 1/4" x 6" Steel Plate or PVC Waterstop
- b. Use 20' Steel Bar lengths.
- c. Do not place floor slab monolithically with footings.
- d. Excavation, Earthfill and Drainfill will need to be computed.
- e. You will need to insert the unit costs that are reasonable for you area.
- f. Note that splice lengths are included with A_{S2} and A_{SR} .
- g. To eliminate confusion during construction use all grade 60 steel. The grade 60 is required in the walls and footings.
- h. Compute tank volume on minimum freeboard allowed for 6" empty space, plus 25 year, 24 hour rainfall plus 6" of sediment. The spread sheet evidently does this a little differently.
- i. Note the tank may not have an unloading slab if landowner does not desire one.
- j. Drain pipe length is that needed to encircle the tank plus the length allowed for outlet.

We feel the quantities shown for concrete and reinforcing steel are close to quantities shown by previous equations.