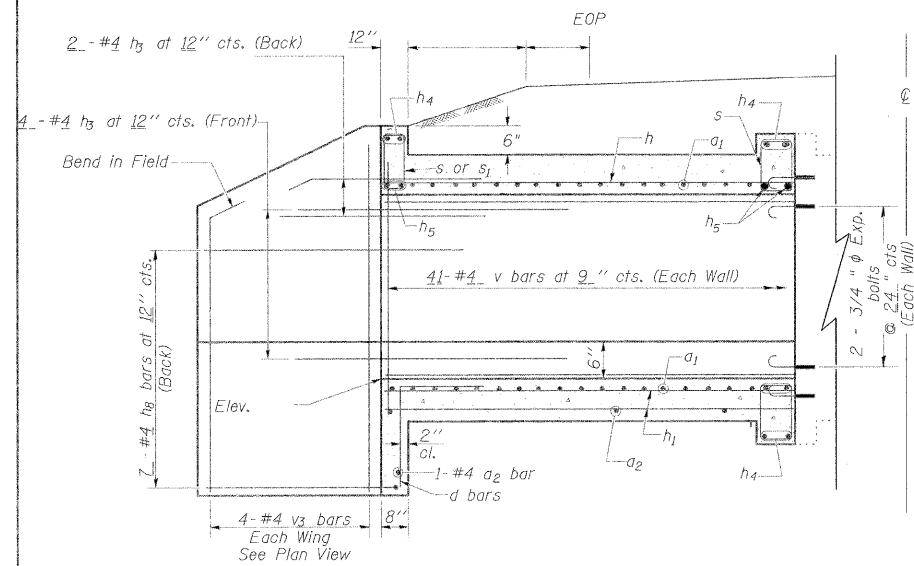
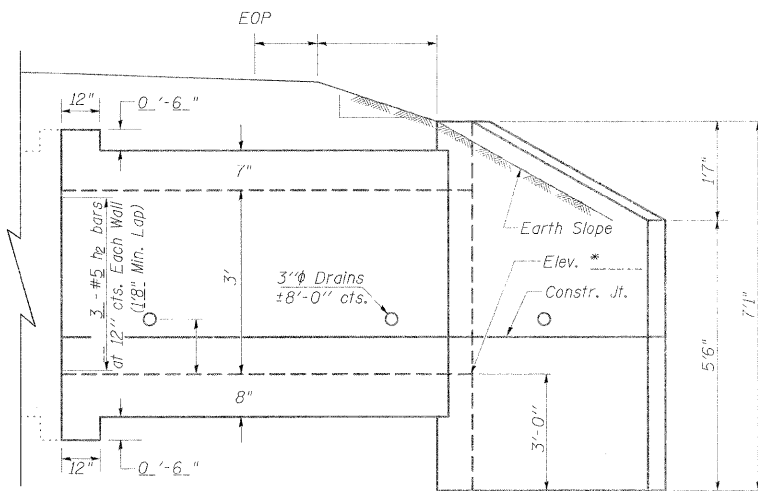


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

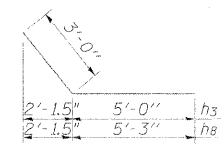


ELEVATION

Dimensions at Rt. L's to \mathcal{Q} Roadway



* DSFL 440.67 (EB IL 13)



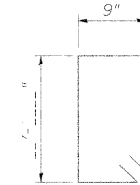
BARS h_3 & h_8



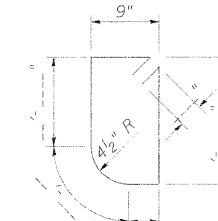
BAR d



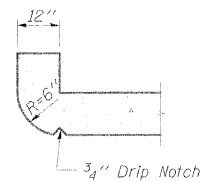
BAR a_1



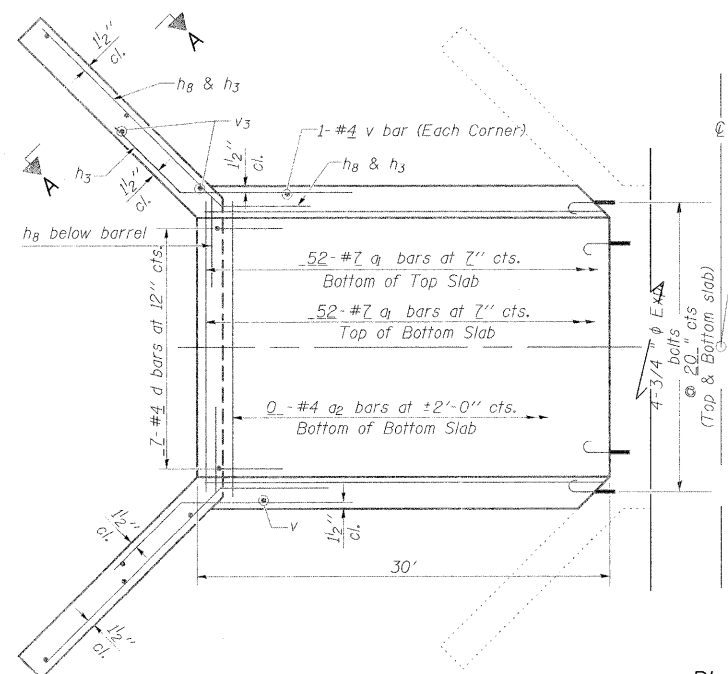
Bar s
(Downstream)



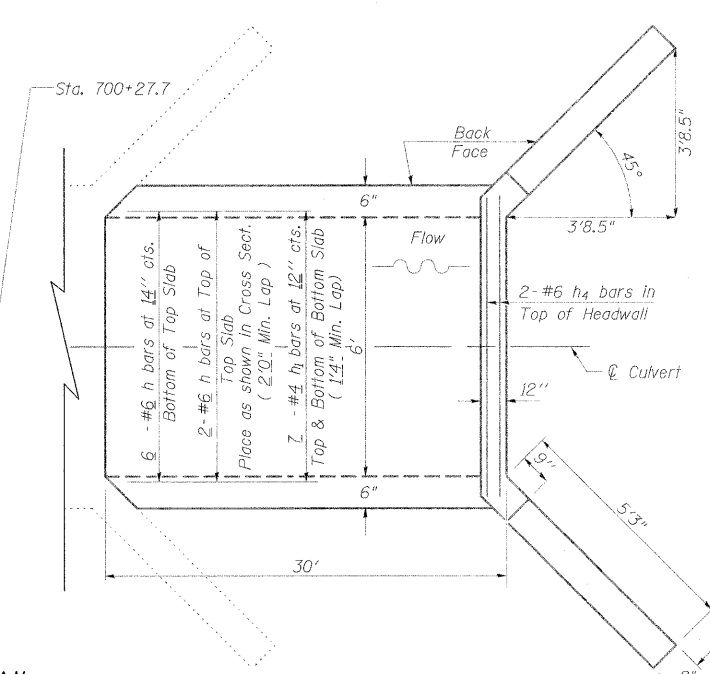
Bar s_1
(Upstream)



SECTION THRU HEADWALL
(Up Stream End Only)



PLAN



NOTES

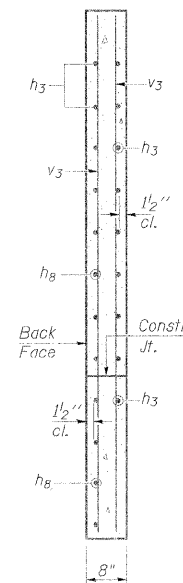
DESIGN STRESSES

$f_y = 60,000$ psi
 $f'_c = 3,500$ psi

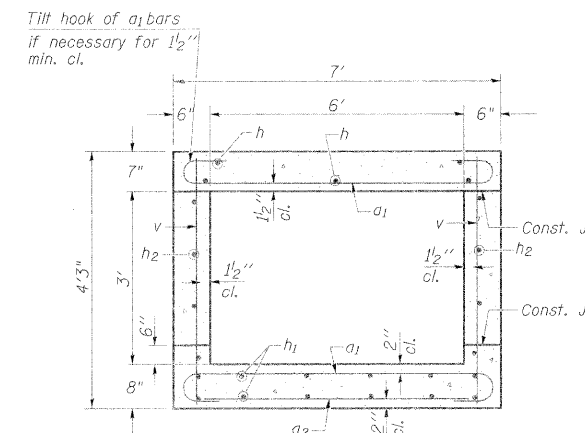
LOADING HS 20-44 & ALT.

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---------------------------------|-----|---------|--------|-------|
| a_1 | 104 | #7 | 8'-4" | |
| a_2 | 0 | #4 | | |
| d | 7 | #4 | 4'-6" | |
| h | 8 | #6 | 29'-9" | |
| h_1 | 14 | #4 | 29'-9" | |
| h_2 | 6 | #5 | 29'-9" | |
| h_3 | 12 | #4 | 8'-0" | |
| h_4 | 6 | #6 | 6'-9" | |
| h_5 | 4 | #7 | 6'-9" | |
| h_8 | 14 | #4 | 8'-3" | |
| s | 0 | #4 | | |
| s_1 | 0 | #4 | | |
| v | 84 | #4 | 3'-11" | |
| v_3 | 8 | #4 | 6'-10" | |
| Concrete Box Culverts | | Cu. Yd. | 15.3 | |
| Reinforcement Bars | | Pound | 3130 | |
| $\frac{3}{4}$ " Expansion bolts | | Each | 12 | |



SECTION A-A



SECTION THRU BARREL

REVISIONS

| REVISIONS | DATE | BY |
|-----------|------|----------|
| DRAWN | 2-04 | |
| REVISED | 5-09 | SHT CELL |
| REVISED | | |
| REVISED | | |

Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.

Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

All construction joints shall be bonded.

Expansion bolts shall be $\frac{3}{4}$ " ϕ x 12" hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete and have a minimum certified proof load of 4,080 lbs.