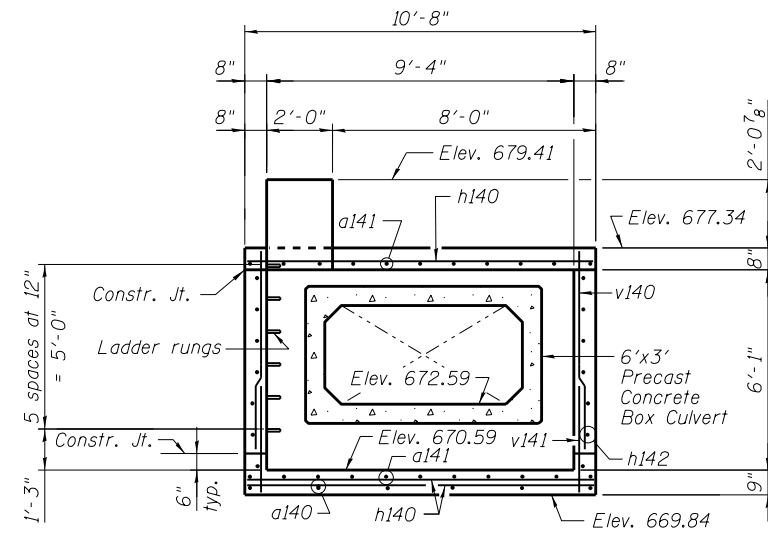
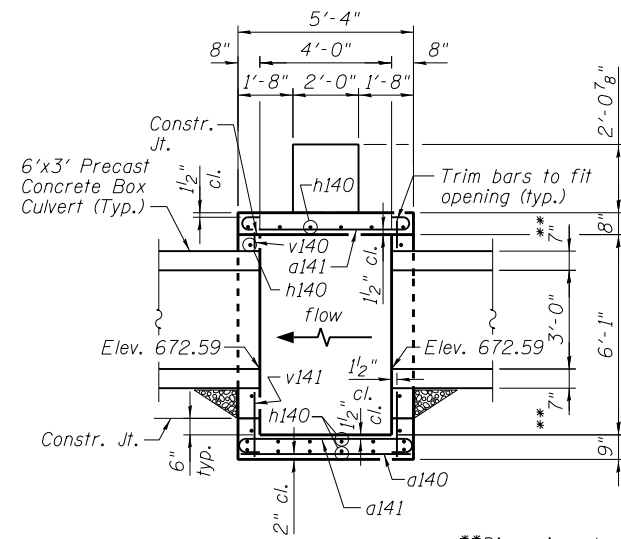


Notes:
 Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
 Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.



SECTION A-A

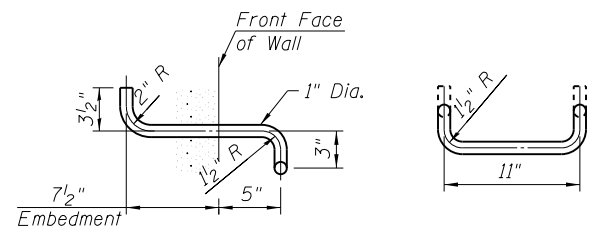


SECTION B-B

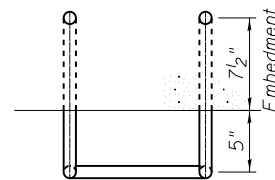
**Dimensions to be verified with precast concrete box culvert manufacturer.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a140	7	#5	5'-0"	—
a141	25	#5	6'-3"	U
h140	38	#5	10'-4"	—
h141	8	#5	2'-9"	—
h142	14	#5	5'-1"	—
v140	40	#5	6'-0"	—
v141	40	#5	2'-4"	—
Structure Excavation			Cu. Yd.	52
Concrete Structures			Cu. Yd.	5.9
Reinforcement Bars			Pound	1,060



SIDE VIEW FRONT VIEW
 TYPE Z LADDER RUNG ELEVATIONS



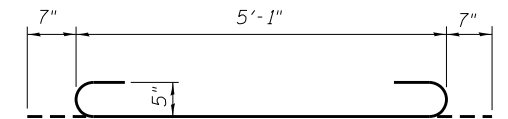
TYPE Z LADDER RUNG PLAN

- The ladder rungs shall be aluminum, conforming to ASTM B361-Alloy 6061-T6 or shall be ductile iron. Aluminum ladder rungs shall receive a heavy coat of bituminous paint or cold applied asphaltic mastic for the portion embedded in concrete. The coating must extend beyond the embedment at least two inches.
- The contractor may submit an alternative ladder rung detail for Engineer's approval.

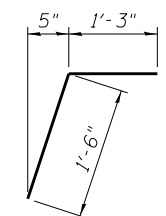
Note: All costs for compacted subbase or CLSM, ladder rungs and all other appurtenances required to complete this work shall be included in the item "Concrete Structures."

DESIGN STRESSES

$f_y = 60,000 \text{ psi}$
 $f'_c = 3,500 \text{ psi}$



BAR a141



BAR h141

FILE NAME = D160M62-SHT-JC4-02.dgn	USER NAME = Anthony.Plutz	DESIGNED - PMH	REVISED -
		CHECKED - MJL	REVISED -
	PLOT SCALE = 5:10.0000' 1" / in.	DRAWN - AMV	REVISED -
	PLOT DATE = 3/12/2013	CHECKED - PMH	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	103R-5	COOK	778	224
CONTRACT NO. 60M62			ILLINOIS FED. AID PROJECT	