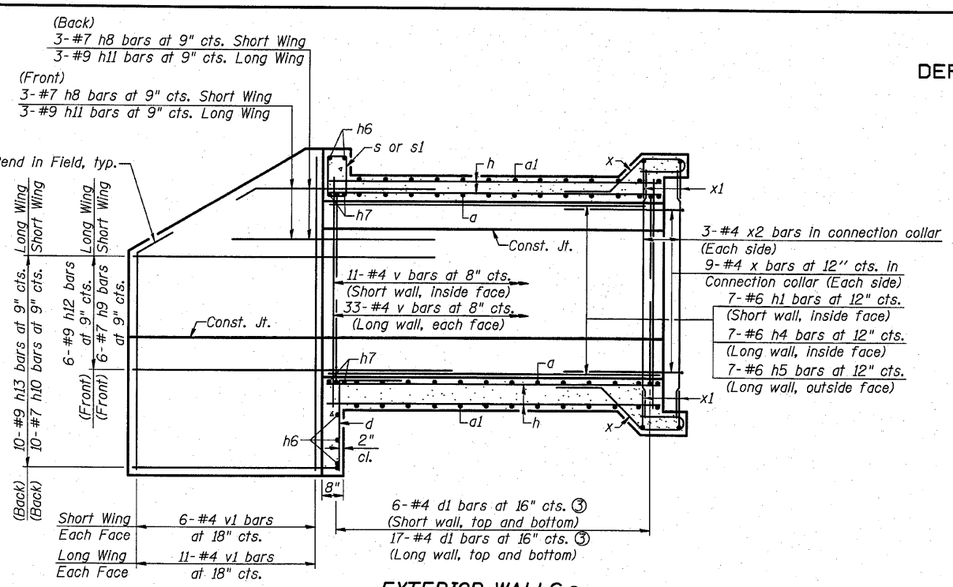
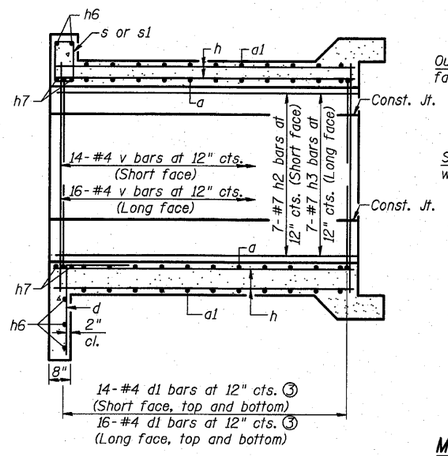
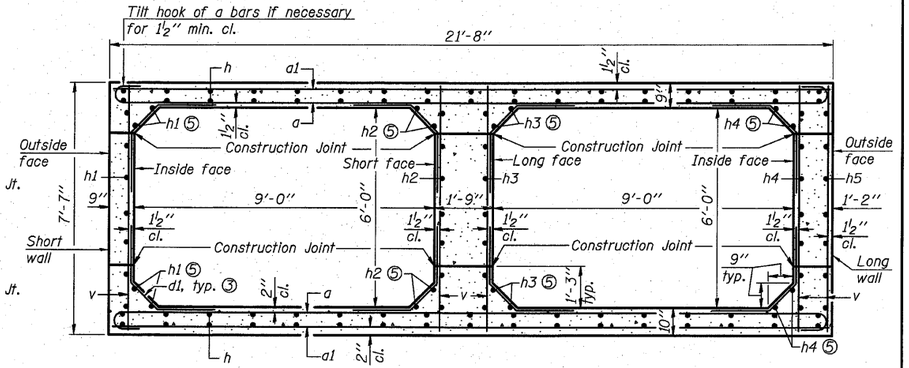
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



EXTERIOR WALLS ⑦
(Showing connection collar reinforcement)

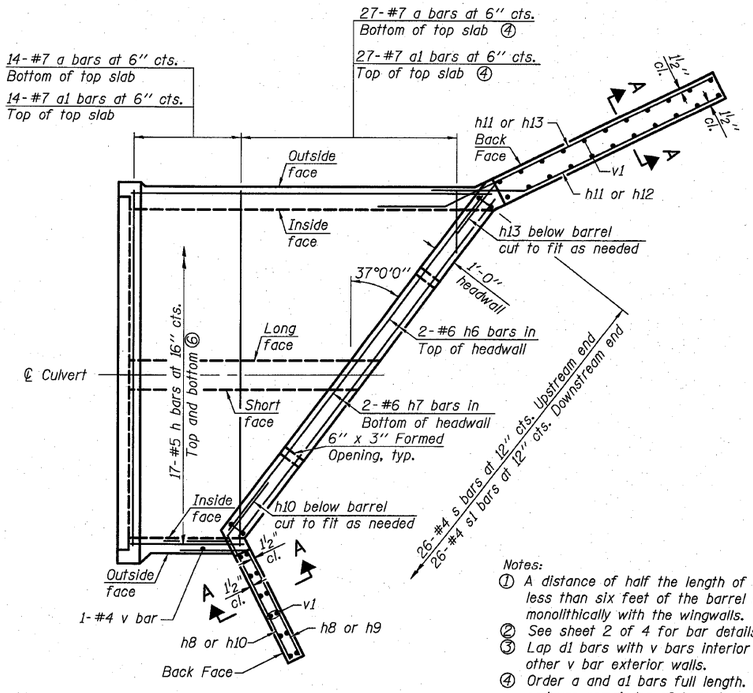


INTERIOR WALL ⑦

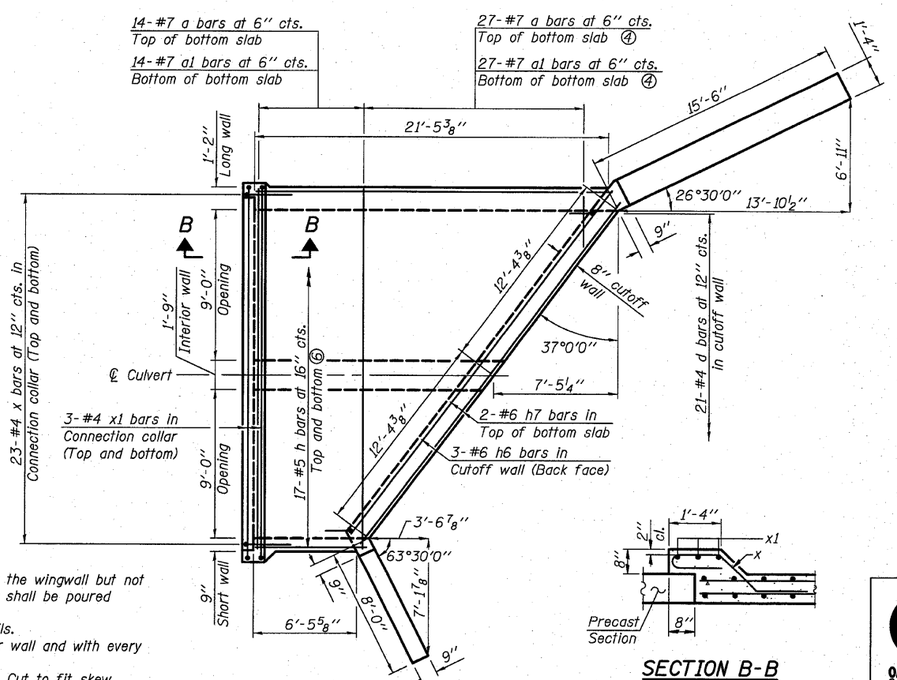


SECTION THRU BARREL

LONGITUDINAL SECTION

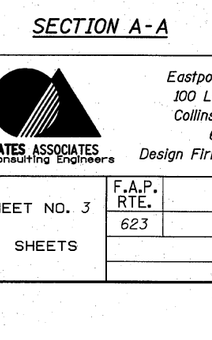


TOP SLAB PLAN ⑦
(Showing wingwall, top slab,
and headwall reinforcement)



BOTTOM SLAB PLAN ⑦
(Showing dimensions and connection collar,
bottom slab, and cutoff wall reinforcement)

SECTION B-B



SECTION A-A

MINIMUM BAR LAP
#4 bar = 1'-4"
#6 bar = 2'-0"
#7 bar = 2'-9"

BILL OF MATERIAL
(Two End Sections)

Bar	No.	Size	Length	Shape
a	110	#7	23'-0"	
a1	110	#7	21'-4"	
d	42	#4	4'-6"	
d1	212	#4	5'-2"	
h	68	#5	28'-0"	
h1	22	#6	6'-7"	
h2	22	#7	13'-4"	
h3	22	#7	14'-7"	
h4	22	#6	21'-5"	
h5	14	#6	21'-1"	
h6	10	#6	25'-9"	
h7	8	#6	26'-8"	
h8	12	#7	8'-0"	
h9	12	#7	10'-3"	
h10	20	#7	10'-11"	
h11	12	#9	8'-0"	
h12	12	#9	18'-3"	
h13	20	#9	20'-4"	
s	26	#4	4'-7"	
s1	26	#4	4'-9"	
v	216	#4	7'-3"	
v1	68	#4	10'-2"	
x	128	#4	4'-10"	
x1	12	#4	24'-10"	
x2	12	#4	8'-6"	
Concrete Box Culverts		Cu. Yd.	90.0	
Reinforcement Bars		Pound	21,840	

Notes:
① 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.
② See sheet 2 of 4 for bar details.
③ Lap d1 bars with v bars interior wall and with every other v bar exterior walls.
④ Order a and a1 bars full length. Cut to fit skew and use remainder of bars in opposite end.
⑤ Place two h1, h2, h3, and h4 bars in corresponding haunch, top and bottom.
⑥ See sheet 2 of 4 for h bar Cutting Diagram.
⑦ Haunch not shown for clarity.

STRUCTURE DETAILS
STRUCTURE NO. 032-2020

OATES ASSOCIATES Consulting Engineers
Eastport Business Center 1
100 Lanter Court, Suite 1
Collinsville, Illinois 62234
618-345-2200
Design Firm License No. 184.001115

DESIGNED JAD
CHECKED NEL
DRAWN JAD
CHECKED NEL

SHEET NO. 3	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4 SHEETS	623	(0) BR	GRUNDY	35	16
			CONTRACT NO. 66913		
		ILLINOIS FED. AID PROJECT			