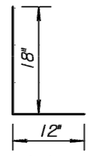
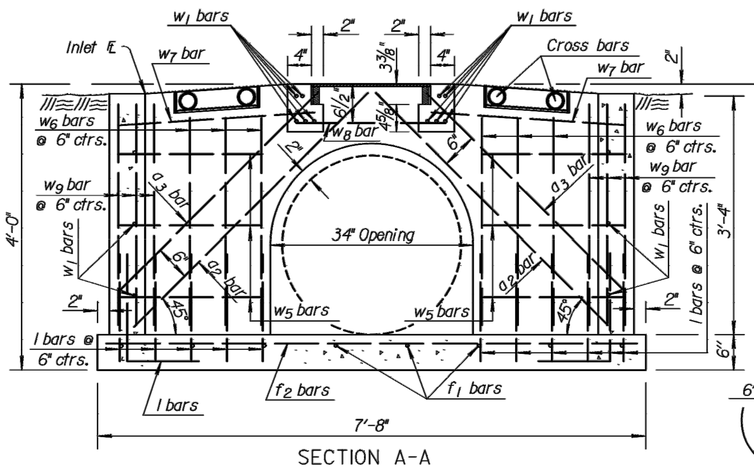
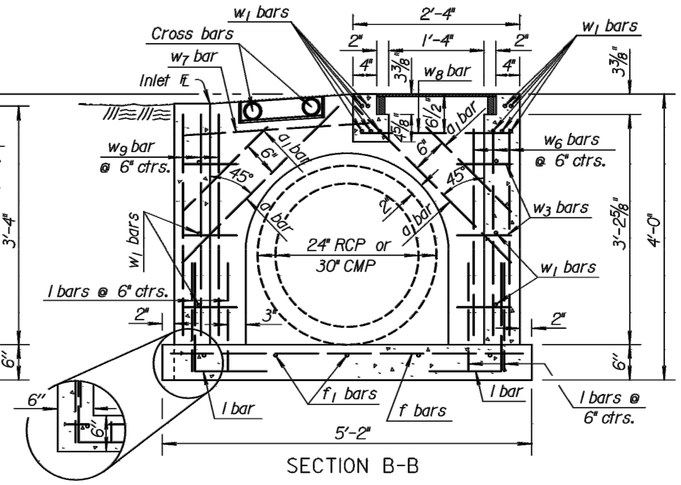
BILL OF MATERIALS			
TYPE II H= 4'-0"			
Bar	No.	Size	Length
a_2	2	#4	4'- 7"
a_3	2	#4	3'-10"
f_1	8	#4	3'- 7"
f_2	4	#4	7'- 5"
l	39	#4	2'- 6"
w_1	16	#4	3'- 3"
w_4	3	#4	7'- 1"
w_5	6	#4	1'-11"
w_6	17	#4	2'-10½"
w_7	4	#4	2'- 8"
w_8	2	#4	2'- 1"
w_9	22	#4	3'- 1"
Conc. Gr. 3.0			1.7 Cu.Yd.
Reinf. steel		260	Lbs.
Struct. steel		✳224	Lbs.
Class III Excav.		13	Cu.Yd.



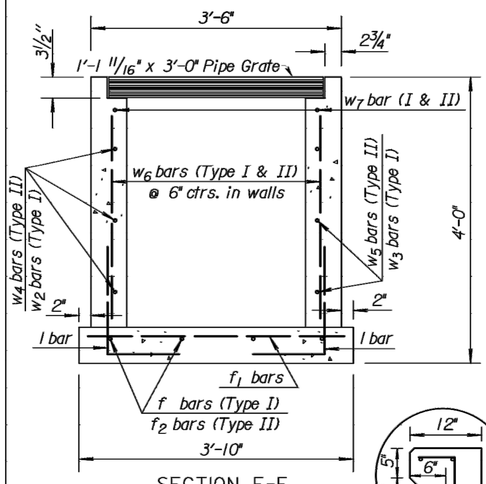
NOTE: ALL REINFORCING BARS ARE #4 BARS ON 12" CENTERS UNLESS OTHERWISE NOTED.



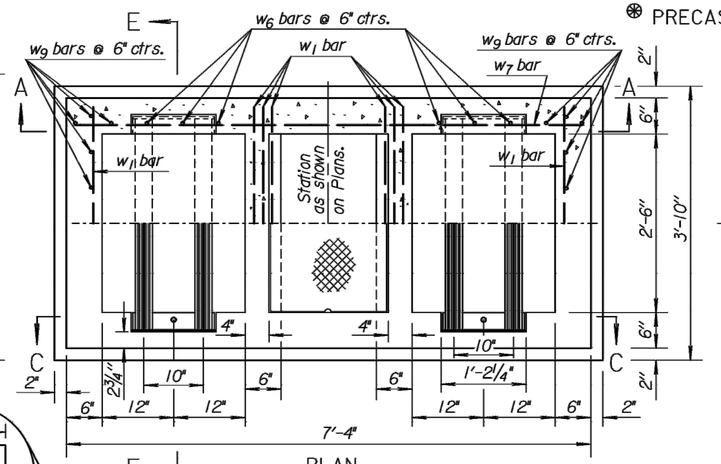
SECTION A-A



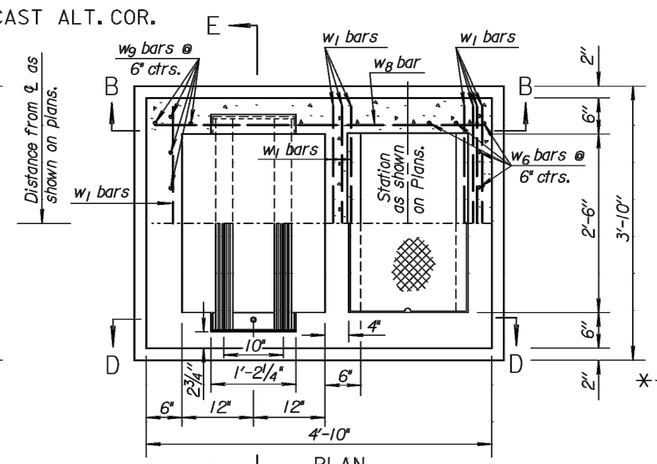
SECTION B-B



SECTION E-E
TYPE I & TYPE II



PLAN
TYPE II

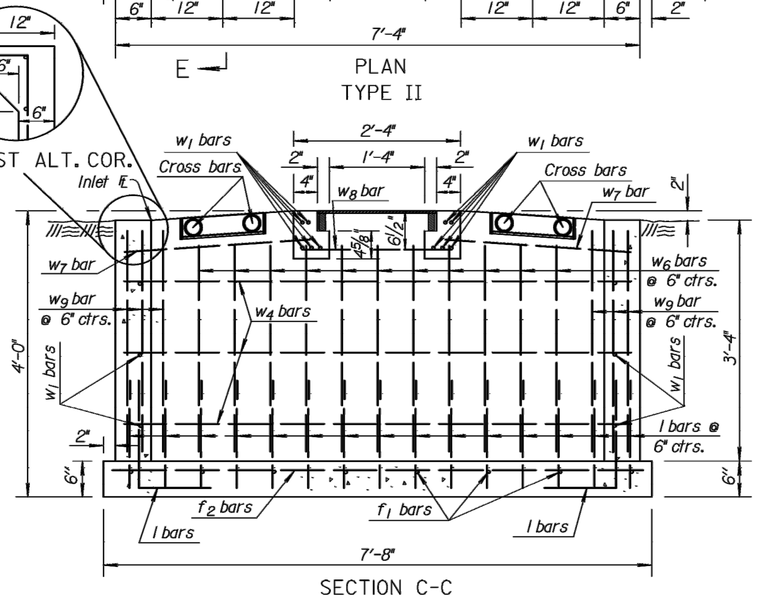


PLAN
TYPE I

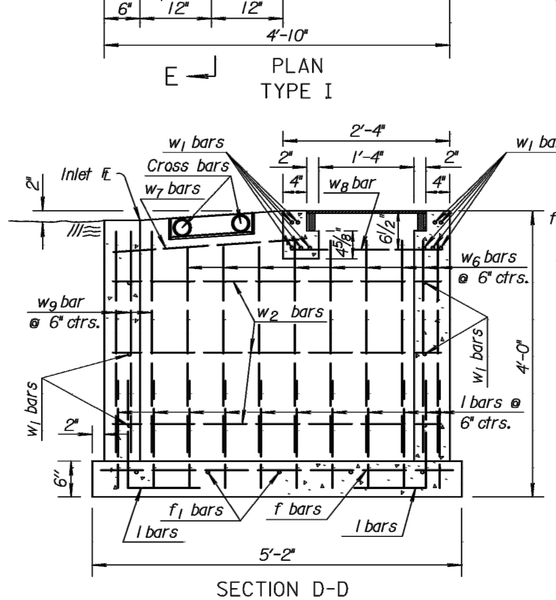
✳ PRECAST ALT. COR.

BILL OF MATERIALS			
TYPE I H=4'-0"			
Bar	No.	Size	Length
a	2	#4	3'- 1"
a_1	2	#4	1'- 9"
f	4	#4	4'- 11"
f_1	5	#4	3'- 7"
l	28	#4	2'- 6"
w_1	16	#4	3'- 3"
w_2	3	#4	4'- 7"
w_3	6	#4	0'- 9"
w_6	17	#4	2'-10½"
w_7	2	#4	2'- 8"
w_8	2	#4	2'- 1"
w_9	11	#4	3'- 1"
Conc. Gr. 3.0			1.2 Cu.Yd.
Reinf. steel		187	Lbs.
Struct. steel		✳161	Lbs.
Class III Excav.		10.2	Cu.Yd.

NOTE: ALL REINFORCING BARS ARE #4 BARS ON 12" CENTERS UNLESS OTHERWISE NOTED.



SECTION C-C



SECTION D-D

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0514-01	2010	38	148

GENERAL NOTES

Concrete Grade 3.0, Concrete Grade 3.0 (AE), or the mix used in Concrete Pavement, at the Contractor's option, shall be used throughout.

All exposed edges shall be finished with an edging tool.

All structural steel shall comply with ASTM A-36, A-242, or A-441.

Cross bars shall be fastened securely to the concrete wings by bolts or other suitable means.

Minor variations in the shape of legs will be permitted but payment will be made on calculated weight.

Cast iron cover plate, constructed to the dimensions shown for structural steel cover plate, minimum weight 98 lbs. (approx.), will be allowed as an approved alternate.

All castings shall be gray iron and shall comply with the Standard Specifications.

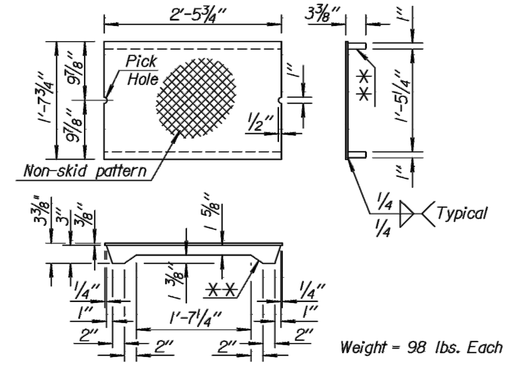
The weight of castings includes no allowance for fillets and overruns.

All exposed structural steel shall be painted with a coat of inorganic zinc primer and then with a topcoat or a field coat of organic zinc, each coat to be 3 to 4 mils. As an alternate, all structural steel parts may be hot dip galvanized after fabrication in accordance with the Standard Specifications.

Minimum clearance on all reinforcing steel shall be 1½" except where noted.

Four lift anchor inserts, 4 ton capacity, cast in interior floor for safe and efficient handling of precast structure.

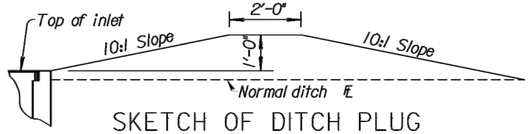
✳ Cast in place or precast option, size and details shown are typical cast-in-place example. Precast variations noted, moderately larger precast inlet size that meet or exceed cast-in-place design are acceptable.



Weight = 98 lbs. Each

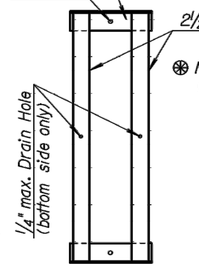
✳ STRUCTURAL STEEL COVER PLATE
Non skid steel floor plate (commercial grade)

✳✳ At the contractors option, the supports on the cover plate may be made with the "feef" portions welded to the l ⅝" steel bars. The weld shall be ⅛" full length, each side and ground smooth on the outside.



SKETCH OF DITCH PLUG

An earth dike, as shown above, shall be constructed across the ditch downstream from each Type I inlet where no other plug is used.



Weight (Pipe Grate) = 63 lbs. Each

✳ Note: Precast option - (3- 2½" I.D (Ex. Strong) Galv. pipe grate) in place of Steel Cover Plate and concrete support.

✳ PIPE GRATE

NO.	DATE	REVISIONS	BY	APP'D
27	9-30-09	Revised Inlet ℄ location	S.W.K.	J.O.B.
26	6-05-07	Redesigned, precast option	S.W.K.	J.O.B.
25	1-28-05	Changed Class to Grade concrete	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

CONCRETE DITCH INLETS, TYPES I & II

RD631

FHWA APPROVAL	12-16-09	APP'D. James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King