

# East Bench Canal Company

## Typical Drawings

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- 6 IRRIGATION BUBBLE UP BOX
- 7 IRRIGATION TURNOUT-DIVERSION BOX
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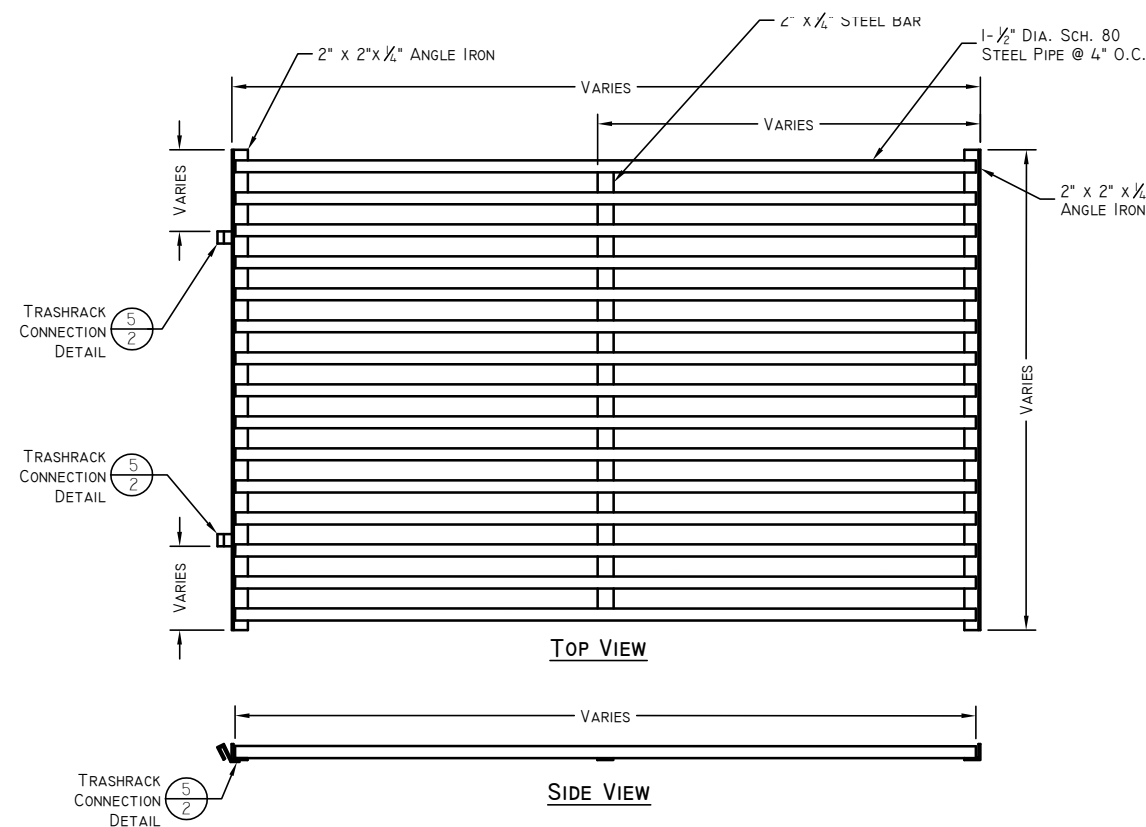
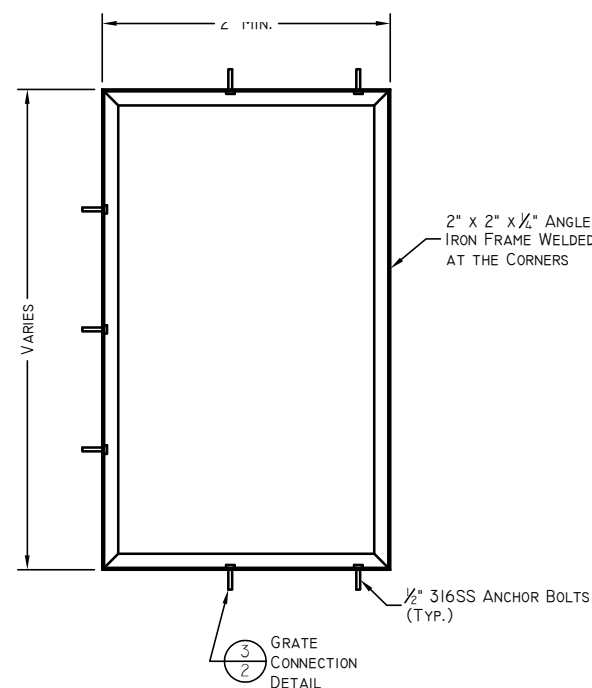
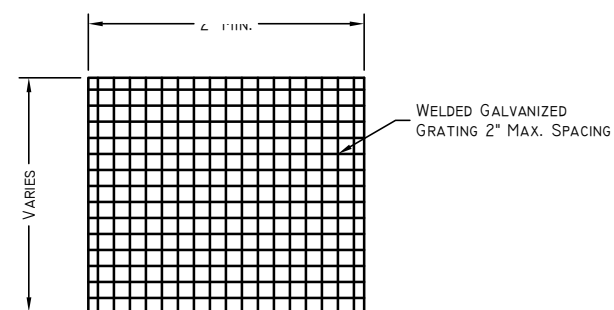
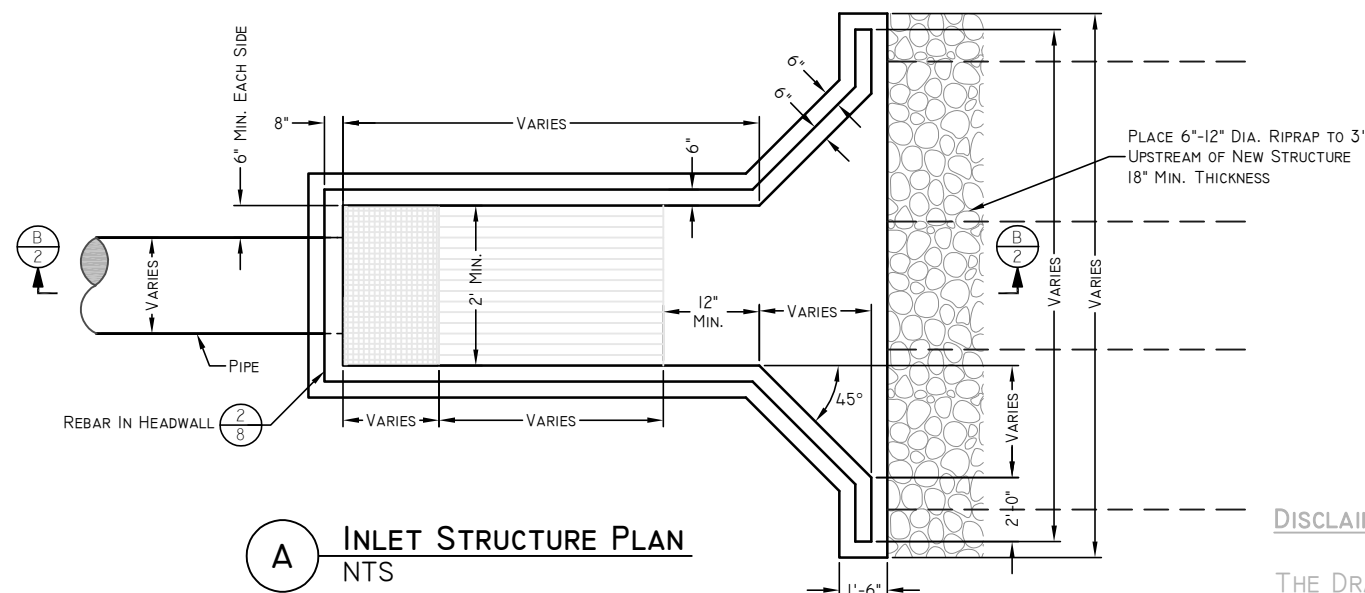
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EAST BENCH  
CANAL COMPANY

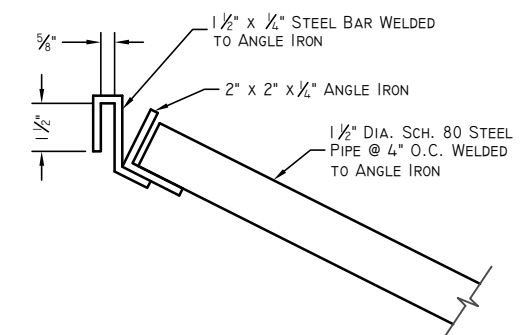
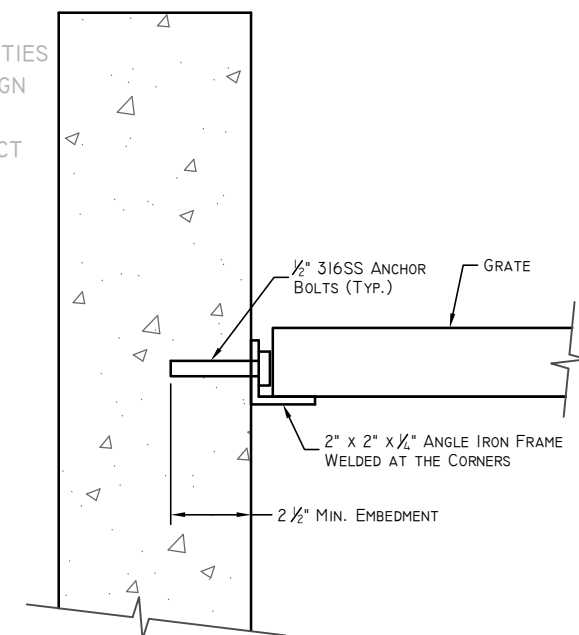
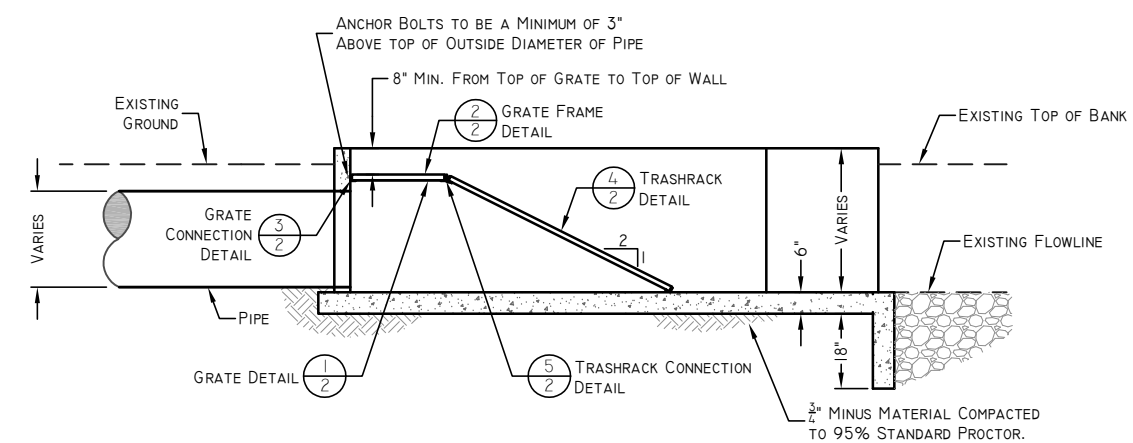
DESIGNER:		CHAD BROWN	PROJECT LEADER:		CHAD BROWN
DRAFTSMAN:		MATT GURR	PRINT DATE:		MARCH 20, 2017
NO.	DATE	INTS.	REVISIONS		
			DESCRIPTION		

EAST BENCH CANAL COMPANY	
TYPICAL DRAWINGS	
COVER SHEET, SHEET INDEX	
JOB NO.	
01 - Cover Sheet.dwg P:\UT\Central\East Bench Canal Reviews\Standard Drawings	



NOTES:

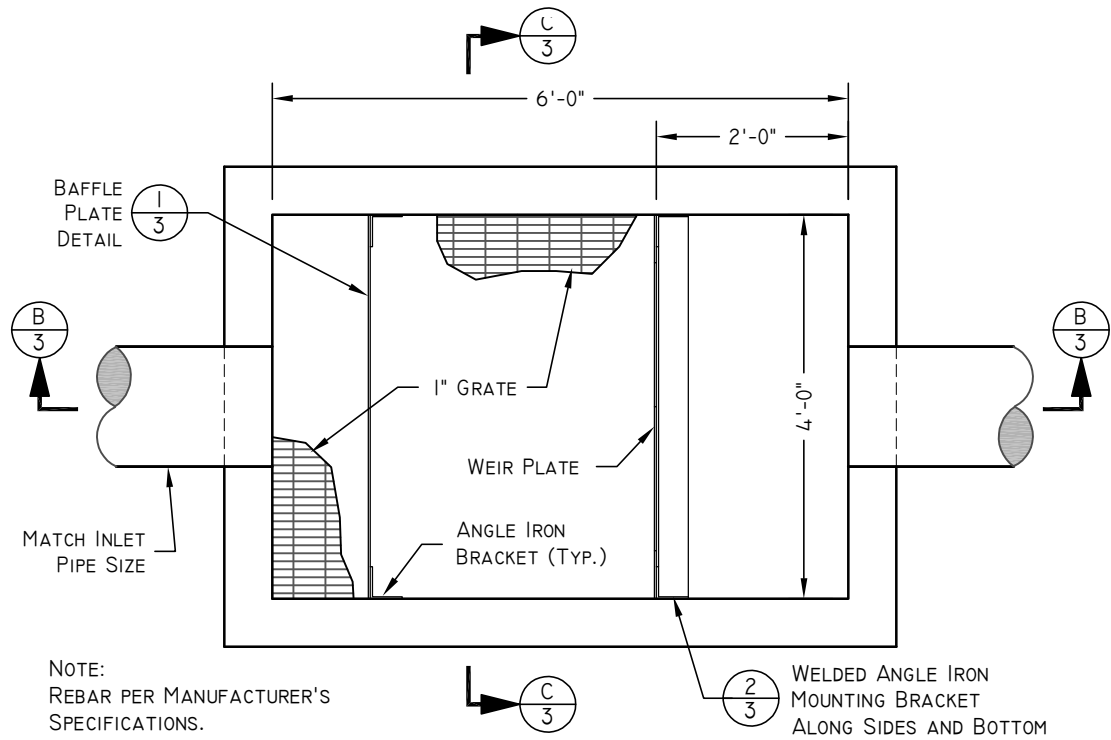
1. IF BOX IS CAST IN PLACE, REBAR TO BE PLACED AT 12 INCHES ON CENTER (O.C.) EACH WAY (E.W.) MINIMUM.
2. ALL PIPES INTO BOX SHALL BE GROUTED AND WATERTIGHT.
3. SUBMIT TO CANAL COMPANY ENGINEER FOR APPROVAL.
4. ENTIRE TRASHRACK TO BE HOT DIPPED GALVANIZED.
5. MINIMUM TWO GRATES TO BE INSTALLED. SUBMIT TO CANAL COMPANY ENGINEER FOR APPROVAL.



TRASHRACK CONNECTIONS REQUIRED	
PIPE SIZE	NUMBER OF CONNECTIONS REQUIRED
24"	4
30"	5

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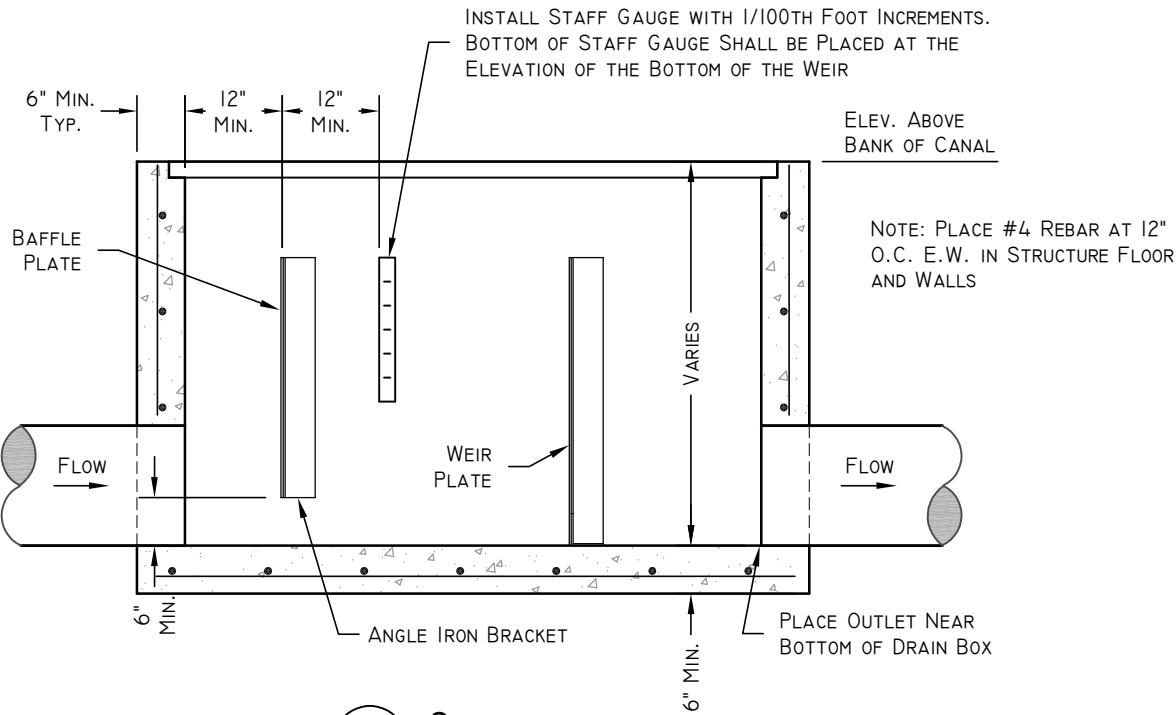


NOTE:  
REBAR PER MANUFACTURER'S  
SPECIFICATIONS.

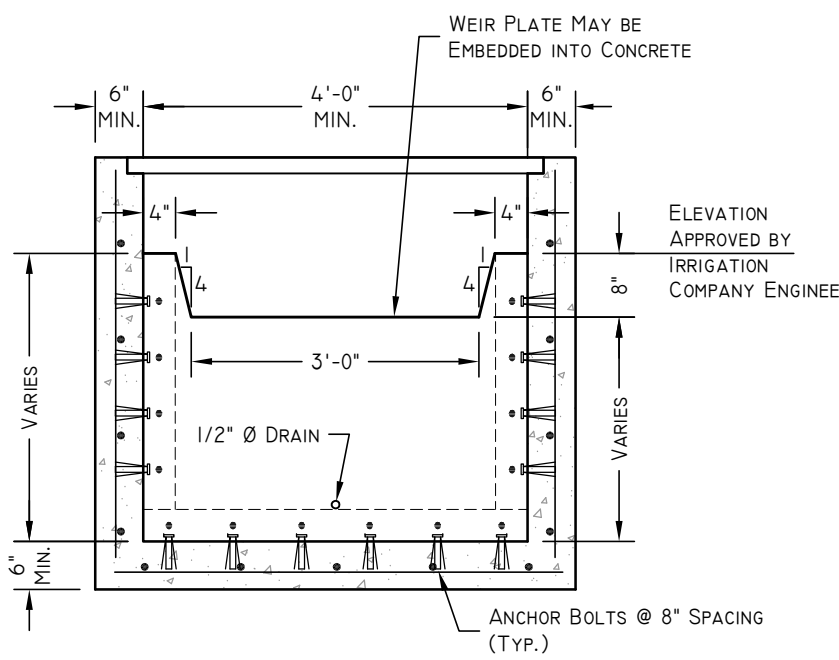
**A PLAN VIEW**  
NTS

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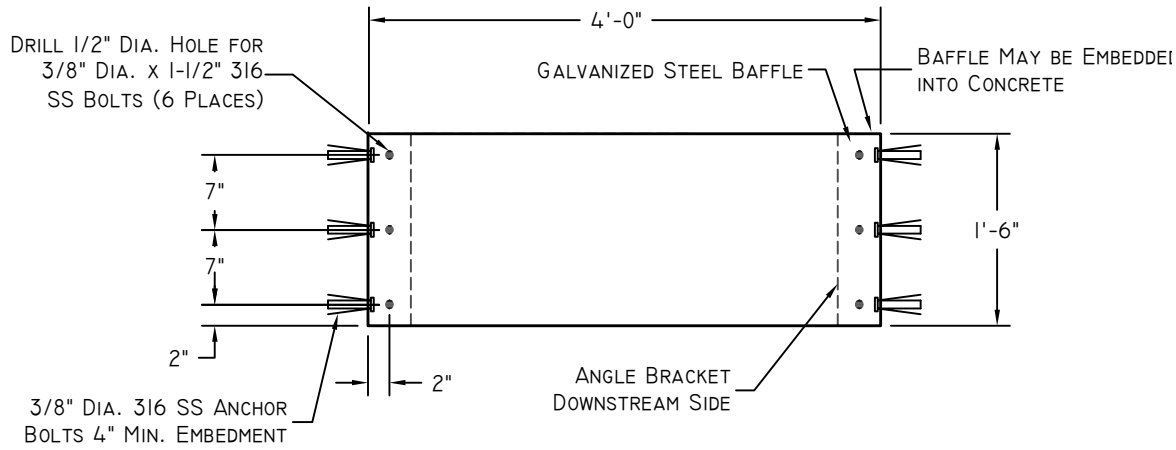
**B SECTION**  
NTS



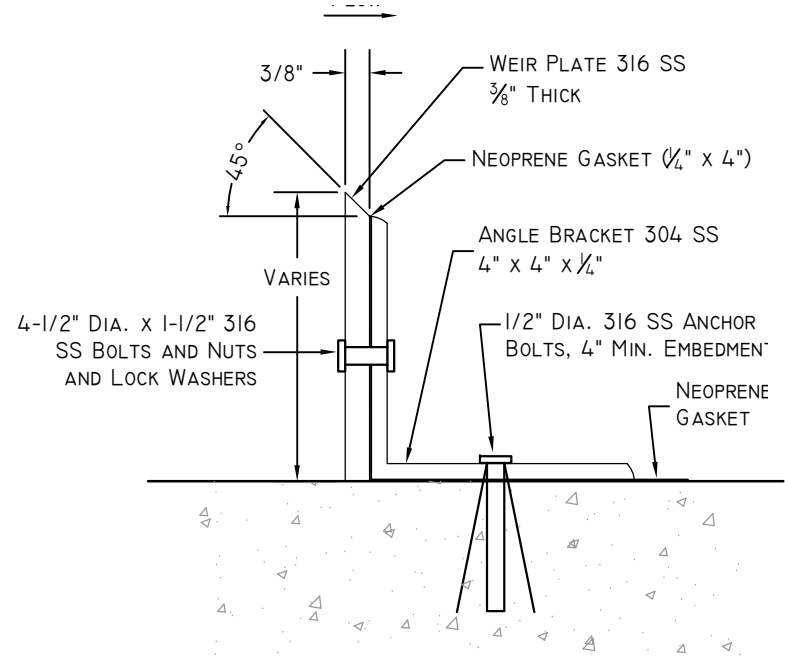
**C SECTION**  
NTS

**TABLE I**  
 $Q=3.367 LH^{3/2} @ L=3$

H (FT.)	Q (CFS)
0.2	0.90
0.3	1.66
0.4	2.56
0.5	3.57
0.6	4.69
0.66	5.42



**1 BAFFLE PLATE DETAIL**  
NTS



**2 ANGLE IRON DETAIL**  
NTS

- NOTES:
1. IF BOX IS CAST IN PLACE REBAR TO BE PLACED AT 12" O.C. E.W. MINIMUM.
  2. ALL PIPES INTO BOX SHALL BE GROUTED AND WATERTIGHT.
  3. SUBMIT TO IRRIGATION COMPANY ENGINEER FOR APPROVAL ON FINAL DIMENSIONS ON REBAR REINFORCEMENT AND CONCRETE COMPONENTS.
  4. PLACE STRUCTURE ON 6-INCHES OF IRRIGATION COMPANY ENGINEER APPROVED COMPACTED BEDDING.

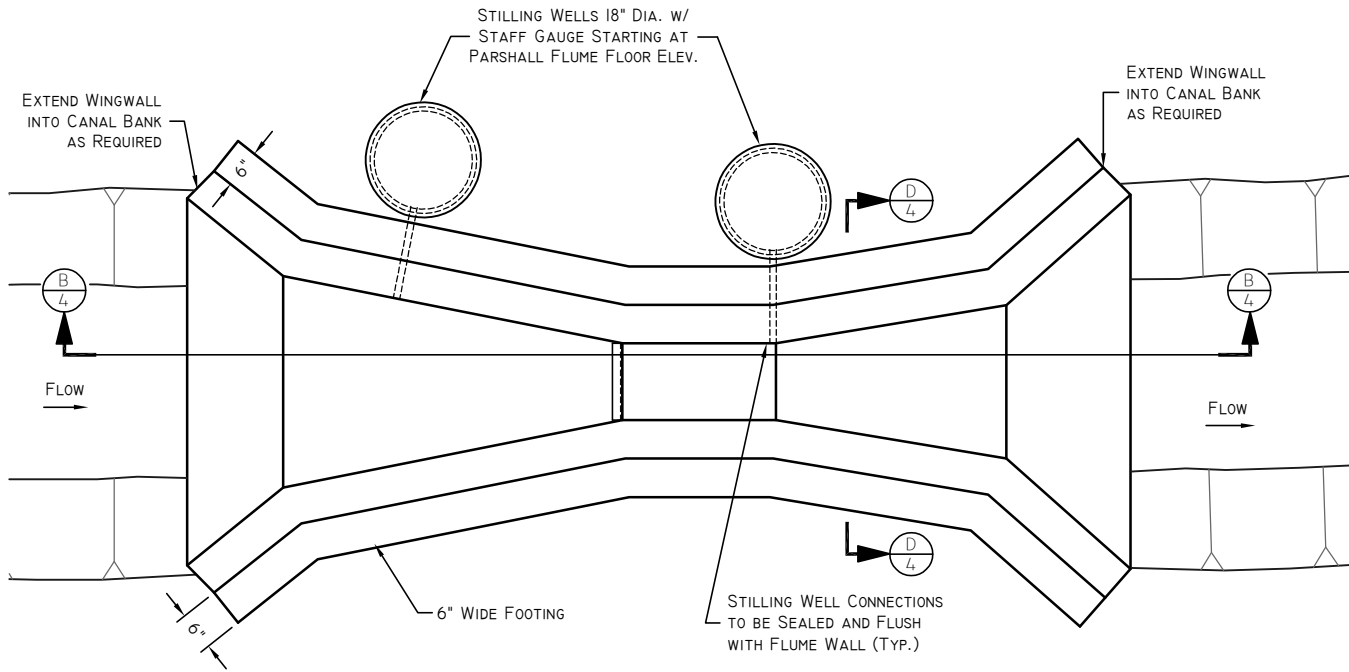
EAST BENCH  
CANAL COMPANY

DESIGNER	DRAWN	CHECKED	REVIEWED	PROJECT LEADER	PRINT DATE
CHAD BROWN	MATT GUR	CHAD BROWN	CHAD BROWN	CHAD BROWN	MARCH 20, 2017
NO.	DATE	REVISIONS	DESCRIPTION		

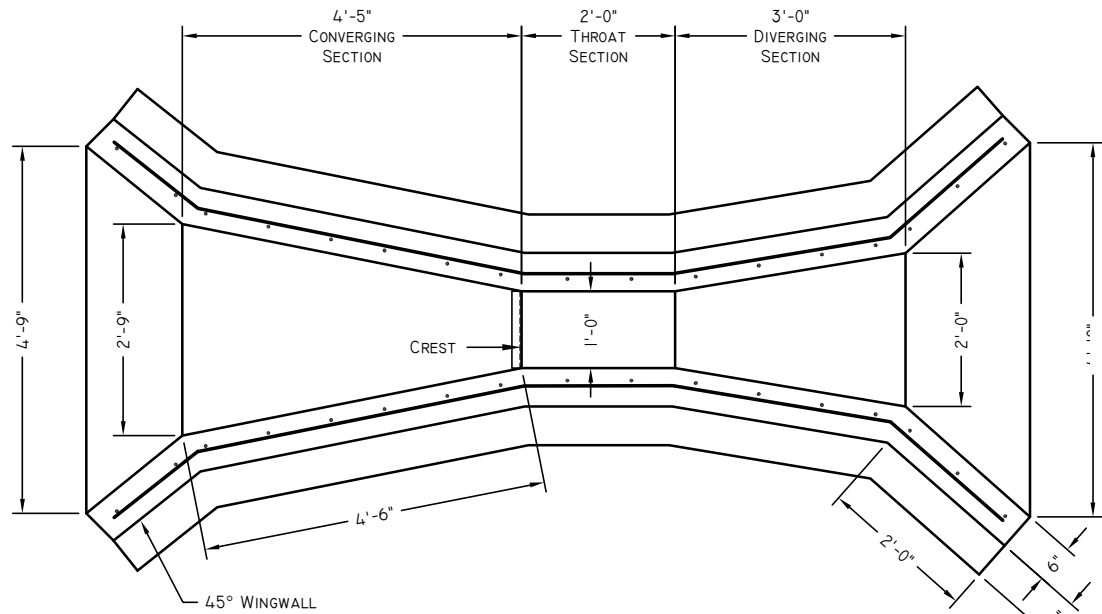
EAST BENCH CANAL COMPANY  
TYPICAL DRAWINGS  
3-FOOT CIPOLLETTI WEIR

05- 3 Foot Cipolletti Weir.dwg  
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JOB NO.



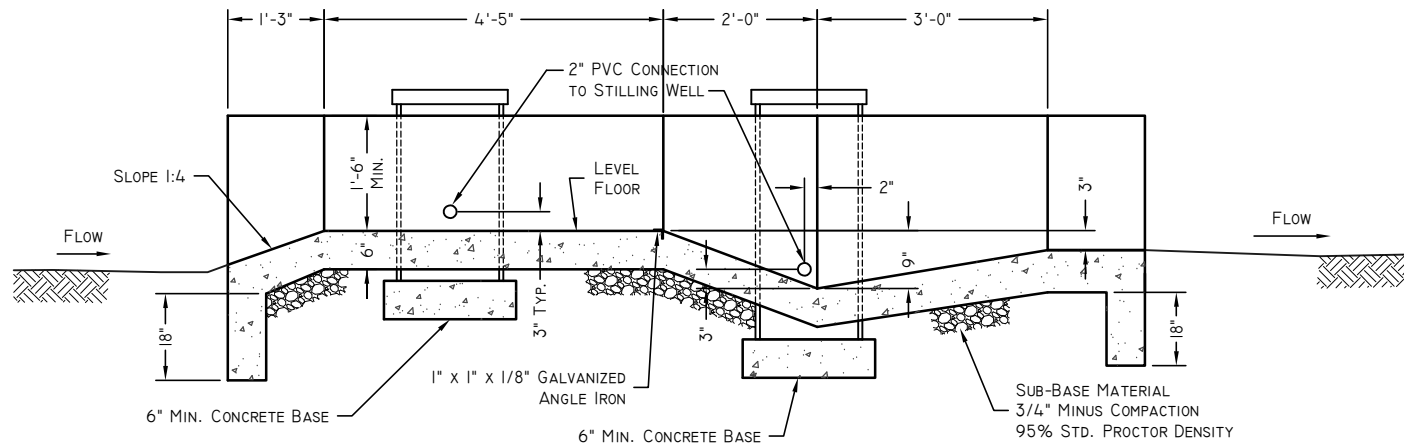
A PLAN



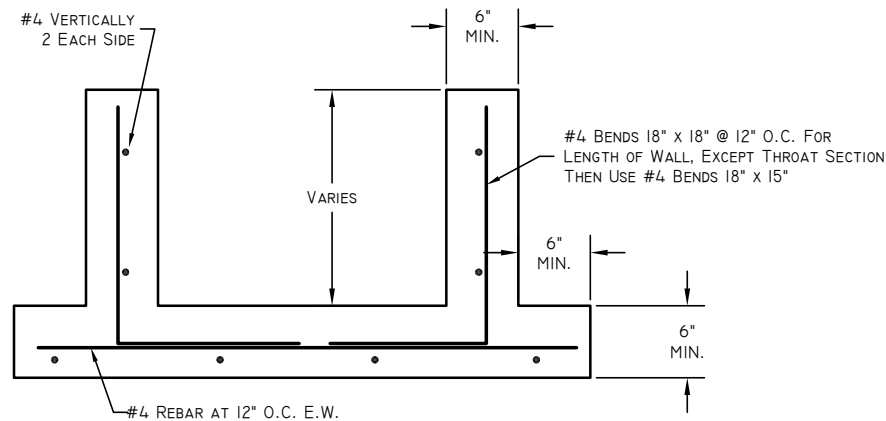
C REBAR PLAN

TABLE I  
HEAD-FLOW RELATIONSHIP  
FOR CONCRETE FLUME

HEAD H <sub>a</sub> (FEET)	FLOW Q (CFS)	HEAD H <sub>a</sub> (FEET)	FLOW Q (CFS)
0.20	0.35	0.86	3.18
0.21	0.37	0.87	3.24
0.22	0.40	0.88	3.29
0.23	0.43	0.89	3.35
0.24	0.46	0.90	3.41
0.25	0.49	0.91	3.46
0.26	0.51	0.92	3.52
0.27	0.54	0.93	3.58
0.28	0.58	0.94	3.64
0.29	0.61	0.95	3.70
0.30	0.64	0.96	3.76
0.31	0.68	0.97	3.82
0.32	0.71	0.98	3.88
0.33	0.74	0.99	3.94
0.34	0.77	1.00	4.00
0.35	0.80	1.01	4.06
0.36	0.84	1.02	4.12
0.37	0.88	1.03	4.18
0.38	0.92	1.04	4.25
0.39	0.95	1.05	4.31
0.40	0.99	1.06	4.37
0.41	1.03	1.07	4.43
0.42	1.07	1.08	4.50
0.43	1.11	1.09	4.56
0.44	1.15	1.10	4.62
0.45	1.19	1.11	4.68
0.46	1.23	1.12	4.75
0.47	1.27	1.13	4.82
0.48	1.31	1.14	4.88
0.49	1.35	1.15	4.94
0.50	1.39	1.16	5.01
0.51	1.44	1.17	5.08
0.52	1.48	1.18	5.15
0.53	1.52	1.19	5.21
0.54	1.57	1.20	5.28
0.55	1.62	1.21	5.34
0.56	1.66	1.22	5.41
0.57	1.70	1.23	5.48
0.58	1.75	1.24	5.55
0.59	1.80	1.25	5.62
0.60	1.84	1.26	5.69
0.61	1.88	1.27	5.76
0.62	1.93	1.28	5.82
0.63	1.98	1.29	5.89
0.64	2.03	1.30	5.96
0.65	2.08	1.31	6.03
0.66	2.13	1.32	6.10
0.67	2.18	1.33	6.18
0.68	2.23	1.34	6.25
0.69	2.28	1.35	6.32
0.70	2.33	1.36	6.39
0.71	2.38	1.37	6.46
0.72	2.43	1.38	6.53
0.73	2.48	1.39	6.60
0.74	2.53	1.40	6.68
0.75	2.58	1.41	6.75
0.76	2.63	1.42	6.82
0.77	2.68	1.43	6.89
0.78	2.74	1.44	6.97
0.79	2.80	1.45	7.04
0.80	2.85	1.46	7.12
0.81	2.90	1.47	7.19
0.82	2.96	1.48	7.26
0.83	3.02	1.49	7.34
0.80	3.07	1.50	7.41
0.85	3.12		



B PROFILE



D CROSS SECTION  
NTS

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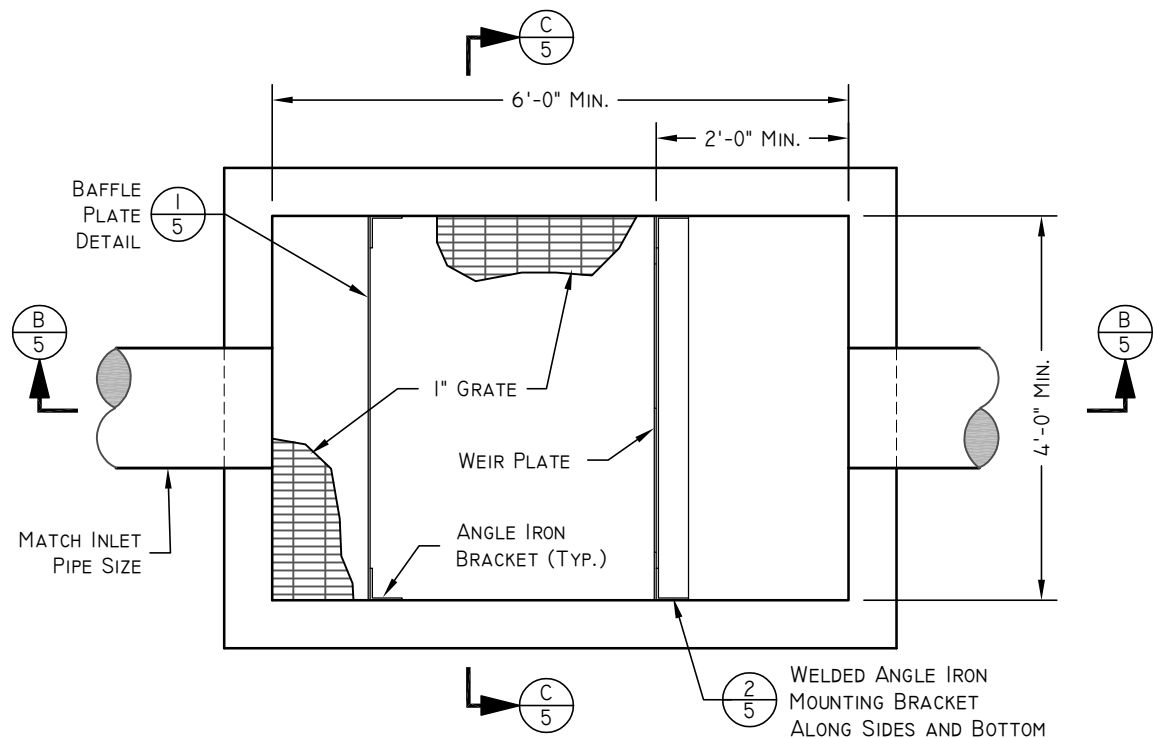
NOTES:

1. REINFORCING TO BE #4 REBAR @ 12-INCHES O.C. E.W. WITH 20-INCH MINIMUM SPLICE LENGTH.
2. REBAR TO BE BENT AT ANGLES OF STRUCTURES. OVERLAP TO BE IN STRAIGHT LENGTHS ONLY.
3. APPLICANT TO SUBMIT ACTUAL PLANS AND MATERIAL OF FLUME PRIOR TO CONSTRUCTION.

EAST BENCH CANAL COMPANY  
TYPICAL DRAWINGS  
I-FOOT PARSHALL FLUME

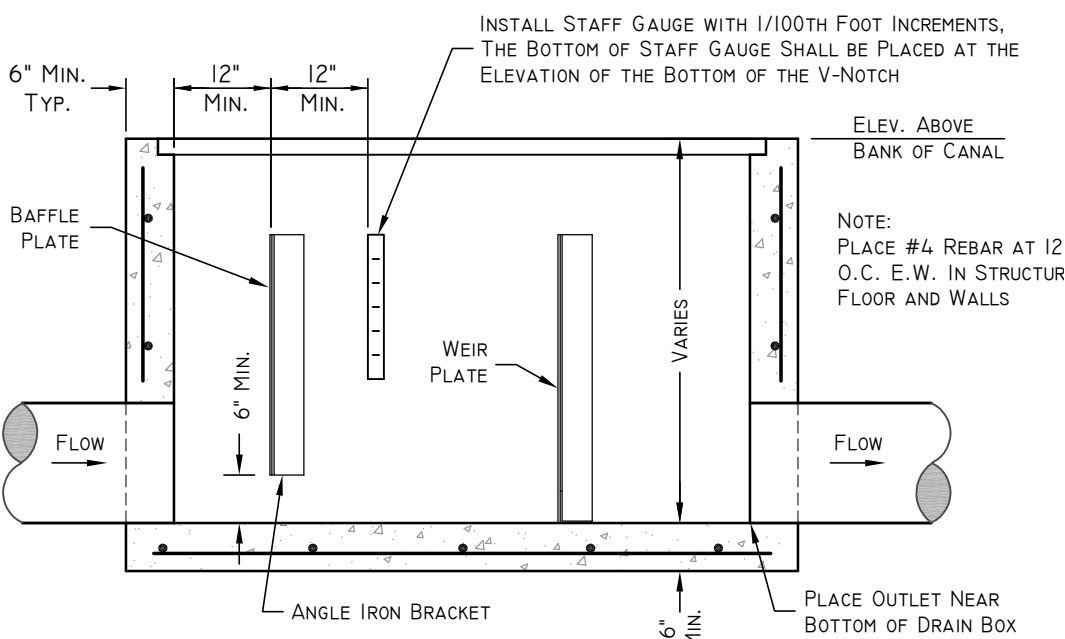
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JOB NO.



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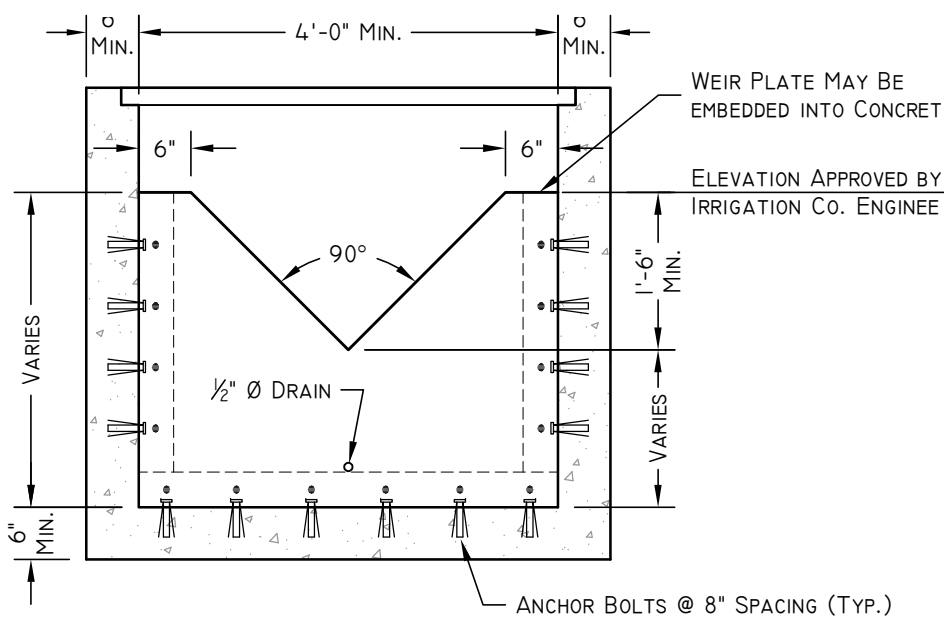
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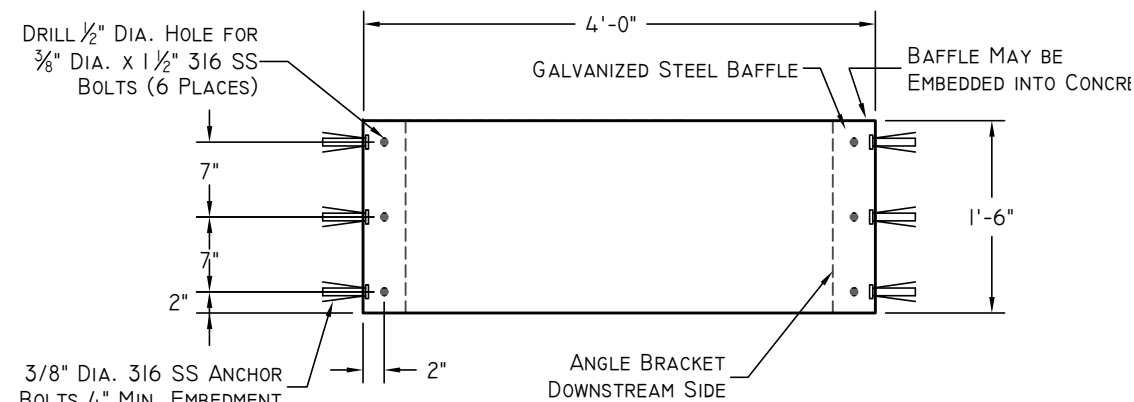
**B** SECTION  
NTS

**FLOW TABLE**  
 $Q = CW \times H^{2.5}$

CW	2.5
H (FT.)	Q (CFS)
0.20	0.04
0.30	0.12
0.40	0.25
0.50	0.44
0.60	0.70
0.70	1.02
0.80	1.43
0.90	1.92
1.00	2.50
1.10	3.17
1.20	3.94
1.30	4.82
1.40	5.80
1.50	6.89



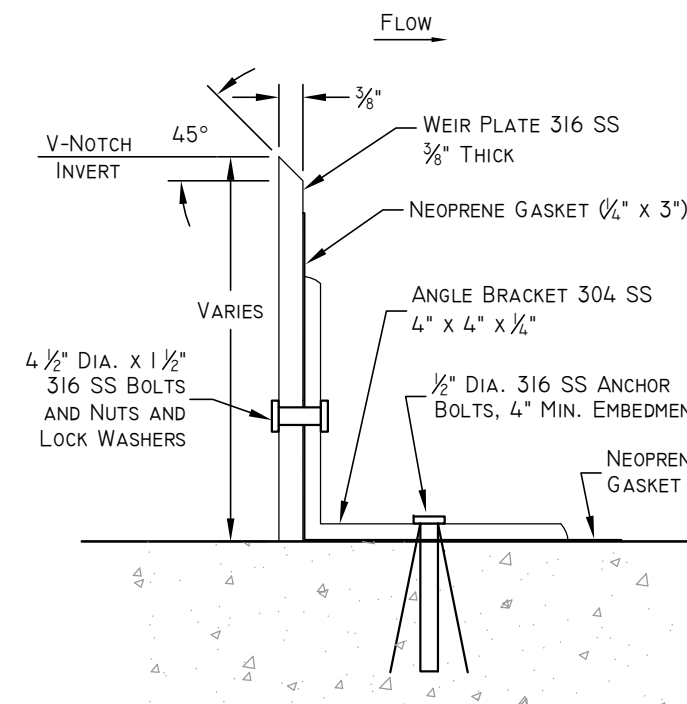
**C** SECTION  
NTS



**1** BAFFLE PLATE DETAIL  
NTS

#### NOTES:

- IF BOX IS CAST IN PLACE, PUT #4 REBAR PLACED AT 12" O.C. E.W. IN STRUCTURE FLOOR AND WALLS MINIMUM.
- ALL PIPES INTO BOX SHALL BE GROUTED AND WATERTIGHT.
- SUBMIT TO IRRIGATION COMPANY ENGINEER FOR FINAL DIMENSIONS ON REBAR REINFORCEMENT AND CONCRETE COMPONENTS.
- PLACE STRUCTURE ON 6-INCHES OF IRRIGATION COMPANY ENGINEER APPROVED COMPACTED BEDDING



**2** ANGLE IRON DETAIL  
NTS

EAST BENCH  
CANAL COMPANY

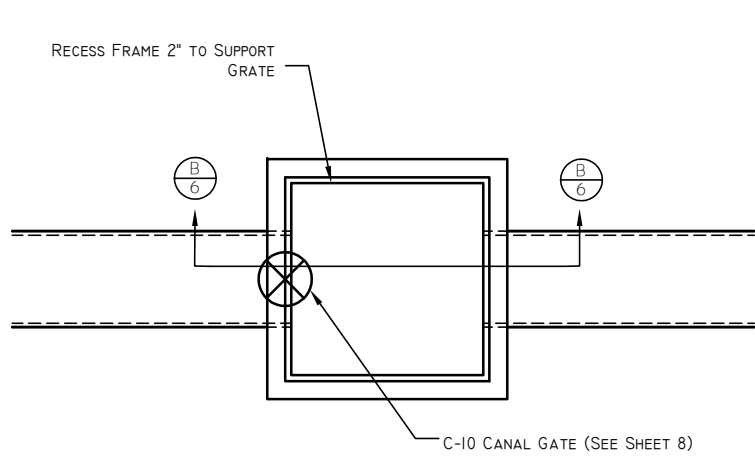
DESIGNER	DRAFTSMAN	CHECKED	REVIEWED	PROJECT LEADER	PRINT DATE
CHAD BROWN	MATT GUR			CHAD BROWN	MARCH 20, 2017
NO.	DATE	INTS	DESCRIPTION	REVISIONS	

EAST BENCH CANAL COMPANY  
TYPICAL DRAWINGS  
90° V-NOTCH WEIR

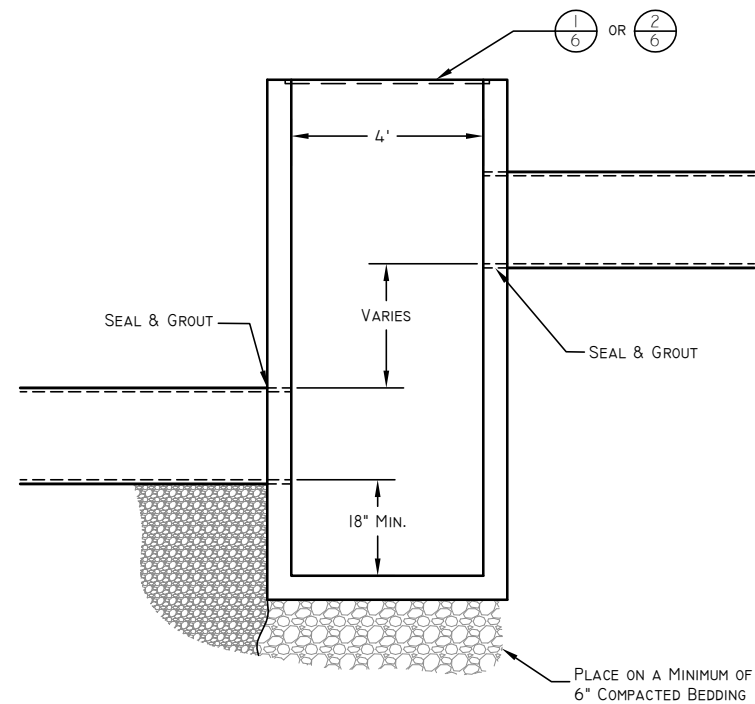
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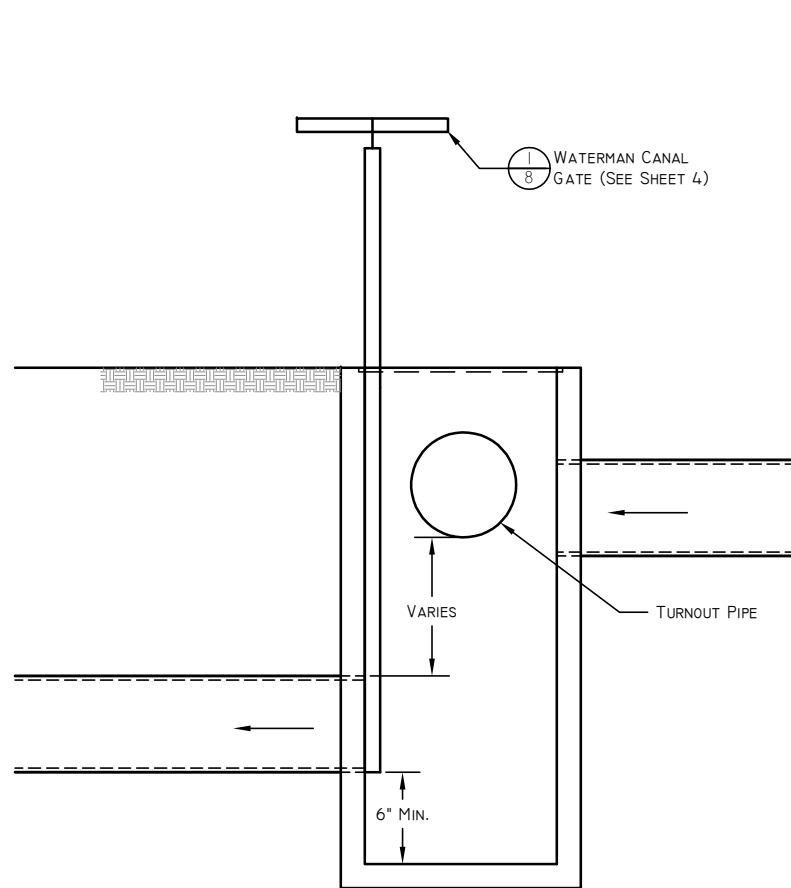
SHEET  
5 OF 8



**A 4' x 4' IRRIGATION BOX PLAN**  
NTS



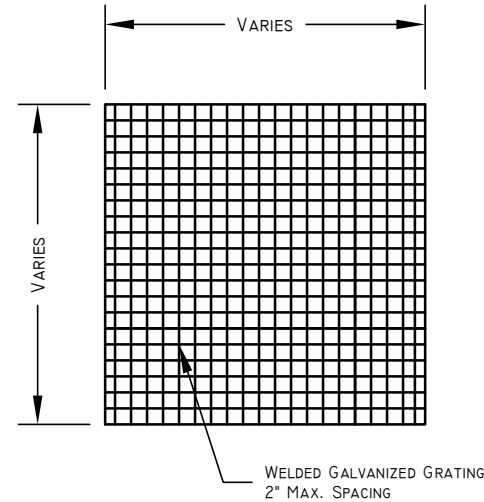
**B 4' x 4' IRRIGATION BOX PROFILE**  
NTS



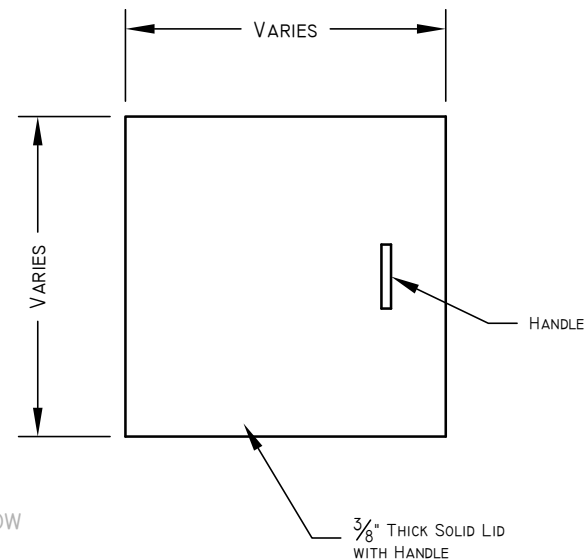
**4 BUBBLE UP TURNOUT BOX SECTION**  
NTS

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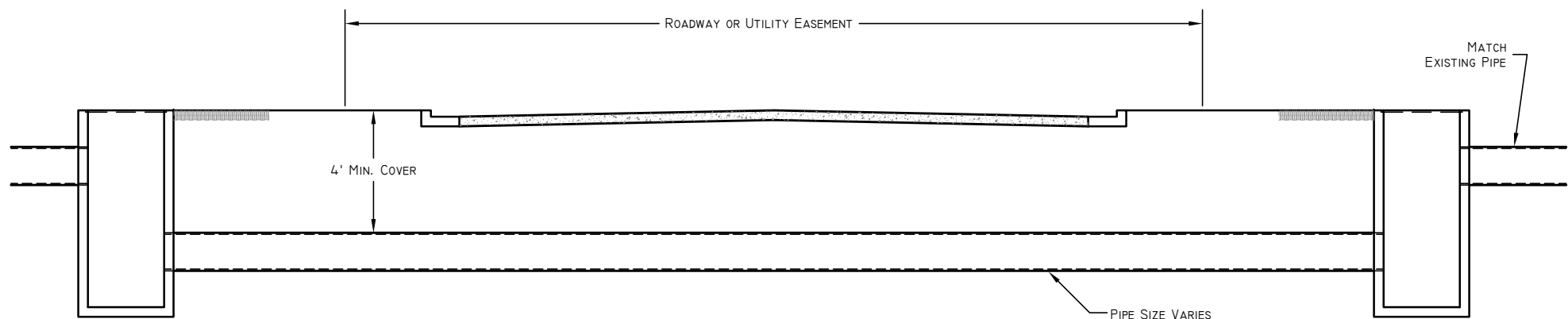


**1 GRATE DETAIL**  
NTS



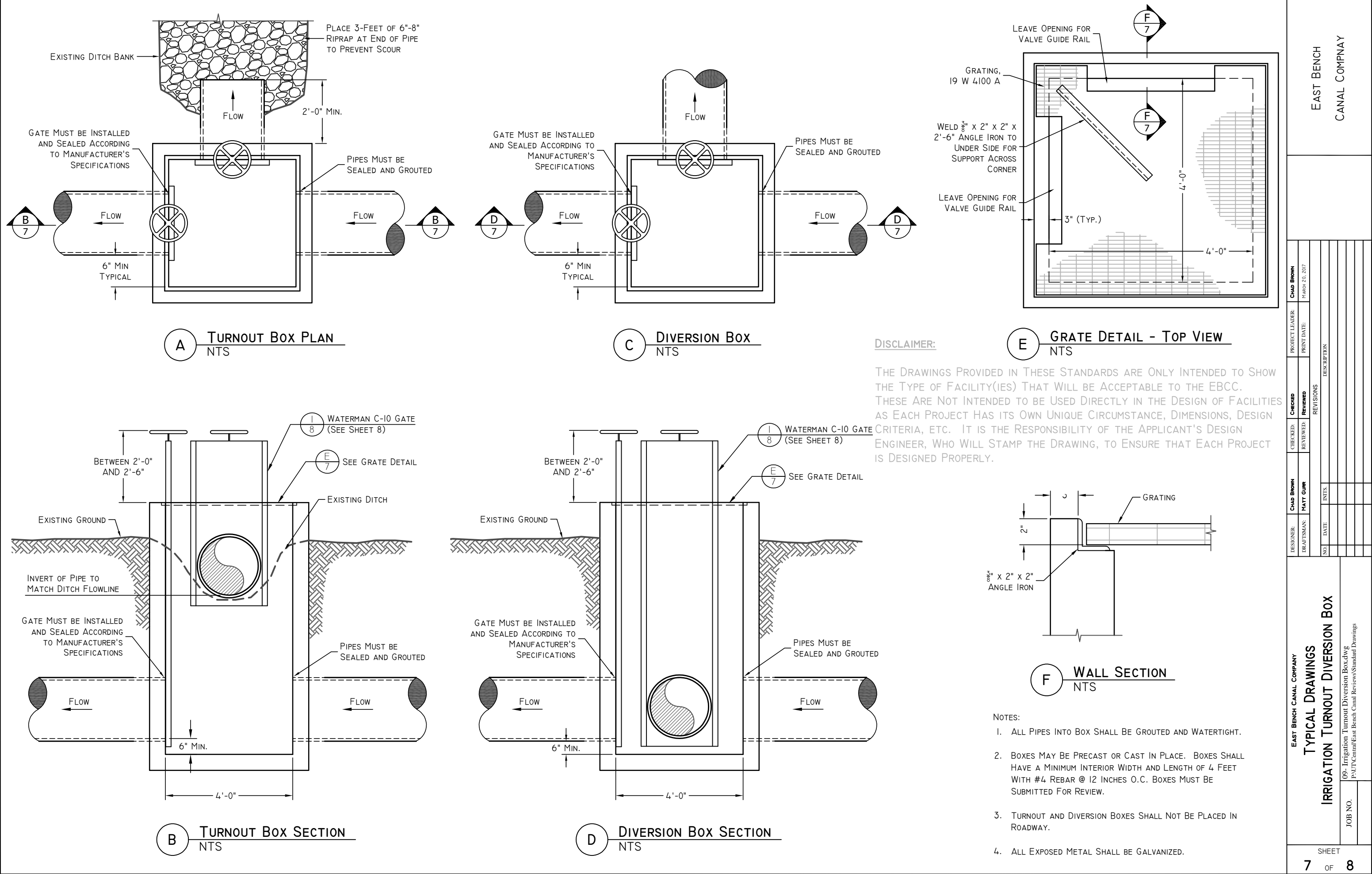
**2 SOLID LID**  
NTS

- NOTES
1. IF BOX IS CAST IN PLACE, REBAR TO BE PLACED AT 12" O.C. E.W. MINIMUM.
  2. ALL PIPES INTO BOX SHALL BE GROUTED AND WATERTIGHT.
  3. SUBMIT TO ENGINEER FINAL DIMENSIONS ON REBAR REINFORCEMENT AND CONCRETE COMPONENTS.
  4. MINIMUM PIPE SLOPES FOR PIPE UNDER ROADWAY SEE SHEET 4.
  5. BOXES MAY BE PRECAST OR CAST IN PLACE. BOXES SHALL HAVE A MINIMUM INTERIOR WIDTH AND LENGTH OF 4' WITH #4 REBAR @ 12" O.C. BOXES MUST BE SUBMITTED FOR REVIEW.
  6. IRRIGATION BOXES SHALL NOT BE PLACED IN ROADWAY.
  7. ALL PIPE PLACED IN ROADWAY MUST BE CLASS III RCP.
  8. REMOVAL AND REPLACEMENT OF CANAL BANKS WILL REQUIRE TESTING AND PROCTORS BY A LICENSED SOILS LAB.

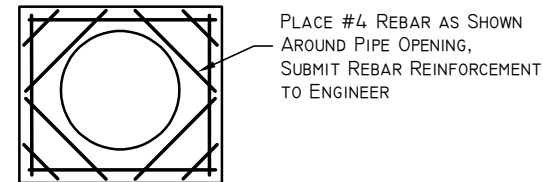


**3 BUBBLE UP BOX SECTION**  
NTS

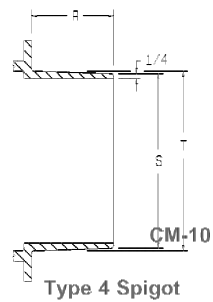
EAST BENCH CANAL COMPANY		EAST BENCH CANAL COMPANY	
TYPICAL DRAWINGS		IRRIGATION BUBBLE UP BOX	
08 - Irrigation Bubble up Box.dwg		P:\MTCentral\East Bench Canal Review\Standard Drawings	
JOB NO.			
SHEET		6 OF 8	



EAST BENCH CANAL COMPANY	
TYPICAL DRAWINGS	
IRRIGATION TURNOUT DIVERSION BOX	
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JOB NO.	
SHEET	8
7	OF
DESIGNER: CHAD BROWN	CHECKED: CHAD BROWN
DRAFTSMAN: MATT GURR	REVIEWED: MATT GURR
NO.	DATE
INTS	DESCRIPTION
PROJECT LEADER: CHAD BROWN	PRINT DATE: March 20, 2017



## 2 REBAR IN HEADWALL

[illegible]

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W
6	8	9%	4	7%	2%	10	24	3	3%	2%	7	3%	2%	1/2	-	-	-	6.160	6.645
8	10	12	4%	7%	2%	10	24	3	3%	2 1/2	9	3 1/2	2 1/4	1 1/2	4	7 1/2%	8	8.180	8.645
10	12	13%	6	7%	2%	10	24	3 1/2	3%	2 1/2	11	3 1/2	2 1/4	1 1/2	3 3/8	9%	10	10.220	10.770
12	14	15%	7	7%	2%	10	24	4	3 1/2	3	13	4	2 1/4	1 1/2	4	11 1/2%	12	12.270	12.780
14	16	17%	8	7%	2%	10	27	4 3/4	3%	3 1/4	15	4	2 1/4	1 1/2	-	-	-	-	-
15	17	18%	8 1/2	7%	2%	10	30	5	4 1/2	3 1/2	16	4	2%	1 1/2	4	14 1/2%	15	-	-
16	18%	20%	9%	7%	2%	10	32	5 1/2	4%	3%	17	4%	2%	5%	-	-	-	-	-
18	21	22%	10%	1	3%	12	34	6	4%	4%	19	4%	2%	5%	4	17 1/2%	18	-	-
20	23%	25%	11%	1	3%	12	38	7	4%	4	21	4%	2 1/4	5%	-	-	-	-	-
21	24	25%	12%	1	3%	12	40	7	4%	4	22	4%	2 1/4	5%	-	-	-	-	-
24	27%	29%	13%	1	3%	12	44	8	5%	4%	25	4%	2 1/4	5%	-	-	-	-	-
30	33%	36%	17%	1%	4	15	54	10	6	4 1/2	31	6	2%	3%	-	-	-	-	-
36	39%	42%	20%	1%	4	15	62	12	6%	5%	37	6	2%	3%	-	-	-	-	-
42	45%	48%	23%	1 1/2	5	18	84	14	7	6	43	6	2 1/2	3%	-	-	-	-	-
48	51%	54%	26%	1 1/2	6	24	100	16	7%	6%	49%	6	2 1/2	3%	-	-	-	-	-
54	58 1/2	61 1/2	30	2	6	30	100	18	7%	6 1/2	55%	7	3	1	-	-	-	-	-
60	65	68	34	2	6	30	102	20	8%	7%	61%	8	3%	1	-	-	-	-	-
72	77%	80%	41	2	13	5	121	25%	10%	8%	73%	8	3%	1	-	-	-	-	-

GATE DIMENSIONS IN INCHES

1 WATERMAN C-10 CANAL GATE  
NTS

SEE [WWW.WATERMANUSA.COM/PDF/C-10.PDF](http://WWW.WATERMANUSA.COM/PDF/C-10.PDF)

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