

East Bench Canal Company

Typical Drawings

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DISCLAIMER:

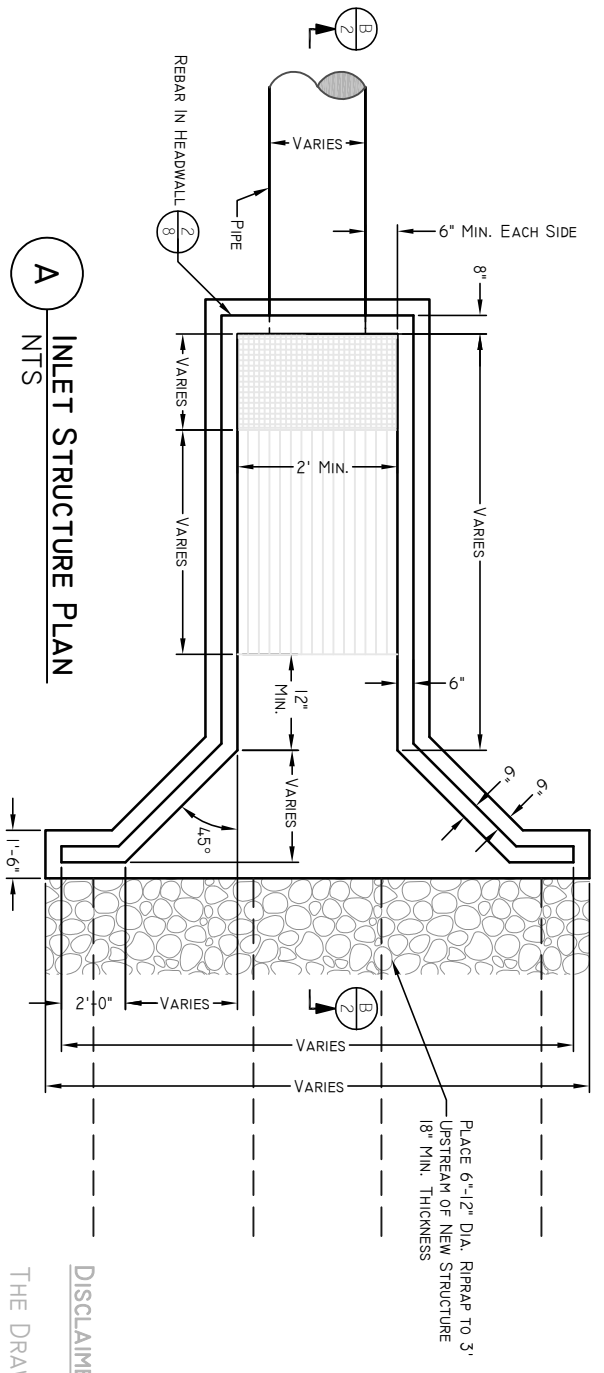
THE DRAWINGS PROVIDED IN THESE STANDARDS ARE ONLY INTENDED TO SHOW THE TYPE OF FACILITY(IES) THAT WILL BE ACCEPTABLE TO THE EBCC. THESE ARE NOT INTENDED TO BE USED DIRECTLY IN THE DESIGN OF FACILITIES AS EACH PROJECT HAS ITS OWN UNIQUE CIRCUMSTANCE, DIMENSIONS, DESIGN CRITERIA, ETC. IT IS THE RESPONSIBILITY OF THE APPLICANT'S DESIGN ENGINEER, WHO WILL STAMP THE DRAWING, TO ENSURE THAT EACH PROJECT IS DESIGNED PROPERLY.

EAST BENCH
CANAL COMPANY

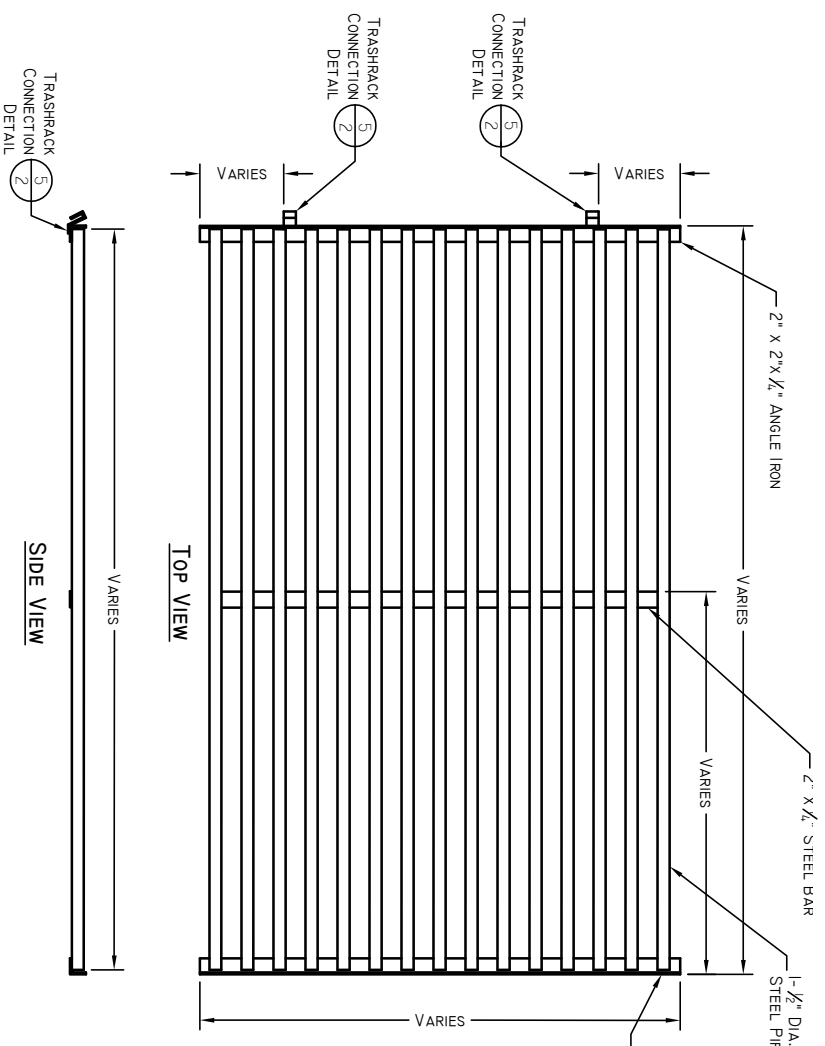
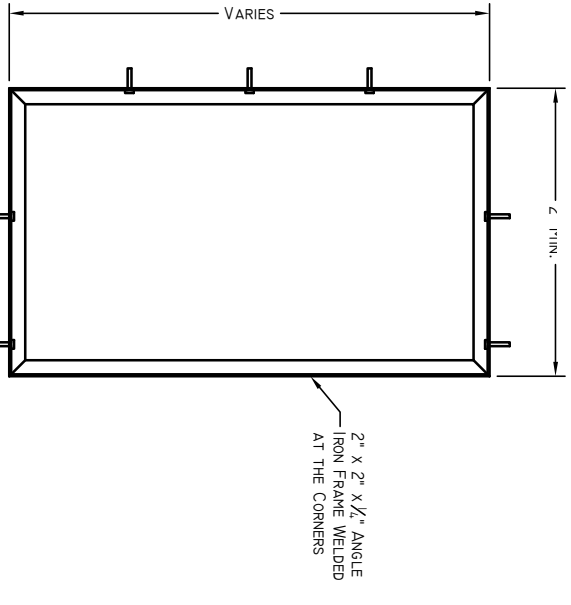
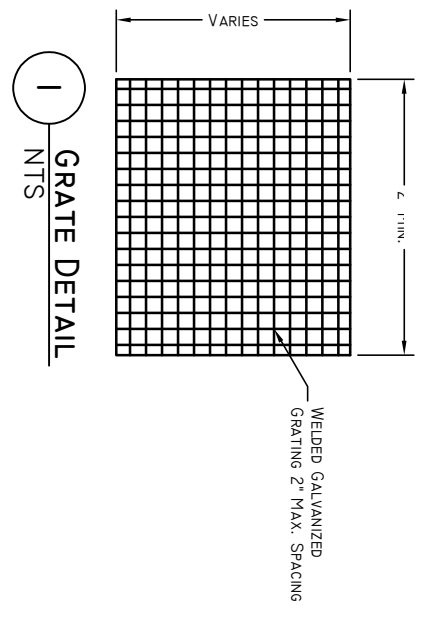
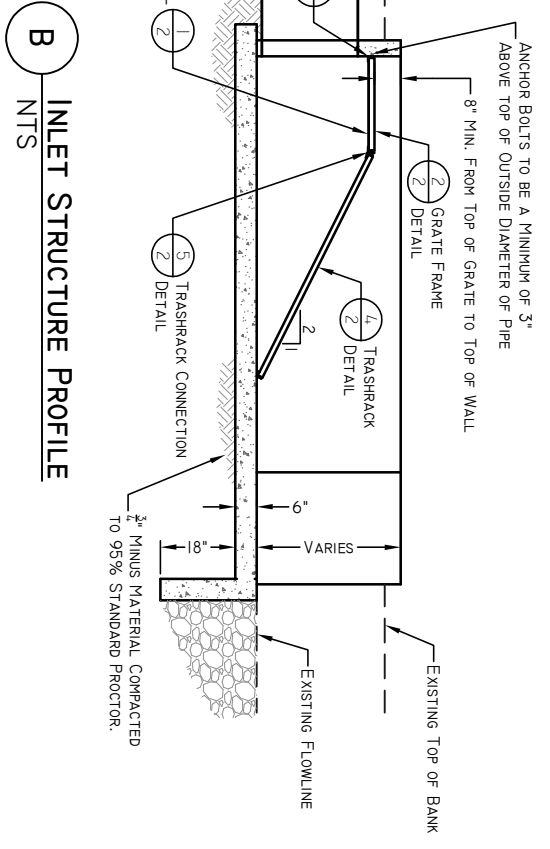
DESIGNER:	CHAD BROWN	CHECKED:	CHECKED	PROJECT LEADER:	CHAD BROWN
DRAFTSMAN:	MATT GURR	REVIEWED:	REVIEWED	PRINT DATE:	MARCH 20, 2017
REVISIONS					
NO.	DATE	INITS.	DESCRIPTION		

EAST BENCH CANAL COMPANY
TYPICAL DRAWINGS
COVER SHEET, SHEET INDEX

JOB NO.	01- Cover Sheet.dwg PA\UT\Central\East Bench Canal Reviews\Standard Drawings
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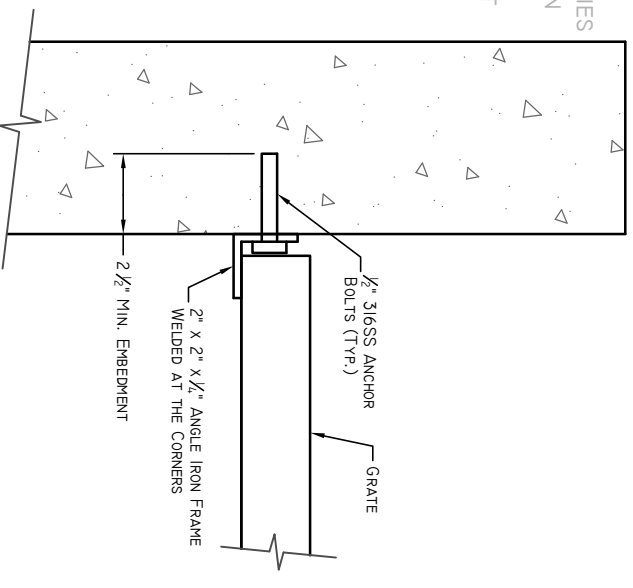
4 NTS TRASHRACK DETAIL

NOTES:

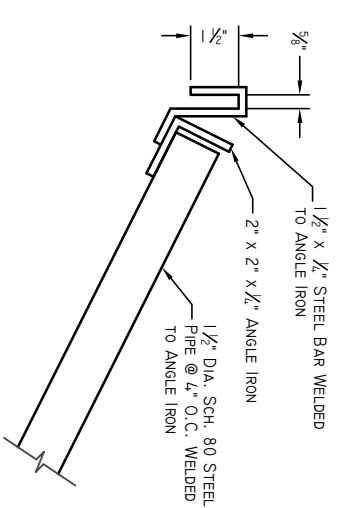
1. IF BOX IS CAST IN PLACE, REBAR TO BE PLACED AT 12 INCHES ON CENTER (O.C.) EACH WAY (E.W.) MINIMUM.
2. ALL PIPES INTO BOX SHALL BE GROUTED AND WATERTIGHT.
3. SUBMIT TO CANAL COMPANY ENGINEER FOR APPROVAL.
4. ENTIRE TRASHRACK TO BE HOT DIPPED GALVANIZED.
5. MINIMUM TWO GRATES TO BE INSTALLED. SUBMIT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

TABLE 1 FOR DETAIL

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



3 NTS GRATE CONNECTION DETAIL

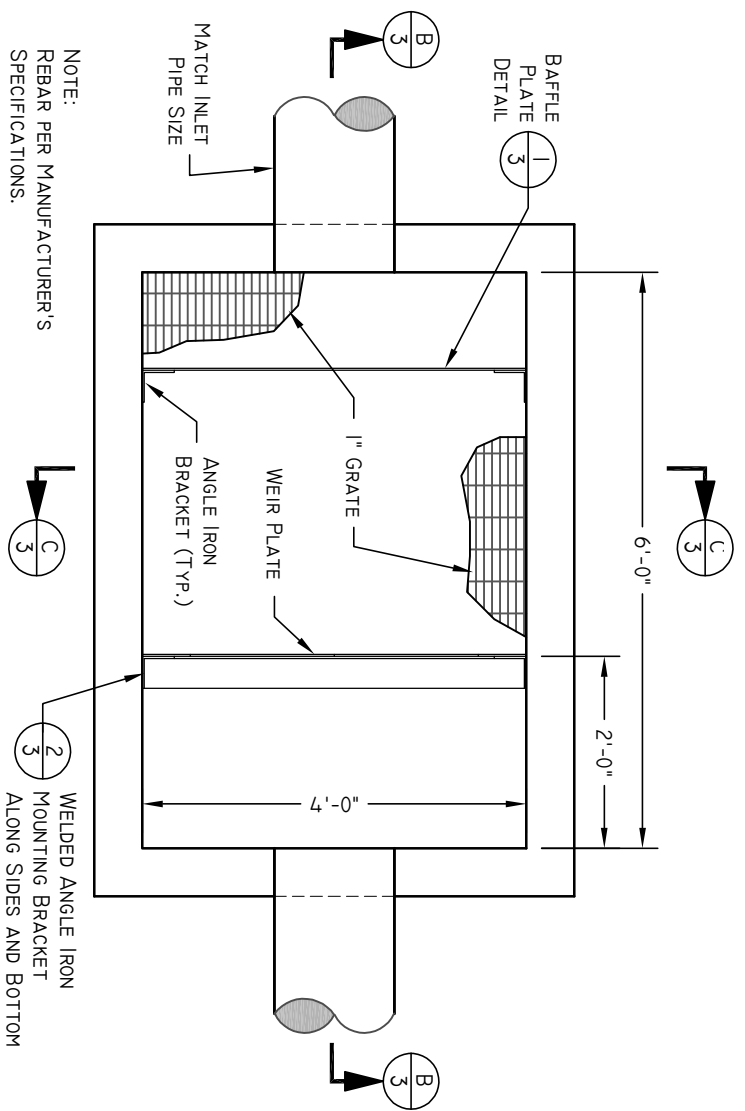


5 NTS TRASHRACK CONNECTION DETAIL

DESIGNER:	CHAD BROWN	CHECKED:	CHECKED	PROJECT LEADER:	CHAD BROWN
DRAFTSMAN:	MATT GURR	REVIEWED:	REVIEWED	PRINT DATE:	MARCH 20, 2017
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EAST BENCH CANAL COMPANY
TYPICAL DRAWINGS
TRASHRACK AND INLET STRUCTURE

EAST BENCH
CANAL COMPANY

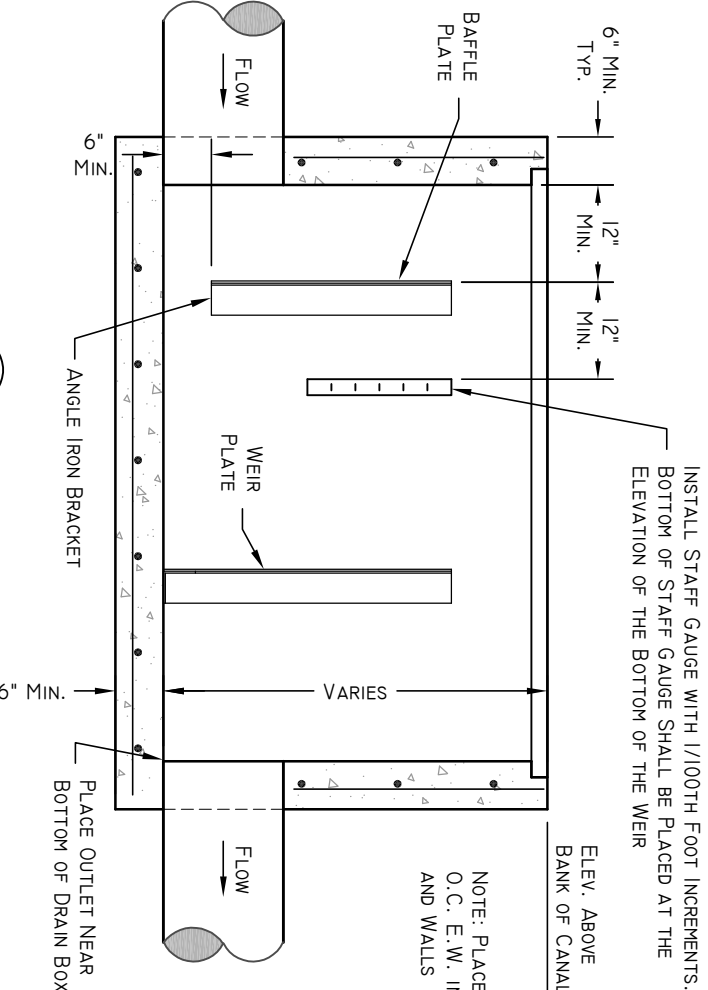


A PLAN VIEW
NTS

NOTE:
REBAR PER MANUFACTURER'S
SPECIFICATIONS.

WELDED ANGLE IRON
MOUNTING BRACKET
ALONG SIDES AND BOTTOM

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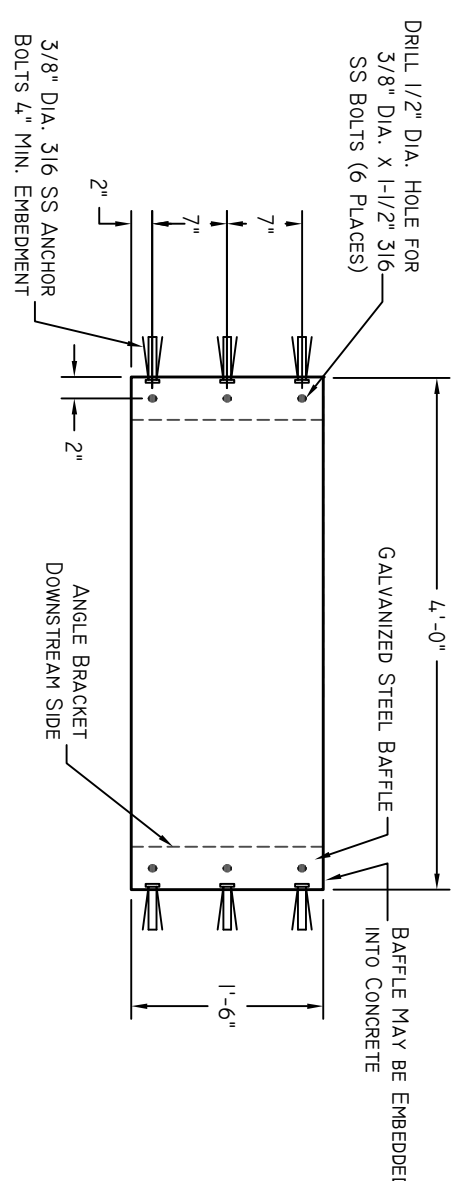
B SECTION
NTS

INSTALL STAFF GAUGE WITH 1/100TH FOOT INCREMENTS.
BOTTOM OF STAFF GAUGE SHALL BE PLACED AT THE
ELEVATION OF THE BOTTOM OF THE WEIR

ELEV. ABOVE
BANK OF CANAL

NOTE: PLACE #4 REBAR AT 12"
O.C. E.W. IN STRUCTURE FLOOR
AND WALLS

PLACE OUTLET NEAR
BOTTOM OF DRAIN BOX



1 BAFFLE PLATE DETAIL
NTS

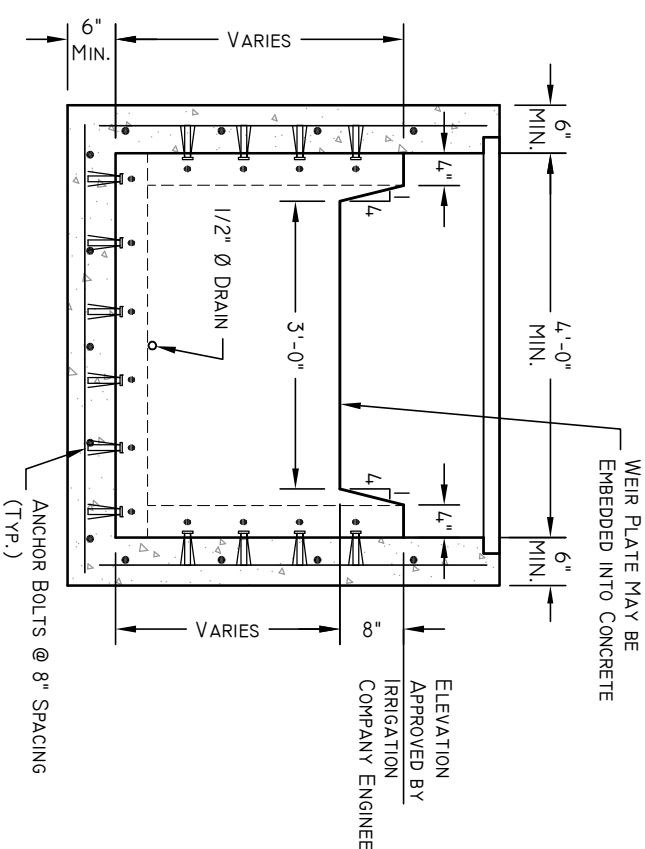
DRILL 1/2" DIA. HOLE FOR
3/8" DIA. X 1-1/2" 316
SS BOLTS (6 PLACES)

3/8" DIA. 316 SS ANCHOR
BOLTS 4" MIN. EMBEDMENT

BAFFLE MAY BE EMBEDDED
INTO CONCRETE

TABLE 1
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

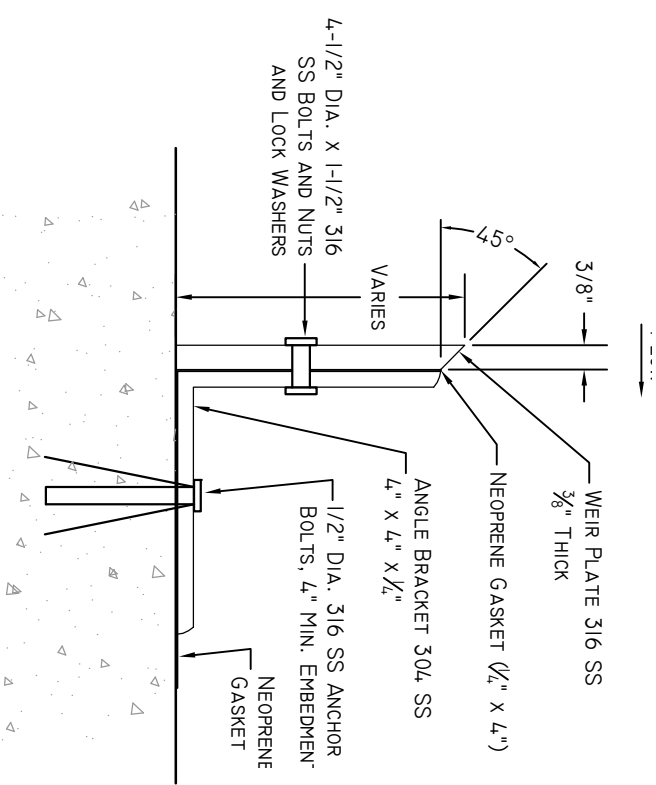


C SECTION
NTS

WEIR PLATE MAY BE
EMBEDDED INTO CONCRETE

ELEVATION
APPROVED BY
IRRIGATION
COMPANY ENGINEER

ANCHOR BOLTS @ 8" SPACING



2 ANGLE IRON DETAIL
NTS

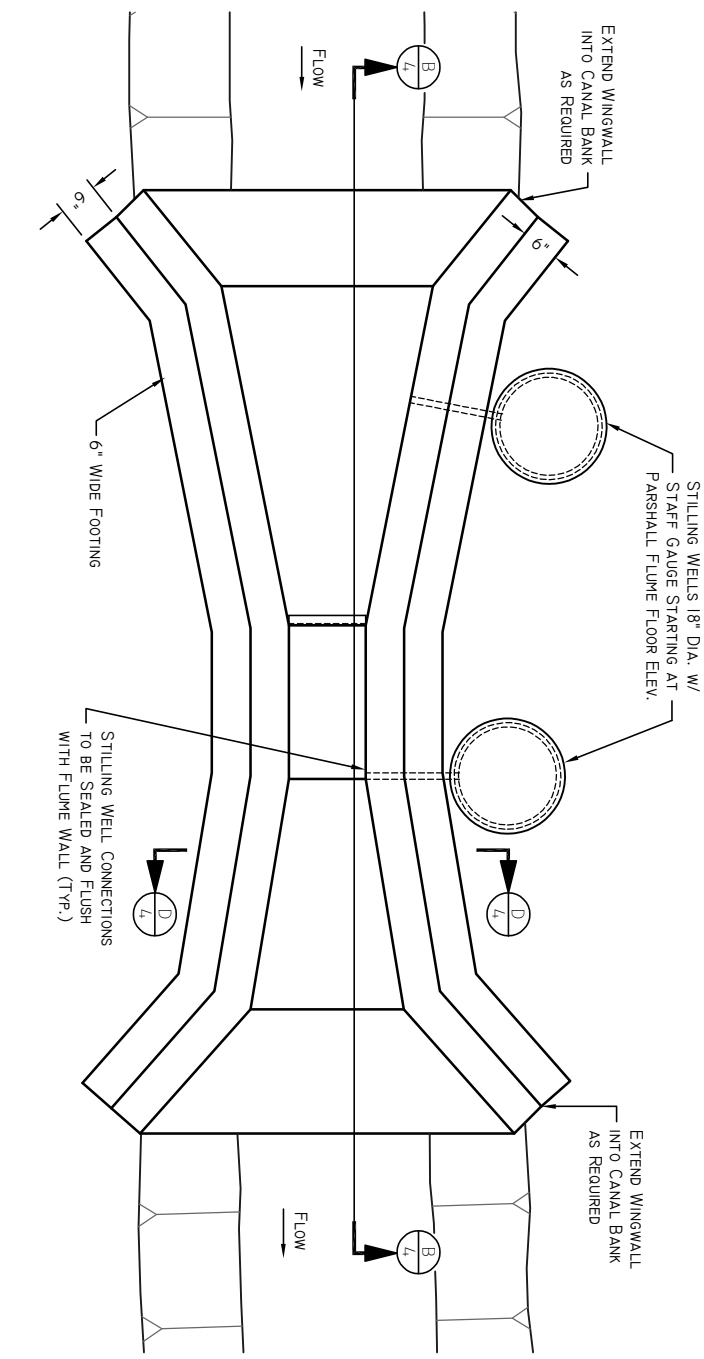
NOTES:

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

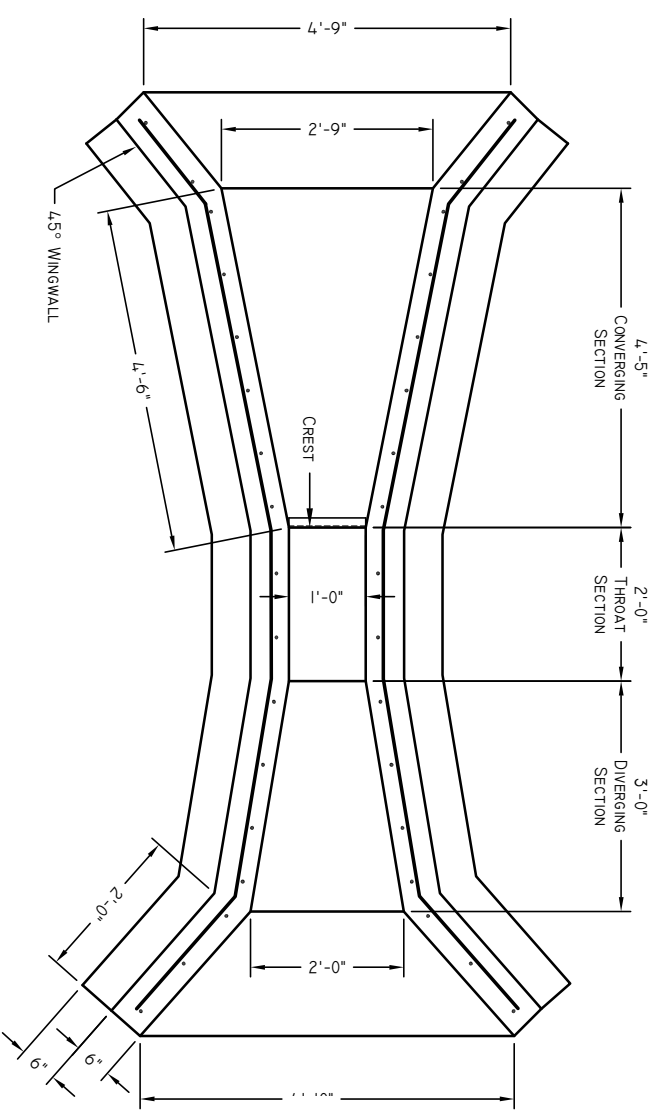
DESIGNER:	CHAD BROWN	CHECKED:	CHECKED	PROJECT LEADER:	CHAD BROWN
DRAFTSMAN:	MATT GURR	REVIEWED:	REVIEWED	PRINT DATE:	MARCH 20, 2017
REVISIONS					
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EAST BENCH CANAL COMPANY
TYPICAL DRAWINGS
3-FOOT CIPOLLETTI WEIR

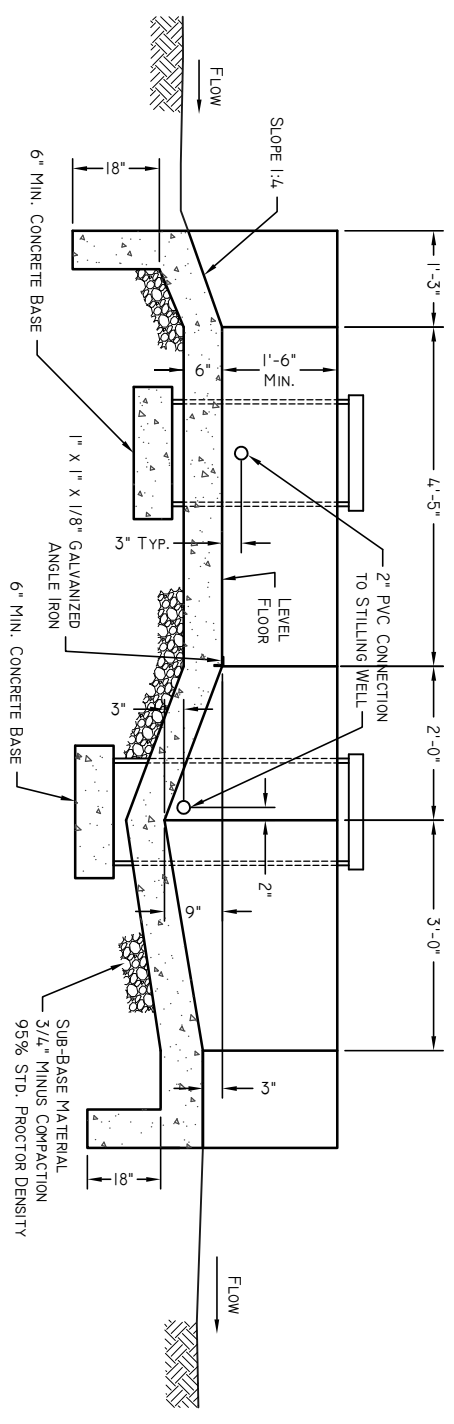
JOB NO. 05- 3 Foot Cipoletti Weir.dwg
PAUT\Central\East Bench Canal Reviews\Standard Drawings



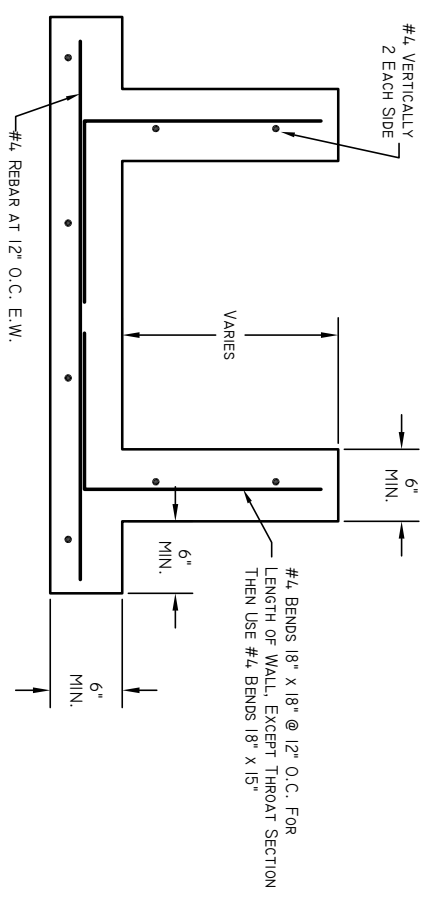
A PLAN



C REBAR PLAN



B PROFILE



D CROSS SECTION

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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.

TABLE 1
 HEAD-FLow RELATIONSHIP FOR CONCRETE FLUME

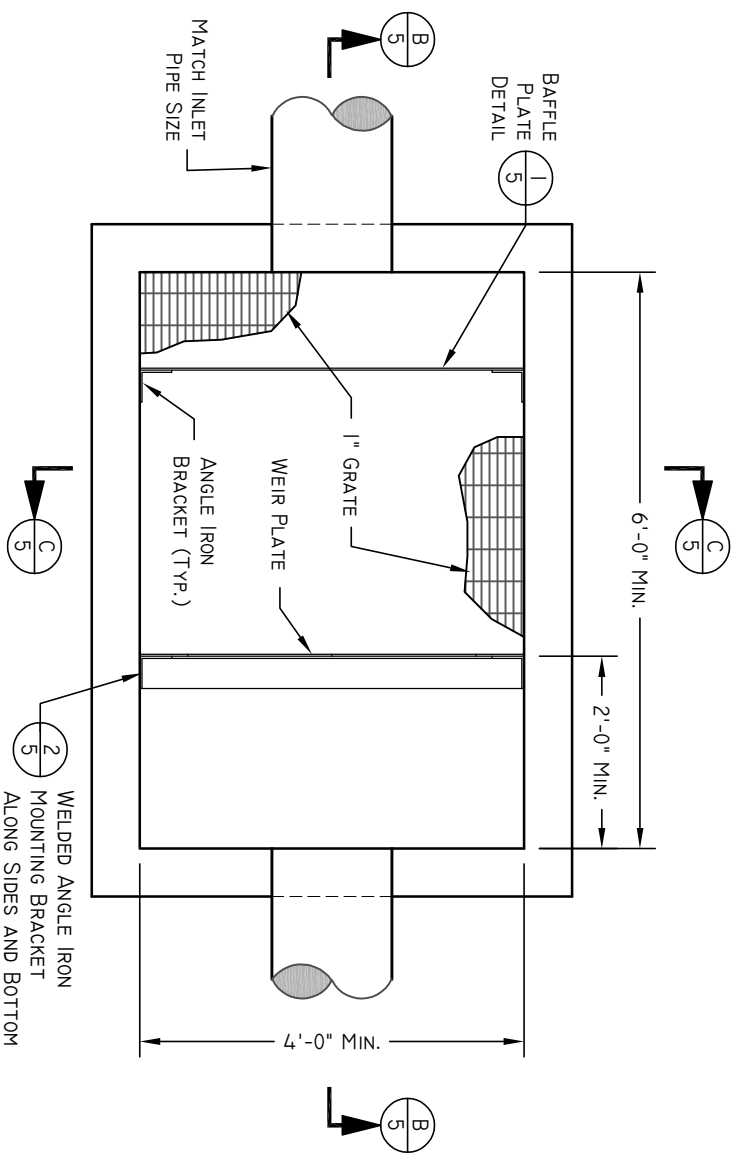
HEAD H_a (FEET)	FLOW Q (CFS)	HEAD H_a (FEET)	FLOW Q (CFS)
0.20	0.35	0.86	3.18
0.21	0.37	0.87	3.24
0.22	0.40	0.88	3.29
0.23	0.43	0.89	3.35
0.24	0.46	0.90	3.41
0.25	0.49	0.91	3.46
0.26	0.51	0.92	3.52
0.27	0.54	0.93	3.58
0.28	0.58	0.94	3.64
0.29	0.61	0.95	3.70
0.30	0.64	0.96	3.76
0.31	0.68	0.97	3.82
0.32	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
0.84	3.07	1.50	7.41
0.85	3.12		

EAST BENCH CANAL COMPANY

EAST BENCH CANAL COMPANY
TYPICAL DRAWINGS
1-FOOT PARSHALL FLUME

DESIGNER:	CHAD BROWN	CHECKED:	CHECKED	PROJECT LEADER:	CHAD BROWN
DRAFTSMAN:	MATT GURR	REVIEWED:	REVIEWED	PRINT DATE:	MARCH 20, 2017
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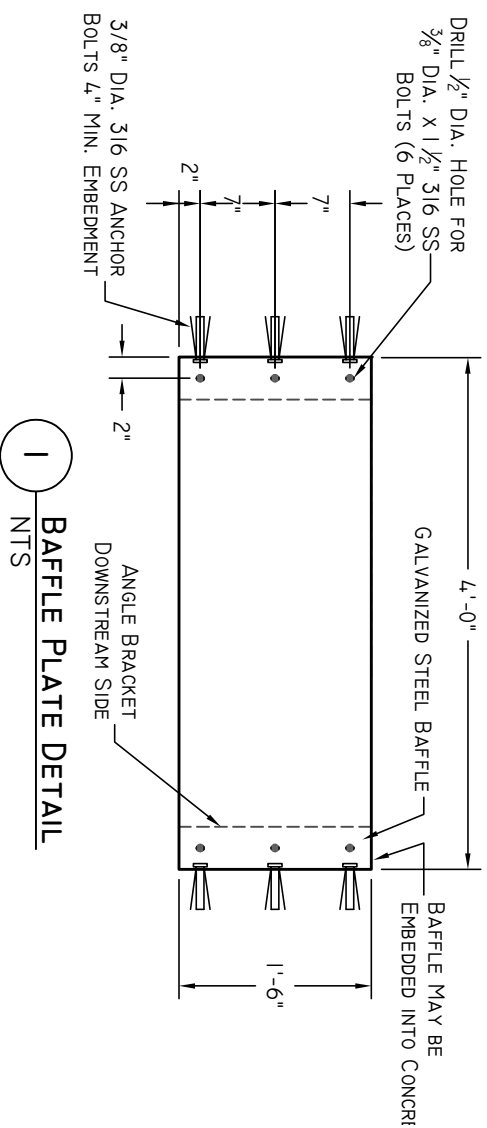
JOB NO. 06- 1 foot Parshall Flume.dwg
 PAUT\Central\East Bench Canal Reviews\Standard Drawings



A PLAN VIEW
NTS

FLOW TABLE
 $Q=CW \times H^{1.5}$

CW	H (FT.)	Q (CFS)
2.5	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

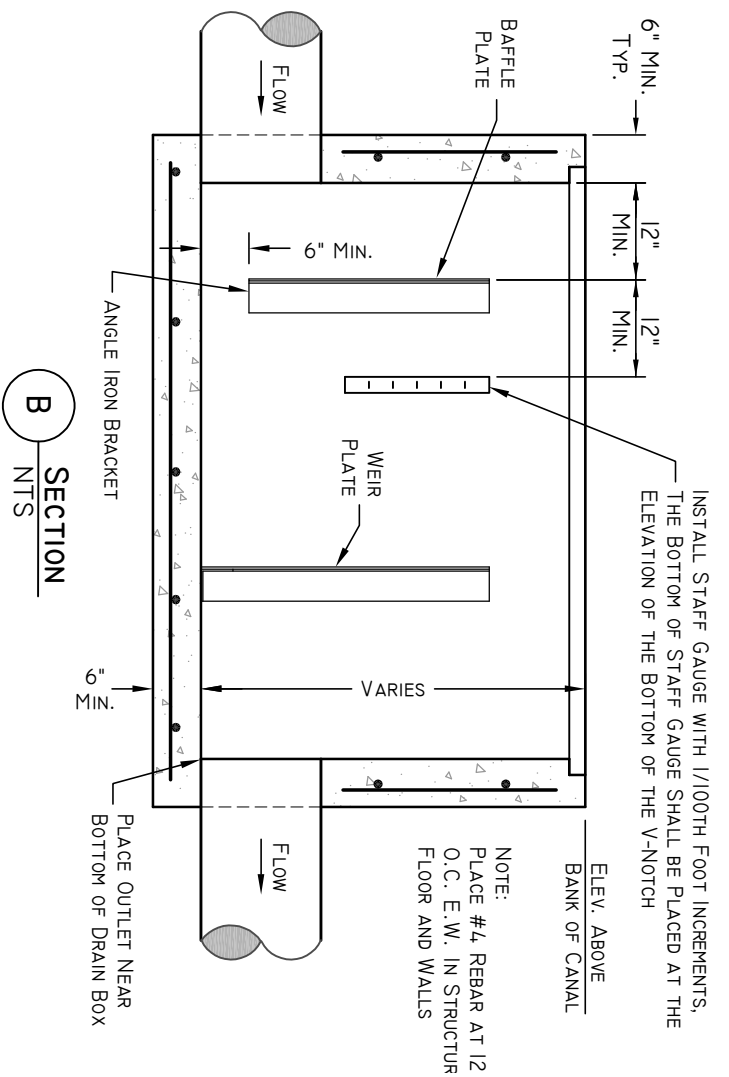


1 BAFFLE PLATE DETAIL
NTS

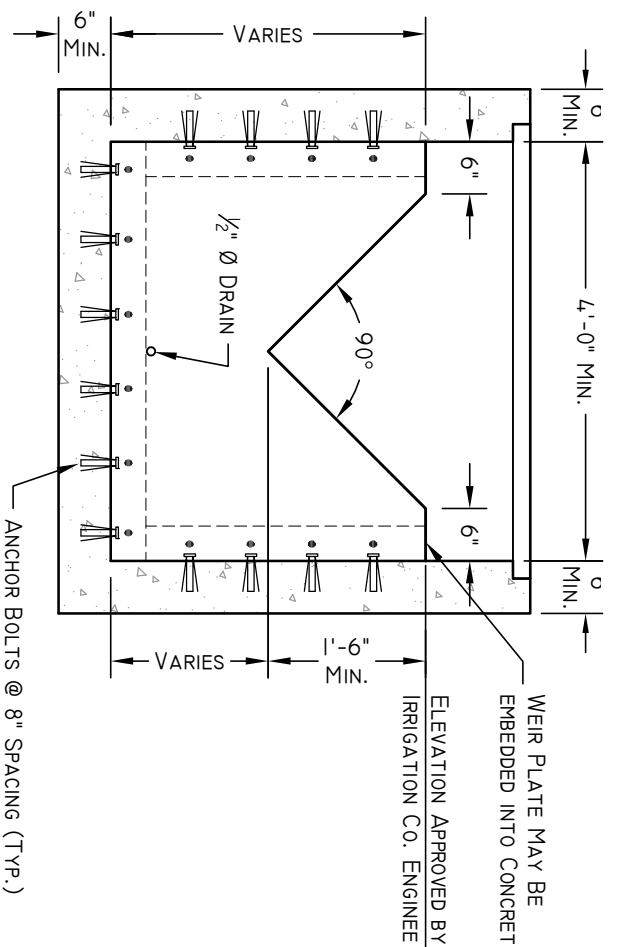
NOTES:

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

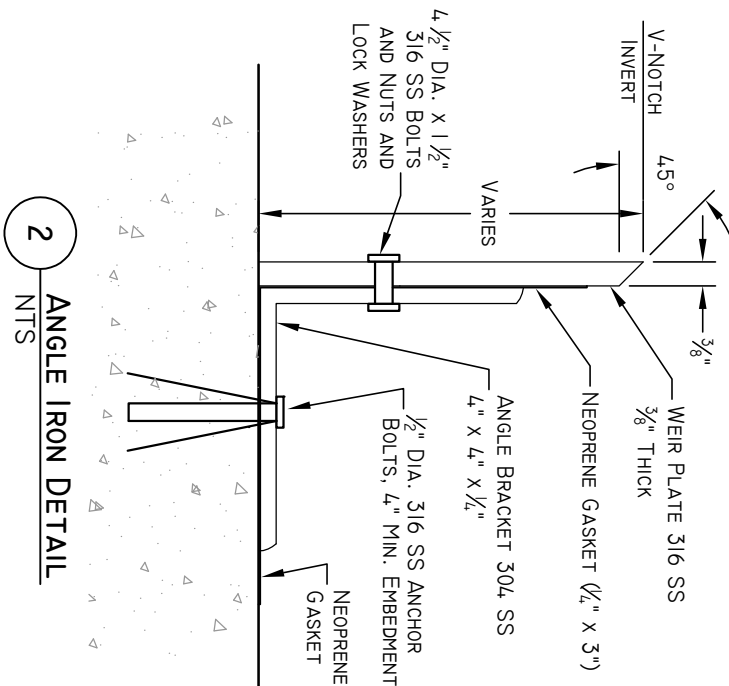
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B SECTION
NTS



C SECTION
NTS

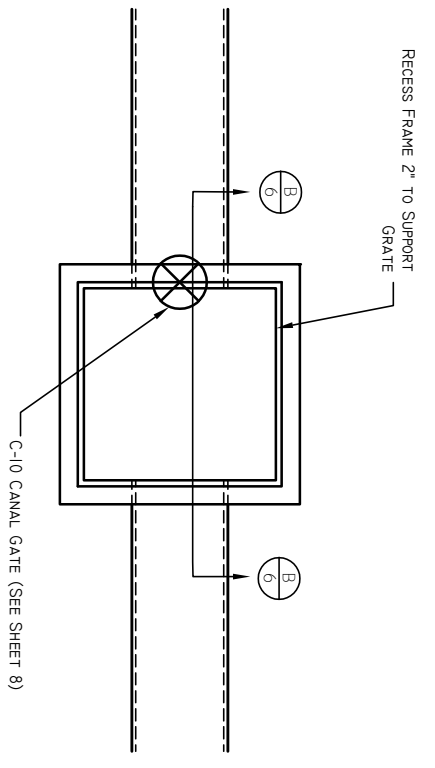


2 ANGLE IRON DETAIL
NTS

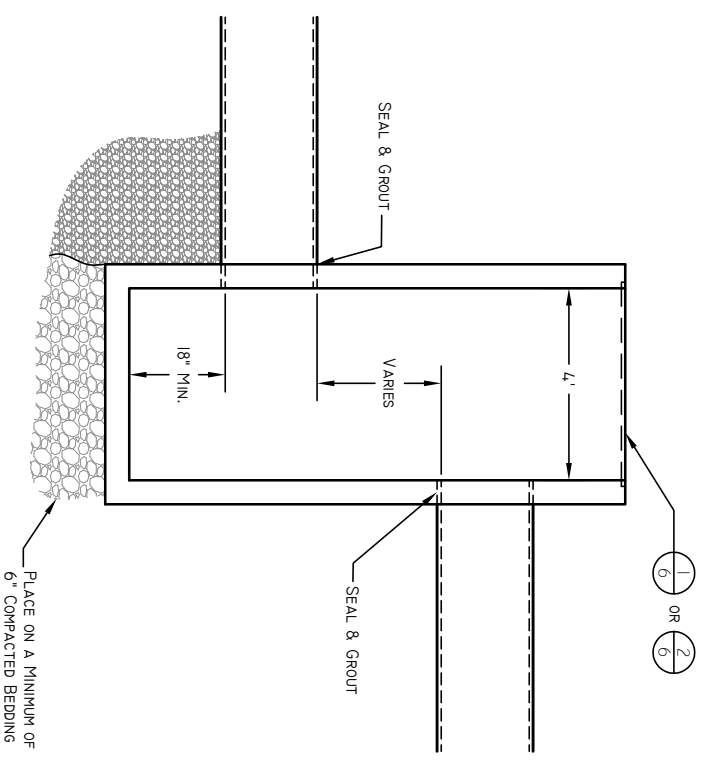
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DRAFTSMAN:	MATT GURR	REVIEWED:	REVIEWED	PRINT DATE:	MARCH 20, 2017
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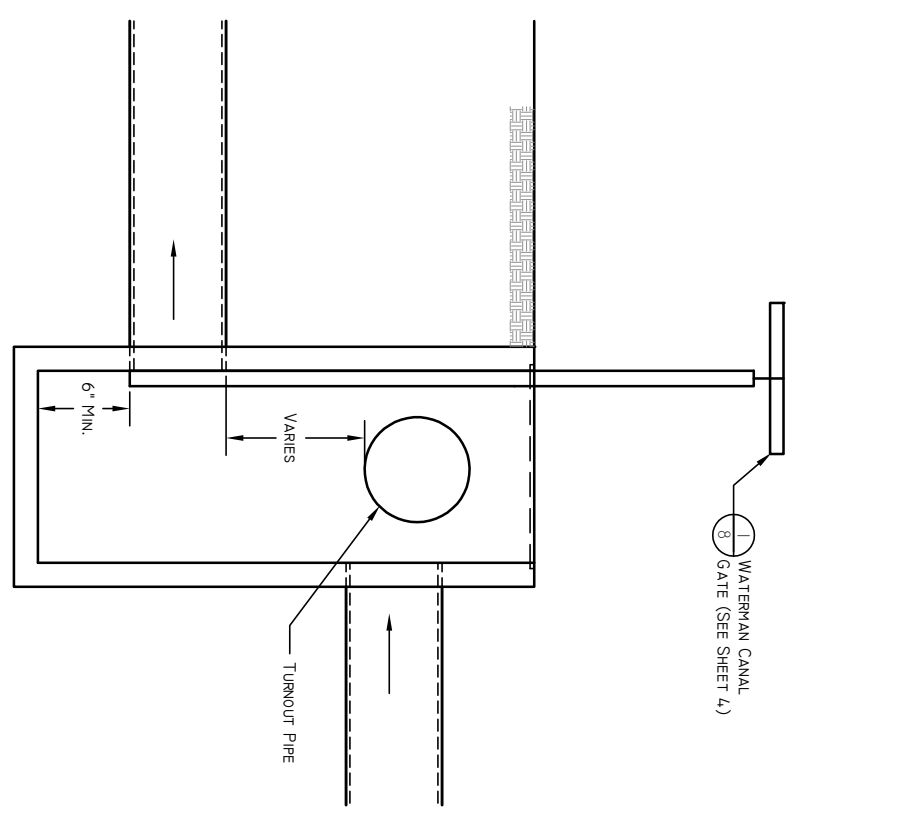
EAST BENCH CANAL COMPANY
TYPICAL DRAWINGS
90° V-NOTCH WEIR



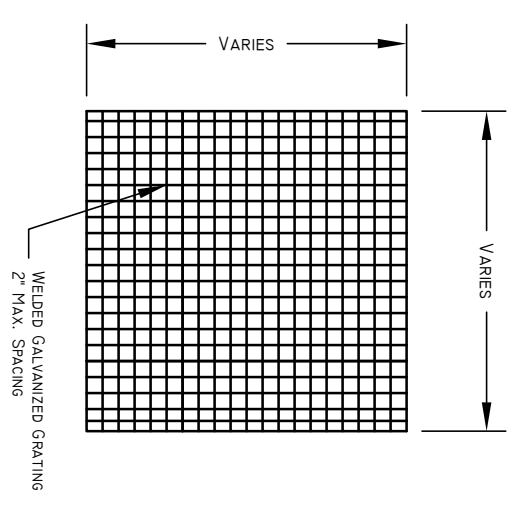
A 4' X 4' IRRIGATION BOX PLAN
NTS



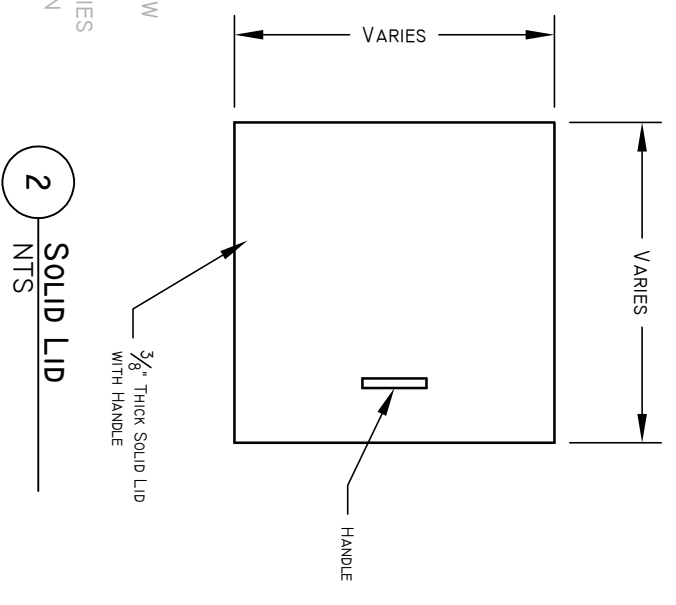
B 4' X 4' IRRIGATION BOX PROFILE
NTS



4 BUBBLE UP TURNOUT BOX SECTION
NTS



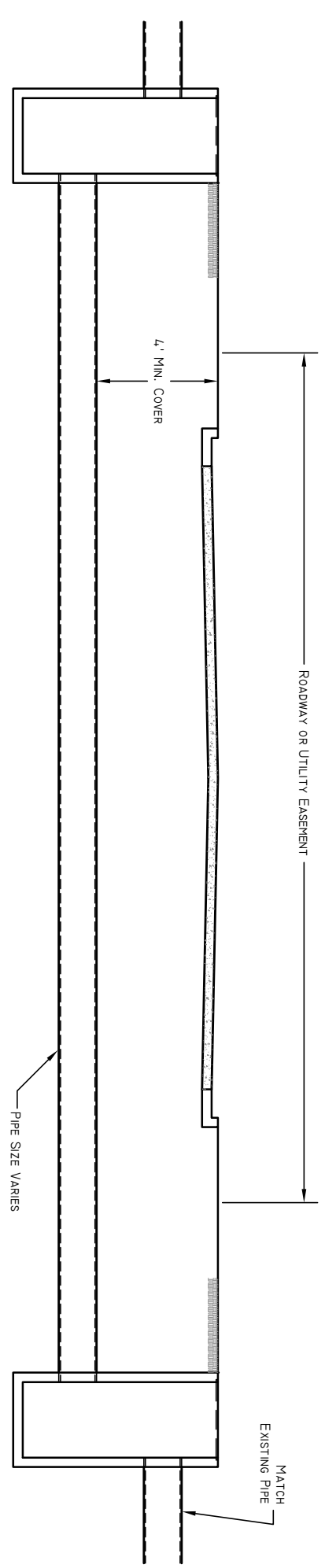
1 GRATE DETAIL
NTS



2 SOLID LID
NTS

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3 BUBBLE UP BOX SECTION
NTS

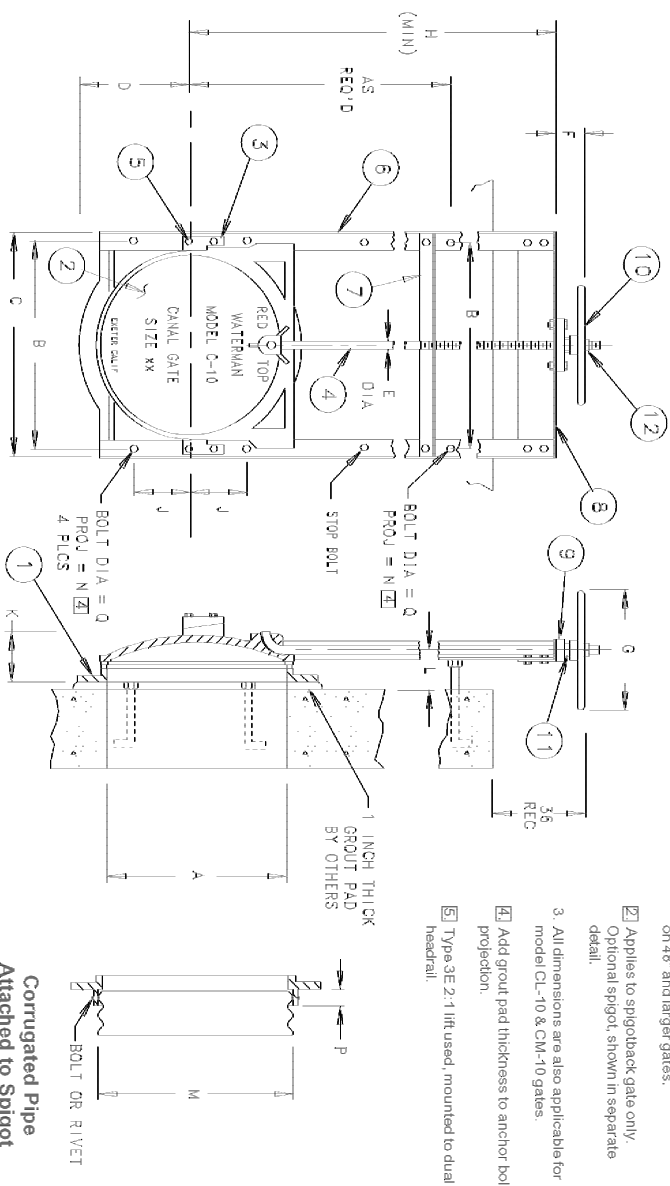
- NOTES
1. IF BOX IS CAST IN PLACE, REBAR TO BE PLACED AT 12" O.C. E.W. MINIMUM.
 2. ALL PIPES INTO BOX SHALL BE GROUTED AND WATERTIGHT.
 3. SUBMIT TO ENGINEER FINAL DIMENSIONS ON REBAR REINFORCEMENT AND CONCRETE COMPONENTS.
 4. MINIMUM PIPE SLOPES FOR PIPE UNDER ROADWAY SEE SHEET 4.
 5. BOXES MAY BE 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.

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EAST BENCH CANAL COMPANY
TYPICAL DRAWINGS
IRRIGATION BUBBLE UP BOX

JOB NO. 08- Irrigation Bubble up Box.dwg
PAUT\Central\East Bench Canal Reviews\Standard Drawings

EAST BENCH
CANAL COMPANY



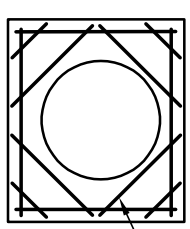
No.	Name	Qty.
1	Frame	1
2	Cover	1
3	Wedge (Right & Left)	1 ea.
4	Stem	1
5	Wedge Bolts	4
6	Guide Rail	2
7	Stem Support	ARR
8	Head Rail	1
9	Lift Collar	1
10	Handwheel	1
11	Lift Nut	1
12	Lift Nut	1

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W
6	8	9 1/4	4	1/4	2 1/8	10	24	3	3 1/8	2 1/8	7	3 1/8	2 1/4	1 1/2	-	-	-	6-180	6-645
8	10	12	4 1/2	1/4	2 1/8	10	24	3	3 1/4	2 1/8	9	3 1/8	2 1/4	1 1/2	4	7 3/4	8	8-180	8-645
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21	24	25 1/2	12 1/4	1	3 1/8	12	40	7	4 1/4	4	22	4 1/2	2 1/4	1 1/2	-	-	-	-	-
24	27 1/4	29 1/4	13 1/4	1	3 1/8	12	44	8	5 1/4	4 1/4	25	4 1/2	2 1/4	1 1/2	-	-	-	-	-
30	33 1/4	36 1/4	17 1/4	1 1/4	4	15	64	10	6	4 1/2	31	6	2 1/4	1 1/2	-	-	-	-	-
36	39 1/4	42 1/4	20 1/4	1 1/2	4	15	62	12	6 1/4	5 1/4	37	6	2 1/4	1 1/2	-	-	-	-	-
42	45 1/4	48 1/4	23 1/4	1 1/2	5	18	84	14	7	6	43	6	2 1/4	1 1/2	-	-	-	-	-
48	51 1/4	54 1/4	26 1/4	1 1/2	6	24	100	18	7 1/4	6 1/4	49 1/4	6	2 1/4	1 1/2	-	-	-	-	-
54	58 1/4	61 1/4	30	2	6	30	120	20	8 1/4	7 1/4	55 1/4	7	3	1	-	-	-	-	-
60	66	68	34	2	6	30	102	20	8 1/4	7 1/4	61 1/4	8	3 1/4	1	-	-	-	-	-
72	77 1/4	80 1/4	41	2	19	5	121	25 1/2	10 1/4	8 1/4	73 1/4	8	3 3/4	1	-	-	-	-	-

GATE DIMENSIONS IN INCHES

1 WATERMAN C-10 CANAL GATE
NTS

SEE WWW.WATERMANUSA.COM/PDF/C-10.PDF



2 REBAR IN HEADWALL
NTS

DISCLAIMER:

THE DRAWINGS PROVIDED IN THESE STANDARDS ARE ONLY INTENDED TO SHOW THE TYPE OF FACILITY(IES) THAT WILL BE ACCEPTABLE TO THE EBCC. THESE ARE NOT INTENDED TO BE USED DIRECTLY IN THE DESIGN OF FACILITIES AS EACH PROJECT HAS ITS OWN UNIQUE CIRCUMSTANCE, DIMENSIONS, DESIGN CRITERIA, ETC. IT IS THE RESPONSIBILITY OF THE APPLICANT'S DESIGN ENGINEER, WHO WILL STAMP THE DRAWING, TO ENSURE THAT EACH PROJECT IS DESIGNED PROPERLY.

EAST BENCH
CANAL COMPANY

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

EAST BENCH CANAL COMPANY	
TYPICAL DRAWINGS	
WATERMAN C-10 CANAL GATE	
JOB NO.	08 - Waterman Canal Gate.dwg PAUT\Central\East Bench Canal Reviews\Standard Drawings