IRRIGATION FACTS

Portable Rectangular Weir for Measuring Irrigation Water

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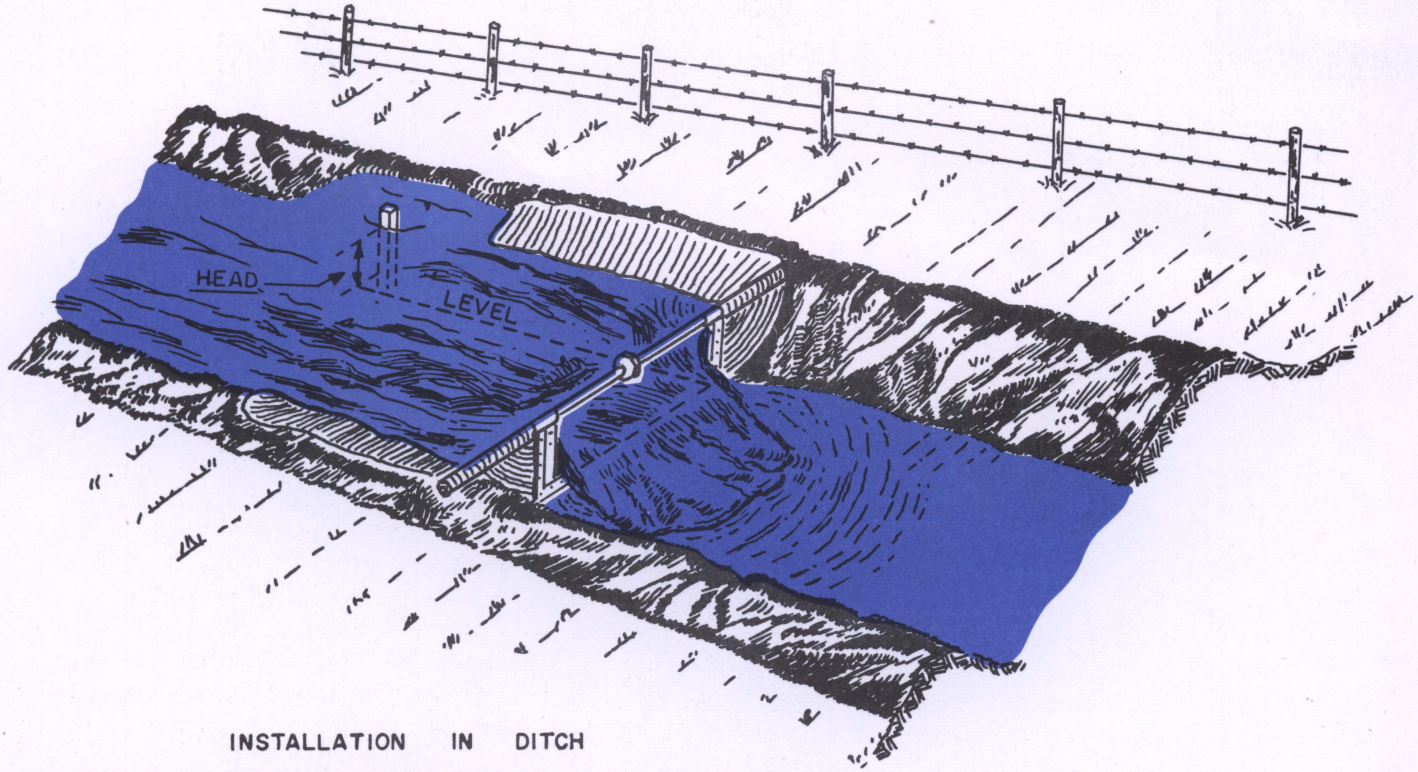
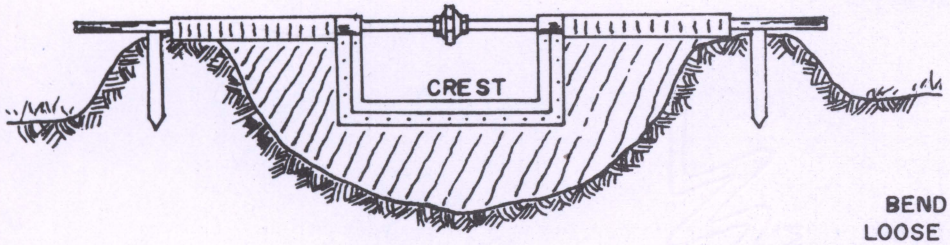
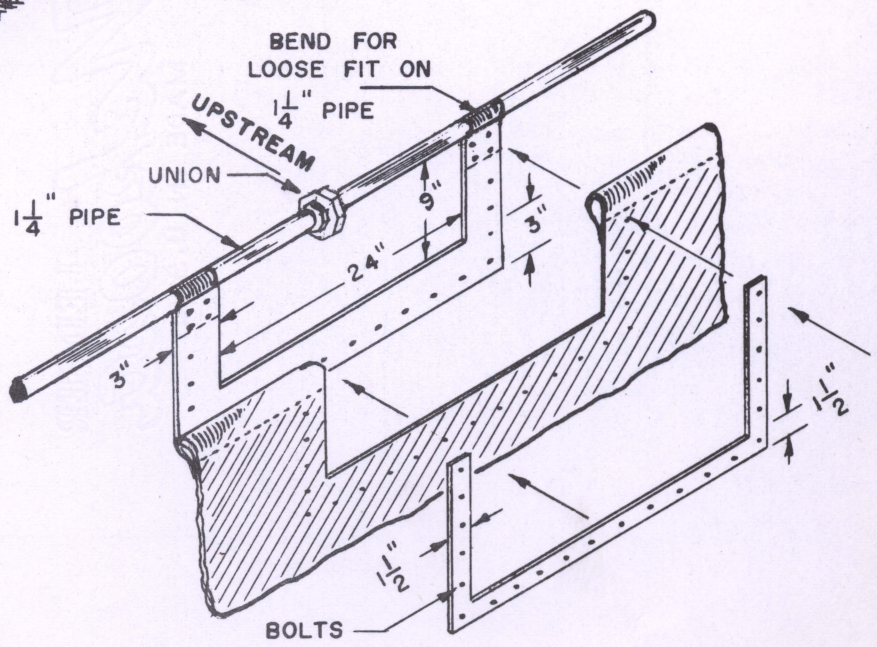


INSTALLATION IN DITCH





Portable Rectangular Weir for Measuring Irrigation Water

A RECTANGULAR WEIR mounted in a canvas dam provides an easy way to measure irrigation water. The weir consists of a weir notch made of aluminum or galvanized iron, mounted in a canvas dam with a minimum width of 6 to 8 feet, depending on ditch size. The weir is easily installed and convenient to transport.

TO ASSURE ACCURATE MEASUREMENTS:

1. The weir should be set in the ditch so that the weir notch is perpendicular with the direction of flow and the crest level.
2. The minimum distance from the crest above the bottom of the ditch should be about three times the depth of water flowing over the weir crest and the side of the crest not less than twice the depth of flow over the crest from the ditch banks.
3. The crest should be placed high enough so that the water falls freely below the weir, leaving an air space under the overfalling sheet of water.
4. Water approaching the weir should have a velocity of not more than 1/2 foot per second. To accomplish this it may be necessary to widen a portion of the ditch just above the weir.
5. The measuring stake should be set in still water about 6 feet upstream from the weir. The zero mark on the measuring stake should be level with the weir crest. Measurement of head or depth over the weir crest is made with a ruler from the zero mark on the stake.
6. For accurate measurements, the depth of flow over the 2 foot weir crest should be not more than 8 inches nor less than 2 inches.

DO NOT DO THESE THINGS:

1. Do not set the weir immediately below a curve in a ditch, since the curve will cause the water to flow to the side of the crest.
2. Do not set the weir immediately below or too near a head gate where the water has a high velocity.
3. Do not allow the water below the weir to back up even with the crest.
4. Do not allow the pool above the weir to fill up with sediment to such an extent that the velocity of approach will exceed 1/2 foot per second.

FLOW OVER RECTANGULAR CONTRACTED WEIR: 2 FEET 0 INCHES CREST

HEAD IN FEET	HEAD IN INCHES APPROX.	FLOW IN CFS	FLOW IN GALLONS PER MINUTE	HEAD IN FEET	HEAD IN INCHES APPROX.	FLOW IN CFS	FLOW IN GALLONS PER MINUTE
.16	1 15/16	.423	190	.44	5 1/4	1.88	842
.18	2 3/16	.504	226	.46	5 1/2	2.00	898
.20	2 3/8	.588	264	.48	5 3/4	2.13	956
.22	2 5/8	.677	304	.50	6	2.26	1,020
.24	2 7/8	.769	346	.52	6 1/4	2.40	1,080
.26	3 1/8	.865	388	.54	6 1/2	2.53	1,140
.28	3 3/8	.965	434	.56	6 3/4	2.67	1,200
.30	3 5/8	1.07	480	.58	6 15/16	2.81	1,260
.32	3 13/16	1.18	528	.60	7 3/16	2.96	1,330
.34	4 1/16	1.28	576	.62	7 7/16	3.10	1,390
.36	4 5-16	1.40	627	.64	7 11/16	3.25	1,460
.38	4 8/16	1.51	679	.66	7 15/16	3.40	1,520
.40	4 13/16	1.63	731	.68	8 3/16	3.56	1,590
.42	5 1/16	1.75	785				

CFS (cubic feet per second) May Be Read As Acre-Inches Per Hour.

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