

Manning Equation - Data Collection

A GENERAL INFORMATION

1. Person conducting measurement: CISCELL
2. Purpose of measurement: BU
3. Water Right or Claim No. (if known): 69-4122
4. Name of stream: CROOKED RIVER
5. Location of diversion:
 - i) Twp _____, Rng _____, Sec _____, $\frac{1}{4}$ _____ $\frac{1}{4}$
 - ii) POD name (if known): ITCHER
 - iii) GPS file name: _____
 - iv) GPS site tag number: A00 16805, 09, 10-#2

B CROSS SECTION DATA

1. Basis: ☐ high water mark ☒ ditch capacity

2. Location Notes: _____

#3 1" PIPE, ALL OTHER OPEN DITCH. CONDUIT GET NE
DIVERSION - BEARS IN VICINITY

No.	Reading	Distance	No.	Reading	Distance	No.	Reading	Distance
1	0	0	#2 8	0	0	#3 15	0	0
2	0.65	1	9	1.0	1	16	0.93	0.5
3	1.15	2	10	1.15	2	17	0.95	1
4	1.6	3	11	1.40	3	18	1.1	1.5
5	1.05	4	12	1.35	4	19	1.05	2
6	0.45	5	13	1.25	5	20	1.05	2.5
7	0	6	14	0	6		0	3

C SLOPE DATA

1. Basis: ☐ high water mark ☐ channel bottom ☐ land surface

2. Level Readings:

#1	Upper stadia	75'	5.08	4.99	90'	SOUTHERN MOST DITCH
#2	Center	120'	5.89	5.43	150'	16810
#3	Lower stadia	60'	3.14	5.16	35'	16809

Stadia difference

(_____ + _____) x 100 = _____

10-19-05

Date

Signature of person conducting measurement

BASIC "n" CHANNEL MATERIAL				CHANNEL OBSTRUCTIONS			
earth	.020	1/2	(1)	negligible	.000		(1)
rock	.025		(2)	minor	.010	1/1	(2)
fine gravel	.024		(3)		.015	2/3	(3)
coarse gravel	.028		(4)	appreciable	.020		(4)
					.030		(5)
				severe	.040		(6)
					.050		(7)
					.060		(8)
SURFACE IRREGULARITY				VEGETATION			
smooth	.000		(1)	low	.005	1/1	(1)
minor	.005	1/2	(2)		.010		(2)
moderate	.010	3/3	(3)	medium	.015		(3)
severe	.020		(4)		.020	2/3	(4)
					.025		(5)
				.030		(6)	
				.040		(7)	
				high	.050		(8)
					.060		(9)
					.075		(10)
				very high	.100		(11)
VARIATIONS IN SIZE AND SHAPE OF CROSS-SECTION				DEGREE OF MEANDERING			
gradual	.000	1/1	(1)	minor	1.00	1/2	(1)
occasional	.005	3/3	(2)	appreciable	1.15		(2)
frequent	.010	2/2	(3)	severe	1.30		(3)
	.015		(4)				

CROSS SECTION NUMBER 1

For File Number 69-4122 for the CROOKED RIVER DITCH; A0016805

Number	Rod Reading	Water Depth	Distance
1	0.00	0.00	0.00
2	0.65	0.65	1.00
3	1.15	1.15	2.00
4	1.60	1.60	3.00
5	1.05	1.05	4.00
6	0.45	0.45	5.00
7	0.00	0.00	6.00

The area for this cross section is 4.90 square feet
and the wetted perimeter is 6.81 feet.

MANNING EQUATION CHANNEL CAPACITY RESULTS

12-07-2005

File Number: 69-4122

Claimant:

Channel measured: CROOKED RIVER DITCH; A0016805

Date of measurement: 10/19/05

Measurement location:

Calculation prepared by: MIKE CISCELL

Comments about the measurement:

The results of the calculation are:

The length of the channel measured is 165 feet.

The upstream and downstream rod readings are 4.90 and 5.03 feet.

The channel cross section is 4.90 ft-sq.

The wetted perimeter is 6.81 feet.

The hydraulic radius is 0.72 feet.

The slope is 0.0008

The roughness coefficient is 0.0400

The flow velocity is 0.839 ft/sec.

The rate of flow is 4.11 cfs.

CROSS SECTION NUMBER 1

For File Number 69-4122 for the CROOKED RIVER DITCH; A0016810

Number	Rod Reading	Water Depth	Distance
1	0.00	0.00	0.00
2	1.00	1.00	1.00
3	1.15	1.15	2.00
4	1.40	1.40	3.00
5	1.35	1.35	4.00
6	1.25	1.25	5.00
7	0.00	0.00	6.00

The area for this cross section is 6.15 square feet
and the wetted perimeter is 7.06 feet.

MANNING EQUATION CHANNEL CAPACITY RESULTS

12-07-2005

File Number: 69-4122

Claimant:

Channel measured: CROOKED RIVER DITCH; A0016810

Date of measurement: 10/19/05

Measurement location:

Calculation prepared by: MIKE CISCELL

Comments about the measurement:

The results of the calculation are:

The length of the channel measured is 270 feet.

The upstream and downstream rod readings are 5.43 and 5.84 feet.

The channel cross section is 6.15 ft-sq.

The wetted perimeter is 7.06 feet.

The hydraulic radius is 0.87 feet.

The slope is 0.0015

The roughness coefficient is 0.0700

The flow velocity is 0.756 ft/sec.

The rate of flow is 4.65 cfs.

CROSS SECTION NUMBER 1

For File Number 69-4122 for the CROOKED RIVER DITCH; A0016809

Number	Rod Reading	Water Depth	Distance
1	0.00	0.00	0.00
2	0.93	0.93	0.50
3	0.95	0.95	1.00
4	1.10	1.10	1.50
5	1.05	1.05	2.00
6	1.05	1.05	2.50
7	0.00	0.00	3.00

The area for this cross section is 2.54 square feet
and the wetted perimeter is 4.24 feet.

MANNING EQUATION CHANNEL CAPACITY RESULTS

12-07-2005

File Number: 69-4122

Claimant:

Channel measured: CROOKED RIVER DITCH; A0016809

Date of measurement: 10/19/03

Measurement location:

Calculation prepared by: MIKE CISCELL

Comments about the measurement:

The results of the calculation are:

The length of the channel measured is 95 feet.

The upstream and downstream rod readings are 3.14 and 5.16 feet.

The channel cross section is 2.54 ft-sq.

The wetted perimeter is 4.24 feet.

The hydraulic radius is 0.60 feet.

The slope is 0.0213

The roughness coefficient is 0.0700

The flow velocity is 2.204 ft/sec.

The rate of flow is 5.60 cfs.