

## Turkey Creek at Edison, Nebraska

### 06844210

### LOCATION

#### *Latitude and Longitude*

40.27095, -99.73386

#### *Road Log*

On left bank 10 ft. downstream from bridge on State Highway 136, 2 mi east of Edison, and 5 mi upstream from mouth.

#### *Nearby Features*

### Equipment Details

#### *Recording Gage*

A Sutron Constant Flow Bubbler (CFB) and Satlink data logger/transmitter are connected to the stream using bubble tubing encased in metal pipes. Equipment is housed in a 24" x 30" x 72" stainless steel, cabinet style gage house on the left bank 10 ft. downstream from State Highway 136. The orifice is attached near the upstream side of bridge. The tubing is encased in a 1¼-in black PVC pipe at the top of the bank and 1¼-in galvanized pipe near the creek's edge. The equipment is powered by a 12 volt wet-cell battery with a solar panel charging system.

#### *External Gage*

The wire-weight gage attached to the upstream side of bridge on State Highway 136 is the base gage. Check bar elevation is 28.05 ft. gage datum (Levels 07/25/2019). Crest gage is located on left bank at upstream side of bridge. Top of rod elevation is 12.66 ft. gage datum. (Levels 05/23/2012) Rod length is 6.44 ft.

#### *Bench Mark and Reference Marks*

Based on NAVD88 elevations.

RM #1: Brass tablet in concrete post 15 ft. downstream from southeast corner of shelter. Elevation, 21.82 ft. gage datum. (Origin. Levels 07/25/2019)

RM #2: Chiseled "X" on left downstream concrete bridge abutment. Elevation, 26.61 ft. gage datum. (Levels 07/25/2019)

RM #3: Chiseled "X" on left upstream concrete bridge abutment. Elevation, 26.615 ft. gage datum. (Levels 07/25/2019)

RM #4: Brass tablet in concrete post located 42 ft. shoreward from left end of bridge and 22 ft. upstream from upstream side of highway 136. Elevation, 24.29 ft. gage datum. (Levels 07/25/2019).

Check Bar: Wire-weight gage is located on the upstream guardrail of highway bridge. Elevation of check bar, 28.05 gage datum (Levels 07/25/2019)

Crest Stage Gage: located on left bank at upstream side of bridge. Top of rod elevation is 12.675 ft. gage datum. (Levels 06/21/2018) Rod length is 6.44 ft.

## Hydrology

### *Drainage Area*

74.9 mi<sup>2</sup>.

### *Channel and Control*

The channel is fairly straight for some distance above and takes a sharp left turn 50 ft. below the gage. The banks are steep and covered with a heavy growth of willows, brush, and large trees. The low-water channel is narrow and the streambed is composed of fine sand and silt.

A rock riffle will control the discharge at low stages. As stage increases, there is no well-defined control. Channel control will prevail at all stages.

### *Discharge Measurements*

Measured by wading in vicinity of gage at low stages, and from highway bridge at medium and high stages. Maximum wading stage is about 5.50 ft. gage datum.

### *Floods*

Maximum instantaneous discharge during period of record, 5,949 cfs on July 9, 2019 gage height, 25.48 ft., present datum.

### *Extremes for Period of Record*

Peak discharge 5,950 cubic feet per second July 9, 2019, gage height 25.48 feet.

Minimum daily discharge 0.01 cubic feet per second September 6, 1991.

### *Point of Zero Flow*

About 2.65± ft. (variable) gage datum. Minimum daily discharge during period of record was 0.01 cfs on September 6, 1991.

### *Winter Flow*

Usually only partial ice cover. During extended period of extreme cold, the stream will have complete ice cover.

### *Regulation and Diversions*

There are several pump diversions above station.

## Accuracy

Measuring conditions are good to fair. Records of stage are good. Open water records are good but fair to poor during periods of backwater, from ice.

## Establishment and History

No other gage has been operated on this stream until station 00231700 Turkey Creek at Furnas-Gosper County Line was established in 2005.

Miscellaneous measurements for seepage study were made at 5 sites starting at bridge on Highway 6 and 34 and going upstream to T6N, R21W, sec. 18, during the period December 1967 to November 1972.

Chemical-quality water samples were obtained at bridge on Highway 6 and 34 from April 1968 to November 1972.

Established October 1, 1977, by U.S. Geological Survey.

On June 15, 1987 the wire-weight gage and orifice were moved from the downstream side to the upstream side of the bridge where calm water exists just above a rock riffle.

On November 4, 1992 the Stacom Manometer was replaced with a Balanced Beam Manometer (Model G2).

On September 30, 1993 the USGS discontinued this gage. The Nebraska Dept. of Water Resources continued to operate the gage.

On August 28, 2002 the balance beam manometer and the Stevens A-71 were disconnected. The G2 was removed and installed at another gaging station. A Stevens Axsys Logger was used to replace the G2.

On October 6, 2003 the Stevens Axsys Logger was removed and replaced with a Sutron Satlink data logger.

On September 29, 2010 the Nitrogen bubbler system was replaced with a Sutron Constant Flow Bubbler.

On May 29, 2014 the Departments Survey Division ran levels to establish gage datum using NAVD88 and convert elevations from NGVD29 (2084.689 ft. gage datum) to the NAVD88 (2085.594 ft. gage datum) elevations.

September 13-14, 2016 the standard 5' X 5' corps shelter was removed and replaced with a 24" x 30" x 72" stainless steel, cabinet style gage house.

## Revision History

Original description prepared 06-11-1980 by C.R. Liggett

Revised	01-29-1988 by B.D. Edgerton
Revised	04-02-1997 by B.D. Edgerton
"	02-25-2000 by B.D. Edgerton
"	03-14-2003 by D. Gunderson
"	01-13-2005 by D. Gunderson
"	02-24-2009 by D. Gunderson
"	03-08-2011 by D. Gunderson
"	09-13-2013 by D. Gunderson
"	08-17-2015 by D. Gunderson
"	03-08-2016 by D. Gunderson
"	01-13-2017 by D. Gunderson
"	08-27-2019 by D. Gunderson