

Snake River at Grasston, MN107

STATION ID: H36-061-003

NWS ID: GSTM5

USGS ID: 05337900

EQUIS ID: S006-131

LOCATION:

Lat: 45° 47' 18.5" N	UTMX: 488508.3	Township: Grass Lake					
Long: 93° 08' 52.2" W	UTMY: 5070555.3	PLS:	TWP	RNG	SEC	Q	QQ
			38	23W	13	NE	NW

County: Kanabec

Drainage area: 504,960 acres

Driving directions: From intersection of MN70 and MN107 near Grasston, travel north 0.2 miles on MN107 to site. Site is just to the north of the intersection on MN107. Gage located on the downstream right bank.

History: A new Telemetry gage was installed for the Minnesota Pollution Control Agency's Watershed Pollutant Monitoring Network (WPLMN) by the Minnesota Department of Natural Resources on 08/05/14.

Cooperation: Minnesota Pollution Control Agency (MPCA), Minnesota Department of Natural Resources (MN DNR)

GAGE: Base gage is a wire weight attached to downstream side of bridge. A Design Analysis H-350XL pressure sensor/data logger and H-355 Gas Purge System are housed in a 30" x 30" x 9" stainless steel enclosure. A solar panel, rain gauge, GOES antenna, and GOES GPS are connected to a vertical mast attached to the enclosure. The equipment is powered by a 12V Gel-Cell battery charged by a 1.2 amp solar panel through Sun saver power regulator. Data is collected at 15-minute intervals and sent hourly by the H-222 GOES transmitter at 300 baud within a 10 second window. The H-222 clock is synced to GMT, and the datalogger clock is set to CST (6 hour offset).

Goes ID:	D557410E	Random Channel:	119
Primary Channel:	95	Azimuth:	156
Transmit Time (GMT):	00:01:00	Elevation:	32

CHANNEL AND CONTROL: Channel is main control, but during low flow a rock riffle 150 ft downstream under the railroad bridge is the control.

DISCHARGE MEASUREMENTS:

High flow: Measurements off downstream side of the bridge.

Low flow: Wading measurements 50 to 80ft downstream of the bridge.

REFERENCE MARKS:

B.M. 1: MN DOT brass disc (#3311 C) located on the SE corner concrete abutment of MN107 Bridge (#33002)
Elevation: 43.00ft assumed datum (959.053ft NAVD88 Surveyed by MN DNR on 03/15/14)

B.M. 2: Geodetic survey marker #3311H aluminum rod pink sign at end of NE, downstream left bank, guardrail
Elevation: 37.43 ft assumed datum (953.48 ft NAVD88 Surveyed by MN DNR on 07/17/18)

R.M. 1: Existing tape down lower beveled edge located on the downstream side of the bridge deck (not railing)
approximately 95ft from the downstream, right bank bridge abutment.
Elevation: 40.00ft assumed datum (956.05ft NAVD88)

R.M. 2: Wire weight located on the downstream side of the bridge, right bank. (Installed by MN DNR on 08/05/14.)
Elevation: 40.58ft assumed datum (956.63ft NAVD88 Surveyed by MN DNR on 08/05/14.)

R.M. 3: Chiseled square on NW, upstream left bank, bridge abutment
Elevation: 39.72 ft assumed datum (955.77 ft NAVD88 Surveyed by MN DNR on 07/17/18.)

Primary reference: R.M. 2 (Checkbar – 40.58ft assumed datum)

Gage Zero: 956.63 ft NAVD88 – 40.58 ft assumed datum = 916.05 ft