

Internal Only**01589197 GWYNNS FALLS NEAR
DELIGHT, MD****Responsible Office**

U.S. Geological Survey
BALTIMORE
 8987 Yellow Brick Road
 Baltimore, MD 21237
 410-238-4200

Station Description**Most recent revision:** 3/22/2007**Revised by:** rwsaffer

LOCATION.--Lat 39°26'34.6", long 76°47'00.3" referenced to North American Datum of 1983, Baltimore County, MD, Hydrologic Unit 02060003, on downstream side of bridge on Gwynnbrook Avenue, 1.2 mi east of Delight, and 1.6 mi north of Owings Mills.

ROAD LOG.--Gaging station may be reached from intersection of I-795 Northbound and Owings Mills Boulevard as follows:

1. From I-795 Northbound, take exit 4 (Owings Mills Boulevard).
2. When exit ramp splits, stay to the right and merge onto Owings Mills Boulevard.
3. Follow Owings Mills Boulevard 0.5 mile through intersection with MD-140 (Reisterstown Road), and another 1.7 miles to intersection with Gwynnbrook Avenue.
4. Turn left onto Gwynnbrook Avenue. About 200 feet past the turn, pull into gravel and dirt pulloff area on the right and park vehicle, just prior to crossing railroad tracks. Bridge crossing Gwynns Falls is visible just beyond the railroad tracks.
5. Gage is located on the downstream side of the bridge on Gwynnbrook Avenue, on the opposite side of the railroad tracks from the gravel and dirt pull off area.

See map for route to gage.

DRAINAGE AREA.--4.23 mi².

ESTABLISHMENT AND HISTORY.--September 10, 1998 Station 01589200, Gwynns Falls near Owings Mills, Md., was operated during 1958-75, approximately 0.25 mile downstream of the current location. No previous station has been operated in the current location.

GAGE.--Datum of gage is 534.196 above National Geodetic Vertical Datum of 1929 (NGVD), from field survey

Steel shelter mounted on a 3" diameter, schedule 80 galvanized riser pipe secured to downstream, streamward end of concrete bridge pier adjacent to right bank. The 3" pipe is connected to a short length of 2" diameter, schedule 80 galvanized pipe by a 3" to 2" reducing tee. A galvanized static tube is attached at the end of the 2" pipe.

Pertinent elevations:

Gage Height (feet)

Instrument shelf

11.61

CONTROL.--The channel bed is composed of predominantly gravel, cobbles, and sand. The channel banks are composed of silt and clay, with small amounts of sand.

Channel alignment through the bridge is fairly straight. Low flows are confined to middle bridge opening, but higher flows will pass through bridge openings on the left and right overbank. The downstream channel is straight for approximately 80 feet, then bends to the left. Higher flows are confined by a railroad embankment on the left overbank. The right overbank is wooded, with gradually increasing elevations to confine higher flows.

Low water control is rock riffle located approximately 40 feet downstream of the gage. Channel control at medium stages. High-water control is railroad bridge, approximately 250 feet downstream of gage.

DISCHARGE MEASUREMENTS.--Low-water measurements can be made by wading about 10 ft. below the gage. Medium and high-stage measurements can be made from the downstream side of the highway bridge.

FLOODS.--Flood of July 22, 1999 reached a stage of 6.81 ft., based on CSG mark. Flood of July 7, 2004 reached a stage of 5.64 ft., based on recorded data.

POINT OF ZERO FLOW.--Varies due to shifting rocks in control area, but is stable during extended periods of lower flows.

WINTER FLOW.--Stage-discharge relation may be affected by ice during periods of extended cold.

REGULATION AND DIVERSIONS.--None

ACCURACY.--Good records should be obtained.

COOPERATION.--Baltimore County Department of Environmental Protection and Resource Management

REFERENCE MARKS.--RM = Reference Mark, RP = Reference Point, BM = Bench Mark

R-13 (1935, Basic) -- National Coastal and Geodetic Survey standard disk, stamped R-13, set in top, downstream end of left abutment of railroad bridge, approximately 210 feet south of intersection of railroad tracks at Gwynnbrook Avenue.

Elevation 7.519 ft., gage datum; 541.715 ft. above NGVD.

RM-1 (1998) -- Chiseled square on top, downstream side of left bridge abutment.

Elevation 9.938 ft., gage datum; 544.134 ft. above NGVD.

RP-1 (1998) -- Painted square on corner of instrument shelf.

Elevation 11.606 ft., gage datum; 545.802 ft. above NGVD.

PHOTOGRAPHS.--See station files

DESCRIPTION OF EQUIPMENT.--Sutron 8400 electronic stage recorder (15 minute scan interval) with stage kit. J+S RG-400 tipping bucket rain gage is mounted on top of a 6" x 6" timber fence post on the left overbank just downstream of the bridge and wired into the Sutron stage recorder (15 minute scan interval). Airlink Raven cellular real-time technology. A 20 watt solar panel mounted on top of shelter for Raven power supply.

Outside gage is a vertical enameled staff (0.00 - 6.74 ft.) attached to 2" x 10" x 6.8 ft pressure treated lumber, bolted to concrete facing on downstream end of bridge pier, adjacent to toe of left bank.

A standard USGS 2" diameter crest-stage gage is attached to the downstream, landward side of the concrete bridge pier adjacent to the left bank.

Pertinent elevations:	Gage Height (feet)
Crest-stage gage (base cap)	1.941
Top of OG backer board	6.846

DATE OF LAST LEVELS.--

Last run: Sep 28, 1998; Next run: Sep 27, 2001; Frequency: 3 years

Last station levels were run on Sept. 6, 2006, using RM-1 as basic. All gages were found to be reading within .015 ft of correct datum.

[back to top](#)



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