

Sugar Hollow Dam Fact Sheet

Sugar Hollow Dam is owned and operated by Rivanna Water and Sewer Authority and regulated by the Virginia Department of Conservation and Recreation. While RWSA manages the Sugar Hollow reservoir and the dam, the land is owned by the City of Charlottesville, who manages the recreational use. The dam is inspected regularly, meets all safety standards, and even won a National Rehabilitation Project of the Year award in 2000. Sugar Hollow reservoir, which feeds the Ragged Mountain Reservoir by a water pipeline, and South Rivanna Reservoir collectively supply water to our urban community.

Low Head Dam

- Completed in 1925
- Currently acts as Stilling Basin (which slows down or “stills” the water before it heads downstream) at the toe of the dam
- Diversion structure and pipeline to Ragged Mountain Reservoir

Current Dam

- Built April 1946 – August 1947
- Contractor: Falconer Construction Co.
- Concrete Gravity Dam with Steel Crest Gates and a Gallery
- 77' tall 480' length

Upgrades after June 1995 Flood Event

- Wide-scale dam safety improvements to dam completed in 2001
- Rock Anchors Installed for foundation stability
- Steel Crest Gate was replaced with inflatable Rubber Crest Gate to control reservoir levels
- Dam abutments and auxiliary spillway walls raised
- Current Total Storage: 367 Million Gallons (MG)
- Current Total Useable Storage: 339 Million Gallons (MG)

Dam Safety Measures Completed

- Dam is capable of passing the Probable Maximum Flood (PMF) without dam failure
- Rubber Crest Gate is fully automated with redundant mechanical, electrical, and communication systems
- Reservoir pool elevations and Rubber Crest Gate Operations are monitored 24/7 via our Water Treatment Plant controls technology
- Back-up power generation
- Hard-wire telephone service to the dam for operations and maintenance communication (investigating future fiber optic); additionally there is radio communication available
- Routine mowing and abutment clearing during spring, summer and fall
- Routine maintenance activities for all dam components



- Monthly dam owner inspections
- Annual owner's engineering inspections
- Development and annual update of a Sugar Hollow Dam Emergency Action Plan (EAP)
- Hydrologic routing studies and mapping used to inform Albemarle County Zoning and the Emergency Operations Center in the event of an emergency
- Annual training with Rivanna Water and Sewer Authority (RWSA) staff and emergency responders on the EAP

- Every 2 years RWSA removes trees from the stream just downstream of the dam
- RWSA has an online rainfall gauge and can monitor rainfall at the dam

Key Things to Know

- Sugar Hollow Dam is not a "Flood Control Dam" which means that generally speaking when the reservoir is full, the volume of water entering the reservoir will equal the volume over the dam and into the stream.
- The Rubber Crest Gate operates as a protective measure by incrementally adjusting its height (via air pressure) during extreme high intensity rain events to allow the incoming rain water to pass downstream.
- RWSA will occasionally lower the Rubber Crest Gate for maintenance or to proactively lower the reservoir volume before a large storm event.
- The Sugar Hollow Valley has steep topography and is prone to high-intensity rain events. Historically the run-off from the surrounding mountains is significant and as a result, the Moormans River is subject to flooding, causing the stream to overflow its banks. This occurs irrespective of the dam. Due to the topography, heavy rainfall can result in flash floods.
- Virginia Department of Transportation is responsible for the roads and bridges within the valley and any road closures during flood events.
- During a flood event, the Charlottesville-UVA-Albemarle Co. Emergency Communication Center (ECC) and the Albemarle County Police-Fire-Rescue agencies are responsible for notification, evacuation and emergency response. Residents may register with the ECC Code Red system to receive free alerts via phone, text, and/or email (<http://communityemergency.org>).