

# American Canal Society Canal Structure Inventory

Structure		Canal	HAER/CEHR
			Condition
State/ Province	County	Designer:	
City/Town		Contractor:	
Street		Source of Material:	
Associated Waterway		<b>DATES OF CONSTRUCTION</b>	
Topographic Map		Start:	Rebuilding:
UTM Coordinates		Completion:	Abandoned:
History & Use in Service (use since Abandonment):			
Description (Visible Remains at Site):			
Other works or events associated with site:			
Present Property Owners:		Location of Deed Description:	
Bibliography, Published, unpublished, maps, photographs			
Agencies, Interested		National Register, Other Recognition:	
Investigation made by:			Date:
Address:			

A sketch map or illustration of the site should be included

# FACT SHEET

## (Eureka, Rodman, Buckman)

### EUREKA LOCK AND DAM

Eureka Lock and dam were constructed from 1965 through 1970. The structures are complete but the earthen dam was never closed and the structures have never been operational. The area is currently being leased to Marion County as a road substation.

### RODMAN RESERVOIR

**Reservoir Size:** Rodman Reservoir covers some 9,500 acres and it is about 15 miles long, and up to 2 miles wide near the dam.

**How it was Created:** A 7,200 foot-long earth fill dam was built across the Ocklawaha River, just west of the Buckman Lock to impound water for the reservoir. A four-gate spillway, built into the dam, controls the water elevation in the reservoir.

**Current Water Depth:** Water in the reservoir near Rodman Dam is maintained at about 18 feet above mean sea level. Natural terrain slopes upward toward the upstream (Eureka) end of the pool. When maintained at 18 feet above sea level, the backwater effect of the reservoir ends about 2 miles downstream of Eureka Lock.

**Height of Dam:** 22 feet above natural ground elevation, with a base 300 feet wide and a crown 30 feet wide.

**Cost of Rodman Dam:** \$2.9 million. In addition, clearing the reservoir cost \$1.4 million.

**When Completed:** Closure of the final gap in the dam across the Ocklawaha River was made on September 30, 1968.

**Reservoir Clearing:** The reservoir was only partially cleared. In the area where the 12 foot-deep canal was to be dug through the pool, trees were cleared away entirely along a 400 foot-wide reach throughout the length of the pool. In other areas, trees were selectively cleared or left standing for fishery habitat. In all, 5,500 acres were totally cleared. The remaining forest was partially cleared or left standing.

**Debris in Reservoir:** Boaters using the eastern end of the Barge Canal, including the Rodman Reservoir, are urged to use caution. Speeds of all craft should be at a minimum because numerous logs, limbs, and trees are floating and partially submerged in the pool.

**Aid to Boaters:** Buoys have been installed along the old channel of the Ocklawaha River within the Reservoir. Boaters should follow these markers and use caution when navigating out of the marked channel.

### H.H. BUCKMAN LOCK

**Lock Size:** 600 feet long, 84 feet wide, and 14 feet over gates sills. The top edge of the concrete gate sill on the upstream side is 6 feet above sea level.

**Cost:** \$5.5 million. In addition, some 7 miles of 12 foot-deep canal on either side of the lock have been completed at a cost of \$1.5 million.

**Purpose of Lock:** To lift boats and barges from the level of the St. Johns River to the level of the Rodman Reservoir, about 18 feet above the mean sea level.

**Type of Gates:** Miter gates, which resemble large barn doors. The gates seal at an angle so the water pressure on the upstream side keeps them sealed.

**Weight, Size of Gates:** Each leaf of the downstream (easterly) gates is 48 feet wide and 41 feet high and about 4 feet thick. The upstream (westerly) gates are 48 feet wide, 19 ½ feet high and 4 feet thick. Each leaf in the upstream gates weighs 80,640 pounds, while the leaves in the downstream gates weigh 158,449 pounds each.

**Type of Lock:** Concrete with reinforced steel, constructed on wooden poles driven into the ground to a solid foundation.

**Number of Pilings:** Some 2,141,000 pilings (wooden poles) were used as a foundation for the lock. If placed end to end, the wooden poles would stretch about 40 miles.

**Gallons of Water:** Some 8,501,170 gallons of water are used in each lockage when the elevation of the reservoir is at 20 feet above sea level.

**Transit Time:** Normally it takes 15-20 minutes to lock a craft through the lock. This may vary slightly with the number of vessels going through at one time. Closing the gates takes about 2 minutes.

**Filling and Emptying:** Filling and emptying the lock chamber is by gravity. When filling the lock chamber, large valves are opened on the upstream side to allow water from Rodman Reservoir to flow into the lock chamber, via a 10 foot-square tunnel and 17 ports on either side of the walls. When emptying the lock chamber the water is discharged via the 17 ports, tunnels and downstream valves to the downstream side of the lock chamber.

**Water Level Gauges:** Water level gauges inside the lock chamber and immediately beyond each end of the lock chamber show depths of water above the bottom.

**Construction Time:** Construction of the Buckman Lock was started in November 1964. The Lock opened on December 14, 1968.

**Construction Method:** A 50 foot-deep hole was excavated to the dimensions of the Lock structure and was dewatered, and construction took place in the dry. When the concrete and steel lock chamber had been completed, dirt was pushed up to the sides of the lock and plugs of earth between the excavated sections of the canal were removed to allow water to flow into, and out of the lock, to connect the St. Johns River with Rodman Reservoir.

**Safety Features:** 1) The Lock Tender can only operate the miter gates from the control house located at each gate to assure proper miter and clearance of vessels and people. 2) Lock operators give special instructions to boat operators as needed during locking operations. 3) Pull-chain installed at each end of lock longwing-wall for use by small boats not equipped with signal devices or for boats too small to be observed by the lock operator or for signaling the lock operator. 4) Floating mooring bits for boats and barges to tie-up to the lock chamber rise and fall with water level in the dock. 5) Standby generator will provide power for operation of the entire lock even when commercial power fails. 6) Lock gates automatically slow down and stop near the full close and full open positions. 7) Special procedures are followed when manatees (endangered aquatic mammals) are in the Lock or approach areas.

**Who Operates the Locks:** Operations and maintenance activities at the locks are performed by state employees under the direction of the Office of Greenways and Trails, Florida Department of Environmental Protection.

**Date of Opening:** December 14, 1968

**Location of Lock:** Eight miles southwest of Palatka in Putnam County. It is located just off of State Road 19.