General Background: From 1939 to 2003, millions of metro Boston residents relied on the Hultman Aqueduct to deliver almost all of its drinking water. By the 1990s, the aging structure suffered from numerous leaks, and was losing almost 400,000 gallons of water per day. The structure needed extensive repair, and if it failed, virtually all water service to the Boston area would be cut off.

In 2003, the completion of a The MetroWest Water Supply Tunnel, a new water transmission line that paralleled the route of the Hultman Aqueduct, made repairs to the aqueduct possible. When repairs are completed in 2014, the old aqueduct and the new tunnel can be used interchangeably. If one line needs repair, the other will be activated, with little or no interruption to service.

Project overview

Owner:
Massachusetts Water Resources Authority

Engineering Consultant:
Faye, Spofford, & Thorndyke

Contractor:
Barletta Heavy Division, Inc.

Product:
13 VAG STS Butterfly Valves
10 pcs. 120” (DN 3000)
2 pcs. 84” (DN 2200)
1 pc. 96” (DN 2500)
**Location:** The Hultman Aqueduct, which runs for approximately 17 miles from Marlborough to Weston, Massachusetts carries water from the Carroll Water Treatment Plant to the metro Boston area. It connects to regional distribution lines near Route 128 and the Charles River, and also to the City Tunnel that runs through Newton, Massachusetts.

**Current Project Overview:** The repair work has been centered in Southborough, Framingham, Wayland, Natick, and Weston, and has included:

- Inspection and repair of 13.4 miles of existing aqueduct pipe
- Inspection and repair of 46 culverts under the aqueduct
- Replacement of 28 access manholes
- Replacement of 15 blow-off structures
- Installation of 13 VAG STS Butterfly Valves, connecting shafts, and operating equipment (either electric or manual) at critical junctures throughout the system
- New fencing and guardrails at 39 street crossing.

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**VAG STS Butterfly Valves for the Hultman Aqueduct Rehabilitation Project**

<table>
<thead>
<tr>
<th>Size:</th>
<th>10 pcs. 120” (DN 3000), 2 pcs. 84” (DN 2200) and 1 pc. 96” (DN 2500)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials:</td>
<td>Conforming to AWWA C504. ASTM A126 Class B cast iron body with type 316 stainless steel seat and 125 pound flange drilling. ASTM ductile iron disc with Buna-N seal mechanically retained by a type 316 stainless steel retainer ring and screws. Type ASTM A 564, Grade 630-17-4 stainless steel shafts. Two coats polyamide epoxy paint (NSF 61).</td>
</tr>
<tr>
<td>Features:</td>
<td>Designed for heavy-duty flow control applications, VAG STS Steamseal Butterfly Valves provide exceptional hydraulic stability with less head loss to reduce pumping costs. The disc seat seals against stainless steel mating surface, and is fully adjustable without special tools. Self-lubricating bushings for continuous, low friction operation. The two-way, field-adjustable thrust bearing permits flexibility in valve and actuator orientation.</td>
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Lowering new steel aqueduct shafts into position at the edge of Schenck’s Pond in Weston, MA.