

After-Action Report

In August 2018, the South Hadley Division of Water Pollution Control (WPC) put a valve replacement project out to bid. The scope of work included the replacement of slide gate valves at both the treatment plant and the Main St. pump station, and the replacement of the 24 inch valve at the station. This station receives all of the wastewater from the Town of South Hadley, as well as flow from small portions of the neighboring communities of Chicopee and Granby. The flow enters the station wet well, which is where the slide gates are located, and is then pumped to the Wastewater Treatment Plant (WWTP) located half a mile up the street. This is done through one of two valves and sewer lines, a 16 inch or a 24 inch, depending on flow, however the 24 inch valve had been inoperable for several years. The bid was awarded to Scherbon Consolidated, with Tighe & Bond as the consulting engineers for this project. The project costs, including equipment purchase, installation, and engineering was 438,000 dollars.

Both phases of work at the Main Street pump station required bypassing the station wet well to complete. The bypass plan was approved Alyson Packhem, the project engineer for Tighe & Bond, and utilized effectively in November 2018 when the slide gates were replaced. Essentially, the plan required an external pump, rated for 2.5 MGD, which pumps directly from the sewer manhole just before the station. The pump discharge line was connected to the 10 inch station drain line, which ties in to the 16 inch sewer line, just past the closed valve. A second 2.5 MGD pump was also connected, in case of a pump failure or increased flow. This is typical, as bypass plans usually rely on redundancy in pumps, not spare parts such as hoses. The equipment for the bypass was supplied by United Rentals in November and again in August.

Scherbon completed the installation of the bypass equipment on Monday, the 19th, and completed a preliminary test. The system was tested again on the Tuesday, the 20th by running it for a few hours. Due to rain being forecast on Wednesday, the work was postponed until Thursday. On August 22, in preparation to remove the valve, the bypass pumping was initiated, and run for an hour to be sure the system was stable before Scherbon began the actual valve removal. The valve itself is located at the bottom of a concrete pit, and is considered a confined space, with special requirements for worker safety. Once inside, the contractors unbolted and removed the top of the valve structure from the pit. It was at this time, 10:30 AM, the Scherbon crew noticed the water level in the confined space where the valve was located was starting to increase. Since there were no obvious problems, they assumed it was due to higher flow and turned on the second pump. About 10:45 the discharge line completely broke apart, and the sewage began filling the wet well. The Project Supervisor for Scherbon notified Melissa LaBonte, who in turn notified Jim Reidy and MassDEP of the potential discharge. Initially, calls were made to try and obtain another specialized hose connector, however the station filled up too quickly. The water in the pit continued to rise, and the worker was ordered out of the confined space due to safety concerns. The broken section of hose in the wetwell was now underwater, and once the level reached the painted line in the station wetwell, which indicates the point at which it will begin to back up in the sewer system, Melissa LaBonte notified Matt Sokop of MassDEP that we would need to open the emergency bypass

valve or begin flooding residences, businesses and the adjacent park. The discharge to the Connecticut River began at 11:20. Notifications were made to the downstream community Boards of Health as required, and Melissa LaBonte tried unsuccessfully to get the Chicopee boat ramp closed.

The only option available to Scherbon at this point was to put the existing valve back together and turn the station pumps back on. However, during this time, the valve pit had filled with sewage and was inaccessible. Scherbon immediately called for a septage hauler to pump out the pit, and Jim Reidy called the Town sewer crew to respond as well. The sewer crew arrived first, but was unable to pump the pit down enough. When Wind River Environmental arrived, they began pumping out as well. The Project Supervisor finally determined that the sewage was leaking back through the station pumps, due to the force main elevation in the station being lower than the water elevation in the wet well as a result of the flooding, forcing the water through the pump valves and into the pit. Each pump valve was closed, and once the flow was stopped, the pit was pumped down. Once it was deemed safe for a worker to again enter the confined space, the existing valve was put back together and the station pumps turned on. The emergency bypass valve was closed within a couple minutes of the station being put back online, and resealed by plant staff. An estimated 284,000 gallons of sewage was discharged during this event. It should be noted that after opening the emergency bypass valve, Scherbon notified the supplier, United Rentals, of the situation. They sent several people to the site that day. The following day, the section of hose was removed by United, and they indicated that they would follow up with the manufacturer. Since then, United has not provided any information to Scherbon.

The Town of South Hadley has strived to be a good river steward. The Town eliminated all of its combined sewer overflows ten years ago, and Town personnel have sat side by side on committees with members of the Connecticut River Conservancy for the betterment of the Connecticut River. The Town was proactively maintaining and replacing integral equipment when this unfortunate event occurred. Both the Town of South Hadley, and its contractor, Scherbon Consolidated, exercised due diligence with respect to this project. There was an approved bypass plan, which performed as designed both in November and later in August to complete the project. The contractor tested the system multiple times prior to beginning any work, and the hose section that failed was brand new, still wrapped in its original plastic. In the end, the decision to divert the sewage to the Connecticut River by Town personnel was not made lightly, but given the alternative, the only one that could be made in the interest of protecting worker safety and public health.