



LAYDON INDUSTRIES, LLC

CLIENT: Greater New Haven Water Pollution Control Authority (GNHWPCA)

PROJECT: Rehabilitate Failing 30" Pressure Sewer Main

LOCATION: Hamden, CT

The Project



Sewage pipe collapse being drained with a combination of vacuum tanker trucks and a series of 6" and 8" portable pumps.

The work was initially being performed so that a section of the existing, 54 year old reinforced concrete 30" sewer main, could be lined as part of a rehabilitation project on Whitney Avenue, in Hamden.

However, on Monday, July 6th, at about 6:00am, one day before the lining work was to commence, the existing 30" sewer main suddenly collapsed.

Laydon was notified that the collapse caused raw sewage to run down the street. Within minutes, Laydon's crew was mobilized and emergency bypass operations were being set up to contain the overflow sewage.



Custom made bypass manifolds using a combination of cast iron, steel, and HDPE components.

PHASE ONE

The first phase of the project involved the installation of a bypass pumping system, tapping sections, and line stop in order to replace approximately 140 LF of 30" sewer main using open cut techniques.

A 400' semi permanent bypass system was installed using 18" HDPE pipe that was fused onsite and connected to one 8" and two 12" pumps.



Crews replace the 30" pipe and encase all the fittings with concrete thrust blocks.



Crews working on assembling the semi-permanent 18" HDPE bypass line.

PHASE TWO

Further downstream on East Rock Park Road in New Haven, another area of the 30" main was identified as being beyond its useful life expectancy. Before this area could fail GNHWPCA decided to perform an emergency pipe lining while crews were onsite.

Laydon established a second bypass pumping system, custom tapping sections, and line stop in this area for the existing sewer main section to have a new liner membrane installed.

This phase included an additional 550 LF of 18" welded HDPE piping to bypass the work area. Thankfully, this area was able to be rehabilitated using liner technology and disturbances during phase 2 were kept to a minimum.

Laydon established a similar three pump installation and fused 550' of 18" HDPE to bypass the area requiring the 30" pipe lining. A custom line stop and two taps were again installed into the pressure main allowing access for the liner installation.



Plastic line piping sections are cut and then welded via a high heat fusion process.



Straight and radius piping configurations are custom fabricated onsite.



Laydon is not only a utility contractor but also an environmental emergency response contractor. Having these two services combined proved to be useful containing the spill and repairing the pipe throughout the event. GNHWPCA immediately commenced incident command protocols and coordinated the response and repairs flawlessly with all agencies involved. Professionals that later visited the site were all impressed with the amount of work that was performed in such a short window.

A special thanks to the Southern Connecticut Gas company who in the overnight hours of the line stop installation lent the project a piece of 16" steel pipe that was used to replace a missing coupling that failed to make the emergency journey from Texas to Connecticut. Laydon's fabricators welded flanges on this pipe to manufacture the missing coupling and the project didn't miss a beat.