CASE STUDY:

POLYCHEM PIPE REINFORCEMENT

Reinforcement of PVC piping for freshwater skimming system. The current stainless-steel piping is expensive, and the industry was moving away from metallic components. This skimmer pipe is designed with slots to remove debris floating on the top of the water. Since the pipe is floating on the surface and is, mostly empty, the upward force is about 400 pounds. This caused a 10-inch PVC pipe to deflect and not skim equally across its length.

The unique challenge of this project was, understanding the basic structural components of SprayWall. How to translate the structural characteristics of SprayWall to build exponential bridging strengths without increasing the pounds required of SprayWall.

SOLUTION

Abel Recon was tasked with increasing the rigidity of a 10-inch PVC pipe without exceeding a 20% increase in overall weight. This “New Pipe” was going to replace the stainless-steel pipes that were currently being used. The industry standard is moving toward non-metal components. We were able to stay within the requirements by using ½-inch Schedule-40 as a medium to help facilitate the bridging effect with SprayWall.

RESULTS

The perpendicular SprayWall coating around the ½-inch pipe set at 90, 180, and 270degrees around the 10-inch PVC created 6separate bridges (like little “I” beams) that enhanced the structure of the pipe. The pipe is 20 feet long and without Spraywall deflected 5inches with 400 pounds of sandbags placed in the middle. Once we sprayed the pipe, we achieved a deflection of ½-inch with 500 pounds of sandbags. The results were within the design spec for the treatment plant.

SPRAYROQ
P: 205.957.0020
E: info@sprayroq.com
W: sprayroq.com