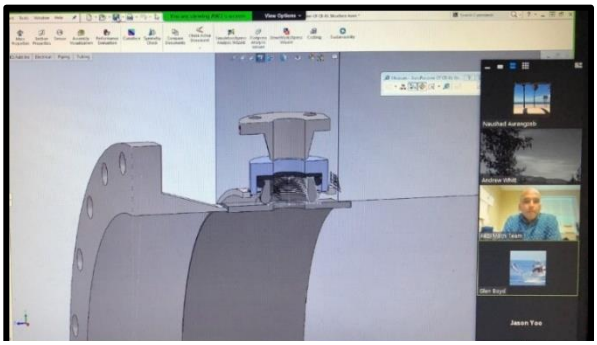
Innovation in Manufacturing at the La Verne Shops

The La Verne Shops provide manufacturing, coating, valve, and dive services for Metropolitan, member agencies, DWR, and other public agencies. This vast in-house talent often generates innovative ideas to fix urgent problems, even when design drawings don't exist. This was the case recently when investigating a leak at service connection CB-01 on the Upper Feeder.

A leak was discovered on a 24-inch butterfly valve. While formulating a repair plan, a second leak developed on the high-pressure side of the valve when a 2-inch fitting broke off due to heavy corrosion. This soon flooded the structure and divers rapidly moved into action to temporarily stop the leak while a permanent solution could be developed. With creativity and problem-solving skills, the divers used parts they quickly purchased from local stores and used a GoPro camera to inspect the vault in a submerged condition.



Staff collaborated using a 3D model to develop a design to repair a leak at CB-01

Staff across WSO (MSU, C&D–Western Unit, CSU, SRS and others) and Engineering Services quickly coordinated on a plan of attack. Before addressing the leak on the butterfly valve due to a compromised seal, the 2-inch leak had to be tackled to allow safe access into the turnout structure. The planning team held several virtual meetings to develop the repair method. Production Planner Andrew Whitt (MSU) applied the repair design concepts and onsite measurements to develop a model, using SolidWorks CAD software. This helped engineers and management visualize the design.

The final design meeting was a 3-hour long virtual collaboration where the project team adapted the model and arrived at a solution. Andrew used the model to create drawings for the shops to manufacture a custom stainless-steel saddle clamp fixture.

The project involved multiple areas of expertise from the La Verne Shops. Altogether, staff manufactured the saddle clamp assembly in about 16 hours. Overall, the collective ingenuity and collaboration of Metropolitan staff continues to apply innovative yet practical approaches to solve challenging problems and ensure our continued delivery of water.

Diver James Geissler (MSU) supporting underwater Diver Armando Riveroll during initial dive to plug 2-inch leak at CB-01

Fabricator/Welder Dave Paul (MSU) machining assembly to plug a leak at CB-01

Fabricated butt strap for CB-01

Fabricated saddle clamp for CB-01