



# THE DIRT

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## MEYDENBAUER BAY PARK SEWER LINE INSTALLATION & PHASE 1

Work is continuing on the Meydenbauer Bay Park project in Bellevue. The team has been building concrete retaining walls, basalt and granite rock walls, a ravine creek drainage system, and preparing to construct the slab on grade for our beach house structure.

IMCO recently completed nearly all of the in-water work in Lake Washington, a major milestone for this project. All of the piles for the floating pier have been driven, and the steel trestle and a sewer manhole connecting to the new sewer system were installed.

IMCO is preparing for the rainy season to hit as the steep project site is very susceptible to poor conditions once wet weather arrives.

The slab on grade work will begin shortly, followed by the Concrete Masonry Unit (CMU) walls. Our Technology, Design, and VDC Team is working hard on completing the designs and gaining approval from the City of Bellevue. A CMU subcontractor will be on site to build contract-required mock-ups of the different styles of CMU walls for the owner to see. IMCO crews will be erecting a shoring system to pour a suspended slab for the beach house roof. Construction of various walls throughout the site will be ongoing. Completing these milestones is important to provide dry work for the carpenters through the wet winter.

Our Trimble SX10 technology is geared towards civil work in the outdoors, focused mostly on dirt work. IMCO is currently using the Trimble SX10 at the Meydenbauer Bay Park to as-built the ravine and identify the center of the piles set in water for the future dock.





## YESLER WAY BRIDGE RIBBON CUTTING CEREMONY

In September, the Yesler team hit their final major milestone in the 16-month long project, installing the historical elements refurbished by Jesse Engineering, the brick paver driveway, and painting the historical pieces and abutments.

Yesler Bridge opened to vehicle and pedestrian traffic on October 10, 2017 and was celebrated with a ribbon cutting ceremony. City officials including Mayor Tim Burgess, SDOT Director Scott Kubly, and Councilman Mike O'Brien were in attendance. Also present was Tony Brooks Jr., owner of the 9000 Barber Shop whose business, located at Yesler and 6th, was essentially cut off from downtown foot traffic during the renovation.

The City of Seattle is very happy with the finished product. The owner and engineer are looking forward to working with the same team on the upcoming Post Avenue project.

## HOLDEN MINE CONSTRUCTION

IMCO's Holden team is wrapping up work on five remaining structures being built around the water treatment plant. The purpose of these structures is to protect the air handling unit and fuel areas against extreme weather and snowfall. These structures are slated for completion at the end of October, at which time the team will begin demobilization for winter.

Rio Tinto and IMCO continue to build a strong relationship through the successful completion of our assigned work. The Holden team is overcoming the challenge of procuring and delivering all of the materials to the site in order to complete these items quickly and efficiently. The team performed exceptional work this year, and most importantly, they completed the work safely.

"Safety is everything on this job. It's what drives the way we do construction," said Isaac Woodbury, Holden Project Engineer.

IMCO construction crews will be completely demobilized from the site by mid-November 2017, but will maintain operations of the water treatment plant through 2018.

## TECHNOLOGY & DESIGN SERVICES

IMCO's innovative Technology and Design Department utilizes in-house engineering and Virtual Design Construction (VDC) throughout the life cycle of a project to streamline work-flow from the office to the field and back. This increases efficiency, safety, and productivity for our projects.

IMCO's extensive technology services, including UAV technology, laser scanning, 3D modeling capabilities, and machine guidance give IMCO a cutting-edge advantage in the field, including the ability to:

- Integrate laser scanning GPS technology and modeling software to produce 3D representations of current projects and as-built conditions
- Utilize BIM models for project rendering and 3D "walk-throughs"
- Detect design errors prior to construction, minimizing delays and cost
- Send revisions into the field faster using in-house modeling and integrated data synchronization
- Provide better value to clients by reducing equipment and labor costs

Our team's experience and expertise in working with multiple information sources allows them to develop models that enhance safety, execution planning, and efficiency for our project teams.

IMCO recently added a drone with an integrated FLIR thermal camera and a new Trimble SX10 Total Station and laser scanner to our technology arsenal.

FLIR (Forward Looking InfraRed) detects heat and heat loss in buildings and piping systems, and hot spots on roadways and bridge decks. It was recently utilized on the Alcoa Intalco Center 7 Baghouse project and during Kinder Morgan pipeline repairs. The FLIR drone allows IMCO's team to detect thermal differences, provide data acquisition at high speeds, and perform inspections.

IMCO's new laser scanner technology allows our team to quickly acquire and view data in the field versus bringing the scanner back in-house to register and view data. The Trimble scanner has five built-in cameras and is controlled by a rugged PC. It has the ability to be controlled remotely, allowing the operator to control it from a safe distance, out of the line of work.

At Culmback Dam, the team used the SX10 to identify the measurements of the staircase leading up to the dam. Additional measurements were taken to provide Snohomish County PUD No. One the option to extend the staircase to the top of the dam. The staircase measured 23 degrees in tilt (steepness).

Our Faro laser scanner provides scanning results in challenging environments, narrow job-sites, dusty or humid areas, rain, or direct sunlight applications. HDR imaging and HD photo resolution ensure true-to-detail scan results with high data quality. IMCO uses this technology on many of our projects, including on the installation of the I-90 saccardo nozzles. IMCO is using this technology heavily at Alcoa and BP, and will use it on pipeline and other industrial projects.







## NORTH BEND I-90 CONCRETE, DECK, CULVERT REHABILITATION

The North Bend project team has shown remarkable teamwork, integrity, and dedication in the face of many challenges. Unexpected site conditions, including sink holes in the bridge deck have resulted in extensive additional work. Meeting stringent concrete specifications has also been difficult due to weather and the site's distance from the concrete plant. But despite these difficulties, the team has come together with tenacity, positivity, and skill.

Maintaining a safe work site is paramount to this project's success. The project team utilizes safety meetings to allow the entire team to give input and feedback on what needs to happen to keep everyone safe. Getting the entire crew involved has been critical to building a strong safety culture on site and keeping risk mitigation at the forefront of our minds so that our actions are as safe as possible. Our efforts have paid off; in a single month, from mid-August to mid-September, IMCO worked over 10,000 man-hours without an incident!

According to Senior Project Manager CJ Handforth, the North Bend project team demonstrated herculean effort to complete the final bridge deck overlay placement of the season. This final placement came on the heels of a prior 20-hour long deck placement just two days earlier. The final overlay placement began at 5:00 AM on September 13th and covered the 1,148-foot

by 29-foot bridge deck with 44 concrete mixer truck loads carrying 262 cubic yards of concrete. The final mixer truck was emptied at 8:45 pm that evening. Crews were still working the bridge deck cure until 2:00 am the next day, 21 hours after the placement began.

Careful pre-planning was critical in achieving the final milestone of the season. IMCO's team included 30 crew members who rotated through the overlay placement along with 11 subcontracted laborers and finishers. The team coordinated shifts to make sure the work activities could be completed without overworking the crews and compromising safety. Roadway construction crews are exposed to tremendous traffic hazards, and this required great awareness by the crew members. "The team successfully completed an extremely difficult and hard stretch of work. Their dedication exemplified IMCO," said CJ.

IMCO's Technology and Design Team used the Trimble SX10 to scan the bridge deck before and after hydro-blasting the original road surface to compare and determine the volume of concrete removed during hydro-blasting. This allowed our team to compare what was supposed to come out versus what was actually taken out.

Navito Construction coordinated the traffic control for the project and has been very responsive and accommodating. They were on-site seven days a week, working day and night shifts, since the beginning of the project. PSC has also been an important part of our team bringing in paint trucks and line removing trucks. They have been a key contributor to the success on this project.

### *Technology & Design Services, continued.*

Laser scanning technology helped our team in winning and performing the Alcoa Center 7 project. Upon scanning, the team recognized that the existing pipe was torqued out of shape due to the previous fire. IMCO's team was able to anticipate some issues in the 3D model before the execution. The 3D model and scan data was incorporated into NavisWorks so we could visually communicate to Alcoa Intalco exactly what the issues were with the riser pipe and then present an execution plan for the project. This allowed Alcoa to see the sophisticated technology and problem solving that our team could offer. This work has led to even more projects on site, a testament to IMCO's value engineering abilities.

## HARRIS AVENUE PORT OF BELLINGHAM

The Harris Avenue Shipyard Cleanup project has made significant progress. IMCO has completed all of the upland cleanup and utility work and finished demolition of the carpenter building and the west side of the existing pier. American Marine is wrapping up the dredging work for season one. Dredging up unforeseen piles from past industrial operations has kept things interesting! Pile driving work and construction of the new bulkhead are ongoing. From now until March 2018, our crews will be busy re-building the concrete pier using cast-in-place and precast concrete components.

This project has required meticulous planning with stakeholders, including the Port, BergerABAM, the environmental consultant, Fairhaven Shipyard operations, and others. Safety has been a critical component of project coordination and execution and is driving collaborative planning efforts with the Port and the engineers for the remaining work. IMCO's team meets regularly during the week with the Port and engineering and environmental representatives to promote collaboration and keep the project moving forward on schedule.

## THOMPSON FALLS DAM RADIAL GATE REPLACEMENT

IMCO's new hydroelectric project in western Montana, for NorthWestern Energy, is newly underway. The closest major city to the project is Missoula, approximately two hours away.

The project has an aggressive schedule and is required to be complete prior to the spring when snow run-offs will require the dam to utilize the spillway. Since start-up, our team has collaborated to design and implement temporary access to the work area by way of an earthen bridge from a steep abutment on the side of the dam to the spillway. The existing spillway flash boards are being utilized as a temporary coffer wall to keep water out of the work site. IMCO contracted divers to install a membrane system in the upstream reservoir to divert water.

At Thompson Falls Dam, the Trimble SX10 scanned the ground area below and adjacent to the Dam to build the road to the dam access point. IMCO was able to create a topography model of the access down to the dam to successfully build the road.

