

Turbo Leadership Systems™

The **TURBO** **Charger**

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To our clients and friends

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Use the Dam in Your Plan



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*Don't prejudge
ideas as being
all wet*

Tony, a project superintendent for a large building contractor in southern Oregon, told Session 3B of the Leadership Development Lab:

"In 2003 we had demolished and rebuilt a new fish ladder on the west side of the Leaburg dam. The final phase of this project was to modify the existing fish ladder on the east side of the dam. Most of the work was inside the concrete fish ladder and would have been easily accomplished by simply closing the upper and lower gates, then dewatering, however the lower gate was to be replaced. The work could have been done with divers working under water, but that option was prohibitively expensive. A temporary 'coffer dam' was needed to dry this area out. One option would be to rent a 'Portadam', but this also requires divers to install and would also be quite expensive.

I began to study the 'as built' drawings of this structure and saw that there should be a short concrete wall between the river bottom and the bottom of this gate opening. I then surveyed the wall around this gate, 'feeling' with a long aluminum pole down in the river. The river was about 11' deep, and sure enough, there was about 18" of smooth concrete wall beneath the opening. I couldn't detect any bulges or imperfections in the concrete, which was in keeping with the work above the river level, which, when checked, was level, plumb, and true. Another obstacle was that directly overhead were high voltage lines. Fortunately, there was just enough clearance to set up and use our small hydro-crane if the boom could be kept very flat. This greatly reduces the cranes' load capacity.

I asked one of our company's project engineers to help design a steel box large enough for a man to work in, strong enough

to hold the river out, and light enough to be placed with our limited crane movement. We determined that this could be done.

We devised a rubber gasket to be clued to a steel flange inside the box perimeter, along with a keeper (steel) to prevent the gasket from being pushed in by river pressure as water was pumped out of the fish ladder. Holes were predrilled through the flange and gasket 12" o.c. The plan was to drill the concrete and install anchors just above the water level as it was being pumped out, effectively following the water down with anchor bolts.

I wouldn't be telling this story if the idea hadn't worked as planned. The crane was able to swing this 3-sided steel box into place, the concrete wall being the fourth side. The two top anchors were installed, and with several large pumps working, the gasket stayed in place as we followed the water down, installing anchor bolts along the way.

The lesson I learned from this experience is to courageously pursue my solutions to challenging problems, and to seek expert help (engineering in this case) when I need it.

The action I call you to take is to look at the challenges in front of you from as many different angles as you can before deciding which solution to pursue. Be as thorough as possible in your assessment of the problem and you will likely formulate an innovative solution.

The benefit you will gain is confidence in your ability to solve problems and deal with any challenges you face."

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