Sculpture Conservation Report

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August 8, 2013
Willy Walleye, 1958

by Al Anderson, Arnold F/ Lund, David Olson, Walter C Olson and Luverne?

Materials: steel, concrete, paint, ferrous metal
Dimensions: 21’ H x 4’ W x 40’ L

Condition

Willy Walleye is in good condition. The fish, made of concrete on metal lath, is supported internally by steel and reinforced with ribs of re-bar. The exterior surface of the fish was surface repaired and painted in June, 2012 and exhibits a continuous coating of paint with a slight gloss. On the interior a fan located in the tail runs constantly, keeping air circulating and surfaces dry to the touch. Some fine cracks have opened on the exterior of the fish since the fall of 2012, but they are limited in length and located primarily on the belly.

In August 2012, from information provided by Tina Rennemo, Administration, George Taylor, Public Works, and Don Kafstad, Painter, we learned Willy requires surface repairs and repainting on a very frequent schedule. We understand portions of the exterior of the fish separate from the lath and the failure in adhesion to the structure causes losses on the fish and damage to paint. The repairs made in the spring of 2012 were mostly still effective in the summer of 2013 with the exception of the very fine cracks through the exterior paint, as noted in the paragraph above.
The focus of our work was structural stabilization of Willy Walleye. Work was directed at and comprised of excavation to expose existing footings and modifications to create a single monolithic footing. This footing change forces Willie to move as one piece and eliminates any stress created on the sculpture by footing on either end moving independently.

Excavation supported information provided in a photographic exhibit in City of Baudette offices and provided by Baudette Historical Society. Three square tubes and two angle irons support Willy approximately 3 to 4 feet above grade. The 3 supports at the front of the fist were anchored into a large footing, while the rear support had a second, separate footing. Excavation exposed the concrete footings which measured 5 ½ feet in depth and stopped at 4” below grade. The site had supported flower gardens beneath the sculpture before the 2013 foundation was poured.

As proposed, our efforts to stabilize Willy Walleye were realized by fabricating a monolithic footing which secured the five existing supports to one another, thereby eliminating differential movement. We used 4” steel I beams to connect the two existing concrete footings. Cross beams were installed to secure the supports that are located beneath each fin. Additional supports were installed angling upward to the central support and finally, re-bar was set in place before the concrete was poured.

The site wax excavated to a depth of 6’ with some portions measuring 6.5’ because of the sloping grade. Concrete was poured in a single monolithic foundation consuming 24 cubic yards of concrete. The poured concrete was vibrated to remove gas bubbles and the surface was finished with hand trowels.

The interior of the fish is successfully being kept dry by the constant circulation of the exhaust fan. However, flash surface rust is visible on the exposed iron of the structure most likely from the years when humidity was trapped inside. Therefore, we chemically passivated structural
steel and re-bar exposed to the interior space by spray application of Rust Reformer. The Rust-Oleum brand paint product seals and converts the surface rust to iron, passivating the metal from active corrosion.

Willy Walleye had a garden beneath the sculpture before excavation work began in 2013.
Excavation of the site beneath Willy begins to expose the front footing.
The front footing has a T-shaped footprint.
The 4" I-beam is being attached to the rear footing.
Here is the structure at the front footing before concrete fills the cavity with a detail image (below) taken from the side view.
The new anchoring system is illustrated here from the front looking to the rear of the structure with a detail image (below).
The new monolithic footing is being poured with 4,000 psi concrete, consuming 24 cubic yards.
The concrete pour was vibrated to release bubbles and smoothed by hand trowels.
The finished monolithic foundation is illustrated from both sides of Willy Walleye.