TEAM ELMER'S PROJECT PROFILE | Kids Creek Box Culverts 2021

CHALLENGE: Install box culverts to increase waterflow; replace sanitary and water systems in poor soil.

SOLUTION: Install 66 - 30' wood pilings to place the pipe on; install 18'x5' box culverts.

OWNER: City of Traverse City

CONTRACT AMOUNT: $2,432,463.95

PROJECT ENGINEER: Timothy J. Lodge, P.E., City Engineer

ENGINEER CONTACT: (231) 922-4455

LOCATION: Cedar Street and 6th Street, Traverse City

DATE STARTED: May 2021

DATE COMPLETED: October 2021

SELF-PERFORMED: 94%

PARTNERS: Bella Concrete Construction, Give Em A Break Safety

BY THE NUMBERS

2020 Flood: 5" of rain in 6 hours; river rose 1.5'

Culverts Removed: 6 - 36" round

Wood Pilings: 66 - 30' (Watermain & Sanitary)

New Culverts: 149 ft of 18'x5' box culverts

Sewer: 755 ft

Watermain: 1096 ft plus105 ft 16" steel casing pipe

Sanitary: 45 ft 24" steel casing pipe

HMA: 527 ton

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5 inches of rain of in 6 hours. That's what it took for Kids Creek to rise 1.5 feet in 2020, yet again flooding nearby yards, businesses, and roads.

While the "flashy" creek is well-known for running over quickly with rainstorms, this particular flood was perhaps the first to attract kayakers who enjoyed a leisurely paddle down the street.

Thanks in part to Team Elmer's, it will likely be their last.

Watershed Center Grand Traverse Bay has been engaged in a 10-year long project to restore the beloved urban stream on the west side of Traverse City, which is currently on the state impaired waters list.

Partnering with the City of Traverse City for engineering services and construction oversight, and funded in part by a grant from the National Oceanic and Atmospheric Administration (NOAA), the Watershed Center took another step in the restoration of the creek with a box culvert project in 2021. Team Elmer's was the low bid.

Six 36-inch-round culverts spread between 3 road crossings on Cedar Street and 6th Street were undersized and failing. This caused the culverts to fill with sediment, backing up water on the upstream and forcing water out on the downstream end.

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Beyond flooding and reduced fish passage, this also caused scour and erosion, washing away habitat needed for aquatic insects, thus negatively impacting fish habitat.

Team Elmer's removed the failing culverts, replacing them with much larger box culverts.

The bigger culverts are designed to reduce the velocity of the water, which in turn stabilizes the stream, reduces flooding, and improves insect and fish habitat as well as water quality.

The real challenge came first, however, with the replacement of sanitary and water systems on Cedar Street. Poor soil required additional support for the pipes.

That support came in the form of 66-30' wood pilings installed by Team Elmer's.

With upgraded water and sewer on Cedar street, and much larger box culverts on Cedar and 6th street, Kids Creek is now one step closer to becoming a healthy, functioning stream that can be enjoyed for generations to come.

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