



# Fairfield

## TH 30 Bridge 48

**Fairfield Bridge 48 – BRO 1448(38)**

**Project Location: Town of Fairfield in Franklin County on TH 30 at Wanzer Brook. The bridge is located approximately 0.34 miles from the intersection with TH 2, Chester A. Arthur Rd.**

The Fairfield TH 30 Bridge 48 project will replace the existing bridge deck and support beams, which has a sub-standard width and is in poor condition, with a new **Rigidified Carbon Fiber Composite Tube Arch Bridge** commonly referred to as the **“Bridge in a Backpack”**.

The existing bridge, constructed in 1919, is a single span, one lane structure. It is 17 feet in length and 12 feet wide. The bridge superstructure (wood deck and steel beams) components are in poor condition. The steel beams are in poor condition and very rusty. Several beams have been added overtime to help with support. The guardrail are steel beams and mounted on fascia posts. The roadway alignment is on a “S” curve in a deep vertical sag. TH 30 intersects with TH 2, Chester A. Arthur Rd. in the south and TH 14, Pumpkin Village Rd. in the north. There are nine homes and farms on TH 30. Most homes are located north of the bridge crossing.

The existing bridge will be replaced with innovative composite bridge system that lowers construction costs, extends structural lifespan up to 100 years, and is a greener alternative to concrete and steel construction. “Bridge in a Backpack” was developed by the University of Maine and is marketed by Advance Infrastructure Technologies in Orono, Maine. The “Bridge in a Backpack” system uses a composite exoskeleton to fortify the concrete superstructure. This adds significant strength, durability and protects the concrete from corrosion. The fabrication of superstructure elements fuses several layers (including carbon fiber) with resin to create the composite material. The exact blend is engineered to optimize the efficiency of the bridge design.

Inexpensively transported to the job site, the composite arches are placed in position, filled with an expansive concrete and covered with composite decking. It has a relatively short construction period and comparatively low construction and maintenance costs.

The bridge will be closed from June 2nd to September 15th to facilitate rapid construction. The contract was awarded to A.L. St. Onge Contractor, Inc. for \$ 983,841.

For more information on “Bridge in a Backpack” click on the URL below:

<http://www.aitbridges.com/compositebridgesystem/>

### PROJECT MILESTONES

#### Preliminary Plans

20 Aug. 2012

#### Permitting

9 Jul 2013

#### Final Design

24 Apr 2013

#### Right-of-Way Complete

20 Sep 2013

#### Bid Advertisement

18 Nov 2013

#### Contract Award

20 Dec 2013

#### Target Construction Schedule

Completion 15 Sep 2014



Project Location Map



**Target Construction Schedule:** Construction activities will take place beginning on June 2, 2014. The allowable bridge closure period is from June 2, 2014 to September 15, 2014. The bridge closure period includes all work with the exception of seeding and mulching.

**Contractor:** The Contractor for TH 30 Bridge 48 is A.L. St. Onge Contractor, Inc.

**Cost:** \$ 983,841

**Detour Route:** During construction, traffic will be rerouted around Wanzer Rd. on several Town Highways.

**Travel in an Westerly direction:**

From the intersection of TH 30, Wanzer Rd. and TH 2, Chester A. Arthur Rd travel approximately 1.9 miles west to the intersection of TH 2, Chester A. Arthur Rd. and TH 1, North Rd. At the intersection, turn right onto TH 1, North Rd. and travel north approximately 2.6 miles to the intersection of TH 1, North Rd. and TH 14, Pumpkin Village Rd. At the intersection turn right onto TH, 14 Pumpkin Village Rd. travel approximately 1.5 miles east to the intersection of TH 30, Wanzer Rd..

**Travel in an Easterly direction:**

From the intersection of TH 30, Wanzer Rd. and TH 2, Chester A. Arthur Rd. turn left and travel approximately 2.0 miles east to the intersection of TH 2, Chester A. Arthur Rd. and TH 18, Duffy Hill Rd. At the intersection turn left and travel north approximately 1.0 miles to the intersection of TH 18, Duffy Hill Rd. and TH 14, Pumpkin Village Rd. At the intersection turn left onto TH 14, Pumpkin Village Rd. And travel in west approximately 2.4 miles to the intersection of TH 14, Pumpkin Village Rd. and TH48, Wanzer Rd.



Upstream Fascia



Underside of bridge



3-D image of Bridge in a Backpack



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