



GArch™



NEAL BRIDGE PITTSFIELD, ME

The first ever GArch™ bridge in the world. This pilot project was the result of the cooperation of MaineDOT and the University of Maine's Advanced Structures and Composites Center, culminated from years of research and structural testing. The headwall was made of composite sheet pile with geo-grid mechanically stabilized earth.

Project Details

Year: 2008

Span: 28'-10"

Width: 45'

Skew: 5°

Rise: 7'-6"

23 Carbon Fiber Tubes

2' - 0" Spacing

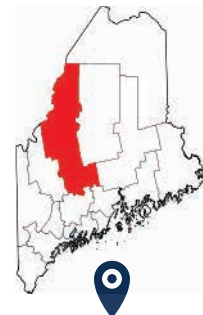
12" Diameter



Owner: MaineDOT

Engineer: University of Maine

Contractor: Stetson & Watson



Pittsfield, ME
Somerset County



MC GEE BRIDGE ANSON, ME

The Town of Anson required that the bridge be completed prior to the beginning of the school year so buses could avoid lengthy rerouting.

Even though the beginning of construction was delayed until mid-August, the bridge was replaced start to finish in twelve working days and open to traffic by the first day of school.

Project Details

Year: 2009

Span: 27'-7"

Width: 25'

Skew: 15°

Rise: 4'-5"

9 Carbon Fiber Tubes

3' - 0" Spacing

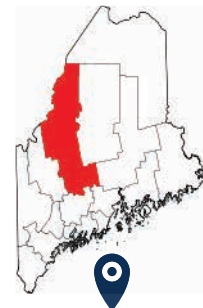
12" Diameter



Owner: Town of Anson

Engineer: AIT Composites

Contractor: Gardner Construction Enterprises



Anson, ME
Somerset County



JENKINS BRIDGE BRADLEY, ME

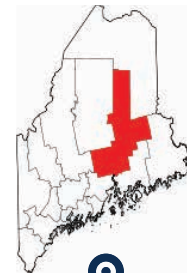
The Jenkins Bridge utilized an innovative composites headwall design that allowed the voided composite headwall panels to be installed rapidly and provided a corrosion resistant means of soil retention. The first year in service, an ice floe dammed up this bridge opening. The bridge withstood the extreme hydraulic forces with no negative results.

Project Details

Year: 2010
Span: 28'-6"
Width: 34'
Skew: 19°
Rise: 6'-0"
12 Carbon Fiber Tubes
2' - 11" Spacing
12" diameter



Owner: MaineDOT
Engineer: Kleinfelder SEA
Contractor: Wyman & Simpson, Inc.



Bradley, ME
Penobscot County



ROYAL RIVER BRIDGE AUBURN, ME



This project was selected as a national 2011 Engineering Excellence Grand Award winner by the American Council of Engineering Companies (ACEC).

Project Details

Year: 2010

Span: 38'-0"

Width: 38'

Skew: 15°

Rise: 9'-6"

13 Carbon Fiber Tubes

3' - 1" Spacing

12" Diameter



Owner: MaineDOT

Engineer: Kleinfelder SEA

Contractor: Wyman & Simpson, Inc..



Auburn, ME
Androscoggin County



GArch™



PERKINS BRIDGE BELFAST, ME

Perkins Bridge was the first bridge constructed with 15" diameter tubes. With only 25% more carbon fiber, they provided twice the bending strength. All sixteen arches were delivered to the jobsite in three packaged units and quickly unloaded with a lightweight boom truck and nylon lifting straps.

Project Details

Year: 2010

Span: 47'-7"

Width: 45'

Skew: 0°

Rise: 11'-0"

16 Carbon Fiber Tubes

15" Diameter

2'-11" spacing



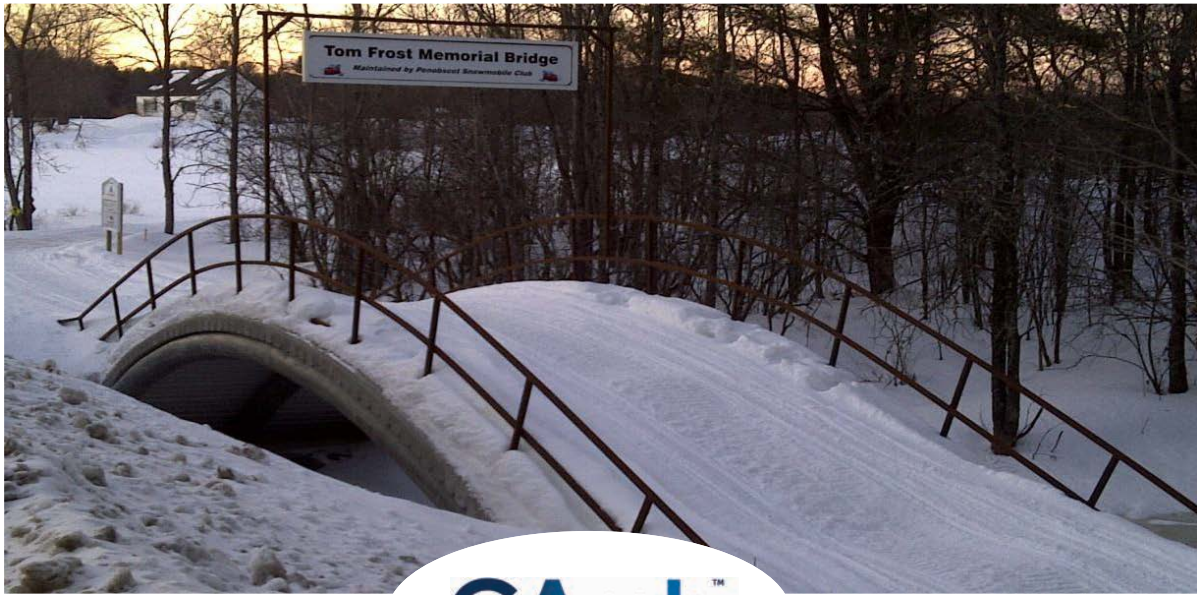
Owner: MaineDOT

Engineer: Kleinfelder SEA

Contractor: Stetson & Watson



Belfast, ME
Waldo County



TOM FROST MEMORIAL BRIDGE HERMON, ME

When a car drove off the road and struck a nearby snowmobile bridge in Hermon, ME, the Penobscot Snowmobile Club chose to replace the former wooden structure with a GArch™ bridge. Designed for snowmobile groomer and snow loads, this solution proved to be an economical and durable option for the snowmobile club.

Project Details

Year: 2010

Span: 40'-6"

Width: 12'

Skew: 0°

Rise: 6'-10"

3 Carbon Fiber Tubes

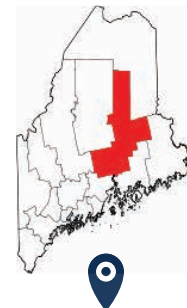
5' - 6" Spacing

Owner: Penobscot Snowmobile Club

Engineer: AIT Composites

Contractor: Gardner Construction

Enterprises



Hermon, ME
Penobscot County



SCOTT RESERVOIR OUTLET FITCHBURG, MA

MassDOT elected to use the GArch™ as part of the Accelerated Bridge Program for the replacement of the Scott Reservoir Outlet bridge. Composite headwall components were prefabricated off site and shipped to the jobsite in four pieces.

Project Details

Year: 2011

Span: 37'-7"

Width: 36'

Skew: 30°

Rise: 5'-7"

15 Carbon Fiber Tubes

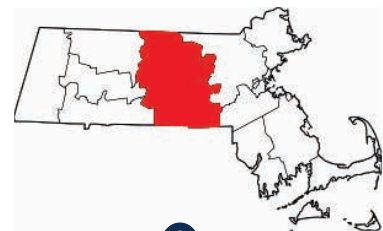
2' - 6" Spacing



Owner: MassDOT

Engineer: Greenman-Pedersen, Inc.

Contractor: R.Bates & Sons, Inc..



Fitchburg, MA
Worcester County



FARM ACCESS UNDERPASS CARIBOU, ME

First new-construction design with these arches. First roadway overpass utilizing composite arch tubes. This bridge allows farm equipment and local traffic to pass beneath the highway instead of crossing the road greatly increasing the safety of the 55mph roadway.

Project Details

Year: 2011

Span: 54'-2"

Width: 55'

Skew: 30°

Rise: 12'

22 Carbon Fiber Tubes

2' - 8" Spacing



Owner: Maine DOT

Engineer: Kleinfelder SEA

Contractor: CPM Constructors



Caribou, ME
Aroostook County



NHDOT MAINTENANCE LOT PINKHAM'S GRANT, NH

Constructed at the base of Mount Washington, the highest peak in the Northeast, the NHDOT bridge to a maintenance lot is exposed to extreme conditions including flash flooding and huge snow fall levels. This design spaced arches at the greatest distance to date requiring only six tubes for the 26' wide bridge. NHDOT elected to internally design and construct the composite sheet pile headwall.

Project Details

Year: 2011

Span: 23'-8"

Width: 26'

Skew: 0°

Rise: 6'-0"

6 Carbon Fiber Tubes

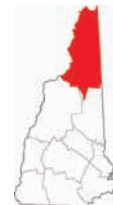
12" Diameter



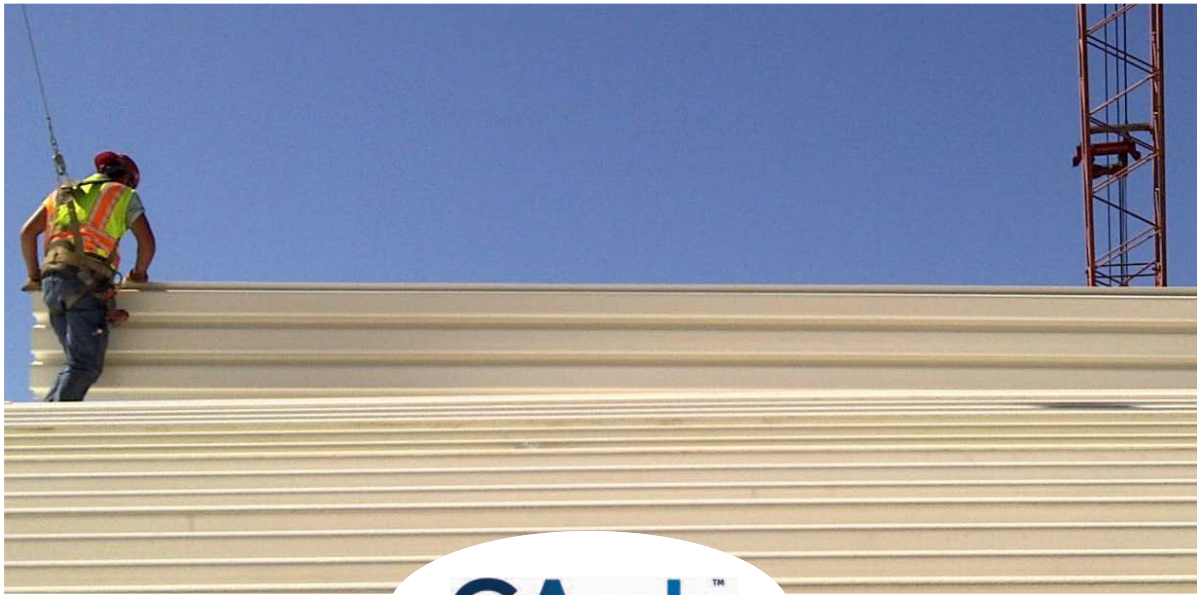
Owner: NHDOT

Engineer: NHDOT

Contractor: NHDOT Bridge Maintenance.



Pinkham's Grant, NH
Huron County



C19 OF 32092 HARBOR BEACH, MI

The headwalls and wingwalls are an innovative system of economical MSE reinforcement with durable FRP facing panels. This was the first constructed bridge outside of New England. Project is located on State Route M25 just yards from scenic Lake Huron.

Project Details

Year: 2012

Span: 37'-7"

Rise: 7'-1"

Width: 52'

Skew: 20°

16 Carbon Fiber Tubes

12" Diameter



Owner: MichiganDOT

Engineer: MichiganDOT

Contractor: Milbocker & Sons Inc.



Harbor Beach, MI
Huron County



B&A OVERHEAD BRIDGE LAGRANGE, ME

First composite arch bridge system built with staged/phased construction methods. One of the largest skew arch bridges in the world. Largest arch spacing constructed to date.

Project Details

Year: 2012/2013

Span: 36'-1"

Width: 58'

Skew: 56°

13 Glass Fiber Tubes

5'-0" spacing

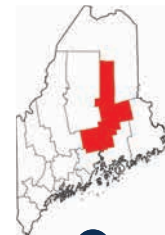
12" diameter



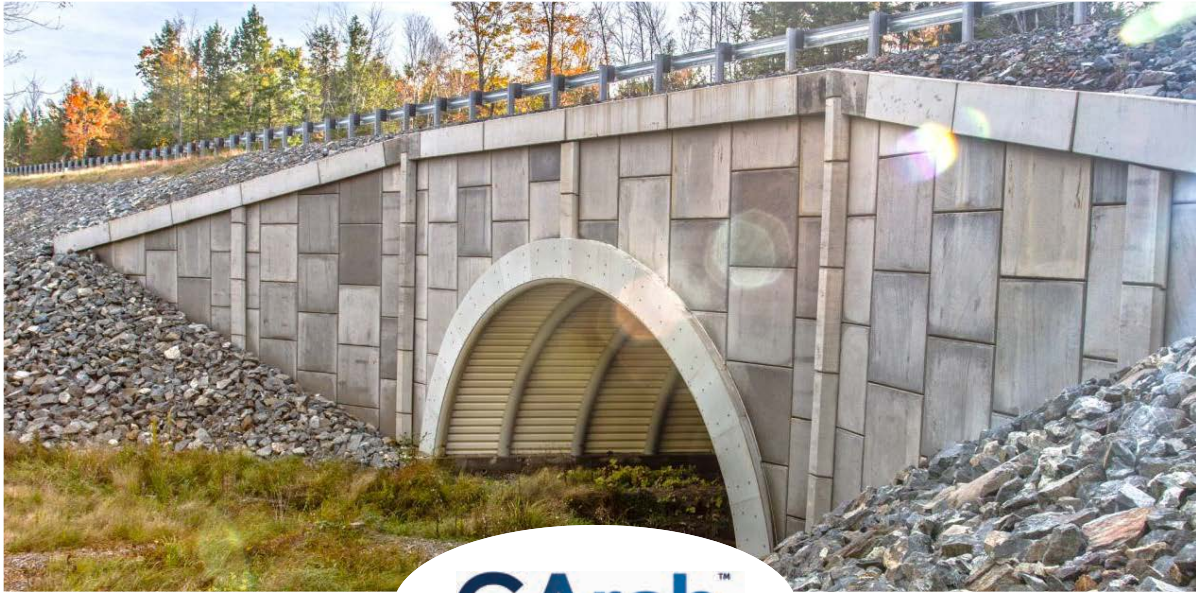
Owner: Maine DOT

Engineer: T.Y. Lin International

Contractor: Sargent Corporation



Lagrange, ME
Penobscot County



GREYS BROOK BRIDGE ELLSWORTH, ME

Deepest cover designed to date with 12' of soil over the crown of the arch. Highest rise to span ratio of any bridges designed to date at 41%. No heavy equipment needed. Headwall is a mechanically stabilized earth retaining wall with inextensible reinforcement straps, with precast concrete facing panels.

Project Details

Year: 2012/2013

Span: 34'-4"

Width: 50'

Skew: 25°

11 Carbon Fiber Tubes

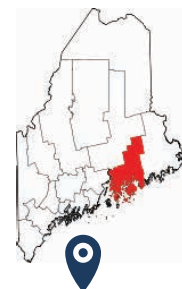
12" Diameter



Owner: MaineDOT

Engineer: Calderwood Engineering

Contractor: Sargent Corporation



Ellsworth, ME
Hancock County



SUMANIE TRACE BRIDGE TRINIDAD & TOBAGO

This was the first internationally constructed composite arch bridge system. This structure contains only five arches, which is the least of any structure to date. Arches, decking, headwalls and all accessory items were shipped within a standard ISO container. The Bridge opened to traffic 12 days after arches arrived.

Project Details

Year: 2013
Span: 26'-3"
Width: 24'-7"
Skew: 25°
5 Glass Fiber Tubes



Owner: Ministry of Works & Infrastructure
Engineer: Lincoln & Associates
Contractor: Lincoln & Associates



Penal
Trinidad & Tobago



GArch™



M50 BRIDGE SUNFIELD, MI

This headwall was integrated into the deck and provided a fascia over the outside arches. This was the second constructed bridge in Michigan. This project is located on State Route M50, half-way between Lansing and Grand Rapids.

Project Details

Year: 2013

Span: 37'-8.5"

Width: 48'-4.5"

Skew: 25°

24 Glass Fiber Tubes

2's pacing



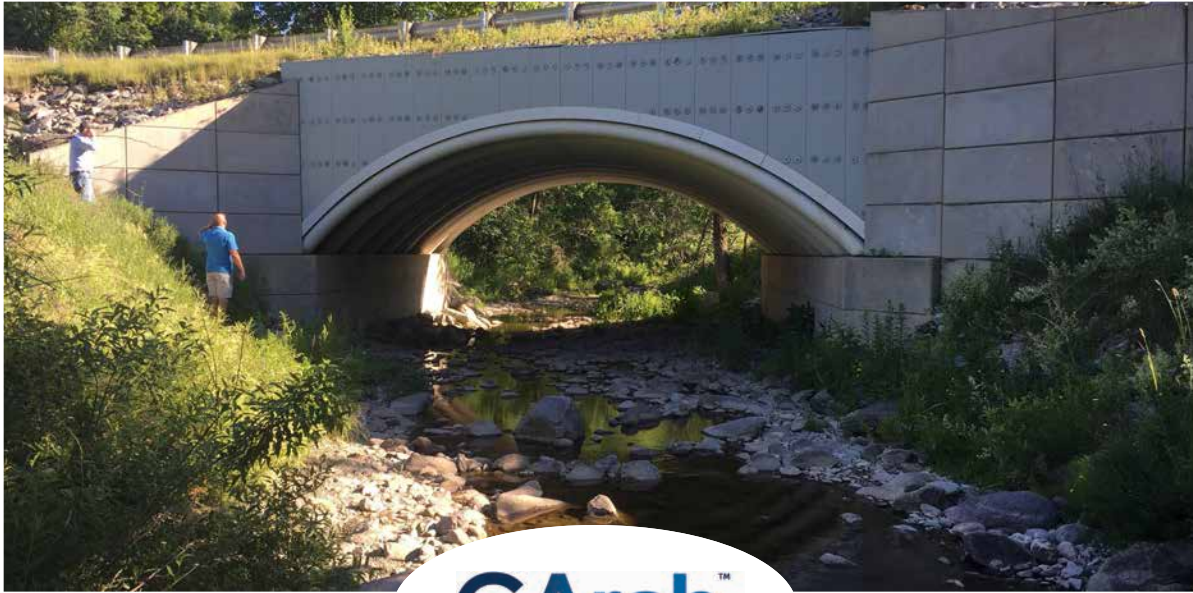
Owner: Michigan DOT

Engineer: Michigan DOT

Contractor: Davis Construction Co.



Sunfield, MI
Eaton County



GArch™



WANZER BROOK BRIDGE FAIRFIELD, VT

Built under the Accelerated Bridge Program. This bridge required only 22 crew hours from start to finish. There was no impact on the stream and no heavy machinery was needed. There has been no maintenance needed to date.

Project Details

Year: 2014

Span: 35'

Width: 38'

Skew: 20°

9 Glass Fiber Tubes

4'-8" spacing



Owner: Vermont Agency of Transportation

Engineer: McFarland Johnson

Contractor: AL Saint Onge



Fairfield, VT
Franklin County



SAUGATUCK RIVER BRIDGE WESTON, CT

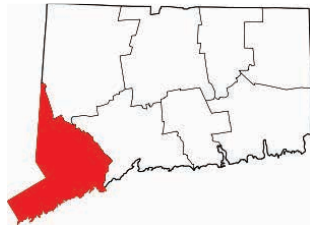
ConnDOT specified the Composite Arch Bridge System as a recommended technology to be utilized for the Route 53 & Route 57 bridge replacement AIT's first bridge in Connecticut. The arches were bonded out of footing to allow cofferdam recovery.

Project Details

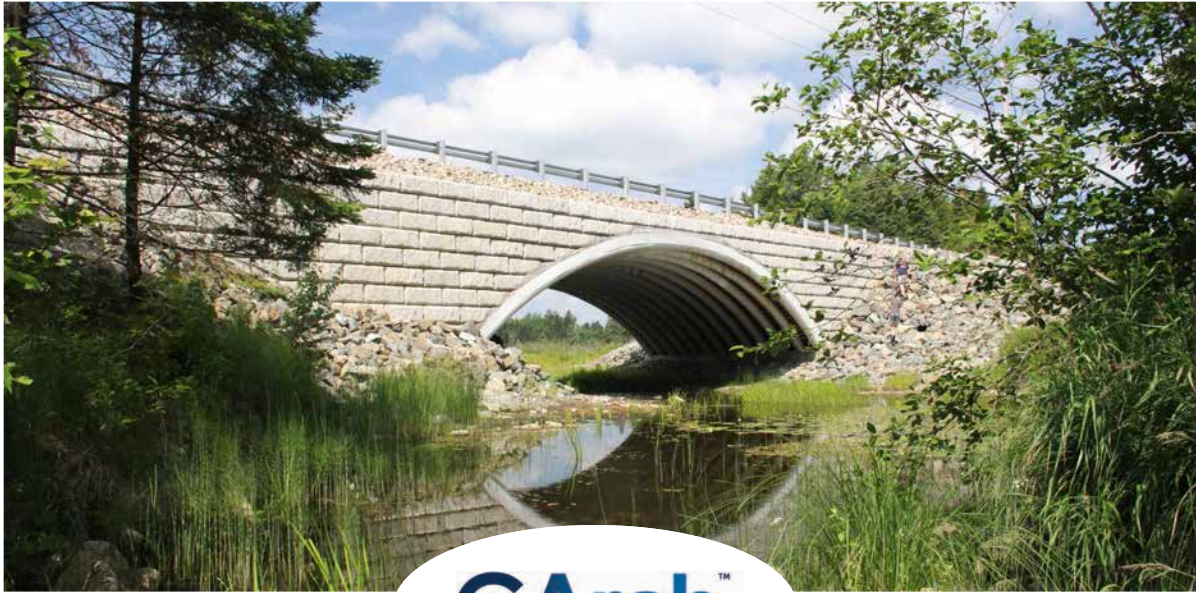
Year: 2015
Span: 40'-4"
Width: 40'
Skew: 0°
10 Glass Fiber Tubes
4' spacing



Owner: ConnDOT
Engineer: Stantec
Contractor: McNamee Construction



Weston, CT
Fairfield County



TIDE MILL BRIDGE EDMUNDS, ME

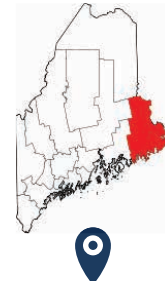
The Tide Mill 2 Bridge Replacement was a detail build project, giving AIT the opportunity to meet the given parameters.

Project Details

Year: 2015
Span: 40'-4"
Width: 40'
Skew: 23°
13 Glass Fiber Tubes
4'-2.5" spacing



Owner: Maine DOT
Engineer: TranSystems .
Contractor: McNamee Construction



Edmunds, ME
Washington County



GArch™



M-100 BRIDGE POTTERVILLE, MI

The M-100 Bridge was a two-phase project which allowed contractors to maintain traffic throughout the duration of the project. This was AIT's third bridge in Michigan, located in Potterville, just south west of Lansing, MI. This bridge featured AIT's custom pultruded decking and stage which allowed AIT to develop a longitudinal lap splice.

Project Details

Year: 2015

Span: 32'-0"

Rise: 11'-0"

Width: 47'-6 1/2"

Skew: 0°

12 Glass Fiber Tubes

4'-2 1/2" Spacing

15" Diameter



Owner: Michigan DOT

Engineer: Michigan DOT

Contractor: Davis Construction Corp.



Potterville, MI
Eaton County



JV 135 SR 1001 SECTION 004 UNION COUNTY, PA

The JV 135 Bridge replacement was part of the PA P3 project. AIT's first skewed variable radius bridge. One of two bridges replaced in a 75' stretch of SR 1001. This was the first AIT bridge with precast concrete fascia.

Project Details

Year: 2016

Span: 43'

Width: 30'

Skew: 10°

10 Glass Fiber Tubes

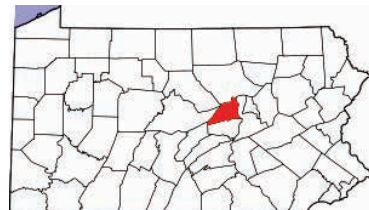
3'-2.25" spacing



Owner: PennDOT

Engineer: HDR Engineering, Inc.

Contractor: Walsh / Granite



Pennsylvania
Union County



JV 136 – SR 1001 SECTION 019 UNION COUNTY, PA

The JV 136 Bridge replacement was part of the PA P3 project. AIT's first variable radius bridge. One of two bridges being replaced in a 75' stretch of SR 1001. First AIT Bridge with precast concrete fascia.

Project Details

Year: 2016
Span: 38'
Width: 30'
Skew: 0°
10 Glass Fiber Tubes
3'-2.25" spacing



Owner: PennDOT
Engineer: HDR Engineering, Inc.
Contractor: Walsh / Granite



Pennsylvania
Union County



RAILROAD AVE. BRIDGE BURRILLVILLE, RI

Ideal for the compact location. Required Just-In-Time delivery, as site conditions did not allow for storage space. This was AIT's first bridge in Rhode Island and it utilized the existing abutments.

Project Details

Year: 2018

Span: 38'

Width: 30'-6"

Skew: 75°

9 Glass Fiber Tubes

3'-8-1/4" spacing



Owner: Rhode Island DOT

Engineer: Gordon R. Archibald, Inc..

Contractor: Northern Construction Service



Burrillville, RI
Providence County



FREEPORT ROAD BRIDGE PITTSBURGH, PA

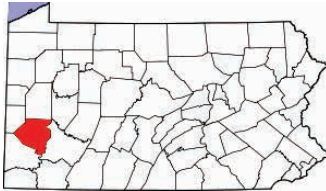
No heavy equipment required. Ideal for the congested project location. Overhead utilities added additional constraints to the project site. This is AIT's third bridge in Pennsylvania.

Project Details

Year: 2018
Span: 45'
Width: 43'
Skew: 30°



Owner: PennDOT
Engineer: PennDOT District 11 Bridge Unit
Contractor: Swank Construction Company



Pittsburgh, PA
Allegheny County



GArch™



SKYPLEX BRIDGE FORT MYERS, FL

No heavy equipment required. Ideal for the compact project location.
Overcame unique foundation conditions. AIT's first bridge in Florida.
Widest structure to date.

Project Details

Year: 2018

Span: 33'

Width: 109 ft

Skew: 0°

Rise: 10'

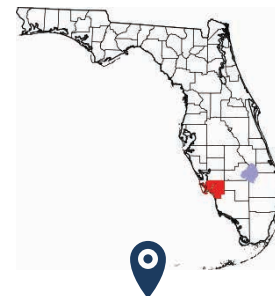
24 Glass Fiber Tubes

4'-8.5" Spacing

12" Diameter



Owner: Lee County Port Authority
Engineer: HighSpans Engineering, Inc.
Contractor: Thomas Marine Construction



Gateway, FL
Lee County



GArch™



BARBS HILL ROAD COVENTRY, RI

Used existing footings as cofferdams and left in place as scour protection. The precast footing elements accelerated construction. Utilized precast through-tied headwall with integral fascia to accelerate wall construction and improve aesthetics.

Project Details

Year: 2018

Span: 44'

Width: 18.5'

Skew: 0°

6 Glass Fiber Tubes

12" Diameter



Owner: RIDOT

Engineer: AIT Composites, RIDOT

Contractor: Manafort Brothers, Inc.



Coventry, RI
Kent County



GArch™



NORTH FITZWILLIAM ROAD R-12-009 ROYALSTON, MA

This was our second bridge over the Lawrence Brook in Royalston, MA near the Millers River Wildlife Management Area. The lightweight and highly customizable properties of our GArch™ made it the perfect option for the environmentally sensitive worksite,

Project Details

Year: 2018

Span: 29'

Rise: 5'

Width: 16'

Skew: 0°

10 Carbon Fiber Arch Tubes

3'9" Spacing

12" Diameter

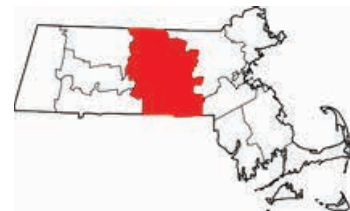


Owner: MassDOT

Engineer: Lamson Engineering, Corp.

Contractor: Tully Construction

Company, Inc.



Royalston, MA
Worcester County



GArch™



WYALUSING BRIDGE WYALUSING, PA

AIT's first mitered end. Eliminated the cost of headwalls. Accelerated construction - from concept to project completion in 8 months.
Designed to carry loads of 1.5 million lbs. Overcame unique foundation conditions due to heavy rains.

Project Details

Year: 2019

Span: 29'

Width: 103 ft

Skew: 0°

18 Glass Fiber Tubes

5'-6" Spacing

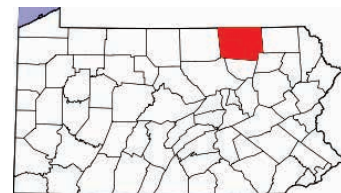
12" Diameter



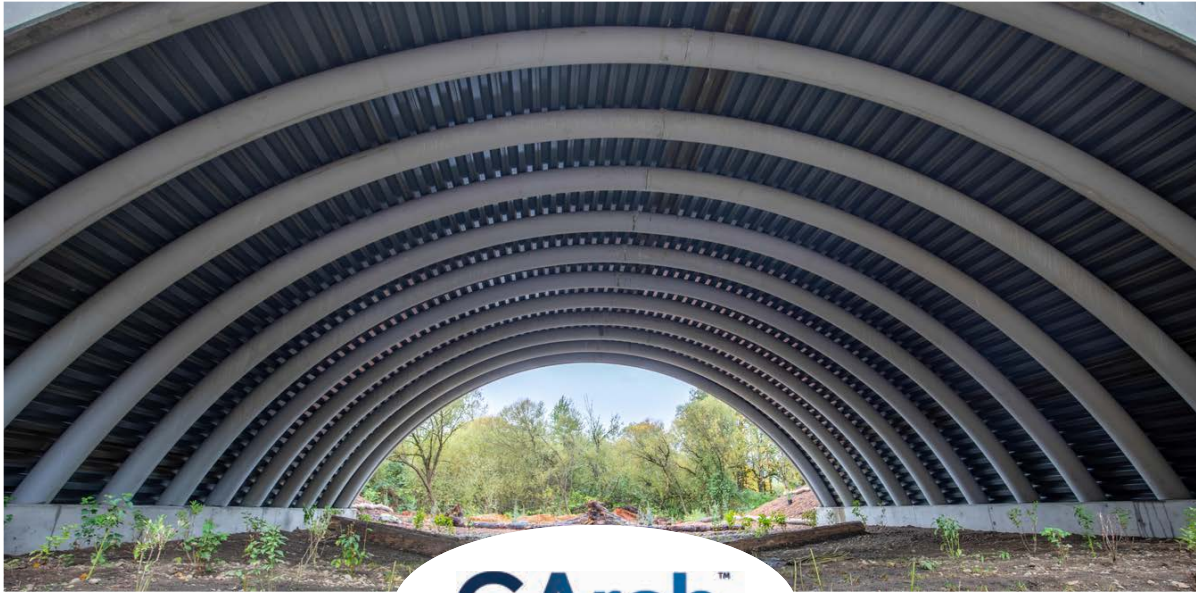
Owner: New Fortress Energy

Engineer: Black & Veatch

Contractor: Trumbull Energy Services



Wyalusing, PA
Bradford County



LOUTSIS CREEK BRIDGE DUVALL, WA

Loutsis Creek was AIT's first spliced composite arch bridge and was the first composite bridge system on the west coast. Arches were shipped from Maine to Duvall, WA with no permits needed.

Project Details

Year: 2020

Span: 50

Rise: 15'-10"

Width: 51'-5"

Skew: 0°

12 Spliced Glass Fiber Tubes

Owner: WashDOT

4'-4" Spacing

Engineer: WashDOT & AIT Composites.

15" Diameter

Contractor: Goodfellow Bros.



Duvall, WA
King County