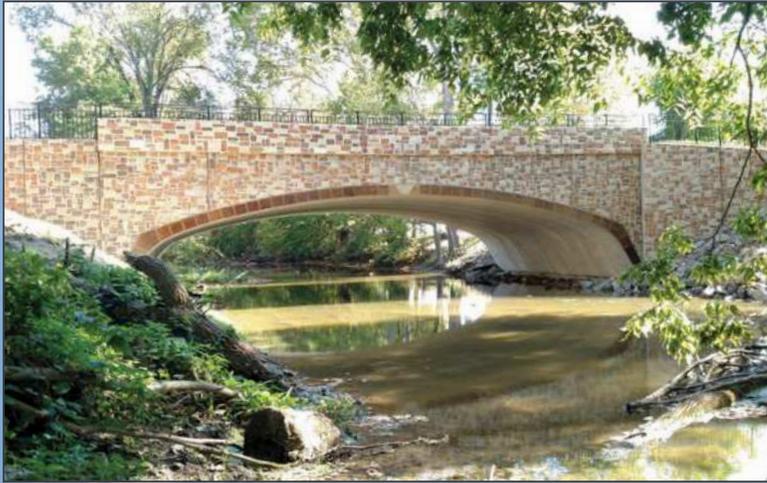


STRUCTURES  
REFERENCE  
GUIDE

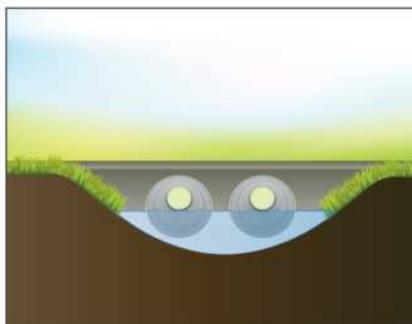
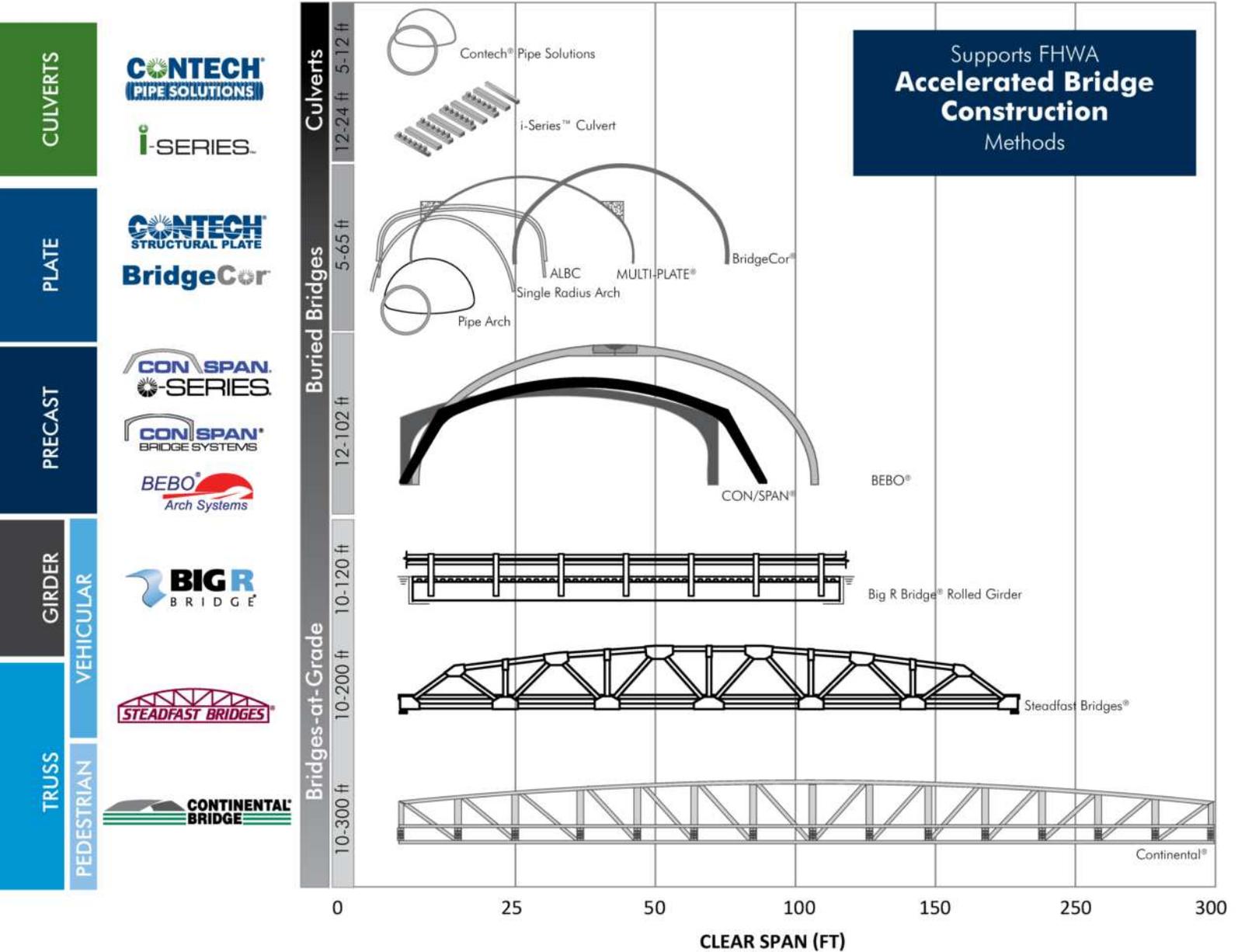


**CONTECH**<sup>®</sup>  
ENGINEERED SOLUTIONS

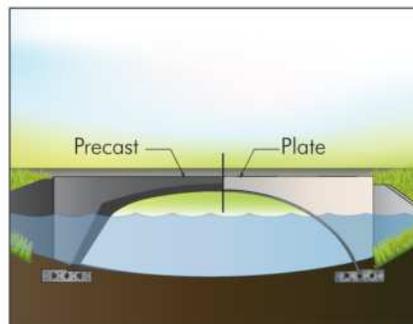
**CROSSINGS. CULVERTS. BRIDGES. CONTECH.**

# CROSSINGS. CULVERTS. BRIDGES. CONTECH.

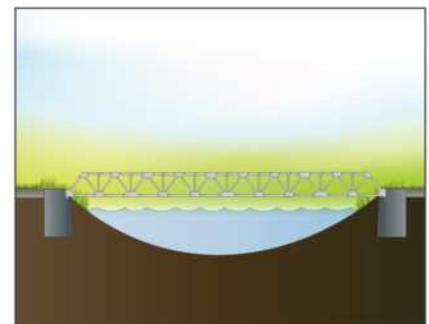
## Clear Span Bridges



CULVERT



BURIED BRIDGE



BRIDGE AT-GRADE

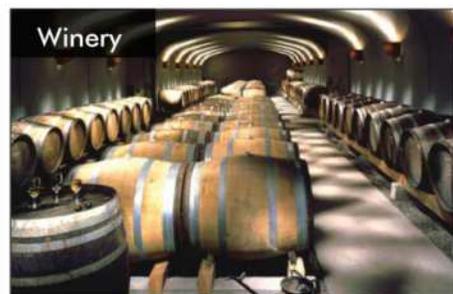
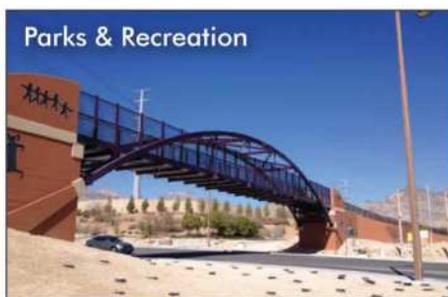
## Spanning America since 1931

OVER 90,000 INSTALLATIONS WORLDWIDE!

Contech Engineered Solutions provides a comprehensive array of plate, precast, and truss structures, with the best-known brands available worldwide. Contech bridges - vehicular and pedestrian - fit a wide variety of applications, spanning distances from five to 300 feet and more. These bridge brands include Contech Structural Plate, CON/SPAN®, BEBO®, Continental®, Steadfast Bridges®, and Big R Bridge®.

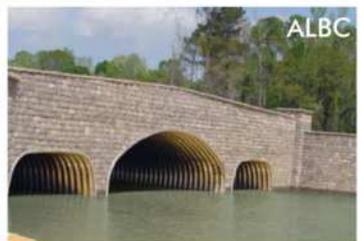
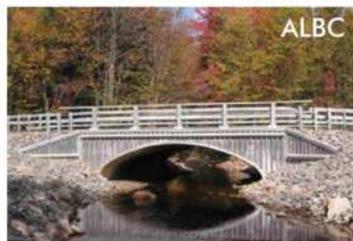
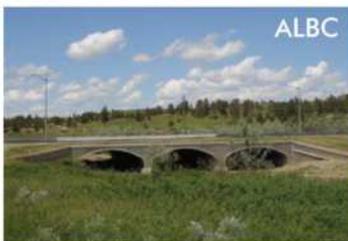
Experience, innovative thinking and exceptional service have put more than 90,000 Contech bridge installations on the map worldwide.

## Markets





Aluminum Structural Plate & Box Culvert



# STRENGTH. VERSATILITY. ECONOMY. PLATE.

## Strength

## Freight Economy

STEEL	6" X 2" CORRUGATION		15" X 5 1/2" CORRUGATION							
	Gage	12	10	8	7	5	3	1	5/16	3/8
Thickness	.111	.140	.170	.188	.218	.249	.280	.318	.380	
ALUMINUM	9" X 2 1/2" CORRUGATION									
	Thickness	.125	.150	.175	.200	.225	.250			

ONE BRIDGE = ONE TRUCK

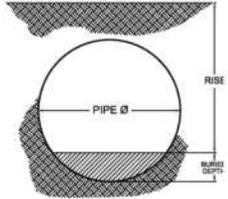
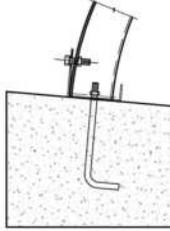
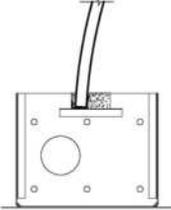


## Lightweight. Bolted Plate Construction Process.

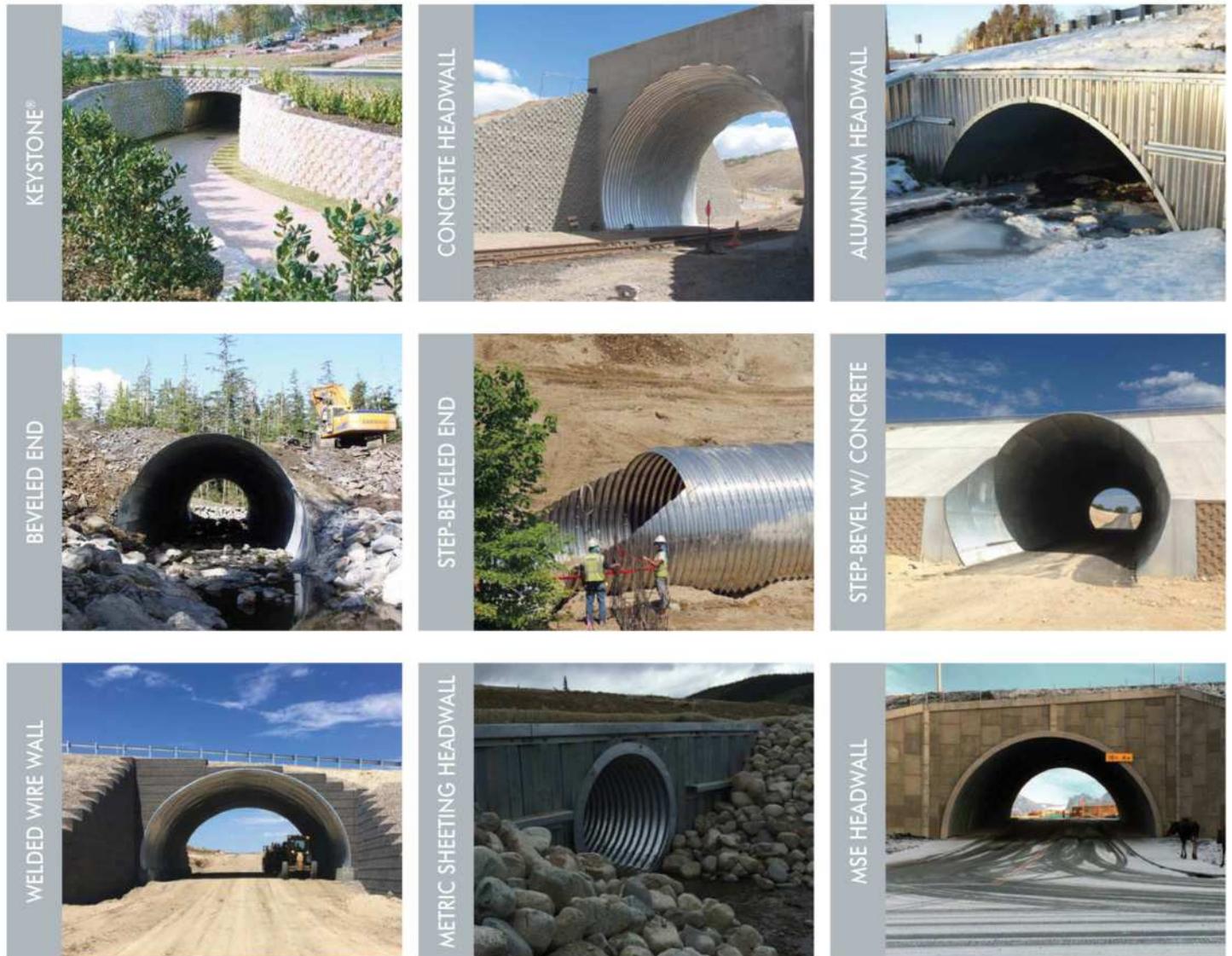


# STRENGTH. VERSATILITY. ECONOMY. PLATE.

## Foundations

FOUNDATION OPTIONS			
Full Invert	Buried Invert	Strip Footing with Channel	EXPRESS® Foundations
			

## End Treatments



# Shape Versatility

SHAPES		STRUCTURE SIZE RANGES - INSIDE SPAN X RISE			
			MULTI-PLATE® 6" x 2" Steel	BridgeCor® 15" x 5.5" Steel	ALSP 9" x 2.5" Aluminum
Round		min.	5'-0"	19'-11"	6'-0"
		max.	26'-0"	50'-6"	21'-0"
Vertical Ellipse		min.	4'-8" x 5'-2"		4'-8" x 5'-2"
		max.	25'-0" x 27'-8"		20'-1" x 22'-3"
Underpass		min.	12'-2" x 11'-0"		12'-1" x 11'-0"
		max.	20'-4" x 17'-9"		20'-5" x 17'-9"
Single Radius Arch		min.	6'-0" x 1'-10"	19'-7" x 9'-9"	5'-0" x 1'-9"
		max.	26'0" x 13'1"	54'-4" x 27'-2"	23'-0" x 11'-11"
Two Radius Arch		min.		18'-5" x 8'-4"	
		max.		50'-7" x 19'-11"	
Horizontal Ellipse		min.	7'-4" x 5'-6"		9'-2" x 6'-8"
		max.	14'-11" x 11'-2"		14'-11" x 11'-2"
Pipe Arch		min.	6'-1" x 4'-7"		6'-7" x 5'-8"
		max.	20'-7" x 13'-2"		21'-11" x 14'-11"
Low-Profile Arch SUPER-SPAN™ / SUPER-PLATE®		min.	19'-5" x 6'-9"		19'-5" x 6'-9"
		max.	45'-0" x 18'-8"		38'-8" x 15'-9"
High Profile Arch SUPER-SPAN™ / SUPER-PLATE®		min.	20'-1" x 9'-1"		20'-1" x 9'-1"
		max.	35'-4" x 20'-0"		35'-5" x 20'-0"
Horizontal Ellipse SUPER-SPAN™ / SUPER-PLATE®		min.	19'-4" x 12'-9"		19'-4" x 12'-9"
		max.	37'-2" x 22'-2"		37'-3" x 22'-2"
Pear-Arch SUPER-SPAN™		min.	23'-11" x 23'-4"		
		max.	30'4" x 25'10"		
Pear SUPER-SPAN™		min.	23'-8" x 25'-5"		
		max.	29'-11" x 31'-3"		
Box Culvert		min.		17'-6" x 6'-10"	8'-9" x 2'-6"
		max.		35'-4" x 13'-11"	35'-3" x 13'-7"

Custom sizes and shapes are available.

Not available.

\* For more details on Contech's complete structural plate offering, please consult the current edition of the Structural Plate Design Guide.

**CON SPAN.**  
**-SERIES.** Precast Arch Bridge System

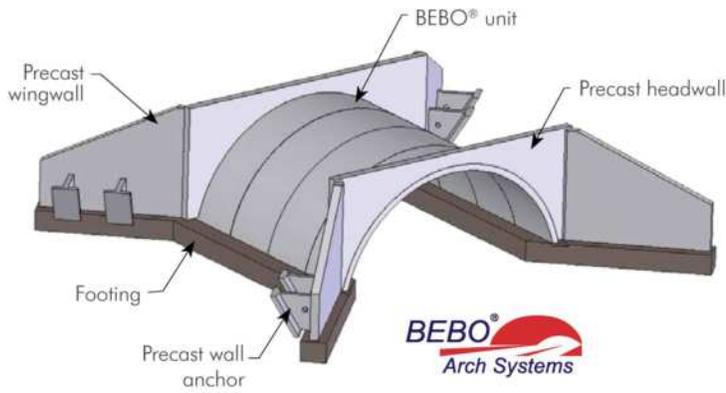
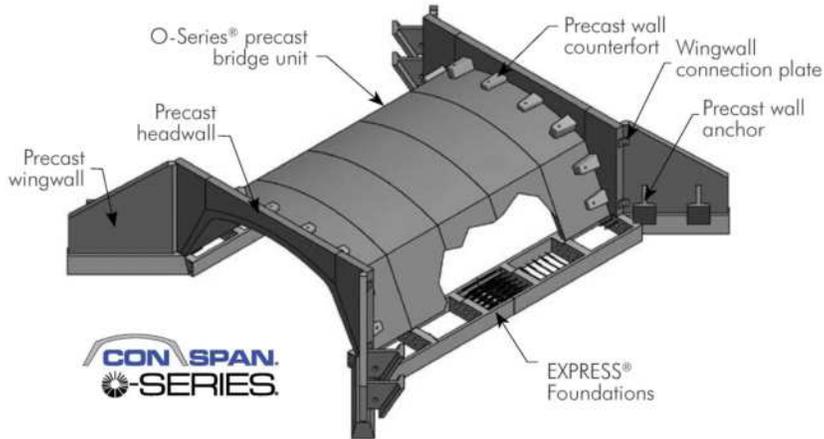


**BEBO**<sup>®</sup>  
*Arch Systems* Precast Arch Bridge System



# MODULAR. EFFICIENT. COMPLETE. PRECAST ARCH.

## Modular Components



## Installation

PRECAST FOUNDATIONS



PRECAST ARCH UNITS



PRECAST HEADWALLS



CURVED ALIGNMENT



TWIN LEAF CONSTRUCTION

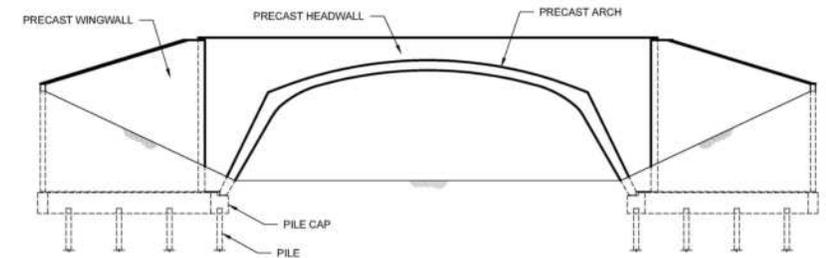
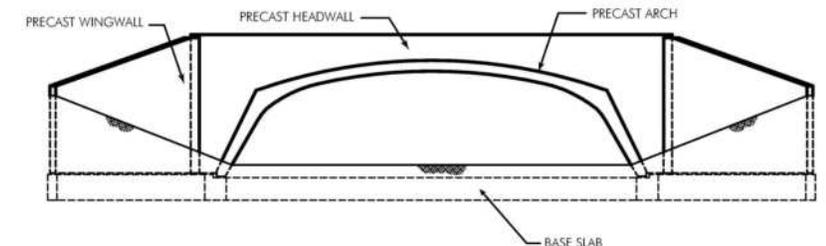
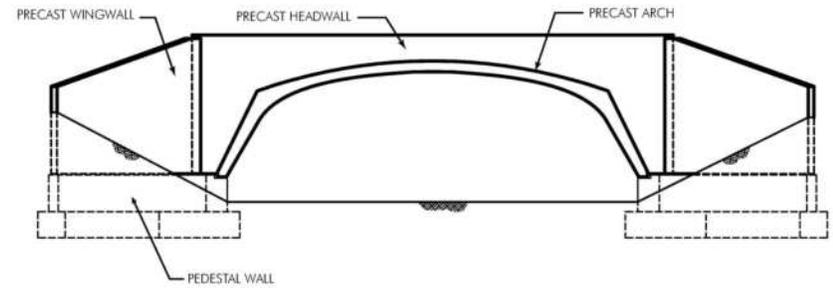
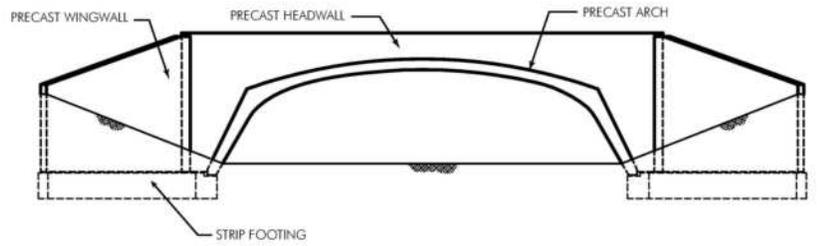


PRECAST WINGWALLS

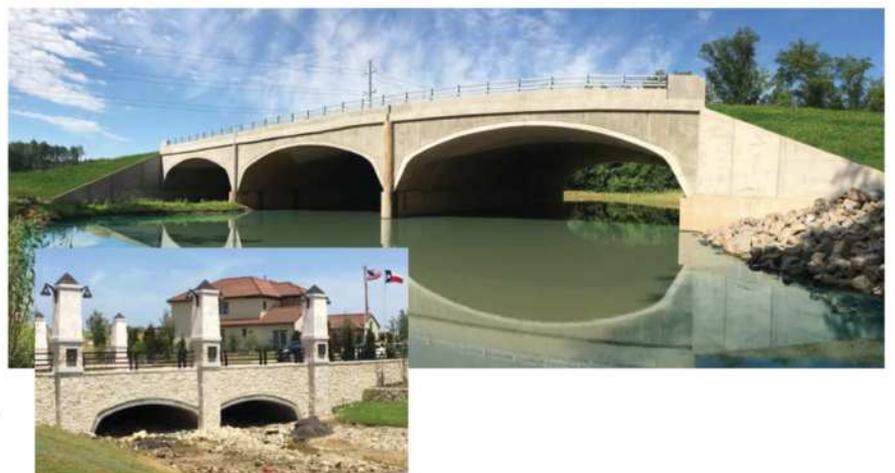
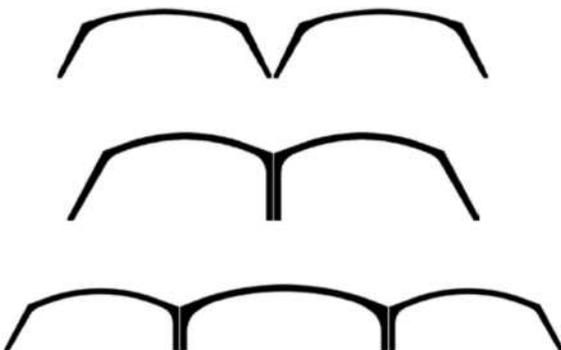


# MODULAR. EFFICIENT. COMPLETE. PRECAST ARCH.

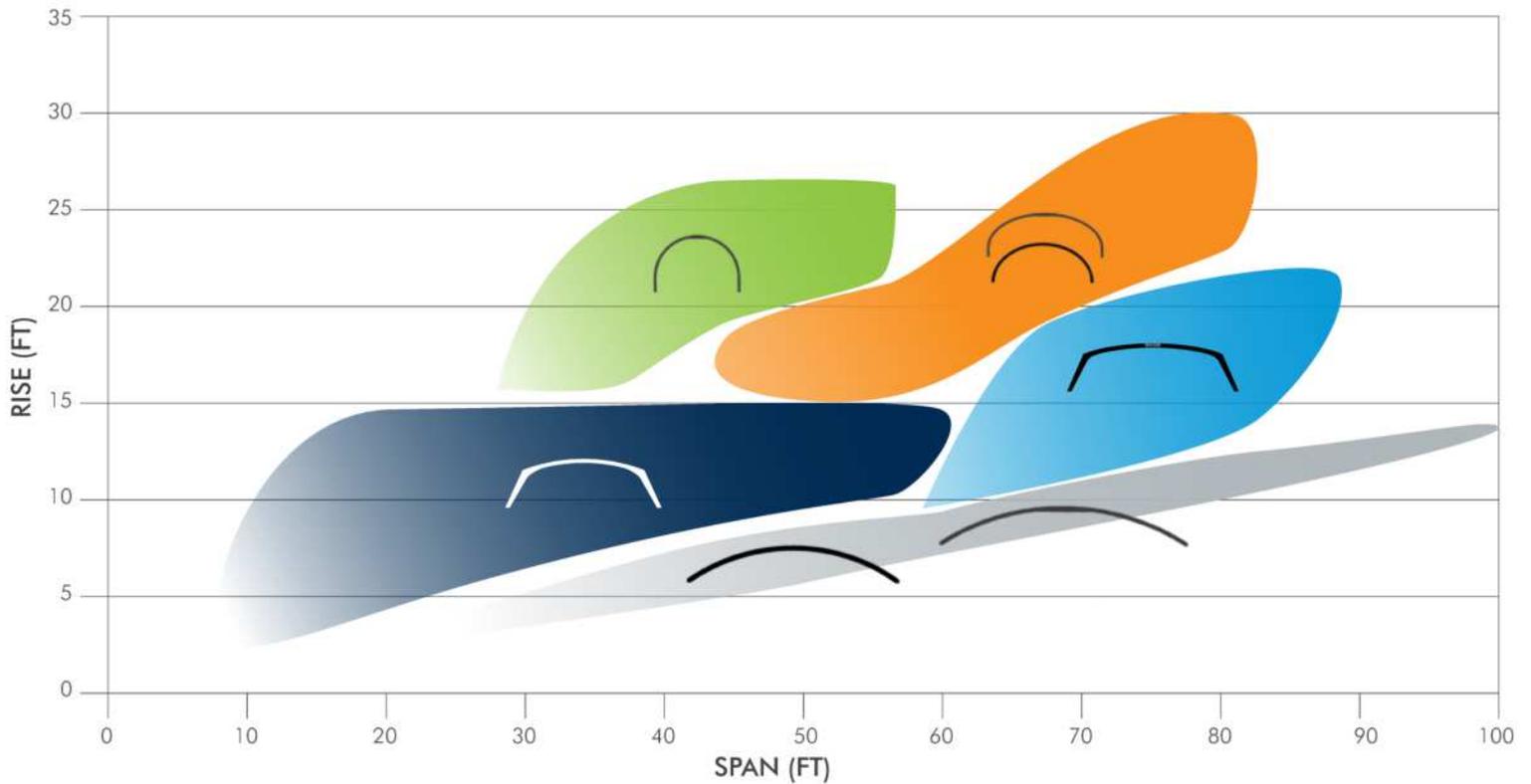
## Foundations



## Multiple cell configurations



# Shape Versatility

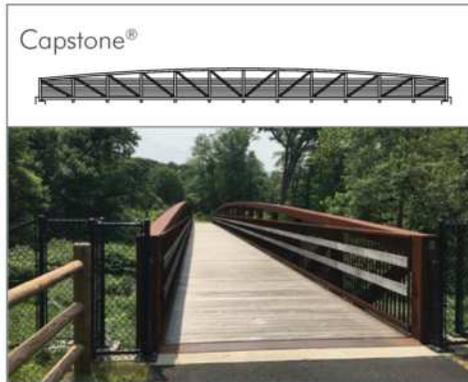


STRUCTURE			APPLICATIONS	SPAN RANGE (FT)	RISE RANGE (FT)	WATERWAY RANGE (SF)	
CON/SPAN®		O-Series®		Hydraulics, clear spans, grade separations	13 - 65	3.23 - 13.77	33 - 685
		O-Series® Twin Leaf		Longer span hydraulics, clear spans, grade separations	66 - 87	10.50 - 20.95	550 - 1442
BEBO®		C-Series Twin Leaf		Grade separation, high rise, high covers	29.33 - 54	11.33 - 26.33	260 - 1140
		E-Series		Arch shape, clearance box, aesthetics	11.17 - 47.75	3.5 - 13.5	28 - 479
		E-Series Twin Leaf		High rise, large span, grade separation	53.58 - 84	14 - 29.83	588 - 2076
		T-Series		Low clearance crossings	22 - 62	2.60 - 9	39 - 377
		T-Series Twin Leaf		Large spans with good soil conditions	64 - 102	7.42 - 13.67	340 - 982
			 Available for limited applications.				

\* For additional shape information, please consult the Precast Waterway Charts Overview.



## Continental® Pedestrian Truss Styles\*



\*Custom styling is available to make your project a reality (e.g. skywalks, cable-stayed bridges).

# PEDESTRIAN. SIGNATURE. AESTHETIC.

## Continental® Signature Designs





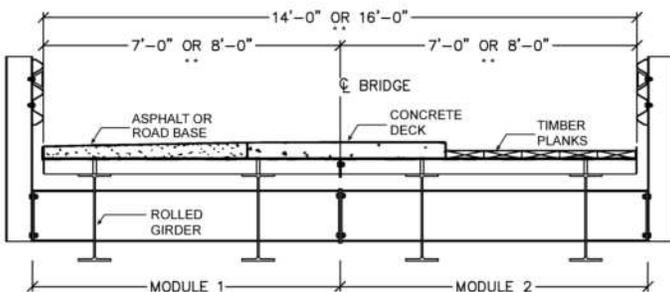
## Big R EXPRESS® Modular Bridges

### STANDARD FEATURES

- Single lane, modular bridge with a longitudinal splice
- Heavy duty loading (AASHTO HL-93 and U-80 off-highway trucks)
- Weathering steel structural members in stock
- 4.25" 9-gage galvanized Big R Bridge Deck
- Precast sills available
- Available in standard EXPRESS sizes
  - » Drawings typically available in one week
  - » Generally, ready to ship in one month

EXPRESS ATTRIBUTES	BRIDGE WIDTHS			
	12'	14'	*16'	18'
Standard Spans (5' Incr.)	30' - 60'	30' - 80'	30' - 80'	30' - 60'
Number of Rolled Girders	3	4	4	5
Number of Modules	1	2	2	2
Longitudinal Splice	No	Yes	Yes	Yes

\*Seasonal stock typically available in 40', 50' and 60' spans.



\*\* 12' Bridges come in one - 3 girder module  
18' Bridges come in one - 3 girder module & one - 2 girder module



# VEHICULAR. ROLLED GIRDERS.

## Big R Site-Specific Modular Bridges

CUSTOMIZABLE TO MEET ANY SITE NEEDS

ANY SPAN & WIDTH



### DESIGN ACCOMMODATES

- AASHTO LRFD
- HL-93 vehicular loading
- State DOT requirements
- Customer-specified vehicle loads
- Any rail or decking type
- Shipped in 2 or 3 beam modules

GUARDRAIL OPTIONS



DECK TYPES



### INSTALLATION AND ASSEMBLY OPTIONS



COMPONENT/KIT ASSEMBLY  
ALSO AVAILABLE AS A  
CONSTRUCTION OPTION

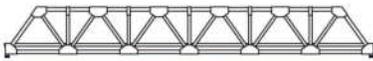


# Vehicular Truss Bridges

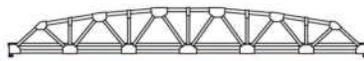


## Steadfast Bridges® Vehicular Truss Styles

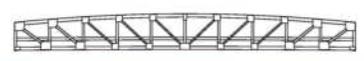
Colonial® Flat



Colonial®



Capstone®



Keystone®



Archway®



# Efficient. Economical. Timeless Designs.



## Deck, Finish & Rail Options

### DECK



Wood



Cast-in-Place



Asphalt



Steel Grate or FRP

### FINISH



Weathering Steel



Painted Steel



Galvanized Steel\*



TrussCoat® Duplex Coating

### RAIL



Mesh Panels/Wood Rub Rail



Vertical Picket/Pipe Handrail



Thrie-Beam\*\*



W-Beam\*\*

\*Exclusive 35-year galvanized rust free warranty for vehicular truss. \*\*Available for vehicular truss options only.

# **EXPRESS®**

Foundations Speed of precast. Economy of cast-in-place.



# **STEEL**

# **EXPRESS®**

Foundations Efficiencies of steel. Economy of cast-in-place.

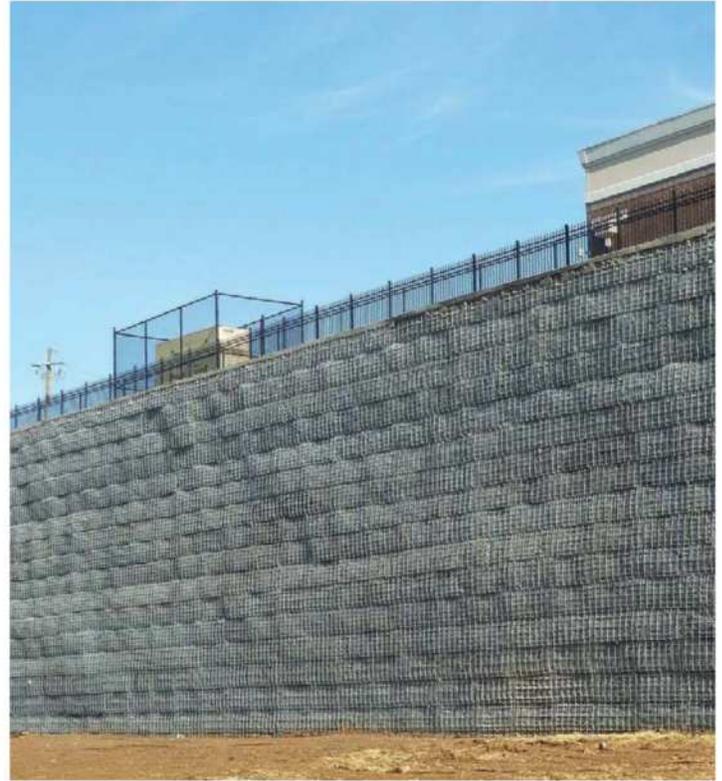


All precast EXPRESS Foundations are applicable to plate, precast, truss, and girder bridge solutions.  
Steel EXPRESS Foundations are available for strip footing foundations for truss, girder and plate structures.

# WALL SYSTEMS.



## Vist-A-Wall® Wire Walls.



Vist-A-Wall Wire Walls are available as temporary or permanent solutions.

## Vist-A-Wall® Precast Panel MSE Wall System



Featuring the Grid-Strip™ Soil Reinforcement System.

## ArmorFlex®

### ARTICULATING CONCRETE BLOCKS



Closed-Cell Block



Open-Cell Block



SPEED OF INSTALLATION

## A-Jacks®

### CONCRETE ARMOR UNITS



A-Jacks Unit

### HARD ARMOR - SOFT AESTHETICS



BEFORE



AFTER



INVERT PROTECTION



CHANNEL LINING



DAM OVERTOPPING



FOOTING PROTECTION



PIER PROTECTION



OUTLET PROTECTION

# SPECIALTY PRODUCTS.

## Contech Tunnel Liner Plate



**Bin-Wall**



**Marine Bin-Wall**



**Bin-Wall/Blast Wall**



**Bridge Plank**



**Metric Sheeting**



**Cattle Guards**



# PROCESS – DESIGN SUPPORT. PREFABRICATION. INSTALL.

FABRICATION



PLATE



PRECAST



TRUSS & GIRDERS

FOUNDATIONS



## EXPRESS Foundations

- Strip footings
- Pedestal walls
- Deep foundations
- Base slab



TRANSPORTATION



ERECTION/  
ASSEMBLY



SYSTEM  
ELEMENTS



Scour Protection



## END TREATMENTS

- CON/SPAN® Anchorwall
- Aluminum Headwall
- Welded Wire Wall

BACKFILLING



Decking

COMPLETION



## Options & Support Specific to Your Project Needs



CONSIDERATIONS FOR ENGINEER OF RECORD		SOLUTION DEVELOPMENT & DESIGN SUPPORT	
Site Design		Structure Selection	<input checked="" type="checkbox"/>
Soil Borings		Structure Siting and Layout	<input checked="" type="checkbox"/>
Soil Bearing Recommendations		Engineer's Estimate	
Hydraulic Analysis		Photo Simulation	<input checked="" type="checkbox"/>
Scour Analysis		DYOB Concept	<input checked="" type="checkbox"/>
Scour Countermeasures		Proposal Drawings	<input checked="" type="checkbox"/>
Permitting		Contract Drawings	<input checked="" type="checkbox"/>
Inspections		Specifications	<input checked="" type="checkbox"/>
INSTALLATION SUPPORT		Foundation Reactions	
Preconstruction Meeting		Foundation Design	<input checked="" type="checkbox"/>
Logistics Coordination		Hydraulic Coordinates	
Structure Onsite Installation Assistance		Scour References	<input checked="" type="checkbox"/>
Contech Support Available		Approval Assistance	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Engineer of Record May Provide		Fabrication Drawings	

### DYOB® (DESIGN YOUR OWN BRIDGE)

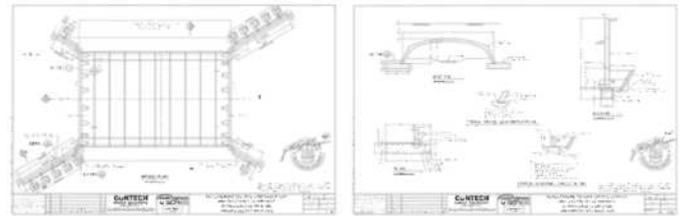
## DYOB® Design Your Own Bridge

*To get started, choose a structure type:*

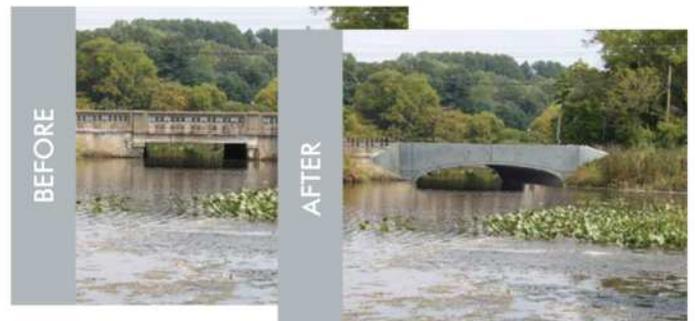
<b>DYO ALBC</b>	<b>DYO Plate</b>	<b>DYO Precast</b>	<b>DYO Truss</b>

[www.ContechES.com/dyob](http://www.ContechES.com/dyob)

### DRAWINGS & TECHNICAL SUPPORT



### PHOTO SIMULATION



# CONTECH®

ENGINEERED SOLUTIONS

Contech® Engineered Solutions provides innovative, cost-effective site solutions to engineers, contractors and developers on projects across North America. Our portfolio includes bridges, drainage, erosion control, retaining wall, sanitary sewer and stormwater management products.



**STORMWATER SOLUTIONS**



**PIPE SOLUTIONS**



**STRUCTURE SOLUTIONS**

**BridgeCor**

**CONTECH**  
STRUCTURAL PLATE

**CONSPAN**  
-SERIES

**BEBO**  
Arch Systems

**EXPRESS**  
Foundations

**CONTINENTAL**  
BRIDGE

**STEADFAST BRIDGES**

**BIG R**  
BRIDGE

**VISTAWALL**

**ARMORTEC**  
Erosion Control Solutions

For more information, call one of Contech's Regional Offices located in the following cities:

<b>Corporate Office - Ohio (Cincinnati)</b>	<b>513-645-7000</b>
California (Roseville)	800-548-4667
Colorado (Denver)	720-587-2700
Florida (Orlando)	321-348-3520
Maine (Scarborough)	207-885-9830
Maryland (Baltimore)	410-740-8490
Oregon (Portland)	503-258-3180
Texas (Dallas)	972-590-2000

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[www.ContechES.com](http://www.ContechES.com)

800-338-1122

