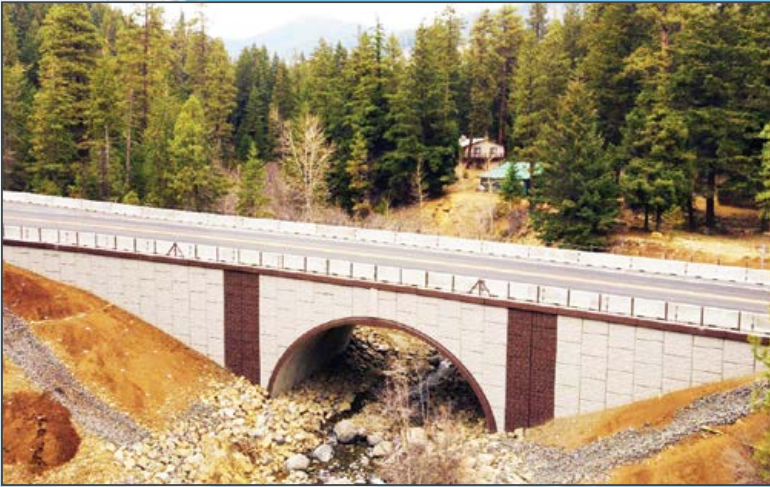


STRUCTURES
REFERENCE
GUIDE

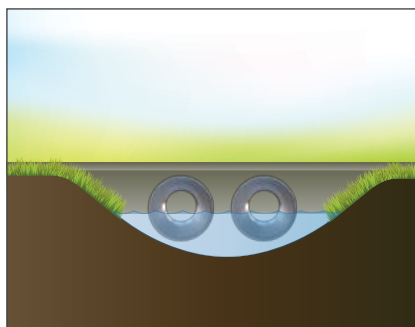
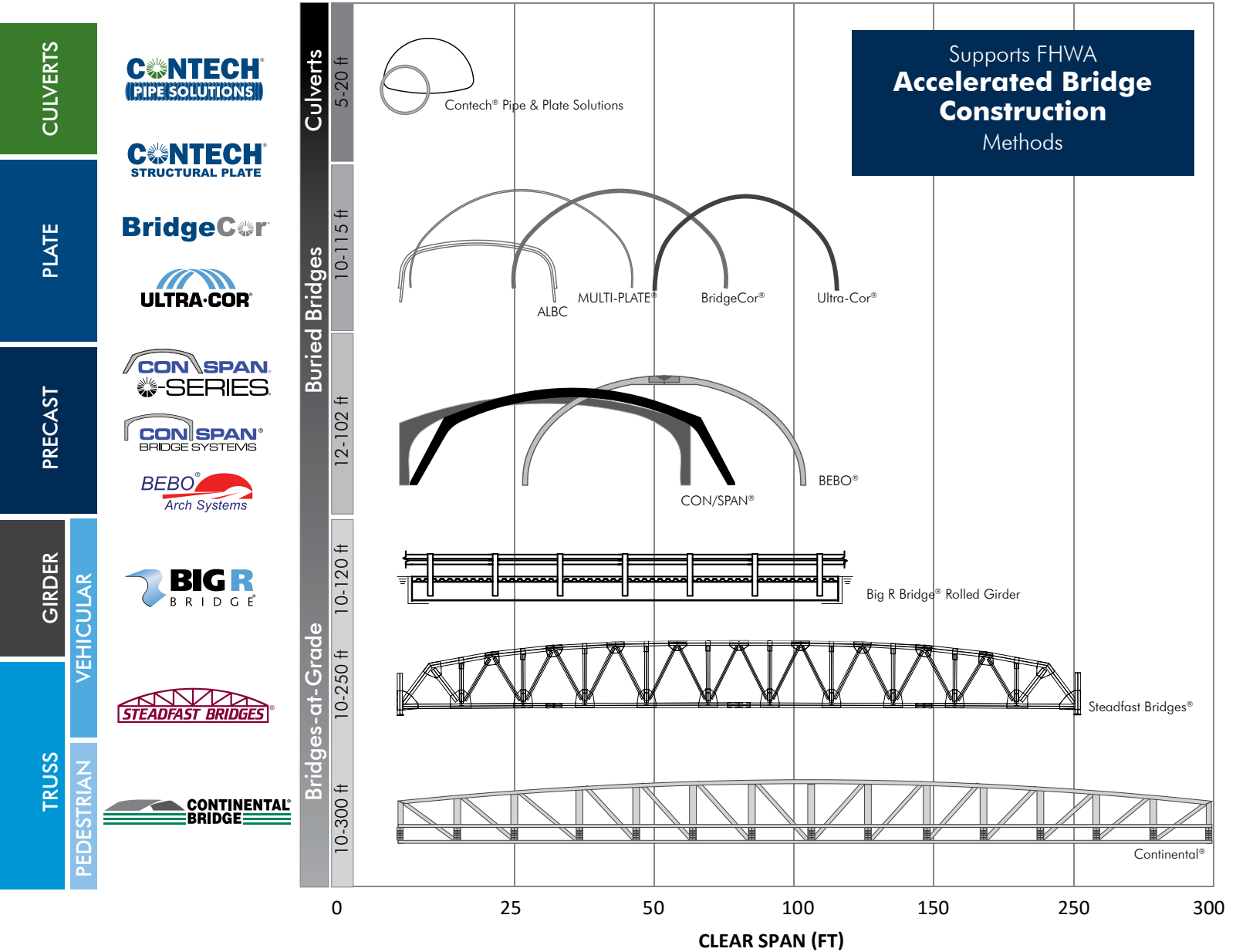


CONTECH[®]
ENGINEERED SOLUTIONS
A QUIKRETE[®] COMPANY

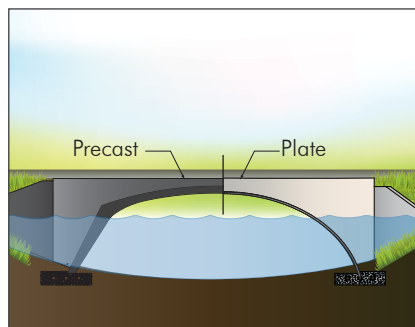
CROSSINGS. CULVERTS. BRIDGES. CONTECH.

CROSSINGS. CULVERTS. BRIDGES. CONTECH.

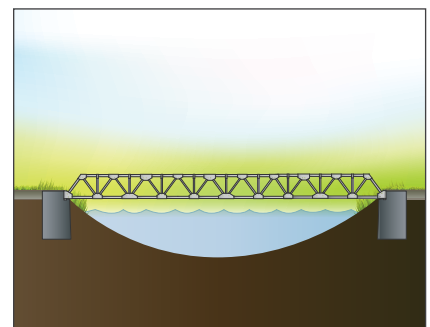
Clear Span Bridges



CULVERT



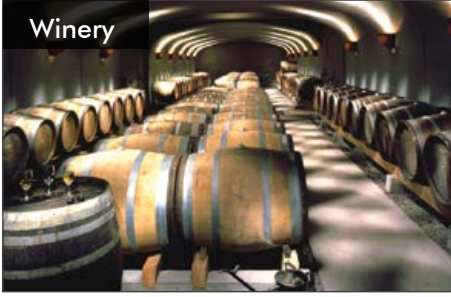
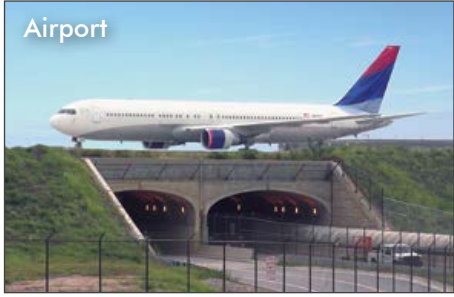
BURIED BRIDGE



BRIDGE AT-GRADE

EXPERIENCE. LEADERSHIP. DIVERSITY.

Spanning America's Markets since 1931





BridgeCor



MULTI-PLATE®



BridgeCor®



BridgeCor®



ULTRA-COR®

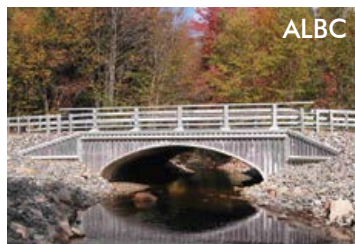
Aluminum Structural Plate & Box Culvert



ALSP



ALBC



ALBC



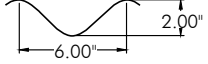
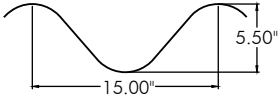
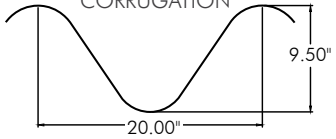
ALSP

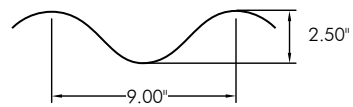


ALBC

STRENGTH. VERSATILITY. ECONOMY. PLATE.

Strength & Economy









| STEEL | MULTI-PLATE® | | | BRIDGECOR® | | | | ULTRA-COR® | | |
|-----------|--|------|------|---|------|------|------|---|------|------|
| | <p>6" X 2" CORRUGATION</p>  | | | <p>15" X 5.5" CORRUGATION</p>  | | | | <p>20" X 9.5" CORRUGATION</p>  | | |
| Gage | 12 | 10 | 8 | 7 | 5 | 3 | 1 | 5/16 | 3/8 | 1/2 |
| Thickness | .111 | .140 | .170 | .188 | .218 | .249 | .280 | .318 | .380 | .500 |

| ALUMINUM | 9" X 2.5" CORRUGATION | | | | | | FREIGHT ECONOMY |
|-----------|---|------|------|------|------|------|-----------------|
| |  | | | | | | |
| Thickness | .125 | .150 | .175 | .200 | .225 | .250 | |

Lightweight. Bolted Plate Construction Process.



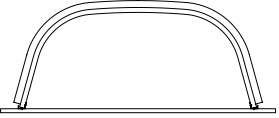
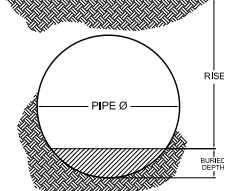
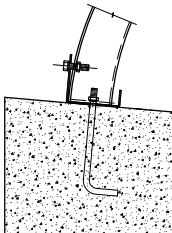
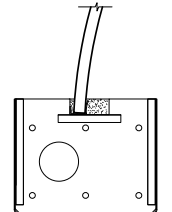
Shape Versatility

| SHAPES | STRUCTURE SIZE RANGES - INSIDE SPAN X RISE | | | | | |
|--------------------|---|-------------------------------|--------------------------------|----------------------------------|----------------------------|-------------------|
| | | MULTI-PLATE® 6" x 2" Steel | BridgeCor® 15" x 5.5" Steel | Ultra-Cor® 20.0" x 9.5" Steel | ALSP 9" x 2.5" Aluminum | |
| Round |  | min. | 5'-0" | 19'-11" | | 7'-0" |
| | | max. | 26'-0" | 50'-6" | | 30'-0" |
| Vertical Ellipse |  | min. | 4'-8" x 5'-2" | | | 6'-7" x 7'-4" |
| | | 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'-10" | | | 20'-5" x 17'-9" |
| Single Radius Arch |  | min. | 6'-0" x 1'-10" | 19'-7" x 9'-9" | 35'-0" x 15'-0" | 7'-0" x 2'-4" |
| | | max. | 26'-0" x 13'-1" | 54'-4" x 27'-2" | 70'-0" x 35'-0" | 30'-0" x 15'-6" |
| Two Radius Arch |  | min. | | 18'-5" x 8'-4" | 30'-0" x 12'-0" | |
| | | max. | | 50'-7" x 19'-11" | 110'-0" x 35'-0" | |
| Horizontal Ellipse |  | min. | 7'-4" x 5'-6" | 23'-8" x 13'-11" | | 9'-2" x 6'-8" |
| | | max. | 14'-11" x 11'-2" | 45'-5" x 28'-0" | | 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" |
| Box Culvert |  | min. | | 20'-0" x 5'-7" | 40'-0" x 13'-0" | 8'-9" x 2'-6" |
| | | max. | | 45'-4" x 15'-8" | 85'-0" x 20'-0" | 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.

Foundations

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

STRENGTH. VERSATILITY. ECONOMY. PLATE.

Steel EXPRESS® Foundations

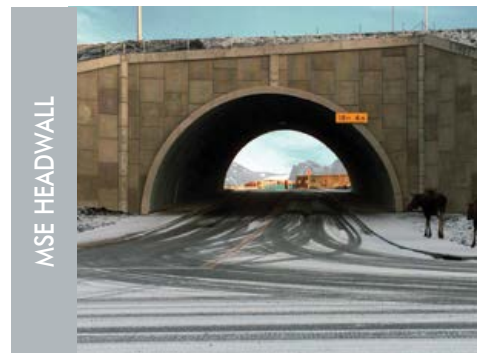
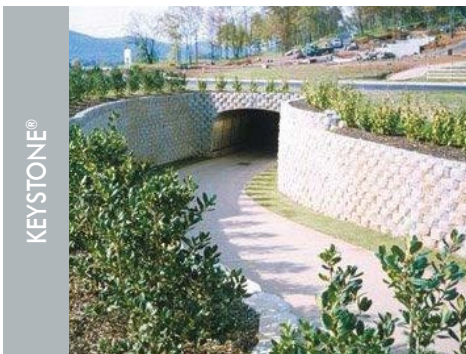
**STEEL
EXPRESS®**
Foundations



Steel EXPRESS Foundations are available for strip footing foundations for truss, girder and plate structures.

End Treatments

KEYSTONE® **VISTAWALL®**
HARDSCAPES MSE Structural Wall Systems™



CON SPAN[®]
SERIES[®] Precast Arch Bridge System



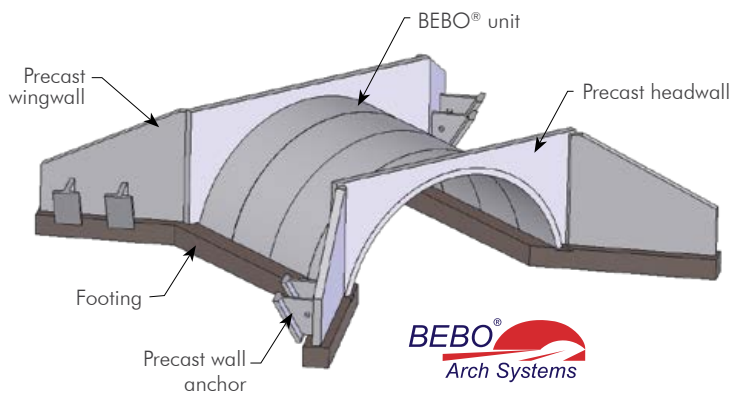
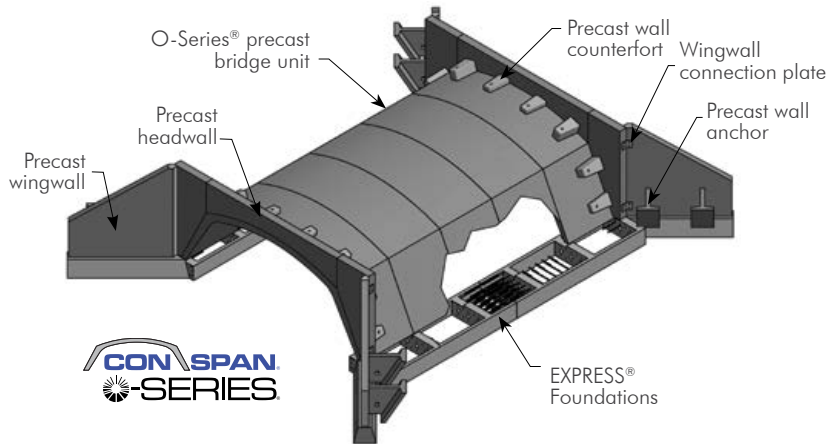
BEBO[®]
Arch Systems

Precast Arch Bridge System



MODULAR. EFFICIENT. COMPLETE. PRECAST ARCH.

Modular Components



Installation

PRECAST FOUNDATIONS



PRECAST ARCH UNITS



PRECAST HEADWALLS



PRECAST WINGWALLS



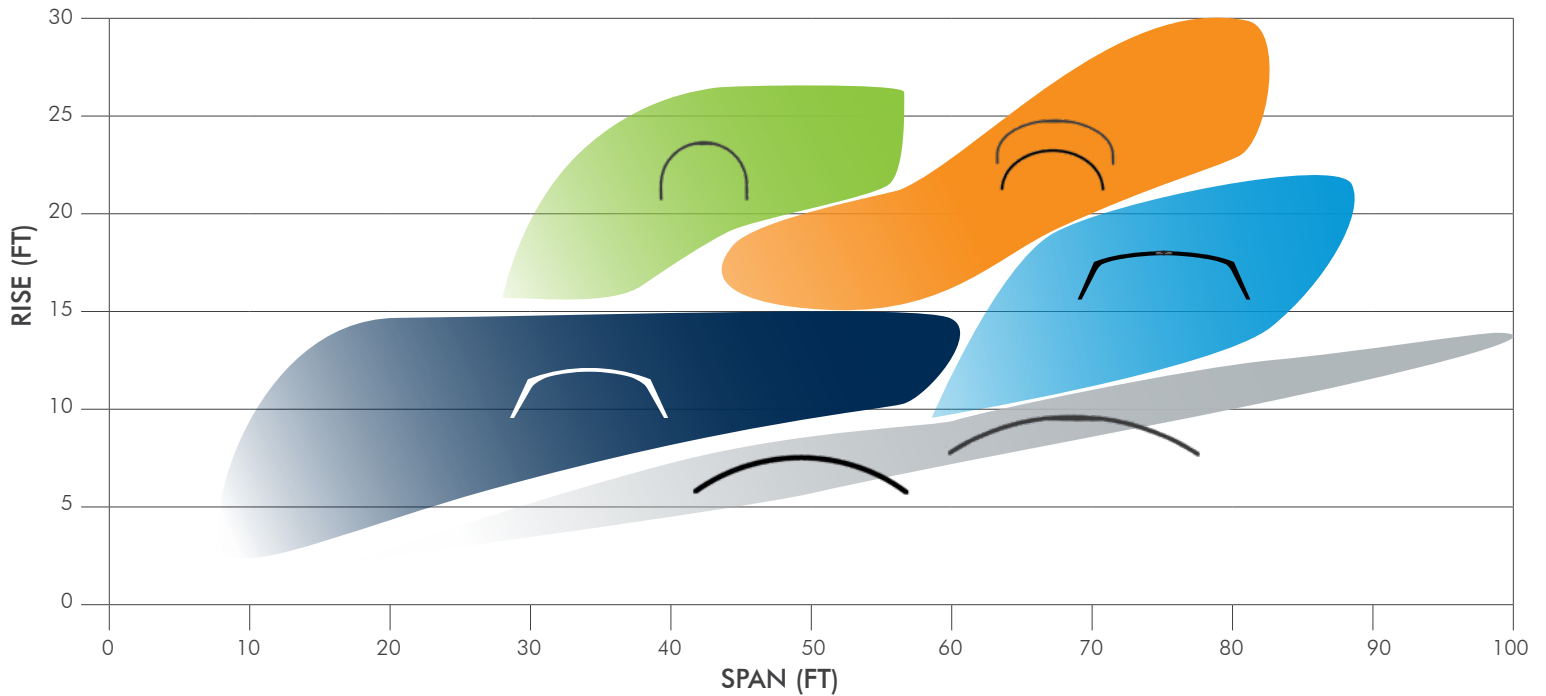
CURVED ALIGNMENT















TWIN LEAF CONSTRUCTION



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 |

* For additional shape information, please consult the Precast Waterway Charts Overview.  B-Series CON/SPAN available for limited applications.

Multiple Cell Configurations



MODULAR. EFFICIENT. COMPLETE. PRECAST ARCH.

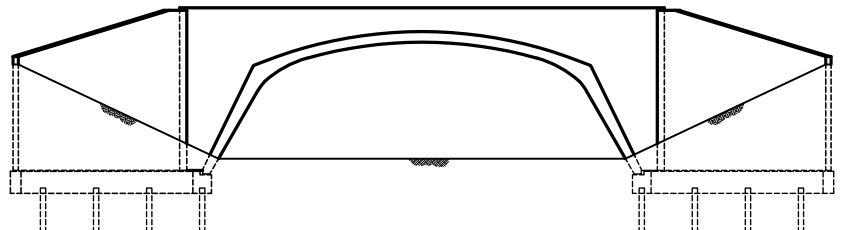
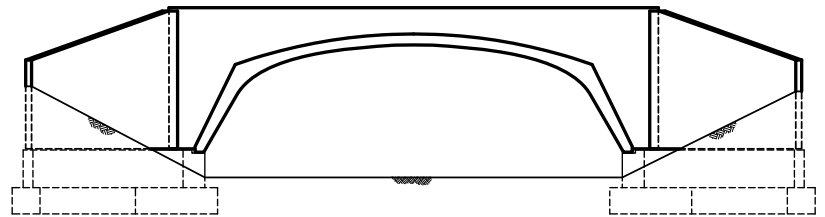
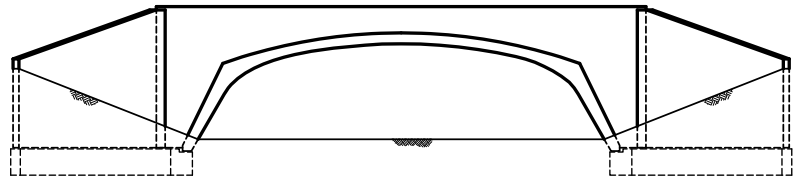
EXPRESS® Foundations

EXPRESS®
Foundations



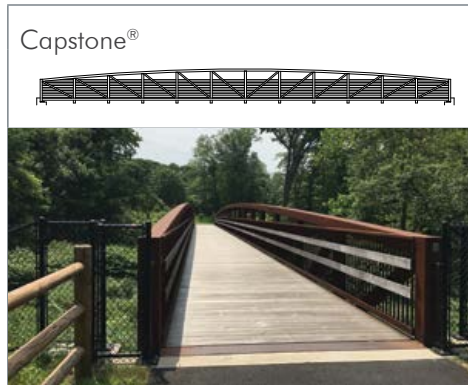
All precast EXPRESS Foundations are applicable to plate, precast, truss, and girder bridge solutions.

Precast Foundation Options





Continental® Pedestrian Truss Styles*



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

SIGNATURE. AESTHETIC. PEDESTRIAN.

Continental® Signature Designs



Custom Signature



Custom Arch



Faux Arch



Custom Signature



Highway Overpass



Skywalk



Custom Platform



Custom Signature

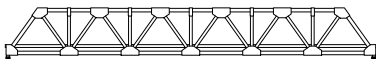


Vehicular Truss Bridges

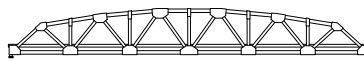


Steadfast Bridges® Vehicular Truss Styles

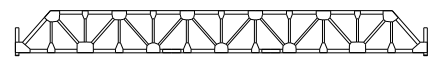
Colonial® Flat



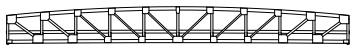
Colonial®



Colonial® Flat Single Diagonal



Capstone®



Keystone®



Steadfast Vehicular Truss with Big R Rolled Girder Approach Spans



Efficient. Economical. Timeless Designs.



Truss Deck, Finish & Rail Options

DECK



Wood



Cast-in-Place Concrete



Asphalt



Steel Grate or FRP

FINISH



Weathering Steel



Painted Steel



Galvanized Steel



Duplex Coating

RAIL



Mesh Panels/Wood Rub Rail



Vertical Picket/Pipe Handrail



Horizontal Rail/Steel Toe Rail



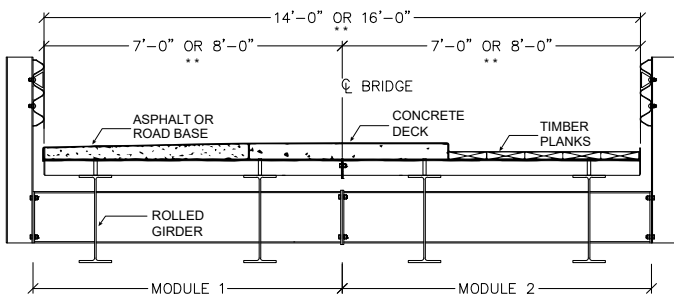
Custom Rail/Lighted Railing

For other rail, deck and finish options, see www.ContechES.com.



Big R Standard Modular Bridges

- Single lane, modular bridge, shipped in two sections, 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 steel bridge plank deck
- Precast sills and sheet pile backwalls available
- Available in standard sizes
 - » Standard spans - 30' to 80' in 5' increments
 - » Bridge widths - 12', 14', 16', 18'
- Seasonal stock typically available in 40', 50' and 60' spans x 16' wide



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

CUSTOMIZED. ROLLED GIRDERS.

Big R Site-Specific Modular Bridges

CUSTOMIZED TO MEET ANY SITE NEEDS

ANY SPAN & WIDTH



DESIGN ACCOMMODATES

- Pedestrian options or HL-93 vehicular loading available
- Custom widths and spans up to 120'
- Customer-specified vehicle loads
- State DOT requirements
- Any rail or decking type
- Shipped in modules or components

GUARDRAIL OPTIONS



W or Three-Beam Girder Mounted



Pedestrian Handrail



Custom Rail

DECK TYPES



Cast-in-Place Concrete on S.I.P. Forms



Concrete/Asphalt on Bridge Plank



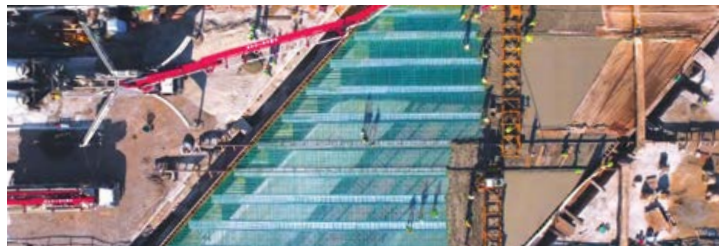
Gravel on Bridge Plank

COMPONENT ROLLED GIRDER



Component

Bridges can be shipped in components rather than modules if needed.



ClearCast[®] Transparent Bridge Deck Forms

CLEARCAST BENEFITS:

- Faster construction on the critical path
- Safer, top-down forming with no stripping
- Fewer lane closures and reduced user-delay costs
- Visual confirmation of consolidation during the pour
- Long-term clarity for accurate NBIS/SNBI inspection and preservation planning



SPANNING RAILROADS



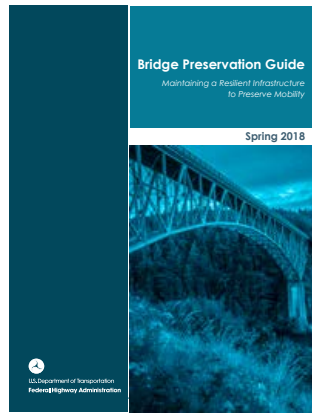
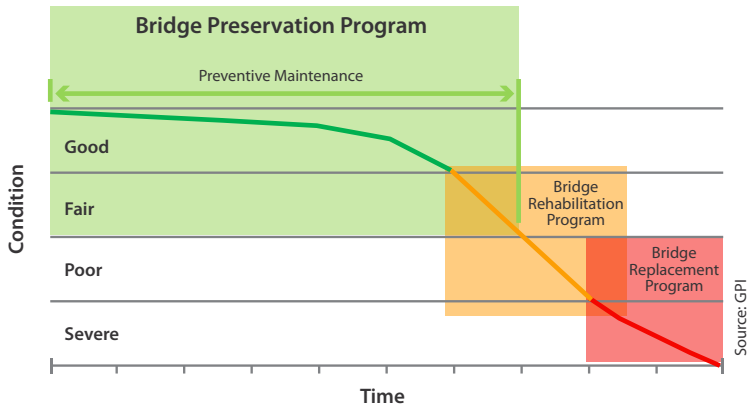
SPANNING TRAFFIC



SPANNING WATER



PRESERVE. REHABILITATE. REPLACE.

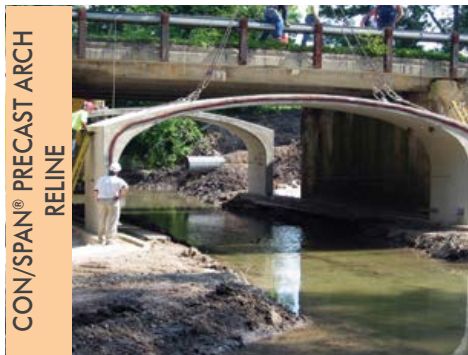


U.S. Department of Transportation
Federal Highway Administration

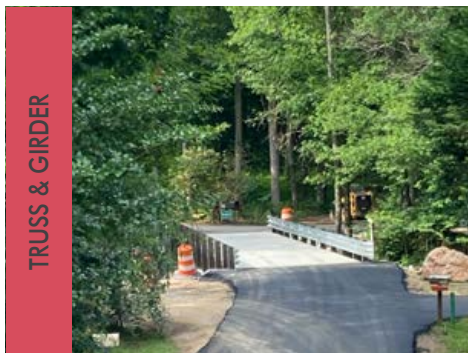
Bridge Preservation



Bridge Rehabilitation



Bridge Replacement

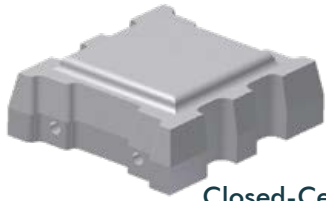


HARD ARMOR. ARMORTEC.



ArmorFlex®

ARTICULATING CONCRETE BLOCKS



Closed-Cell Block



Open-Cell Block



SPEED OF INSTALLATION

A-Jacks®

CONCRETE ARMOR UNITS



A-Jacks Unit



HARD ARMOR SUSTAINABILITY



INVERT PROTECTION



CHANNEL LINING



DAM OVERTOPPING



ABUTMENT PROTECTION



PIER SCOUR PROTECTION



OUTLET PROTECTION

Contech Tunnel Liner Plate



Bin-Wall



Vist-A-Wall® Wire Wall



Vist-A-Wall® MSE Wall



Marine Bin-Wall



Bridge Plank



Metric Sheeting



PROCESS – DESIGN SUPPORT. PREFABRICATION. INSTALL.

FABRICATION



PLATE



PRECAST



TRUSS & GIRDERS

FOUNDATIONS



EXPRESS Foundations

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



TRANSPORTATION

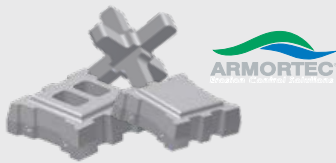


ERECTION/
ASSEMBLY



SYSTEM
ELEMENTS

SCOUR PROTECTION



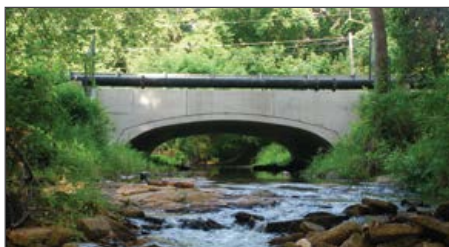
END TREATMENTS

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

BACKFILLING



COMPLETION



Options & Support Specific to Your Project Needs

DYOB® (DESIGN YOUR OWN BRIDGE)

Which bridge type is the best fit for your application?

| DYOB® Structural Plate | DYOB® Precast | DYOB® Modular Rolled Girder | DYOB® Truss |
|--|--|---|---|
|  |  |  |  |
| Design Your Own Structural Plate Solutions. Current product options include: Aluminum Box Culvert, BridgeCor® | Design Your Own Precast Solutions. Current product options include: CON/SPAN® & BEBO® | Design Your Own Modular Rolled Girder Solutions. Current product options include: Big R EXPRESS® Modular Rolled Girder | Design Your Own Truss Solutions. Current product options include: Continental® Bridge & Steadfast Bridges® |



**CONTECH®
DESIGNCENTER**

WWW.CONTECHES.COM/DYOB

| 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 |  | <input type="checkbox"/> |
| 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 |  | <input type="checkbox"/> |
| Preconstruction Meeting |  | Foundation Design |  | <input checked="" type="checkbox"/> |
| Logistics Coordination |  | Hydraulic Coordinates |  | <input type="checkbox"/> |
| 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 |  | <input type="checkbox"/> |

DRAWINGS & TECHNICAL SUPPORT

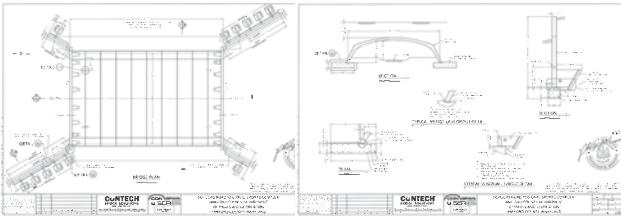




PHOTO SIMULATION

BEFORE



AFTER



CONTECH
ENGINEERED SOLUTIONS
A QUIKRETE® COMPANY

MANUFACTURING AMERICA'S INFRASTRUCTURE™

We manufacture engineered solutions for complex civil infrastructure challenges and create lasting value for project stakeholders through unrivaled expertise, support and workmanship.

To us, it's about being a trusted partner for project owners, engineers and customers while doing meaningful work that helps build our communities.



STORMWATER SOLUTIONS



PIPE SOLUTIONS



STRUCTURE SOLUTIONS



BridgeCOR

ULTRA-COR

CONTECH
STRUCTURAL PLATE

CONSPAN
-SERIES

BEBO
Arch Systems

EXPRESS
Foundations

CONTINENTAL
BRIDGE

STEADFAST BRIDGES

BIGR
BRIDGE

VISTAWALL
MSE Structural Wall Systems

ARMORTEC
Erosion Control Solutions

clearCAST
Transparent Bridge Deck Forms

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Please call 800-338-1122 or visit www.conteches.com.**

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