BridgeCor® Overview
Redefining Standard Bridge Design

The 15” x 5.5” advanced profile allows designers to convert traditional bridges into more economical buried bridges by clear spanning up to 65’. This corrugation is already widely accepted by AASHTO and the international engineering community.

For the past 80 years, Contech MULTI-PLATE® has been the buried bridge standard. BridgeCor enhances the established performance of 6” x 2” MULTI-PLATE by offering 9 times the stiffness and 3 times the strength. Structural plate has proven its bolted, segmental construction to be economical and easily assembled by local forces. Contech BridgeCor is manufactured with the industry’s best equipment allowing for the longest laying length sheets in the industry.

Features & Benefits:
- Spans up to 80’
- Heavy loading conditions
- Reduced maintenance costs
- Buried bridge structure
- Durable and corrosion resistant
- Reduced installation time
- Onsite assembly
- Fewer fasteners required

Applications:
- Airports
- Grade separations
- Mining tunnels
- Railroad tunnels
- Rehabilitation
- Wetland crossings
- Stream crossings
- Environmentally sensitive areas

Specifications:
- AASHTO LRFD 12.8.9
  Design of long span, deep-corrugated structures
- AASHTO LRFD 12.9
  Design of corrugated box culverts
- AASHTO M-167/ASTM A-761
  Corrugated steel structural plate

Available Shapes

<table>
<thead>
<tr>
<th>Invert Structures</th>
<th>Arch Structures</th>
<th>Box Culverts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round</td>
<td>Single Radius Arch</td>
<td>Box Culvert</td>
</tr>
<tr>
<td>19’-50’ Diameter</td>
<td>22’-54’ Spans</td>
<td>18’-35’ Spans</td>
</tr>
<tr>
<td>Ellipse</td>
<td>Multiple Radius Arch</td>
<td>(Up to 45’ custom)</td>
</tr>
<tr>
<td>Custom Sizes</td>
<td>External Rib Arch</td>
<td>(Up to 45’ custom)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Up to 65’ custom)</td>
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</tbody>
</table>

(2) 50’ Round BridgeCor structures provides a variety of sizes for buried inverted necessary in grade separations needed for mine access roads and tunnel entrances.
Design Challenge »

- **Structure** – 2-radius arch
- **Stream width** – 40’ clear span required
- **Application** – wildlife crossing
- **Length** – 260’

<table>
<thead>
<tr>
<th>SUPER-SPAN</th>
<th>BridgeCor</th>
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<tbody>
<tr>
<td>Corrugation</td>
<td>6” x 2”</td>
</tr>
<tr>
<td>Structure</td>
<td>138A39</td>
</tr>
<tr>
<td>Span</td>
<td>42'-3”</td>
</tr>
<tr>
<td>Rise</td>
<td>15'-5”</td>
</tr>
<tr>
<td>End Area</td>
<td>510 sf</td>
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<tr>
<td>Min. Cover</td>
<td>48”</td>
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<tr>
<td>Gage</td>
<td>1</td>
</tr>
<tr>
<td>Weight/Foot</td>
<td>940</td>
</tr>
<tr>
<td>Total Weight</td>
<td>244,400 lbs</td>
</tr>
<tr>
<td>Number of Trucks</td>
<td>6</td>
</tr>
</tbody>
</table>

**A MINIMUM 35% COST SAVINGS**

NOTE: A minimum of 35% cost savings for an erected structure. Total structure weight is less. Less trucks to the jobsite. In a low cover application, the SUPER-SPAN® will not meet specification design requirements.
Contech innovations continue to take structural plate buried bridge systems to the next level with the new BridgeCor External Rib System. The BridgeCor External Rib System optimizes structure designs, reduces the amount of material required, increases spans up to 80’, and maximizes the overall structure stability.

**Features & Benefits:**

- Spans between 40’ - 80’
- Complete bridge system – Rapid installation
- Material optimization for steel and backfill savings
- Cost-savings vs. conventional bridge structures
- Suitable for new construction, retrofit, deep cover and rehabilitation applications
- Ideal for DOTs, Counties/Municipalities, Residential, Railroad and Mining market projects
- AASHTO Section 12 includes external ribs as part of the overall design specification
- Patent Pending Design
State Highway 473 - Wharf Resources
Lead, South Dakota

The Wharf Mine is located four miles west of Lead in the Black Hills, a heavily forested, mountain range in western South Dakota. Since 1983, Wharf Resources Inc. (WRI) has been successfully operating the Wharf open-pit gold mine and heap-leach operation. When WRI wanted access to a site located nearby, a tunnel solution was needed underneath State Highway 473 near Stewart Slope Road. After State Highway 473 was realigned, twin, round 50’ x 98.69’ BridgeCor Structural Plate structures were installed for their ability to accommodate CAT 777 haul trucks.

American River Culvert Replacement
Elk City, Idaho

In Elk City, Idaho – the Nez Perce Tribal Council determined that an undersized fish passage was in need of replacement. The project consisted of removing the existing culvert and replacing it with a new single radius BridgeCor arch - 46’-9” span x 16’ rise with precast footings manufactured by Contech Engineered Solution.

The new structure opened up an entire 60,000 acre watershed to fish passage. A standard girder bridge was not economically feasible, and the BridgeCor was able to make the project fit within the available budget.

NW 25th St. - Canal Enclosure
Miami, Florida

In order to widen NW 25th Street in Miami-Dade County, Florida, the contractor, Astaldi Construction Corp., decided that the best solution to present to the Florida Department of Transportation (FDOT) as a Value Engineering proposal was Contech Engineered Solutions’ BridgeCor structural steel plate. The solution was to encase the existing canal and extend the viaduct to the west, and FDOT accepted the proposal. With an advanced profile of 15” x 5.5”, BridgeCor offers nine times the stiffness and three times the strength of standard plate structures. Using BridgeCor was substantially less expensive than the concrete deck bridge that had originally been considered, and the construction time was also considerably less.
West Dowling Road- Grade Separation
Anchorage, Alaska

In order to reduce east-west traffic congestion on surrounding routes, Phase II of this $47 million project extended West Dowling Road to Minnesota Drive at the Raspberry Road interchange. As the best solution, a 50’-1” x 27’ BridgeCor Structural Plate, 155’ in length, was selected and installed. The BridgeCor structure from Contech Engineered Solutions was more cost effective than a traditional girder bridge. Its ease of installation was a plus on the curved, super elevated road over the structure. The designers chose a culvert type bridge over a girder type bridge for economic reasons, due to the limited span required to cross Howard Holtan Court.

HEN-SR24 over Turkeyfoot Creek - Reline
Henry County, Ohio

The Ohio Department of Transportation (ODOT) carefully analyzed the old stone arch bridges along the old State Route 24. Upon inspection of the original bridge over Turkeyfoot Creek, it was determined that the structure was indeed deteriorating and needed to be rehabilitated. Originally constructed in 1845 as part of the Ohio to Erie Canal system, it was imperative that the historical significance of the bridge be preserved. For this reason, it was decided that the best solution was rehabilitation over replacement, and a 32′-8” x 13′-3” BridgeCor Structural Plate, 127′-10.5” in length, was selected and installed.

Blue Heron Cove - Stream Crossing
Shelton, Connecticut

When developers were creating a luxury waterfront community with spectacular views of the Housatonic River, in Shelton, Connecticut, they needed a solution that would provide access to the area and serve as a signature showpiece for Blue Heron Cove. The 32′-2” span x 10′-8” rise BridgeCor two-radius arch was sized to meet the hydraulic requirements of the stream. Keystone end treatments were chosen to blend in with the architecture of the scenic area. This solution provided $100,000 in savings over alternative options considered. Not only is BridgeCor economical and easily assembled, its bolted, segmental construction is manufactured with the industry’s best equipment, allowing for the longest laying lengths in the industry.
Contech Design Support

Contech® structural plate bridges are strong and cost-effective solutions. Prefabricated manufacturing means fast installation and substantial cost-savings. Contech plate bridges can be assembled on-site and their lightweight make both transportation and installation much easier. Contech plate bridges feature efficient bridge design and construction that can be customized and manufactured to meet your project specifications.

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<th>INSTALLATION</th>
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<td>• Specifications</td>
<td>• Preconstruction Meeting</td>
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<td>• Structure Selection</td>
<td>• Contract Drawings</td>
<td>• On-Site Installation Assistance</td>
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<tr>
<td>• Siting &amp; Layout</td>
<td>• Permitting Assistance</td>
<td>• Logistics Coordination</td>
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<tr>
<td>• Design Your Own Bridge (DYOB®)</td>
<td>• Structural/Fabrication Drawings</td>
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<tr>
<td>• Engineer Estimates</td>
<td>• Approval Assistance</td>
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<tr>
<td>• Site Simulation</td>
<td>• Custom Solutions</td>
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<tr>
<td>• Proposal Preparation</td>
<td>• Horizontal/Vertical Alignment</td>
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<tr>
<td>• Design Build Support</td>
<td>• Foundation Support</td>
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STORMWATER SOLUTIONS
Helping to satisfy stormwater management requirements on land development projects
• Stormwater Treatment
• Detention/Infiltration
• Rainwater Harvesting
• Biofiltration/Bioretention

PIPE SOLUTIONS
Meeting project needs for durability, hydraulics, corrosion resistance, and stiffness
• Corrugated Metal Pipe (CMP)
• Steel Reinforced Polyethylene (SRPE)
• High Density Polyethylene (HDPE)
• Polyvinyl Chloride (PVC)

STRUCTURES SOLUTIONS
Providing innovative options and support for crossings, culverts, and bridges
• Plate, Precast & Truss bridges
• Hard Armor
• Retaining Walls
• Tunnel Liner Plate