

VEHICULAR  
TRUSS & ROLLED GIRDER  
REFERENCE GUIDE



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

**STEADFAST BRIDGES**<sup>®</sup>

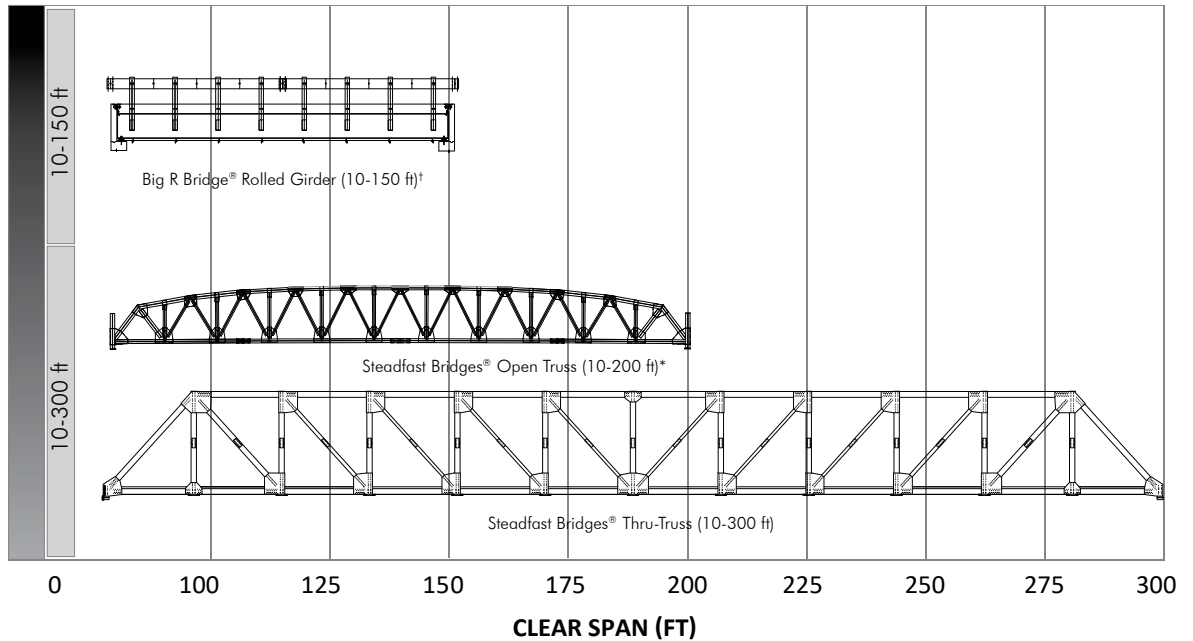
**BIG R**  
BRIDGE<sup>®</sup>



# VEHICULAR TRUSS & ROLLED GIRDER BRIDGES

## Clear Span Bridges

VEHICULAR TRUSS & ROLLED GIRDERS



† Custom options available for Big R Bridge® Rolled Girders

- 150' span single lane concrete deck
- 135' span multi lane concrete deck
- 120' span gravel/asphalt deck
- 110' span multi lane gravel deck

\* Custom lengths from 200' to 250' are available to make your project a reality. Please contact your local Contech bridge consultant.



Big R Bridge® EXPRESS Rolled Girder

Gravel Deck



Big R Bridge® Site-Specific Rolled Girder

Concrete Deck



Steadfast Bridges® Vehicular Truss

Galvanized



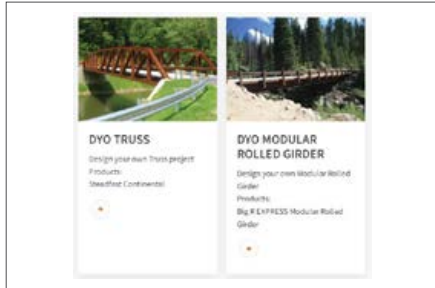
Steadfast Bridges® Vehicular Truss

Weathering Steel



# PROCESS | CONCEPT. DESIGN SUPPORT. FABRICATION. INSTALL.

## CONCEPT/DESIGN



- Preliminary Concept Drawings (DYOB)
- Reactions, Specifications, Bid Drawings and Details
- Stamped Bridge Submittal Package
- Stamped Abutment Design



## FABRICATION



## FOUNDATIONS



- Abutment Types:
- Deep Foundations (pile, caisson, helical pier, etc)
  - Spread Footings - CIP Design
  - Spread Footing Prefabricated System (Precast Concrete, Steel EXPRESS)
  - Bin-Wall, GRS Abutment, MSE System (Keystone, Gabion, Wire Face)



## TRANSPORTATION/ERECTION



## COMPLETION

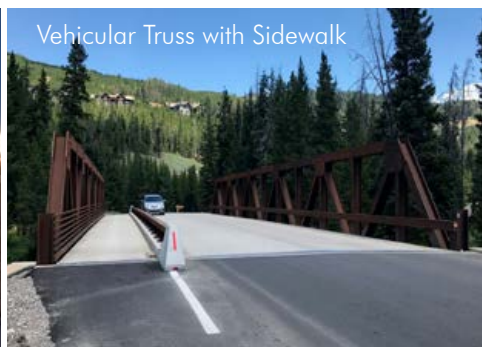
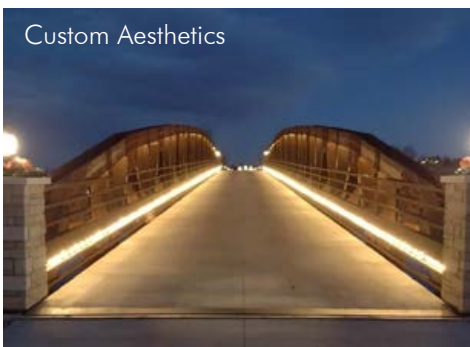




# CUSTOM STEADFAST BRIDGES® VEHICULAR TRUSS



- ### Benefits of Vehicular Truss Bridges
- Long spans with open truss up to 250' and 300' with thru truss
  - Shallow depth applications (roadway to bottom)
  - All bolted truss system
  - Redundant design
  - Design with roadway and sidewalk (inside truss or cantilever)





# VEHICULAR TRUSS STYLES & OPTIONS

## Steadfast Bridges® Vehicular Truss Styles\*



\*Custom styling is available to make your project a reality

## Deck, Finish & Rail Options

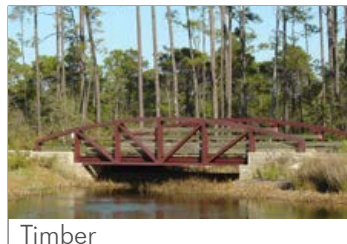
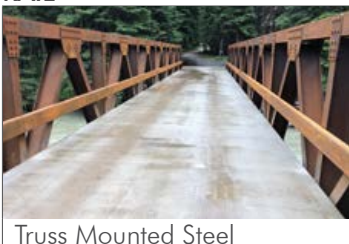
### DECK



### FINISH



### RAIL



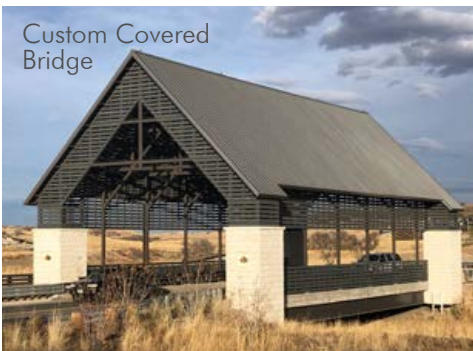


# BIG R BRIDGE® ROLLED GIRDER & ABUTMENT DESIGNS

Big R Bridge® Rolled Girder with Precast Sill and Sheet Pile Backwall



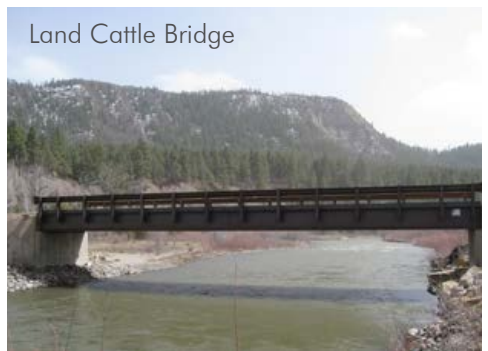
Custom Covered Bridge



## Benefits of Rolled Girder Vehicular Bridges

- Load carrying members fully under deck
- Ability to customize railing
- Economic and time-tested solution
- Modular system for Accelerated Bridge Construction
- Clear spans up to 150'

Land Cattle Bridge



Big R Bridge® EXPRESS Rolled Girder



Wire Wall Abutment



Big Block MSE Abutment

Bin-Wall™ Abutment





# BIG R BRIDGE® SITE-SPECIFIC MODULAR BRIDGES

MANY SPANS & WIDTHS AVAILABLE

DESIGN OPTIONS



## DESIGN PARAMETERS

- 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
- Spans 10' to 150' dependent on bridge width (Single lane 14' or 16' and multi lane 24' wide)

GUARDRAIL OPTIONS



W-Beam



Thrie-Beam



Custom Rail

TL-1, TL-2, and TL 3 available upon request that will be deck mounted and a DOT railing.

DECK TYPES



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



Concrete/Asphalt on Bridge Plank



Gravel on Bridge Plank

## CUSTOM DECK AND RAILING



Timber Deck and Timber Rail



Timber Running Plank with W-Beam

Component (knocked down) bridges available upon request.



PROVIDING RURAL SOLUTIONS

## Forestry Service & Logging

With production facilities in the East and West, Big R Rolled Girders provide complete bridging solutions for the Forestry and Logging sectors nationwide. Our strong yet lightweight modular bridges can be packaged with several in-house abutment systems including precast concrete sills with steel back walls, and Bin-Wall or Vist-A-Wall® MSE retaining walls.



Big R Rolled Girder

Headquarters, ID



Big R Rolled Girder

Headquarters, ID



Big R Rolled Girder

Brazos, NM



Big R Rolled Girder

Camas, WA

HELPING TO KEEP AMERICA WORKING

## Energy, Mining & Industrial

Both Big R rolled girders and Steadfast vehicular truss structures meet AASHTO loading criteria. The bridge solutions can accommodate large construction vehicles and equipment for the transportation of heavy materials. The strength and durability of these systems allow for a wide range of solutions for the energy, mining and industrial markets.



Steadfast Colonial® Flat

Lewiston, ME



Big R Rolled Girder

Denver, CO



Steadfast Colonial® Flat

West Virginia



Big R Rolled Girder

Winter Park, CO



## PROVIDING COMMUNITY SOLUTIONS

### Residential & Commercial

Steadfast vehicular truss solutions have been selected by developers throughout the U.S. to provide practical, yet aesthetic structures in residential developments, hospitals, schools and communities.

Developers also look to vehicular truss and rolled girder solutions for busy commercial sites. Often times, these bridges are main entrances or centerpieces for business parks, shopping centers and local communities.



Steadfast Colonial® Flat

Hunterdon, NJ



Steadfast Custom

Portland, OR



Custom Rolled Girder

Wilson, WY



Steadfast Colonial®

Highlands Ranch, CO

## REBUILDING OUR INFRASTRUCTURE

### Municipalities & Counties

Time-sensitive projects and emergency bridge replacements often lead municipalities and counties to a Steadfast vehicular truss or Big R rolled girder solutions. The clear span structures can improve hydraulics and minimize road and closure time with a quick installation, while fitting within a budget. Structures are typically installed in 1-3 days and require minimal maintenance.

Utilizing Contech's turnkey design/supply support on these projects can allow for substantial cost-savings for your overall project.



Steadfast Colonial® Flat

Zurich, MT



Big R Rolled Girder

Brownfield, ME



Steadfast Colonial®

Fillmore, CA



Steadfast Colonial®

Boulder, CO

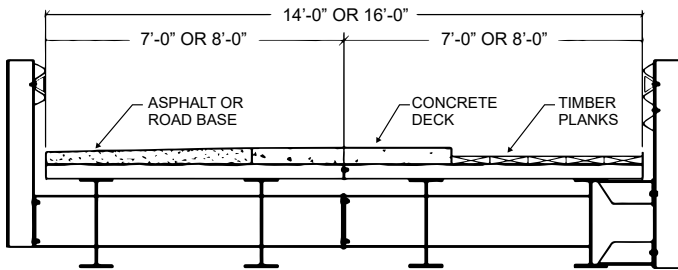


# CONTECH CAPABILITIES

## Big R Bridge® Modular Bridges

### STANDARD FEATURES

- Single lane, modular bridge with a longitudinal splice
- Heavy duty loading (AASHTO HL-93 highway and U-80 off-highway trucks and greater)
- 14' or 16' wide
- Low-maintenance weathering steel structural members
- Galvanized steel structural decking
- Bearing plates and pads
- Curb or railing systems
- Precast sills available



1/2 Bridge Weights (lbs.)*		
Length (ft.)	14' Wide	16' Wide
30	7,900	8,400
40	11,200	11,700
50	14,100	16,200
60	21,800	22,600
70	27,900	28,800
80	35,700	36,800



## Contech Vehicular Truss & Rolled Girder Bridge Manufacturing

Contech has four manufacturing locations to support projects across the continental United States and beyond. These manufacturing facilities are certified to AISC Advanced Major Bridge Quality Standards. All manufacturing locations have design engineers licensed in all 50 states located at the facilities to ensure that the bridges will be fabricated to exceed all industry requirements and our engineering standards. Contech has Bridge Consultants located across the United States for local support on any of your projects.

### Manufacturing Locations



### DESIGN SPECIFICATIONS:

- AASHTO LRFD Bridge Design Specifications
- AISC Steel Construction Manual
- Staff Registered Professional Engineers in all 50 states

### FABRICATION SPECIFICATIONS:









- AISC CERTIFIED FABRICATOR
- Certified Bridge Fabricator – Advanced (Major) at all four plant locations
- Fracture Critical Endorsement
- Sophisticated Paint Endorsement
- AWS Certified Welders
- AWS Certified Welding Fabricator






## 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	 <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		Approval Assistance	 <input checked="" type="checkbox"/>
Structure Onsite Installation Assistance		Fabrication Drawings	 <input type="checkbox"/>
	Contech Support Available		
<input checked="" type="checkbox"/>	Engineer of Record May Provide		

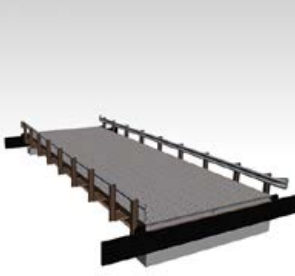
### DYOB® (DESIGN YOUR OWN BRIDGE)



**DYO TRUSS**  
Design your own Truss project  
Products:  
Steadfast Continental

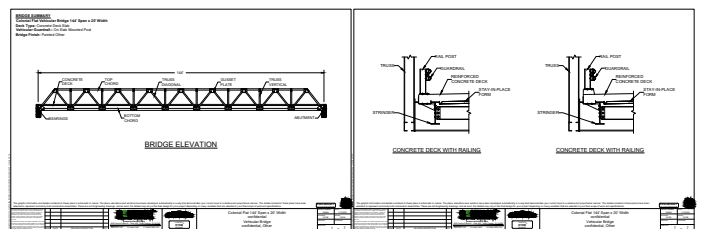


**DYO MODULAR ROLLED GIRDER**  
Design your own Modular Rolled Girder  
Products:  
Big R EXPRESS Modular Rolled Girder



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

### DRAWINGS & TECHNICAL SUPPORT



### PHOTO SIMULATION







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



**DESIGN SPECIFICATIONS:**

- AASHTO LRFD Bridge Design Specifications
- International Building Code (IBC)
- AISC Steel Construction Manual
- Staff Registered Professional Engineers in all 50 states

**FABRICATION SPECIFICATIONS:**

- AISC CERTIFIED FABRICATOR
- Certified Bridge Fabricator – Advanced (Major)
- Fracture Critical Endorsement
- Sophisticated Paint Endorsement
- AWS Certified Welders
- AWS Certified Welding Fabricator

**SUPPORT:**

- Project Management
- Site Supervision
- Foundation Design
- Installation Guidance



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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