

Bridge Bundling with Steel PBTGs: Speed, Flexibility and Low Cost



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So why do we need a different solution?

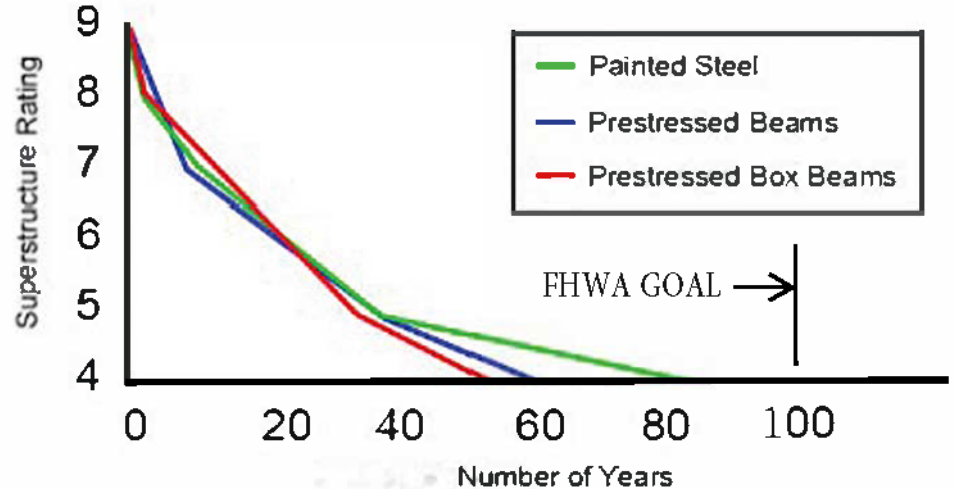
“Doing the same thing over and over and expecting different results is insanity”

Albert Einstein

- Prestressed concrete box beams have been the standard solution since the 1970's for off-system, local agency, non-interstate bridges.
- MDOT study of current inventory shows pre-stressed concrete box beam service life < 50 years
- “Bridge engineers need improved design options so they can deliver bridges that are operational for 100 years or more”, FHWA

1970 + 50 years = NOW!

Superstructure Deterioration (MDOT)



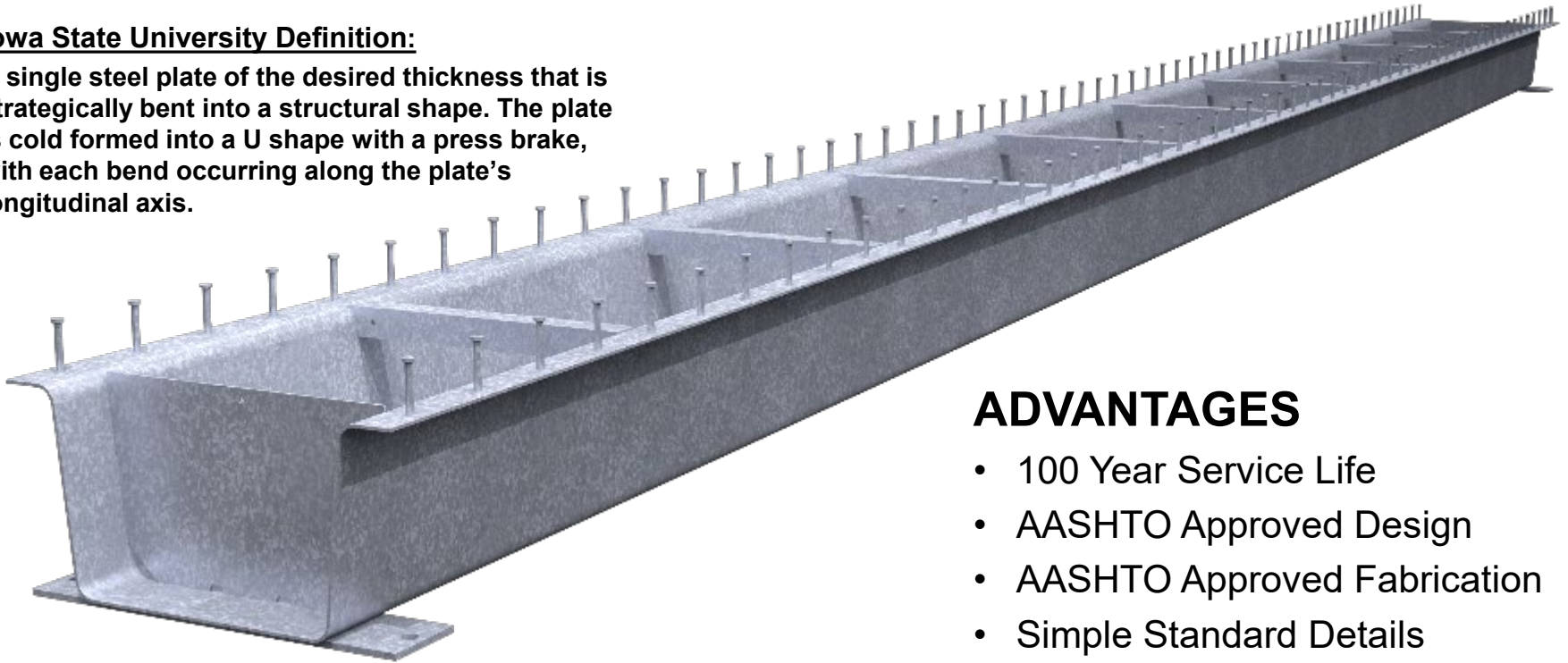
4 - POOR CONDITION - structural capacity of element is affected or jeopardized by advanced deterioration, section loss, spalling, cracking, or other deficiency

3 - SERIOUS CONDITION - loss of section, deterioration, spalling, or scour have seriously affected primary structural components. Local failures are possible.

What is a Steel Press-Brake-Formed Tub Girder?

Iowa State University Definition:

A single steel plate of the desired thickness that is strategically bent into a structural shape. The plate is cold formed into a U shape with a press brake, with each bend occurring along the plate's longitudinal axis.



ADVANTAGES

- 100 Year Service Life
- AASHTO Approved Design
- AASHTO Approved Fabrication
- Simple Standard Details
- Easy Installation

2021 AASHTO Focus Technology



NATIONAL RECOGNITION WITH THE AASHTO INNOVATION INITIATIVE AWARD

- 2020 Press-Brake Tub Girders receive the “2020 Innovation Award” as a **ready-to-implement technology** that offers improved performance/effectiveness, and have been demonstrated in "real world" applications.
- 2021 Press-Brake Tub Girders become a 2021 AASHTO Focus Technology
- 2023 Press-Brake Tub Girders to be included in revisions to the 10th Edition of the AASHTO LRFD Bridge Design Specifications. The revisions apply to Specification Equation 6.11.2.2-3, allowing DOTs, Counties and other entities to utilize AASHTO design guidelines instead of rewriting specifications to include U-BEAMS

“This is great news for state and local Departments of Transportation that are looking for economical, sustainable and accelerated construction solutions for short span bridges, which make up over half of the U.S. bridge inventory.”

- Karl Barth, Ph.D., Associate Professor of Civil and Environmental Engineering at West Virginia University in a recent [SSSBA article](#) about the revisions

visit aii.transportation.org for more information

The Press-Brake-Formed Tub Girder and the SSSBA

- The “Press Brake Tub Girder” was developed by the SSSBA
- The term “Press Brake Tub Girder” was coined by the SSSBA
- The term “Press Brake Tub Girder” cannot be found in AASHTO
- “Press Brake Tub Girders” are AASHTO Box-Section Flexural Members
- “Press Brake Tub Girders” are Non-Proprietary

Press Brake Formed Tub Girder (PBFTG) Research Reports

- 10 Years of Development and Experimental Testing of Press Brake Tub Girders
- Published a 7 Volume Research Report
- <https://www.shortspansteelbridges.org/testing-of-press-brake-tub-girders/>

Education

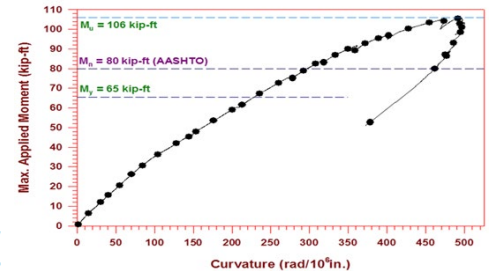
- Webinars
- Workshops
- Conferences

Technical Resources

- Standards
- Guidelines
- Best Practices

Case Studies

- Economics: Steel is Cost-Effective
- Innovative & ABC Design



The First Press-Brake-Formed Tub Girder Bridge Install

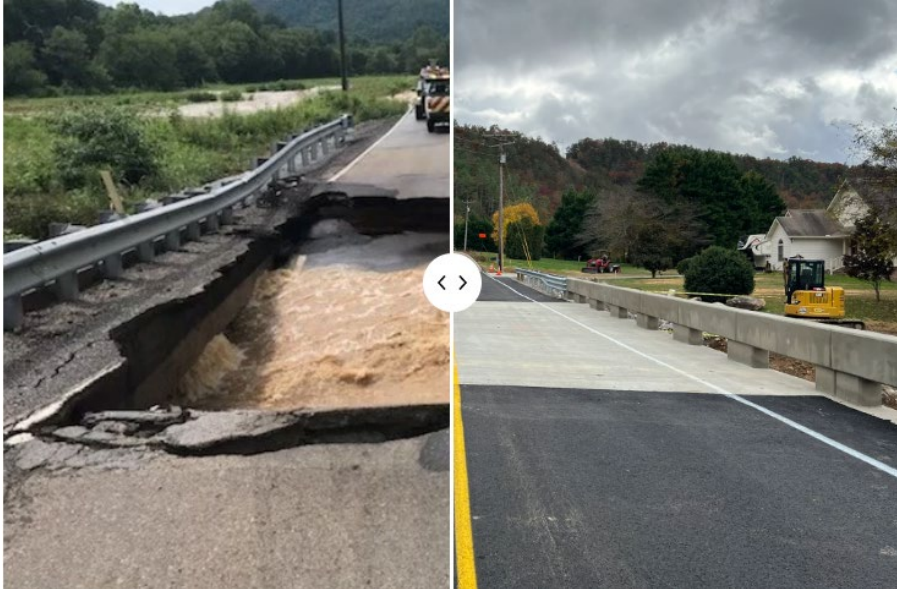
- Monroe County Road Commission, MI
- 2004 Install
- 40' Long x 34' Wide
- NBIS Bi-Annual Inspection
- No signs of deterioration of concrete driving surface or corrosion in steel girders



Current Condition (2019)

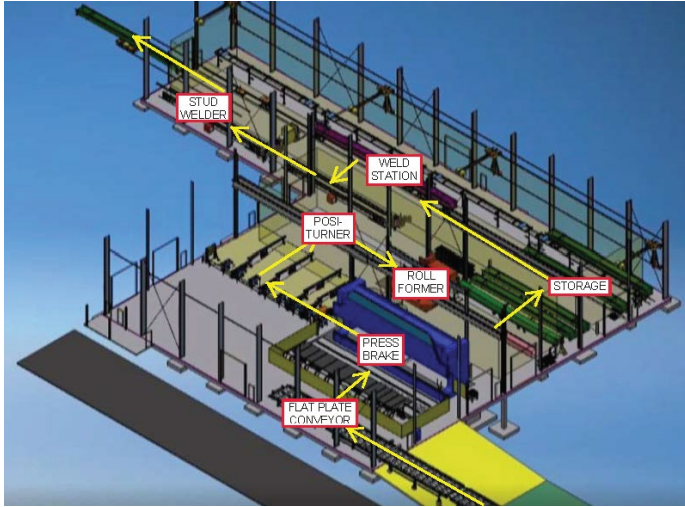
Expedited U-BEAM™ Bridge Installations

- TDOT Sevier County, TN Emergency Bridge Replacement
- TDOT purchased U-BEAMs direct from Valmont
- Beams supplied in 6 weeks
- Bridge opened in less than 3 months



Valmont U-BEAM™ Manufacturing Innovation

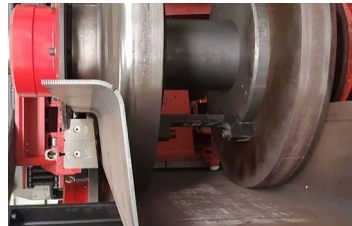
STATE OF THE ART PRESS BRAKE FABRICATION FACILITY



PURPOSE BUILT PRESS BRAKE TUB GIRDER FACILITY OPENED IN 2021



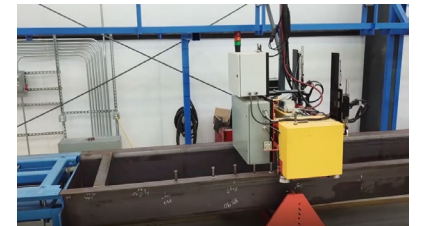
60' PRESS BRAKE



ROLL CAMBER PROCESS

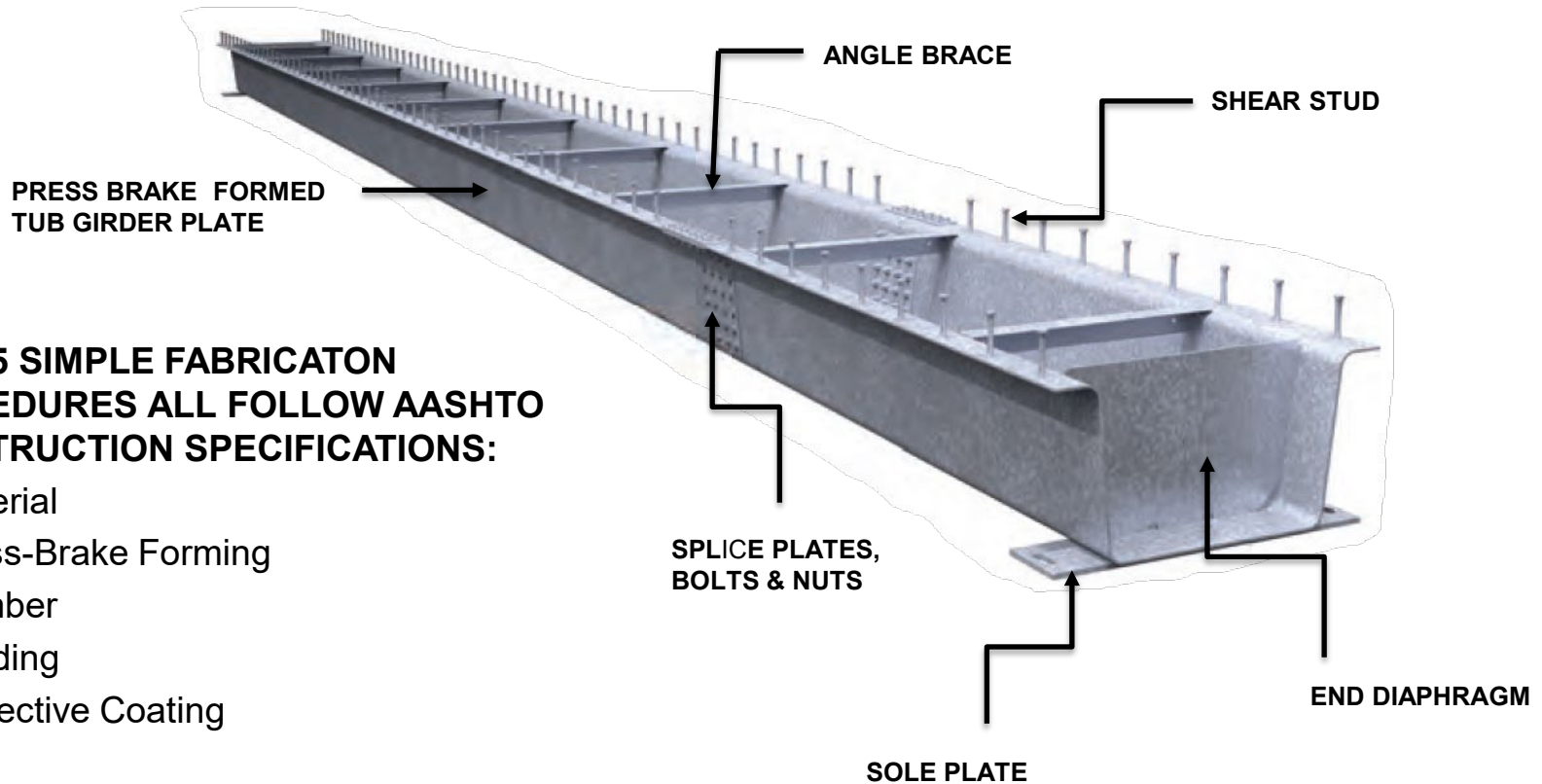


FINISH WELD STATION



AUTOMATED STUD WELDING

The Valmont U-BEAM™ (a press-brake-formed steel tub girder)



**ONLY 5 SIMPLE FABRICATON
PROCEDURES ALL FOLLOW AASHTO
CONSTRUCTION SPECIFICATIONS:**

1. Material
2. Press-Brake Forming
3. Camber
4. Welding
5. Protective Coating



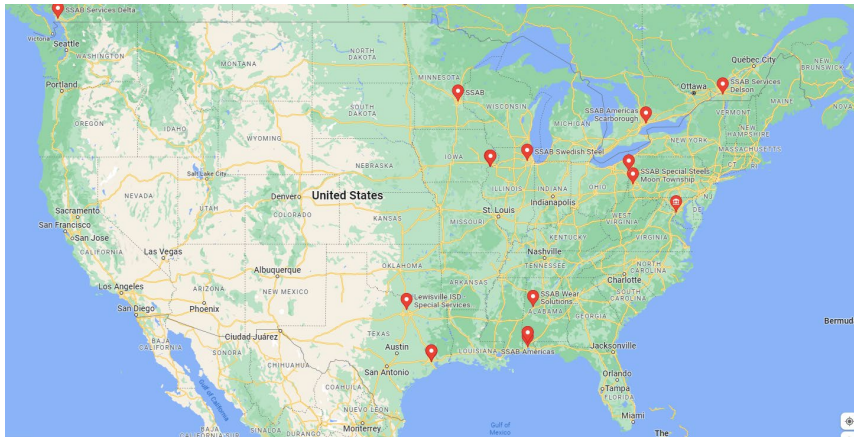
#1 AASHTO STEEL PLATE MATERIAL

AASHTO 11.3.1.2

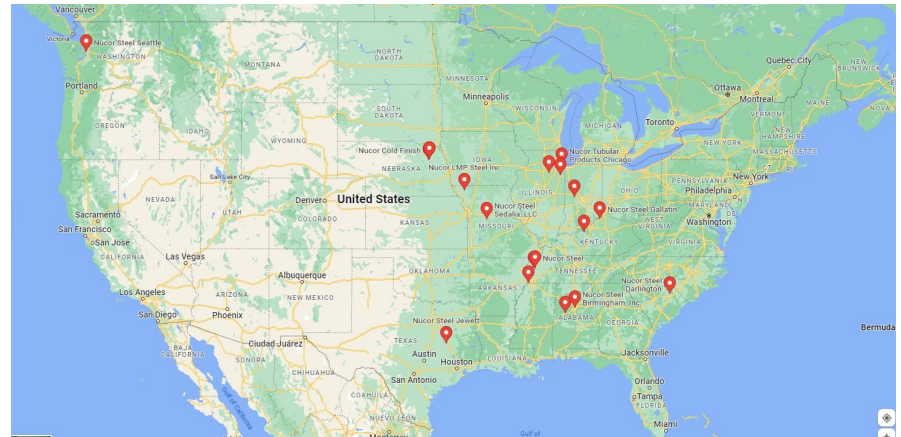
AASHTO M270. Made in the USA. Steel Plates and Structural Shapes shall conform to ASTM A709/A709M.

Where is M270 Steel Plate Made?

- In Americas Heartland!
- So why are Valmont's fabrication facilities strategically located in Omaha, NE and Jasper, TN?
 - Because Valmont purchases direct from the mills that produce it.



SSAB STEEL PLATE MILL FACILITIES



NUCOR STEEL PLATE MILL FACILITIES



#2 AASHTO FORMING

AASHTO 11.4.3.3 - Bent Plates
Fracture-critical and Non-fracture critical plates and bars shall be cold bent.

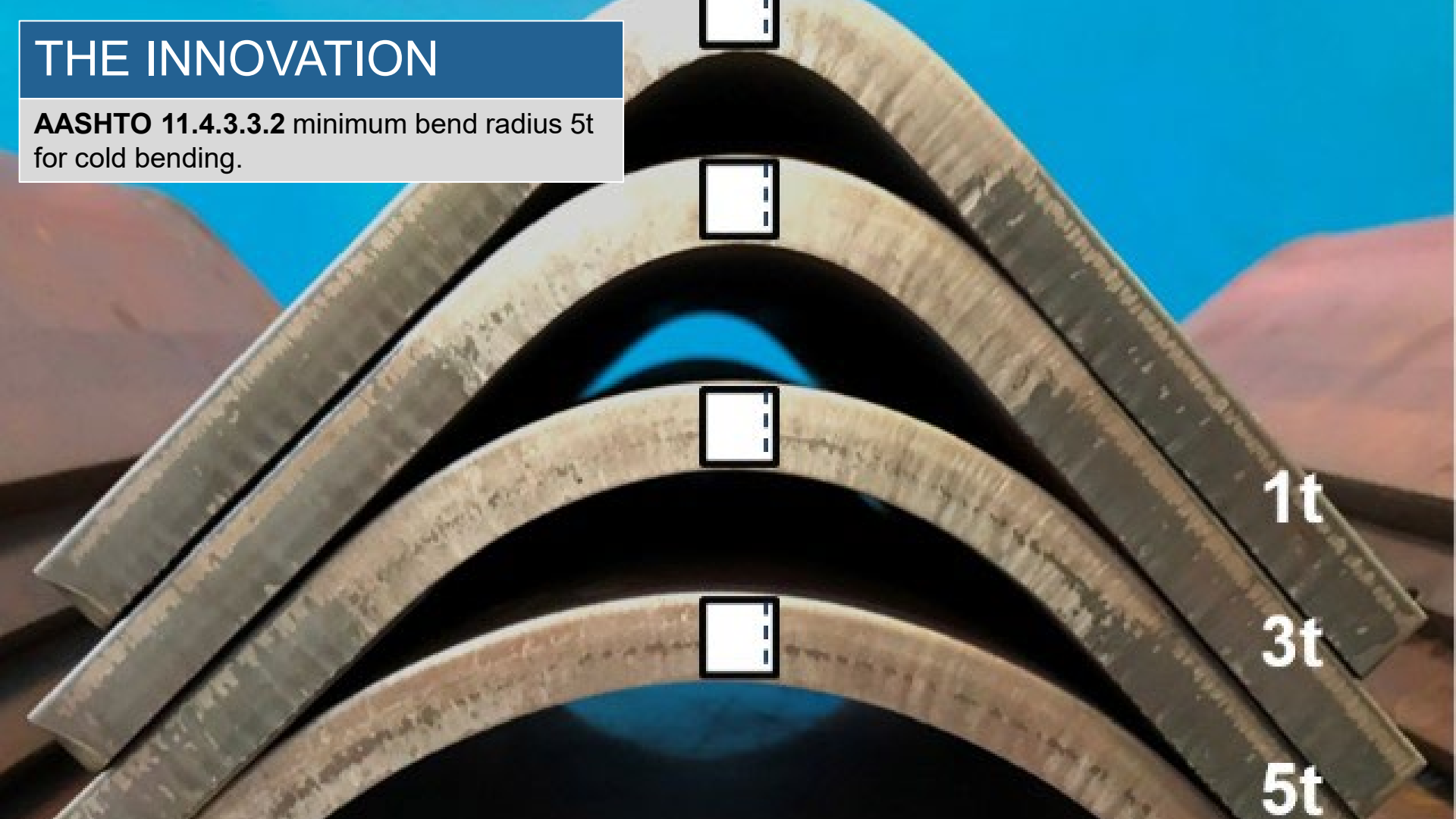
THE INNOVATION

AASHTO 11.4.3.3.2 minimum bend radius 5t for cold bending.

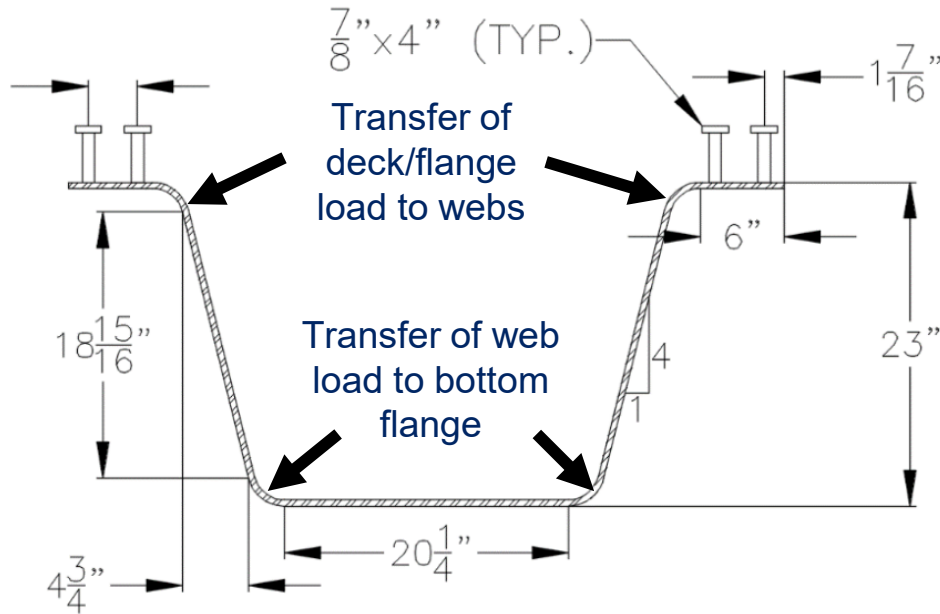
1t

3t

5t



Fatigue Testing of Composite PBFTG-Deck Module



The Press Brake Tub Girder exhibited no damage under fatigue testing simulating: 800 ADT, 15% Truck Traffic, 75 year service life, full AASHTO fatigue truck loading



#3 AASHTO CAMBERING

AASHTO 11.4.12.2.7

Cold cambering is a customary means of achieving camber...to avoid impact damage to the steel, is appropriate to introduce bending pressure in a controlled fashion.





#4 AASHTO WELDING AND SHEAR STUDS

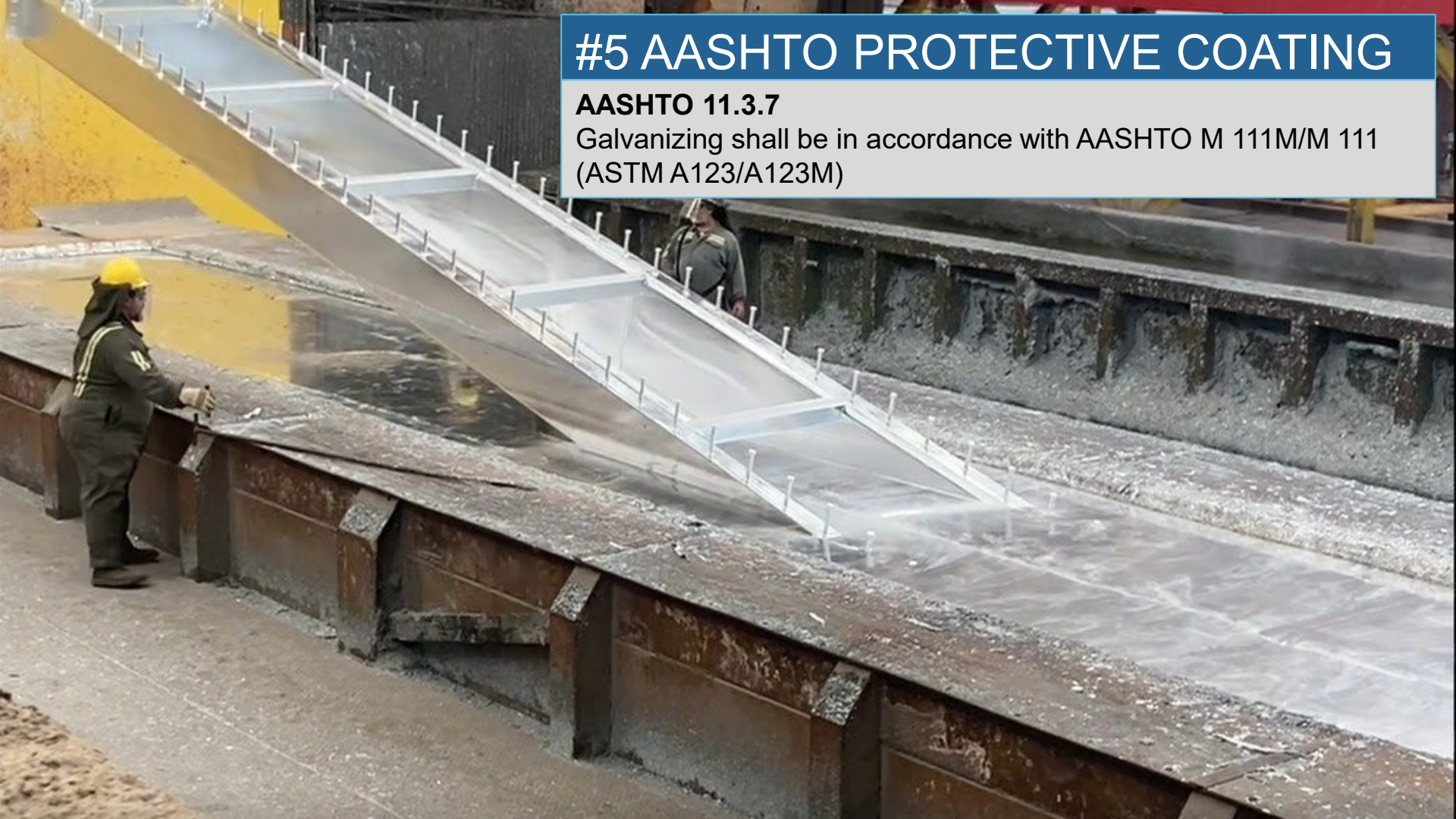
AASHTO 11.3.3

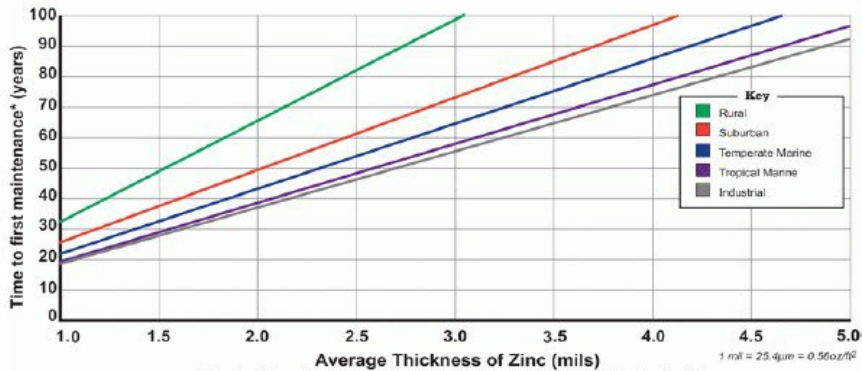
Certified Welders and welded stud shear connectors shall satisfy all requirements of the AASHTO/AWS D1.5M/D1.5 Bridge Welding Code related to material, manufacturing, physical properties, certification, and welding.

#5 AASHTO PROTECTIVE COATING

AASHTO 11.3.7

Galvanizing shall be in accordance with AASHTO M 111M/M 111 (ASTM A123/A123M)





*Time to first maintenance is defined as the time to 5% rusting of the steel surface.



Valmont Coatings has the Largest Galvanizing Capacity in North America

"If you can design it, Valmont Coatings can Galvanize It!"

- Length in excess of 94 feet
- Lifting Capacity of 100 Tons



eSPAN140

Complimentary Web-Based Design Tool provides customized steel solutions for bridges up to 140 feet.

www.eSpan140.com



Duplex System is formed by painting or powder-coating over hot-dip galvanized steel. This process not only enhances the aesthetic value of the bridge, but also increases the corrosion protection by 1.5-2.3 times the sum of the expected life of each system.



Believed to be the first fully hot-dip galvanized bridge in the U.S

Check out the video, Google AGA STEARNS BAYOU BRIDGE



Case Study:

Stearns Bayou Bridge

Ottawa County, MI United States

This is believed to be the first fully galvanized bridge in the United States. Galvanized and installed in 1966, this county bridge measures 420 ft. (128 m) long with a 30-foot clear roadway and a five-foot walkway along each side. All the steel was galvanized including the handrail, diaphragms, fasteners, shear connectors, and beams - some with 30-inch wide flanges, weighing between 99 and 108 pounds per foot. All steel used to erect the Stearns Bayou Bridge has no signs of rusting or staining, and is in excellent shape. The average mil thickness is 4.7 (160µm). Projected life expectancy to first maintenance is 106 years for the principal steel and 44 years for the handrail.



Details:

Year Galvanized
Sectors
Location
Environment

1966
Bridge & Highway
Ottawa County, MI United States
Rural

The majority of the steelwork is six feet above a fresh water river in a rural location. Traffic is light to moderate. The entire bridge is subject to winter salting.



At the 2016 inspection, all beams and diaphragms were in very good shape and showed no signs of rusting or staining. The average mil thickness was 4.7. All bolted connections looked good and showed no signs of rust. Bearing pads and expansion areas subject to salt and standing water had an average coating of 2.9 mils.

Projected life expectancy was 106 years for the principal steel.

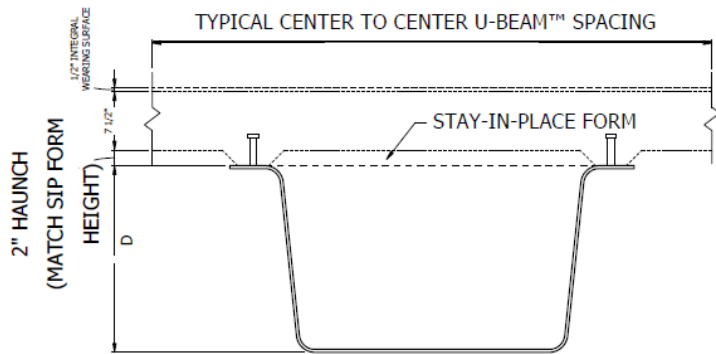
STEEL BEAMS MADE SIMPLE



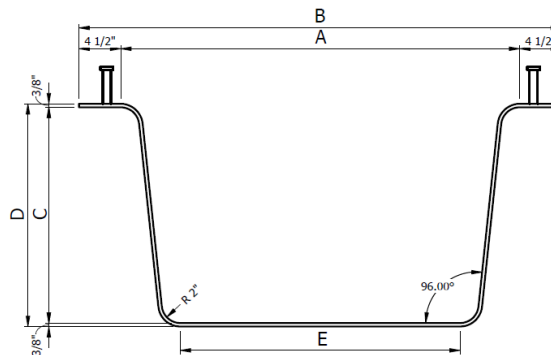
FINISHED U-BEAM™ PRODUCT

COMPONENT REVIEW

1. Material – M270 (ASTM A709)
2. Press Brake Forming - AASHTO 11.4.3.3
3. Camber - AASHTO 11.4.12.2.7
4. Welding – AASHTO AWS D1.5
5. Galvanizing – AASHTO M111 (ASTM A123)

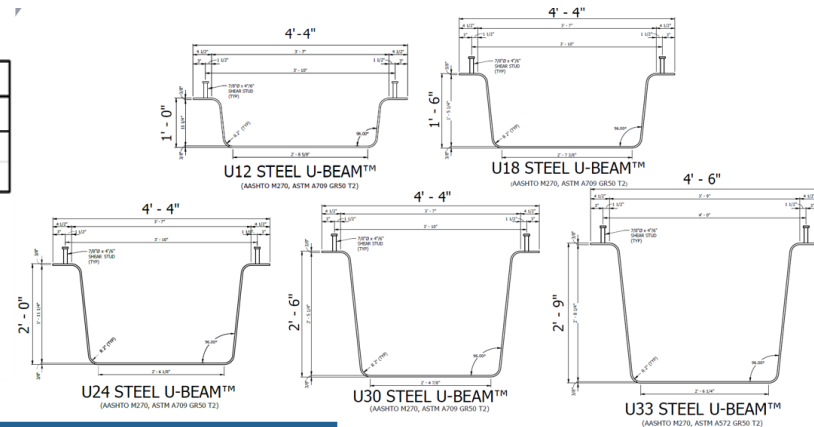


VALMONT® U-BEAM™ STANDARD COMPOSITE CROSS SECTION



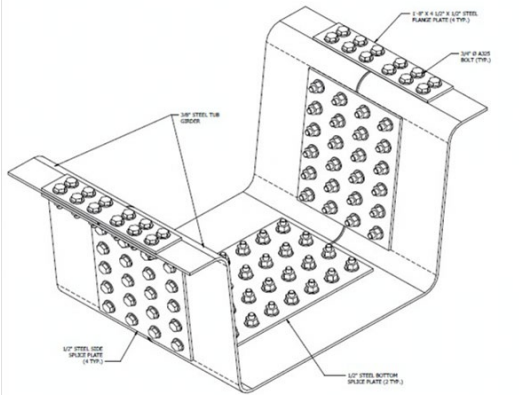
VALMONT® U-BEAM™ STANDARD CROSS SECTION

U-BEAM™ SPACING	BRIDGE LENGTH (ft)															
	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
4' - 6"	U12	U12	U12	U12	U12	U18	U18	U18	U24	U24	U24	U30	U30	U33	U33	S.D.
5' - 0"	U12	U12	U12	U12	U12	U18	U18	U18	U24	U24	U30	U30	U33	U33	S.D.	S.D.
5' - 6"	U12	U12	U12	U12	U18	U18	U18	U24	U24	U24	U30	U30	U33	U33	S.D.	
6' - 0"	U12	U12	U12	U12	U18	U18	U18	U24	U24	U30	U30	U30	U33	U33	S.D.	S.D.
6' - 6"	U12	U12	U12	U12	U18	U18	U18	U24	U24	U30	U30	U33	U33	S.D.		
7' - 0"	U12	U12	U12	U12	U18	U18	U24	U24	U24	U30	U30	U33	U33	S.D.	S.D.	
7' - 6"	U12	U12	U12	U12	U18	U18	U24	U24	U30	U30	U33	U33	S.D.	S.D.		
8' - 0"	U12	U12	U12	U18	U18	U18	U24	U24	U30	U30	U33	S.D.	S.D.			



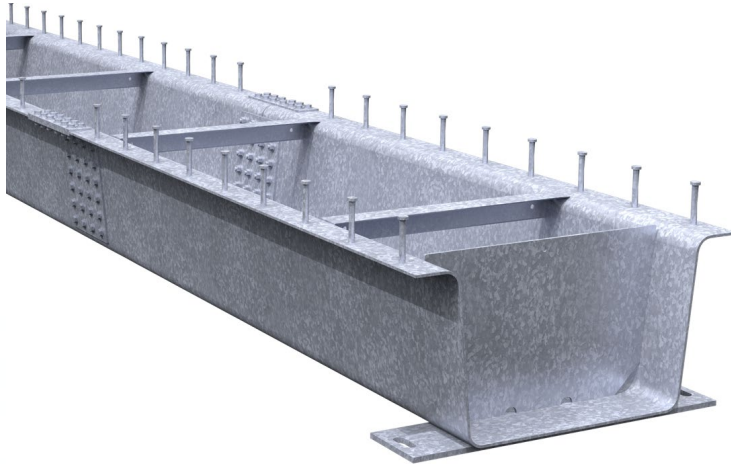
AASHTO DESIGN GUIDELINES

AASHTO LRFD Bridge Design Specifications 8th Edition (2017) Section 6.11.
Steel Structures. Box-Section Flexural Members



BOLTED SPLICE PLATE ASSEMBLY
(SHOWN FROM NORTH AND WEST VIEWS)

NOTE: COVERS ON STEEL ARE REQUIRED FOR SPALLS DEPTHS GREATER THAN 1 1/2 IN. SPLICE PLATE COVERS ARE DETAIL AS SHOWN AND WILL BE PROVIDED UNLESS OTHERWISE SPECIFIED.



Surface Condition	Definition	Ks (Slip Coefficient)
Class A	Unpainted clean mill scale	0.30
	Blast-cleaned surfaces with Class A coatings	
Class B	Unpainted blast-cleaned surfaces to SSPC-SP 6 or better	0.50
	Blast-cleaned surfaces with Class B coatings	
	Unsealed (pure Zn or 85/15 Zn/Al) thermal-sprayed coatings with a thickness ? 16 mils	
Class C	Hot-dip galvanized surfaces (roughening by wire brushing no longer required)	0.30
Class D	Blast-cleaned surfaces (including HDG) painted with organic zinc-rich coatings	0.45

AASHTO BOLTED SPLICE DESIGN

AASHTO LRFD Bridge Construction Specifications 4th Edition (2017) Section 11.5.5.3 Surface Conditions. Faying surfaces specified to be galvanized shall be hot-dip galvanized in accordance with AASHTO M111 (ASTM A123).

AASHTO LRFD Bridge Design Specifications 8th Edition (2017) Section 6.13.2.8 Slip Resistance. Class C Surface: hot-dip galvanized surfaces ($K_s=0.30$)

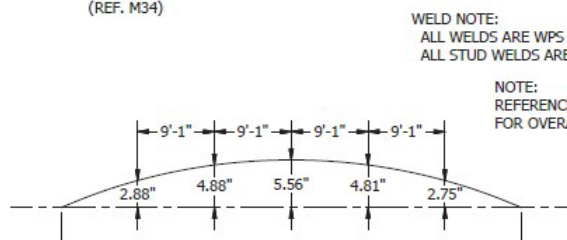
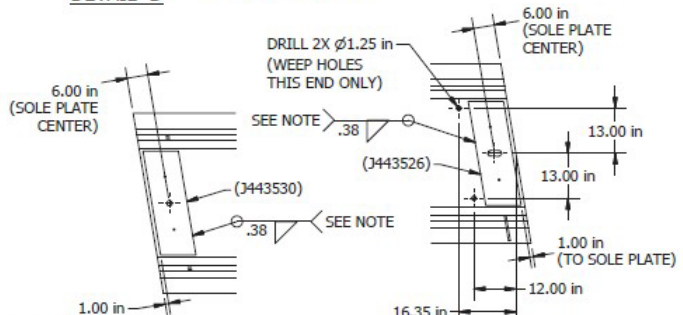
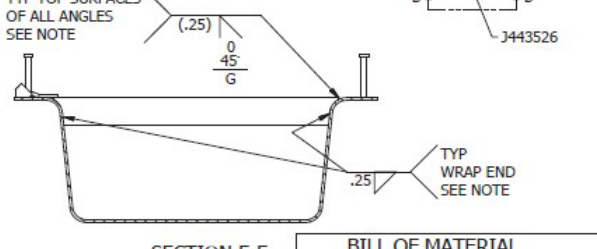
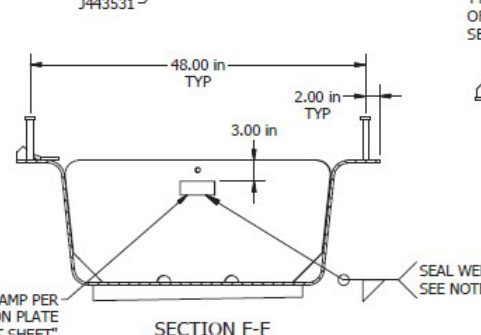
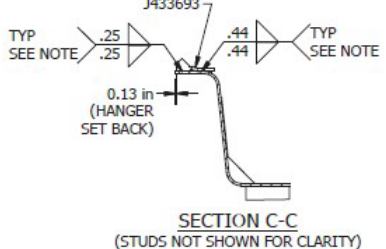
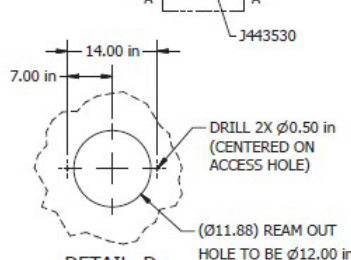
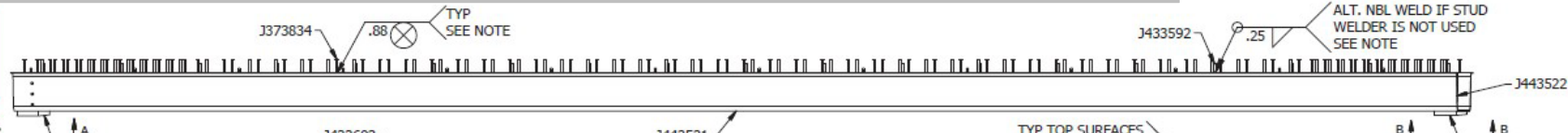
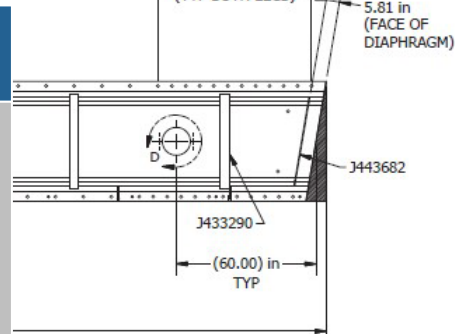
AASHTO SHOP DRAWING REQUIREMENTS

AASHTO 11.2.1 - Shop Drawings

Shop drawings are produced by Valmont and submitted to the Engineer for Approval.

AASHTO 11.2.3 - Camber Diagram

Camber is a critical element in steel bridge fabrication. A camber diagram shall be furnished to the Engineer by the fabricator.



WELD NOTE:
ALL WELDS ARE WPS W-FC-BRIDGE-ATTACHMENTS-01 EXCEPT ALL STUD WELDS ARE WPS W-SM-BRIDGE-STUD-01

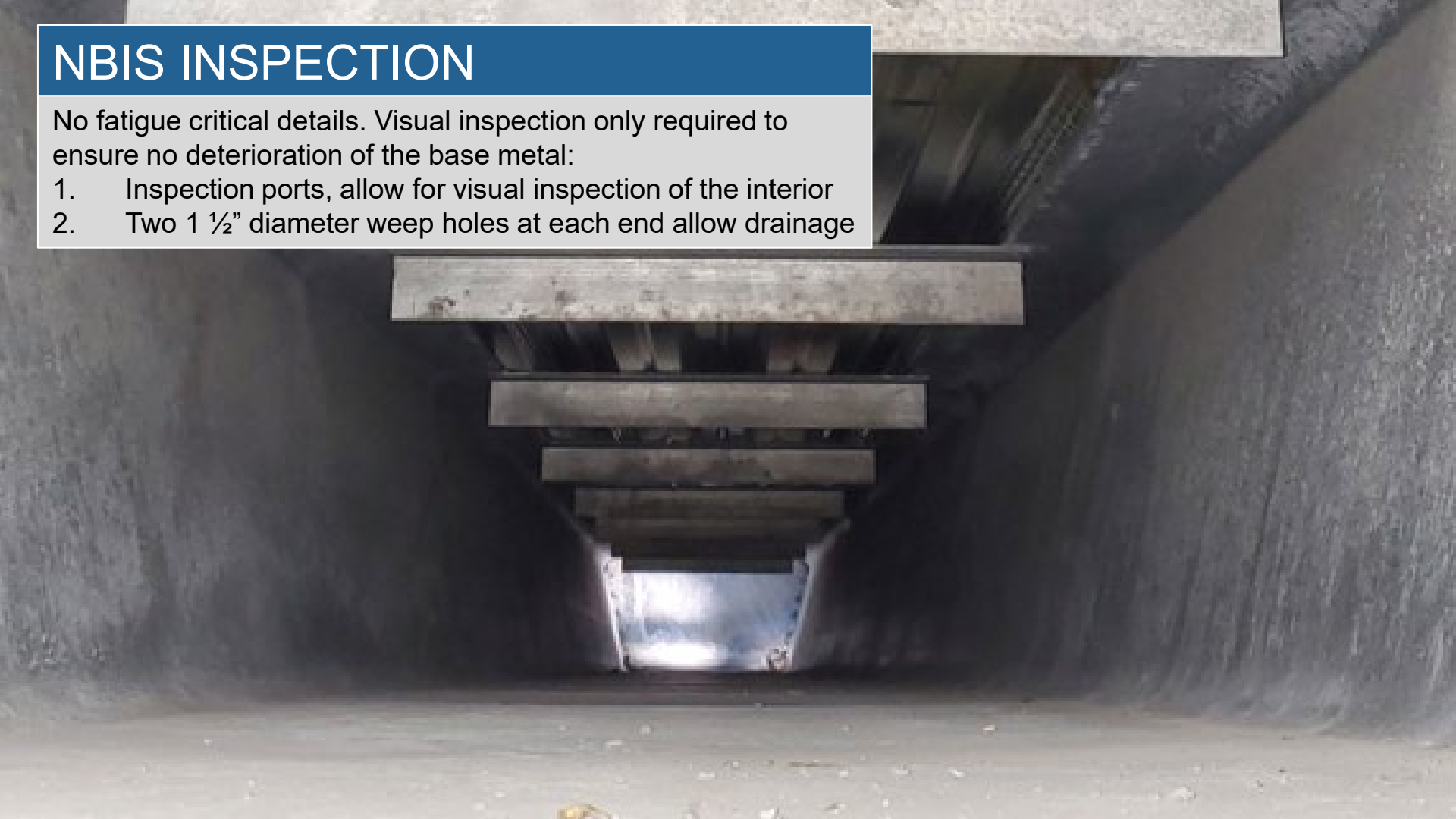
NOTE:
REFERENCE J443536 FRAMING PLAN DRAWING FOR OVERALL GIRDER ASSEMBLY.

BILL OF MATERIAL (SHIP CODE=0)		
VALMONT PART NO.	DESCRIPTION	QTY PER ASSY
J443531	U18 X 56.2FT GIRDER	1
J443530	FIXED SOLE PLT	1
J443526	EXPANSION SOLE PLT	1
J433289	40IN 4X4 ANGLE	8
J433290	40IN 4X4 ANGLE W/HOLES	2
J443682	U18 DIAPHRAGM PLT	2
2070063	ID TAG	1
J433592	7/8" X 4" NBL STUD	19
J433693	HALF HANGER	14
J373834	.88" X 6" STUD	134
J443522	U18 CONNECTION PLT	1

NBIS INSPECTION

No fatigue critical details. Visual inspection only required to ensure no deterioration of the base metal:

1. Inspection ports, allow for visual inspection of the interior
2. Two 1 ½" diameter weep holes at each end allow drainage



Valmont U-BEAM™ Inspection

- NBIS inspection requirements for U-BEAMs are limited to section loss due to corrosion
- Visual observation of the interior U-BEAM elements through openings at each end
- Visual inspection should look for chalky white staining or zinc oxide build-up on the surface
- **Base metal thickness and coating thickness can both be measured from the outside with an electromagnetic gauge per ASTM E376.**

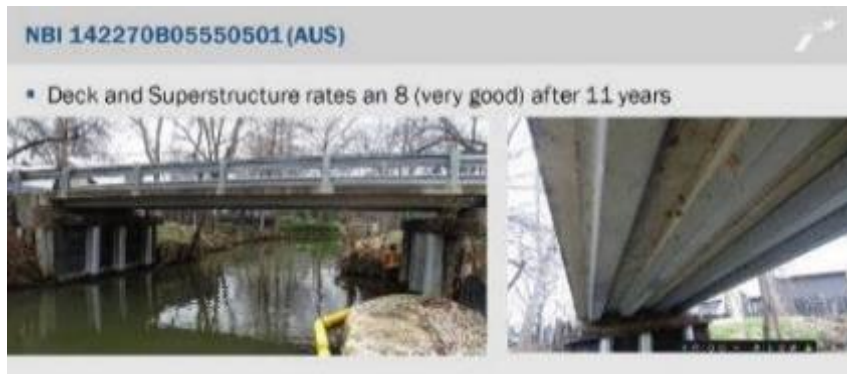


Example TxDOT NBIS Inspection

TxDOT Bi-Annual Inspections:

Owner: City of Austin

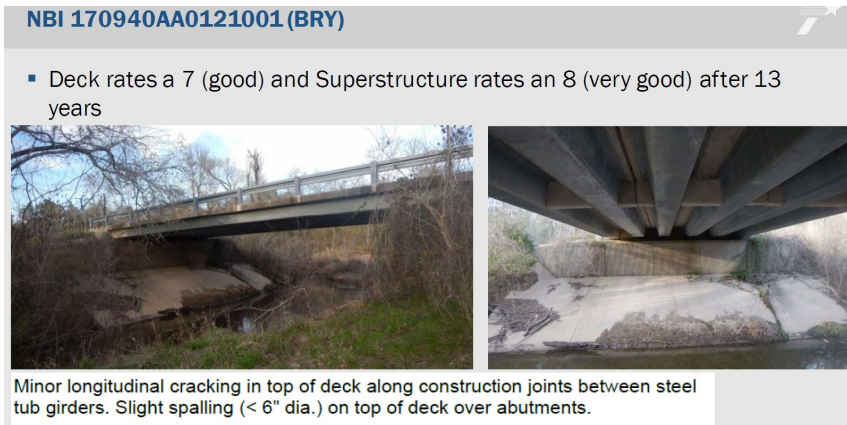
- Installed 2011
- Superstructure Rating Very Good



Channel Road Bridge,
Austin TX

Owner: Grimes County

- Installed 2007
- Superstructure Rating Very Good



Grimes County Bridge,
Houston, TX

Reference: TxDOT Design Updates Presentation
11/22/21 Michael Hyzak, P.E. Bridge Division

2021 MDOT BRIDGE BUNDLING



What are the Advantages of Bridge Bundling?



For nearly all agencies, increased efficiency is the primary reason for bundling bridges – increased efficiency in

- planning,
- project management,
- design,
- procurement,
- and construction.

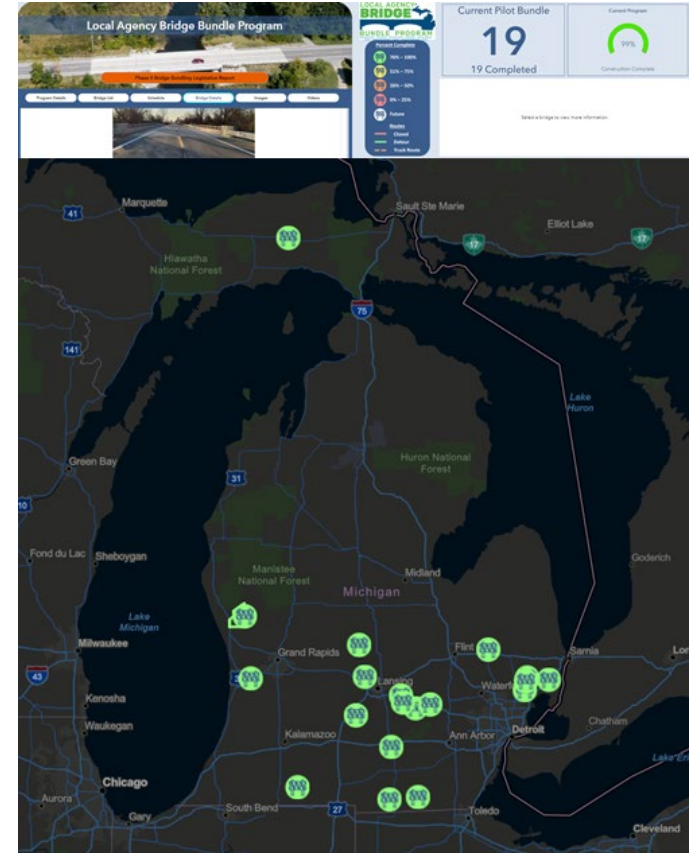
SUMMARY OF BRIDGE BUNDLING BENEFITS

- Achieve national performance goals.
- Address asset management plan objectives.
- Maintain or improve bridge condition.
- Save costs (economies of scale).
- Coordinate NEPA approval.
- Expedite project delivery.
- Start construction earlier.
- Coordinate construction staging.
- Reduce burden on agency staff.
- Use project delivery and procurement innovation.
- Apply technical/engineering innovation.
- Capitalize on funding and finance innovation.
- Benefit from local partnering–shared services.
- Increase construction workforce opportunities.
- Increase opportunities for small and disadvantaged businesses.

2021 MDOT 19 Bridges Design-Build Bundle Project

Project timeline:

- 12/13/19 MDOT Pilot Announcement
- 08/20/20 5 Contractor Teams Shortlisted
- 11/19/20 MDOT Design-Build Request for Proposal
- 12/04/20 VALMONT Provided U-BEAM™ Priced Solutions to All Shortlisted Contractors
- 02/19/21 CA HULL Named Low Bidder for Project
 - Engineers Estimate \$23,785,860
 - Low Bidder \$24,262,230
- 03/12/21 CA HULL Provided Valmont Letter of Intent
- 08/11/21 Received Preliminary Designs
- 12/21/21 Started Fabrication
- 11/01/23 Contract Planned Completion Date



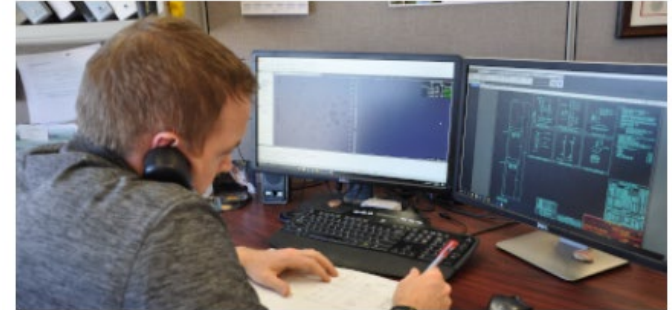
U-BEAM™ ADVANTAGES – DEPLOY INNOVATION

Valmont Engineered Support Services

Valmont provided all 5 shortlisted teams with specific design solutions and prices for each of the 19 bridges. Including:

- Most Economical U-BEAM™ Solution
- Construction Accessories (bearing pads, metal deck, forming hardware)
- Stamped Design and Shop Drawings
- Stamped Load Rating

Smart Infrastructure



From Concept to Reality

At Valmont® Structures, we've been turning concepts into reality for decades. We've learned firsthand that the ability to move a concept to reality starts with experience. At Valmont, we have over 100 engineers on staff around the world. Their collective global experience enables us to create unique structures while also meeting specific architectural requirements and municipal codes. But our experience doesn't end there. Instead it extends with the knowledge that is gained working across a wide array of solutions that include lighting, traffic, mass transit, signage, communications structures and [even foundation design](#).

U-BEAM™ ADVANTAGES – SAVE TIME

Reduced Construction Schedule By 1 Year!

Valmont provided all 157 U-BEAMS in an 8 month construction season:

- Secured ALL 500 Tons Of Material For Project By 3/12/21
- 3rd Party Inspection At Valmont Jasper Facility
- Hot Dip Galvazning At Valmont Birmingham Facility



VALMONT FABRICATION AND COATINGS CAPABILITIES



Valmont Structures



LIGHTING

- Area Lighting Poles
- Street Lighting Poles
- Decorative Lighting Poles and Lamp Posts
- Small Cell
- High-Mast Lighting Poles
- Sports and Stadium
- Camera Poles and Security Structures
- Vibration Mitigation



TRANSPORTATION

- Traffic Structures
- Mass Transit Structures
- Sign Structures
- Vibration Damping
- Electric Bus Charging Infrastructure
- Bridge Systems



TELECOMMUNICATIONS

- Self-Supporting Towers
- Guyed Towers
- Concealment
- Portable Base Towers
- Monopoles
- Passive Repeaters
- Small Cell
- Wireless Accessories



ARCHITECTURE

- Aesthetics
- Sun Shading
- Transportation and Safety
- Parking Garages
- Façade Systems
- Façade Accessories

U-BEAM™ ADVANTAGES – EFFICIENT PRODUCTION

Valmont State of the Art Fabrication Facility

New plant opened August 2020:

- AISC and MDOT Certification
- Designed for Manufacturing Efficiency and Sustainability
- Cut Production Time by 70%
- Capabilities include:
 - 2000 Ton 60' Press Brake
 - Roll form camber capabilities
 - Automated stud welding
 - Safe and efficient material handling



PURPOSE BUILT PRESS BRAKE TUB GIRDER FACILITY



U-BEAM™ ADVANTAGES – ECONOMY OF SCALE

Efficient Freight, Easy Handling

Utilized regional carries on standard trailers:

- Deliver As Many As 6 U-BEAMS In A Single Load
- Unload With Light Equipment (Rubber Mounted)
- Easy Job Site Storage (Smaller Footprint)
- Easy Accessibility to Job Site (Important in Rural Locations)



U-BEAM™ ADVANTAGES – CONSTRUCTION COSTS

Simple Rigging, Smaller Equipment

Installation made easy:

- Nylon Slings with Basket Rigging
- Extended Reach Of Equipment (Eliminated Use of Barges)
- Use Of Smaller Equipment (Some Sites Only Need An Excavator)
- Easy Accessibility to Job Site (Important in Rural Locations)



U-BEAM™ ADVANTAGES – CONSTRUCTION COSTS

Less Field Work, Less Exposure to Hazardous Conditions

Forming made easy:

- No External Intermediate Diaphragms
- Concrete Forming Directly Atop Top Flanges (No Welding)
- Constant Haunch (No Survey Prior to Installation)
- Pre-Installed Formwork Hardware (Half-Hangers and Screed Studs)
- Easily, Safely Install Fascia Brackets On The Ground



U-BEAM™ ADVANTAGES – REDUCE COSTS

497 Tons of Steel Were Purchased 6 Months Before Fabrication Started

Tub girder priced at \$2.11 per pound (2021 Dollars)

- All Plate Purchased by 3/12/21
- Price Included Fully Fabricated And Galvanized U-BEAMS
- Delivered With Field Splice Material

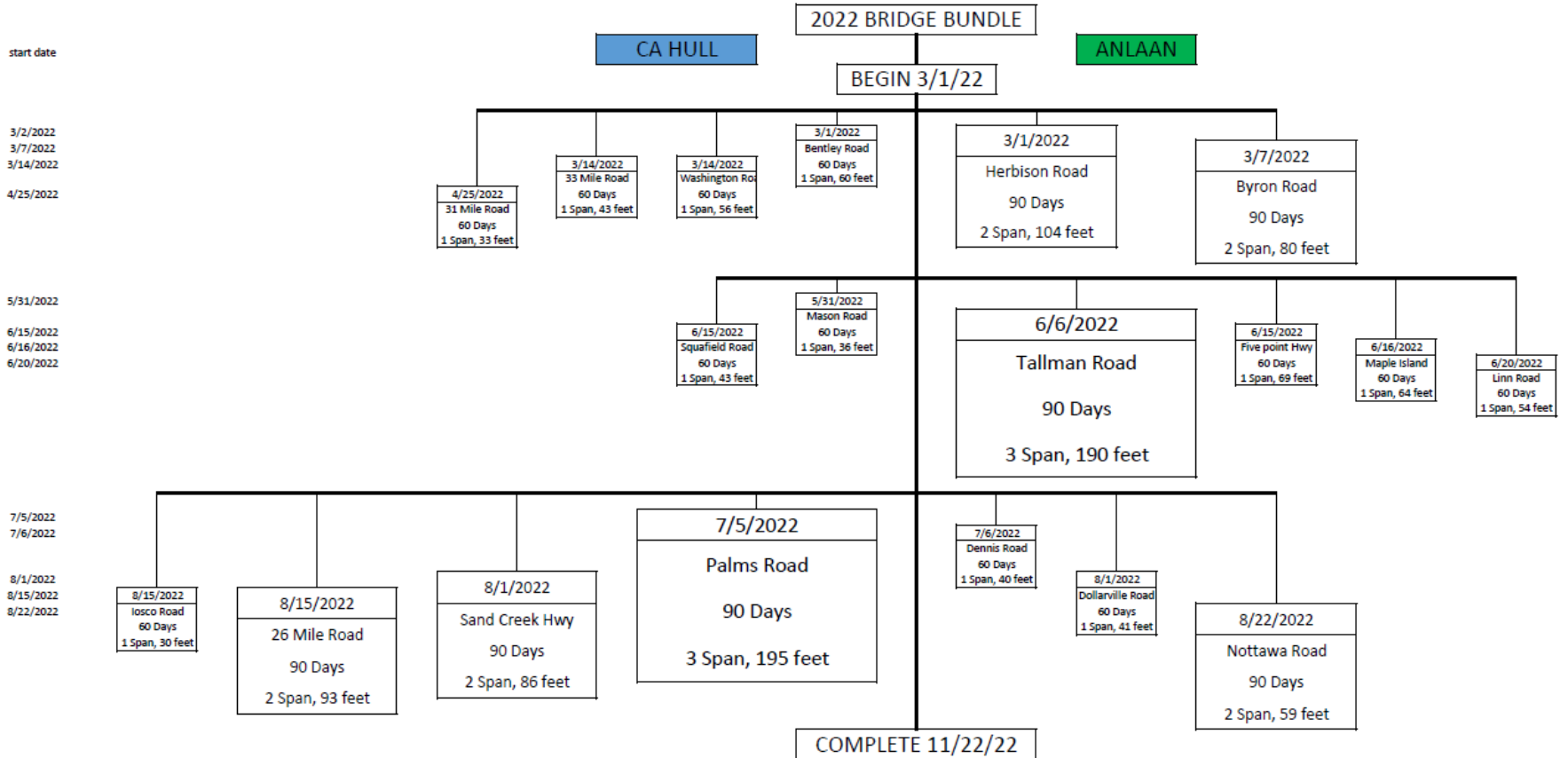
U-BEAM™ 2021 BRIDGE BUNDLE PRICING		
Price Per Pound \$2.11 \$/lbs (2021 Dollars)		
(fully fabricated, galvanized and delivered)		
U-BEAM™ Designation	Pounds per Foot (fully fabricated and galvanized)	Price per Foot (fully fabricated and galvanized)
U12	106 #/ft	\$224 \$/ft
U18	117 #/ft	\$247 \$/ft
U24	134 #/ft	\$283 \$/ft

Price does not include bearing pads, anchor bolts, or metal deck forms

Price does not include Engineering fee for non-standard shapes



MDOT Bridge Bundling Construction Schedule

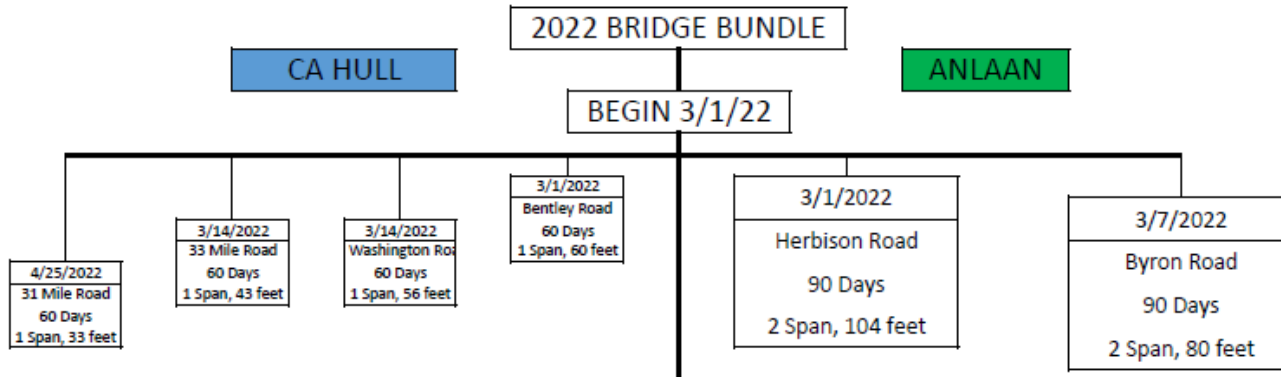


MDOT Bridge Bundling –Spring Bridges

PHASE 1 – SPRING - March 1st through May 29th

First 6 Bridges:

- Anlaan started with 2 multiple span bridges with 90 day closures
- CA Hull chose 4 single span bridges with 60 day closures and a staggered start date
- All spring bridges were opened to traffic on time



Bridge Bundle - Bentley Street

5483: Bentley Street over Farmers Creek

CA HULL

Lapeer County
Superstructure Replacement and Widening

Span	Single
Length	60'-0"
Beams	27" prestressed concrete box
Utilities	<ul style="list-style-type: none"> A sanitary sewer pipe runs through both abutments and is suspended from the underside of the bridge The pipe connection near the north abutment is missing several bolts
Trees	No
Other Issues	<ul style="list-style-type: none"> Cramton Park is located in the northwest and southwest quadrants Automotive shop is located in the northeast quadrant The closest residence is in the southeast quadrant within 30' of reference line B Dupont Lapeer Airport is about 2.5 mile away from the project site



TYME, Bridge Scoping Report



Google Earth



Underside Southeast Quadrant



Sanitary Sewer at North Abutment



Drainage Culvert and Sanitary Sewer at South Abutment



Signs and Utilities in Northwest Quadrant



Bridge Bundle – Herbison Road

2020: Herbison Road over Looking Glass River

ANLAAN

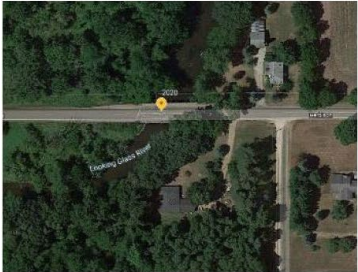


HNTB, Bridge Scoping Report

Clinton County

Superstructure Replacement and Substructure Patching

Span	Two
Length	104'-0"
Beams	27" prestressed concrete box
Utilities	<ul style="list-style-type: none"> Buried gas pipeline in the southeast quadrant Overhead power and phone lines across river near north ROW line
Trees	Yes
Other Issues	<ul style="list-style-type: none"> Wacousta Elementary School located 0.4 mile away to the South of the bridge Driveway to residential properties located around 30 feet to the North of the bridge



Google Earth



West Approach



NE Quadrant



SE Quadrant



Span 2 Underside Typical

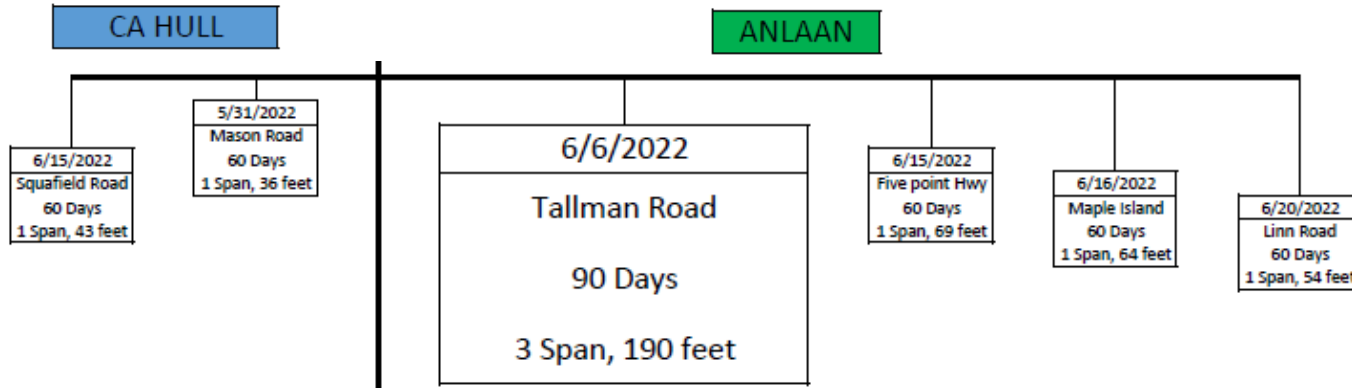


MDOT Bridge Bundling – Summer Bridges

PHASE 2 – SUMMER – May 31st through August 26th

Next 6 Bridges:

- Anlaan elected to start one of the largest bridges (Tallman Road) in June and concurrently 3 smaller bridge
- CA Hull chose to start only 2 single span bridges with 60 day closures at this time
- All summer bridges were opened to traffic on time



Bridge Bundle – Tallman Road

1915: Tallman Road over the Maple River

ANLAAN

Clinton County
Superstructure Replacement with Widening

Span	Three
Length	190'-11"
Beams	27" prestressed concrete box
Utilities	<ul style="list-style-type: none"> Overhead electrical line approximately 25' east of the bridge
Trees	Yes
Other Issues	<ul style="list-style-type: none"> Driveway to residential properties located around 0.11 mile south to the bridge



HNTB, Bridge Scoping Report



Google Earth



NE Quadrant



NW Quadrant



SW Quadrant



SE Quadrant



Bridge Bundle – Maple Island

7660 : Maple Island Road over Brooks Creek

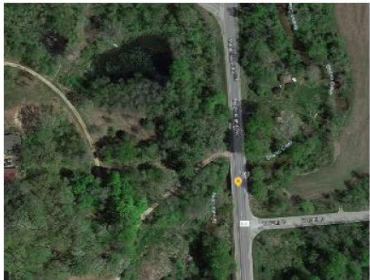
ANLAAN

Muskegon County
Superstructure Replacement and Substructure Patching

Span	Single
Length	64'-0"
Beams	27" prestressed concrete box
Utilities	<ul style="list-style-type: none">• Overhead wires on the East and West sides of the bridge and overhead wires crossing over the North reference line
Trees	Yes
Other Issues	<ul style="list-style-type: none">• Residential properties near the bridge• Not enough rerouting options with this bridge



HNTB, Bridge Scoping Report



Google Earth



South Approach



North Approach



Phone Lines 20' East of Bridge



Intersection South of Bridge

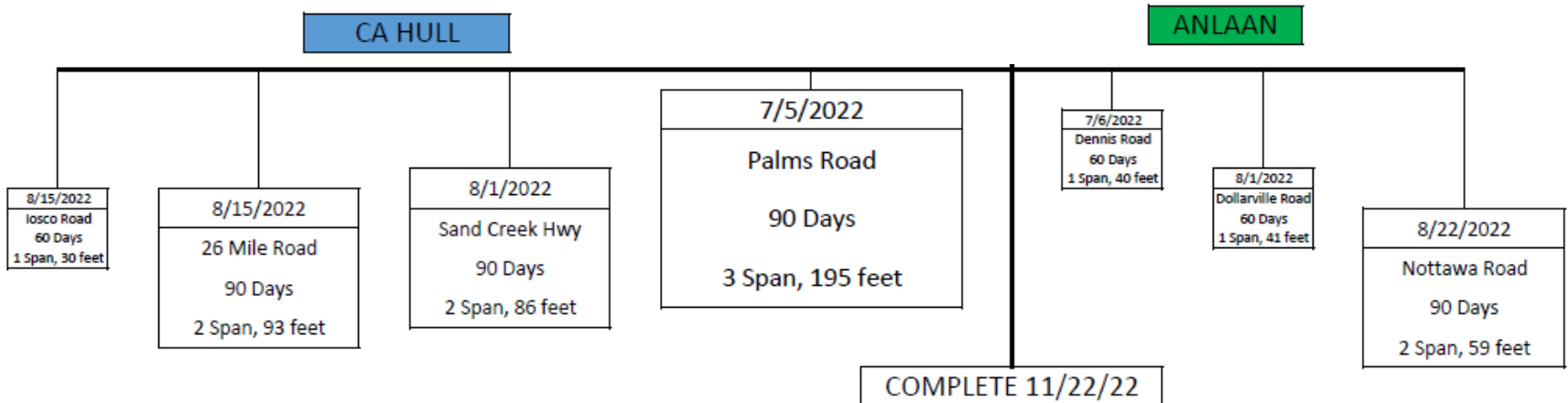


MDOT Bridge Bundling – Fall Bridges

PHASE 3 – FALL – July 5th through November 22nd

Final 7 Bridges:

- Anlaan finished their work with 3 staggered start bridges, including a late start on a 2 span bridge (Nottawa Road)
- CA Hull started early on their largest 3 span bridge (Palms Road) and need to complete two 2 span bridges and a single span bridge prior to the November 25th end of construction season.
- All Fall bridges were opened to traffic on time.



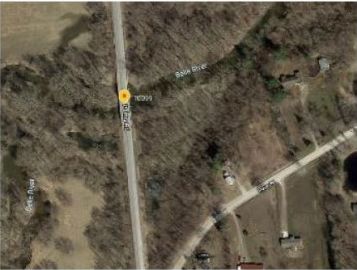
Bridge Bundle – Palms Road

10099 : Palms Road over Belle River

CA HULL



HNTB, Bridge Scoping Report



Google Earth

St. Clair County
Superstructure Replacement and Substructure Patching

Span	Three
Length	195'-1"
Beams	27" prestressed concrete box
Utilities	• Utilities in the east side of the bridge
Trees	Yes
Other Issues	-



SW Corner of Deck



SE Guardrail and Overhead Utilities



NW Guardrail



NE Corner of Deck



Bridge Bundle – Nottowa Road

10316 : Nottowa Road over Prairie River

ANLAAN



HNTB, Bridge Scoping Report

St. Joseph County

Superstructure Replacement and Substructure Patching

Span	Two
Length	104'-0"
Beams	17" prestressed concrete box
Utilities	<ul style="list-style-type: none"> • Utility conduit fastened to the West fascia • Overhead electrical along the West side of the bridge
Trees	No
Other Issues	<ul style="list-style-type: none"> • Residential driveway in the southeast quadrant • Public boat launch and parking lot located in the S • Pier in poor condition



Google Earth



South Approach



North Approach



MW Quadrant with Electrical 20' West



SW Quadrant with Boat Launch

2021 MDOT 19 Bridges Bundle Project Completed

Project References: Completed November 23, 2022



Bridge Bundling Pilot Project
Schedule
November 23, 2022

STRUCTURES OPENED TO TRAFFIC

PACKAGE	STRUCTURE NO.	ROAD NAME	COUNTY LOCATION	SCHEDULED START	OPENED TO TRAFFIC DATE	ALLOWABLE CONTRACT DURATION
1	4539	E. WASHINGTON STREET	Jackson	3/14/2022	5/12/2022	60
1	5483	BENTLEY STREET	Lapeer	3/1/2022	4/29/2022	60
2A	6287	33 MILE ROAD	Macomb	3/14/2022	5/12/2022	60
1	2020	HERBISON ROAD	Clinton	3/1/2022	5/30/2022	90
1	8810	BYRON ROAD	Ottawa	3/7/2022	6/3/2022	90
2A	6381	31 MILE ROAD	Macomb	4/25/2022	6/10/2022	60
2B	5816	MASON ROAD	Livingston	5/31/2022	7/28/2022	60
2B	2340	FIVE POINT HIGHWAY	Eaton	6/15/2022	8/13/2022	60
2B	7660	MAPLE ISLAND ROAD	Muskegon	6/16/2022	8/15/2022	60
2C	3295	SQUAWFIELD ROAD	Hillsdale	6/15/2022	8/12/2022	60
2A	3887	LINN ROAD	Ingham	6/21/2022	8/19/2022	60
2B	3919	DENNIS ROAD	Ingham	7/5/2022	8/26/2022	60
1	1915	TALLMAN ROAD	Clinton	6/6/2022	9/2/2022	90
2A	10099	PALMS ROAD	St. Clair	7/5/2022	9/28/2022	90
2C	5918	DOLLARVILLE ROAD	Luce	8/8/2022	10/6/2022	60
2B	5812	IOSCO ROAD	Livingston	8/15/2022	10/10/2022	60
2C	5585	SAND CREEK HIGHWAY	Lenawee	8/1/2022	10/26/2022	90
2A	6216	26 MILE ROAD	Macomb	8/15/2022	11/2/2022	90
2C	10316	NOTTAWA ROAD	St. Joseph	8/22/2022	11/22/2022	90



MDOT Calls Pilot Bridge Bundling Project “A Success”

Michigan’s bridge bundling project a ‘major success’ - 19 bridges reopened to normal traffic



Published: Nov. 23, 2022 at 4:25 PM EST
LANSING, Mich. (WILX) - The Michigan Department of

Transportation’s bridge bundling pilot project was completed Tuesday. Original story: Michigan tests bundling bridge projects together to increase efficiency

The program wrapped up as the Nottawa Road bridge in St. Joseph County reopened to traffic Tuesday. It had been under construction since August. Officials said the bridge over the Prairie River was built in 1963 and was in serious need of repairs.

The initiative to bundle bridge projects together was done as a means to make construction more time and cost-efficient. When the program was announced in February, MDOT said the project could streamline nearly every aspect of improving bridge conditions. The bridge bundling pilot project - which started in March - repaired 19 bridges across the state that were in need of repairs.

MDOT announced Wednesday all 19 bridges have been completed and reopened to traffic. The department called the pilot program a “major success.”

(MDOT)

By [Dane Kelly](#)

Published: Nov. 23, 2022 at 4:25 PM EST



LANSING, Mich. (WILX) - The Michigan Department of Transportation’s bridge bundling pilot project was completed Tuesday.

Original story: [Michigan tests bundling bridge projects together to increase efficiency](#)

2023 MDOT Phase II Bridges Bundle Project

Dozens of Michigan bridges will be replaced, removed, repaired



Kristi Tanner
Detroit Free Press

Published 6:05 a.m. ET April 6, 2022 | Updated 8:07 a.m. ET April 11, 2022

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A school bus and other vehicles cross over the Miller Road Bridge in Dearborn with part of the Ford Motor Company Dearborn Truck Plant in the background on Thursday, April 2, 2019. *Eric Seals, Detroit Free Press*

Nineteen Michigan bridges are being fixed this year as part of a [state transportation department bridge bundling program](#) intended to save money and improve locally owned structures.

An additional 59 candidates for repair, replacement or removal were publicly released this week — putting the total number of projects at 78 between now and the end of the 2024 construction season.

Whitmer Announces Phase II of Bridge Repair Program to Fix 59 Bridges

April 06, 2022

FOR IMMEDIATE RELEASE

April 6, 2022

Contact: Press@michigan.gov

Gov. Whitmer Announces Phase II of Bridge Repair Program to Fix 59 Bridges

Phase II will streamline and bundle 59 bridge projects to make them more cost-effective and save taxpayer money

LANSING, Mich. -- Governor Gretchen Whitmer today announced that major repairs on local bridges continue this month as the Michigan Department of Transportation's (MDOT) bridge bundling project moves forward. The bridge bundling program is possible due to \$196 million in funding signed into law by Governor Whitmer, which will allow the state to execute Phase II of the program, beginning later this year on 59 bridges. Five bridge bundling projects started in March as part of a pilot program to repair 19 bridges under Phase I. The five projects currently range from 38 to 77 percent complete. All of the bridges encompassed by the pilot program will be completed and reopened to traffic within 60 or 90 days from the start of repairs.

Executive Office of the Governor

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