Welcome to
North Dakota
LEGENDARY
SORLIE
MEMORIAL BRIDGE
A.D. 1929
ARTHUR GUSTAV SORLIE
APRIL 26, 1874 AUGUST 28, 1928
GOVERNOR OF NORTH DAKOTA AND
CHAIRMAN OF THE STATE HIGHWAY
COMMISSION FROM JANUARY 1925 UNTIL
HIS DEATH. RESIDENT OF GRAND FORKS
SINCE 1903. MEMBER OF THE CITY
COUNCIL FROM 1909 TO 1914.
A TRUE FRIEND OF
BETTER ROADS AND BRIDGES
NDDOT
North Dakota
Department of Transportation

History of Sorlie Bridge

- Year Built: 1929
- Bridge Type: Parker Through Truss
- Length: 604 Feet
- Construction Cost: $320,000
- Location: Bridge connects downtown Grand Forks, ND with East Grand Forks, MN
- Placed on the National Register of Historic Places in 1999.

HISTORY OF SORLIE BRIDGE

North Dakota Highway Department engineer, Clifford Johnson, had to come up with a design to overcome the instability of soils on the Red River. A bold and unique design was created which included a center pier with a steel through truss on either side, roller bearings for the trusses, and telescoping joints in the floor and at each end of the bridge. The roller bearings allow for the bridge abutments to move with the unstable river bank soils.

HISTORY OF SORLIE BRIDGE

History of Sorlie Bridge

- 1928-1929: Painted in the shop and in the field during construction with red lead paint system.
- 1935: Repaint of the entire bridge with red lead paint system
- 1953: Repaint of entire bridge except the fascia stringers and interior 37’ of the floor beams with a red lead system
- 1981: Repaint of the entire bridge with red lead paint system
- 2015: Removal of all existing paint systems and repaint of the entire bridge with three coat zinc organic rich paint system

Scope of work

- Sandblast and Paint
- Pier Spall Repair
- Lighting System
- Total Cost: $4,222,703.25

Construction

- Design: Kadrmas, Lee & Jackson
- Construction Engineering: NDDOT – Grand Forks District
- Prime Contractor: Royal Bridge Inc.

KLJ

North Dakota Department of Transportation

Royal Bridge Inc.

SAFETY

- Determine construction engineering staff well in advance of the start of construction, in order to:
  - Schedule health screening for each employee;
  - Schedule blood test for each employee to test for lead & zinc protoporphyrin levels with local clinic;
  - Schedule respirator fitting for each employee with local clinic

* Complete all of the items above prior to the start of construction!

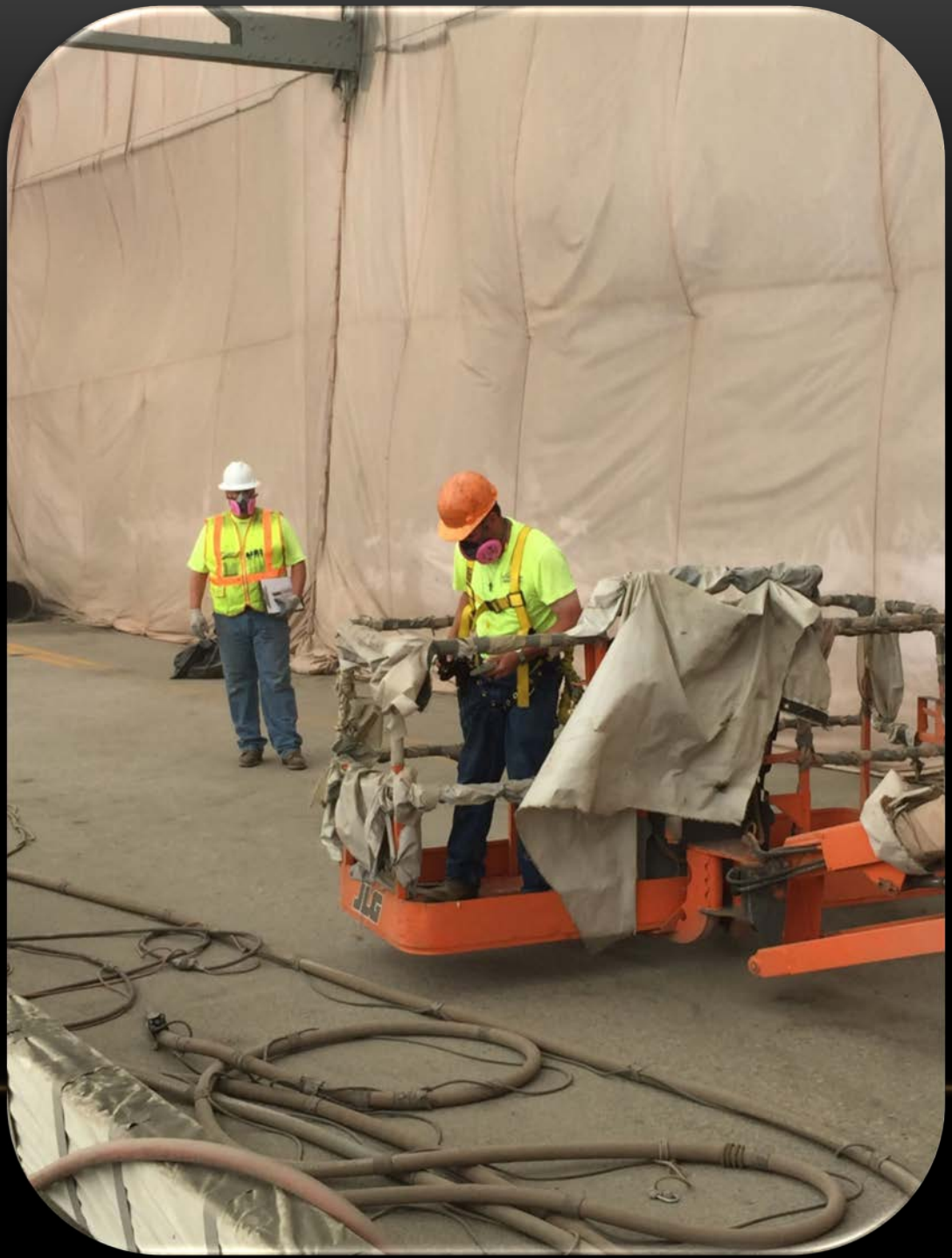
SAFETY

The 3M™ Half Facepiece Reusable Respirator 7500 Series helps provide protection against particulates and a wide variety of gases and vapors when used with approved 3M cartridges and filters.

SAFETY

The 3M™ Particulate Filter 2091, P100 helps provide respiratory protection against exposure to lead

The 3M™ Filter 6001, NIOSH approved, protects against certain organic vapors.


JLG

SUBMITTALS

- SSPC QP 1 and SSPC QP 2 Certifications
- Schedule, # of Expected Personnel, & Expected Production Rates
- Containment Plan
- Sampling and Testing Plan
- Quality Control Plan
- Paint System – Three Coat Organic Zinc Rich Paint System

SUBMITTALS

Certifications

Contractor Qualifications.
The painting Contractor shall possess current SSPC QP1 and SSPC QP2 certification at the time of the bid, and shall maintain certified status throughout the duration of the paint removal and painting work under the contract. The Contractor shall be familiar with and comply with all applicable state and federal regulations pertaining to the handling of lead-based materials.

SSPC The Society For Protective Coatings

Royal Bridge, Inc.

of Palm Harbor, FL

SSPC CERTIFIED CONTRACTOR SSPC QP1

has met or exceeded the requirements set forth in the SSPC Painting Contractor Certification Program for

FIELD APPLICATION OF COATINGS COMPLEX STRUCTURES

SSPC-QP1

President, SSPC

March 31, 2015– March 31, 2016

Validation Period

Owners are advised to contact SSPC at 412-281-2331 ext. 2235 or ext. 2209 to verify authenticity of certification.

SSPC The Society For Protective Coatings

Royal Bridge, Inc.

of Palm Harbor, FL

SSPC CERTIFIED CONTRACTOR SSPC QP2

has met or exceeded the requirements set forth in the SSPC Painting Contractor Certification Program for

INDUSTRIAL HAZARDOUS PAINT REMOVAL

SSPC-QP2

"A"

Category

President, SSPC

March 31, 2015 – March 31, 2016

Validation Period

Owners are advised to contact SSPC at 412-281-2331 ext. 2235 or ext. 2209 to verify authenticity of certification.

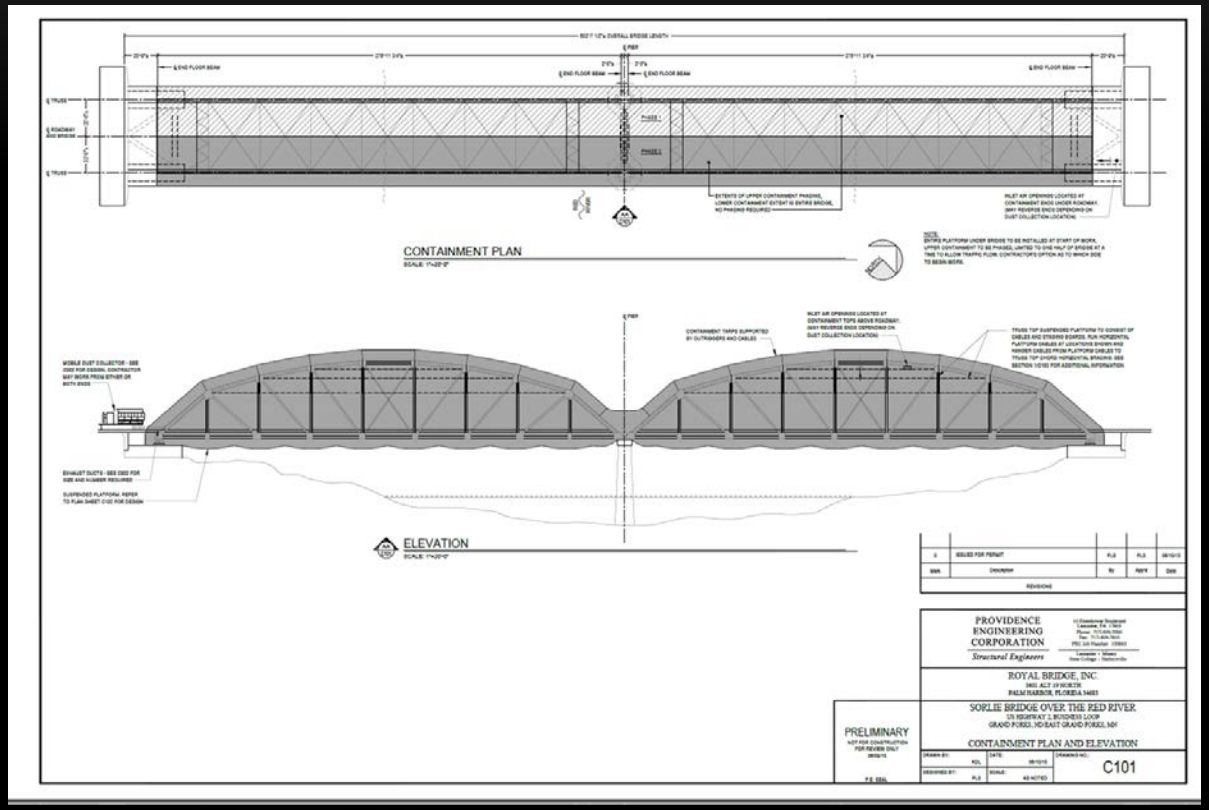
SUBMITTALS
Schedule details

- Follow ND Standard Spec. 108.03
  - Specifically:
    - # of personnel and production rates for surface preparation (sandblasting operation)
      - What is the expected surface preparation production in terms of SF per man-hour. 75 SF per man-hour? 125 SF per man-hour?
      - What is the expected # of personnel to be performing surface preparation during the sandblasting operation?

SUBMITTALS

Containment plan

- Plan will contain the following, but not limited to:
  - Containment Material
  - Treatment of Joints
  - Ventilation
  - Support
  - Deck Drains
  - Platform

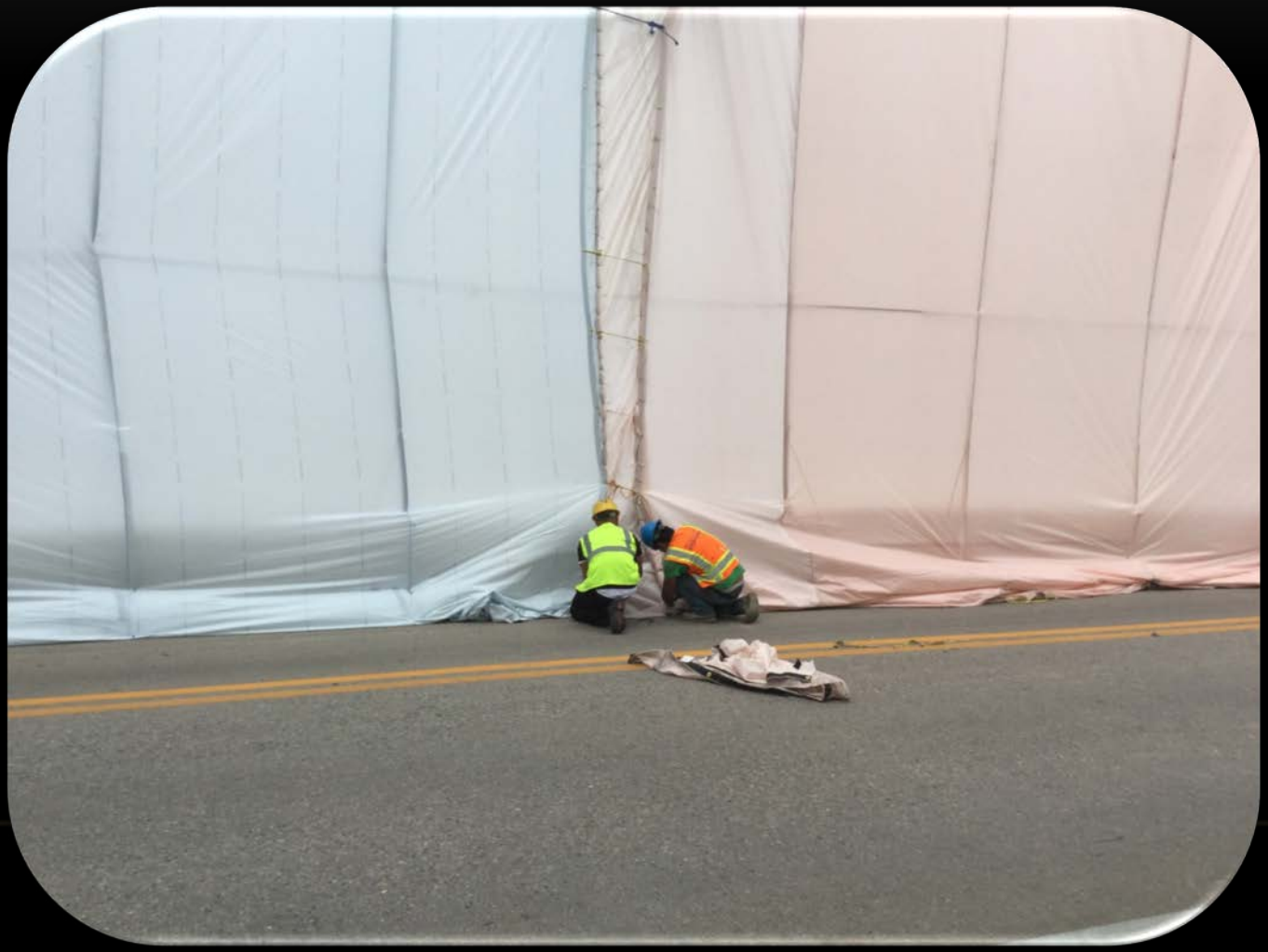


Containment plan

Material

CONTAINMENT PLAN

Treatment of Joints



CONTAINMENT PLAN

Ventilation

CONTAINMENT PLAN

Support

CONTAINMENT PLAN

Deck Drains

CONTAINMENT PLAN

Platform

SAMPLING & TESTING PLAN

- Contractor collects 500 g sample from each storage waste container and submits to independent certified laboratory.
- Contractor submits laboratory test results to Engineer. Results determine which approved disposal facility the Contractor can haul the waste to.

City of Grand Forks Landfill Ticket

06/23/2015 Time In: 10:19 AM Out: 10:19 AM

Operator: landfill landfill

Transaction #: 150623046

Hauler: COUNTRYWIDE SANITATION

Truck: 12P – 20 YARD

Account # 43231

Town: GRAND FORKS

In Weight:	50180
Tare Weight:	31124
Out Weight:	
Net Weight:	19056

Material: CONSTRUCTION & DEMOLITION MATERIAL (NON-TREATED NON-CREOSOTE BLDG MATERIALS)

Destination: INERT LANDFILL PERMIT #IT-202

Tipping Fee: $48.00 PER TON

Net Weight: 19056

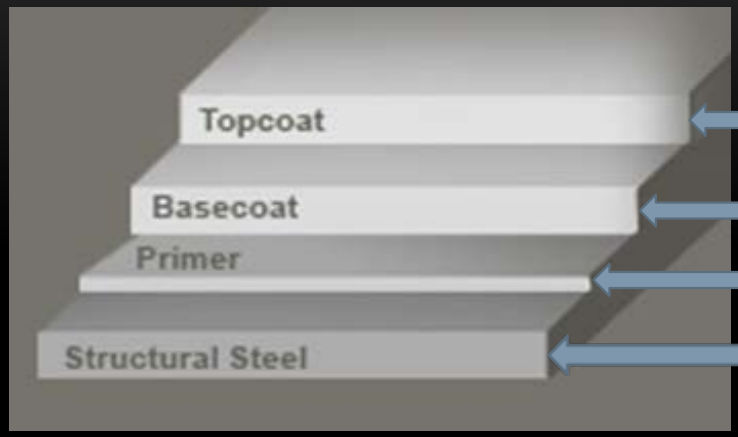
Weight Total: $456.96

Ticket Total: $456.96

QUALITY CONTROL PLAN

- Quality Control Plan identifying the following:
  - Instrumentation that will be used
  - Schedule of required measurement and observations
  - Procedures for correcting unacceptable work
  - Procedure for improving surface preparation and painting as a result of quality control findings

PAINT SYSTEM



Acrylic Polyurethane (3 - 6 mils)

Fast Cure Epoxy (3 - 10 mils)

Organic Zinc – Rich Epoxy Primer (3 - 5 mils)

Surface Preparation - SP 6

Total Paint Thickness: 9 – 21 mils

- Supply a paint system that meets the requirements of Section 852.02, “Three Coat Organic Zinc Rich Paint System.”

SURFACE PREPARATION

- Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6/NACE 3. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns).
- Surface Profile – Roughness of the surface that results from abrasive blast clean.
- Actual surface profile measured in the field was typically around 4-5 mils.
- Contractor was required to either submit a new paint system or request Sherwin Williams to revise their recommendation for surface profile from 2 mils to max of 5 mils.

SURFACE PREPARATION

- Sherwin Williams agreed to revise their recommendation to a max of 5 mils for the surface profile

SHERWIN-WILLIAMS.
Protective & Marine Coatings

The Sherwin-Williams Company
P. O. Box 1266
Holmes Beach, Fl. 34218
Phone: (941) 812-4508
Fax: (941) 251-7608

July 23rd, 2015

Mr. Emmanuel Chrysakis
President
Royal Bridge Inc.
3601 ALT 19 Suite A
Palm Harbor, Fl. 34683

Project: ND DOT Federal Aid Project BRU-6-002(101)911 on US 2 Business Loop-Sorlie Road Bridge in Grand Forks County, North Dakota.

Substrate Profile

Emmanuel, in response to your letter dated July 22, 2015. The most current product data page for the Zinc Clad III Organic Zinc does state that an anchor profile of 4.0 mils is acceptable. This will allow Royal Bridge to adhere to the original specification of 3.0-5.0 mils DFT for the zinc primer. Sherwin Williams will accept a maximum DFT of 8.0 mils for the Zinc Clad III Primer on the above referenced project.

If you need further assistance, please do not hesitate to contact me at (941) 812-4508.

Sincerely,

Todd M. Kreitz

Todd M Kreitz
The Sherwin-Williams Company
Protective & Marine Coatings Sales Representative
NACE Certified Coating Inspector Level 3 –Cert No. #11119
Phone: (941) 812-4508
Fax: (941) 251-7608
E-mail: swrep6305@sherwin.com

SP 6/NACE No. 3 COMMERCIAL BLAST CLEANING

SP 6 – Removal of all visible rust, mill scale, paint, and foreign matter by blast cleaning. Staining is permitted on no more than 33% of each 9 in^2 area. For conditions where a thoroughly cleaned surface is required.

Ref: SSPC: The Society for Protective Coatings, (2002), “SSPC-VIS 1: Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning”, SSPC Publication No. 02-12

SP 10/NACE NO. 2 NEAR-WHITE BLAST CLEANING

SP 10 – Removal of all visible rust, mill scale, paint, and foreign matter by blast cleaning. Staining is permitted on no more than 5% of each 9 in^2 area.

Ref: SSPC: The Society for Protective Coatings, (2002), “SSPC-VIS1: Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning”, SSPC Publication No. 02-12

MILL SCALE

Mill Scale: Mill scale is a bluish, somewhat shiny oxide residue that forms on steel surfaces during hot rolling. Although initially tightly adherent, it eventually cracks, pops, and disbonds. As a general rule, unless completely removed before painting, it will later cause the coatings to crack and expose the underlying steel. Steel is anodic to mill scale and so corrodes more rapidly in this combination of “dissimilar metals”.

Ref: SSPC: The Society for Protective Coatings, (2005), “Surface Preparation Specifications and Practices”, ISBN 1-889060-85-2

400S

FEDERAL STANDARD COLOR

Table 1, First Digit – indicates gloss level.

First Digit	Finish
1	Gloss
2	Semi-gloss
3	Flat

Table 2, Second Digit – indicates color group

Second Digit	Color Groups
0	Brown
1	Red
2	Orange
3	Yellow
4	Green
5	Blue
6	Gray
7	Misc (Black, White, Gold, Silver, Violet)
8	Fluorescent

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DOT
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