

# LEAD PAINT REMOVAL & STRUCTURAL STEEL PAINTING

Construction  
Conference

2016

Matthew Luger

# NORTH DAKOTA STEEL BRIDGES

- Approximately 300 Steel Bridges on the Highway System in ND
- Nearly 250 Steel Bridges currently contain coating systems with lead-based paint
- The coating system on many of those bridges is reaching its service life



# HISTORY OF NDDOT COATING MATERIALS

- **Original Construction of the Highway System**
  - Red-Lead Paint
  - Corrosion Inhibitor
- **1978 – Federal Ban on Lead Paint for Household Use**
  - Still used in Industrial Settings
- **1990 – First Bridge in ND with Zinc-Rich Paint**
  - ND 6 Burlington Northern RR Bridge in Mandan ND
- **1992 – Zinc-Rich Paint for Structural Steel added to the Standard Specifications**



# 3-COAT ZINC RICH SYSTEM

- **Organic Zinc-Rich Primer**

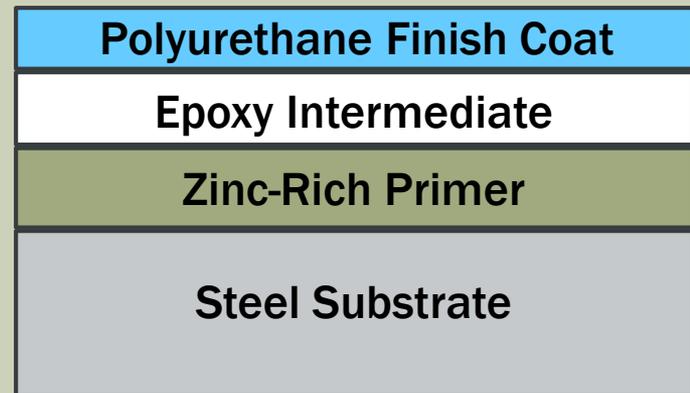
- Corrosion Protection

- **Epoxy Intermediate Coat**

- Barrier Protection

- **Polyurethane Finish Coat**

- UV Protection
- Aesthetics



# SPECIAL PROVISION: LEAD REMOVAL, CONTAINMENT, AND NEW PAINT

- **Special Provision Key Requirements:**
  - Paint Material
  - Contractor Qualifications
  - Contractor Submittals
  - Surface Preparation
  - Paint Application



# PAINT MATERIAL

- **Special Provision Key Requirements:**

- **Paint Material**
- **Contractor Qualifications**
- **Contractor Submittals**
- **Surface Preparation**
- **Paint Application**

- **Section 852.02**

- **Specifies the 3-Coat Zinc-Rich Paint System**
  - **Organic Zinc Rich Primer**
  - **Epoxy Intermediate Coat**
  - **Polyurethane Finish Coat**

# CONTRACTOR QUALIFICATIONS

## ■ Special Provision Key Requirements:

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## ■ SSPC – “The Society of Protective Coatings”

- Formerly known as “The Steel Structures Painting Council”

## ■ SSPC QP-1 - “Qualification Program” for Field Painting

## ■ SSPC QP-2 “Qualification Program” for Hazardous Paint Removal

# CONTRACTOR SUBMITTALS

## ■ Special Provision Key Requirements:

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- **Contractor Submittals**
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## ■ Material Certification

- Section 106

# CONTRACTOR SUBMITTALS

- **Special Provision Key Requirements:**

- Paint Material
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- Material Certification

- **AASHTO NTPEP Test Results**

- NTPEP – “National Transportation Product Evaluation Program”

# CONTRACTOR SUBMITTALS

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- Material Certification
- AASHTO NTPEP Test Results
- **Product Data Sheets**
- **Material Safety Sheets**

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- Material Certification
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- Product Data Sheets
- Material Safety Sheets
- **Containment Plan**

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- Surface Preparation
- Paint Application
- Material Certification
- AASHTO NTPEP Test Results
- Product Data Sheets
- Material Safety Sheets
- Containment Plan
- **Quality Control Plan**

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## ■ Special Provision Key Requirements:

- Paint Material
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- **Contractor Submittals**
- Surface Preparation
- Paint Application

- Material Certification
- AASHTO NTPEP Test Results
- Product Data Sheets
- Material Safety Sheets
- Containment Plan
- Quality Control Plan
- **Sampling and Testing Plan**

# CONTRACTOR SUBMITTALS

## ■ Special Provision Key Requirements:

- Paint Material
- Contractor Qualifications
- **Contractor Submittals**
- Surface Preparation
- Paint Application
- Material Certification
- AASHTO NTPEP Test Results
- Product Data Sheets
- Material Safety Sheets
- Containment Plan
- Quality Control Plan
- Sampling and Testing Plan
- **Color Chip with Declaration of Conformity**

# SURFACE PREPARATION

## ■ Special Provision Key Requirements:

- Paint Material
- Contractor Qualifications
- Contractor Submittals
- **Surface Preparation**
- Paint Application

## ■ Cleanliness

- **SSPC SP-6 “Commercial Blast Cleaning”**
  - All Existing Material Must be Removed
  - 33% Staining Can Remain
- **SSPC SP-10 “Near-White Metal Blast Cleaning”**
  - All Existing Material Must be Removed
  - 5% Staining Can Remain

## ■ Surface Profile

- **Product Data Sheet**

# PAINT APPLICATION

- **Special Provision Key Requirements:**

- Paint Material
- Contractor Qualifications
- Contractor Submittals
- Surface Preparation
- **Paint Application**

- **SSPC PA-1**

- **Stripe Coat**

- Zinc-Rich Primer
- Epoxy Intermediate

- **Dry Film Thickness (DFT)**

- Product Data Sheet

# QUESTIONS

