REHABILITATION STRUCTURE SURVEY REPORT

DT1696 **⊠** Grade Separation ☐ Stream Crossing ☐ Culvert ☐ Railroad ☐ Retaining Wall □ Noise Barrier Sign Structure Other: For guidance see: http://dotnet/dtid_bos/extranet/structures/reports-checklists.htm Design Project ID Construction Project ID Highway (Project Name) **EAU CLAIRE - CHIPPEWA FALLS** 1190-02-34 1190-02-64 Final Plan Due Date Preliminary Plan Due Date 05/01/2018 05/01/2018 WASHINGTON PS&E Date Letting Date County **EAU CLAIRE** 08/01/2018 02/12/2019 Structure Number Section Town Range 26N B-18-35 01 09W Station Latitude: 444600.0 Structure Located on National Highway System 36+00.36 - 38+70.78 Longitude: 912542.0 For Survey and CADD Files **Traffic Forecast Data** Horizontal Coordinate System: Average Daily Roadway Vertical Datum: Design Year Traffic (ADT) Design Speed **Functional Class** Feature On Feature On Principal 14200 70 MPH USH 53 SB 2014 Arterial Feature Under Feature Under Interstate-20900 **70 MPH** IH 94 2009 Rural Region Contact: Adam Hetrick Consultant Contact: (Area Code) Telephone Number(s): 715-836-2855 (Area Code) Telephone Number(s): Email: adam.hetrick@dot.wi.gov Work To Be Performed Field Information Required Item Number (see Pages 2-4) ☐ A. Structural Repair1–3, 22 ☐ Concrete Overlay ☐ Asphalt Overlay ☐ Polymer Modified Asphalt Overlay ☐ Other: □ D. New Railings15–17, 20–23 ☐ H. New Deck......1–6, 9, 10, 13–28, 32–34 ☐ M. Slope Stabilization......1–3, 30 □ P. Other:

Field Information Required

If no structure number exists provide the following: Small County Map on which the location of proposed structure is shown in red and any highway relocation in green. In addition, provide Location Map of scale not less than 1" = 2000' showing the structure location and number.

- ☑ 1. Most recent inspection report, brief history of bridge construction date, and description of repairs with dates.
- ☑ 2. Outline deficient areas on existing structure plan or drawing.
- ☑ 3. Photographs of details requiring repairs or modifications, such as: bearings, x-frames, joints, etc. Photograph all deficient areas. Clearly label all photographs.
- ☐ 4. Provide proposed typical section for roadway and structure showing dimensions and cross slopes.
- ☐ 5. Survey beam seat or girder elevations at both sides of bridge at all substructure units.
- ☐ 6. Provide cross-section elevations at 10 foot intervals extending across the structure and a minimum of 100 feet beyond each end. Sections should be normal to centerline and show elevations at centerline roadway and gutter line. Take elevations along joints and at floor drains.
- ☐ 7. Show and identify starting stationing on bridge.
- ☐ 8. Record measurement, temperature of the structure, and date taken for each of the following:
 - (a) Joint opening measured normal to joint at centerline of roadway and both curb lines.
 - (b) Clearance between girder ends at piers.
 - (c) Distance from front face of abutment backwall to closest point of girder end measured parallel to girder.
 - (d) Temperature of structure determined by averaging top and under deck (if accessible) readings.
- ☑ 9. Fixed and expansion bearings condition and orientation.

| Preparation, Decks, Type 1 | Sq. Yd. <u>0</u> | |
|--|--------------------|---------------------|
| Preparation, Decks, Type 2 | Sq. Yd. <u>0</u> | |
| Full Depth Deck Repair | Sq. Yd. <u>0</u> | Galvanic Anodes? NO |
| Concrete Surface Repair Superstructure | e Sq. Ft. <u>0</u> | Galvanic Anodes? NO |
| Concrete Surface Repair Substructure | Sq. Ft. <u>0</u> | Galvanic Anodes? NO |
| Curb Repair | LF. <u>0</u> | Galvanic Anodes? NO |

| | Deck Condition | Superstructure Condition | Substructure Condition | Load Capacity Appraisal | Structural EVAL Appraisal |
|---------|----------------|-----------------------------|---------------------------|----------------------------|------------------------------|
| Current | 8 | 6 | 7 | 5 | 6 |

| | Inventory | Operational |
|------------------------------|-----------|-------------|
| Current | 11045 | 11005 |
| Calculated Date: 07/02/2013 | HS15 | HS25 |
| After | | |
| Completed by Bridge Designer | | |

| | ⊠ Yes □ N | | a: | Opening at | | |
|-------------|---------------------------------|---|---------------|------------|--------|----------|
| | Туре | Owner and Contact Information | Size | Abutment | Weight | Pressure |
| | | | | | | |
| | - | | | | | |
| \boxtimes | • | dge railing deficient? No If Yes – Replacement Rail Type: | | | | |
| | 18. Drains to be: ☐ Raised | ☐ Closed ☐ Downspouted ☐ New | | | | |
| | | nined on bridge during work? No If Yes – Include sketches | | | | |
| \boxtimes | 20. Will guard rai | l be attached? No If Yes – Which corners? Existing guardrail to rem | ain at all co | orners. | | |
| | | e performed eliminate all deficiencies? No If No – Explain: | | | | |
| \boxtimes | | aste (asbestos) to be removed? No If Yes – Explain: | | | | |
| | 23. Wing location | (s) for surface drain anchors: | | | | |
| \boxtimes | | No If Yes – Explain on Page 4 g, color system, containment, bid items) | | | | |
| | | way width: <i>(new deck / widening)</i> Ft. valk clear width: Left: Ft. Right: Ft | | | | |
| \boxtimes | 26. Maximum inc | rease in grade line elevation 3/8 In. | | | | |
| \boxtimes | 27. Benchmark d | escription to be shown | | | | |
| \boxtimes | 28. Desired final | cross slopes on bridge <u>0.02</u> Ft./Ft. | | | | |
| | | t | 6 | | | |
| | 30. Slope stabiliz Type: Slope: | ation, provide: CYFt./Ft. Fill: CY. | | | | |
| | | CY. | | | | |

| \boxtimes | 32. | Report submitted with Preliminary Plan requires no CADD file submittal (See ESubmittal instructions). |
|-------------|-----|--|
| | 33. | Report submitted for development of Preliminary Plan to structure design engineer requires CADD file (if available) submittal and Report submittal to Soils Engineer if project involves foundation modifications. |
| | 34. | Coordinate with structure design engineer before going into the field if existing structure has no available plans, if staged construction is planned, or if there are adjoining/adjacent structures that will remain in place. |
| | 35. | If project involves substructure widening coordinate with structure and/or hydraulic design engineer to determine if information on the separation and/or stream crossing SSR will be required. |

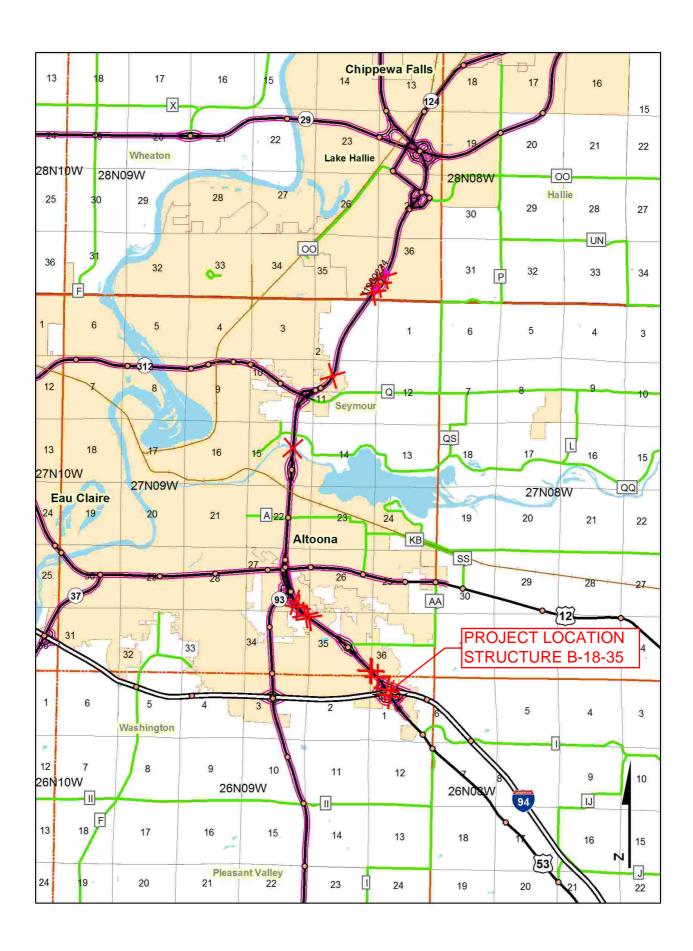
Additional Information

Elaborate on other concerns such as: DNR, Local, Utility Conflicts, Aesthetics, Railing Type and Staged Construction.

Please be as detailed and specific as possible.

- 1.) Structure built in 1966. Concrete Masonry Deck Overlay was completed in 1987. Steel Deck Girders were painted in 1990. Pedestrian Fence was added in 1996. Bridge Deck was replaced and widened in 2011. The Steel Deck Girders are scheduled to be painted in 2016. See attached Bridge Inspection Report.
- 2.) Deficient areas to be determined in the field by the engineer. See attached Bridge Inspection Report. A Polymer Overlay is proposed because of deficiency over the entire structure due to poor bridge deck surface. The deck has multiple transverse and longitudinal cracks with efflorescence.
- 3.) See attached photographs.
- 9.) Strip Seal Expansion Joints at the North Abutment and South Abutment.
- 10.) This work will be constructed half at a time under traffic using single lane closures during non-peak hours with night work. Nighttime ramp closures are anticipated at some structures. All lanes and ramps will be opened to traffic daily.
- 11.) See asbuilt plans.
- 16.) One Conduit is along the North abutment and running into Bay 3 of Span 1. No conflicts anticipated.
- 19.) This work will be constructed half at a time under traffic using single lane closures during non-peak hours with night work. Nighttime ramp closures are anticipated at some structures. All lanes and ramps will be opened to traffic daily.
- 22.) See attached Asbestos Inspection Report. No asbestos-containing material was found.
- 27.) To be determined.
- 32.) See preliminary plans.

CDR Map



₽

| ORDER | 0F | SHEETS |
|-------|----|--------|
| | | |

Section No. 1

Section No. 2 Typical Sections and Details Estimate of Quantities Section No. 3 Miscellaneous Quantities Section No. 4 Right of Way Plat

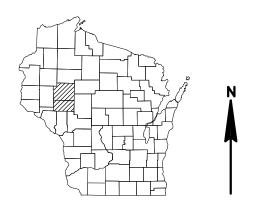
Section No. 5 Plan and Profile

Section No. 6 Standard Detail Drawings

Section No. 9 Computer Earthwork Data

Section No. 9 Cross Sections

TOTAL SHEETS =



DESIGN DESIGNATION

A.A.D.T. A.A.D.T. D.H.V. D.D. DESIGN SPEED **ESALS**

CONVENTIONAL SYMBOLS PI AN CORPORATE LIMITS PROPERTY LINE LOT LINE LIMITED HIGHWAY EASEMENT EXISTING RIGHT OF WAY PROPOSED OR NEW R/W LINE SLOPE INTERCEPT

REFERENCE LINE EXISTING CULVERT PROPOSED CULVERT COMBUSTIBLE FLUIDS

MARSH AREA

WOODED OR SHRUB AREA

CULVERT (Profile View) UTILITIES ELECTRIC FIBER OPTIC SANITARY SEWER STORM SEWER TELEPHONE UTILITY PEDESTAL POWER POLE ₫ Ø TELEPHONE POLE

PROFILE

GRADE LINE

ORIGINAL GROUND

SPECIAL DITCH

GRADE ELEVATION

MARSH OR ROCK PROFILE

(To be noted as such)

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

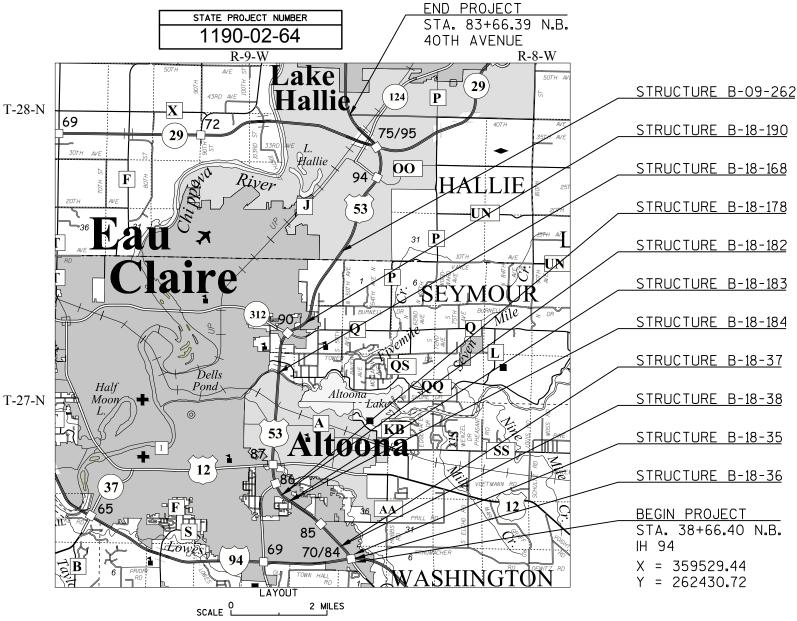
PLAN OF PROPOSED IMPROVEMENT

EAU CLAIRE - CHIPPEWA FALLS

IH 94 TO 40TH AVENUE (11 BRIDGES)

USH 53

EAU CLAIRE AND CHIPPEWA COUNTIES



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, EAU CLAIRE COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

PREPARED BY WISDOT Surveyor ADAM HETRICK DAVID KOEPP REGIONAL EXAMINE TMOTHY MASON APPROVED FOR THE DEPARTMENT

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT

CONTRACT

PROJECT

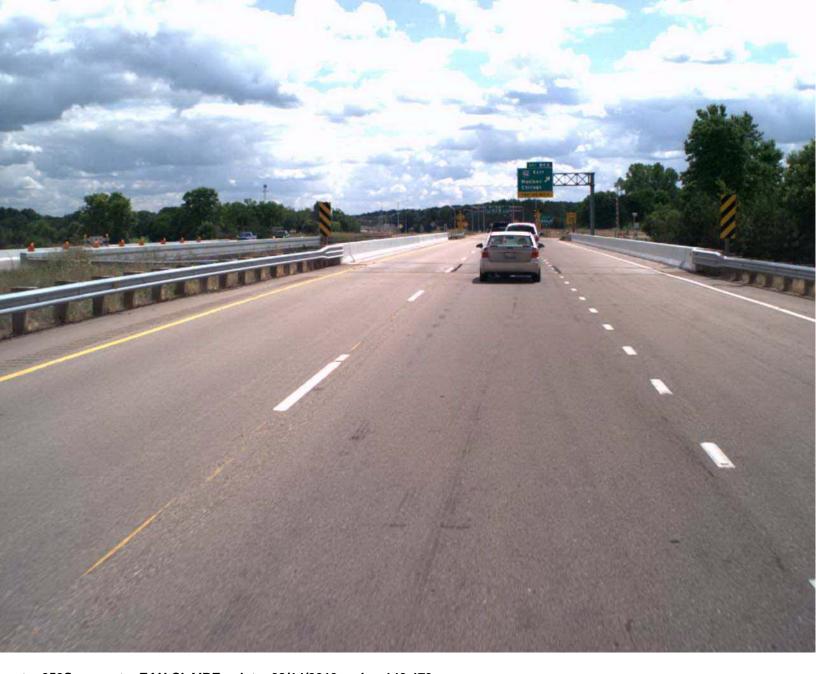
STATE PROJECT

1190-02-64

(Signature)

TOTAL NET LENGTH OF CENTERLINE = 11.26 MILES

Ε



Lat: 44.76790313 Long: -91.42289475 Elev: 828.12 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_142\F_14275.jpg



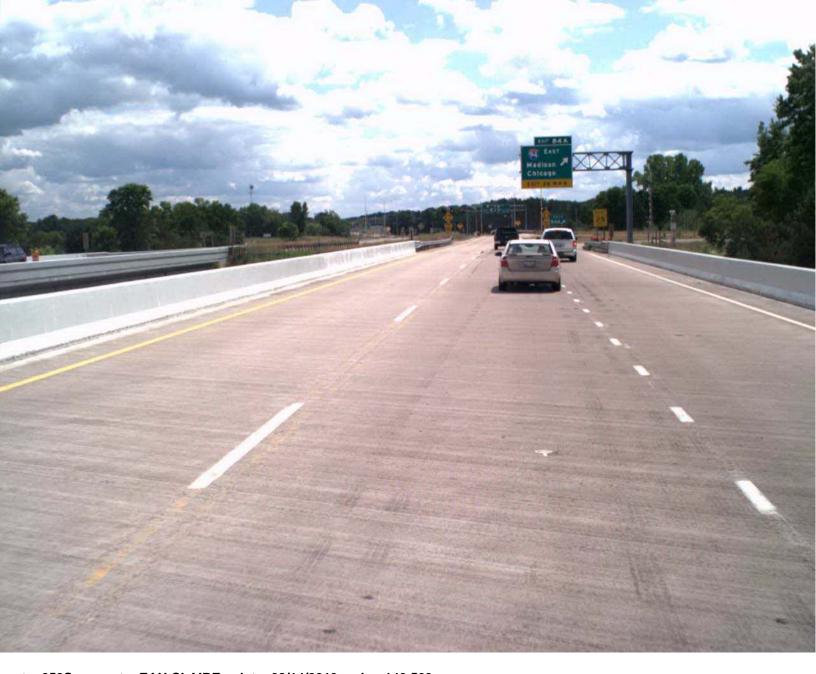
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\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_142\F_14276.jpg



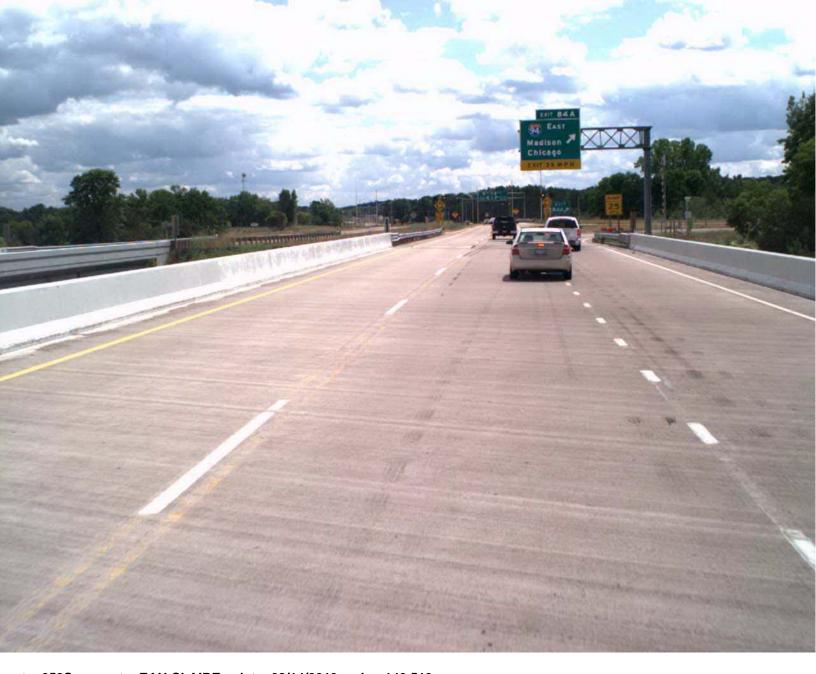
Lat: 44.76765892 Long: -91.42267598 Elev: 828.2 ft.

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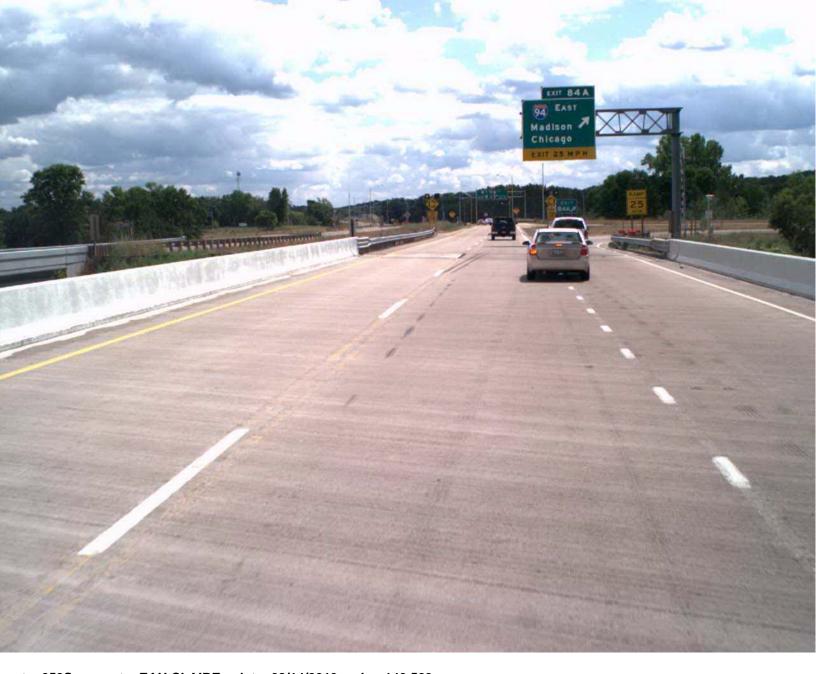
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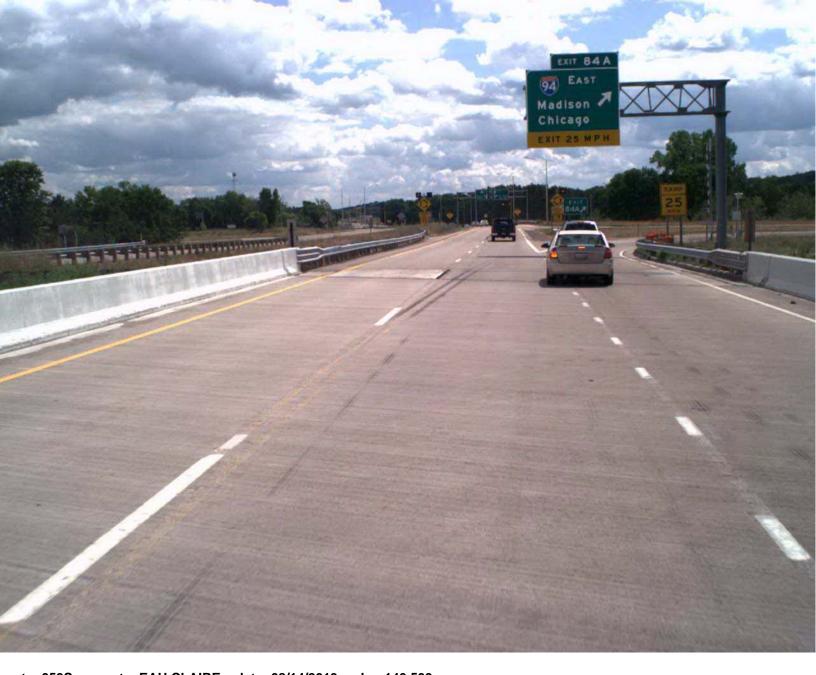
Lat: 44.76741389 Long: -91.42245633 Elev: 827.97 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_142\F_14279.jpg



Lat: 44.76729177 Long: -91.42234733 Elev: 827.7 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_142\F_14280.jpg



Lat: 44.76716907 Long: -91.42223787 Elev: 827.54 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_142\F_14281.jpg



Lat: 44.76704629 Long: -91.42212819 Elev: 827.39 ft.

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Google earth

feet ______10 meters _____3





Google earth

feet ______10 meters 4



Inspection Report for B-18-035

USH 53 SB over IH 94 Jul 28,2015



| Туре | Prior | Frequency (mos) | Performed |
|---------|----------|-----------------|-----------|
| Routine | 07-28-15 | 24 | X |
| Interim | 03-10-10 | 0 | |
| SI&A | 07-02-13 | 48 | |

| Latitude 44°45'60.00"N | |
|-------------------------|--|
| Longitude 91°25'42.00"W | |

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

| Time Log | | Team members |
|----------|----|--------------|
| Hours | | WJK |
| 1 | 30 | |

| | Name | Number | Signature | Date |
|-----------|----------------------|--------|---------------------------|------|
| Inspector | | | | |
| | Kovaleski, William J | 8007 | Completed by Bill(dotwjk) | |
| Reviewer | | | | |
| | | | | |

page 2

Identification & Location

| Feature On: USH 53 SB | Section Town Range: S01 T26N R09W | Structure Number: |
|--------------------------|---|-------------------|
| Feature Under: IH 94 | County: EAU CLAIRE(18) | B-18-035 |
| 2.5M S JCT STH 93 TO S | Municipality: TOWN-WASHINGTON(18024) | Structure Name: |

Geometry Traffic

| measurements in feet, except w | here noted | | | Lanes | ADT | ADT year | Traffic Pattern |
|--------------------------------|----------------------------|-----------------------------|-------|-------|-------|----------|-----------------|
| Approach Roadway Width: 46 | Bridge Roadway Width: 43.0 | Total Length: 270.1 | On | 3 | 14200 | 2014 | ONE WAY TRAFFIC |
| Approach Pavement Width: 36 | Deck Width: 45.5 | Deck Area (sq ft): 12357 | Under | 6 | 26220 | 2003 | TWO WAY TRAFFIC |

Capacity Load Rating

| | <u> </u> | | |
|---------------------------|---------------------------------|-----------------------------|--|
| Inventory rating: HS15 | Overburden depth (in): | Last rating date: | Controlling: INTERIOR DECK GIRDER Moment |
| Operating rating: HS25 | Deck surface material: CONCRETE | Re-rate for capacity (Y/N): | Control location: 4.6 SPAN 2, 41.9 |
| Posting: | Re-rate notes: | | |

Hydraulic Classification

| Scour Critical Code(113): (N) NO WATERWAY | Q100 (ft3/sec): 0 | |
|---|------------------------|--------------------|
| High water elevation (ft): 0.0 | Velocity (ft/sec): 0.0 | Sufficieny #: 73.5 |

Span(s)

| Span # | Material | Configuration | Depth (in) | Length (ft) | Main | |
|--------|------------|---------------|------------|-------------|------|---|
| 1 | CONT STEEL | DECK GIRDER | | 45.0 | | |
| 2 | CONT STEEL | DECK GIRDER | | 92.0 | Y | l |
| 3 | CONT STEEL | DECK GIRDER | | 92.0 | | İ |
| 4 | CONT STEEL | DECK GIRDER | | 39.0 | | İ |

| Expansion jo | oint(s) | | Temperature: | File: | New: |
|--------------|----------------|-----------|----------------------|-------------------|------------------|
| Joint # | Location | Type | Last inspection date | Last measure (in) | New measure (in) |
| 1 | SOUTH ABUTMENT | STRIPSEAL | | | 0.2 |
| 2 | NORTH ABUTMENT | STRIPSEAL | | | 0.2 |

Vertical Clearance

| | Measurement file (ft) | File Date | Measurement new (ft) |
|------------------------------------|-----------------------|-----------|----------------------|
| Highway Minimum Under Cardinal | 17.42 | | |
| Highway Minimum Under Non-Cardinal | 16.84 | | |
| Highway Minimum On | | | |
| Railroad Minimum Under | | | |

page 3 Structure No.:B-18-035

Elements

| ntity in Condition State 2 | 0 |
|-----------------------------|-------------|
| 855 0 racks w/ med/hv | 0 /y |
| racks w/ med/hv | /y |
| racks w/ med/hv | /y |
| racks w/ med/hv | /y |
| | |
| ,700 0 | 1 0 |
| <u> </u> | |
| | |
| ,755 0 | 0 |
| | |
| .945 0 | 0 |
| | nsverse |
| , | |
| 0 0 | 0 |
| | |
| 828 36 | 0 |
| new girders to we | est (G1 & |
| - | - |
| 828 36 | 0 |
| Spn 2 & 3: 50-7 | 0% web |
| p coat) with loca | al areas of |
| ,100 4,432 | 7,480 |
| | ed June |
| | |
| | 7,480 |
| Spn 2 & 3: 50-7 | 0% web |
| p coat) with loca | ai areas o |
| 0 0 | 0 |
| oss of fiber wra | p around |
| | |
| 35 0 | 0 |
| abut. | |
| | 0 |
| 23 0 | 1 0 |
| 23 0 | |
| | |
| 12 0 | 0 |
| | |
| 12 0 er G3. | 0 |
| 12 0 er G3 . | 0 |
| | 0 |

page 4 Structure No.: **B-18-035**

| | | | Strip Seal Expansion Joint | LF | 100 | 100 | 0 | 0 | 0 |
|---|------|------|---|------------|-------------|------------|-------------|--------|---|
| Х | 300 | | New in 2011. 2013 - 0.15 @ both ends 85deg. D | irty at ed | dges. | | • | | |
| | | | Moveable Bearing | EA | 24 | 0 | 24 | 0 | 0 |
| Χ | 311 | | At both abutments and piers 1 and 3. Abutment p | olates we | ere sandbla | sted in 20 | 11. | | |
| | | | Corrosion | EA | | 0 | 24 | 0 | 0 |
| | | 1000 | Light to med surface rusting. | | | | • | | |
| | | | Fixed Bearing | EA | 6 | 0 | 6 | 0 | 0 |
| Χ | 313 | | At pier 2, Sandblasted in 2011. | | | | • | | |
| | | | Corrosion | EA | | 0 | 6 | 0 | 0 |
| | | 1000 | Surface rust showing. | | | | | | |
| | | | Reinforced Concrete Bridge Rail | LF | 537 | 37 | 500 | 0 | 0 |
| Χ | 331 | | New in 2011. | | | | | | |
| | | | Cracking (RC) | LF | | 0 | 500 | 0 | 0 |
| | | 1130 | Vert hairline cracks approx. 10ft spacing. Sur | face ma | p cracking | through | out - appro | x. 90% | |
| | | | Integral Wingwall | ΕA | 4 | 2 | 2 | 0 | 0 |
| Χ | 8400 | | New wings in 2011. | • | ' | | • | | |
| | | | Wingwall Deterioration. | EA | | 0 | 2 | 0 | 0 |
| | | 8903 | Surface map cracking on both south wings. | | I | | | | ı |

Structure No.:**B-18-035** page 5

Assessments

| | | | | | | | Quantity in C | ondition State | |
|-----|---|--------|--|----------|-------------|------------|---------------|----------------|---------|
| Chk | Element | Defect | Description | UOM | Total | 1 | 2 | 3 | 4 |
| | | | Drainage - Approach | EΑ | 4 | 3 | 1 | 0 | 0 |
| X | 9001 | | SW C&G to inlet. NW asphalt flume. NE, SE as | ohalt/gr | vi shidr. I | Minor sign | s of erosic | on down S | W wing. |
| | | | Signs - Object Markers | EΑ | 4 | 0 | 0 | 0 | 4 |
| X | 9030 | | | | | | | | |
| | | | Slope Protection- Crushed Aggregate with Bit. | EA | 2 | 2 | 0 | 0 | 0 |
| Х | Slopes sprayed in 2011. Tightly adhered. Minor v egetation growth on both slopes. | | | | | | | | |
| | | | Steel Diaphragm | EA | 80 | 32 | 36 | 12 | 0 |
| Х | 9167 | | 32 new in 2011. Old steel freckle rust 10-50% bol Note cut pieces on G3 connectors need to be gr | | nge worse. | New steel | primed in | good condi | tion. |
| | | | Approach Roadway - Concrete (non-structural) | EA | 2 | 2 | 0 | 0 | 0 |
| X | 9322 | | New in 2011. | | | | | | |

NBI Ratings

| | File | New |
|----------------|------|-----|
| Deck | 8 | 8 |
| Superstructure | 6 | 6 |
| Substructure | 7 | 7 |
| Culvert | N | N |
| Channel | N | N |
| Waterway | N | N |

Structure Specific Notes

Proposed to be painted in 2016.

OLD: Monitor Full Depth over Pier #1 and #3.

Need to fix south slope

Inspection Specific Notes

OLD: Redecked and widened in 2011. Significant lifting of girder ends at both abutments. Working with central office to develop plan to minimize movement.

Utility box on NW corner abut. - 2in PVC on backwall to bay 3 - some type of sensor embedded in underside of deck just N of Pier

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Walk-thru visible.

Special Requirements

| | Chk | Comments |
|------------------|-----|----------|
| Traffic Control | | |
| Access Equipment | | |
| Other | | |

Construction History

| Year | Work Performed | FOS id |
|------|--------------------|------------|
| 9999 | NOT BUILT | 1022-00-10 |
| 2011 | NEW DECK | 1022-00-78 |
| 1996 | ADD PED FENCING | 1020-06-72 |
| 1990 | PAINTING | |
| 1987 | OVERLAY - CONCRETE | 0018-74-10 |
| 1966 | NEW STRUCTURE | |

page 6 Structure No.:**B-18-035**

Maintenance Items History

Item Recommended by Status Status change Year completed

Maintenance Items

tem Priority Recommended by Status Status change

page 7 Structure No.:B-18-035

Routine Document Comment/Description N abut



page 8 Structure No.:B-18-035

Routine Document Comment/Description S abut



page 9 Structure No.:B-18-035

Routine
Document Comment/Description

Pier 2 - Col 2 - top loss of wrap





Inspection Report for B-18-035

USH 53 SB over IH 94 Aug 27,2015



| Туре | Prior | Frequency (mos) | Performed |
|---------|----------|-----------------|-----------|
| Routine | 08-27-15 | 24 | Х |
| Interim | 03-10-10 | 0 | |
| SI&A | 07-02-13 | 48 | X |

| Latitude 44°45'60.00"N | Owner STA |
|-------------------------|----------------|
| Longitude 91°25'42.00"W | Maintainer STA |

| Owner | STATE | HIGHWAY | DEPT | | |
|------------|-------|----------------|------|--|--|
| | | | | | |
| Maintainer | STATE | HIGHWAY | DEPT | | |

| Time Log | | Team members |
|------------|---------------|--------------|
| Hours 0 | Minutes 45 | |

| Name | Number | Signature | Date |
|---------------|--------|--------------------------------------|------|
| Inspector | | | |
| Balsiger, Lee | 6011 | Completed by HSI System Account(HSI) | |
| Reviewer | | | |
| | | | |

page 2

Identification & Location

| Feature On: USH 53 SB | Section Town Range: S01 T26N R09W | Structure Number: |
|--------------------------|---|-------------------|
| Feature Under: IH 94 | County: EAU CLAIRE(18) | B-18-035 |
| 2.5M S JCT STH 93 TO S | Municipality: TOWN-WASHINGTON(18024) | Structure Name: |

Geometry Traffic

| measurements in feet, except where noted | | | | Lanes | ADT | ADT year | Traffic Pattern |
|--|----------------------------|-----------------------------|-------|-------|-------|----------|-----------------|
| Approach Roadway Width: 46 | Bridge Roadway Width: 43.0 | Total Length: 270.1 | On | 3 | 14200 | 2014 | ONE WAY TRAFFIC |
| Approach Pavement Width: 36 | Deck Width: 45.5 | Deck Area (sq ft): 12357 | Under | 6 | 20900 | 2009 | TWO WAY TRAFFIC |

Capacity Load Rating

| Inventory rating: HS15 | Overburden depth (in): | Last rating date: | Controlling: INTERIOR DECK GIRDER Moment |
|---------------------------|---------------------------------|-----------------------------|--|
| Operating rating: HS25 | Deck surface material: CONCRETE | Re-rate for capacity (Y/N): | Control location: 4.6 SPAN 2, 41.9 |
| Posting: | Re-rate notes: | | |

Hydraulic Classification

| Scour Critical Code(113): (N) NO WATERWAY | Q100 (ft3/sec): 0 | |
|---|------------------------|--------------------|
| High water elevation (ft): 0.0 | Velocity (ft/sec): 0.0 | Sufficieny #: 73.5 |

Span(s)

| Span # | Material | Configuration | Depth (in) | Length (ft) | Main |
|--------|------------|---------------|------------|-------------|------|
| 1 | CONT STEEL | DECK GIRDER | | 45.0 | |
| 2 | CONT STEEL | DECK GIRDER | | 92.0 | Υ |
| 3 | CONT STEEL | DECK GIRDER | | 92.0 | |
| 4 | CONT STEEL | DECK GIRDER | | 39.0 | |

Expansion joint(s) Temperature: File: New:

Vertical Clearance

| | Measurement file (ft) | File Date | Measurement new (ft) |
|------------------------------------|-----------------------|-----------|----------------------|
| Highway Minimum Under Cardinal | 17.42 | | |
| Highway Minimum Under Non-Cardinal | 16.84 | | |
| Highway Minimum On | | | |
| Railroad Minimum Under | | | |

page 3 Structure No.:B-18-035

Elements

| | | | | | | | Quantity in C | andition State | • |
|-----|--------------------|--------|--|--|---|--|--|--|---|
| Chk | Element | Defect | Description | UOM | Total | 1 | Quantity in C | 3 | 4 |
| | | | Reinforced Concrete Deck | SF | 12,290 | 11,435 | 855 | 0 | 0 |
| Х | 12 | | Re-decked and widened in 2011. | | | | | | |
| | | | Cracking (RC) | SF | | 0 | 855 | 0 | 0 |
| | | 1130 | Spans 1 and 4: very few hrlin transverse cracks. efflorescence. | Spans 2 | 2 and 3: Mu | ultiple trans | sverse crac | ks w/ med | l/hvy |
| | | | Wearing Surface (Bare) | SF | 11,614 | 4,914 | 6,700 | 0 | 0 |
| | 8000 | | Re-decked and widened in 2011. | • | 1 | | | • | |
| | | | Abrasion, Wear, or Rutting (Wear. Surf.) | SF | | 0 | 1,755 | 0 | 0 |
| | | 8911 | Light to medium scaling in east shidr and lane - 5 | to 8ft w | ide full spar | ٦. | | | |
| | | | Crack (Wearing Surface) | SF | | 0 | 4,945 | 0 | 0 |
| | | 3220 | Multiple fine to hrline longitudinal cracks at ends Piers. | - 5ft. 30 | to 40ft of fi | ne map cra | acking and | transverse | e cracks |
| | | | Coated Reinforcing | SF | 12,290 | 0 | 0 | 0 | 0 |
| | 8522 | | Re-decked and widened in 2011. | ' | 1 | | • | • | • |
| | | | Steel Open Girder | LF | 1,602 | 738 | 828 | 36 | 0 |
| X | 107 | | 6 steel girders at varied spacing - approx. 9ft-8in All girders appear straight and plumb. | at N abu | it to 11ft at | S abut. 2 | new girders | s to west (| G1 & G2 |
| | | | Corrosion | LF | | 0 | 828 | 36 | 0 |
| | | | 4 OrignI Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New | ist, 10-20 | 0% flange e | dges rust. | Spn 2 & 3: | 50-70% v | veb freck |
| | | | (edges btm fing). | | ` | ' ' | | | J |
| | | | Painted Steel | SF | 18,300 | 1,288 | 5,100 | 4,432 | 7,480 |
| | 8516 | | Painted Steel Girders = 15,000sf (webs = 10,000sf, flanges = 5 | | | | | | |
| | 8516 | | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) | 5,000sf). | Struts & X | brc = 3300 | sf. Origina | painted J | June 199 |
| | 8516 | 3440 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 | SF ust, 10-20 | Struts & X 0% flange e | brc = 3300 0 dges rust. | 5,100 Spn 2 & 3: | 4,432 50-70% v | 7,480 veb freck |
| | 8516 | 3440 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column | SF st, 10-20 Girders | Struts & X 0% flange eprimed (no | brc = 3300 0 dges rust. top coat) w | osf. Órigina 5,100 Spn 2 & 3: vith local ar | 4,432 50-70% veas of spo | 7,480 veb freck |
| X | 8516 205 | 3440 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). | SF st, 10-20 Girders | Struts & X 0% flange eprimed (no | brc = 3300 0 dges rust. top coat) w | osf. Órigina 5,100 Spn 2 & 3: vith local ar | 4,432 50-70% veas of spo | 7,480 veb freck |
| | 205 | 3440 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column All columns were fiber wrapped in 2011. West cover fiber wrap around tops of columns of Pier 2. Reinforced Concrete Abutment | SF st, 10-20 Girders | Struts & X 0% flange eprimed (no 12 1each Pier | brc = 3300 0 dges rust. top coat) w 12 widened. | 5,100 Spn 2 & 3: /ith local ar 0 Loss of pr | 4,432 50-70% veas of spo | 7,480 yeb frech |
| | | 3440 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column All columns were fiber wrapped in 2011. West cover fiber wrap around tops of columns of Pier 2. | SF st, 10-20 Girders | Struts & X 0% flange eprimed (no 12 1each Pier | brc = 3300 0 dges rust. top coat) w 12 widened. | 5,100 Spn 2 & 3: /ith local ar 0 Loss of pr | 4,432 50-70% veas of spo | 7,480 |
| | 205 | 3440 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column All columns were fiber wrapped in 2011. West cover fiber wrap around tops of columns of Pier 2. Reinforced Concrete Abutment | SF st, 10-20 Girders | Struts & X 0% flange eprimed (no 12 1each Pier | brc = 3300 0 dges rust. top coat) w 12 widened. | 5,100 Spn 2 & 3: /ith local ar 0 Loss of pr | 4,432 50-70% veas of spo | 7,480 7,480 7,480 Veb freck to rusting 0 coating |
| | 205 | 1080 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column All columns were fiber wrapped in 2011. West cover fiber wrap around tops of columns of Pier 2. Reinforced Concrete Abutment 2011 work - surf. repairs, backwall & wing replace | SF ust, 10-20 Girders EA Dlumns c LF e. Adde | Struts & X O% flange eprimed (no 12 If each Pier 94 d approx. 4 t btwn G4/5 | brc = 3300 0 dges rust. top coat) w 12 widened. 59 ft west on | osf. Órigina 5,100 Spn 2 & 3: vith local ar 0 Loss of production | 4,432 50-70% weas of spootective c | 7,480 7,480 veb frecket rusting 0 coating |
| | 205 | | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column All columns were fiber wrapped in 2011. West cover fiber wrap around tops of columns of Pier 2. Reinforced Concrete Abutment 2011 work - surf. repairs, backwall & wing replaced Delamination - Spall - Patched Area South: few patched areas - 3ft under G2, 5ft under North: new top btwn G4/5, 2in spall @ G6, 1in spar | SF ust, 10-20 Girders EA Dlumns c LF e. Adde | Struts & X O% flange eprimed (no 12 If each Pier 94 d approx. 4 t btwn G4/5 | brc = 3300 0 dges rust. top coat) w 12 widened. 59 ft west on | osf. Órigina 5,100 Spn 2 & 3: vith local ar 0 Loss of production | 4,432 50-70% weas of spootective c | 7,480 7,480 veb frecket rusting 0 coating |
| | 205 | | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column All columns were fiber wrapped in 2011. West coover fiber wrap around tops of columns of Pier 2. Reinforced Concrete Abutment 2011 work - surf. repairs, backwall & wing replaced Delamination - Spall - Patched Area South: few patched areas - 3ft under G2, 5ft under | SF ust, 10-20 Girders EA Dlumns of LF e. Adde LF er G4, 3f all end w/ | Struts & X O% flange eprimed (no 12 of each Pier 94 d approx. 4 t btwn G4/5 rust stain. btwn G1/2 | brc = 3300 0 dges rust. top coat) w 12 widened. 59 ft west on 0 6. | osf. Órigina 5,100 Spn 2 & 3: vith local ar 0 Loss of pro- | 9 painted J 4,432 50-70% veas of spootective c 0 0 | 7,480 veb freck to rusting 0 coating 0 |
| X | 205 | 1080 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column All columns were fiber wrapped in 2011. West cover fiber wrap around tops of columns of Pier 2. Reinforced Concrete Abutment 2011 work - surf. repairs, backwall & wing replaced South: few patched areas - 3ft under G2, 5ft under North: new top btwn G4/5, 2in spall @ G6, 1in spall Cracking (RC) South: few hrline vert cracks up thru bkwall also. | SF ust, 10-20 Girders EA Dlumns co LF e. Adde LF er G4, 3f all end w/ LF 1ft horiz crack w | Struts & X | brc = 3300 0 dges rust. top coat) w 12 widened. 59 ft west on 0 6. 6in under @ G5. | osf. Órigina 5,100 Spn 2 & 3: ith local ar 0 Loss of pr 35 N abut. 23 12 G3. | yeas of spootective c | 7,480 veb freck to rusting 0 coating 0 |
| × | 205 | 1080 | Girders = 15,000sf (webs = 10,000sf, flanges = 5 Effectiveness (Steel Protective Coatings) 4 Orignl Girders - Spn 1 & 4: < 5% web freckle rurust, 95% flange rust w/ some hvy flaking. 2 New (edges btm flng). Reinforced Concrete Column All columns were fiber wrapped in 2011. West coover fiber wrap around tops of columns of Pier 2. Reinforced Concrete Abutment 2011 work - surf. repairs, backwall & wing replaced South: few patched areas - 3ft under G2, 5ft under North: new top btwn G4/5, 2in spall @ G6, 1in spall Cracking (RC) South: few hrline vert cracks up thru bkwall also. North: few hrline vert cracks bkwl, short hrline vert Reinforced Concrete Cap All caps were fiber wrapped in 2011. Loss of pro | SF ust, 10-20 Girders EA Dlumns co LF e. Adde LF er G4, 3f all end w/ LF 1ft horiz crack w | Struts & X | brc = 3300 0 dges rust. top coat) w 12 widened. 59 ft west on 0 6. 6in under @ G5. | osf. Órigina 5,100 Spn 2 & 3: ith local ar 0 Loss of pr 35 N abut. 23 12 G3. | yeas of spootective c | 7,480 veb freck to rusting 0 coating 0 0 |

page 4 Structure No.: **B-18-035**

| 9 | | | | | | | | | |
|---|------|------|--|----------|-------------|-------------|------------|------------|----|
| | | | Moveable Bearing | EA | 24 | 0 | 24 | 0 | 0 |
| X | 311 | | At both abutments and piers 1 and 3. Abutment pabutments for G1,G2,G3,G5 and G6. | lates we | ere sandbla | sted in 20° | 11. Holddo | owns at bo | th |
| | | | Corrosion | EA | | 0 | 24 | 0 | 0 |
| | | 1000 | Light to med surface rusting. | | | 1 | • | ' | |
| | 242 | | Fixed Bearing | EA | 6 | 0 | 6 | 0 | 0 |
| X | 313 | | At pier 2, Sandblasted in 2011. | | | | | | |
| | | | Corrosion | EA | | 0 | 6 | 0 | 0 |
| | | 1000 | Surface rust showing. | | • | • | | | |
| | | | Reinforced Concrete Bridge Rail | LF | 537 | 37 | 500 | 0 | 0 |
| X | 331 | | New in 2011. | | • | • | | | |
| | | | Cracking (RC) | LF | | 0 | 500 | 0 | 0 |
| | | 1130 | Vert hairline cracks approx. 10ft spacing. Surface | map cr | acking thro | ughout - ap | pprox. 90% | , , | |
| | | | Integral Wingwall | EA | 4 | 2 | 2 | 0 | 0 |
| X | 8400 | | New wings in 2011. | | | | | | |
| | | | Wingwall Deterioration. | EA | | 0 | 2 | 0 | 0 |
| | | 8903 | Surface map cracking on both south wings. | | | | | ' | |
| | | l | 1 | | | | | | |

Assessments

| 133 | 533111611 | 113 | | | | | | | | | | |
|-----|-----------|--------|--|-----------|------------|-------------|---------------|----------------|----------|--|--|--|
| | | | | | | | Quantity in C | ondition State | | | | |
| Chk | Element | Defect | Description | UOM | Total | 1 | 2 | 3 | 4 | | | |
| | | | Drainage - Approach | EA | 4 | 3 | 1 | 0 | 0 | | | |
| Χ | 9001 | | SW C&G to inlet. NW asphalt flume. NE, SE asphalt/grvl shldr. Minor signs of erosion down SW wing. | | | | | | | | | |
| | | | Utilities | EA | 1 | 1 | 0 | 0 | 0 | | | |
| X | 9011 | | 1 conduit along North Abutment and running i | nto Bay | 3 of Spar | 11. | | | | | | |
| | 9030 | | Signs - Object Markers | EA | 2 | 2 | 0 | 0 | 0 | | | |
| X | | | | | | | | | | | | |
| | | | Slope Protection- Crushed Aggregate with Bit. | EA | 2 | 2 | 0 | 0 | 0 | | | |
| X | 9043 | | Slopes sprayed in 2011. Tightly adhered. Minor | vegetati | on growth | on both slo | pes. | | | | | |
| | | | Steel Diaphragm | EA | 80 | 32 | 36 | 12 | 0 | | | |
| Χ | 9167 | | 32 new in 2011. Old steel freckle rust 10-50% bo cut pieces on G3 connectors need to be grind. | ttom flar | ige worse. | New steel | primed in | good condi | tion. No | | | |
| | 9322 | | Approach Roadway - Concrete (non-structural) | EA | 2 | 2 | 0 | 0 | 0 | | | |
| Х | | | New in 2011. | | | | | | | | | |
| - | | | | | | | | | | | | |

NBI Ratings

| | File | New |
|----------------|------|-----|
| Deck | 8 | 8 |
| Superstructure | | 6 |
| Substructure | • | 7 |
| Culvert | N | N |
| Channel | N | N |
| Waterway | N | N |

page 5 Structure No.: **B-18-035**

Structure Specific Notes

Proposed to be painted in 2016. OLD: Monitor Full Depth over Pier #1 and #3.

Need to fix south slope

Inspection Specific Notes

OLD: Redecked and widened in 2011. Significant lifting of girder ends at both abutments. Working with central office to develop plan to minimize movement.

Utility box on NW corner abut. - 2in PVC on backwall to bay 3 - some type of sensor embedded in underside of deck just N of Pier

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Walk-thru visible.

Special Requirements

| | Chk | Comments |
|------------------|-----|----------|
| Traffic Control | | |
| ReachAll Vehicle | | |
| Access Equipment | | |
| Other | | |

Construction History

| Year | Work Performed | FOS id |
|------|--------------------|------------|
| 9999 | NOT BUILT | 1022-00-10 |
| 2011 | NEW DECK | 1022-00-78 |
| 1996 | ADD PED FENCING | 1020-06-72 |
| 1990 | PAINTING | |
| 1987 | OVERLAY - CONCRETE | 0018-74-10 |
| 1966 | NEW STRUCTURE | |

Maintenance Items History

Recommended by Status Status change Year completed

Maintenance Items

| | item | Priority | Recommended by | Status | Status change |
|---|---|----------|--------------------------------|------------|---------------|
| | Misc - Cut Brush | LOW | Balsiger, Lee (6011) | IDENTIFIED | 08/27/15 |
| | | | - 5 9 - 1, - 1 - 1 (- 1 - 1) | | |
| - | 0 1 0 1 0 | | | | |
| | Cut Brush/Spray weeds on slope protection | | | | |
| | | | | | |

page 6 Structure No.:B-18-035

Routine Document Comment/Description N abut



page 7 Structure No.:B-18-035

Routine Document Comment/Description S abut



page 8 Structure No.:B-18-035

Routine
Document Comment/Description

Pier 2 - Col 2 - top loss of wrap



STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-18-035 USH 53 SB over IH 94

| | | | LOCATION | | | |
|---------------------------------------|--|--------------------|---|---|--|--|
| (3) Municipality: | 1WOT | V-WAS | SHINGTON(18024) | | | |
| (16) Latitiude(° ' "): | | 60.00 | | | | |
| (17) Longitude(° ' "): | 91°25'42.00"W | | | | | |
| | | | | | | |
| | | | TD A FFIG OFFICE | | | |
| (004) 0 | | | TRAFFIC SERVICE | | | |
| (28A) Lanes On: | 3 | | | | | |
| (28B) Lanes Under: | 6 | | | | | |
| (102) Traffic Pattern On: | | | -ONE WAY TRAFFIC -TWO WAY TRAFFIC | | | |
| (102) Traffic Pattern Under: | | AFFIC - | ONE WAY TRAFFIC X-TWO WAY TRAFFIC | | | |
| (19) Detour Length(mi): | 0 | | | | | |
| | | | | | | |
| | | | GEOMETRY | | | |
| (49) Structure Length(ft): | 270.1 | | CECIMIETICI | | | |
| (50) Sidewalk Width(ft): | Left: 0 | ١ ٥ | | Right: 0.0 | | |
| (50) Curb Width(ft): | 5.0 | 7.0 | | Night. 0.0 | | |
| (52) Culvert Barrel Length(ft): | 3.0 | | | | | |
| (34) Skew: | Anala | /o\. 2E | | Direction, DIGUT FORWARD VIETT FORWARD | | |
| (34) Skew. | Angle | (): 23 al Widt | h | Direction: -RIGHT FORWARD X-LEFT FORWARD Non-Cardinal Width | | |
| (51) Bridge Roadway(ft): | 43.0 | ai vviut | III | 43.0 | | |
| (52) Deck(ft): | 45.5 | | | 46.0 | | |
| (32) Approach Roadway(ft): | 46 | | | 0 | | |
| (32) Approach Roadway(it). | | المطا | er Clearance | Non-Cardinal Under Clearance | | |
| (47) Minimum Horizontal(ft): | 42.0 | ai Unu | er Clearance | 41.25 | | |
| (55) Minimum Right Lateral(ft): | 11.25 | | | 10.5 | | |
| (55) Minimum Left Lateral(ft): | | | | 7.0 | | |
| (55) Willimum Len Lateral(it). | 7.0 | | | 7.0 | | |
| | | | | | | |
| | | | RAILING APPRAISAL | | | |
| (36A) Bridge Rail Adequacy: | -SUB-S | TANDARI | X-STANDARD -NOT APPLICABLE | | | |
| (36B) Transition Adequacy: | -SUB-STANDARD X-STANDARD -NOT APPLICABLE | | | | | |
| (36C) Approach Guardrail Adequacy: | | | | | | |
| (36D) Guardrail Termination Adequacy: | | | | | | |
| Outer Rail: | Left Right Type | | | | | |
| | | ····g···· | TYPE F (TWO SQUARE TUBES) - STEEL(8) | | | |
| | | | TYPE F (3 SQUARE TUBES) - STEEL(65) | | | |
| | | | TYPE F (4 SQUARE TUBES) - STEEL(72) | | | |
| | | | TYPE M-STEEL 3 SQUARE TUBES(93) | | | |
| | X | X | SLOPED FACE PARAPET LF(91) | | | |
| | | <u> </u> | SLOPED FACE PARAPET HF(92) | | | |
| | | | VERTICAL FACE PARAPET TYPE A(74) | | | |
| | | | TYPE W-THRIE BEAM(79) | | | |
| | | | TYPE H ON VERTICAL PARAPET(80) | | | |
| | | | TIMBER(38) | | | |
| | \vdash | | OTHER(99) (Please specify) | | | |
| | | | | | | |
| | | | | | | |
| Transition Type: | | CONT G | UARD RAIL | | | |
| | | NO APP | GRDRL | | | |
| | | NO ATT | ACHMENT | | | |
| | 5 | 22 MM(| 7/8") BOLT (Please enter quantity) | | | |
| | | 25 MM(| 1") BOLT (Please enter quantity) | | | |
| | | OTHER | (Please specify) | | | |
| | | | | | | |
| Occaninal Tanasis of as Torr | L., | (04) ENG | EDOV ADCORDING TERMINIAL /FAT | | | |
| Guardrail Termination Type: | X | | ERGY ABSORBING TERMINAL/EAT | | | |
| | L | · / | RN DOWN | | | |
| | | (99) OTF | HER (Please specify) | | | |
| | | | | | | |
| | | l | | | | |
| | | | | | | |
| | | | ADWAY ALIGNMENT APPRAISAL | | | |
| (72) Approach Alignment Appraisal: | | | | s a substantial reduction in vehicle operating speed | | |
| | | (6) FAIR | - Horizontal or Vertical curvature requires a very mi | nor speed reduction | | |

X (8) GOOD- No speed reduction required



Bridge Asbestos Inspection Report

WisDOT Project ID: 1190-02-34

Structure Number: B-18-0035, B-18-0036 **Structure Name:** USH 53 over IH 94

City/County: Town of Washington, Eau Claire County

Lat/Long Coordinates: 444600.0/ 912542.0, 444600.9/ 912516.85

TRC Project Number: 235777.0000.0000

Date Inspected: October 14, 2015

Inspected By/License Number: John Roelke, All-119523

Findings:

The inspection to identify and collect samples of potential asbestos-containing material (ACM) was completed following WisDOT standard sampling procedure for bridge inspections found in FDM 21-35-45.

None of the materials that were identified as potentially ACM and sampled tested positive for asbestos. The overlay on the bridges can proceed as planned. Standard Special Provision (STSP) 107-125 should be included in the specifications.

| | | | | Friable/ | Quantity | | | |
|-----------|-------------|----------|------------------------|----------------|----------|--|--|--|
| Sample | Sample | Sample | Analytical Results and | Non-friable or | of ACM | | | |
| Number | Description | Location | Method | No ACM | Material | | | |
| B-18-00 | 35 | | | | | | | |
| 1 | Paint | Girder | PLM, non-detect | No ACM | 0 | | | |
| 2 | Paint | Girder | PLM, non-detect | No ACM | | | | |
| 3 | Paint | Girder | PLM, non-detect | No ACM | | | | |
| B-18-0036 | | | | | | | | |
| 1 | Paint | Girder | PLM, non-detect | No ACM | 0 | | | |
| 2 | Paint | Girder | PLM, non-detect | No ACM | | | | |
| 3 | Paint | Girder | PLM, non-detect | No ACM | | | | |

If you have any questions, please contact me, at (608) 826-3628.

TRC Environmental Corporation

Danul Hank

Daniel Haak John Roelke

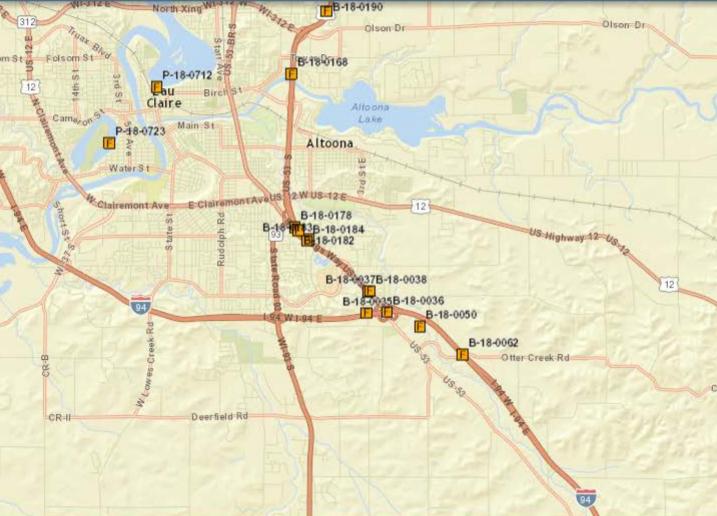
Project Manager Asbestos Inspector

Attachments: Location Map, Photos, and Laboratory Reports

Report Distribution:

| Recipient | Electronic (PDF) Copy | Paper Copy |
|--|-----------------------|------------|
| BTS-ESS sharlene.tebeest@dot.wi.gov | X (via email) | X |
| REC amy.adrihan@dot.wi.gov; | X (via email) | |
| nicholasA.schaff@dot.wi.gov | | |
| Project Manager david.koepp@dot.wi.gov | X (via email) | |
| Other | | |

John Rollke W



B-18-0035











Paint on girder

B-18-0036











Paint on girder

Industrial Hygiene Laboratory 21 Griffin Road North Windsor, CT 06095 (860) 298-6308



BULK ASBESTOS ANALYSIS REPORT

CLIENT: Wisconsin Department of Transportation

Lab Log #:

0047023

Project #:

235777.0000.0000

Date Received:

10/16/2015

Date Analyzed:

10/19/2015

Site:

DOT Bridge Inspection, B-18-35

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

| Sample No. | Color | Homogenous | Multi- Layered | Layer No. | Other Matrix Materials | Asbestos % | Asbestos Type |
|-------------|-------|------------|-------------------|-----------|---------------------------|---------------|------------------|
| B-18-35 (1) | Grey | Yes | No | | | ND | None |
| B-18-35 (2) | Grey | Yes | No | | | ND | None |
| B-18-35 (3) | Grey | Yes | No | | | ND | None |

Reporting limit- asbestos present at 1%

ND - asbestos was not detected

Trace - asbestos was observed at level of less than 1%

NA/PS - Not Analyzed / Positive Stop

SNA- Sample Not Analyzed- See Chain of Custody for details

Kathleen Williamson, Laboratory Manager

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2016. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through October 1, 2016. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

Reviewed by:

Amanda Parkins, Approved Signatory

Date Issued 10/19/2015

Industrial Hygiene Laboratory 21 Griffin Road North Windsor, CT 06095 (860) 298-6308



BULK ASBESTOS ANALYSIS REPORT

CLIENT:

Wisconsin Department of Transportation

Lab Log #:

0047029

Project #:

235777.0000.0000

Date Received:

10/16/2015

Date Analyzed:

10/19/2015

Site:

DOT Bridge Inspection, B-18-36

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

| Sample No. | Color | Homogenous | Multi- Layered | Layer No. | Other Matrix Materials | Asbestos % | Asbestos Type |
|-------------|-------|------------|-------------------|-----------|---------------------------|---------------|------------------|
| B-18-36 (1) | Grey | Yes | No | | | ND | None |
| B-18-36 (2) | Grey | Yes | No | | | ND | None |
| B-18-36 (3) | Grey | Yes | No | | | ND | None |

Reporting limit- asbestos present at 1%

ND - asbestos was not detected

Trace - asbestos was observed at level of less than 1%

NA/PS - Not Analyzed / Positive Stop

SNA- Sample Not Analyzed- See Chain of Custody for details

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2016. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through October 1, 2016. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

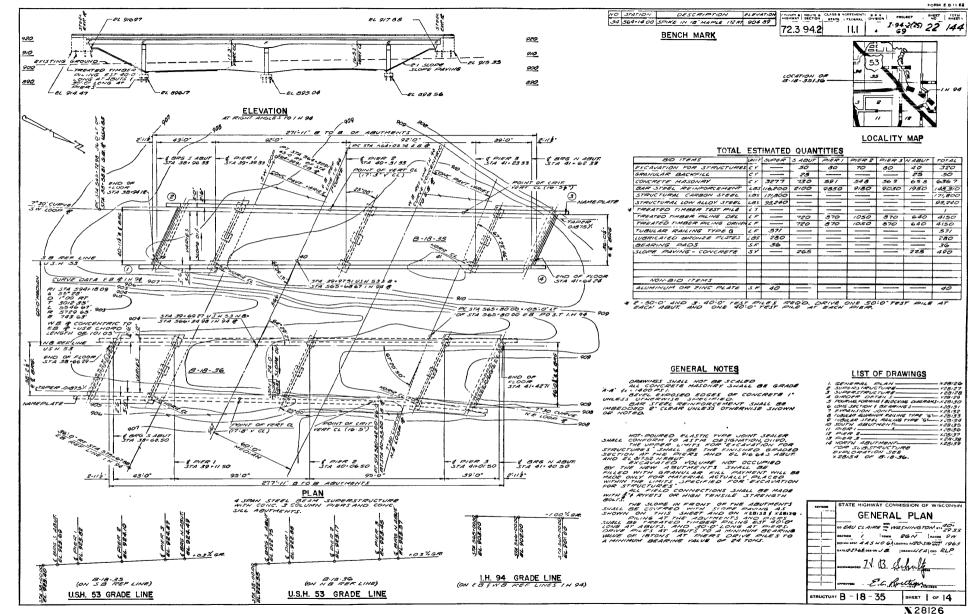
Analyzed by:

..... Reviewed by:

Kathleen Williamson, Laboratory Manager

Amanda Parkins, Approved Signatory

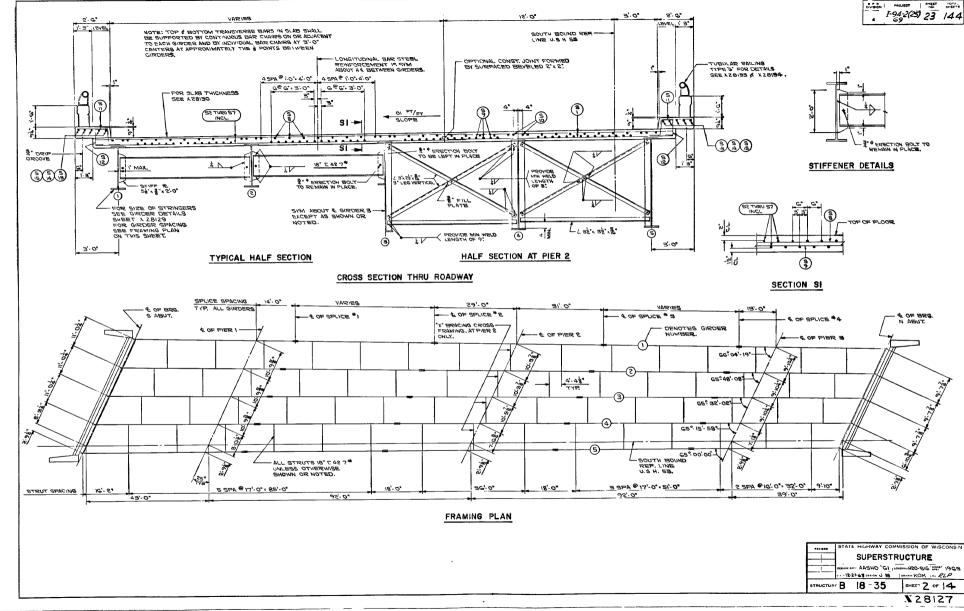
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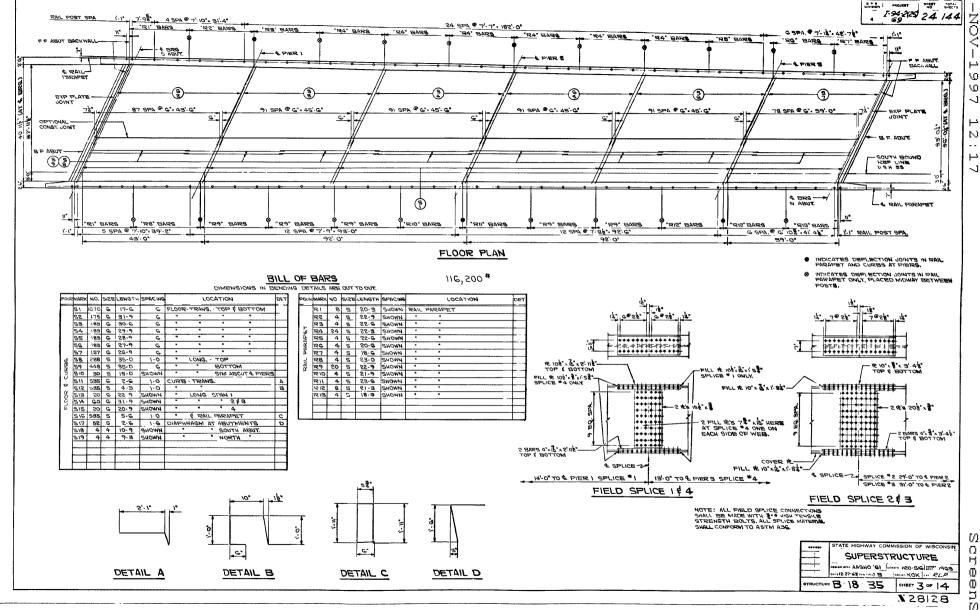
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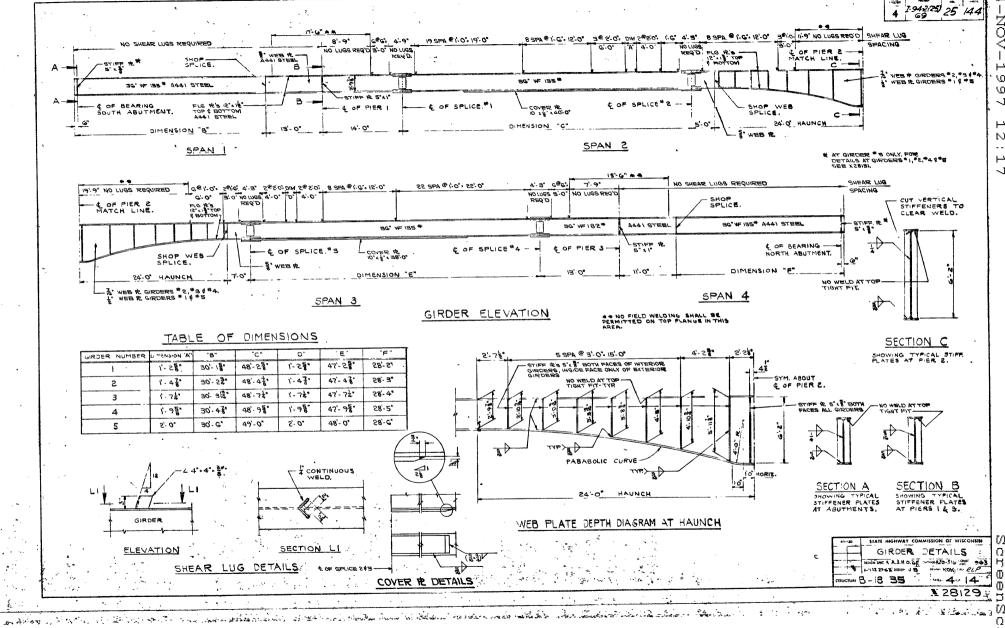
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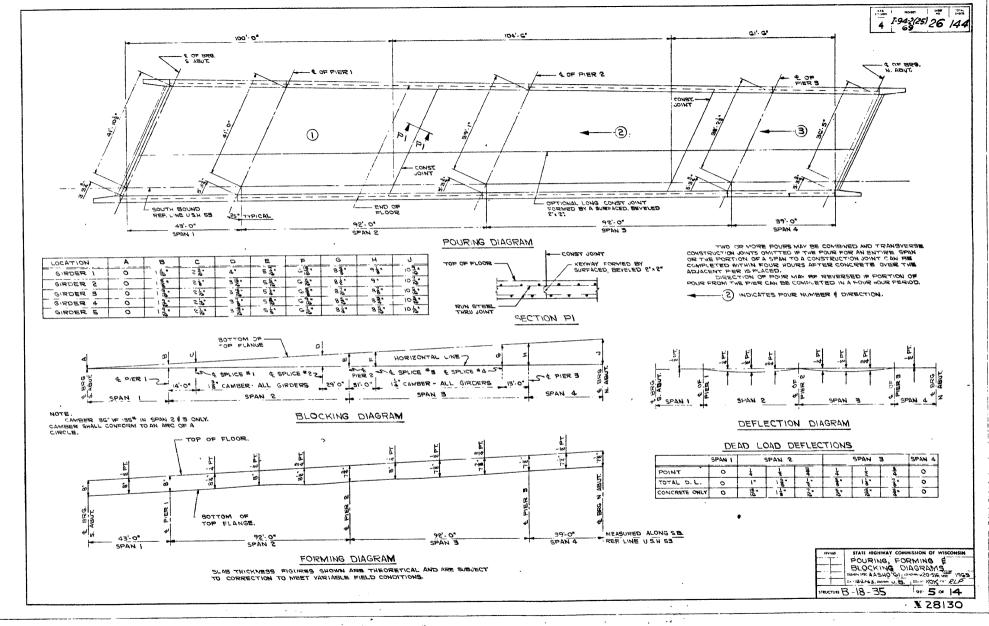
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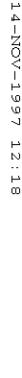


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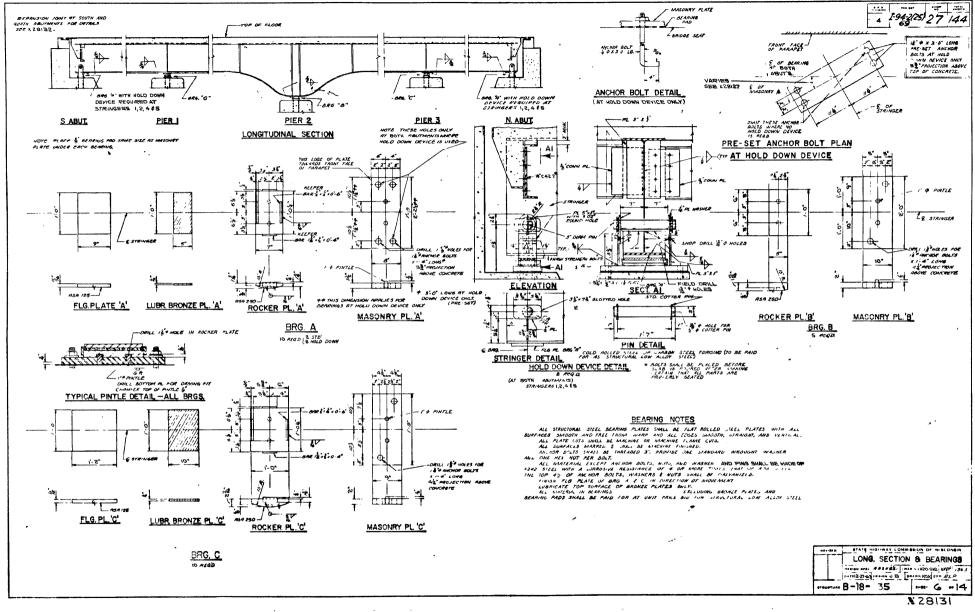
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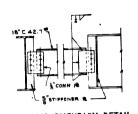
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CURB.

TYPICAL DIAPHRAGM DETAIL NOTE: FOR DIAPHRAGM DETAIL AT HOLD DOWN DEVICES ON NORTH AND SOUTH ABUTMENTS SEE X28131

LEGEND

PROJECT

LEGEND

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S DOME 2: 1,2 ROWY WIDTH,
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S DOME 2: 1,2 ROWY WIDTH, WELD TO LORE WITH & LINES

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NUT TO LOR SABE SOR FASY REMOVAL. \$ 18 SLOTTED HOLE

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IN STEIL DONE AS SET PLAY REMOVAL. \$ 18 SLOTTED HOLE
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TYPE JOINT DEALER

TYPE JOINT DEALER

TYPE JOINT DEALER

TO SABE SENT BAR \$ 0 O SALTEMANTE CTAS. BETWEEN

STRINGERS. WELD TO STEIL (DAR ! 3 LONG.)

12 \$ 18 BENT BAR \$ 0 O SALTEMANTE CTAS. BETWEEN

STRINGERS. WELD TO STEIL (DAR ! 3 LONG.)

12 \$ 18 BENT BAR \$ 1.00 TYPE \$ CTAS. BETWEEN

STRINGERS. WELD TO STEIL (DAR ! 3 SLOWED)

12 \$ 18 BENT BAR \$ 1.00 TYPE \$ CTAS. BETWEEN

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WELD TO BAR " 18 WITH \$ 1 LINE OF \$ " FILLET WELD, FIELD

WELD TO BAR " 18 WIT

4 × 20.

22. R. 6" %", CUT TO CURR LIMITS AS SHOWN. FIELD WELD

TO R.# 24 TO R. "24 35" R. CUT TO CURB LIMITS AS SHOWN, SHOP WELD TO S.T. \$1 AND SUPPORT \$5. 2\(\frac{1}{2}\), 3\(\frac{1}{2}\), 3\(\frac{1}{2}\), 3\(\frac{1}{2}\), 3\(\frac{1}{2}\), 3\(\frac{1}{2}\), 3\(\frac{1}{2}\), 4\(\frac{1}{2}\), 4\(\frac{1}{2}\), 2\(\frac{1}{2}\), 3\(\frac{1}{2}\), 4\(\frac{1}{2}\), 4\(\frac{1}{2}\), 4\(\frac{1}{2}\), 4\(\frac{1}{2}\), 4\(\frac{1}{2}\), 4\(\frac{1}{2}\), 2\(\frac{1}{2}\), 4\(\frac{1}{2}\), 2\(\frac{1}{2}\), 3\(\frac{1}{2}\), 4\(\frac{1}{2}\), 2\(\frac{1}{2}\), 3\(\frac{1}{2}\), 3\(\frac{1}{2}\), 2\(\frac{1}{2}\), 3\(\frac{1}{2}\), 3\(\frac{1}{2}\), 2\(\frac{1}{2}\), 3\(\frac{1}{2}\), 3\(\frac{1}2\), 3\(\frac{1}2\), 3\(\frac{1}2\), 3\(\frac{1}2\), 3\(\frac{

TIG & "IT.

ZG. BLOCK & BOLT FOR SHIFMENT WITH PIPE SLEEVE AND "" BOLT. PROVIDE "NE" + HOLES IN 4"2 & STEM OF S.T. " I AT 3:0" CTRS. FOR "" BOLT.

AFTER CONCRETE HAS SET THE JOINT OPENING SHALL BE THOR-

OUGHLY CLEANED PAINT SHALL BE ARPHED TO EXPANSION JOINT EXCEPT AS NOTED.
AFTER CONCRETE HAS SET REMOVE BOLTS OF A STORE.
AND FILL HOLES WITH HOT POURTD ELASTIC TYPE JOINT SEALER.

EXPANSION JOINT TO BE BUILT TO CONFORM 10 RDWY.
CROWN, GRADE & CURB SLOPE RESPECTIVELY.

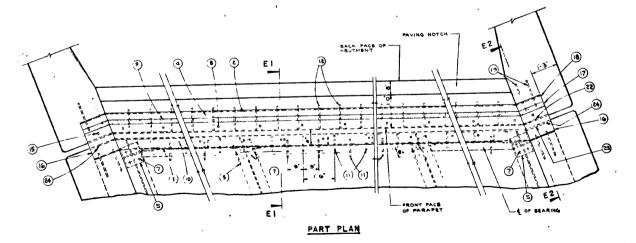
ALL ITEMS MAPRED # SHALL BE MADE OF A 242 STEEL WITH A CORROSIVE RESISTANCE OF 4 OR MORE TIMES THAT OF A 36 STEEL.

+ + 12" + HOLE IN BAR #3 AND L #2.

ALL MATERIAL IN EXPANSION JOINT SHALL BE PAID FOR AS

STRUCTURAL LOW ALLOY STEELONE FIELD SPLICE SHALL BE PERMITTED.

* * PROVIDE 58" HOLE IN 25" LEG FOR BOLT " 14.



SECTION E2

(r) (n) (n)

BENT BAR 3 PER E.

SECTION THRU JOINT AT CURB

PAINTOUTER FACE OF R'S 416 F

TAP OF FLOOR

. a 60° F.

18"C.42.7#__

(TO BE HORIZONTAL) SECTION EI

(5)

CONST. JOINT

BAR 4" & TO-BE PARALLEL TO FLOOR.

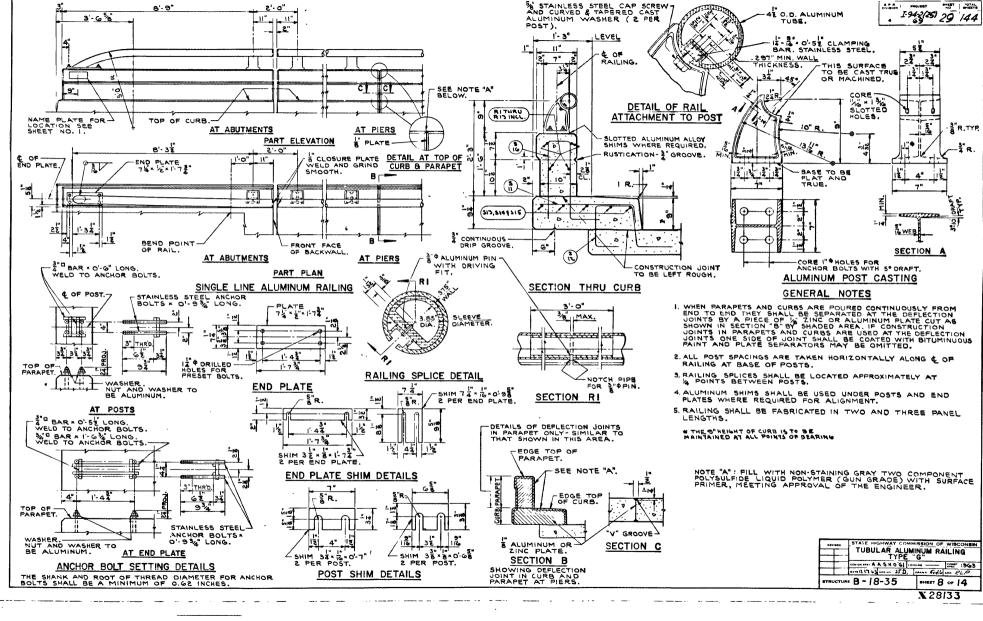
TE HIGHWAY COMMISSION OF WISCONS. EXPANSION JOINT 1112 27-63 ... 878 ... KOK ... ELP *** 7 or 14 TRUCTURE B - 18-35

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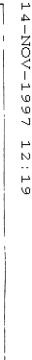
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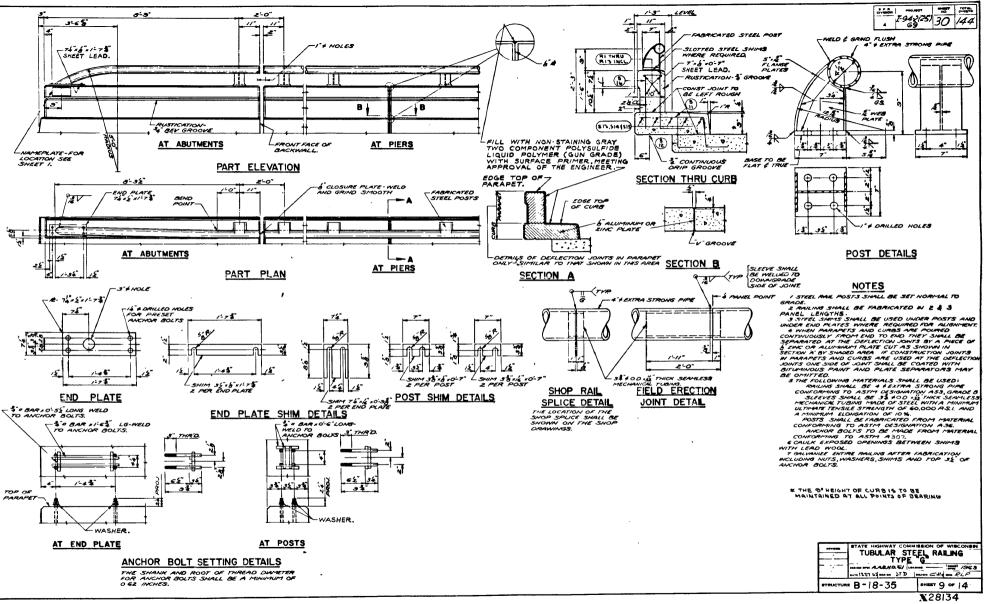
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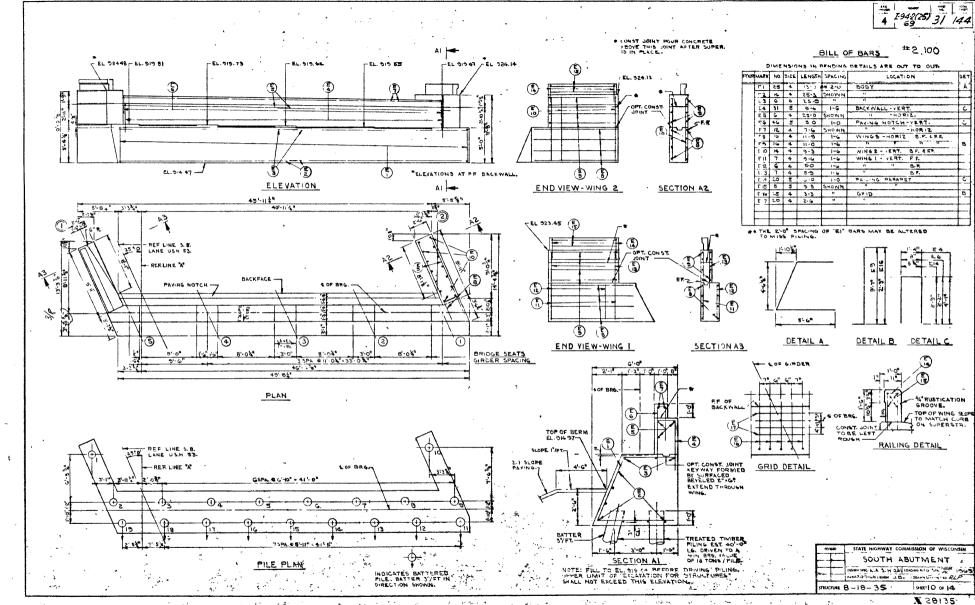




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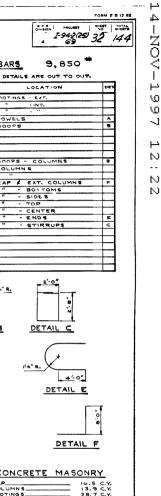
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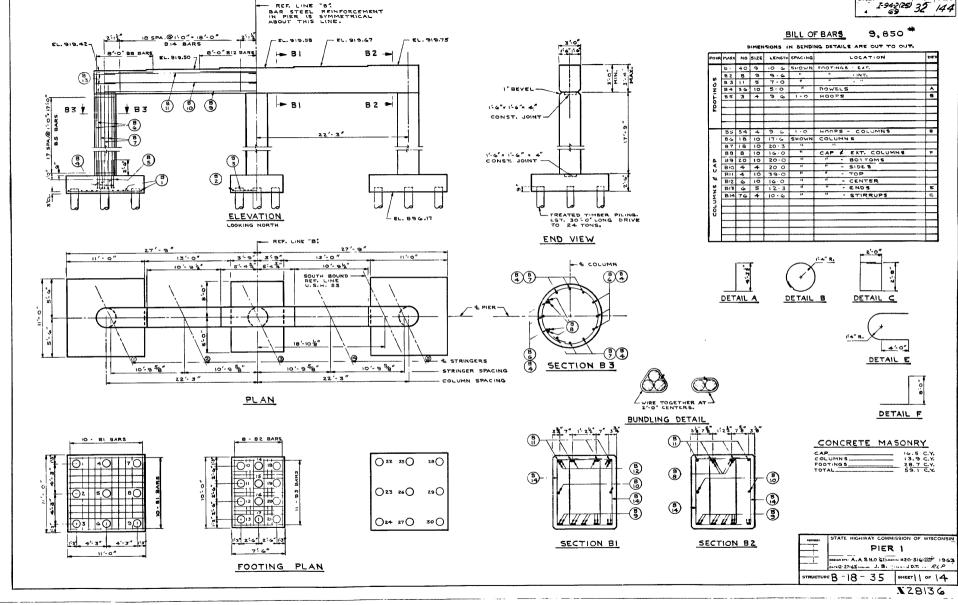
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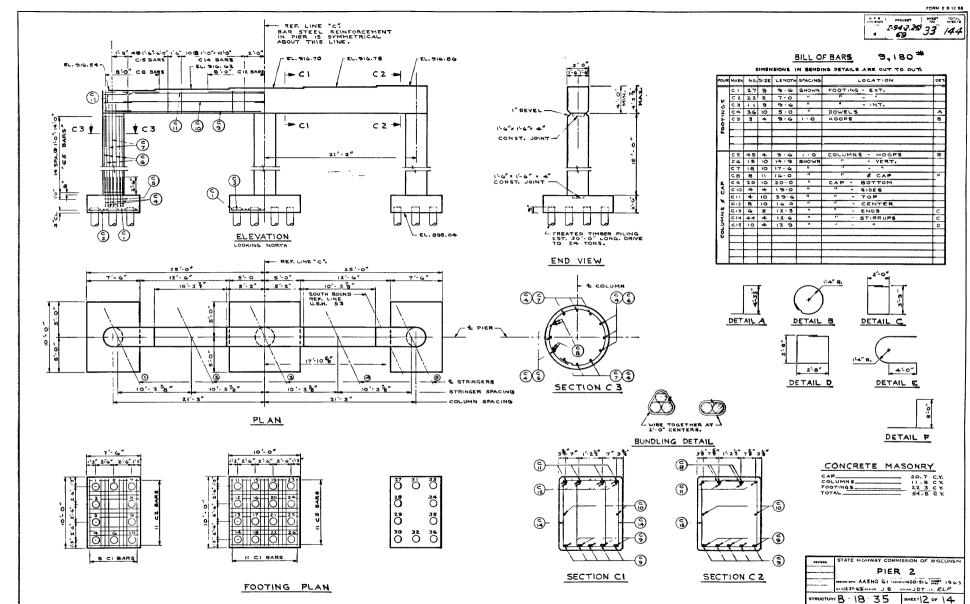
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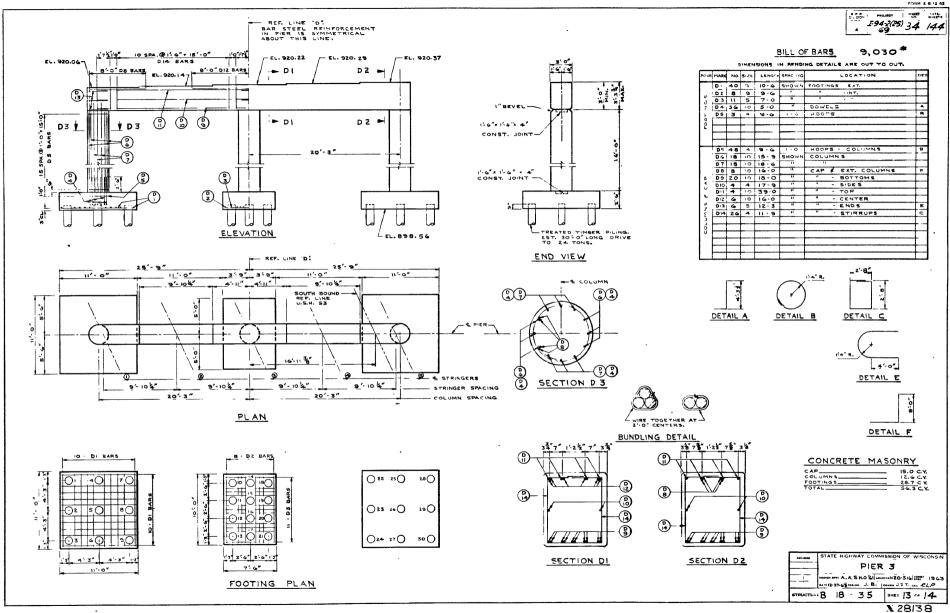
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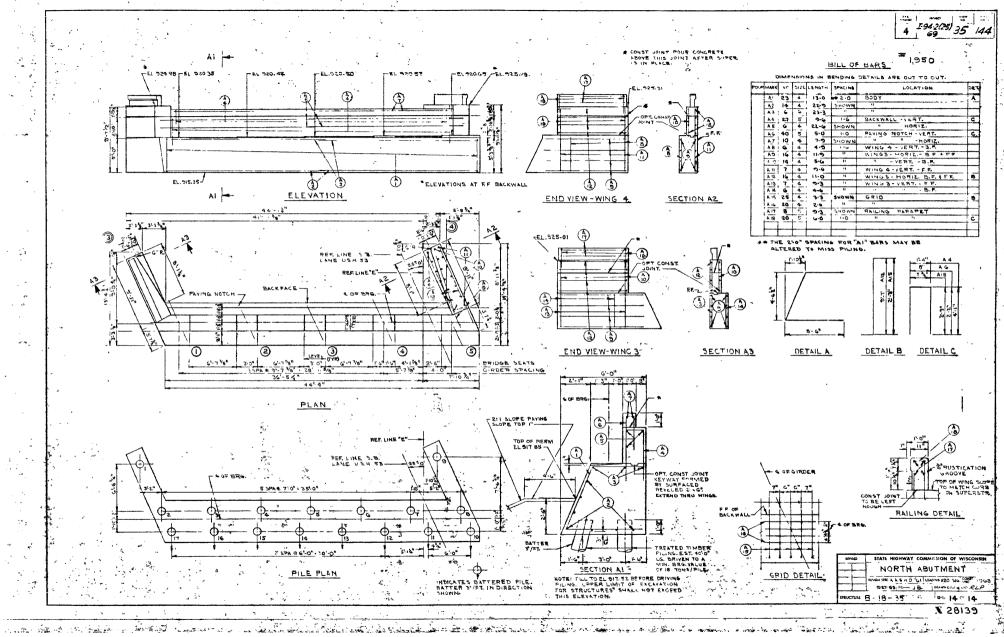
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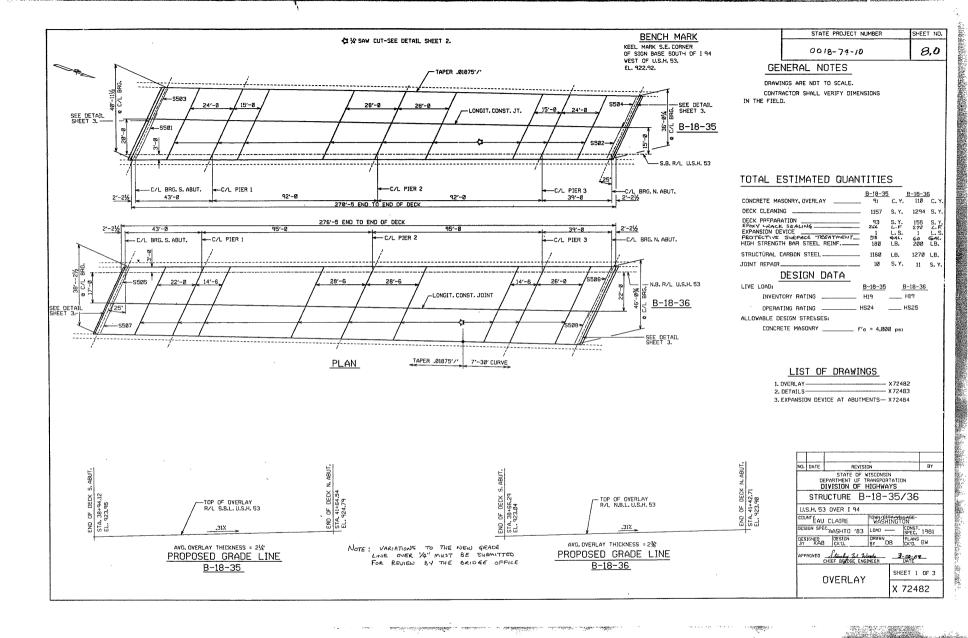
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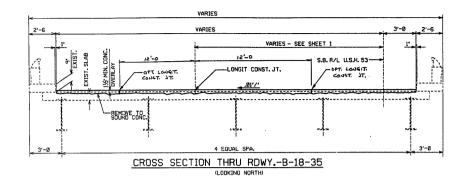
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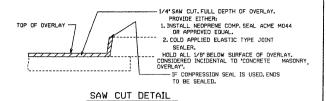
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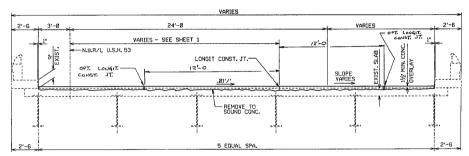




STATE PROJECT NUMBER SHEET NO. 0018-74-10 8,1

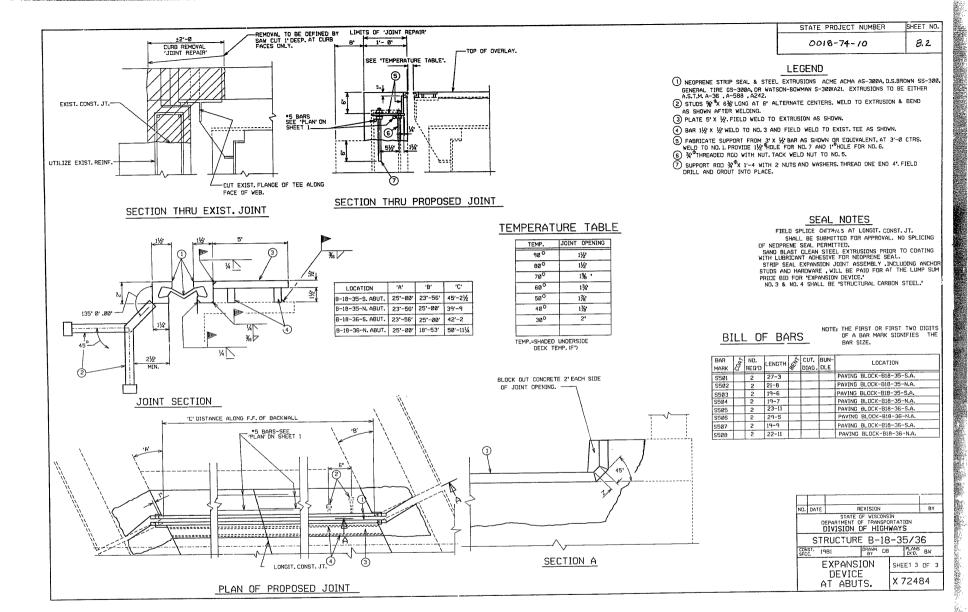




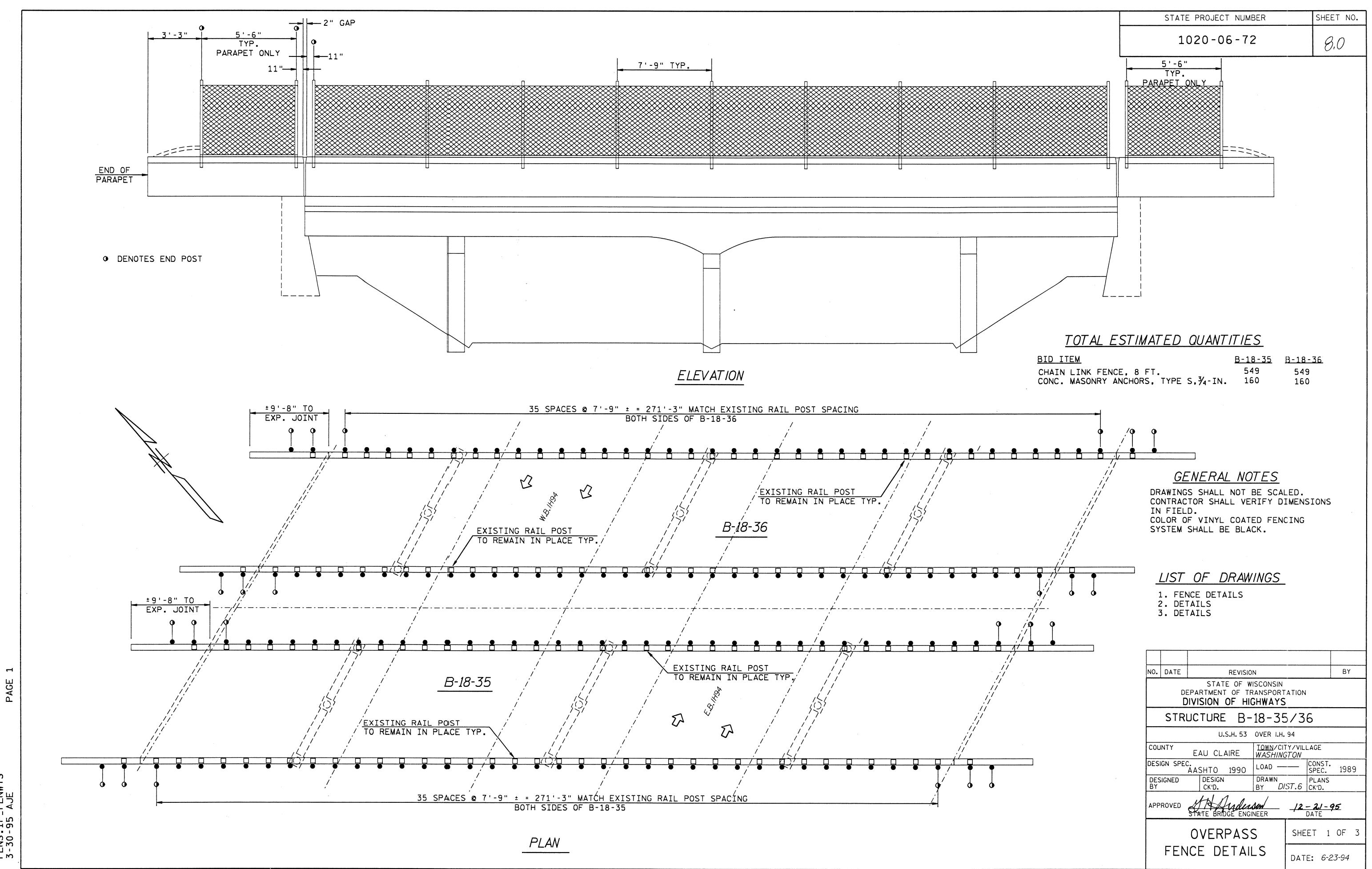


CROSS SECTION THRU RDWY.-B-18-36

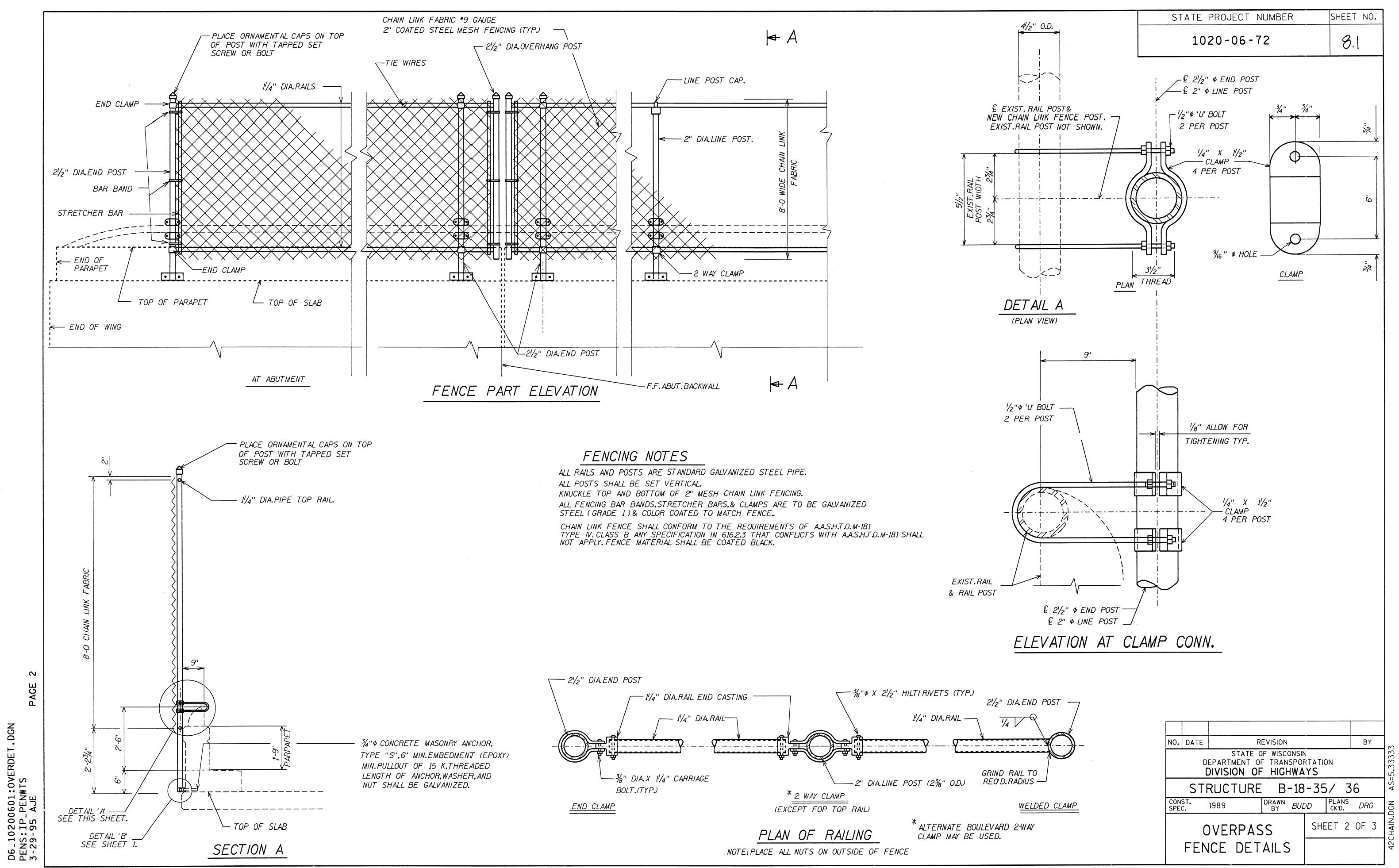
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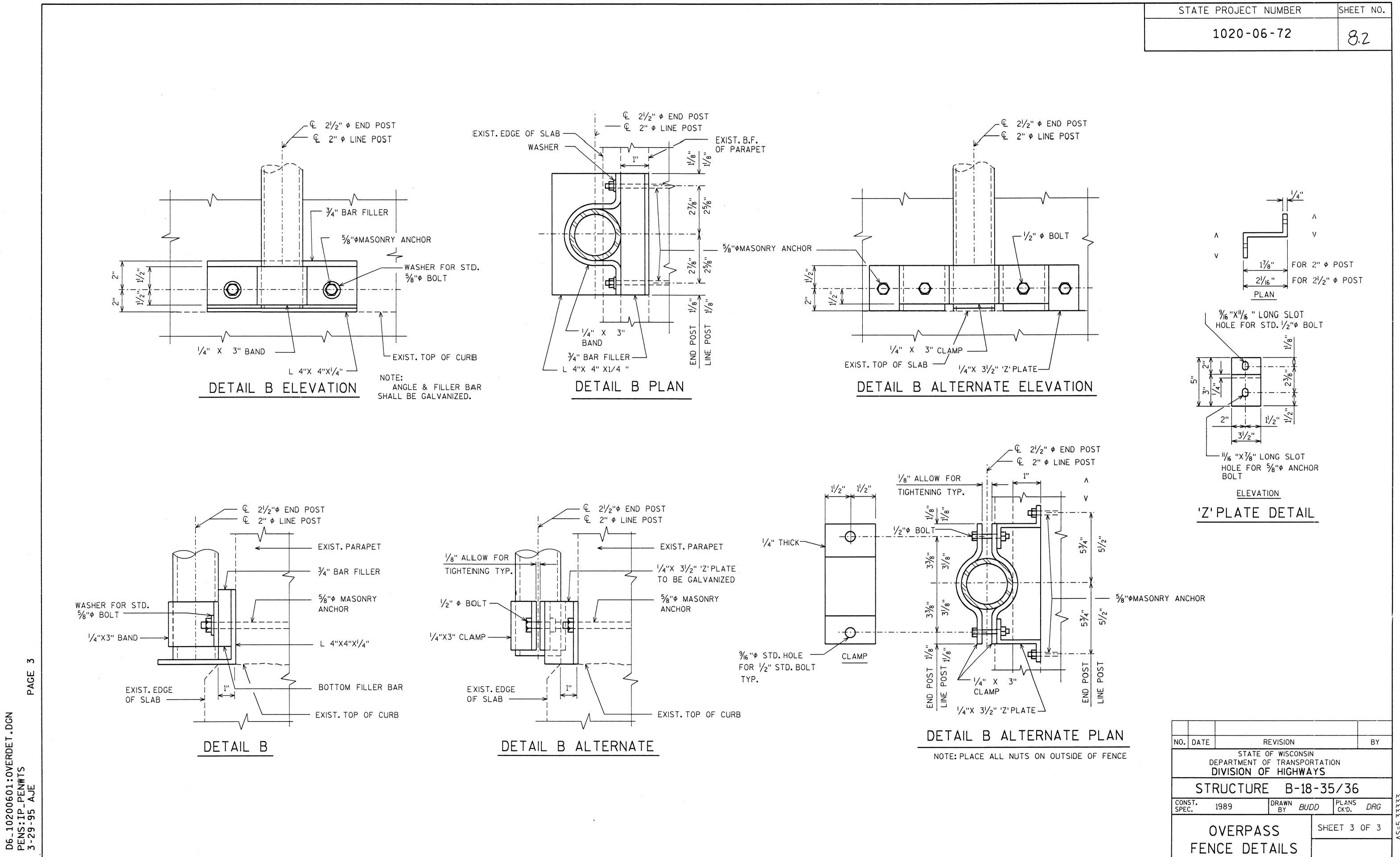


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CREATED 6/23/94 - DIST.6 - LJH

FEDERAL PROJECT STATE PROJECT PROJECT CONTRACT 1022-00-78 WISC 2010692 1 1022-01-73 WISC 2010693 1

AS-BUILT PLAN

PROJECT ENGINEER: BRIAN DANIELSEN, P.E. QUEST CIVIL ENGINEERS

RIME CONTRACTOR: ZENITH TECH INC.

9/7/10 12/9/11

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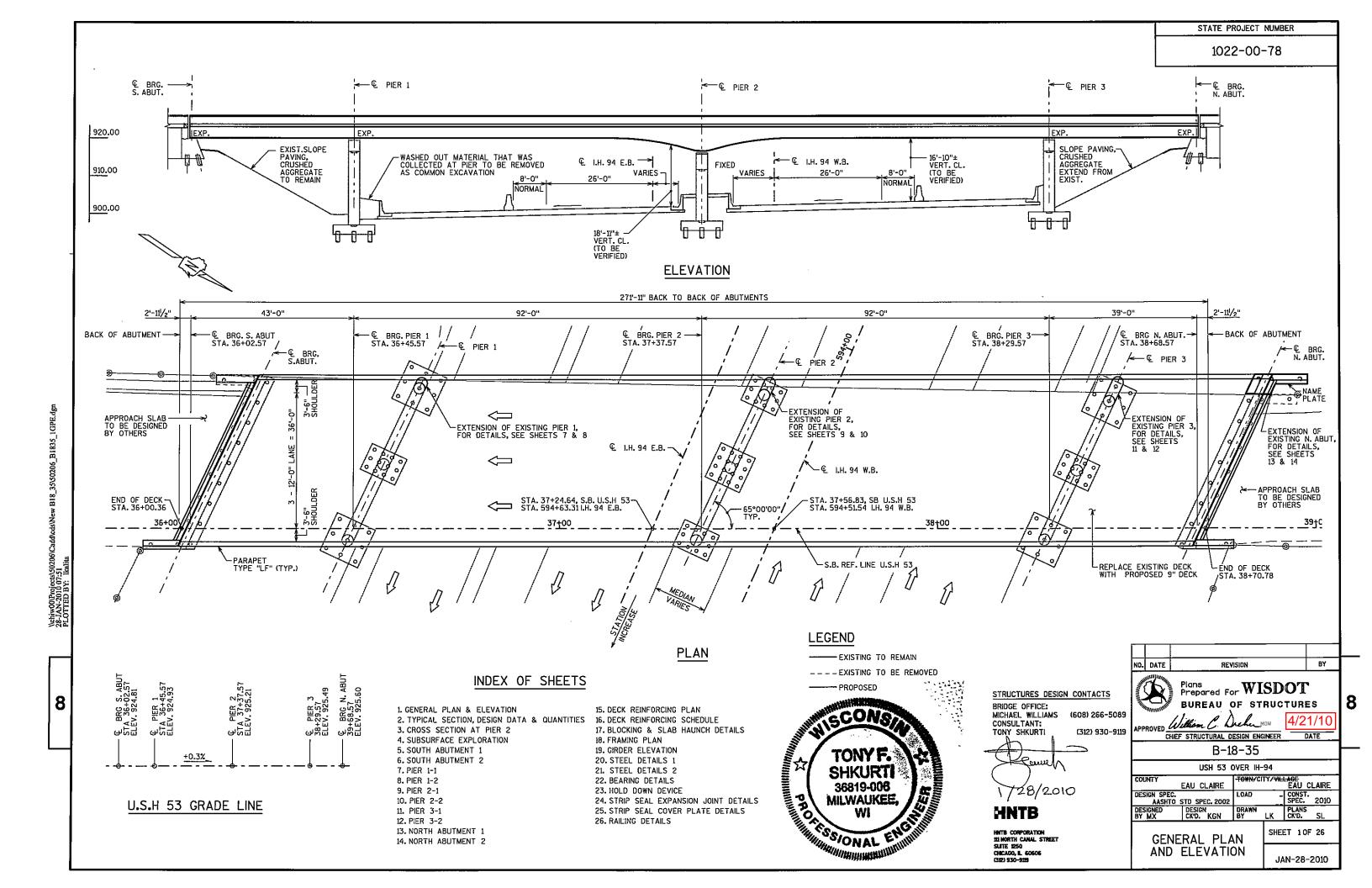
ORIGINAL PLANS

WEYANDT CHIPPEWA FALLS STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PREPARED BY SEH Surveyor SEH Deslaner STACEY RUSCH DANIEL OJIBWAY RICHARD SHERMO JANE ENGLEBRETSEN C.O. Examiner

OF JUL UAPE



DRAWINGS SHALL NOT BE SCALED, DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

BAR STEEL REINFORCEMENT SHALL BE EMBEDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER

FRICTION TYPE HIGH-TENSILE STRENGTH BOLTS UNLESS OTHERWISE SHOWN OR NOTED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

ALL REINFORCING BARS ARE ENGLISH AND THE FIRST DIGITS OF BAR MARK SIGNIFY THE BAR SIZE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FINISHED GRADED SECTION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE ABUTMENTS SHALL BE THE BOTTOM OF SLOPE PROTECTION.

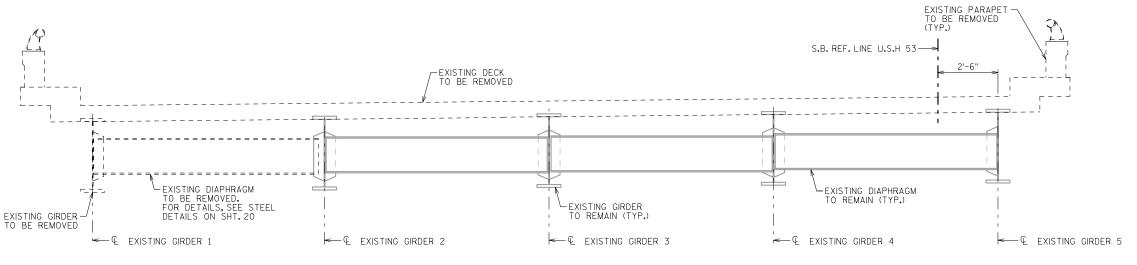
AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH GRANULAR BACKFILL.

USE EXISTING BAR STEEL REINFORCING WHERE SHOWN AND EXTEND INTO NEW WORK, EXTEND BARS TO PROVIDE A MINIMUM LAP LENGTH OF 2'-0" UNLESS OTHERWISE NOTED

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE".

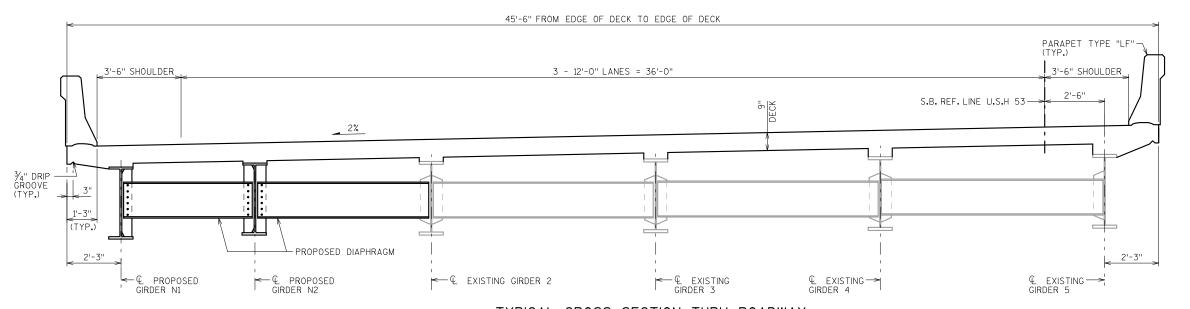
CLEAN AND FILL EXISTING LONGITUDINAL AND TRANSVERSE CRACKS WITH PENETRATING EPOXY AS DIRECTED BY THE FIELD

APPLY PROTECTIVE SURFACE TREATMENT TO THE NEW DECK AND TOP & INSIDE FACES OF THE NEW PARAPETS.



TYPICAL CROSS SECTION THRU ROADWAY

(EXISTING, LOOKING UPSTATION)



TYPICAL CROSS SECTION THRU ROADWAY

ESTIMATE OF QUANTITIES

(PROPOSED, LOOKING UPSTATION)

| BID ITEMS | UNIT | SUPER. | S. ABUT. | PIER 1 | PIER 2 | PIER 3 | N. ABUT. | TOTAL |
|--|------|----------------|----------|--------|--------|--------|----------|--------|
| REMOVING OLD STRUCTURE (STA 37+24.64) | LS | | | | | | | 1 |
| EXCAVATION FOR STRUCTURES BRIDGES (B-18-35) | LS | | | | | | | 1 |
| BACKFILL STRUCTURE | CY | | | | | | 7 | 7 |
| CONCRETE MASONRY BRIDGES | CY | 420 | 21 | 4 | 8 | 12 | 29 | 494 |
| EXPANSION DEVICE (B-18-35) | LS | | | | | | | 1 |
| PROTECTIVE SURFACE TREATMENT | SY | 1 , 510 | 7 | | | | 7 | 1524 |
| MASONRY ANCHORS TYPE L NO.4 BARS | EACH | | 44 | 105 | 95 | 95 | 31 | 370 |
| MASONRY ANCHORS TYPE L NO.5 BARS | EACH | | | 7 | 8 | 12 | | 27 |
| MASONRY ANCHORS TYPE L NO.7 BARS | EACH | | | | | | 8 | 8 |
| BAR STEEL REINFORCEMENT HS BRIDGES | LB | | | | | | 460 | 460 |
| BAR STEEL REINFORCEMENT HS COATED BRIDGES | LB | 93,450 | 2,320 | 910 | 1,520 | 2,130 | 2,270 | 102600 |
| STRUCTURAL STEEL HS | LB | 131,350 | | | | | | 131350 |
| STRUCTURAL STEEL CARBON | LB | 10,770 | | | | | | 10770 |
| WELDED STUD SHEAR CONNECTOR 7/8X6-INCH | EACH | 2,970 | | | | | | 2970 |
| BEARING ASSEMBLIES FIXED (B-18-35) | EACH | | | | 2 | | | 2 |
| BEARING ASSEMBLIES EXPANSION (B-18-35) | EACH | | 2 | 2 | | 2 | 2 | 8 |
| CONCRETE SURFACE REPAIR | SF | | 50 | 60 | 20 | 80 | 50 | 260 |
| PILING CIP CONCRETE DELIVERED AND DRIVEN 10 3/4 X 0.219-INCH | LF | | | | | | 150 | 150 |
| RUBBERIZED MEMBRANE WATERPROOFING | SY | | 25 | | | | 28 | 53 |
| PAINTING INORGANIC ZINC RICH PRIMER (B-18-35) | LS | | | | | | | 1 |
| SLOPE PAVING, CRUSHED AGGREGATE | SY | | | | | | 36 | 36 |
| ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | | 2 | | | | 2 | 4 |
| FIBER WRAP PIER REINFORCING (B-18-35) | LS | | | | | | | 1 |
| PREPARATION AND COATING OF TOP FLANGES (B-18-35) | LS | <u> </u> | | | | | | 1 |
| EPOXY CRACK SEALING | LF | | 10 | | | | 10 | 20 |
| EXCAVATION (COMMON) | CY | | | 10 | | | | 10 |

SPECIFICATIONS

- 1. AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SEVENTEENTH EDITION,
- 2. LATEST EDITION OF WISCONSIN BRIDGE MANUAL, WISCONSIN DEPARTMENT OF
- TRANSPORTATION. 3. WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION 2010 EDITION.

DESIGN DATA

INVENTORY RATING = HS-16

OPERATIONAL RATING = HS-26.6 ULTIMATE DESIGN STRESSES: SLAB & PARAPET: F'C=4000 PSI
ALL OTHERS: F'C=3500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60):
HIGH STRENGTH STRUCTURE STEEL ASTM A 709 GRADE 50:
STRUCTURAL CARBON STEEL ASTM A709 GRADE 36:
HIGH STRENGTH BOLT: ASTM A325 TYPE 1 F'C=4000 PSI FY=60,000 PSI FY=50,000 PSI

FOUNDATION DATA

THE EXTENSION OF ABUTMENT TO BE SUPPORTED ON 103/4-IN DIAMETER CAST-IN-PLACE PILES DRIVEN TO A CAPACITY OF 20 TONS/PILE WITH ESTIMATED PILE LENGTH OF 50 FEET.

LEGEND

----- EXISTING TO REMAIN --- EXISTING TO BE REMOVED ------ PROPOSED

| NO. | DATE | REVISION | BY |
|-----|------|--|----|
| | [| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |

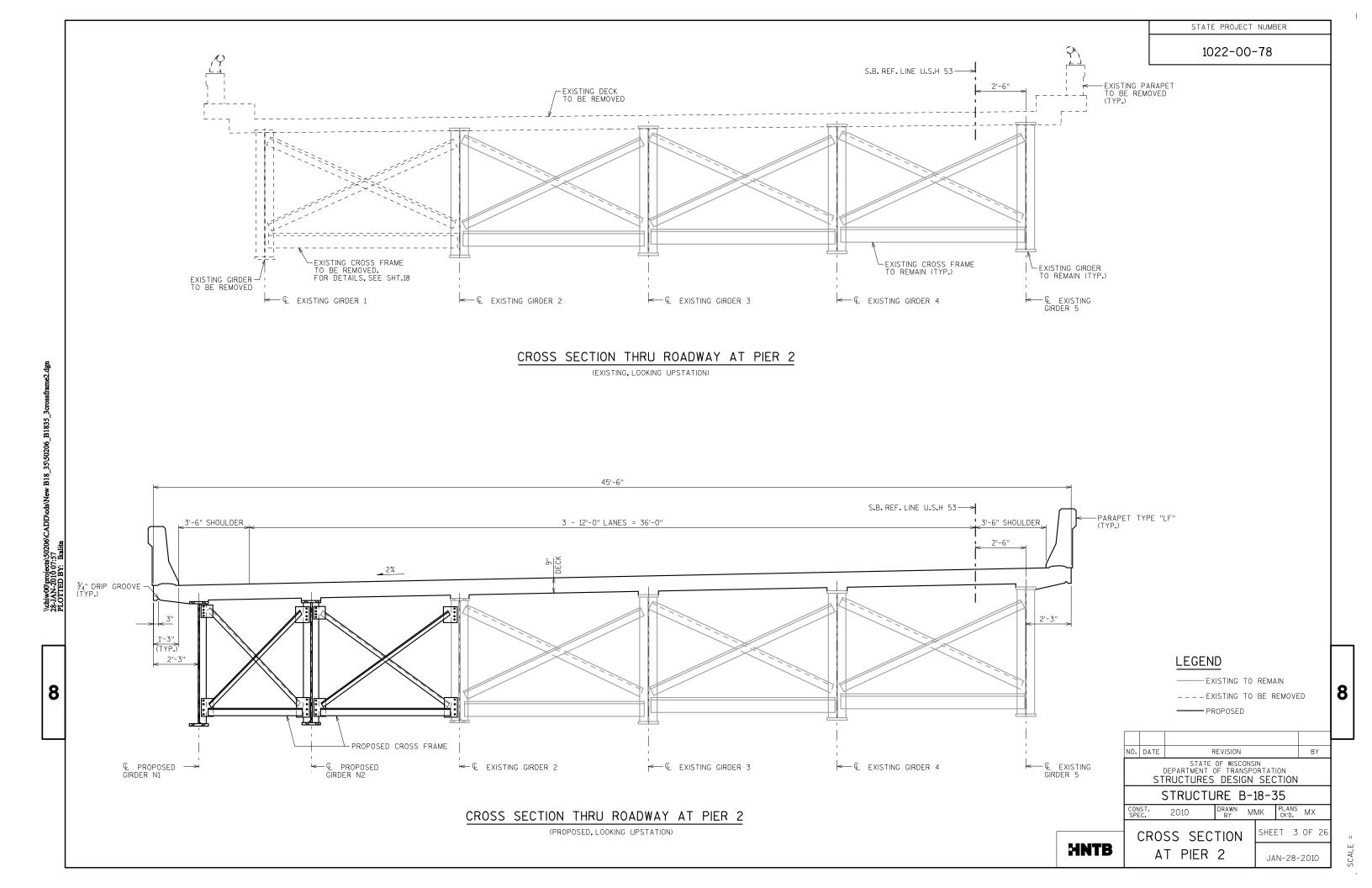
STRUCTURES DESIGN SECTION

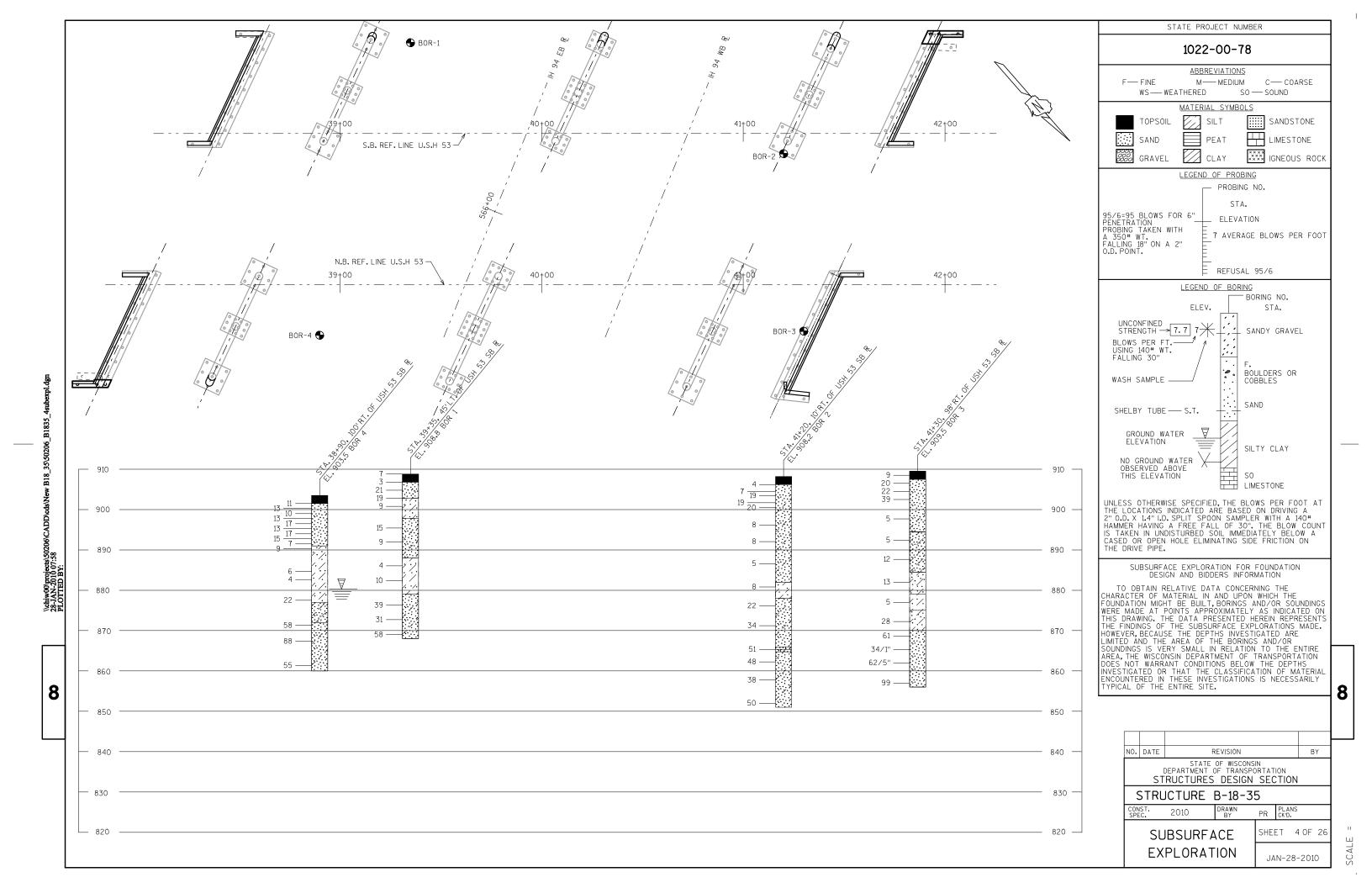
STRUCTURE B-18-35 DRAWN MMK PLANS MX

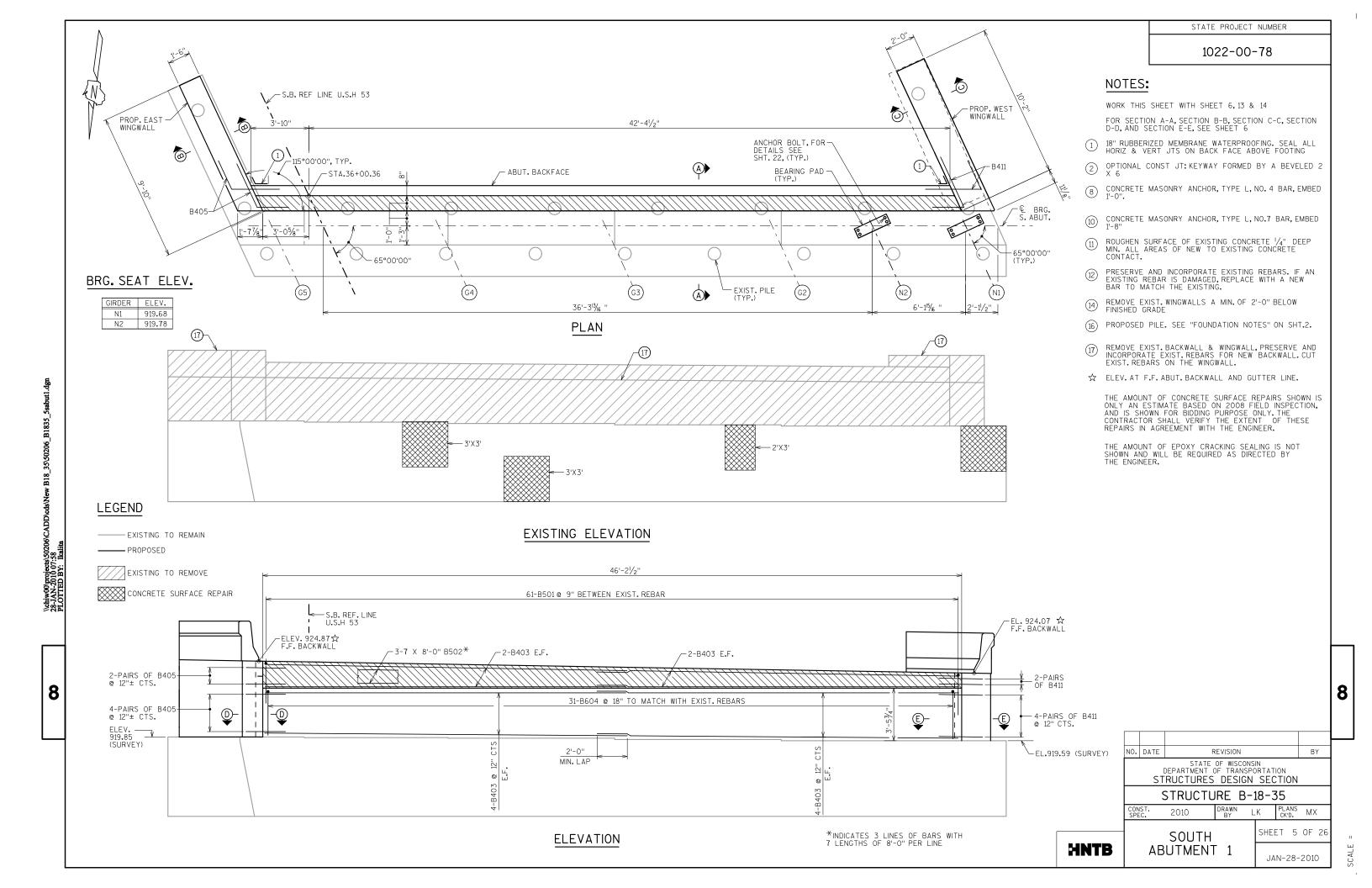
TYPICAL SECTION, SHEET 2 OF 26 DESIGN DATA & QUANTITIES

JAN-28-2010

HNTB







1022-00-78

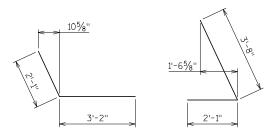
SOUTH ABUTMENT BILL OF BARS

| BAR MARK | COATED | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION | | | |
|-------------|--------|-----------|--------|------|------------|---|--|--|--|
| B501 | Х | 61 | 7'-0" | Х | | PAVING BLOCK VERT. | | | |
| B502 | Х | 21 | 8'-0" | | | PAVING BLOCK HORIZ. | | | |
| B403 | Х | 24 | 24'-0" | | | BACKWALL & PAVING BLOCK HORIZ. | | | |
| B604 | Х | 31 | 7'-6" | Х | | BACKWALL VERT. | | | |
| B405 | Х | 12 | 5'-3" | Х | | WINGWALL, BACKWALL & PAVING BLOCK HORIZ. | | | |
| B406 | Х | 11 | 2'-10" | Х | | EAST WINGWALL VERT. | | | |
| B407 | Х | 21 | 4'-9" | | | EAST WINGWALL VERT. | | | |
| B408 | Х | 44 | 3'-2" | | | WINGWALL VERT. | | | |
| B409 | Х | 6 | 9'-4" | | | EAST WINGWALL HORIZ. | | | |
| B410 | Х | 6 | 8'-10" | | | EAST WINGWALL HORIZ. | | | |
| B411 | Х | 12 | 5'-9" | Х | | WEST WINGWALL, BACKWALL & PAVING BLOCK HORIZ. | | | |
| B412 | Х | 11 | 3'-4" | Х | | WEST WINGWALL VERT. | | | |
| B413 | Х | 23 | 4'-3" | | | WEST WINGWALL VERT. | | | |
| B414 | Х | 5 | 9'-10" | | | WEST WINGWALL HORIZ. | | | |
| B415 | Х | 5 | 10'-8" | | | WEST WINGWALL HORIZ. | | | |



| MARK | А | В |
|------|--------|-------|
| B501 | 3'-2" | 0'-8" |
| B604 | 3'-1 | 1'-4" |
| B406 | 0'-10" | 1'-2" |
| B412 | 0'-10" | 1'-8" |

B501, B604, B406 & B412



B411 B405

NOTES:

WORK THIS SHEET WITH SHEET 5.

UNDER THE BID ITEMS "MASONRY ANCHORS TYPE L", ANCHORED REINFORCING STEEL SHALL BE PAID FOR SEPARATELY AS PROVIDED IN SECTION 505 OF THE STANDARD SPECIFICATIONS FOR BAR STEEL REINFORCEMENT.

LEGEND

---- EXISTING TO REMAIN

PROPOSED

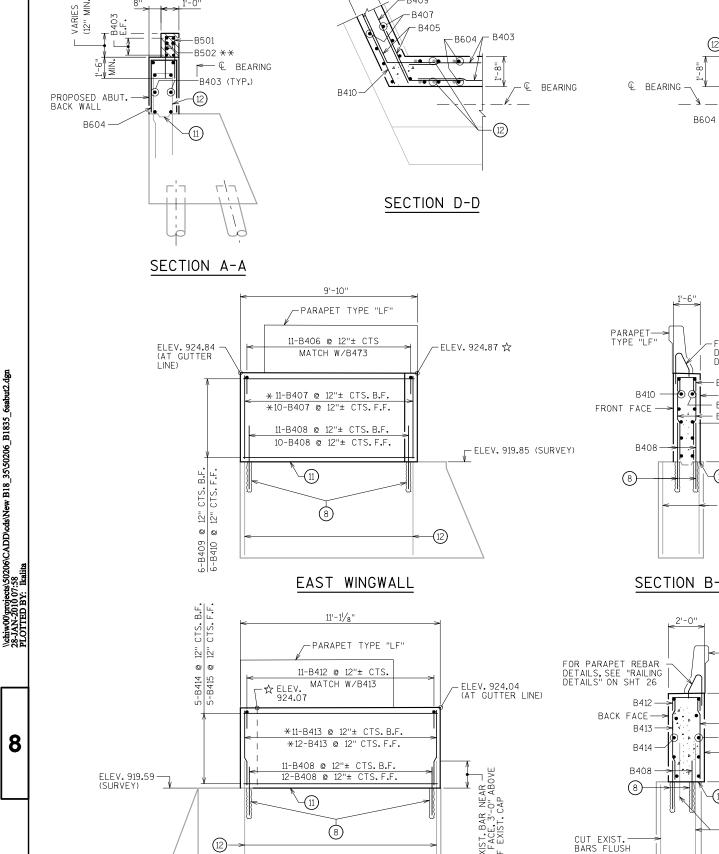
* TO MATCH WITH B408

** SET WITH EXPANSION JOINT ANCHOR PLATE, FOR MORE DETAILS, SEE SHTS. 5 & 24.

NO. DATE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION STRUCTURE B-18-35 DRAWN BY LK PLANS CK'D. MX 2010

SOUTH ABUTMENT 2 SHEET 6 OF 26 JAN-28-2010

HNTB

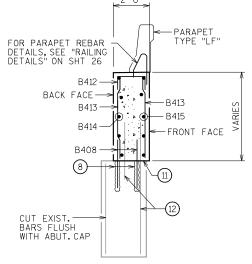


WEST WINGWALL

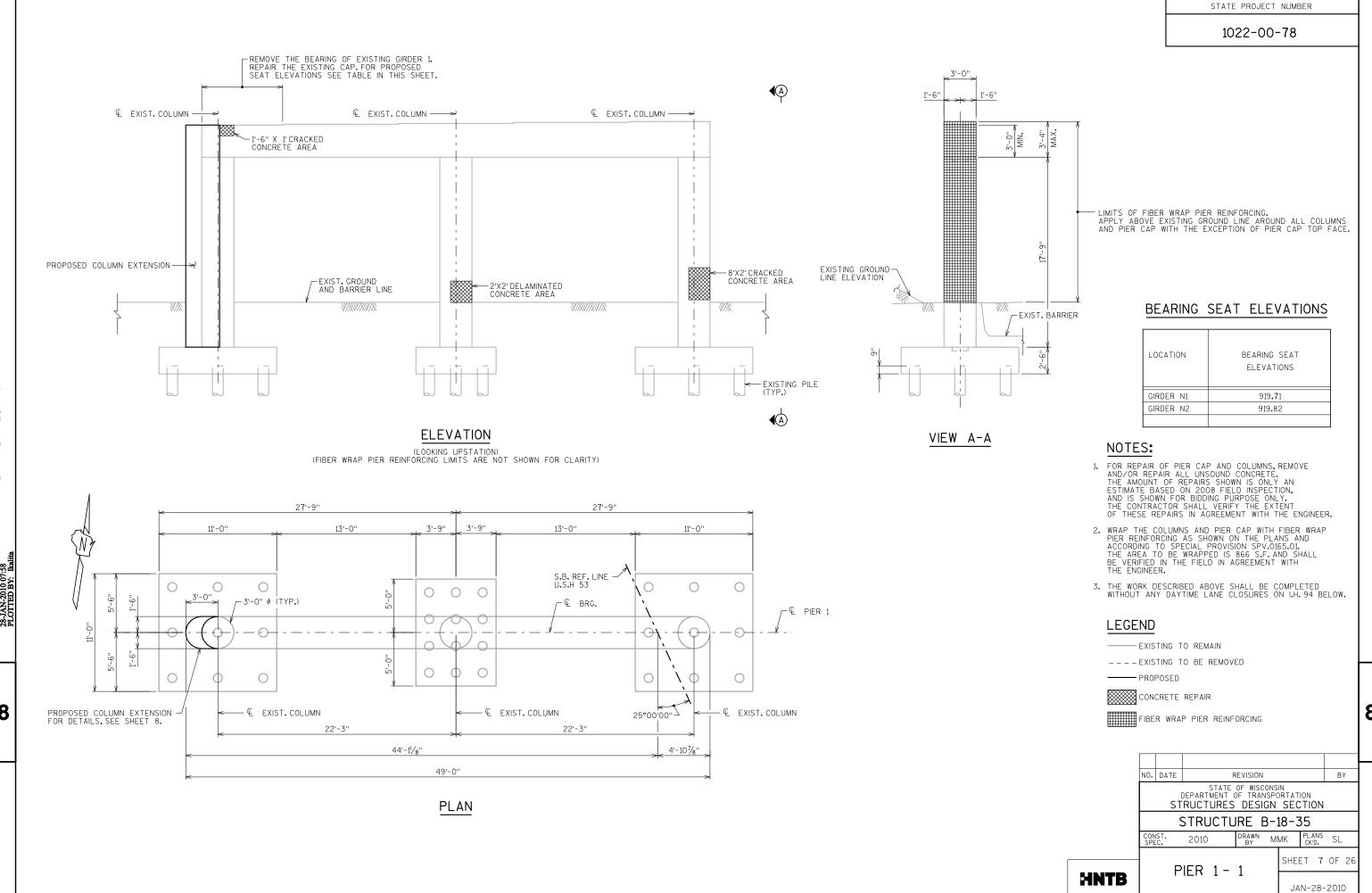
-FOR PARAPET REBAR DETAILS, SEE "RAILING DETAILS" ON SHT 26 -BACK FACE - B409 - B407 -CUT EXIST. BARS FLUSH WITH ABUT.CAP SECTION B-B

B413

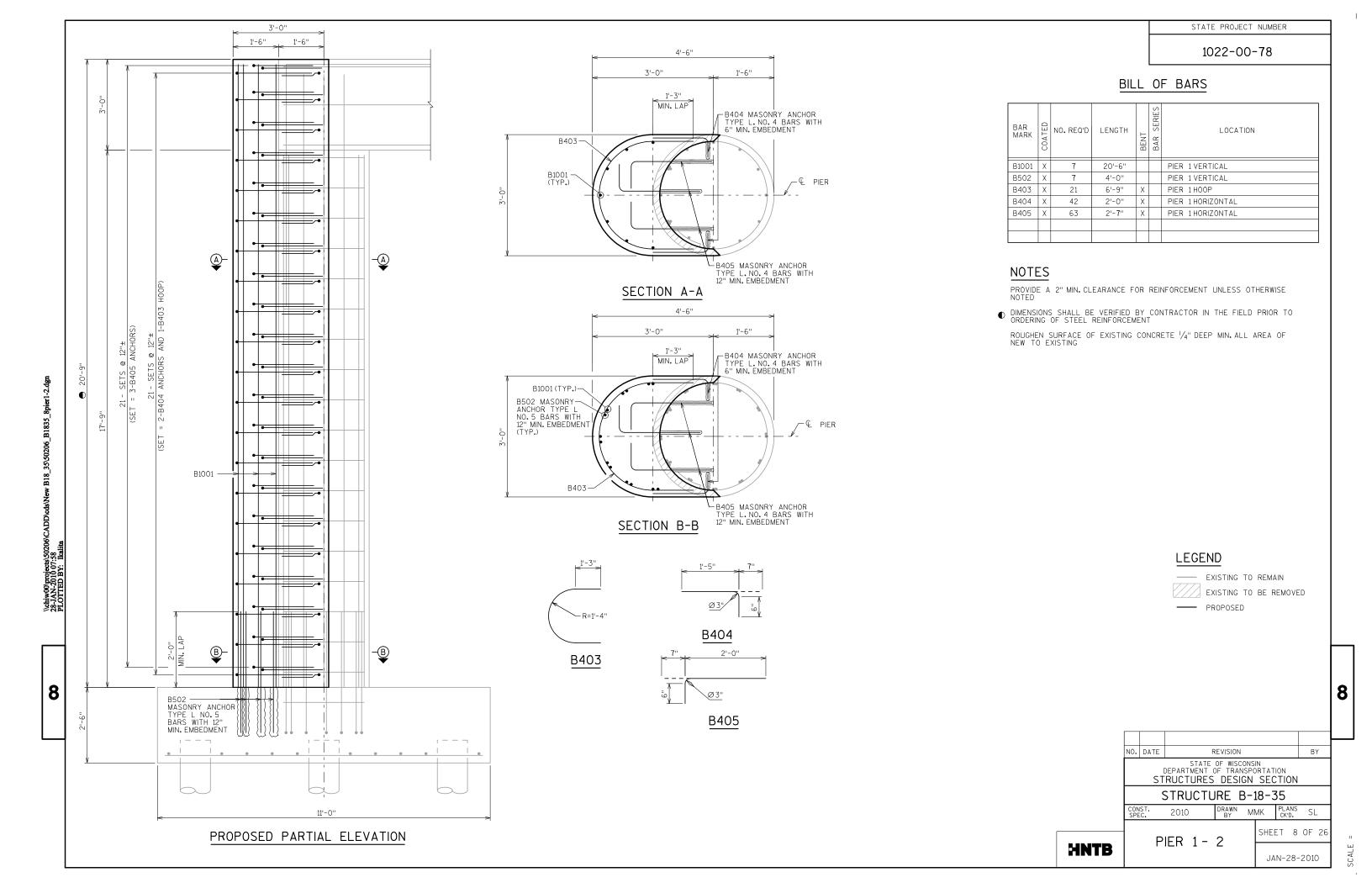
SECTION E-E

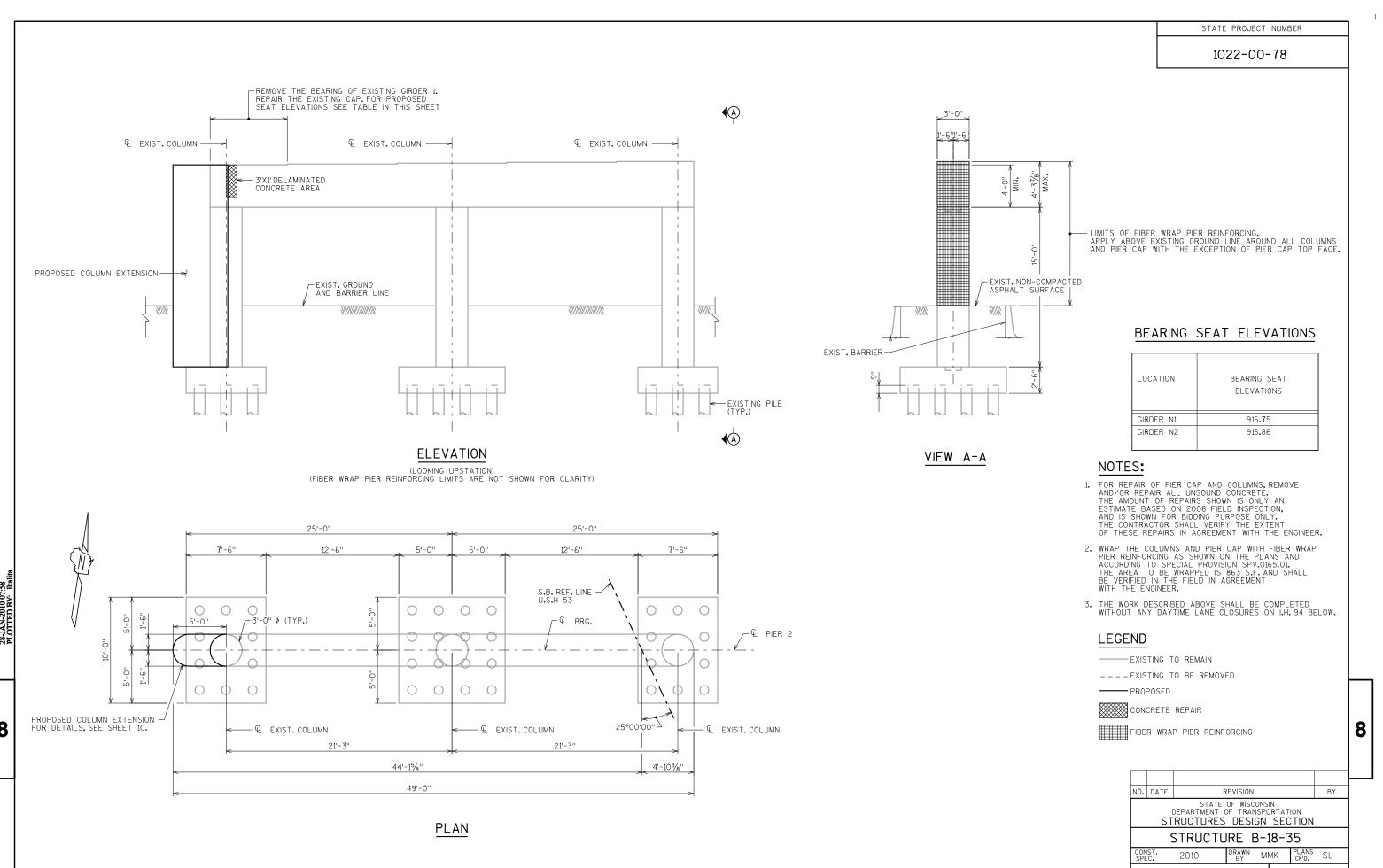


SECTION C-C



SCALE =





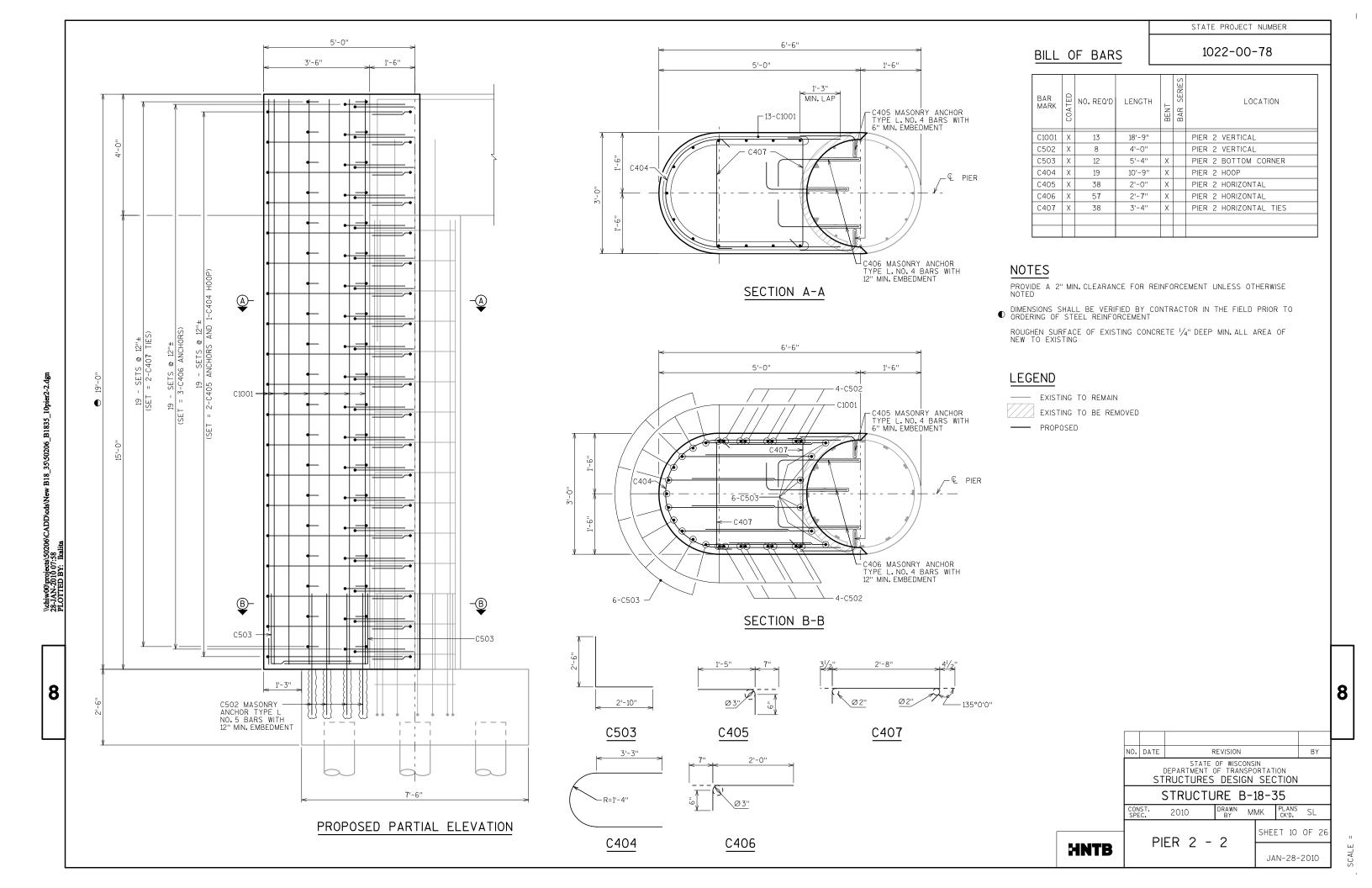
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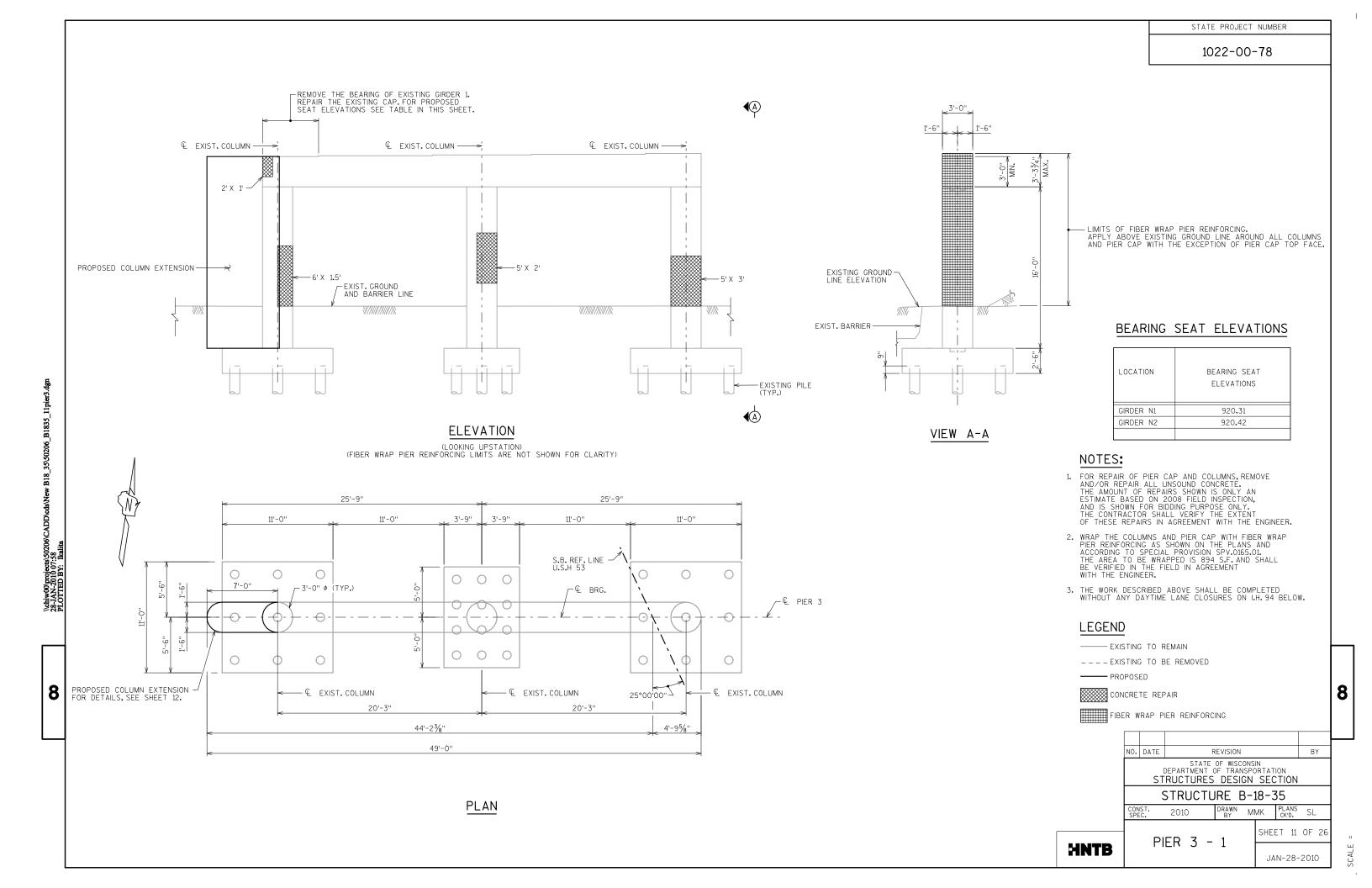
SHEET 9 OF 26

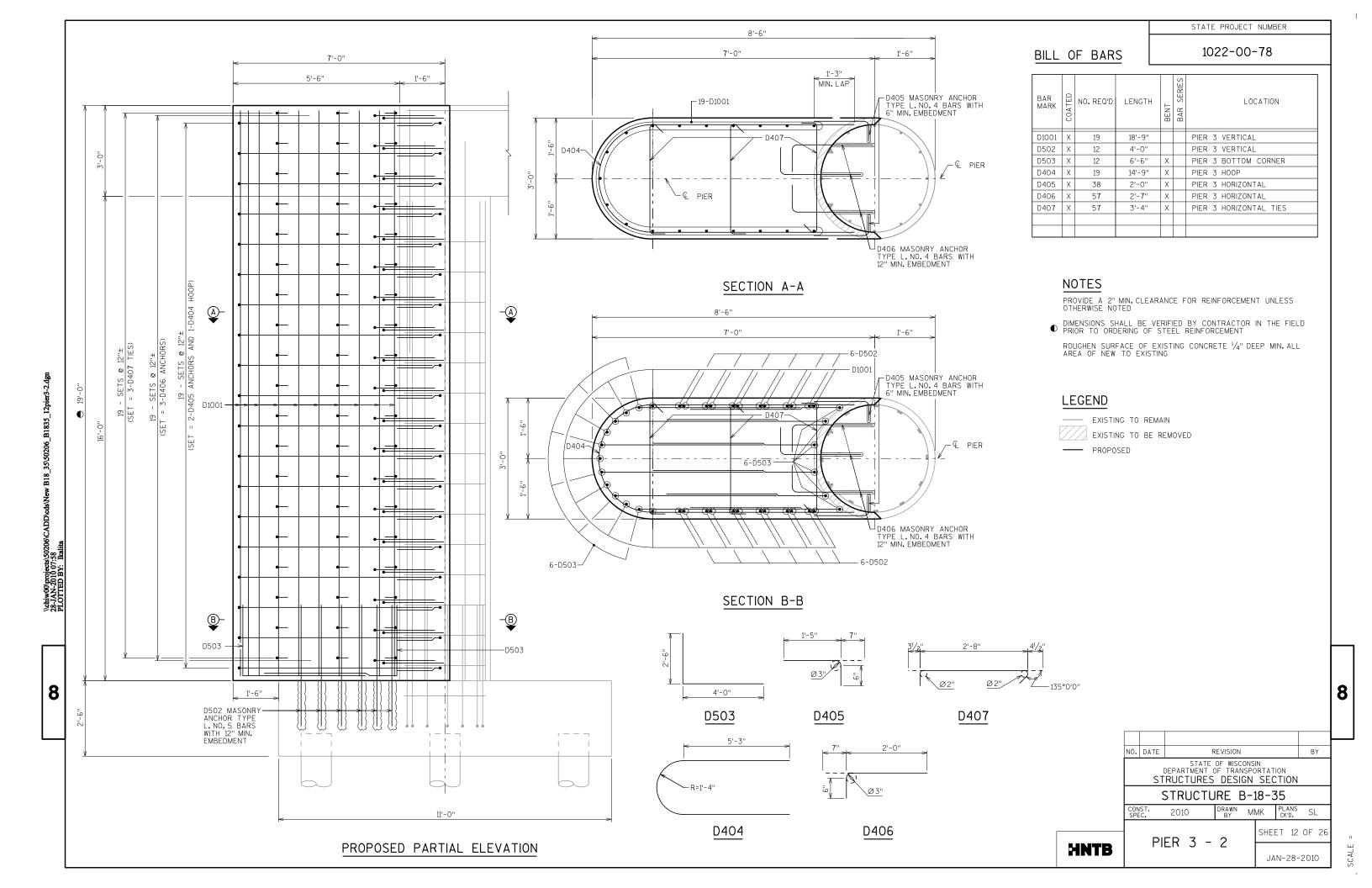
JAN-28-2010

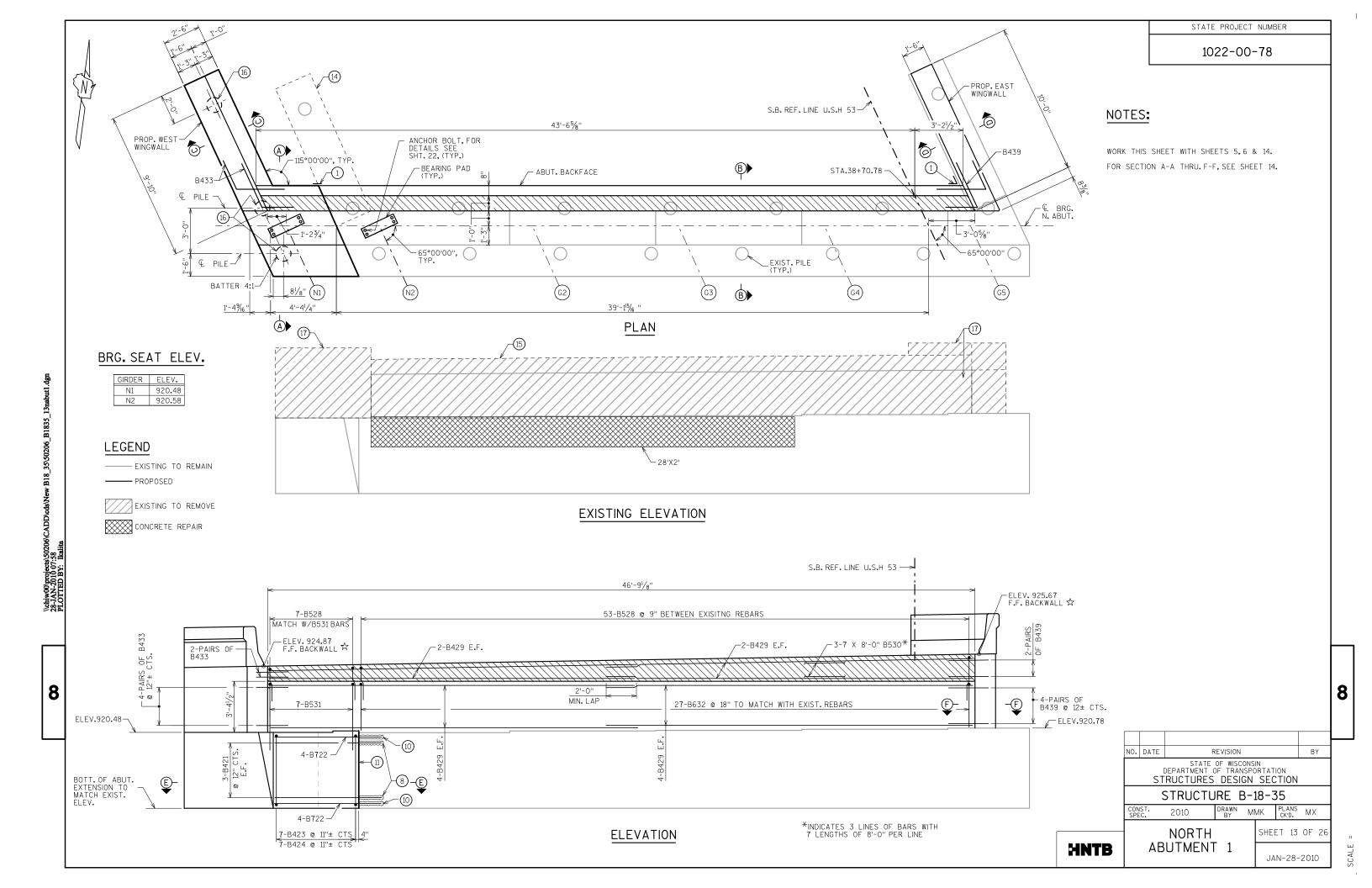
PIER 2 - 1

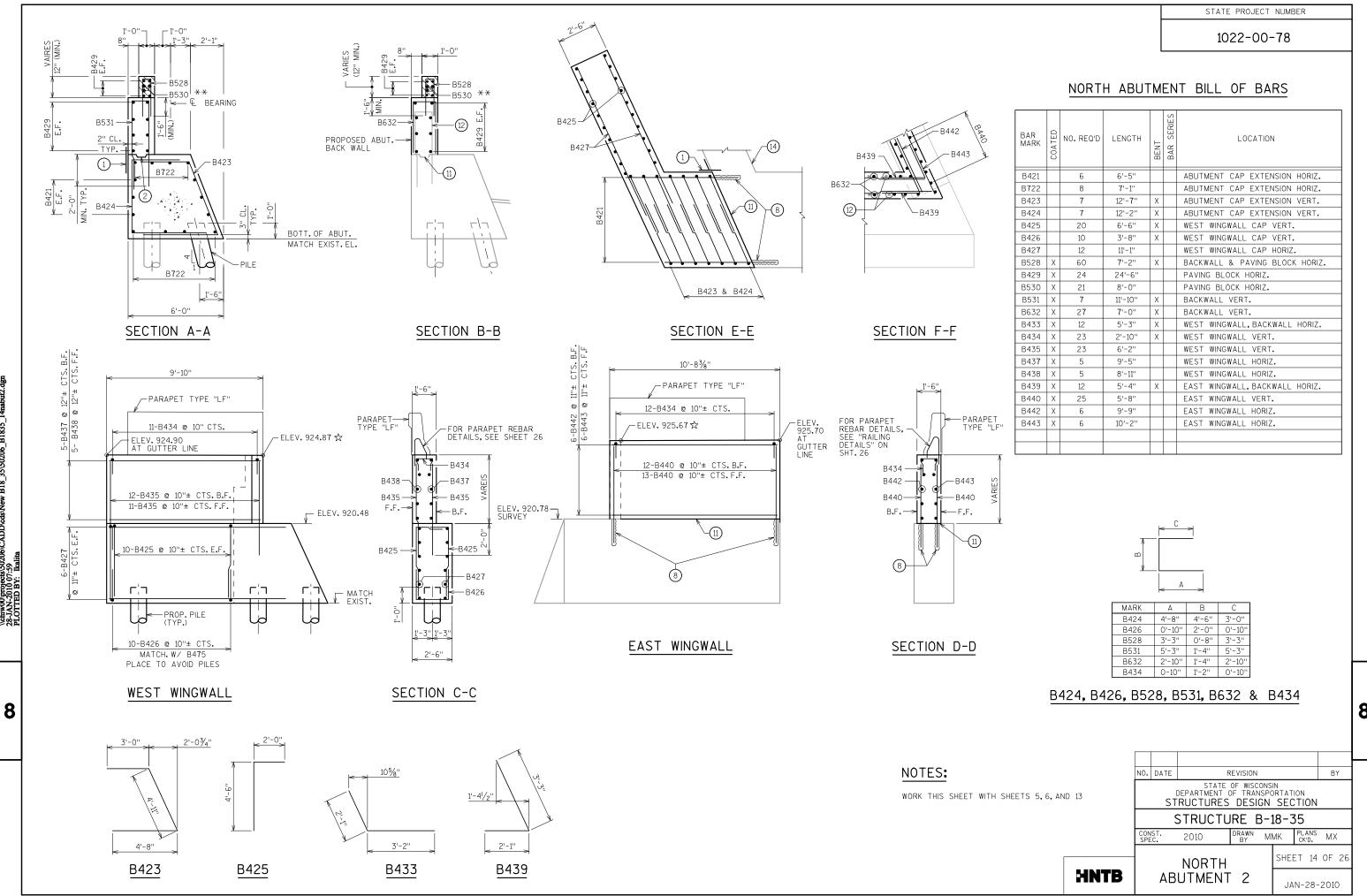
HNTB



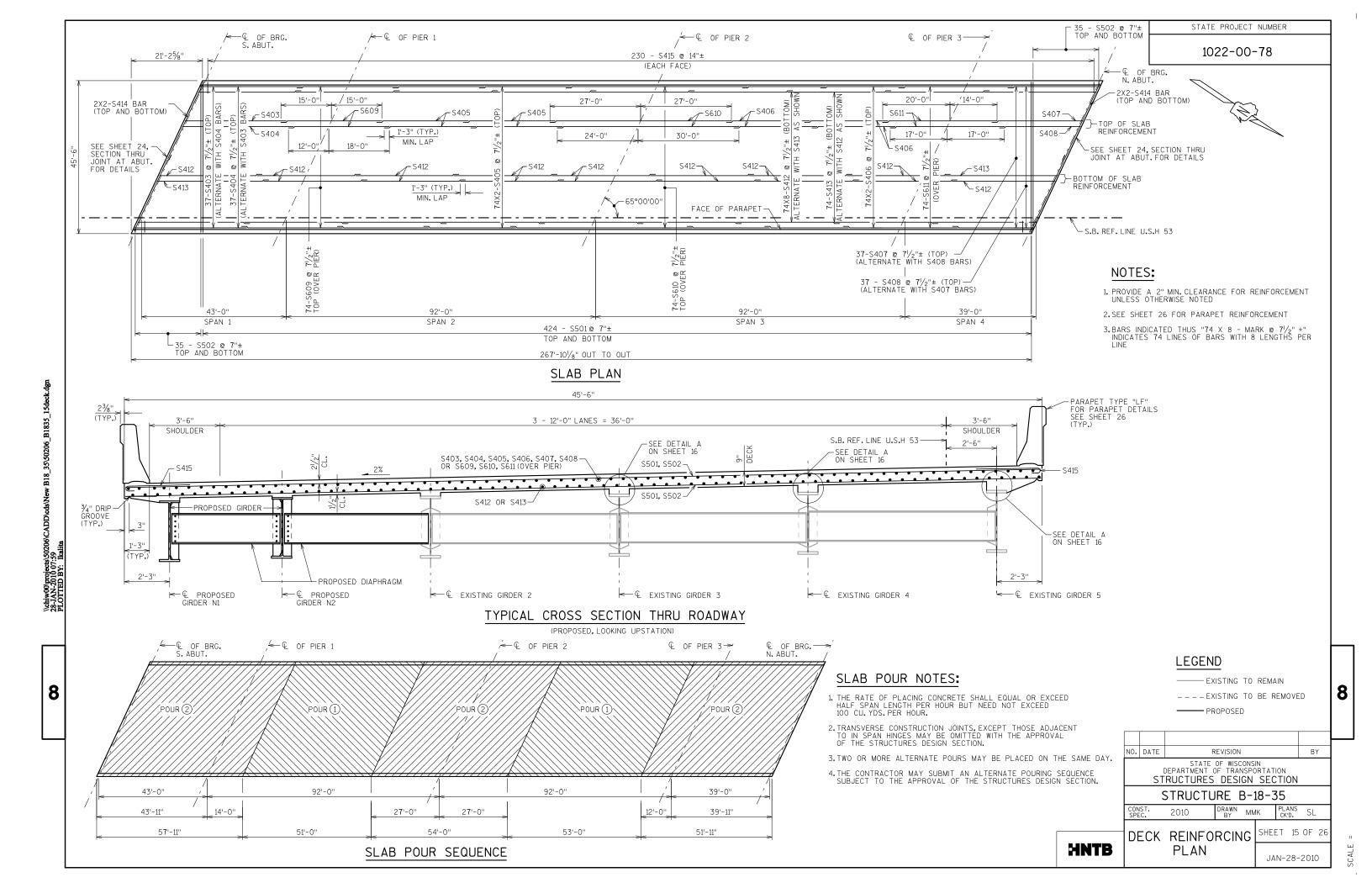






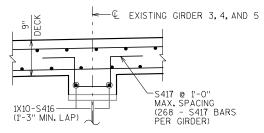


CALE =



| BAR MARK | NO. REQ'D | LENGTH | | | | | |
|-------------|----------------|------------------|--|--|--|--|--|
| S502 | 4 SERIES OF 35 | 1'-6" TO 43'-11" | | | | | |

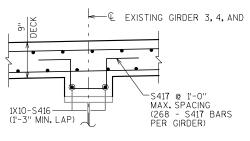
BUNDLE AND TAG EACH SERIES SEPARATELY.



DETAIL A

BAR SERIES TABLE

| BAR MARK | NO. REQ'D | LENGTH |
|-------------|----------------|------------------|
| S502 | 4 SERIES OF 35 | 1'-6" TO 43'-11" |



BILL OF BARS

| BAR MARK | COATED | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|-------------|--------|-----------|---------|------|------------|--------------------------------|
| S501 | Х | 848 | 45'-2" | | | DECK TRANS. |
| S502 | Х | 140 | 22'-9" | | Δ | DECK TRANS. |
| S403 | Χ | 37 | 30'-3" | | | DECK LONG. (TOP) |
| S404 | Х | 37 | 33'-4" | | | DECK LONG. (TOP) |
| S405 | Χ | 148 | 27'-3" | | | DECK LONG. (TOP) |
| S406 | Х | 148 | 24'-9" | | | DECK LONG. (TOP) |
| S407 | Х | 37 | 27'-3" | | | DECK LONG. (TOP) |
| S408 | Χ | 37 | 24'-3" | | | DECK LONG. (TOP) |
| S609 | Χ | 74 | 30'-0" | | | DECK LONG. (OVER PIER 1) |
| S610 | Χ | 74 | 54'-0" | | | DECK LONG. (OVER PIER 2) |
| S611 | Χ | 74 | 34'-0" | | | DECK LONG. (OVER PIER 3) |
| S412 | Χ | 592 | 30'-9" | | | DECK LONG. (BOTTOM) |
| S413 | Χ | 74 | 33'-6" | | | DECK LONG. (BOTTOM) |
| S414 | Χ | 16 | 25'-9" | | | DECK ALONG E.J. (TOP & BOTTOM) |
| S415 | Χ | 460 | 3'-7" | Х | | DECK OVERHANG (TOP) |
| S416 | Χ | 60 | 28'-3" | | | DECK HAUNCH LONG. |
| S417 | Χ | 804 | 3'-5" | Х | | DECK HAUNCH TRANS. |
| S518 | Χ | 50 | 55'-2" | | | PARAPET HORIZONTAL |
| S519 | Χ | 804 | 4'-10'' | Х | | PARAPET VERTICAL |
| S520 | Χ | 804 | 4'-9'' | X | | PARAPET VERTICAL |
| | | | | | | |

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS, SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

S415

S417

S519

8

NO. DATE STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

> STRUCTURE B-18-35 2010

HNTB

DECK REINFORCING SCHEDULE SHEET 16 OF 26 JAN-28-2010

ELEVATIONS AT TOP OF DECK (T.D.) & TOP OF STEEL (T.S.)

| GIRE | ER | € BRG.S ABUT. | 0.1 SPAN | 0.2 SPAN | 0.3 SPAN | 0.4 SPAN | 0.5 SPAN | 0.6 SPAN | 0.7 SPAN | 0.8 SPAN | O.9 SPAN | Q PIER 1 | 0.1 SPAN | € SPLICE | 0.2 SPAN | 0.3 SPAN | 0.4 SPAN | 0.5 SPAN | 0.6 SPAN | € SPLICE | 0.7 SPAN | 0.8 SPAN | 0.9 SPAN | © PIER 2 |
|------|------|---------------|----------|----------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|----------|-----------------|
| N1 | T.D. | 924.09 | 924.10 | 924.11 | 924.13 | 924.14 | 924.15 | 924.17 | 924.18 | 924.19 | 924.20 | 924.22 | 924.25 | | 924.27 | 924.30 | 924.33 | 924.36 | 924.38 | 924.40 | 924.41 | 924.44 | 924.47 | 924.49 |
| INI | T.S. | 923.17 | | | | | | | | | | 923.33 | | | | | | | | 923.56 | | | | 923.62 |
| N2 | T.D. | 924.19 | 924.21 | 924,22 | 924.23 | 924.24 | 924.26 | 924.27 | 924,28 | 924.30 | 924.31 | 924.32 | 924.35 | | 924.38 | 924.40 | 924.43 | 924.46 | 924.49 | 924.51 | 924.51 | 924.54 | 924.57 | 924.60 |
| LINZ | T.S. | 923.28 | | | | | | | | | | 923.43 | | | | | | | | 923.66 | | | | 923 .7 2 |
| G2 | T.D. | 924.29 | 924.31 | 924.32 | 924.34 | 924.35 | 924.36 | 924.38 | 924.39 | 924.41 | 924.42 | 924.43 | 924.46 | 924.48 | 924.49 | 924.52 | 924.55 | 924.58 | 924.61 | 924.64 | 924.64 | 924.67 | 924.70 | 924 .7 3 |
| _ G2 | T.S. | | | | | | | | | | | | | | | | | | | | | | | |
| 1 03 | T.D. | 924.48 | 924.49 | 924.51 | 924.52 | 924.53 | 924.55 | 924.56 | 924.58 | 924.59 | 924.60 | 924.62 | 924.65 | 924.66 | 924.67 | 924.70 | 924 .7 3 | 924.76 | 924.79 | 924.82 | 924.82 | 924.85 | 924.88 | 924.91 |
| 65 | T.S. | | | | | | | | | | | | | | | | | | | | | | | |
| l ca | T.D. | 924.67 | 924.68 | 924.69 | 924.71 | 924.72 | 924.73 | 924 .7 5 | 924.76 | 924.77 | 924.79 | 924.80 | 924.83 | 924.84 | 924.86 | 924.88 | 924.91 | 924.94 | 924.97 | 924.99 | 925.00 | 925.03 | 925.05 | 925.08 |
| L | T.S. | | | | | | | | | | | | | | | | | | | | | | | |
| G5 | T.D. | 924.85 | 924.86 | 924.88 | 924.89 | 924.90 | 924.92 | 924.93 | 924,94 | 924.95 | 924.97 | 924.98 | 925.01 | 925.02 | 925.04 | 925.06 | 925.09 | 925,12 | 925.15 | 925.17 | 925.17 | 925,20 | 925.23 | 925.26 |
| | T.S. | | | | | | | | | | | | | | | | | | | | | | | |

| Louis | DED | 0.1.00.44 | LO O CDAN | O 7 CDAN | C CDLICE | TO 4 CDAN | O.E. CDANI | O.C. CDAN | O 7 CDAN | O O CDAN | L CDLICE | IOO CDANI | C DIED 7 | 0.1.00411 | IOO CDAN | O Z CDAN | O 4 CDAN | O.E. CDAN | O.C. CDAN | O 7 CDAN | O O CDAN | loo coani | C DDO N ADUT |
|----------|------|-----------|-----------|----------|----------|-----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|----------|----------|-----------|-----------|----------|----------|-----------|----------------|
| GIR | DER | 0.1 SPAN | | 0.3 SPAN | € SPLICE | U.4 SPAN | | U.6 SPAN | U./ SPAN | U.8 SPAN | 4 SPLICE | U.9 SPAN | Y PIER 3 | U.I SPAN | | | | | | | | 0.9 SPAN | ♠ BRG. N. ABUT |
| I I NI | T.D. | 924.52 | 924.55 | 924.58 | 924.58 | 924.60 | 924.63 | 924.66 | 924.69 | 924.71 | | 924.74 | 924.77 | 924.78 | 924.79 | 924.80 | 924.82 | 924.83 | 924.84 | 924.85 | 924.86 | 924.88 | 924.89 |
| I | T.S. | | | | 923.70 | | | | | | | | 923.93 | | | | | | | | | | 923.97 |
| l l NIS | T.D. | 924.63 | 924.65 | 924.68 | 924.69 | 924.71 | 924.74 | 924.76 | 924.79 | 924.82 | | 924.85 | 924.87 | 924.89 | 924.90 | 924.91 | 924.92 | 924.93 | 924.94 | 924.96 | 924.97 | 924.98 | 924.99 |
| I LINZ | T.S. | | | | 923.80 | | | | | | | | 924.03 | | | | | | | | | | 924.07 |
| 1 62 | T.D. | 924.76 | 924.79 | 924.82 | 924.84 | 924.85 | 924.88 | 924.91 | 924.94 | 924.97 | 924.99 | 925.00 | 925.03 | 925.05 | 925.06 | 925.07 | 925.08 | 925.10 | 925.11 | 925.12 | 925.14 | 925.15 | 925.16 |
| | T.S. | | | | | | | | | | | | | | | | | | | | | | |
| _~ | T.D. | 924.94 | 924.97 | 925.00 | 925.01 | 925.03 | 925.05 | 925.08 | 925.11 | 925.14 | 925.16 | 925.17 | 925.20 | 925.21 | 925.23 | 925.24 | 925.25 | 925.26 | 925.27 | 925.29 | 925.30 | 925.31 | 925.32 |
| | T.S. | | | | | | | | | | | | | | | | | | | | | | |
| | T.D. | 925.11 | 925.14 | 925.17 | 925.18 | 925.20 | 925.22 | 925.25 | 925.28 | 925.31 | 925.33 | 925.34 | 925.37 | 925.38 | 925.39 | 925.40 | 925.41 | 925.43 | 925.44 | 925.45 | 925.46 | 925.47 | 925.49 |
| | T.S. | | | | | | | | | | | | | | | | | | | | | | |
| C5 | T.D. | 925.28 | 925.31 | 925.34 | 925.35 | 925.37 | 925.39 | 925.42 | 925.45 | 925.48 | 925.50 | 925.50 | 925.53 | 925.54 | 925.56 | 925.57 | 925.58 | 925.59 | 925.60 | 925.61 | 925.63 | 925.64 | 925.65 |
| 65 | T.S. | | | | | | | | | | | | | | | | | | | | | | |

DEAD LOAD DEFLECTION FOR EXISTING GIRDERS G2, G3, G4 & G5

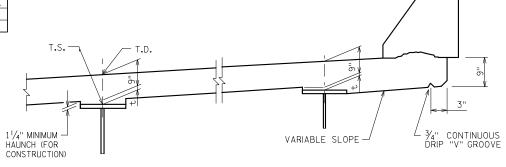
| | | SPAN 1 | | | SPAN 2 | | | SPAN 3 | | | SPAN 4 | |
|------------------|-------|--------|-------|---------------------------------|--------|-------|-------|--------|-------|-------|--------|-------|
| POINT | 0.25L | 0.5L | 0.75L | 0.25L | 0.5L | 0.75L | 0.25L | 0.5L | 0.75L | 0.25L | 0.5L | 0.75L |
| CONC. DEFLECTION | 0" | 0" | 0" | 1'' | 13/8" | 01/2" | 03/8" | 11/8" | 07/8" | 0'' | 0'' | 0" |
| TOTAL DEFLECTION | 0" | 0" | 0" | 1 ¹ / ₈ " | 17/8" | 05/4" | 03/4" | 1 / 4" | 1" | 0" | 0" | 0" |

DEAD LOAD DEFLECTION FOR PROPOSED GIRDERS N1 & N2

| | | SPAN 1 | | | SPAN 2 | | | SPAN 3 | | SPAN 4 | | |
|------------------|-------|--------|--------|-------|--------|-------|-------|--------|-------|--------|--------|-------|
| POINT | 0.25L | 0.5L | 0.75L | 0.25L | 0.5L | 0.75L | 0.25L | 0.5L | 0.75L | 0.25L | 0.5L | 0.75L |
| CONC. DEFLECTION | 0 | 0 | 0 | 05%'' | 0%" | 03/8" | 03/8" | 01/8" | 05/8" | -01/8" | 0 | 0 |
| TOTAL DEFLECTION | 0 | 0 | -01/8" | 03/4" | 1'' | 03/8" | 01/2" | 1'' | 03/4" | -01/8" | -01/8" | 0 |

BLOCKING TABLE

| | А | В | С | D | E | F | G |
|--------------------|----|-------|-------|-------|-------|-------|-------|
| PROPOSED GIRDER N1 | 0" | 17/8" | 41/2" | 53/8" | 63/8" | 83/8" | 95/8" |
| PROPOSED GIRDER N2 | 0" | 17/8" | 41/2" | 51/2" | 63/8" | 83/8" | 95%" |



SECTION THRU SLAB

NOTES:

t = HAUNCH HEIGHT AT CENTERLINE OF GIRDER.

CONCRETE DEFLECTION INCLUDE CONCRETE SLAB, HAUNCH AND BARRIERS. "+" INCICATES DOWNWARD DEFLECTION.

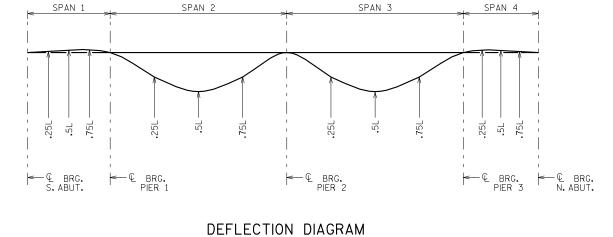
TOTAL DEFLECTION INCLUDES CONCRETE DEFLECTION PLUS DEFLECTION DUE TO SELF WEIGHT OF STEEL.

THE MINIMUM HAUNCH (AT EDGE OF GIRDER FLANGE) ALLOWED IN CONSTRUCTION IS $1^1\!/_4^{\shortparallel}$.

IF $1/\!\!\!\!/_4$ " MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN $1/\!\!\!\!/_2$ ".

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED. ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATES, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT CENTERLINE OF BEARINGS, CENTERLINE OF FIELD SPLICES, AND AT 0.1 POINTS.

- TOP OF DECK ELEV. AT FINAL GRADE.
- TOP OF STEEL ELEV. AFTER PLACEMENT.
- CONC. ONLY DEFLECTION; DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED.
- SLAB THICKNESS ('T')
- "t" VALUE FOR SETTING HAUNCH.



BOTTOM OF -TOP FLANGE - HORIZONTAL LINE € FIELD SPLICE - € BRG. S. ABUT. - € BRG. PIER 3 · € BRG. N. ABUT. & BRG. PIER 1 - L BRG. PIER 2 SPAN SPAN 4

BLOCKING DIAGRAM

BLOCKING & SLAB

2010

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-35

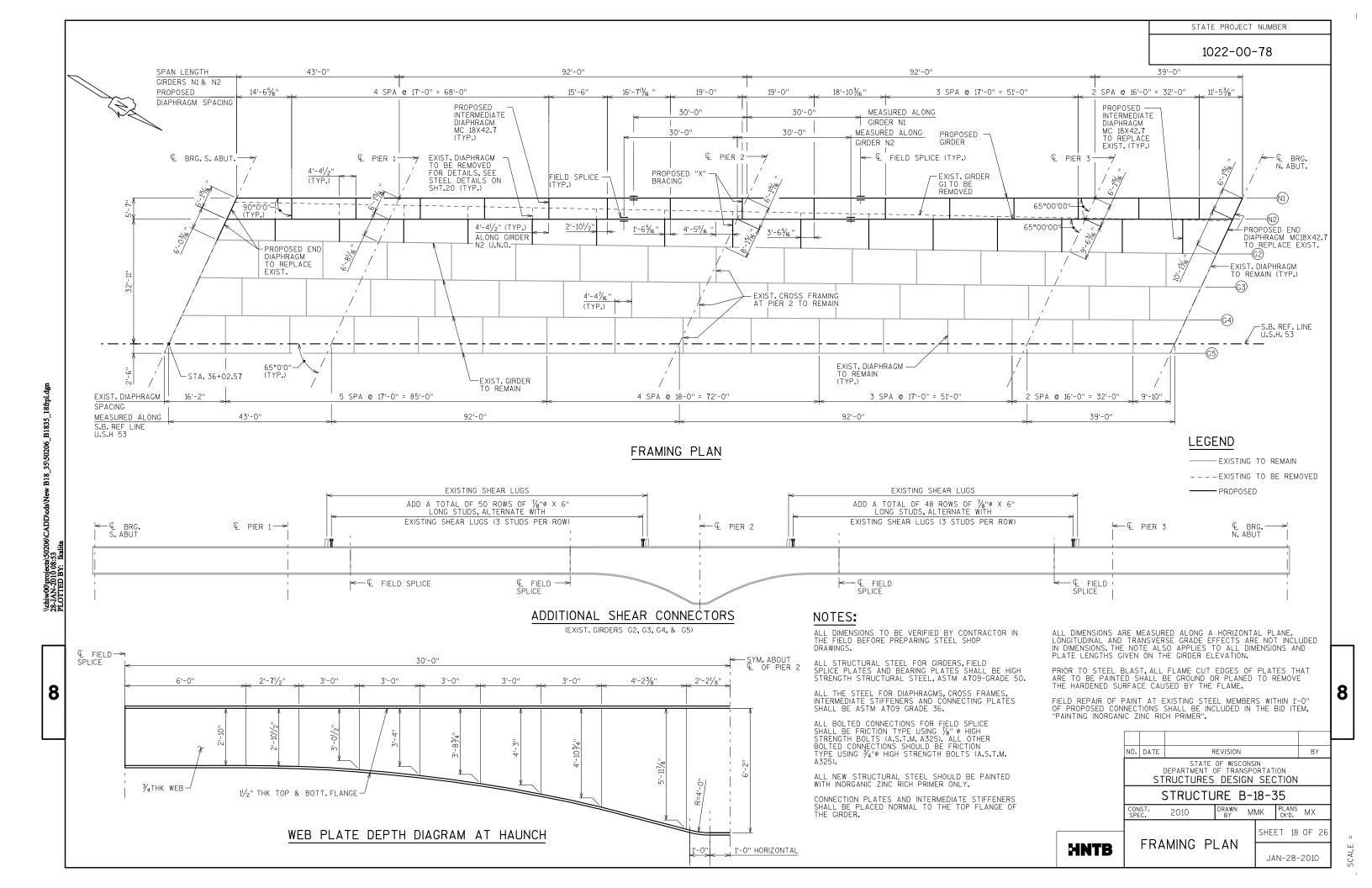
DRAWN MMK

PLANS CK'D. MX

BY

SHEET 17 OF 26 HNTB HAUNCH DETAILS JAN-28-2010

NO. DATE



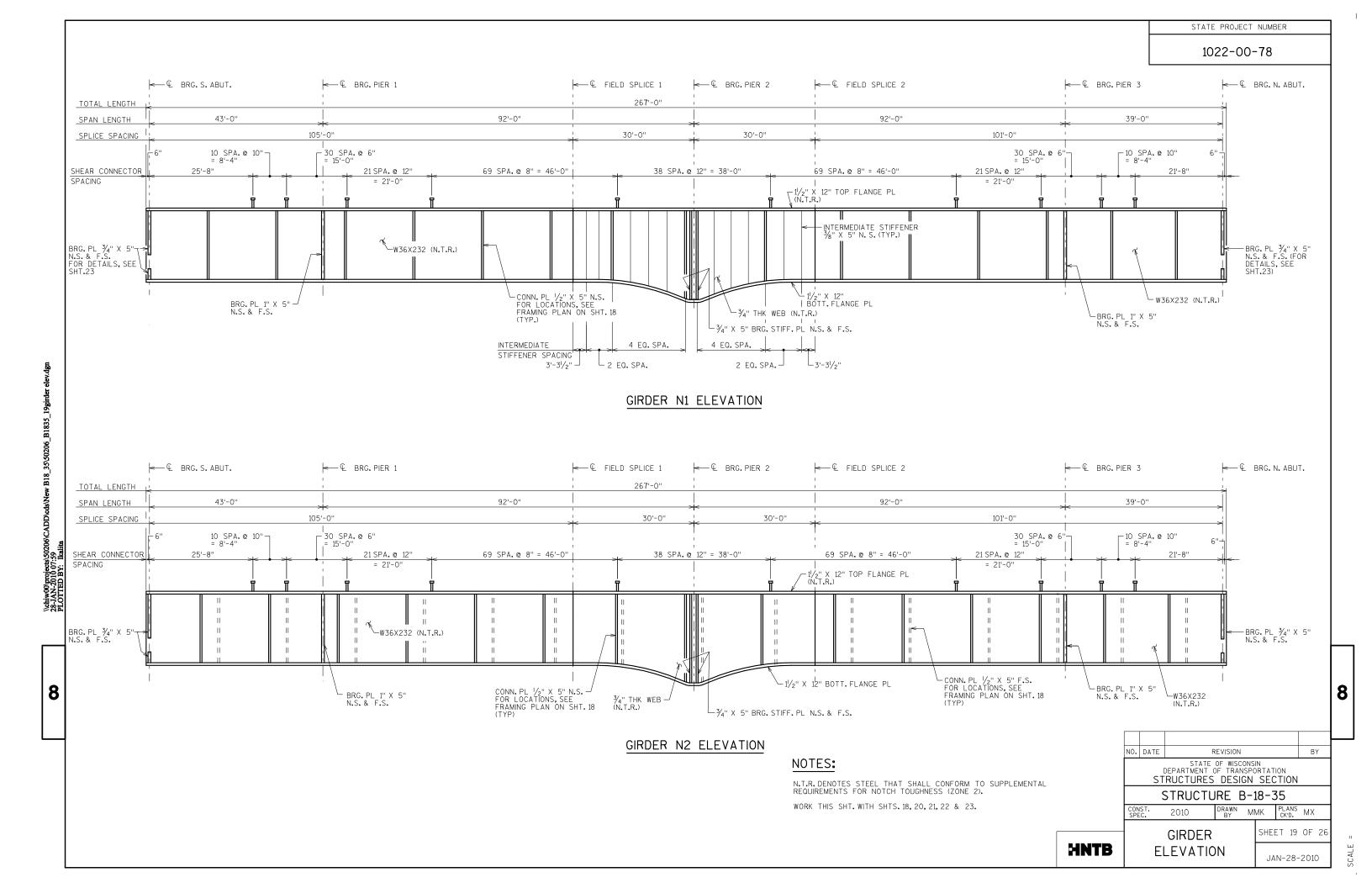




TABLE "A"

| SIZE | MAX.LENGTH OF MEMBER | WELD LENGTH | NO.OF 3/4" ¢ BOLTS | WEIGHT PER FT. |
|---------------------|-------------------------|----------------|-----------------------|-------------------|
| L 31/2 X 31/2 X 5/6 | 21'-6'' | 9" | 4 | 7.2# |

TABLE "B"

| SIZE | MAX.LENGTH OF MEMBER | WELD SIZE | WELD LENGTH | NO.OF ¾" φ BOLTS | WEIGHT PER FT. |
|---------------|-------------------------|--------------|----------------|---------------------|-------------------|
| L 5 X 5 X 1/6 | 11'-6" | 1/4" | 11'' | 4 | 10.3# |

NOTES:

ALL BOLTED CONNECTIONS SHALL BE FRICTION TYPE USING $3\!\!/\!\!4''$ ϕ HIGH STRENGTH BOLTS (A.S.T.M. A325) WITH DOUBLE WASHERS. U.N.O.

DIAPHRAGMS OR LOWER CROSS FRAME MEMBERS THAT ARE LEVEL SHALL BE PLACED 4" ABOVE THE TOP OF THE HIGHER BOTTOM FLANGE OF ADJACENT

HOLES IN CROSS FRAME CONNECTIONS MAY BE OVERSIZED @ 15/6 " DIA. IN 1

DIAPHRAGMS OR LOWER CROSS FRAME MEMBERS ARE SLOPED WHEN DIFFERENCE IN ADJACENT BOTTOM FLANGE ELEVATIONS EXCEEDS 6".

| SIZE | MAX.LENGTH OF MEMBER | WELD SIZE | WELD LENGTH | NO.OF ¾" φ BOLTS | WEIGHT PER FT. |
|---------------|-------------------------|--------------|----------------|---------------------|-------------------|
| L 5 X 5 X 3/6 | 11'-6'' | 1/4" | 11" | 4 | 10.3# |

* TABLE OF FILLET WELD SIZES

← Q EXIST. GIRDER G2

-REMOVE EXISTING BRACING MEMBER AS REQUIRED TO FIT NEW CONN. PL(S). GRIND SMOOTH. (AT TOP

-FIELD DRILL 4 HOLES FOR 3/4" DIA. HIGH STRENGTH BOLTS WITH MIN. SPA.@ 21/2" BETWEEN HOLES

| MATERIAL THICKNESS OF THICKER PART JOINED. | + MIN. SIZE OF FILLET WELD |
|--|----------------------------|
| TO 1/2" INCLUSIVE | 3/16 " |
| OVER 1/2" TO 3/4" | 1/4" |
| OVER 3/4" TO 11/2" | △ 5/16 " |
| OVER 11/2" TO 21/4" | △ 3/8" |
| OVER 21/4" TO 6" | △ 1/2" |

† EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

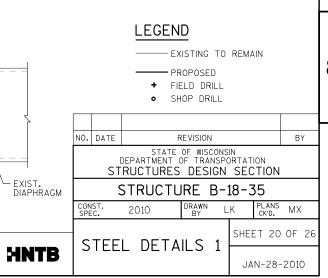
INTERMEDIATE DIAPHRAGM

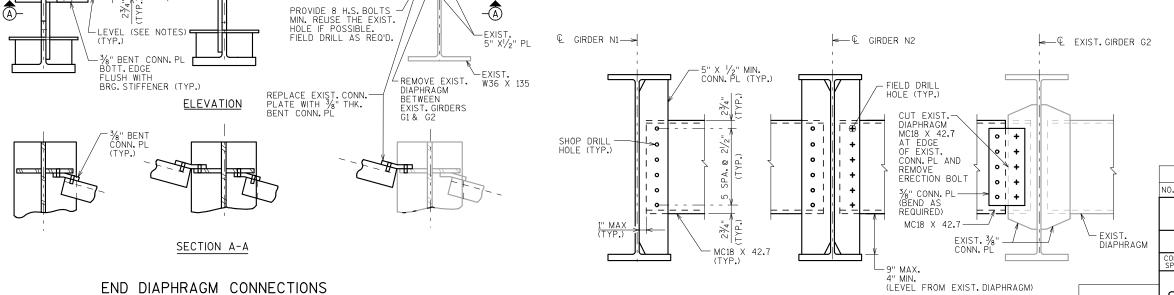
△MIN. PASS SIZE IS 16"

34" BRG. STIFFENER -FOR DETAILS, SEE HOLD DOWN DEVICE -DETAILS









-CONNECTION PLATE (5" X 1/2")

WELD LENGTH

ERECTION BOLT TO BE LEFT IN PLACE (TYP.)

WELD LENGT

 $\equiv \Box$

HOLE IN CONN. PL

├─ € GIRDER N2

"X" BRACING AT PIER 2

(LOOKING UPSTATION)

3/8" PLATE BOLT TO -EXIST. 5" CONN. PL

LENGTH

CONN. PL

1/4 WELD

LENGTH

-EXIST. MC18 X 42.7

EXIST. 3/8" CONN. PL

FILL PL TO MATCH EXIST. 5" CONN. PL THICKNESS

WELD LENGTH

SEE TABLE "A" FOR MEMBER SIZE AND CONN.(TYP.)

WELD LENGTH

- SEE TABLE "B" FOR MEMBER SIZE AND

€ EXIST. GIRDER G2

€ GIRDER N2 ->

WELD

MEMBER SIZE & CONN.

-LEVEL (SEE NOTES) (TYP.)

— SEE TABLE "B" FOR MEMBER SIZE & CONN.

MC18 X 42.7

← € GIRDER N1

LENGTH

GIRDER N1

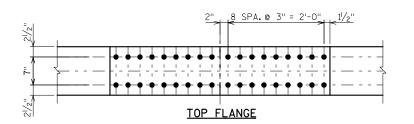
MIN.

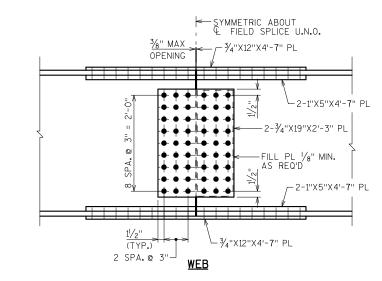
TYP. WELD LENGT

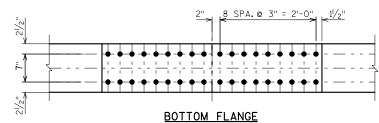
SHOP DRILL HOLE (TYP.)

LENGTH

-1" MIN. (TYP.)



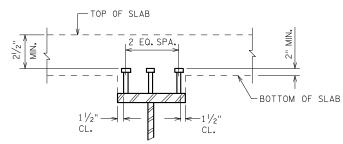




FIELD SPLICE DETAILS

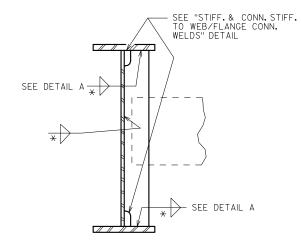
(ALL THE BOLTS IN FIELD SPLICE TO BE 7/8" DIA. ASTM A325 H.S BOLT)

NOTE: USE THREE FIELD WELDED γ_8 " DIA. X 6" LONG \ominus STUDS EQUALLY SPACED WITH A MIN. OF 1/2" CL. FROM THE FLANGE EDGE. STUDS SHALL NOT BE PLACED OVER FIELD SPLICE PLATES.

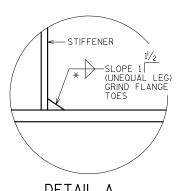


 \ominus use different length studs if $2\frac{1}{2}$ min. Clearance or 2" extension criteria is violated.

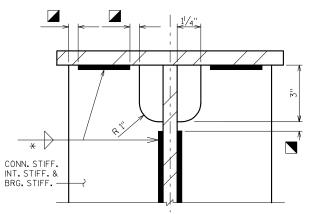
SHEAR CONN. DETAILS



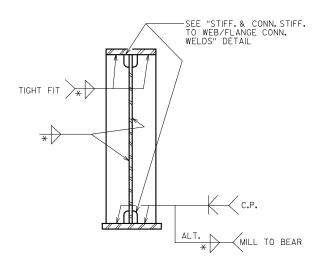
CONNECTION STIFF. DETAILS



DETAIL A CONNECTION STIFFENER DETAIL @ FLANGE



STIFF. & CONN. STIFF. TO WEB/FLANGE CONN. WELDS



BRG. STIFF. DETAILS TYP. AT ABUTMENT & PIER

BY STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION STRUCTURE B-18-35 DRAWN MMK PLANS MX 2010 SHEET 21 OF 26 STEEL DETAILS 2 JAN-28-2010

NOTES:

WORK THIS SHEET WITH SHEET 18 19 & 20.

STATE PROJECT NUMBER

1022-00-78

NO. DATE

HNTB

8

ON PLATE "B"

TYPE I

TYPE I

2 1/4"

MASONRY PLATE "D"

EXPANSION BEARING

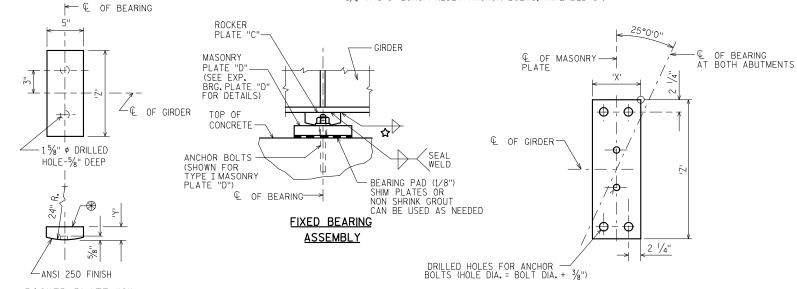
ZANSI 250 FINISH

ROCKER PLATE "C"

- € OF BEARING

| | PLATE "A" | | PLATE "B" | | PLATE "C" | | | PLATE "D" | | | PLATE ANCHOR | NO. OF BRG'S | HEIGHT | LOCATION | |
|--------|-----------|--------|-----------|--------|------------------|-----------|----------|-----------|-------|---------|--------------|-----------------|--------|----------|----------------|
| | ١X١ | 'Z' | 'X' | 'Z' | 'X' | 'Υ' | 'Z' | 'X' | ١٢٠ | 'Z' | TYPE | SIZE | REQ'D. | (FEET) | LOCATION |
| | 11" | 1'-0'' | 7" | 1'-0" | 9" | 115/16 '' | 1'-2 /4" | 8" | 11/2" | 2'-4" | П | * | 2 | 0.401 | SOUTH ABUTMENT |
| N 0 0 | 11" | 1'-0" | 7" | 1'-0'' | 9" | 115/16 '' | 1'-21/4" | 8" | 11/2" | 2'-4" | II | * | 2 | 0.401 | NORTH ABUTMENT |
| ANSION | 1'-3" | 1'-0'' | 11" | 1'-0" | 1'-11" | 2 1/8" | 1'-21/4" | 11'' | 2" | 1'-10'' | 1 | ** | 2 | 0.521 | PIER 1 |
| 첫 띪 | 1'-3" | 1'-0'' | 11" | 1'-0" | 1'-11" | 27/8" | 1'-21/4" | 11'' | 2" | 1'-10'' | I | ** | 2 | 0.521 | PIER 3 |
| Ш | | | | | | | | | | | | | | | |
| | | | | | (2) | 23/8" | 1'-2" | 1'-1" | 21/8" | 1'-11" | I | ** | 2 | 0.448 | PIER 2 |
| | | | | | | | | | | | | | | | |
| | | | | | FIXED BEARING | | | | | | | | | | |
| | | | | | — m | | | | | | | | | | |

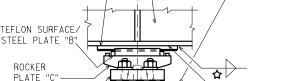
- BEARING ASSEMBLY FOR GIRDERS SET ON EXISTING CONCRETE WILL HAVE 11/8" X 3'-0" LONG ANCHOR BOLTS, FULLY THREADED.
 BEARING ASSEMBLY FOR GIRDERS SET ON PROPOSED CONCRETE ADDITION WILL HAVE 11/4" X 3'-0" LONG PRESET ANCHOR BOLTS, THREADED 3".
 (SEE DETAILS ON SHEET 23)
- BEARING ASSEMBLY FOR GIRDERS SET ON EXISTING CONCRETE WILL HAVE $1/_6" \times 1'$ -10" LONG ANCHOR BOLTS, FULLY THREADED. BEARING ASSEMBLY FOR GIRDERS SET ON PROPOSED CONCRETE ADDITION WILL HAVE $1/_4" \times 1'$ -5" LONG PRESET ANCHOR BOLTS, THREADED 3".



ROCKER PLATE "C"

FIXED BEARING

PRE-SET ANCHOR BOLT PLAN AT HOLD DOWN DEVICE



TOP OF CONCRETE-

-GIRDER

PLATE "C' MASONRY WELD PLATE "D" BEARING PAD (1/8") SHIM PLATES OR ANCHOR BOLTS NON SHRINK GROUT (SHOWN FOR TYPE II MASONRY PLATE "D") OF BEARING

TOP PLATE "A"-

EXPANSION BEARING **ASSEMBLY**

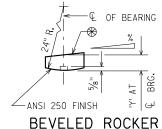
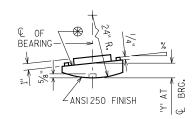


PLATE "C"

FIXED BEARING



BEVELED ROCKER PLATE EXPANSION BEARING

NOTES:

ALL BEARINGS ARE SYMMETRICAL ABOUT $\mathbb Q$ OF GIRDER AND $\mathbb Q$ OF BEARING.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

CAN BE USED AS NEEDED CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SET ON EXISTING CONCRETE SHALL BE FULLY THREADED. ANCHOR BOLTS PRESET ON PROPOSED ABUT./PIER ADDITIONS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2 1/4", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES $1\!/_{8}$ ". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING ANCHOR BOLTS, STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM ATO9 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION" OR "BEARING ASSEMBLIES FIXED" EACH.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS $\mathbb{C}.$

FIXED BEARINGS:

ROCKER PLATE "C" SHALL BE SHOP PAINTED WITH A WELDABLE MASONRY PLATE "D" SHALL BE GALVANIZED.

EXPANSION BEARINGS:
TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED.
USE A WELDABLE PRIMER ON TOP PLATE "A".
ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED, DO NOT PAINT STAINLESS STEEL OR TEFLON

- ₱ FINISH THESE SURFACES TO ANSI 250 IF 'Y' DIMENSION IS GREATER
- PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.
- ▲ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

☆TABLE OF FILLET WELD SIZES

| MATERIAL THICKNESS OF THICKER PART JOINED. | +MIN, SIZE OF FILLET WELD |
|--|------------------------------|
| TO 1/2" INCLUSIVE | 3/16 '' |
| OVER 1/2" TO 3/4" | 1/4" |
| OVER 3/4" TO 11/2" | △ 5/16" |
| OVER 11/2" TO 21/4" | △ ¾" |
| OVER 21/4" TO 6" | △ ½" |

+ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△MIN. PASS SIZE IS %6'

| NO. | NO. DATE REVISION | | | | | | | | | | |
|-------------------|---|--------|-------------|--|--|--|--|--|--|--|--|
| | STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | | | | | | | | |
| STRUCTURE B-18-35 | | | | | | | | | | | |
| | CONST. 2010 DRAWN MMK PLANS CK'D. | | | | | | | | | | |
| BEARING DETAILS | | | | | | | | | | | |
| ▮▫ | CAR | ING DE | JAN-28-2010 | | | | | | | | |

HNTB



NOTES:

ALL_BEARINGS ARE SYMMETRICAL ABOUT & OF GIRDER AND &

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

CHAMFER TOP OF ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SHALL BE $1/_{\theta}$ " DIAMETER X 3'-0" LONG AND FULLY THREADED AT EXISTING ABUTMENT LOCATION.

ANCHOR BOLTS SET ON PROPOSED CONCRETE ADDITION SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

THE MATERIAL FOR THE HOLD-DOWN PLATES SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL MATERIAL WELDED TO THE GIRDERS, WHICH INCLUDES BEARING STIFFENERS, STIFFENER PLATE, AND PIN BEARING PLATE, SHALL MATCH THE STEEL REQUIREMENTS OF THE WEB AT THAT LOCATION.

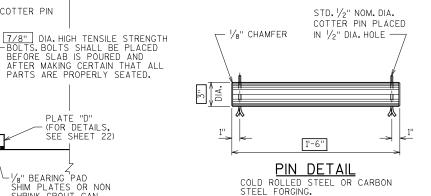
ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PROVIDE $\slash\hspace{-0.6em}/g"$ THICK BEARING PAD THE SAME SIZE AS PLATE "D" FOR EACH BEARING.

ALL MATERIAL IN HOLD DOWN DEVICES, WHICH INCLUDES HOLD-DOWN PLATES, HIGH TENSILE STRENGTH BOLTS, PINS AND ANCHOR BOLTS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "BEARING ASSEMBLIES"

ALL MATERIAL WELDED TO THE GIRDERS, WHICH INCLUDES BEARING STIFFENERS, STIFFENER PLATE, AND PIN BEARING PLATE, SHALL BE INCLUDED IN THE BID ITEM USED FOR THE STEEL GIRDER QUANTITIES.

- \blacksquare project anchor bolts, plate "D" Thickness + 2 $^{1}\!/_{\!4}$ ", above top of concrete
- $\hfill\Box$ See sheet 21for weld details showing bearing stiffener connection to web and flange.



PERMANENT HOLD DOWN DEVICE

STIFFENER PLATE

1/8" CLEA

111

1/4

PIN BEARING PLATE -

1/4" PLATE WASHER -

E PIN-

HOLD-DOWN PLATES

 \blacktriangleleft A

BEARING STIFFENER

-STIFFENER PLATE

-BEARING STIFFENER

-HOLD-DOWN PLATE

└/8" BEARING PAD | I SHIM PLATES OR NON

BE USED AS NEEDED

◆(A)

-C PIN

END OF GIRDER

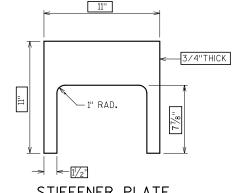
HOLD-DOWN PLATE -

1/4" PLATE WASHER

PIN BEARING PLATE

€ OF BEARING - >

ELEVATION

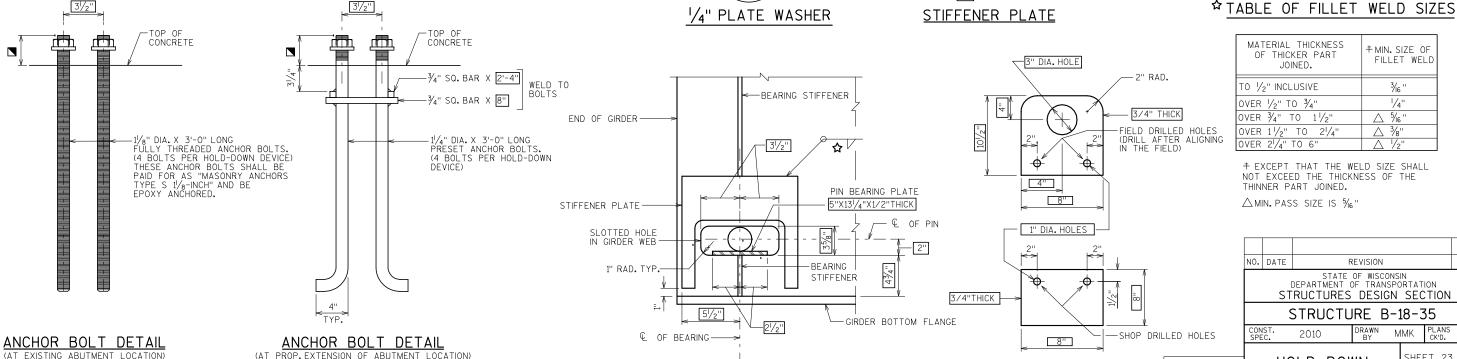


STIFFENER PLATE

MATERIAL THICKNESS OF THICKER PART + MIN. SIZE OF FILLET WELD JOINED. TO 1/2" INCLUSIVE OVER 1/2" TO 3/4" 1/4"

+ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△MIN. PASS SIZE IS 1/6"



–¾"X5" BEARING STIFFENERL

PLATE "D" (FOR DETAILS, SEE SHEET 22)

21/4" RAD.

- 1/8" BEARING PAD SHIM PLATES OR NON SHRINK GROUT CAN BE USED AS NEEDED

GIRDER DETAIL

6¾''

· € OF GIRDER

1/2" RAD.

1'-11/2'

SECTION A-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION STRUCTURE B-18-35 DRAWN MMK PLANS SL SHEET 23 OF 20

△ 5/6"

△ ¾"

HOLD DOWN **DEVICE**

HNTB

HOLD-DOWN PLATES

JAN-28-2010

LEGEND

- 1. NEOPRENE STRIP SEAL (4 INCH) & STEEL EXTRUSIONS.
- 2. STUDS 5%" X 63%" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
- 2A. 1/2" THICK ANCHOR PLATE WITH 5%" PROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1AT 1'-6" CENTERS BETWEEN GIRDERS.
- 3. 3/4" \$\phi\$ THREADED ROD WITH 2 NUTS AND PLATE WASHERS, WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE, ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- 4. $\frac{3}{4}$ " THREADED ROD WITH NUT. TACK WELD NUT TO NO.5.
- 5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 11/2" \$\phi\$ HOLE FOR NO. 3 & 1" \$\phi\$ HOLE FOR NO. 4
- 6. GALVANIZED PLATE 3/8" X LIMITS SHOWN WITH HOLES FOR #7. BEND AS SHOWN.
- 7. ¾4"\$ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS ½6" BELOW PLATE SURFACE.
- 8. 3/4" A 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- 9. 3/4" A Z 1/4" GALVANIZED THREADED COUPLING.
- 10. 1" X 5" SLOTTED CSK. HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES:

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

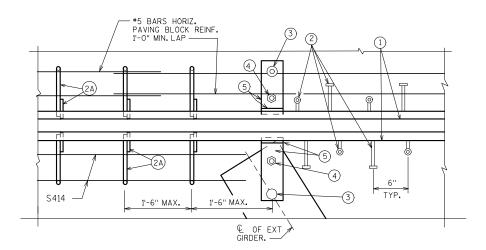
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST &

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

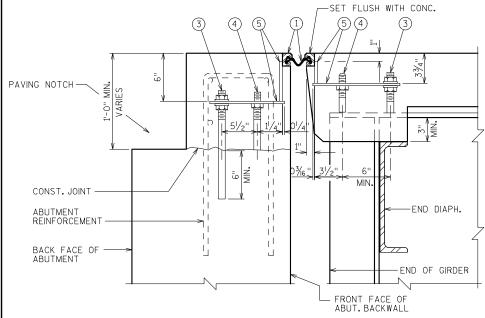
SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

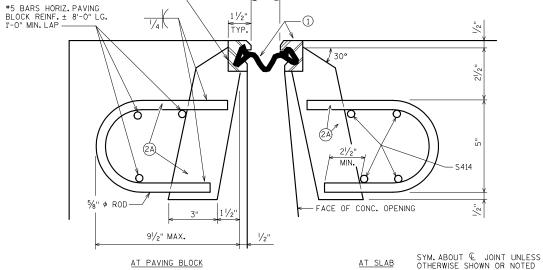
STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE".



PART PLAN

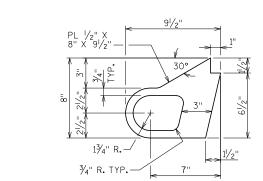


SECTION THRU JOINT AT ABUTMENT NORMAL TO & SUBSTRUCTURE

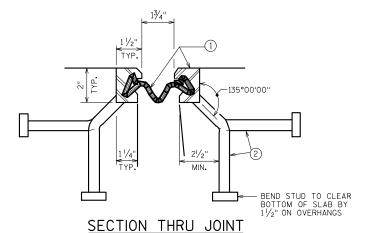


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



ALTERNATE STRIP SEAL ANCHOR

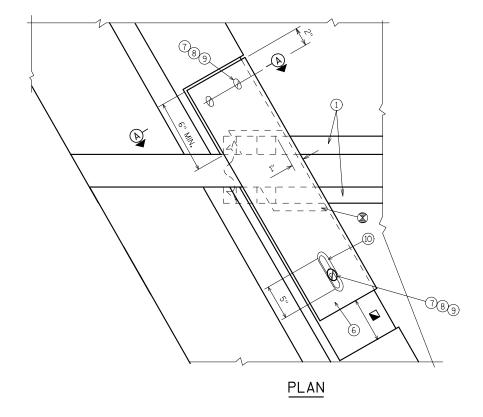


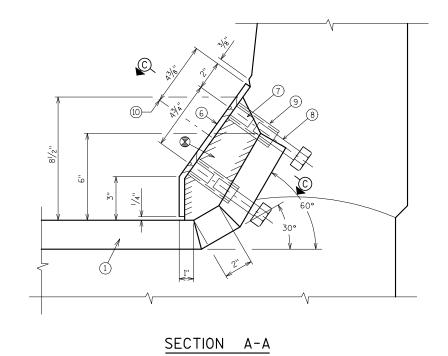
5/16

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS. MEDIANS & SIDEWALKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION STRUCTURE B-18-35 DRAWN MMK PLANS SL 2010

STRIP SEAL SHEET 24 OF 26 **EXPANSION** JOINT DETAILS JAN-28-2010

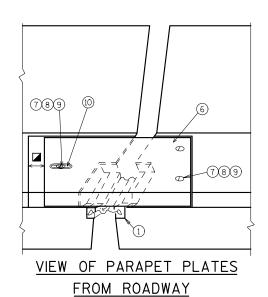




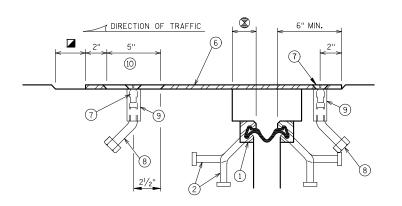
NOTE:

WORK THIS SHEET WITH SHEET 24.

BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING
JOINT OPENING DIM. ALONG SKEW PLUS 1/2"



8

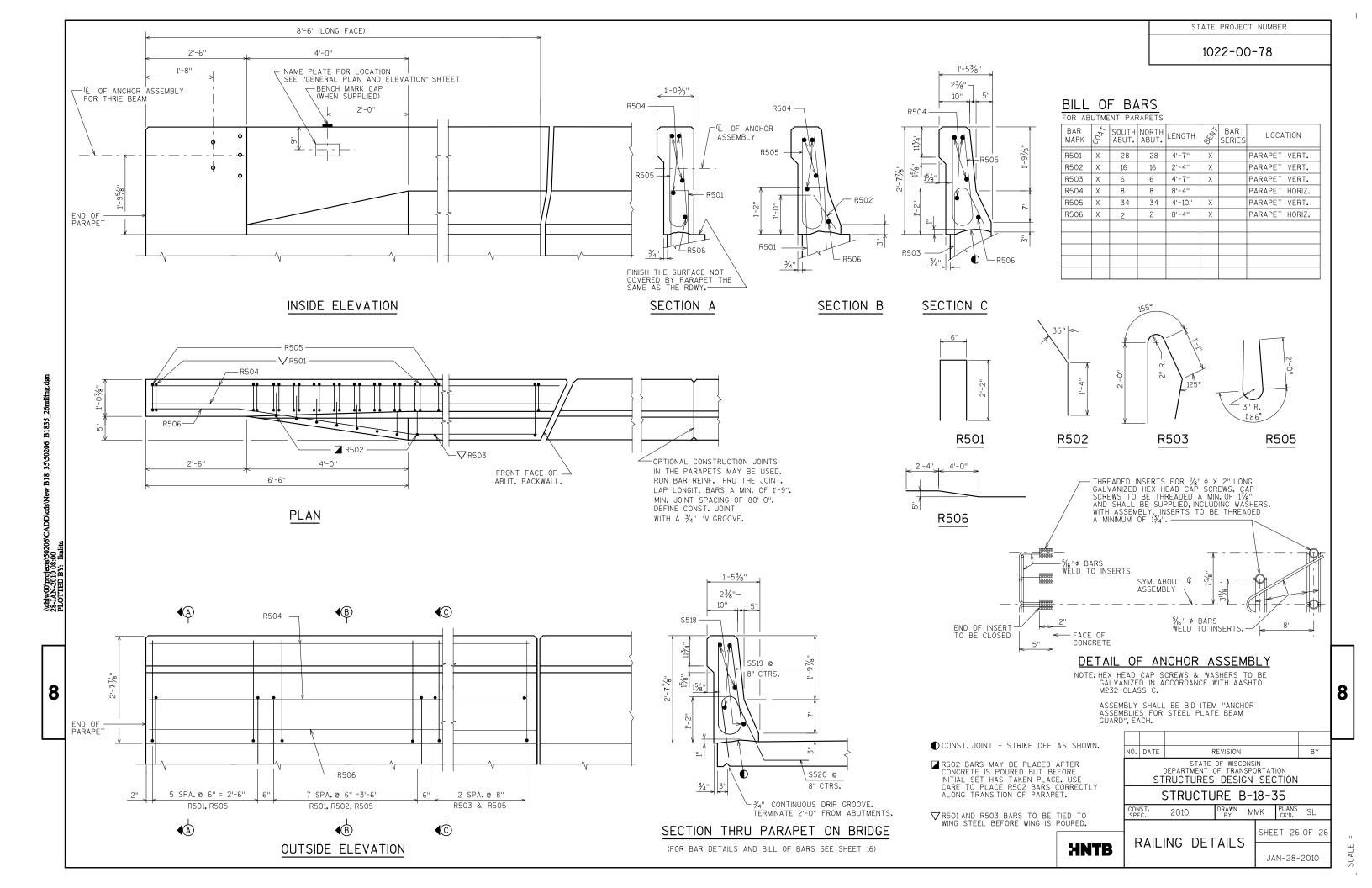


SECTION C-C

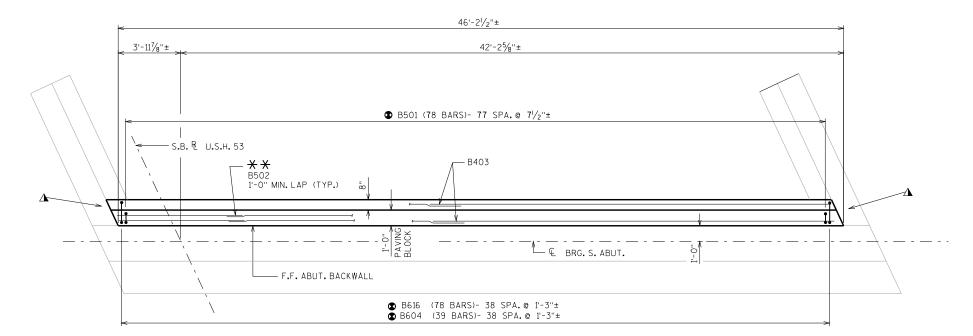
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION STRUCTURE B-18-35 DRAWN MMK PLANS SL STRIP SEAL COVER SHEET 25 OF 26

HNTB

PLATE DETAILS JAN-28-2010







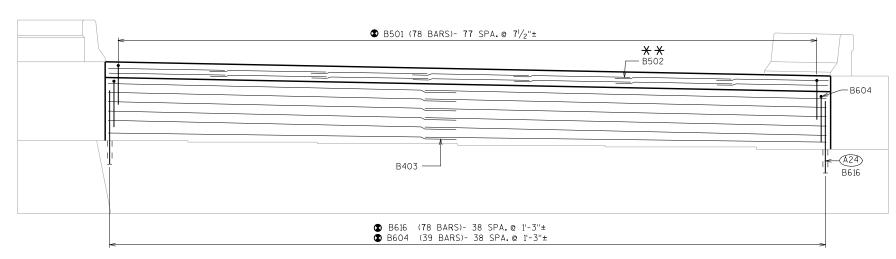
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

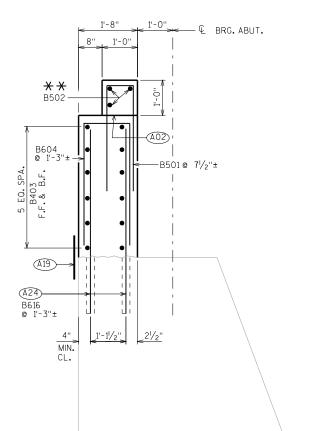
| | BAR MARK | C047 | NO. REQ'D. | LENGTH | SEN, | BAR SERIES | LOCATION |
|-------|-------------|------|---------------|--------|------|---------------|--------------------|
| | B501 | Х | 17 | 7'-0'' | Х | | PAVING BLOCK VERT. |
| | B604 | Х | 8 | 7'-6" | Х | | BACKWALL VERT. |
| (A24) | B616 | Х | 78 | 4'-6" | | | MASONRY ANCHORS |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

SPECIAL NOTE: USE THE FOLLOWING BARS FROM ORIGINAL PLANS: B501, B502, B403, B604, IN ADDITION TO THE BARS LISTED HERE, IN ORDER TO REINFORCE THE ABUTMENT BACKWALL AND PAVING BLOCK.

PLAN



ELEVATION



SECT. THRU ABUT.

NO. DATE

KENT BAHLER

Prepared By **WISDOT** BUREAU OF STRUCTURES

(608) 266-8490

BY

CHIEF STRUCTURES DESIGN ENGINEER DATE

MARK A B B501 3'-2" 0'-8"

B604 3'-1" 1'-4"

LIST OF DRAWINGS

STRUCTURE DESIGN CONTACT:

WARNER RISSER (608) 266-5081

REVISION

6A. REVISED SOUTH ABUTMENT DETAILS 14A. REVISED NORTH ABUTMENT DETAILS

STRUCTURE B-18-35 USH 53 OVER IH-94 TOWN/CITY/VILLAGE EAU CLAIRE EAU CLAIRE DESIGN SPEC.

AASHTO LRFD DESIGN SPEC.5+h EDITION DRAWN BY WWR CK'D. DDS

REVISED SOUTH ABUTMENT

BACKWALL DETAILS

FAN BARS B501, B604, AND B616 AS NEEDED AT ENDS OF ABUTMENT.

* X SET WITH EXPANSION JOINT ANCHOR PLATE.

FOR MORE DETAILS, SEE HNTB PLAN SET.

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE NOTED.

NOTE: SEE ORIGINAL PLANS FOR TIE-IN REINFORCEMENT BARS B405 & B411, WINGWALL TO BACKWALL.

FOR ELEVATIONS REFER TO HNTB PLAN SET.

8

CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A24) B616 MASONRY ANCHORS TYPE L NO.6 BARS, EMBED 1'-6" MIN. INTO EXIST. CONCRETE. EPOXY ANCHORED.

SHEET 6A OF 26

