

GENERAL NOTES:

THIS DESIGN IS FOR REPAIRS TO THE EXISTING 654'-8 x 57'-0 CONTINUOUS WELDED GIRDER BRIDGE ON IA 926 OVER MERIWEATHER DRIVE AND CN RR IN THE CITY OF FORT DODGE. ELECTRONIC COPIES OF ORIGINAL DESIGN PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR AS PART OF THE E-FILES SUPPLIED WITH THE CONTRACT DOCUMENTS. SEE SITUATION PLAN FOR LIST OF REPAIR ITEMS.

ALL DIMENSIONS AND DETAILS SHOWN ON THESE PLANS PERTINENT TO NEW CONSTRUCTION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING CONSTRUCTION.

FAINT LINES ON PLANS INDICATE THE EXISTING PORTIONS OF THE BRIDGE.

THE CITY OR UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

THESE BRIDGE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (5a1 is $\frac{5}{8}$ inch diameter bar). ENGLISH REINFORCING STEEL RECEIVED IN THE FIELD MAY DISPLAY THE FOLLOWING "BAR DESIGNATION". THE "BAR DESIGNATION" IS THE STAMPED IMPRESSION ON THE REINFORCING BARS, AND IS EQUIVALENT TO THE BAR DIAMETER IN MILLIMETERS.

ENGLISH SIZE	3	4	5	6	7	8	9	10	11
BAR DESIGNATION	10	13	16	19	22	25	29	32	36

ALL REINFORCING BARS AND BARS NOTED AS DOWELS SUPPLIED FOR THIS STRUCTURE SHALL BE DEFORMED REINFORCEMENT UNLESS OTHERWISE NOTED OR SHOWN.

PRESENT DECK THICKNESS IS ABOUT 8 INCHES, INCLUDING EXISTING OVERLAY. THE CONTRACTOR SHALL EXERCISE CARE IN REMOVING CONCRETE IN ORDER TO PREVENT UNNECESSARY UNBOUNDING OF REINFORCING STEEL.

CONSTRUCTION SHALL BE DONE IN STAGES WITH AT LEAST ONE LANE TRAFFIC IN EACH DIRECTION MAINTAINED AT ALL TIMES IN ACCORDANCE WITH "TRAFFIC CONTROL PLAN" NOTE.

KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM VERTICAL.

AREAS OF CURB INDICATED ON THE SITUATION PLAN OR DESIGNATED BY THE ENGINEER ARE TO BE REPAIRED USING CONCRETE REPAIR NOTES AND DETAILS INCLUDED IN THESE PLANS.

THE LUMP SUM BID FOR "PAINTING STRUCTURAL STEEL" SHALL INCLUDE THE COST OF PREPARING THE EXISTING STEEL ABUTMENT BEARINGS FOR PAINTING AND FIELD PAINTING AS NOTED IN THESE PLANS. CLEANING AND PAINTING SHALL BE IN ACCORDANCE WITH SECTION 2508, OF THE STANDARD SPECIFICATIONS. AN EPOXY PAINT SYSTEM SHALL BE USED.

CONTAINMENT AND DISPOSAL OF WASTE SHALL BE IN ACCORDANCE WITH SECTION 2508, OF THE STANDARD SPECIFICATIONS. ALL COSTS ASSOCIATED WITH HAULING AND DEPOSITING OF WASTE AT THE DESIGNATED SITE/FACILITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE CONTRACT PRICE BID FOR THE "CONTAINMENT" ITEM.

SEE EXISTING REINFORCING REPAIR NOTES ON DESIGN SHEET 15.

TRAFFIC CONTROL PLAN:
THE ROADWAY WILL BE OPEN TO THRU TRAFFIC. REFER TO THE TRAFFIC CONTROL PLAN SHOWN ELSEWHERE IN THESE PLANS.

ROADWAY QUANTITIES SHOWN ELSEWHERE IN THESE PLANS.



THE LUMP SUM BID FOR "REMOVALS, AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH REMOVING EXISTING LIGHT POLE BLISTER, THE TOP OF EXISTING BACKWALL, SLIDING PLATE EXPANSION JOINT, END OF SLAB & DIAPHRAGM, AND PORTIONS OF THE RAIL END SECTIONS AND CURBS. REMOVAL OF SCHEDULED ITEMS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE SPECIFICATIONS. ANY DAMAGE TO ANY STEEL OR CONCRETE NOT TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND REPAIRED AT NO EXTRA COST TO THE STATE.

THE TOPS OF THE ABUTMENT BACKWALLS AS SHOWN SHALL BE CONSTRUCTED USING STRUCTURAL CONCRETE CLASS C. PROMPTLY AFTER THE CONCRETE HAS BEEN PLACED AND VIBRATED AS PROVIDED IN ARTICLES 2403.03, C, AND 2403.03, D, OF THE STANDARD SPECIFICATIONS, IT SHALL BE HAND FINISHED TO PROVIDE A SMOOTH SURFACE WITH THE PROPER CROWN. THE CONTRACTOR MAY ELECT TO USE FORMWORK WHICH IS MARKED OR TRIMMED TO THE CORRECT ELEVATION AND CROWN TO PROVIDE THE LIMITS FOR THE HAND FINISHING.

A SCRAPE SAMPLE WAS TAKEN FROM AN AREA OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE OF AND LEVEL OF TOTAL LEAD AND TOTAL CHROMIUM. ANALYSIS OF TOTAL LEAD ON THESE SAMPLES, IN PARTS PER MILLION (PPM), WAS <74 FOR THE GIRDER, <180 FOR THE ABUTMENT BEARINGS, AND 640 FOR THE EXPANSION PLATE. ANALYSIS OF TOTAL CHROMIUM ON THESE SAMPLES, IN PPM, WAS 83 FOR THE GIRDER AND <36 FOR THE ABUTMENT BEARINGS. THESE ANALYSES SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER CONSTITUENTS WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE IOWA DOT'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

CONCRETE SEALER NOTES:

CONCRETE SEALER SHALL BE APPLIED TO ABUTMENT BACKWALLS, ABUTMENT SEATS, TOP AND TRAFFIC FACE OF BARRIER RAIL, AND DECK GUTTER. NEW SECTIONS OF BRIDGE RAIL SHALL NOT BE SEALED.

APPLICATION OF CONCRETE SEALER SHALL BE IN ACCORDANCE WITH ARTICLE 2403.03, P, 3 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL NOTE THAT THE APPROVED LIST OF SEALING COMPOUNDS DIFFERS FOR TRAFFIC AREAS AND NON-TRAFFIC AREAS OF THE STRUCTURE. REFER TO MATERIALS I.M. 491.12.

ALL COST OF CLEANING AND SEALING INCLUDING MATERIALS AND LABOR WILL BE INCLUDED IN THE UNIT PRICE FOR "STRUCTURAL CONCRETE (MISC.)" AND NO ADDITIONAL PAYMENT WILL BE MADE.

TEMPORARY SUPPORT NOTES:

THE SUPERSTRUCTURE SHALL BE SUPPORTED DURING CONCRETE REPAIR OF THE BRIDGE SEAT DIRECTLY UNDER THE BEAM BEARINGS AT THE WEST ABUTMENT. IT IS ANTICIPATED THAT BEAM 7 (SECOND BEAM FROM SOUTH) WILL REQUIRE SUPPORT AND BEAM 8 (SOUTH EXTERIOR BEAM) MAY REQUIRE SUPPORT. TEMPORARY SUPPORTS ARE REQUIRED IF MORE THAN 20% OF THE BEARING AREA UNDER THE BEAM MASONRY PLATE IS REMOVED.

SUPPORT THE BEAM ENDS OVER THE AREA TO BE REPAIRED USING A SUFFICIENT NUMBER OF HYDRAULIC JACKS OR BLOCKING. TEMPORARY SUPPORTS SHALL BE DESIGNED FOR THE FULL WEIGHT OF THE TRIBUTARY SUPERSTRUCTURE DEAD LOAD AND ANY ANTICIPATED CONSTRUCTION LOADS. BEAMS MAY BE RAISED A MAXIMUM OF $\frac{1}{4}$ INCH AS NEEDED TO INSTALL OR REMOVE BLOCKING. HYDRAULIC JACKS SHALL BE CAPABLE OF FULLY SUPPORTING THE SUPERSTRUCTURE WEIGHT AS NOTED ABOVE DURING JACKING. STAGE CONCRETE REMOVAL AND REPAIR OPERATIONS SO THAT BEAMS ARE ON TEMPORARY SUPPORTS ONLY WHEN THE LANES ABOVE THE REPAIRS ARE CLOSED TO TRAFFIC, ACCORDING TO THE NOTES AND DETAILS IN THESE PLANS. LONGITUDINAL AND LATERAL SUPPORT OF THE SUPERSTRUCTURE SHALL BE PROVIDED TO PREVENT HORIZONTAL MOVEMENT OF THE SUPERSTRUCTURE.

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DETAILED PLANS AND DESIGN CALCULATIONS SHOWING THE PROPOSED METHOD OF SUPPORTING THE SUPERSTRUCTURE. SUPPORT IN A MANNER WHICH PREVENTS THE OVERSTRESSING OF ANY BRIDGE MEMBER. THE PLANS AND CALCULATIONS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF IOWA.

ALL COSTS ASSOCIATED WITH SUPPORTING THE SUPERSTRUCTURE SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "TEMPORARY SUPPORTS". THIS PRICE SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, SUBMITTALS, AND DESIGN ASSOCIATED WITH THE SUPERSTRUCTURE TEMPORARY SUPPORT AND/OR RAISING.

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNITS	QUANTITY	AS BUILT QUANTITY
1	2401-6750001	REMOVALS, AS PER PLAN	LS	1.00	
2	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	24.1	
3	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	1657	
4	2413-1200000	STEEL EXTRUSION JOINT WITH NEOPRENE	LF	133.9	
5	2413-1200100	NEOPRENE GLAND INSTALLATION AND TESTING	LF	133.9	
6	2426-6772016	CONCRETE REPAIR	SF	199	
7	2501-8400179	TEMPORARY SUPPORTS	LS	1.00	
8	2508-0970000	CONTAINMENT	LS	1.00	
9	2508-0991000	PAINTING OF STRUCTURAL STEEL	LS	1.00	
10	2523-6765009	REMOVE AND REINSTALL LIGHT POLE AND LUMINAIRE	EACH	1	
11	2533-4980005	MOBILIZATION	LS	1.00	

ESTIMATE REFERENCE INFORMATION

DATA LISTED BELOW IS FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT CONSTITUTE A BASIS FOR ANY EXTRA WORK ORDERS.

ITEM NO.	DESCRIPTION
1	INCLUDES ALL WORK FOR REMOVAL AND OFF-SITE DISPOSAL OF SPECIFIED ITEMS (SEE GENERAL NOTES). REMOVAL OF SCHEDULED ITEMS SHALL BE IN ACCORDANCE WITH SECTION 2401, OF THE STANDARD SPECIFICATIONS. ANY DAMAGE TO MATERIAL NOT TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND REPAIRED AT NO EXTRA COST TO THE STATE.
2	INCLUDES REBUILDING THE LIGHT POLE BLISTER AT THE SOUTHEAST CORNER, WEST ABUTMENT FOOTING/ BRIDGE SEAT NEAR SOUTH END, BOTH ENDS OF THE DECK, BOTH ABUTMENT DIAPHRAGMS, THE TOP OF BOTH ABUTMENT BACKWALLS DOWN TO THE PAVING SUPPORT, AND BARRIER RAILS AS SHOWN IN THE SITUATION PLAN. INCLUDES ALL RESILIENT JOINT FILLER REQUIRED. INCLUDES FURNISHING AND INSTALLING 1 INCH DIAMETER PVC CONDUIT IN RAIL END SECTIONS. INCLUDES CLEANING EXISTING CONCRETE CURBS, RAILS, AND ABUTMENTS, AND FURNISHING AND PLACING CONCRETE SEALER. INCLUDES $\frac{1}{8}$ " NEOPRENE BEARING PAD. INCLUDES ANCHOR BOLTS, PLATES AND NUTS AT LIGHT POLE BLISTER. INCLUDES COST OF DRILLING HOLES IN EXISTING CONCRETE FOR DOWELS.
4	INCLUDES ALL NECESSARY HARDWARE AND ACCESSORIES INCLUDING THE ANCHORAGE SYSTEM, TEMPORARY ERECTION MATERIAL AND THE $\frac{3}{8}$ " COVER PLATES WITH THEIR ANCHORAGE SYSTEM. EXCLUDES INSTALLATION OF NEOPRENE GLAND. SKEW OR EXPANSION CONDITIONS DO NOT ALLOW THE USE OF THE DS BROWN JOINT FOR THIS INSTALLATION.
5	INCLUDES INSTALLATION OF NEOPRENE GLAND AND WATER TESTING OF JOINT.
6	INCLUDES ALL WORK FOR THE REPAIR OF THE FACE OF NORTH CURB, FACE OF MEDIAN CURB, EDGE OF CURB OVERHANG/SOFFIT, FACE OF ABUTMENT BACKWALLS AND FOOTINGS AT BOTH ABUTMENTS AS SHOWN ON THE SITUATION PLAN.
9	INCLUDES ALL CLEANING, BLASTING AND PAINTING OF ABUTMENT BEARINGS ACCORDING TO SECTION 2508 OF THE STANDARD SPECIFICATIONS.
10	INCLUDES REMOVAL AND REINSTALLATION OF THE LIGHT POLE AT THE SOUTHEAST CORNER OF THE BRIDGE TO REBUILD LIGHT POLE BLISTER. CONTRACTOR SHALL COORDINATE WITH CITY OF FORT DODGE FOR ELECTRICAL DISCONNECT AND RECONNECTION. LIGHT POLE SHALL BE CAREFULLY STORED ON-SITE OR OFF-SITE AS AGREED TO BY THE ENGINEER. METHOD OF MEASUREMENT IS EACH AS PER PLAN. PRICE BID SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND COORDINATION NECESSARY TO SAFELY REMOVE, STORE, REINSTALL, AND VERIFY OPERATION OF THE LUMINAIRE.

SHOP DRAWING SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS SHOWN IN THE TABLE BELOW. (NOTE ADDITIONAL SHOP DRAWINGS MAY BE REQUIRED IN ACCORDANCE WITH ARTICLE 1105.03 OF THE STANDARD SPECIFICATIONS.)

SUBMITTAL REQUIREMENTS FOR SHOP DRAWINGS SHOULD BE IN ACCORDANCE WITH ARTICLE 1105.03, OF THE STANDARD SPECIFICATIONS, FOR HIGHWAY AND BRIDGE CONSTRUCTION OF THE IOWA DEPARTMENT OF TRANSPORTATION.

SHOP DRAWINGS SHALL BE SUBMITTED WITH THE FOLLOWING NAMING CONVENTION:
(Paren)_County_DesignNumber_SubmittalDescription.pdf
Example: (090)_BlackHawk_Design915_DeckDrains.pdf

1	STEEL EXTRUSION JOINT
2	STEEL COVER PLATES
3	TEMPORARY SUPPORTS

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE

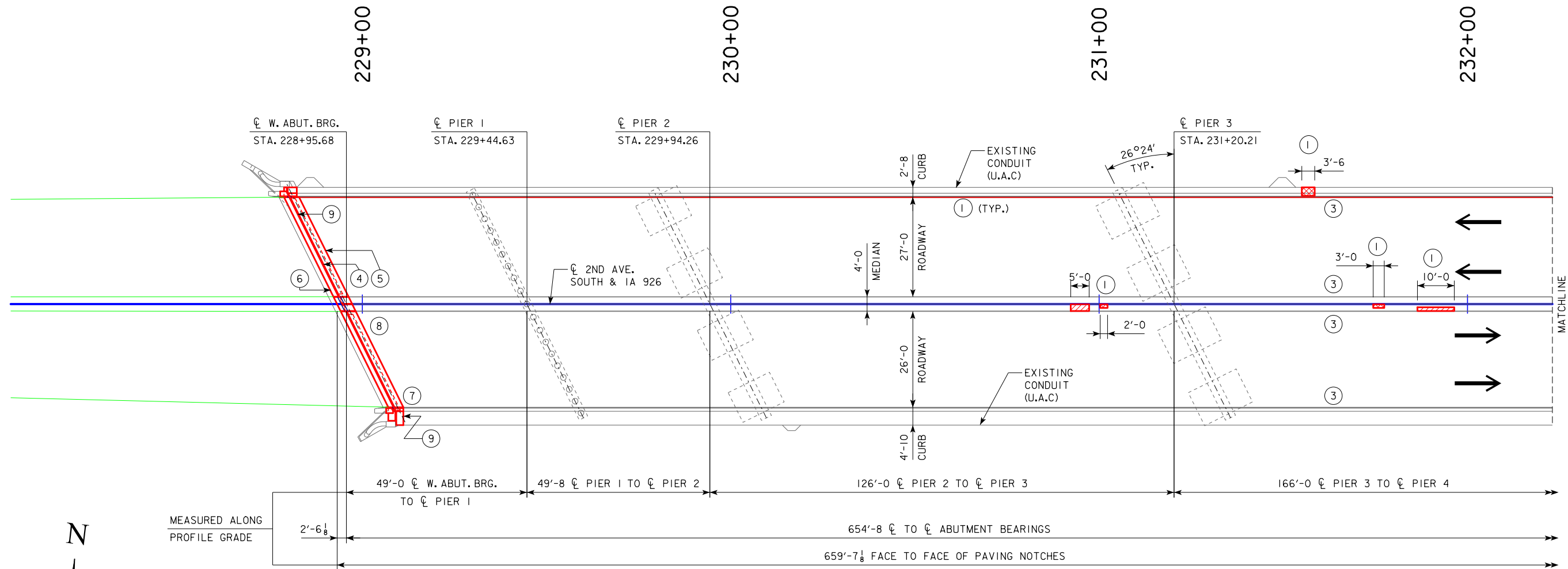
49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS

EST. QUANTITIES & GENERAL NOTES

STA. 232+22.93 (IA 926) OCTOBER, 2020

WEBSTER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 21 FILE NO. 31780 DESIGN NO. 120



SITUATION PLAN

REPAIRS SHALL CONSIST OF:

- 1 PERFORM CONCRETE REPAIR TO FACE OF NORTH CURB, FACE OF MEDIAN CURB, AND CURB OVERHANG FASCIA/SOFFIT AS SHOWN ON THE SITUATION PLAN.
- 2 REMOVE AND REPLACE LIGHT POLE BLISTER AT SOUTHEAST CORNER.
- 3 CLEAN AND SEAL CONCRETE CURBS AND RAILS.
- 4 INSTALL STRIP SEAL EXPANSION JOINTS AT EACH ABUTMENT. INSTALL NEW CURB AND MEDIAN COVER PLATES.
- 5 REMOVE AND REPLACE END OF THE DECK, DIAPHRAGM, CURB, AND BARRIER RAIL.
- 6 REMOVE AND REPLACE TOP OF BACKWALL DOWN TO PAVING SUPPORT.
- 7 REBUILD WEST ABUTMENT FOOTING/BRIDGE SEAT NEAR SOUTH END.
- 8 CLEAN AND PAINT ABUTMENT BEARINGS.
- 9 PERFORM CONCRETE REPAIR TO FACE OF ABUTMENT BACKWALL AND FOOTING.
- 10 INSTALL GUARDRAIL AT THE NORTHEAST CORNER OF THE BRIDGE.

LEGEND

- INDICATES CURB REPAIR
- INDICATES OVERHANG FASCIA/SOFFIT REPAIR

NOTE:
APPROXIMATE REPAIR AREAS SHOWN ARE SCHEMATIC ONLY. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER, SHALL BE REPAIRED.

SEE DESIGN SHEET 17 FOR CONCRETE REPAIR DETAILS AND QUANTITIES.

FACE OF ENTIRE NORTH CURB HAS MINOR TO MODERATE DETERIORATION. CONCRETE REPAIR QUANTITY ESTIMATED AT 25% OF TOTAL NORTH CURB FACE (SHALLOW).

LOCATION

2ND AVE. SOUTH OVER
MERIWEATHER DRIVE AND CN RR
T-89N R-28W
SECTION 19
WAHKONSA TOWNSHIP
WEBSTER COUNTY
CITY OF FORT DODGE
FHWA NO. 52310
BRIDGE MAINT. NO. 9402.3S926
LATITUDE 42.501856°
LONGITUDE -94.196535°

TRAFFIC ESTIMATE

2019 AADT 3,190 V.P.D.
TRUCKS -- %

DESIGN HISTORY AT THIS SITE (INCLUDES THIS DESIGN)

DES. NO.	TYPE OF WORK
2058	ORIGINAL DESIGN
275	OVERLAY AND REPAIR
482	CURB RECONSTRUCTION
201	ABUTMENT REPAIR
208	RE-OVERLAY AND REPAIR
120	DECK JOINT REPAIR

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE

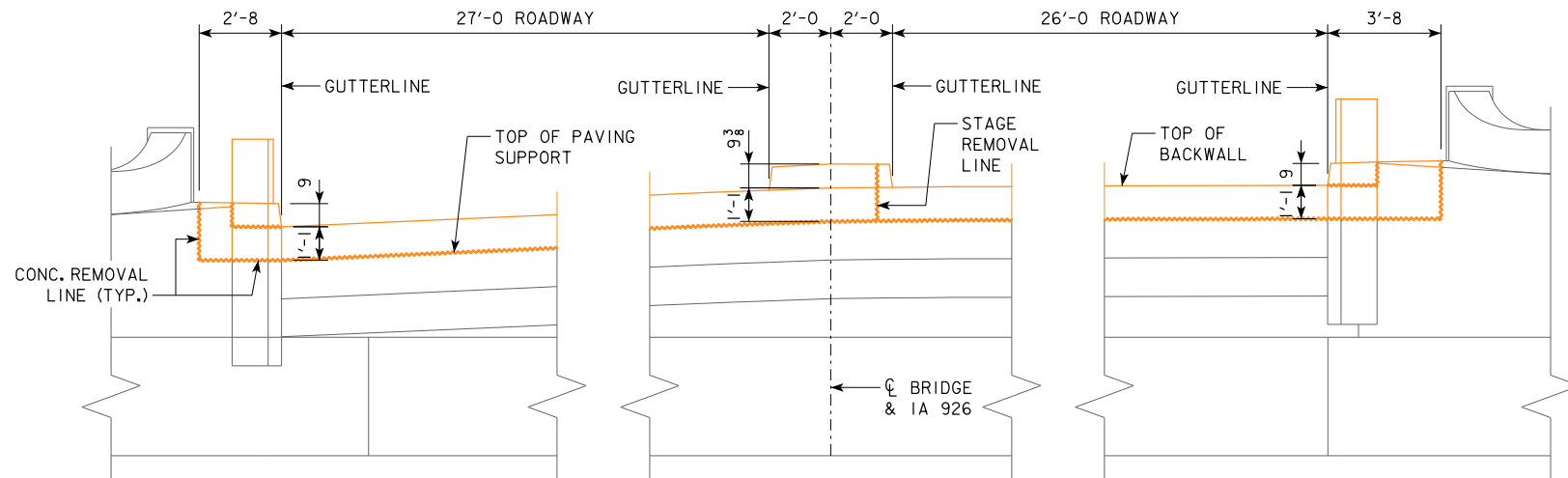
49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS

SITUATION PLAN

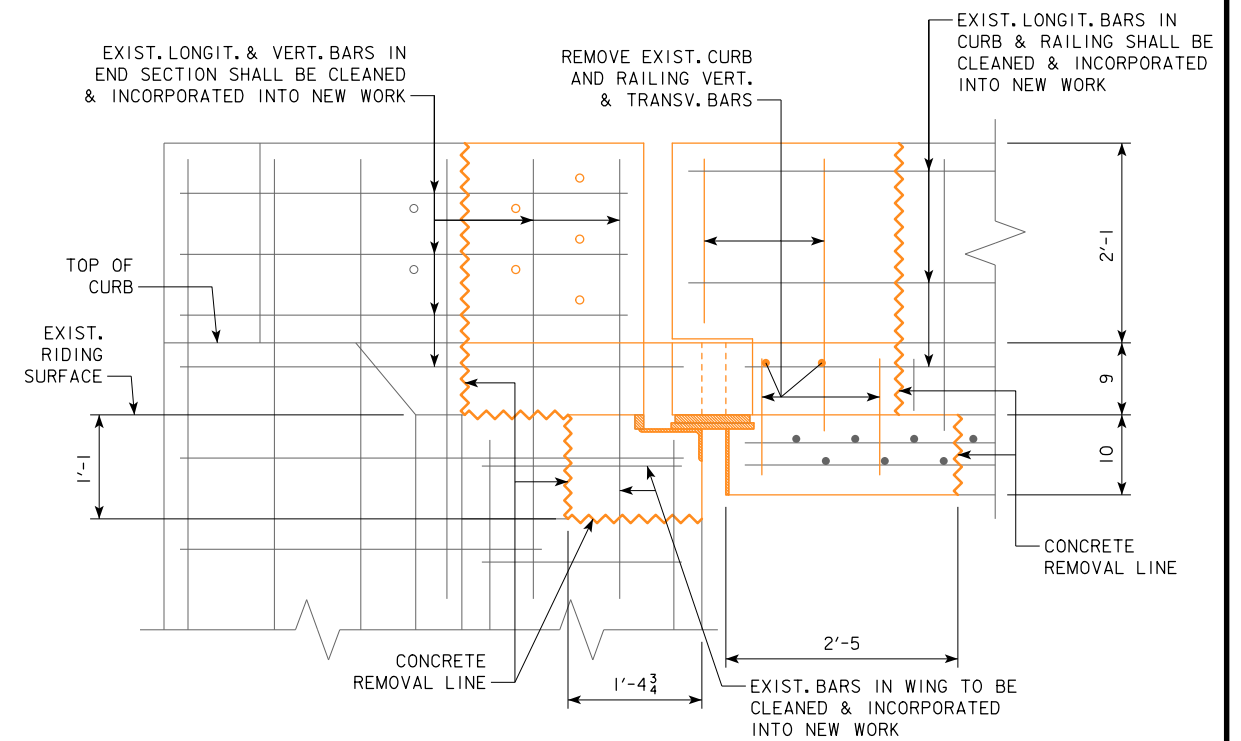
STA. 232+22.93 (IA 926) OCTOBER, 2020

WEBSTER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 2 OF 21 FILE NO. 31780 DESIGN NO. 120

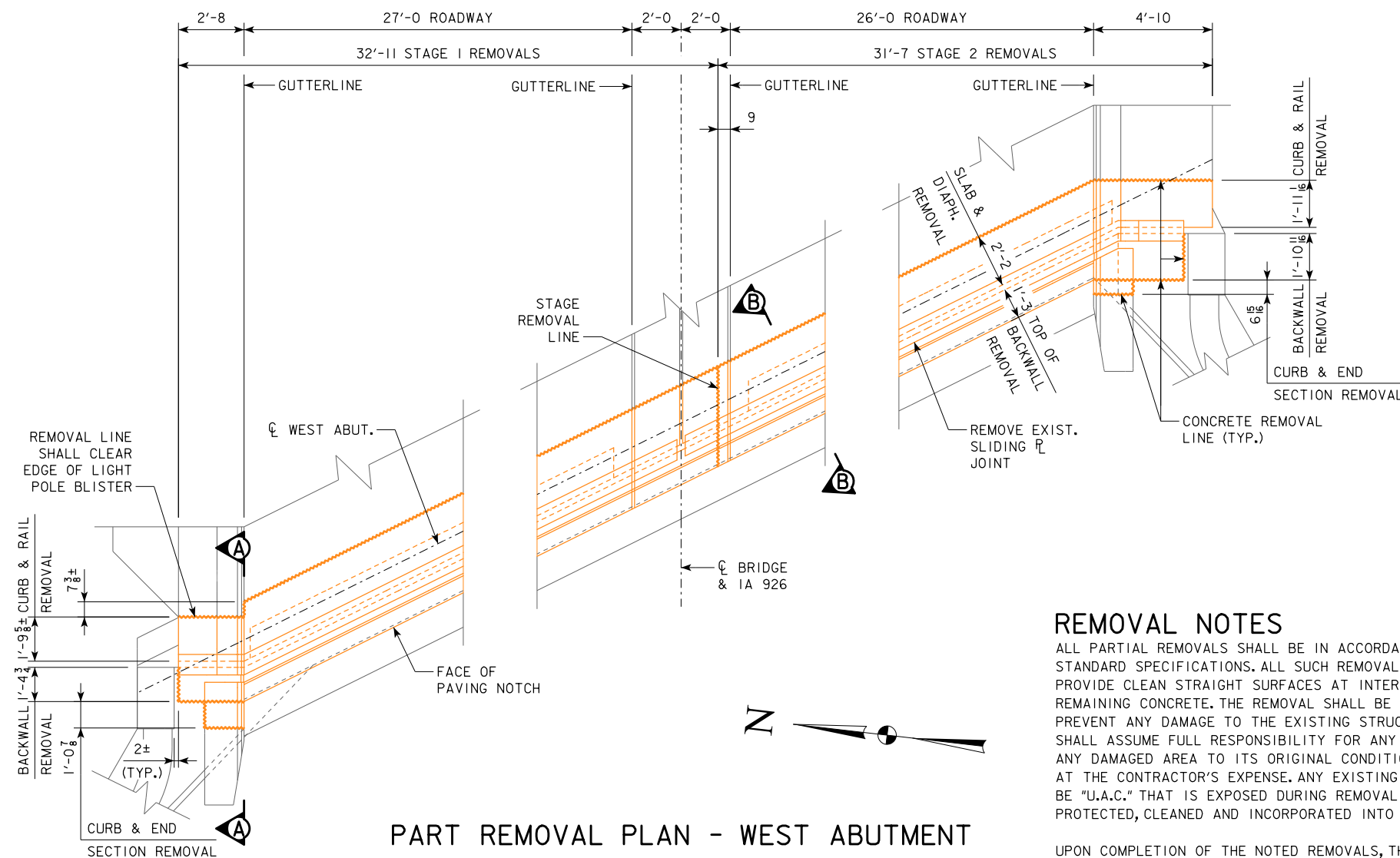


PART REAR ELEVATION

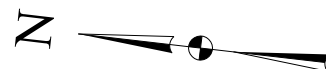


SECTION A-A

(SHOWN AT NORTH GUTTERLINE. SOUTH GUTTERLINE SIMILAR.)



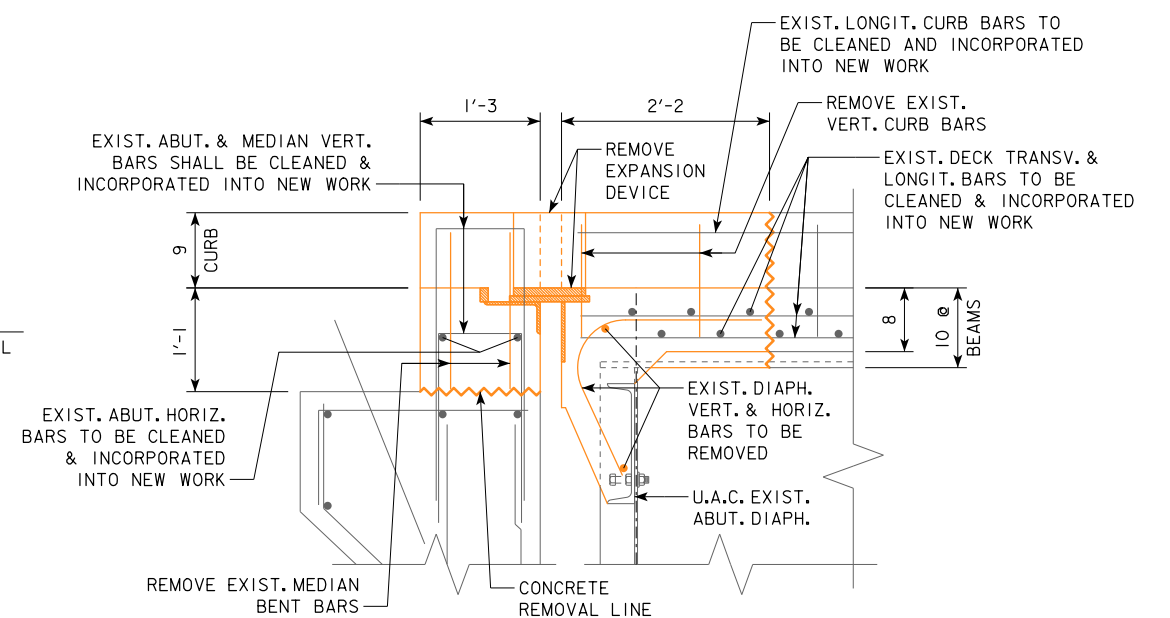
PART REMOVAL PLAN - WEST ABUTMENT



REMOVAL NOTES

ALL PARTIAL REMOVALS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS. ALL SUCH REMOVALS SHALL BE TO NEAT SAW CUTS TO PROVIDE CLEAN STRAIGHT SURFACES AT INTERFACES BETWEEN NEW CONCRETE AND REMAINING CONCRETE. THE REMOVAL SHALL BE DONE IN A MANNER WHICH WILL PREVENT ANY DAMAGE TO THE EXISTING STRUCTURE TO REMAIN. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE CAUSED, AND SHALL REPAIR ANY DAMAGED AREA TO ITS ORIGINAL CONDITION, AS DIRECTED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE. ANY EXISTING REINFORCING STEEL WHICH IS TO BE "U.A.C." THAT IS EXPOSED DURING REMOVAL OPERATIONS IS TO BE CAREFULLY PROTECTED, CLEANED AND INCORPORATED INTO NEW CONSTRUCTION.

UPON COMPLETION OF THE NOTED REMOVALS, THE CONTACT SURFACES BETWEEN EXISTING AND NEW CONCRETE SHALL BE CLEANED IN ACCORDANCE WITH ARTICLE 2403.03, 1 OF THE STANDARD SPECIFICATIONS. WHEN NEW CONCRETE IS TO BE PLACED AGAINST EXISTING SMOOTH FINISHED CONCRETE, THE EXISTING CONCRETE SHALL BE ROUGHENED BY SANDBLASTING OR OTHER APPROVED METHODS TO PROVIDE A SUITABLE BOND BETWEEN THE NEW AND EXISTING CONCRETE.



SECTION B-B

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE

49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS

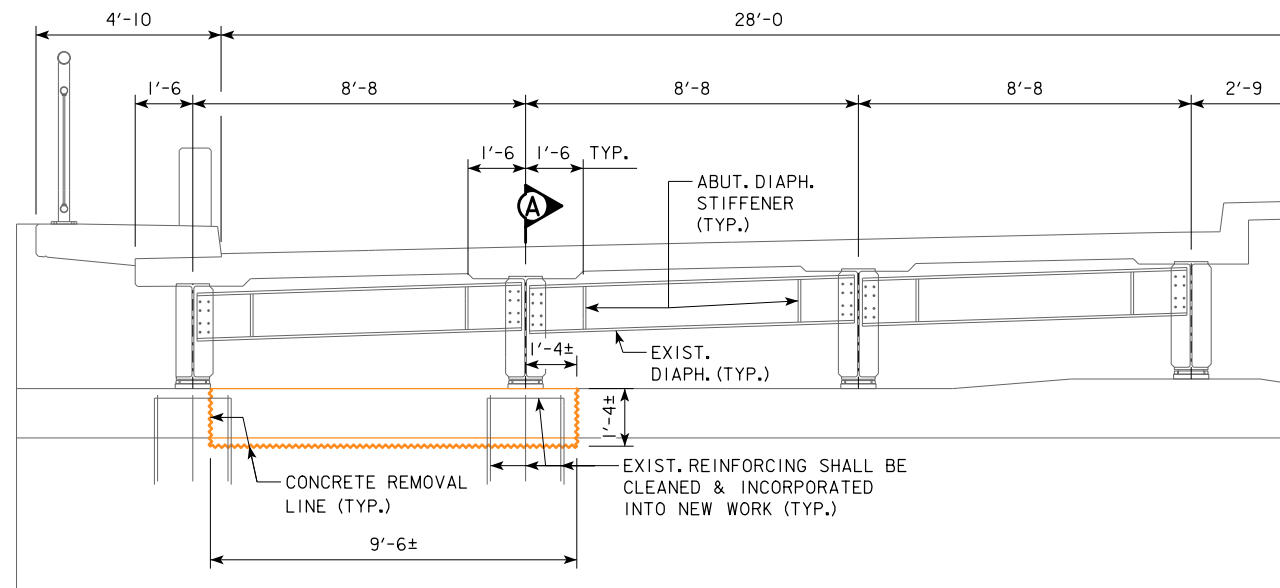
WEST ABUTMENT REMOVAL DETAILS

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WEBSTER COUNTY

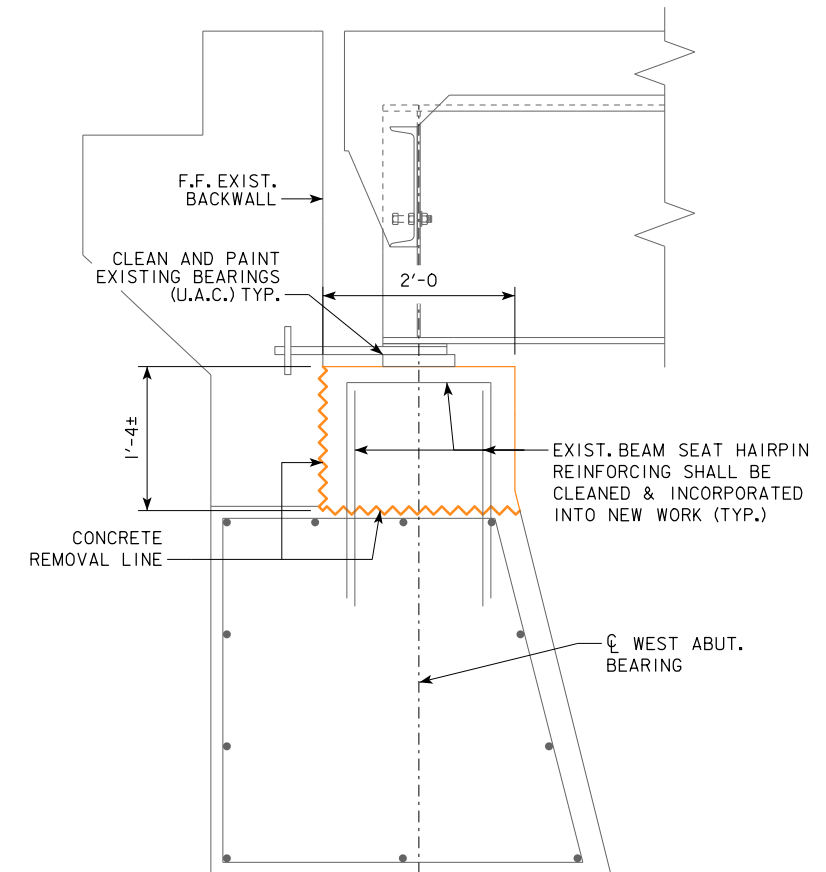
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 21 FILE NO. 31780 DESIGN NO. 120

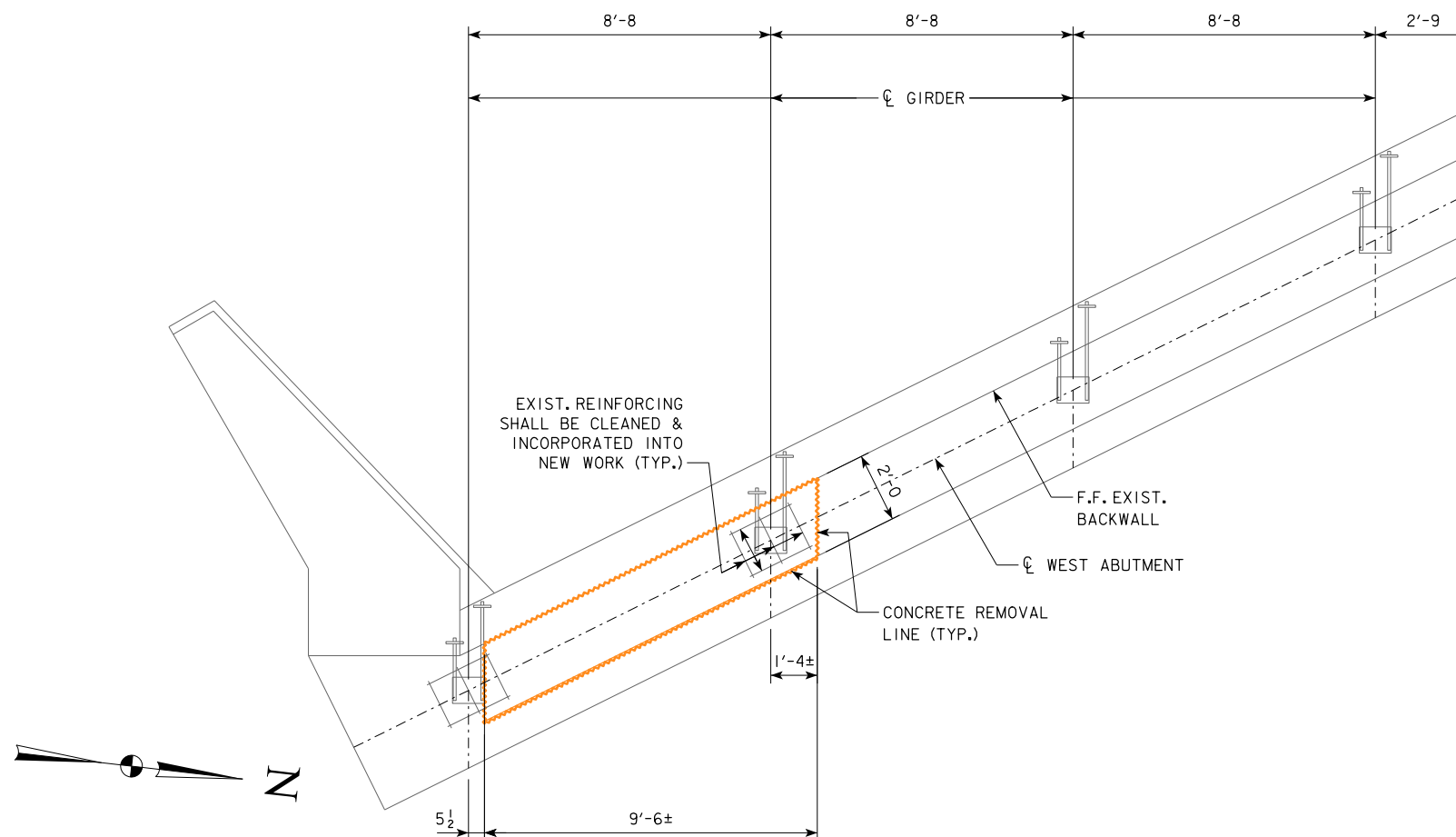


PART ABUTMENT ELEVATION
(LOOKING WEST - NORMAL TO CL BRIDGE)

CL BRIDGE
& IA 926



SECTION A-A



PART WEST ABUTMENT PLAN
(BEAMS AND DIAPHRAGM NOT SHOWN FOR CLARITY)

NOTE:

SEE DESIGN SHEET 4 FOR REMOVAL NOTES.

CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS FOR BEAMS DURING ABUTMENT REPAIR. SEE DESIGN SHEET 1 FOR TEMPORARY SUPPORT NOTES.

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

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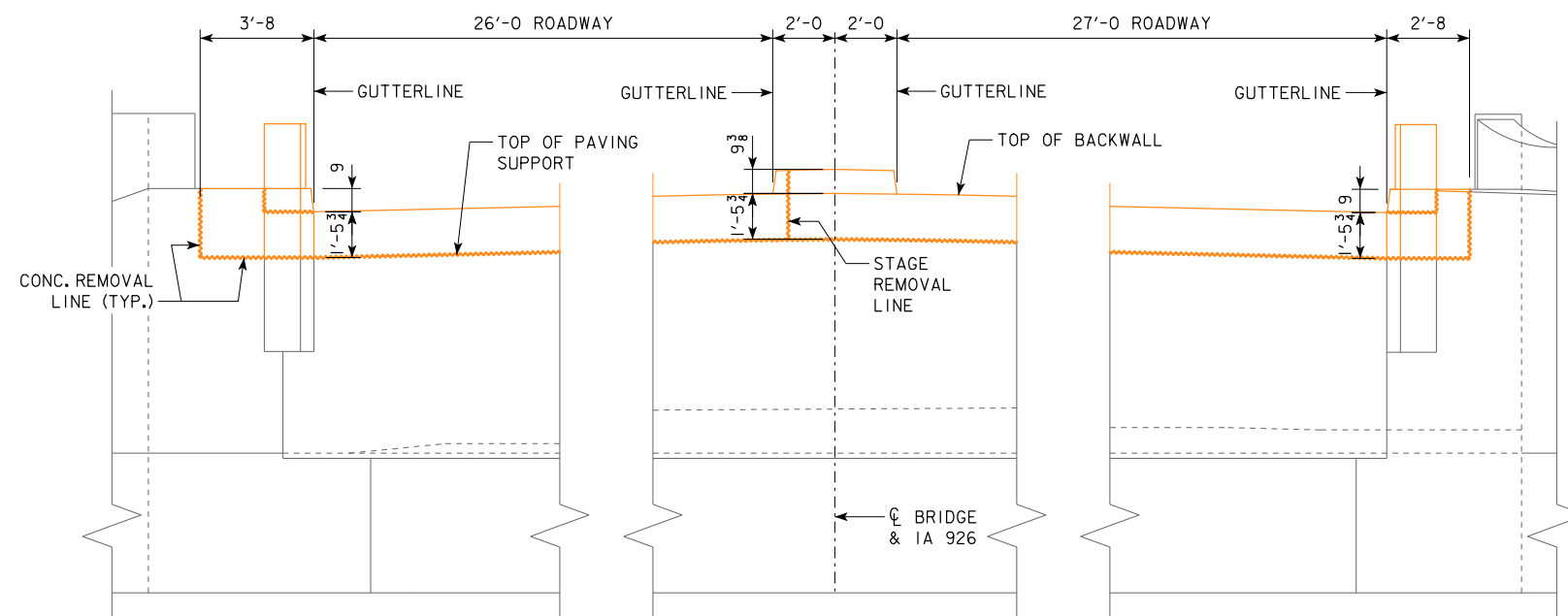
WEST ABUTMENT REMOVAL DETAILS

STA. 232+22.93 (IA 926) OCTOBER, 2020

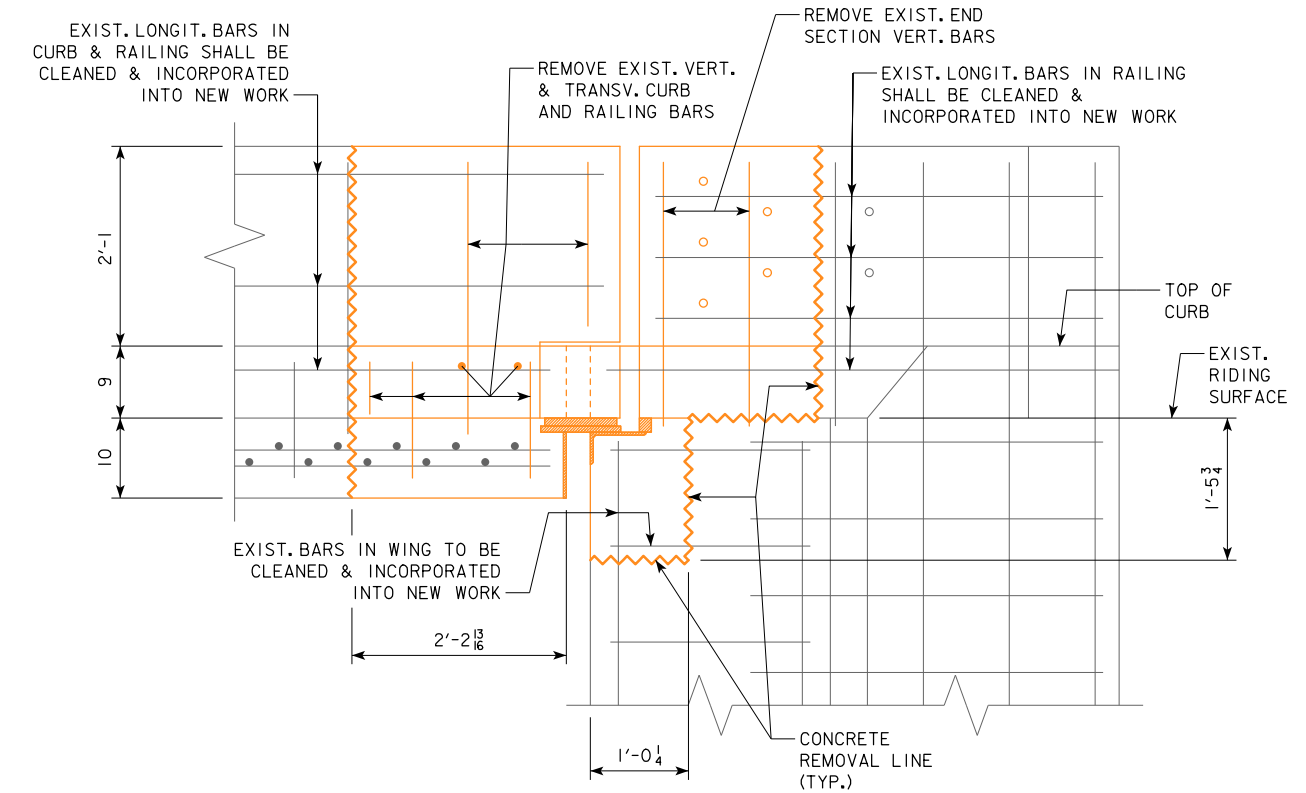
WEBSTER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 5 OF 21 FILE NO. 31780 DESIGN NO. 120

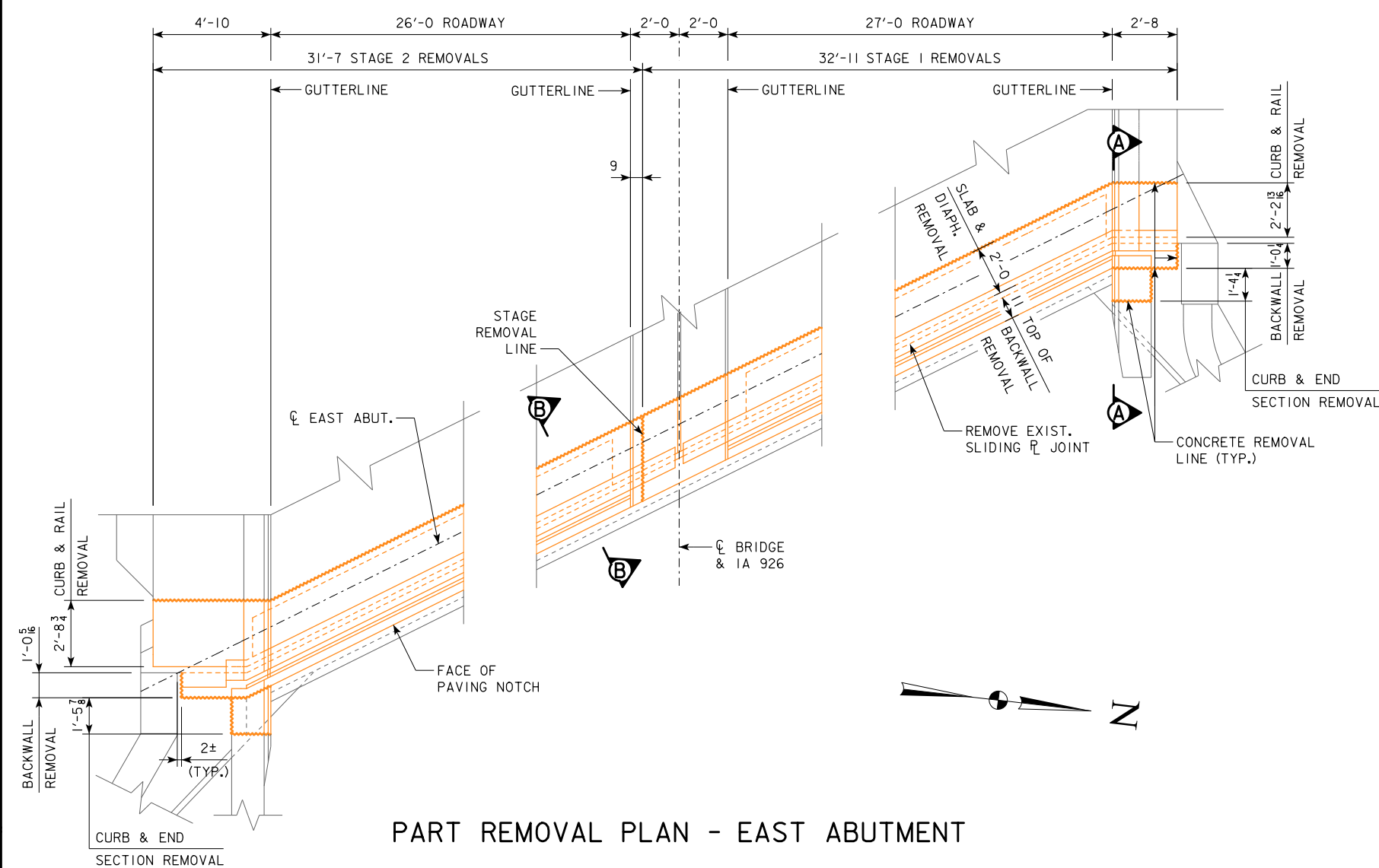


PART REAR ELEVATION

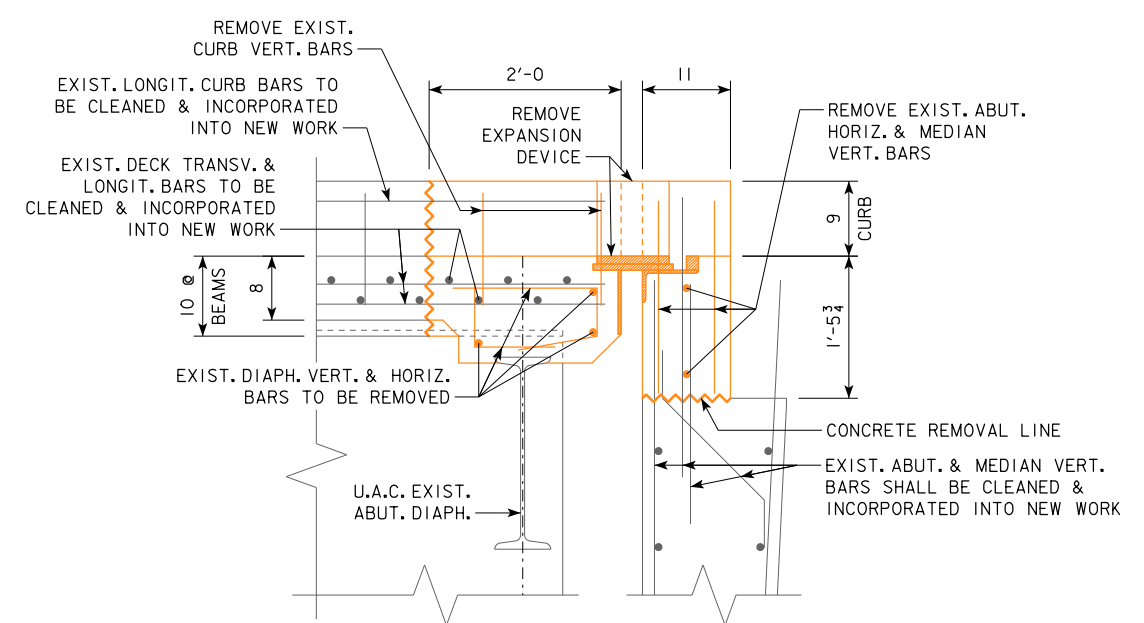


SECTION A-A

(SHOWN AT NORTH GUTTERLINE, SOUTH GUTTERLINE SIMILAR.)



PART REMOVAL PLAN - EAST ABUTMENT



SECTION B-B

SEE DESIGN SHEET 4 FOR REMOVAL NOTES.

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

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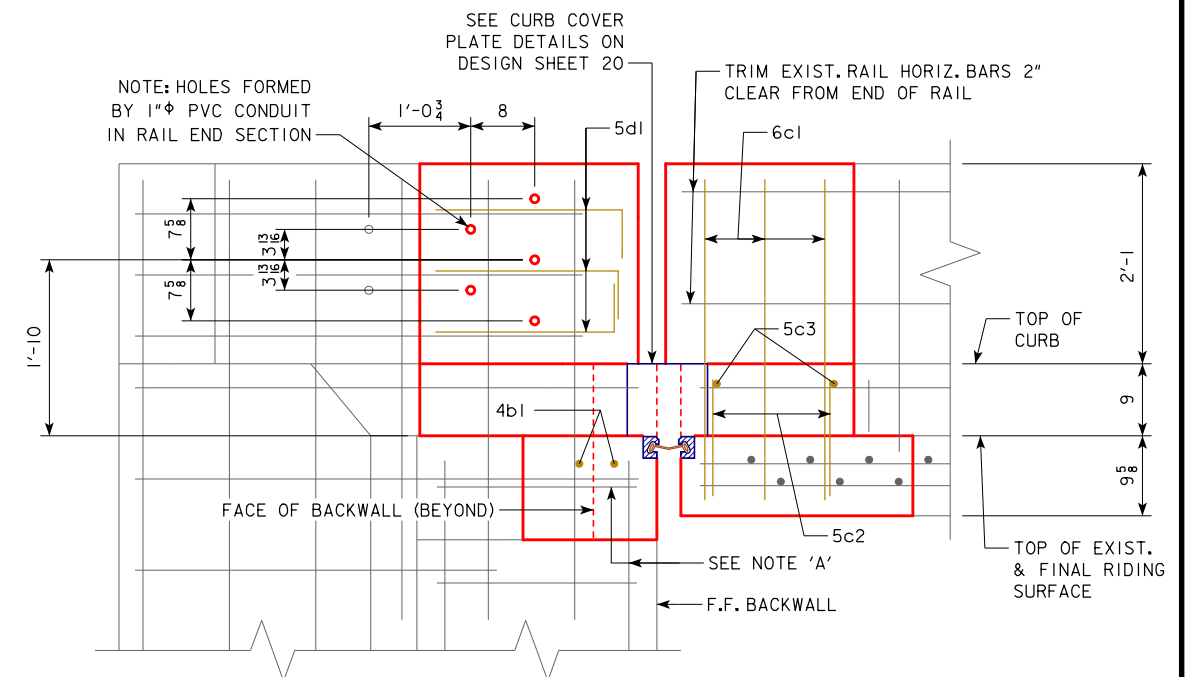
EAST ABUTMENT REMOVAL DETAILS

STA. 232+22.93 (IA 926) OCTOBER, 2020

WEBSTER COUNTY

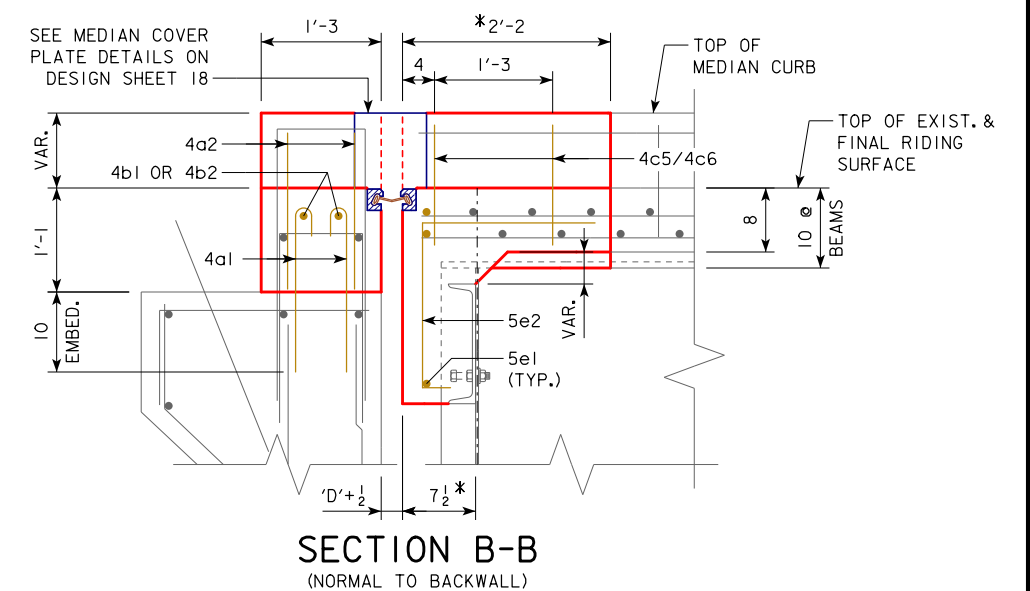
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 6 OF 21 FILE NO. 31780 DESIGN NO. 120



SECTION A-A

EXPOSED BARS IN AREAS NOT TO BE ENCASED IN NEW CONCRETE SHALL BE CUT FLUSH WITH TOP OF REMOVAL LINE AND GIVEN TWO COATS OF ZINC-RICH PAINT.



DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

**654'-8 x 57'-0 CONTINUOUS
WELDED PLATE GIRDER BRIDGE**

49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS

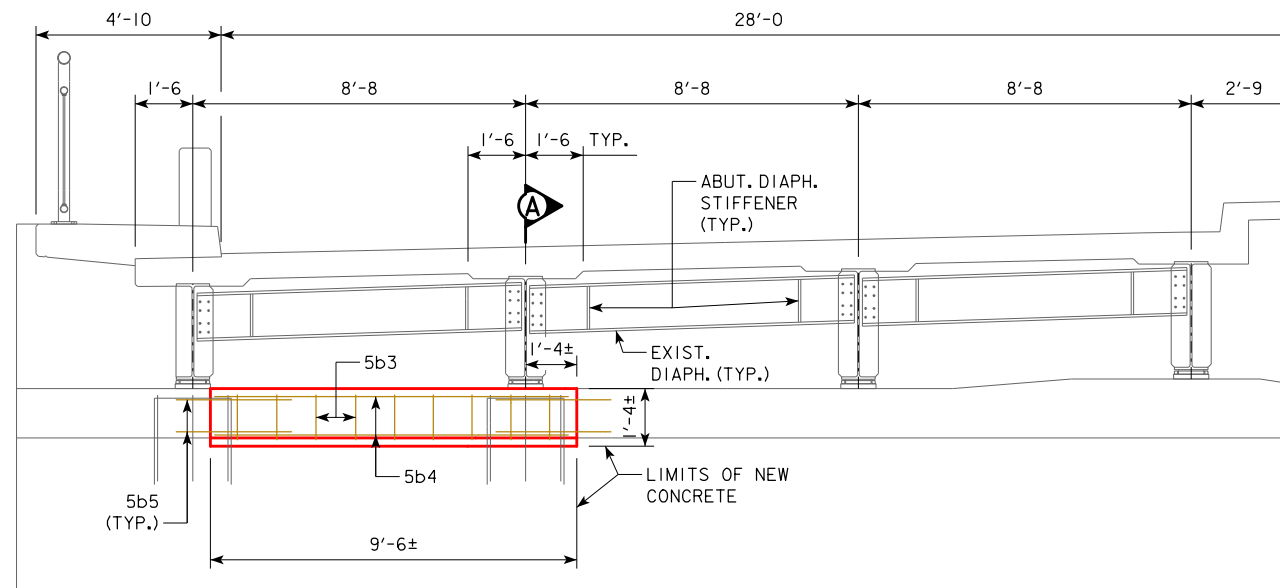
WEST ABUTMENT DETAILS

STA. 232+22.93 (IA 926) OCTOBER, 2020

WEBSTER COUNTY

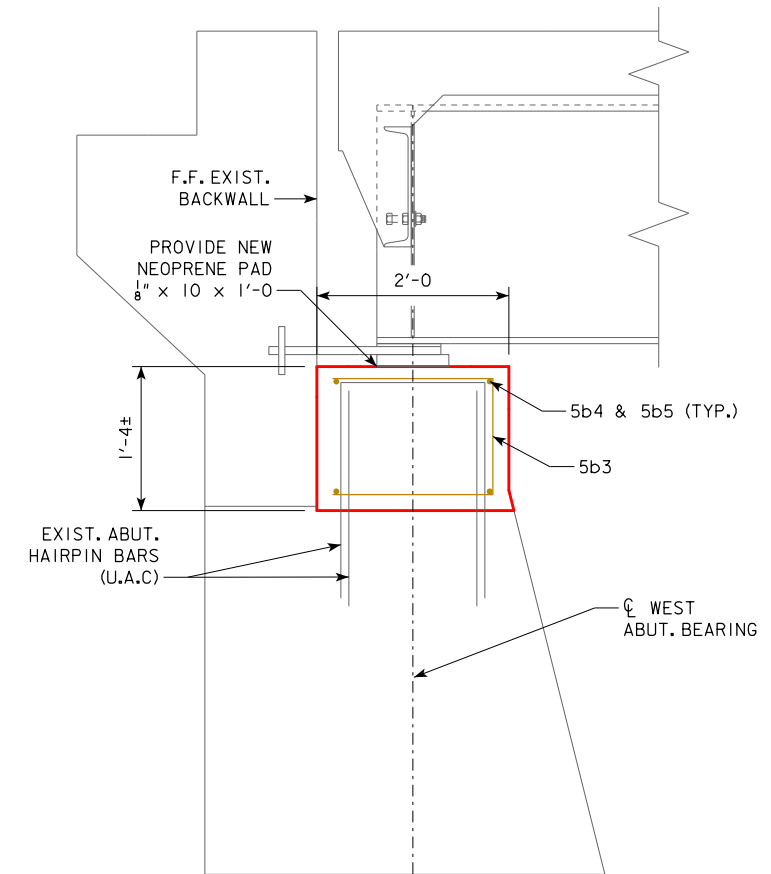
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 7 OF 21 FILE NO. 31780 DESIGN NO. 120

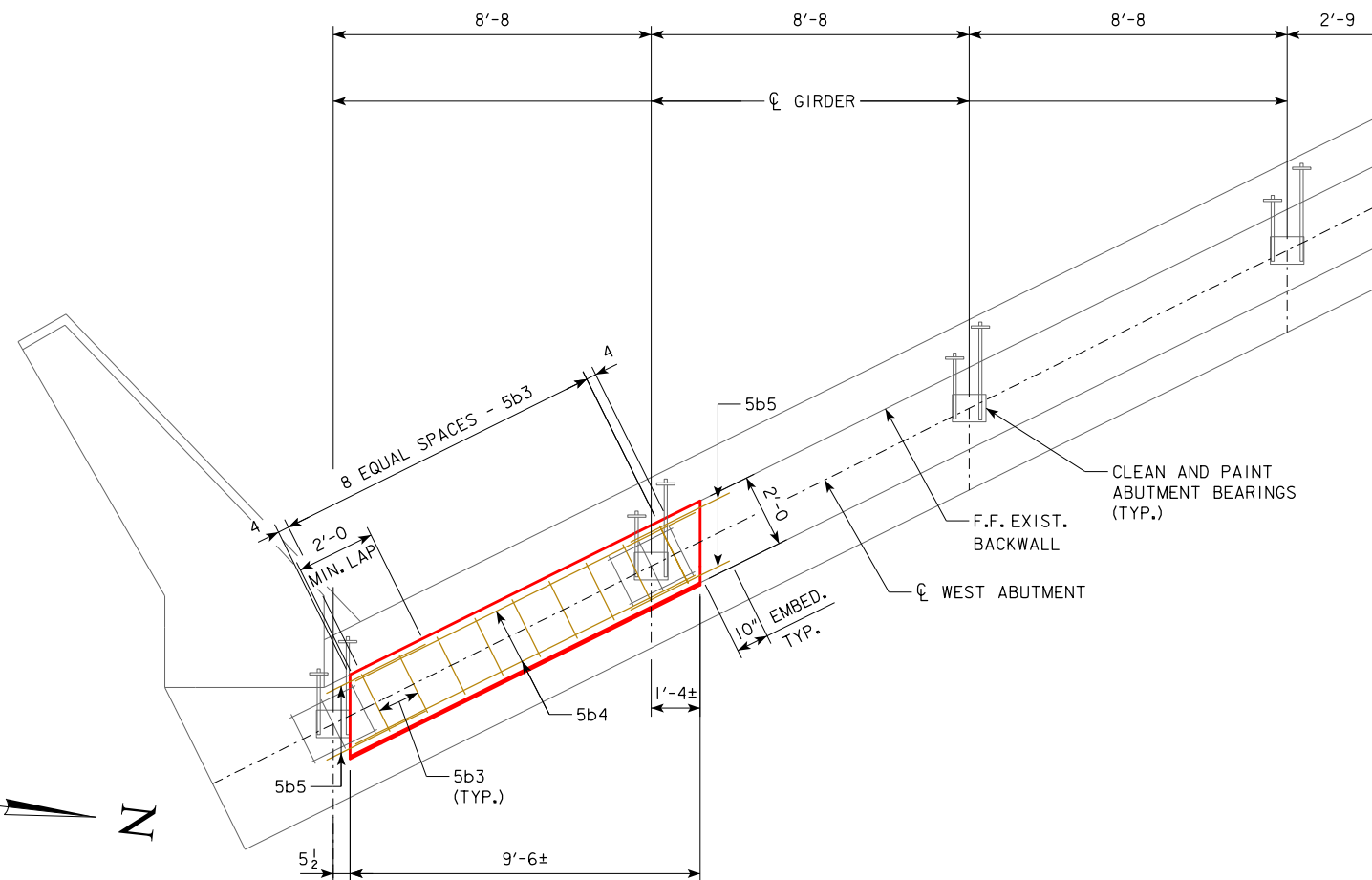


PART ABUTMENT ELEVATION
(LOOKING WEST NORML TO CL BRIDGE)

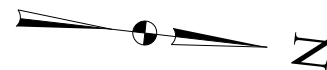
CL BRIDGE & IA 926



SECTION A-A

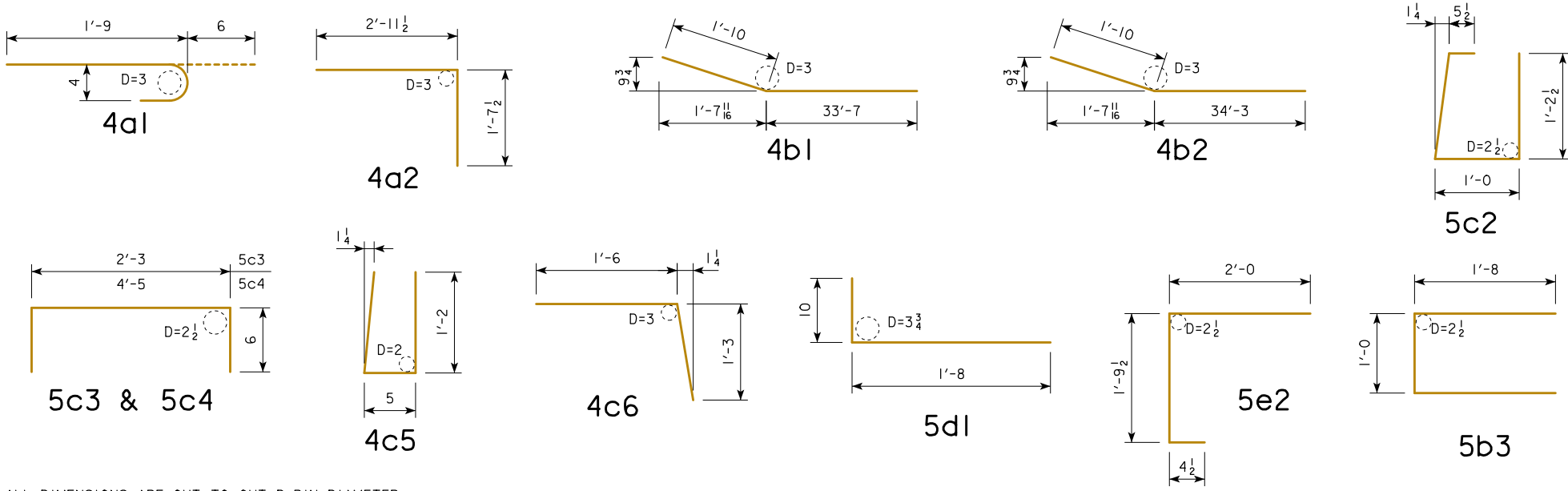


PART WEST ABUTMENT PLAN
(BEAMS AND DIAPHRAGM NOT SHOWN FOR CLARITY)



DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)		
654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE		
49'-0 & 49'-8 APPR. SPANS	126'-0, (2) 166'-0 & 98'-0 SPANS	
WEST ABUTMENT DETAILS		
STA. 232+22.93 (IA 926)	OCTOBER, 2020	
WEBSTER COUNTY		
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION		
DESIGN SHEET NO. 8 OF 21	FILE NO. 31780	DESIGN NO. 120

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.

REINFORCING BAR LIST - W. ABUT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
4a1	BACKWALL VERTICAL, DOWEL		126	2'-3	189
4a2	BACKWALL, MEDIAN HOOK		4	4'-7	12
4b1	BACKWALL HORIZONTAL, STAGE 1		2	35'-5	48
4b2	BACKWALL HORIZONTAL, STAGE 2		2	36'-1	48
5b3	ABUTMENT SEAT, HAIRPIN		9	4'-4	41
5b4	ABUTMENT SEAT, HORIZONTAL		4	10'-3	43
5b5	ABUTMENT SEAT, DOWELS		8	3'-0	25
6c1	RAIL, VERTICAL		6	3'-3	29
5c2	OUTSIDE CURBS, STIRRUP		4	3'-11	16
5c3	NORTH CURB, TRANSVERSE		2	3'-3	7
5c4	SOUTH CURB, TRANSVERSE		2	5'-5	11
4c5	MEDIAN CURB, STIRRUP		4	2'-9	7
4c6	MEDIAN, TRANSVERSE		4	2'-9	7
5d1	RAIL END SECTION, LONGITUDINAL		12	2'-6	31
6d2	RAIL END SECTION, VERTICAL		3	3'-7	16
5e1	DIAPHRAGM, HORIZONTAL		6	28'-8	179
5e2	DIAPHRAGM, VERTICAL		48	4'-2	209
EPOXY COATED REINFORCING STEEL - TOTAL (LBS)					917

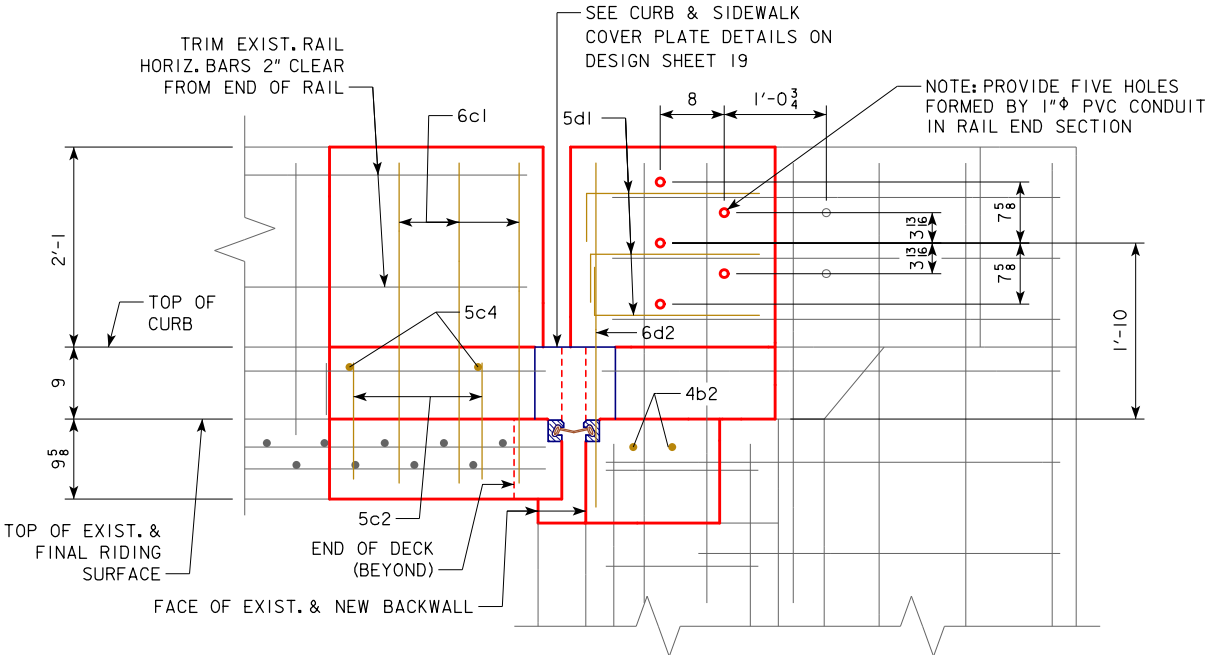
CONCRETE PLACEMENT QUANTITY

SECTION	TOTAL (CY)
BACKWALL & CURBS - STAGE 1	1.8
BACKWALL & CURBS - STAGE 2	2.2
DECK, DIAPHRAGM & CURBS - STAGE 1	3.4
DECK, DIAPHRAGM & CURBS - STAGE 2	3.5
BARRIER RAIL - STAGE 1	0.3
BARRIER RAIL - STAGE 2	0.4
BRIDGE SEAT REPAIR	1.0
TOTAL (CY)	12.6

DOWEL SETTING NOTE:

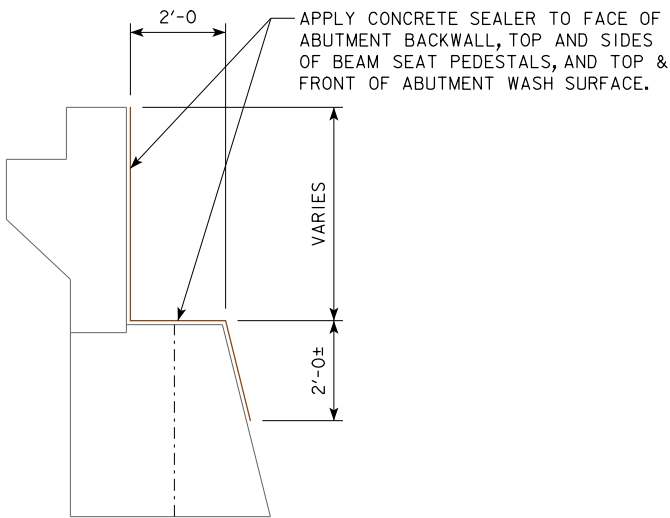
THE PRICE BID FOR "STRUCTURAL CONCRETE (MISCELLANEOUS)" SHALL INCLUDE THE COST OF SETTING THE 4a1 BARS AND 5b5 BARS AS DOWELS. THE 4a1 AND 5b5 BARS SHALL BE SET AS DOWELS IN DRILLED HOLES. HOLES ARE TO BE 10" DEEP. THE DOWELS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. EITHER OF THE FOLLOWING SYSTEMS MAY BE USED AS A BONDING AGENT FOR VERTICAL DOWELS, BUT ONLY SYSTEM "A" MAY BE USED FOR HORIZONTAL DOWELS:

- A. POLYMER GROUT SYSTEM SHALL BE IN ACCORDANCE WITH ARTICLE 2301.03, E, OF THE STANDARD SPECIFICATIONS.
- B. HYDRAULIC CEMENT GROUT SYSTEMS. DRILLED HOLES ARE TO BE 2 1/2 TIMES THE DOWEL DIAMETER AND ARE TO BE BLOWN CLEAN WITH COMPRESSED AIR IMMEDIATELY PRIOR TO PLACING GROUT. THE HYDRAULIC CEMENT GROUT SHALL BE ONE OF THOSE APPROVED IN MATERIALS I.M. 491.13 AND SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



SECTION C-C

NOTE: SEE DESIGN SHEET 7 FOR LOCATION OF SECTION C-C.



ABUTMENT CONCRETE SEALER DETAIL



DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE

49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS

WEST ABUTMENT DETAILS

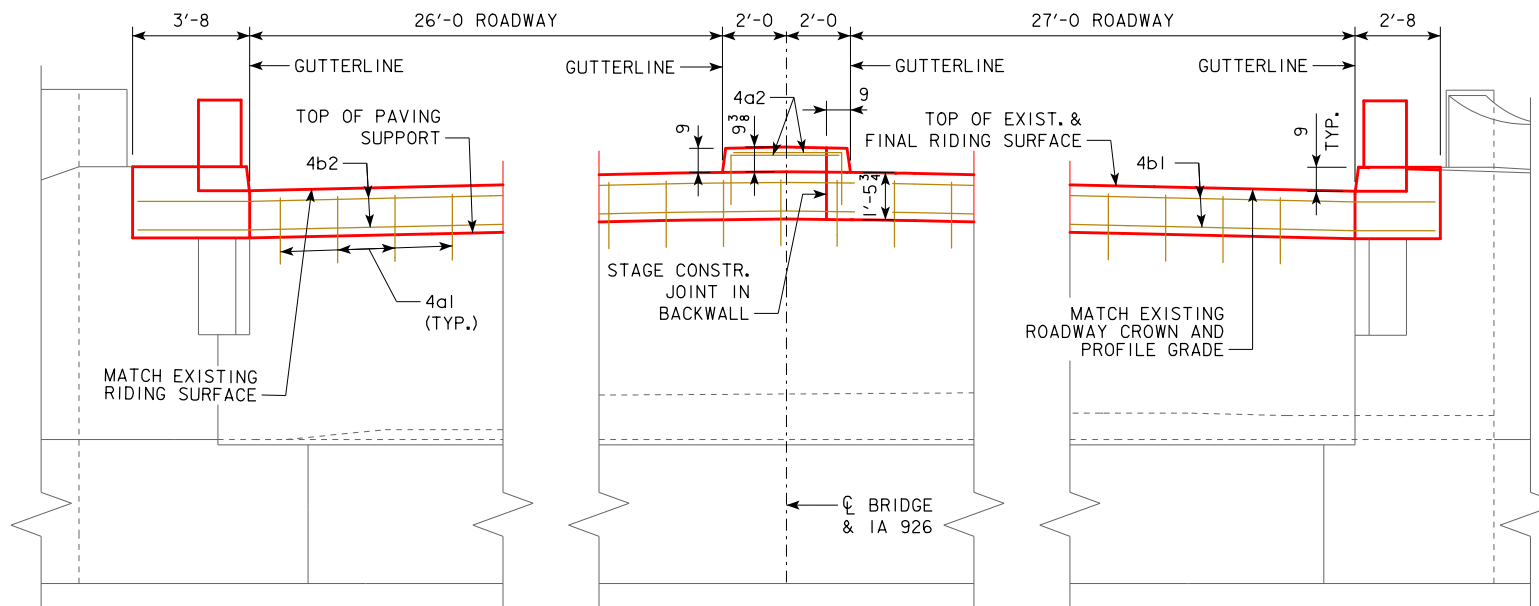
STA. 232+22.93 (IA 926) OCTOBER, 2020

WEBSTER COUNTY

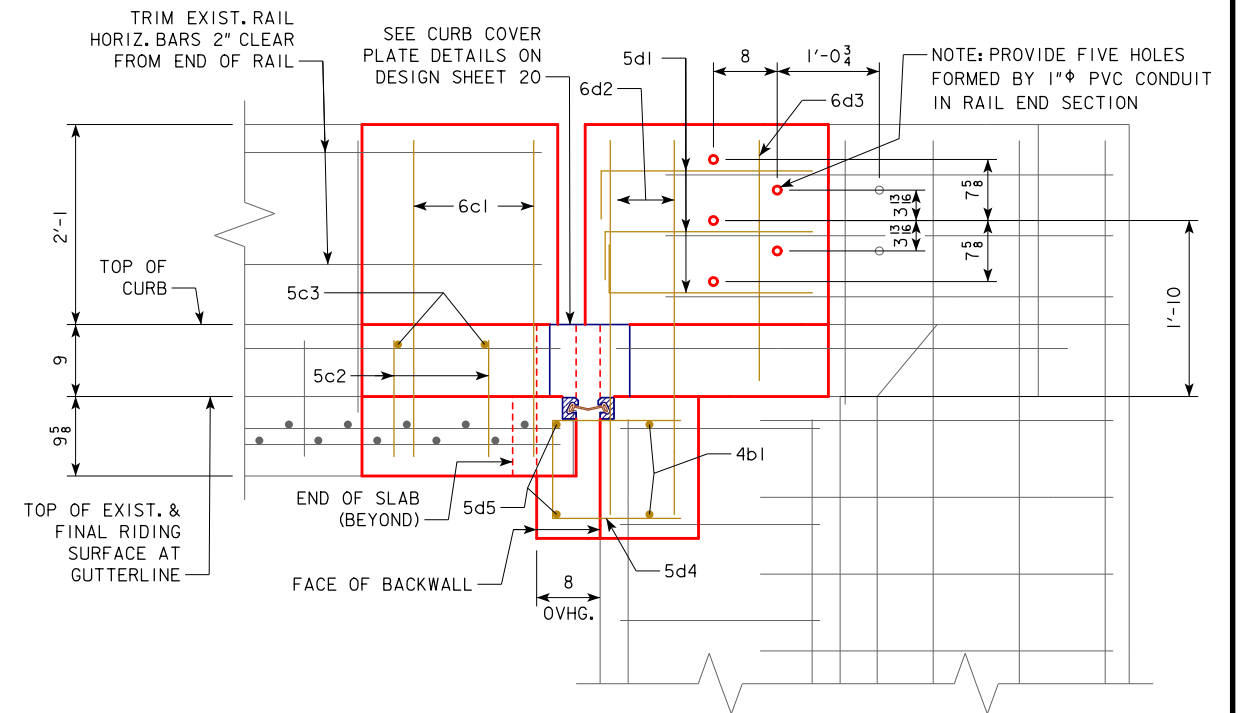
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 10 OF 21 FILE NO. 31780 DESIGN NO. 120

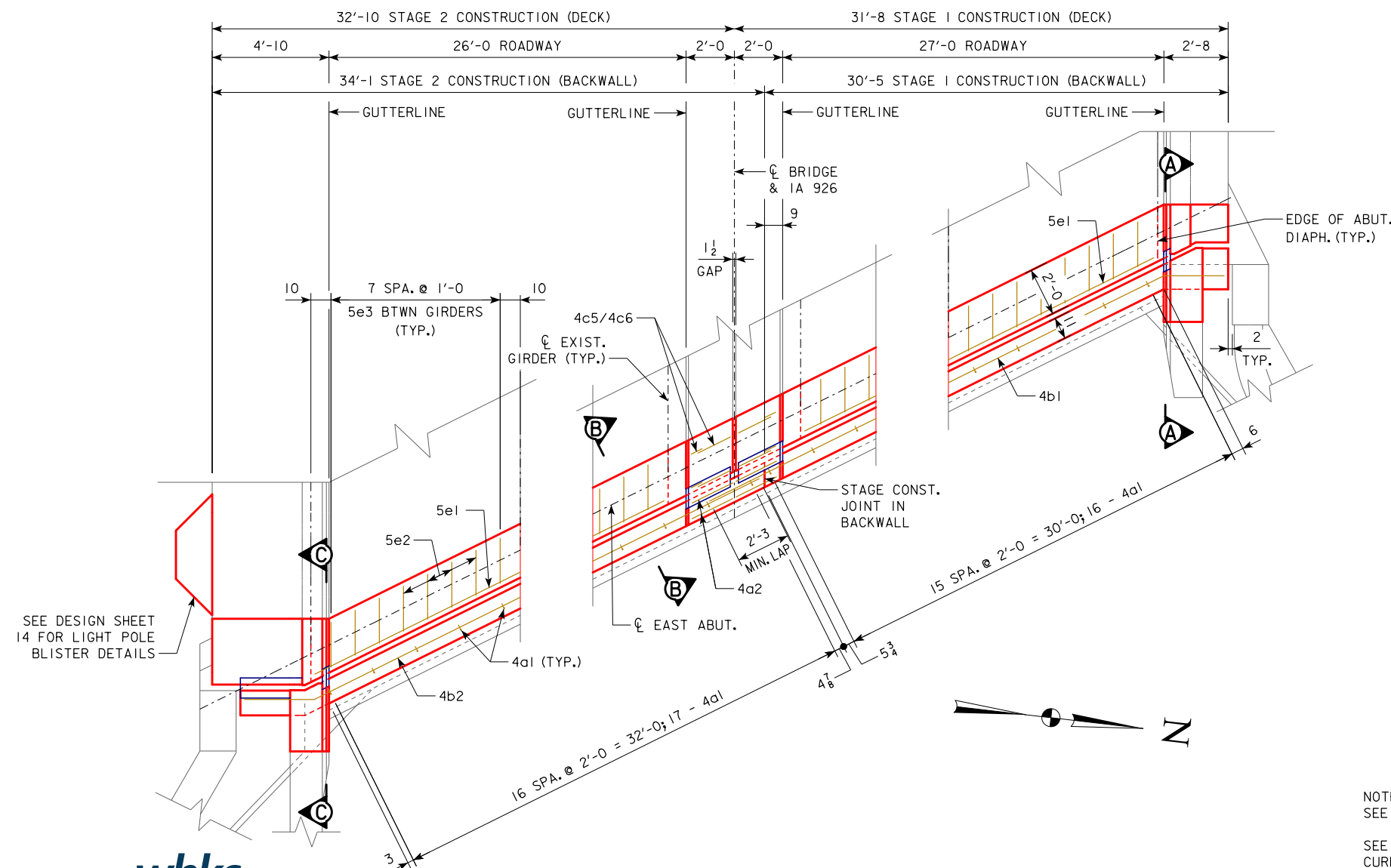
NOTE: SEE EXISTING PLANS FOR CROWN ORDNATE DIMENSIONS



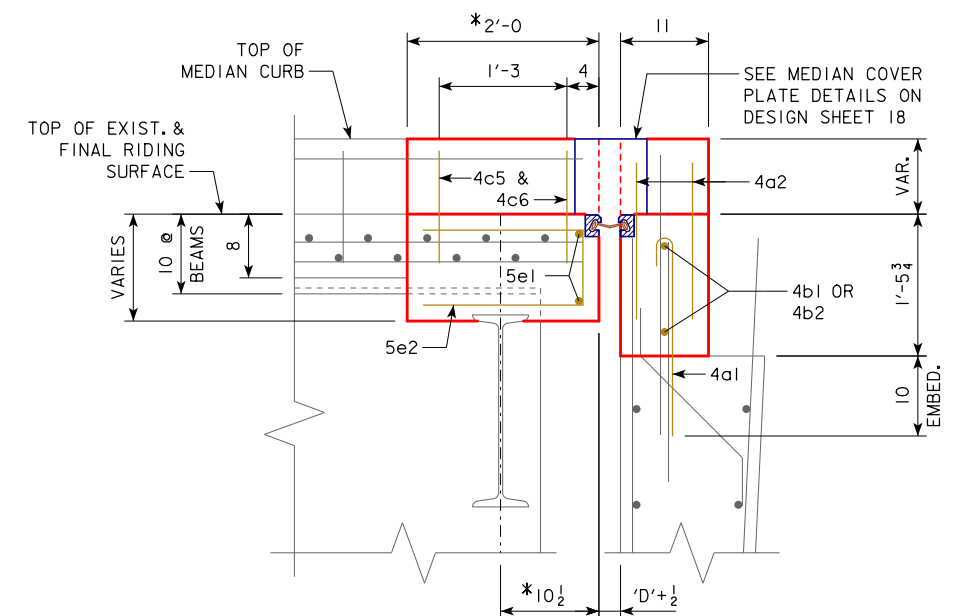
PART REAR ELEVATION



SECTION A-A



PART BACKWALL AND SLAB PLAN DETAILS



SECTION B-B
(NORMAL TO BACKWALL)

*NOTE:
ADJUST SLAB DIMENSION TO MAINTAIN JOINT OPENING
FOR TEMPERATURE AT TIME OF CONSTRUCTION.

NOTE:
SEE DESIGN SHEET 12 FOR SECTION C-C.

SEE DESIGN SHEET 9 FOR TYPICAL RAIL,
CURB, AND END SECTION DETAILS.

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

**654'-8 x 57'-0 CONTINUOUS
WELDED PLATE GIRDER BRIDGE**

49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS

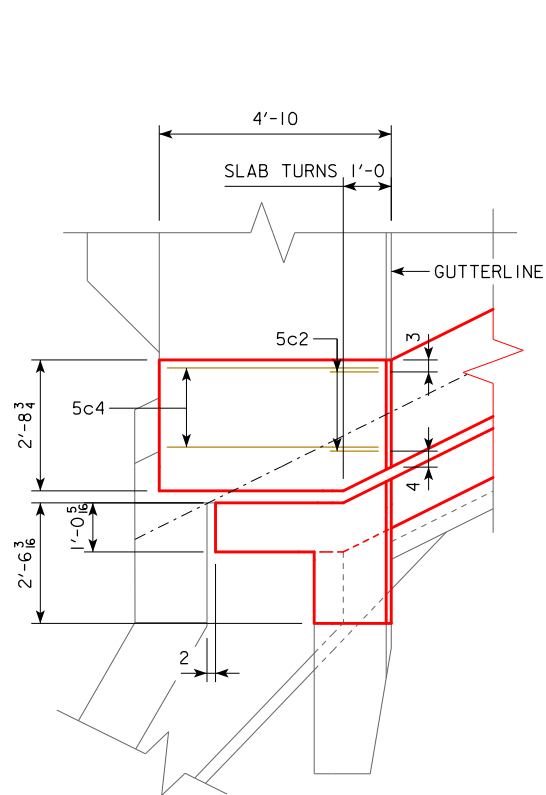
EAST ABUTMENT DETAILS

STA. 232+22.93 (IA 926) OCTOBER, 2020

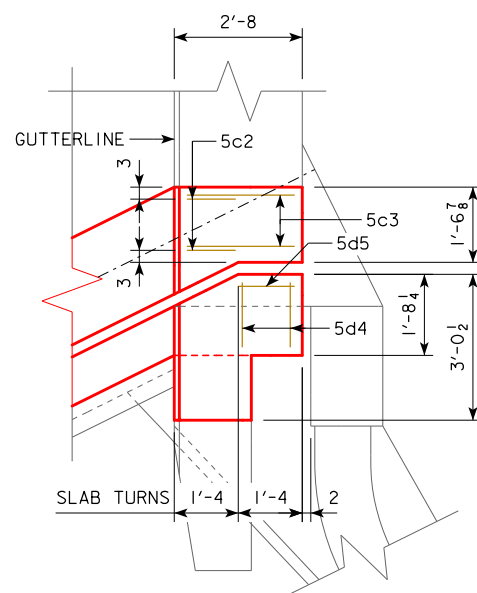
WEBSTER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 11 OF 21 FILE NO. 31780 DESIGN NO. 120



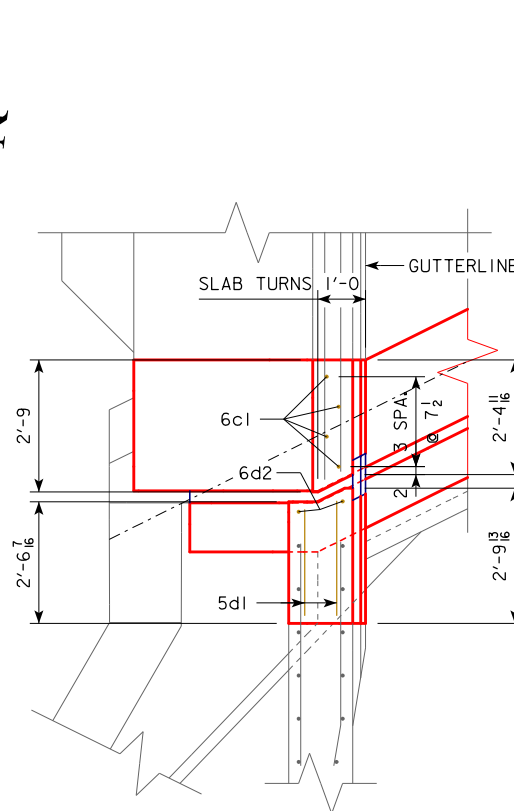
SE CORNER



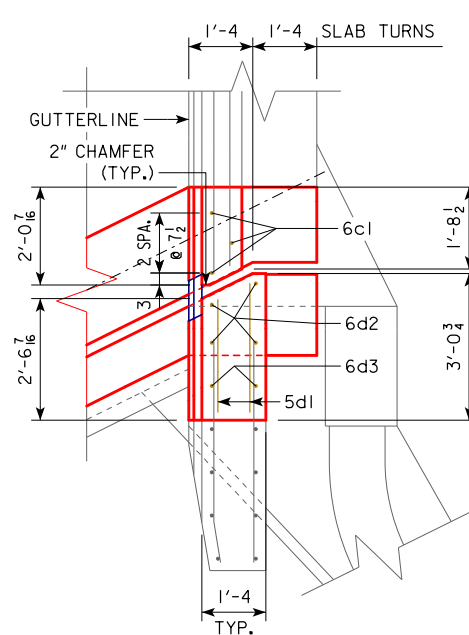
NE CORNER

PART PLAN VIEW - CURBS

(EXISTING REINFORCING IN CURBS AND BACKWALL NOT SHOWN)

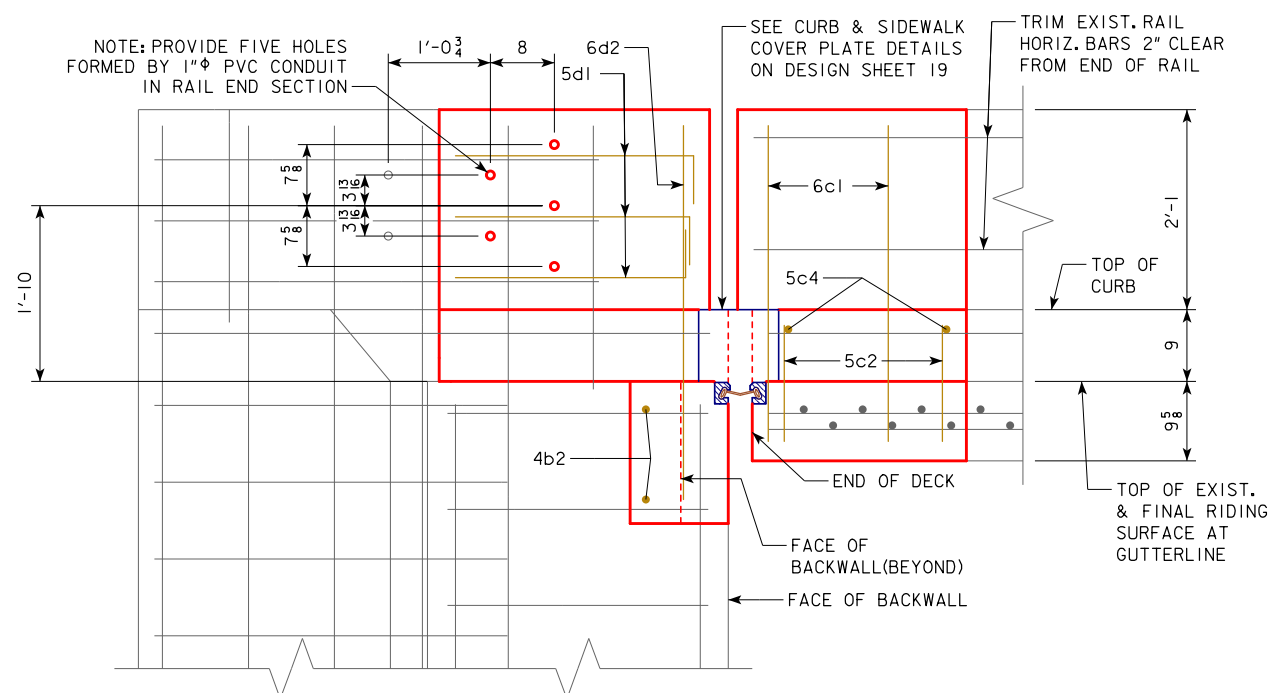


SE CORNER



NE CORNER

PART PLAN VIEW - BARRIER RAILS



SECTION C-C

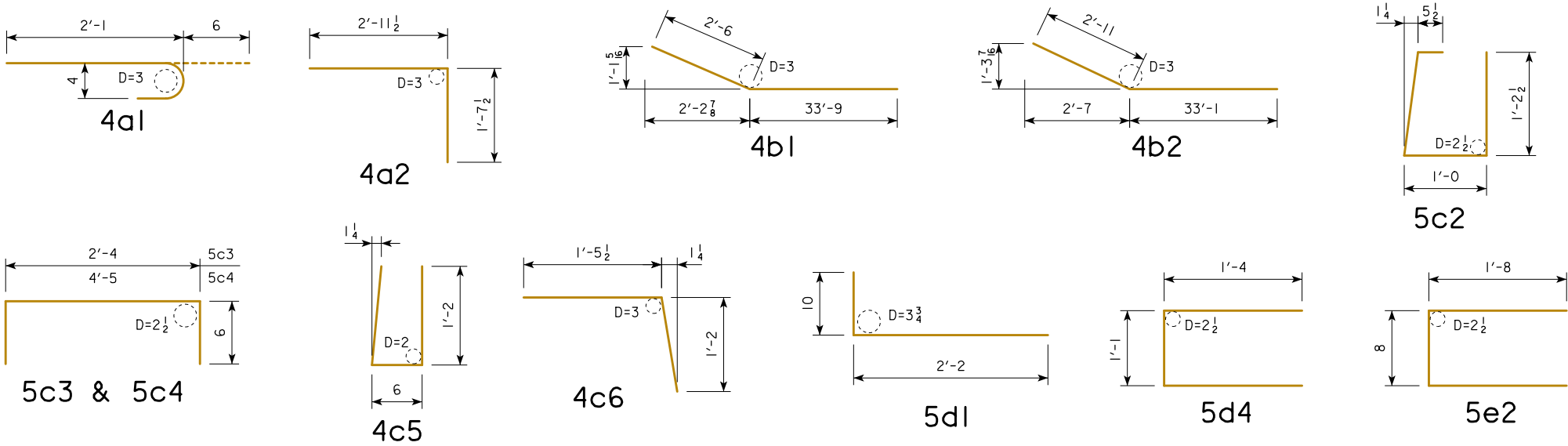
NOTE: SEE DESIGN SHEET 11 FOR LOCATION OF SECTION C-C.

NOTE: SEE DESIGN SHEET 9 FOR TYPICAL END SECTION DETAILS.



DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)
654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE
 49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS
EAST ABUTMENT DETAILS
 STA. 232+22.93 (1A 926) OCTOBER, 2020
WEBSTER COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 12 OF 21 FILE NO. 31780 DESIGN NO. 120

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.

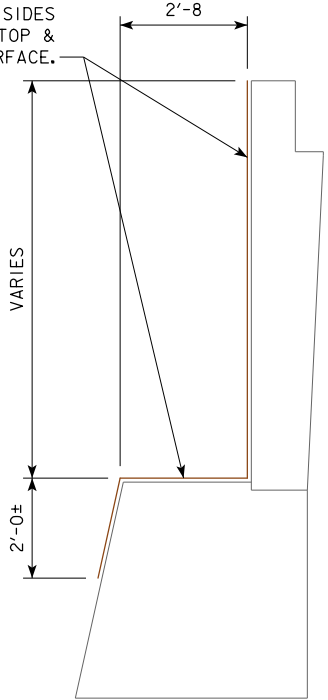
REINFORCING BAR LIST - E. ABUT.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
4a1	BACKWALL VERTICAL, DOWEL		33	2'-7	57
4a2	BACKWALL, MEDIAN HOOK		4	4'-7	12
4b1	BACKWALL HORIZONTAL, STAGE 1		2	36'-1	48
4b2	BACKWALL HORIZONTAL, STAGE 2		2	36'-0	48
6c1	RAIL, VERTICAL		7	3'-3	34
5c2	OUTSIDE CURBS, STIRRUP		4	3'-11	16
5c3	NORTH CURB, TRANSVERSE		2	3'-3	7
5c4	SOUTH CURB, TRANSVERSE		2	5'-5	11
4c5	MEDIAN CURB, STIRRUP		4	2'-9	7
4c6	MEDIAN, TRANSVERSE		4	2'-9	7
5d1	RAIL END SECTION, LONGITUDINAL		12	3'-0	38
5d4	BACKWALL, OVERHANG HAIRPIN		2	3'-9	8
5d5	BACKWALL, OVERHANG		2	1'-2	2
6d2	RAIL END SECTION, VERTICAL		6	3'-11	35
6d3	RAIL END SECTION, VERTICAL		2	2'-6	8
5e1	DIAPHRAGM, HORIZONTAL		4	28'-8	120
5e2	DIAPHRAGM, VERTICAL		48	4'-0	200
EPOXY COATED REINFORCING STEEL - TOTAL (LBS)					658

CONCRETE PLACEMENT QUANTITY

SECTION	TOTAL (CY)
BACKWALL & CURBS - STAGE 1	2.0
BACKWALL & CURBS - STAGE 2	2.1
DECK, DIAPHRAGM & CURBS - STAGE 1	3.1
DECK, DIAPHRAGM & CURBS - STAGE 2	3.2
BARRIER RAIL - STAGE 1	0.4
BARRIER RAIL - STAGE 2	0.4
TOTAL (CY)	11.2

APPLY CONCRETE SEALER TO FACE OF ABUTMENT BACKWALL, TOP AND SIDES OF BEAM SEAT PEDESTALS, AND TOP & FRONT OF ABUTMENT WASH SURFACE.



ABUTMENT CONCRETE SEALER DETAIL

DOWEL SETTING NOTE:

THE PRICE BID FOR "STRUCTURAL CONCRETE (MISCELLANEOUS)" SHALL INCLUDE THE COST OF SETTING 4a1 BARS AS DOWELS. THE 4a1 BARS SHALL BE SET AS DOWELS IN DRILLED HOLES. HOLES ARE TO BE 10" DEEP. THE DOWELS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. EITHER OF THE FOLLOWING SYSTEMS MAY BE USED AS A BONDING AGENT FOR VERTICAL DOWELS, BUT ONLY SYSTEM "A" MAY BE USED FOR HORIZONTAL DOWELS:

- A. POLYMER GROUT SYSTEM SHALL BE IN ACCORDANCE WITH ARTICLE 2301.03, E, OF THE STANDARD SPECIFICATIONS.
- B. HYDRAULIC CEMENT GROUT SYSTEMS. DRILLED HOLES ARE TO BE 2 1/2 TIMES THE DOWEL DIAMETER AND ARE TO BE BLOWN CLEAN WITH COMPRESSED AIR IMMEDIATELY PRIOR TO PLACING GROUT. THE HYDRAULIC CEMENT GROUT SHALL BE ONE OF THOSE APPROVED IN MATERIALS I.M. 491.13 AND SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE

49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS

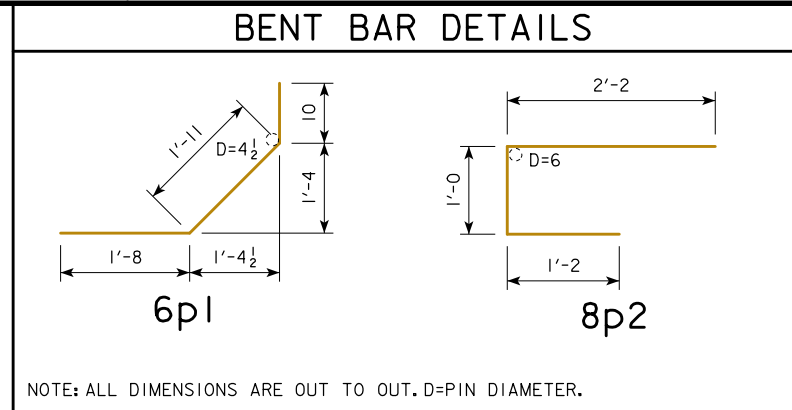
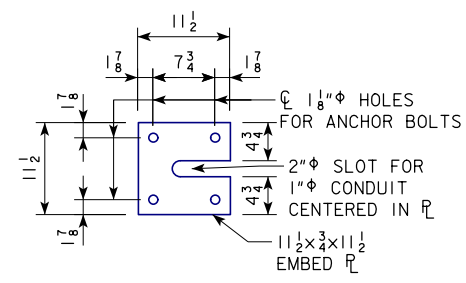
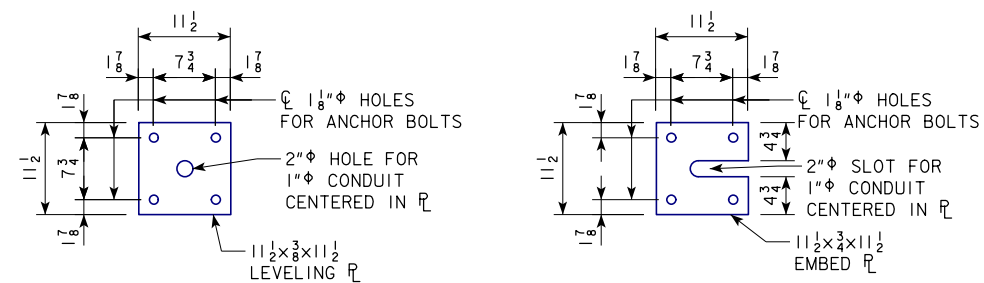
EAST ABUTMENT DETAILS

STA. 232+22.93 (1A 926) OCTOBER, 2020

WEBSTER COUNTY

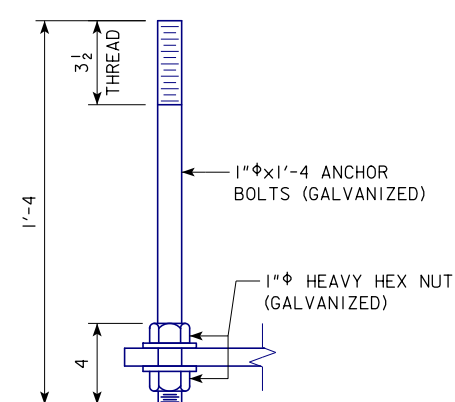
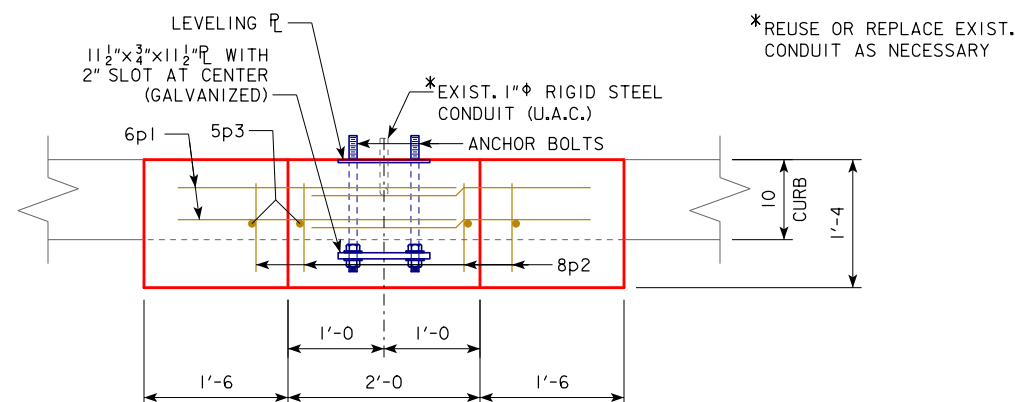
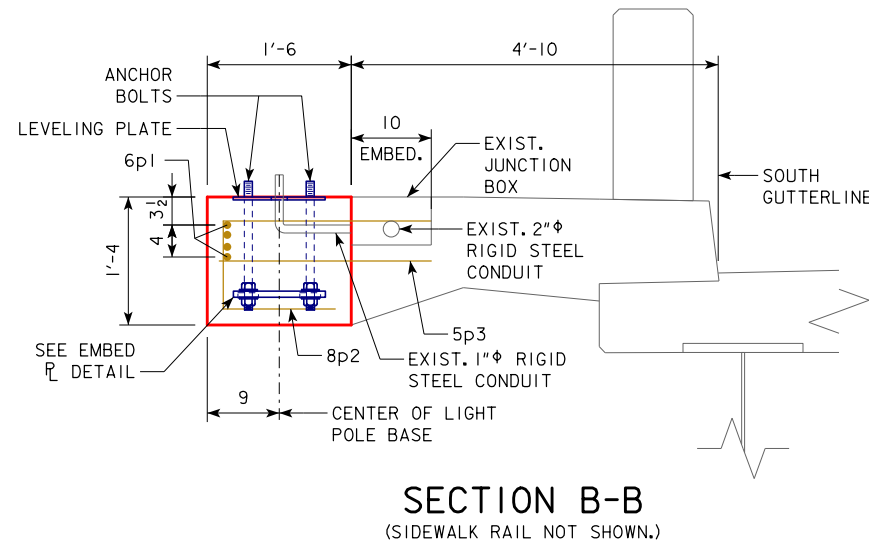
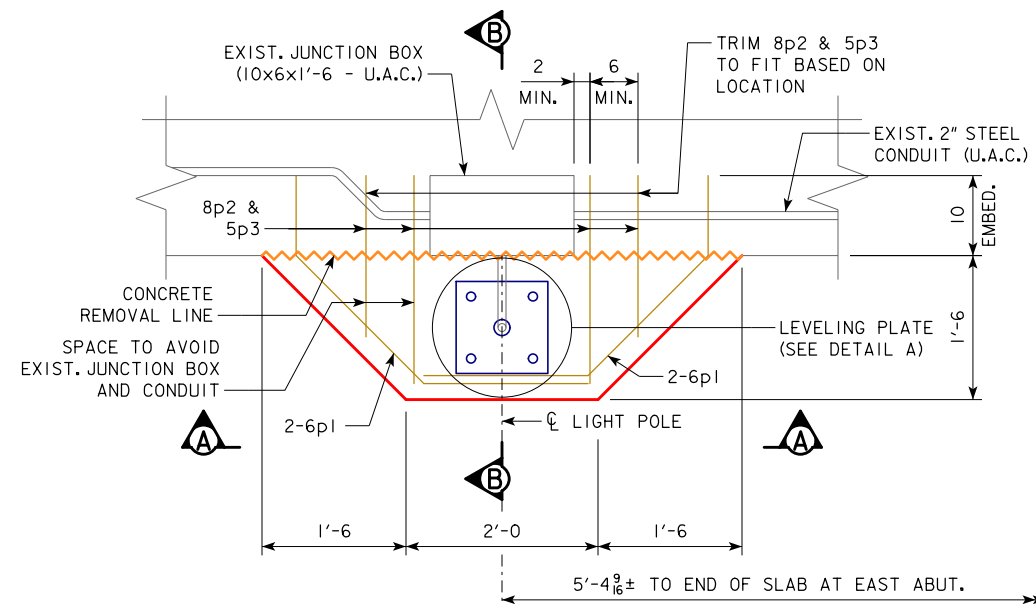
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 13 OF 21 FILE NO. 31780 DESIGN NO. 120



REINFORCING BAR LIST - LIGHT BLISTER					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6p1	LIGHT POLE BASE		4	4'-5	27
8p2	LIGHT POLE BASE		4	4'-4	46
5p3	LIGHT POLE BASE		4	2'-2	9
EPOXY COATED REINFORCING STEEL - TOTAL (LBS)					82

CONCRETE PLACEMENT QUANTITY	
SECTION	TOTAL (CY)
LIGHT POLE BLISTER (1 @ 0.26 CY)	0.3
TOTAL (CY)	0.3



LIGHT POLE BLISTER NOTES:

COST OF ANY RIGID STEEL CONDUIT AND FITTINGS INCLUDING LABOR AND ANY ADDITIONAL WORK TO DO THE INSTALLATION IS CONSIDERED INCIDENTAL TO THE COST OF STRUCTURAL CONCRETE (MISC.).

COST OF REMOVAL AND REINSTALLATION OF THE EXISTING LIGHT POLE, CONNECTING CONDUCTOR WIRE, AND COORDINATION WITH CITY OF FORT DODGE IS INCLUDED IN THE LUMP SUM BID ITEM "REMOVE AND REINSTALL LIGHT POLE AND LUMINAIRE".

ALL ANCHOR BOLT MATERIAL SHALL COMPLY WITH THE
REQUIREMENTS OF IOWA DOT MATERIALS I.M. 453.08 AND STANDARD
SPECIFICATIONS ARTICLE 4185.02, B, 2.

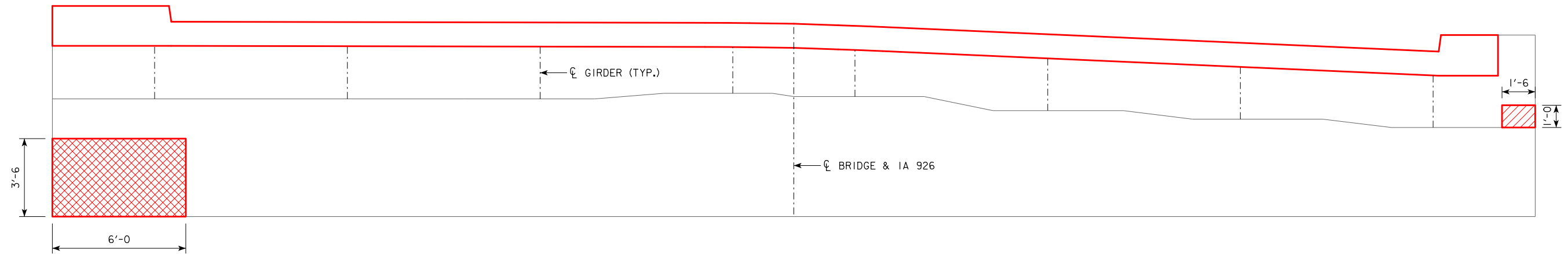
LEVELING PLATE AND EMBED PLATE SHALL MEET THE REQUIREMENTS OF ASTM A36 AND BE GALVANIZED IN ACCORDANCE WITH ARTICLE 4100.07 OF THE STANDARD SPECIFICATIONS.

COST OF ANCHOR BOLTS, PLATES, AND NUTS SHALL BE INCLUDED IN THE COST OF "STRUCTURAL CONCRETE (MISCELLANEOUS)"

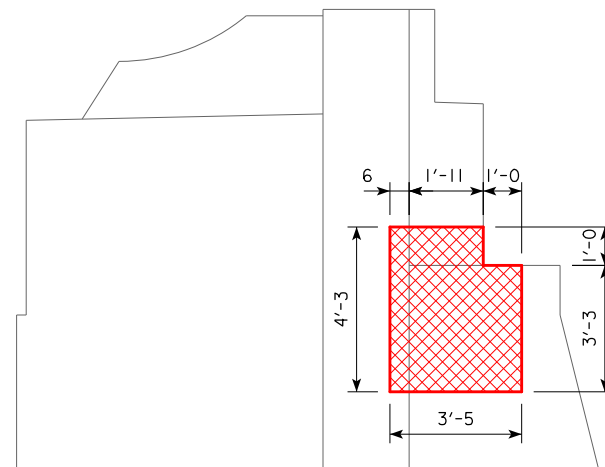
WELDING OF ANCHOR BOLTS SHALL NOT BE ALLOWED. THE CONTRACTOR SHALL USE A TEMPLATE OR LEVELING PLATE FOR PROPER PLACEMENT OF ANCHOR BOLTS.

ALL REINFORCING STEEL IS TO BE EPOXY COATED AND GRADE 60.

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)
654'-8 x 57'-0 CONTINUOUS
WELDED PLATE GIRDER BRIDGE
49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS
LIGHT POLE BLISTER DETAILS
STA. 83+42.73 TO 126+00 OCTOBER, 2020
SECTION B-B
WEBSTER COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 14 OF 21 FILE NO. 31780 DESIGN NO. 120



WEST ABUTMENT FRONT ELEVATION
(LOOKING WEST)



SOUTH WING ELEVATION

EXISTING REINFORCING REPAIR NOTES:

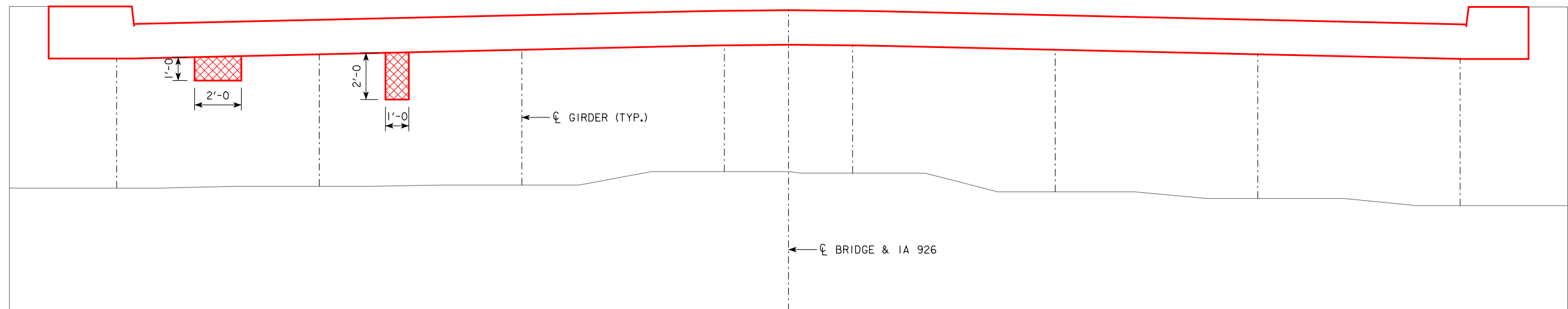
1. ALL EXISTING REINFORCING BARS THAT ARE EXPOSED BY CONCRETE REMOVAL SHALL BE CLEANED AND CAREFULLY INCORPORATED INTO THE NEW WORK. BADLY DETERIORATED EXISTING REINFORCING SHALL BE REPLACED AS DIRECTED BY THE ENGINEER.
2. EXISTING BARS WHICH MUST BE REPLACED SHALL BE SPLICED USING MECHANICAL SPLICE ASSEMBLIES. MECHANICAL SPLICE ASSEMBLIES CONSIST OF MECHANICAL SPLICERS AND REINFORCING SPLICE BARS, AS REQUIRED, TO FACILITATE THE USE OF THE MECHANICAL SPLICER.
3. MECHANICAL SPLICE ASSEMBLIES SHALL MEET THE REQUIREMENTS OF MATERIALS I.M. 451 APPENDIX E. REINFORCING SPLICE BARS SHALL MATCH THE DIAMETER OF THE EXISTING REINFORCEMENT. THE COST OF ANY SPLICE ASSEMBLIES REQUIRED SHALL BE INCLUDED IN THE PRICE BID FOR "CONCRETE REPAIR" AND NO SEPARATE PAYMENT WILL BE MADE.

NOTE:
APPROXIMATE REPAIR AREAS SHOWN ARE SCHEMATIC ONLY. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER, SHALL BE REPAIRED.

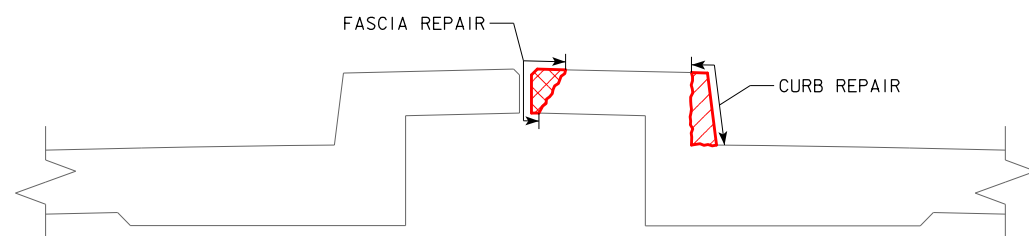
LEGEND	
	INDICATES SHALLOW REPAIR
	INDICATES REGULAR REPAIR

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)		
654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE		
49'-0 & 49'-8 APPR. SPANS	126'-0, (2) 166'-0 & 98'-0 SPANS	
CONCRETE REPAIR		
STA. 232+22.93 (IA 926)		OCTOBER, 2020
WEBSTER COUNTY		
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION		
DESIGN SHEET NO. 15 OF 21	FILE NO. 31780	DESIGN NO. 120

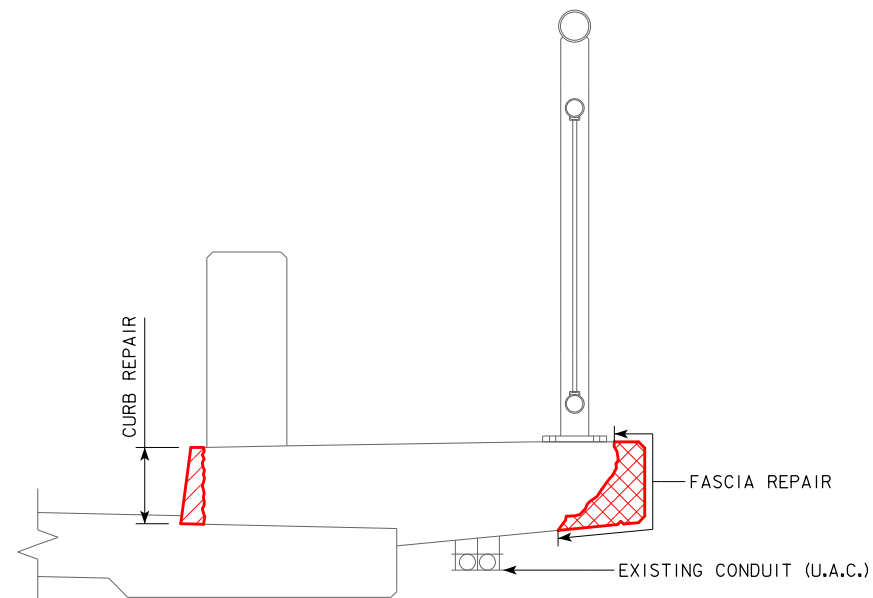




EAST ABUTMENT FRONT ELEVATION
(LOOKING EAST)



TYPICAL CURB AND FASCIA REPAIR AT MEDIAN



TYPICAL CURB AND FASCIA REPAIR
AT NORTH AND SOUTH CURBS

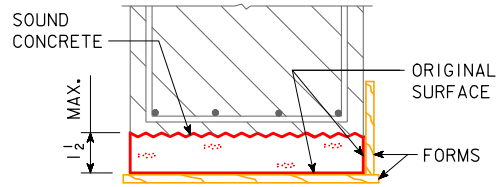
LEGEND	
	INDICATES SHALLOW REPAIR
	INDICATES REGULAR REPAIR

NOTE:
APPROXIMATE REPAIR AREAS SHOWN ARE SCHEMATIC
ONLY. ACTUAL SPALLED AND HOLLOW AREAS, AS
DETERMINED BY THE ENGINEER, SHALL BE REPAIRED.

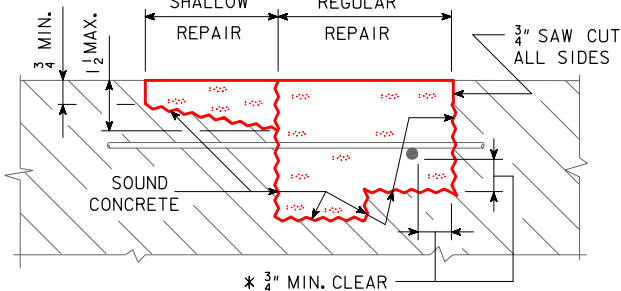


DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)	
654'-8 x 57'-0 CONTINUOUS WELDED PLATE GIRDER BRIDGE	
49'-0 & 49'-8 APPR. SPANS	126'-0, (2) 166'-0 & 98'-0 SPANS
CONCRETE REPAIR	
STA. 232+22.93 (IA 926)	OCTOBER, 2020
WEBSTER COUNTY	
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION	
DESIGN SHEET NO. <u>16</u> OF <u>21</u>	FILE NO. <u>31780</u> DESIGN NO. <u>120</u>

REVISED 10-14 - DELETED ALL REFERENCES TO GROUT. SECTION 2426 COVERS THIS REQUIREMENT AND DOESN'T NEED TO STATED ON THE PLANS.
ENGLISHREPAIR.TROF11BRIDGES.DGN 1045 - THIS SHEET REDRAWN 9-27-90.

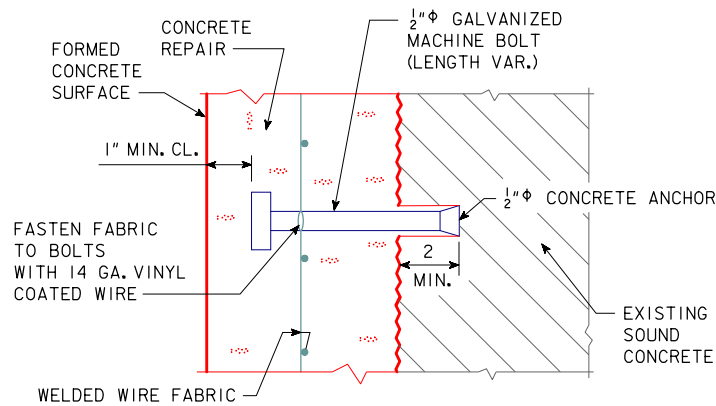


SHALLOW REPAIR
BOTTOM SURFACE



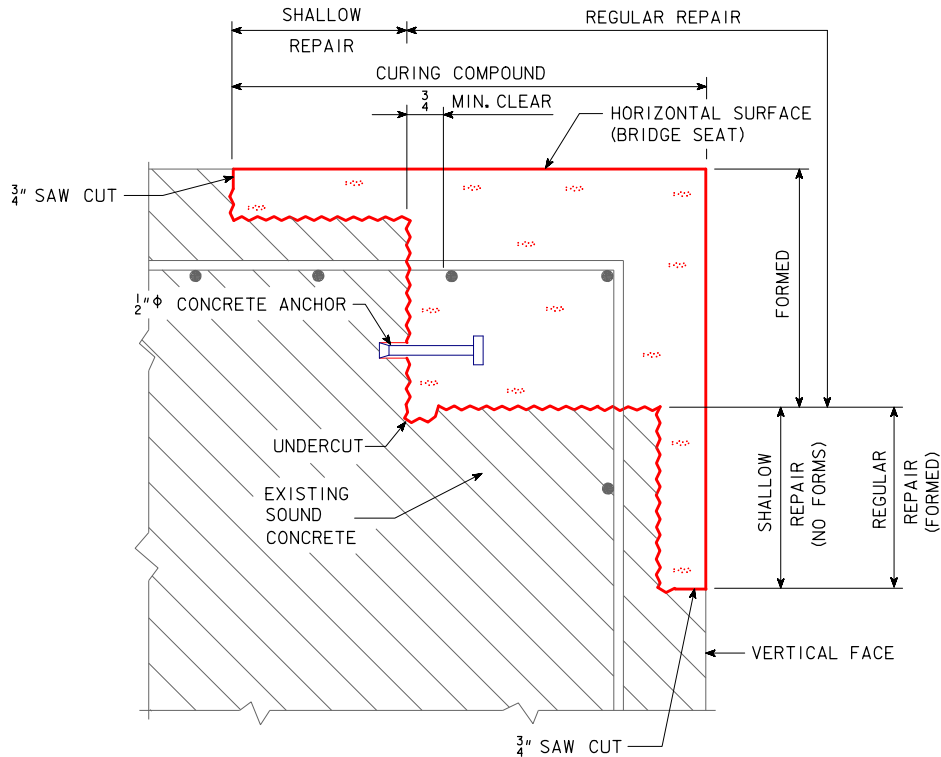
REPAIR DEFINITION

* INDICATES CLEARANCE FOR AN UN-BONDED REBAR.

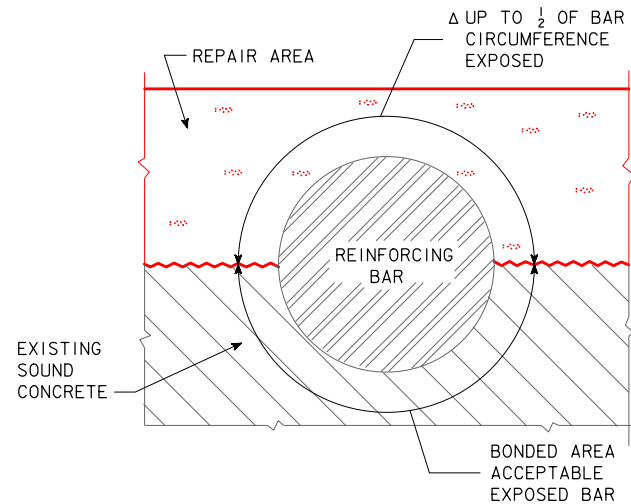


ANCHOR DETAIL

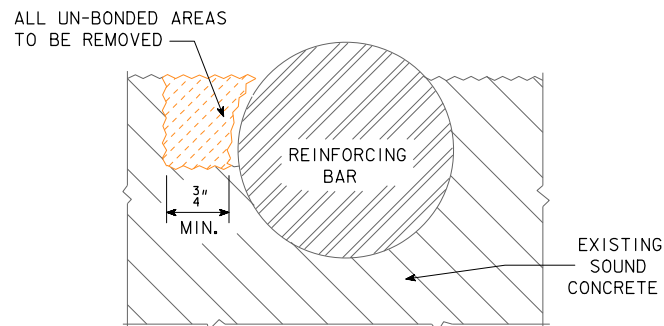
FOR SPACING AND USE OF CONCRETE ANCHORS
AND WWF SEE THE REPAIR NOTES.



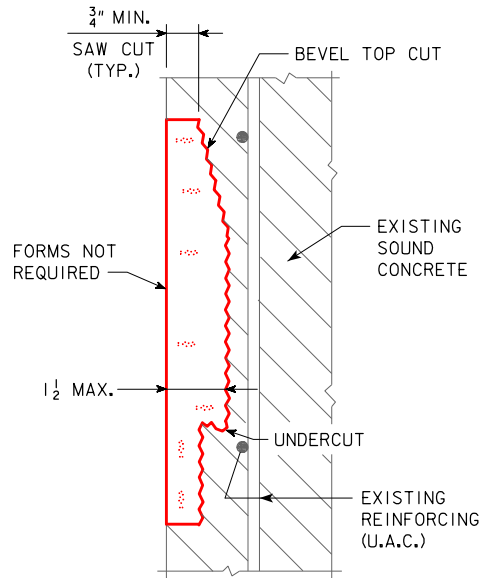
CORNER REPAIR



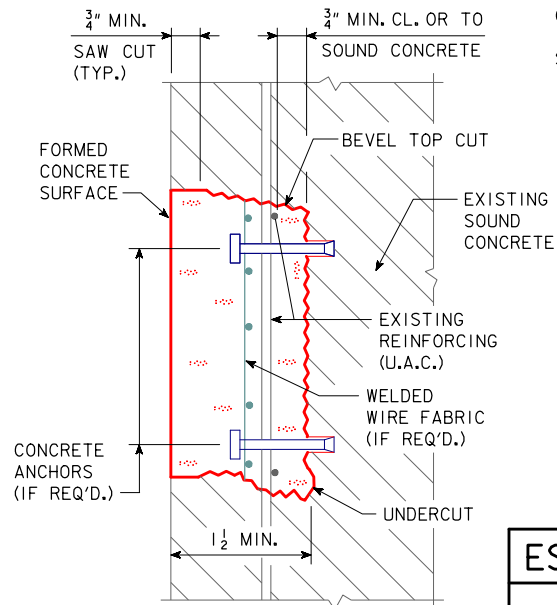
Δ IF MORE THAN 1/2 OF THE REBAR IS EXPOSED IT
SHALL BE TREATED AS AN UN-BONDED REBAR.



CONCRETE REMOVAL
ADJACENT TO REINFORCING



SHALLOW REPAIR
VERTICAL FACE



REGULAR REPAIR
VERTICAL FACE

REPAIR NOTES:

THE SPALLED AND HOLLOW AREAS OF THIS BRIDGE AS NOTED AND SHOWN IN THESE PLANS SHALL BE REPAIRED AS FOLLOWS:

ALL THE COSTS OF EQUIPMENT AND MATERIALS REQUIRED TO REPAIR THE SPALLED AND HOLLOW AREAS OF THIS BRIDGE SHALL BE INCLUDED IN THE PRICE BID FOR "CONCRETE REPAIR".

THE PRICE BID FOR "CONCRETE REPAIR" SHALL INCLUDE THE COST OF ALL CONCRETE ANCHORS AND WELDED WIRE FABRIC REQUIRED BY THE PLANS.

THE ENGINEER SHALL DETERMINE AND OUTLINE BY VISUAL AND AUDIBLE INSPECTION THE ACTUAL AREAS OF THE CONCRETE REPAIRS. THE CONTRACTOR SHALL BE PAID FOR THE ACTUAL AMOUNT OF REPAIRS MADE ON A SQUARE FOOT BASIS BASED ON THE PRICE BID PER SQUARE FOOT.

ALL EXISTING REINFORCING BARS THAT ARE EXPOSED BY CONCRETE REMOVAL SHALL BE CLEANED AND CAREFULLY INCORPORATED INTO THE NEW WORK, EXCEPT BADLY DETERIORATED EXISTING REINFORCING WHICH SHALL BE REPLACED AS DIRECTED BY THE ENGINEER.

THE CONCRETE ANCHORS REQUIRED SHALL HAVE A MINIMUM PULL OUT OF 5000 LBS. BASED ON 4000 PSI CONCRETE. AN ANCHOR MEETING THE REQUIREMENTS OF IOWA D.O.T. MATERIALS I.M. 453.09 AND THE PULL OUT LOAD ABOVE IS REQUIRED. THE ANCHORS SHALL BE GALVANIZED AND SHALL BE INSTALLED ACCORDING TO RECOMMENDATIONS OF THE MANUFACTURER. THE COST OF FURNISHING AND INSTALLING THE CONCRETE ANCHORS SHALL BE INCLUDED IN THE PRICE BID FOR "CONCRETE REPAIR".

THE WELDED WIRE FABRIC SHALL BE ASTM A185 AND GALVANIZED AS PER ASTM A-641. THE WWF WIRES SHALL BE SPACED 3 x 3 OR 4 x 4 AND THE WIRES SHALL HAVE A NOMINAL AREA OF 0.014 TO 0.029 SQUARE INCHES INCLUSIVE, EXAMPLE "WWF 3 x 3 - W1.4 x W2.9".

WHERE REINFORCEMENT HAS BEEN EXPOSED AND CLEARANCE AROUND THE PERIPHERY OF THE EXISTING BAR IS PROVIDED NO SUPPLEMENTAL REINFORCING IS REQUIRED, EXCEPT WHERE EXISTING REINFORCEMENT DENSITY AND PATTERN ARE SUCH THAT INDIVIDUAL OPEN SPACES BETWEEN BARS ARE OF 1.5 SQUARE FOOT OR LARGER. FOR THIS CONDITION 1/2" CONCRETE ANCHORS AND WELDED WIRE FABRIC SHALL BE INSTALLED AT THE RATE OF ONE CONCRETE ANCHOR WITH WWF PER EACH 1.5 SQUARE FEET OF AREA WITHIN EACH OPEN SPACE.

REPAIRING THE STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 2426, OF THE STANDARD SPECIFICATIONS.

CONCRETE PLACEMENT QUANTITIES

MARK	TYPE	UNITS	QUANTITY
①	SHALLOW REPAIR	SQ. FT.	136
②	REGULAR REPAIR	SQ. FT.	63
TOTAL (SQ. FT.)			199

ESTIMATED CONCRETE REPAIR QUANTITIES

DESCRIPTION	UNITS	AMOUNT
CONCRETE REPAIR	SQ. FT.	199

CONCRETE REPAIR TABULATION

LOCATION	SHALLOW REPAIR (SF)	REGULAR REPAIR (SF)	CURB REPAIR (SF)	FASCIA REPAIR (SF)
WEST ABUTMENT	2	35	--	--
EAST ABUTMENT	0	4	--	--
NORTH CURB	--	--	123	7
MEDIAN	--	--	11	3
SOUTH CURB	--	--	0	15

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

654'-8 x 57'-0 CONTINUOUS
WELDED PLATE GIRDER BRIDGE

49'-0 & 49'-8 APPR. SPANS

126'-0, (2) 166'-0 & 98'-0 SPANS

CONCRETE REPAIR

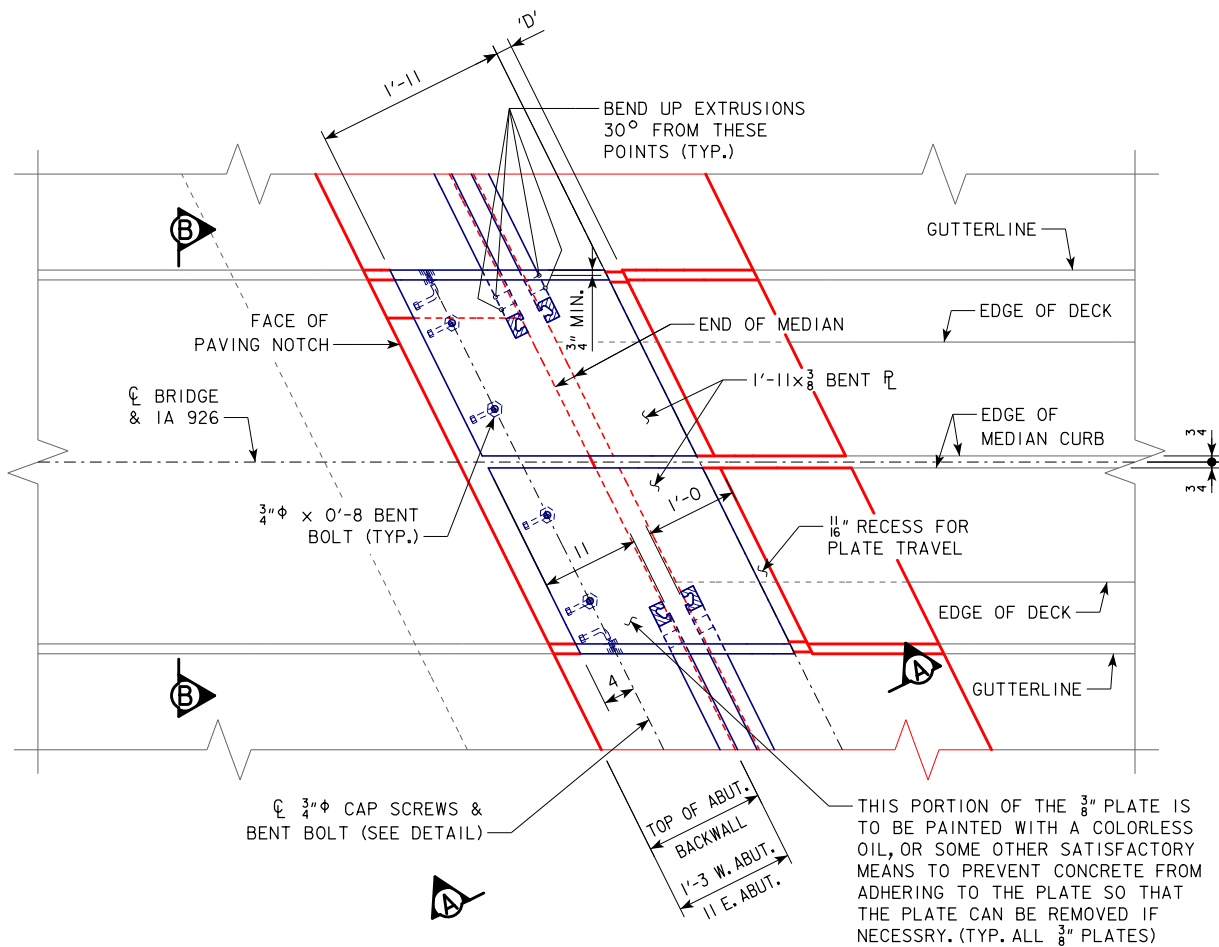
STA. 232+22.93 (IA 926)

OCTOBER, 2020

WEBSTER COUNTY

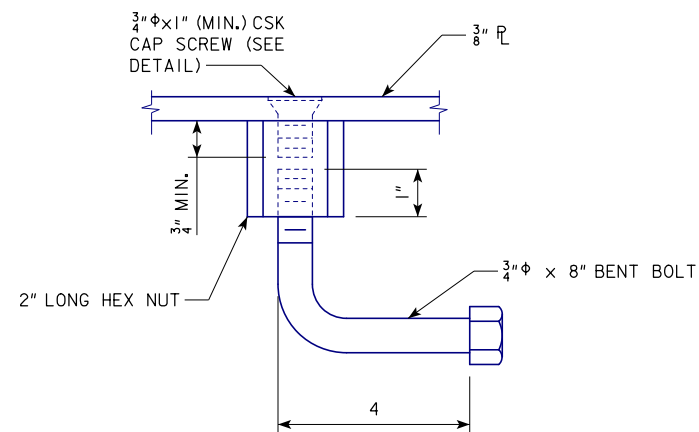
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 17 OF 21 FILE NO. 31780 DESIGN NO. 120

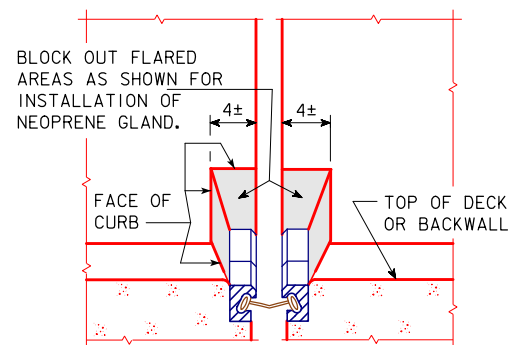


**PART PLAN VIEW OF MEDIAN
AT SLIDING STEEL PLATE**

NOTE: IT IS INTENDED THAT THE 11/16 INCH RECESSED AREA BE FORMED SO THAT WHEN THE 3/8\"/>

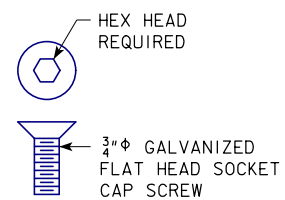


BENT BOLT DETAIL



BLOCKOUT DETAIL

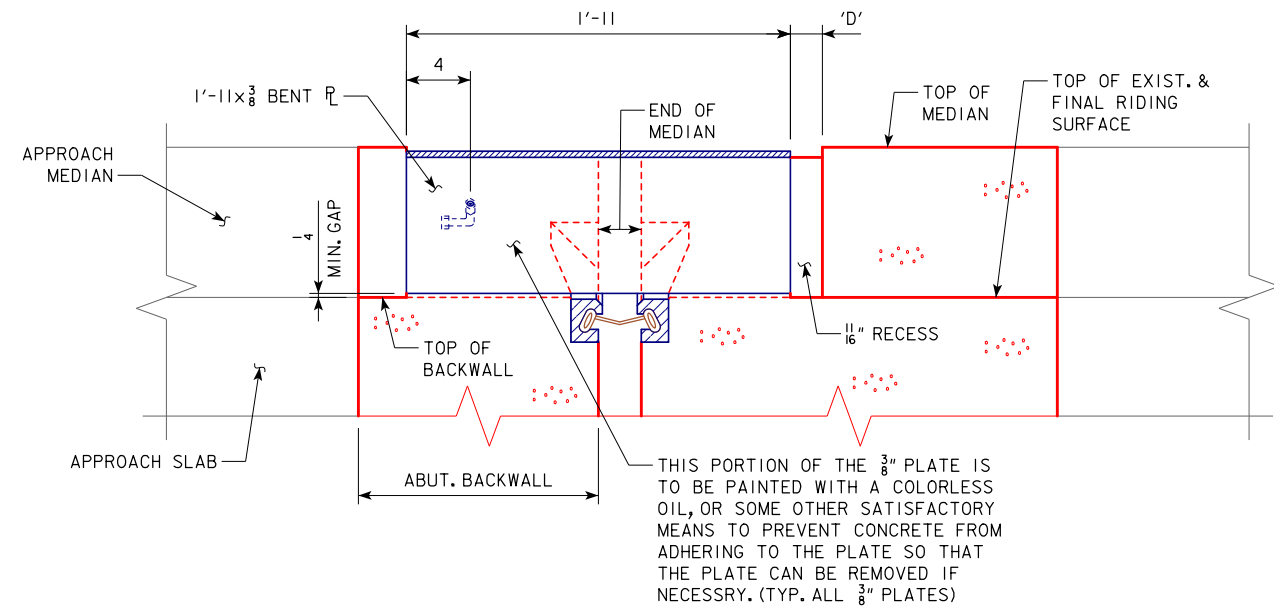
(DRAWN FOR 0° SKEW FOR ILLUSTRATIVE PURPOSES)



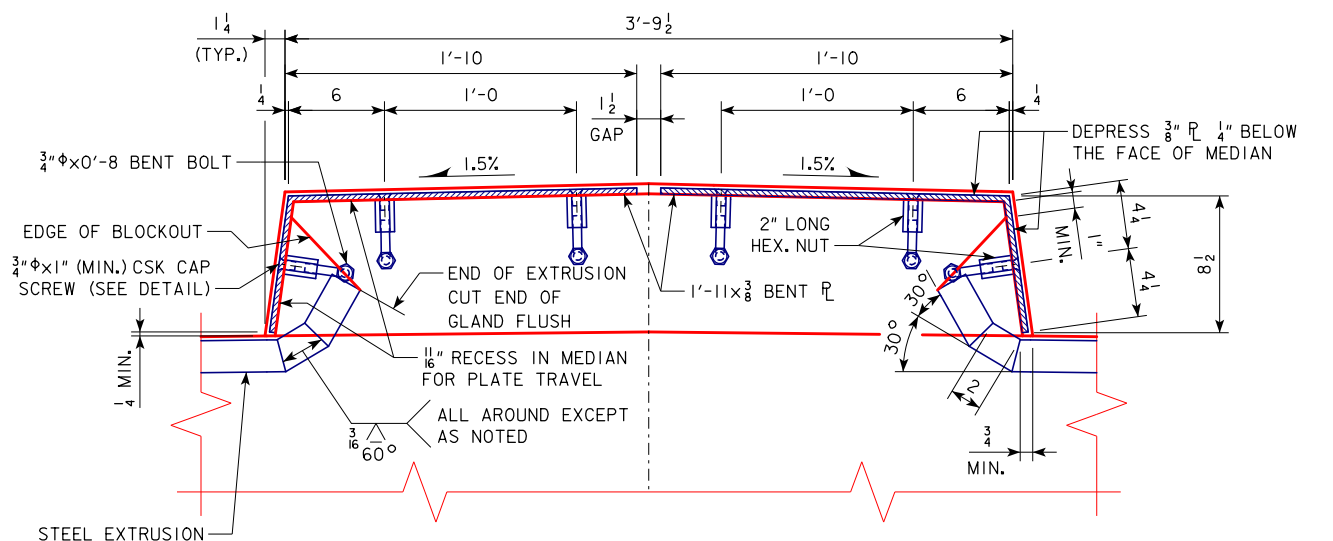
CAP SCREW DETAIL

MEDIAN PLATE NOTE:

THE MATERIAL USED FOR THE PLATES IS TO BE ASTM A36 STEEL. THE BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A307. THE PLATES, BOLTS, NUTS AND CAP SCREWS ARE TO BE GALVANIZED IN ACCORDANCE WITH ARTICLE 4100.07 OF THE STANDARD SPECIFICATIONS.



SECTION A-A



SECTION B-B

NOTE: SEE DESIGN SHEET 20 FOR DIMENSION 'D', AND ADDITIONAL STRIP SEAL EXPANSION DEVICE DETAILS.

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

**654'-8 x 57'-0 CONTINUOUS
WELDED PLATE GIRDER BRIDGE**

49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS

EXPANSION DEVICE DETAILS

STA. 232+22.93 (IA 926) OCTOBER, 2020

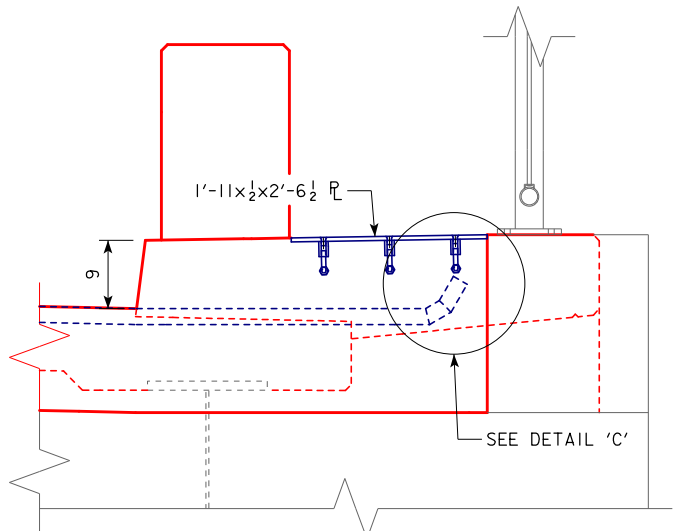
WEBSTER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

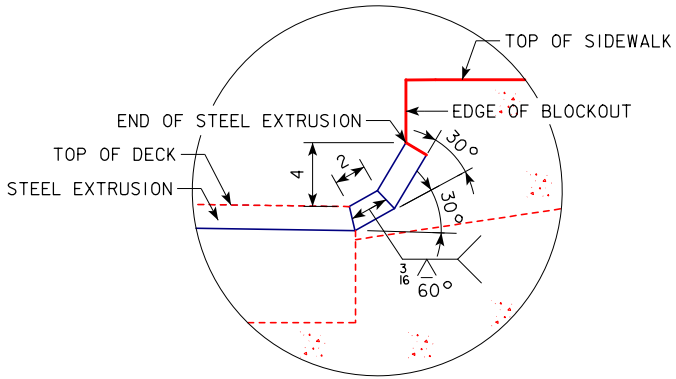
DESIGN SHEET NO. 18 OF 21 FILE NO. 31780 DESIGN NO. 120

TREAD PLATE NOTE:

THE MATERIAL USED FOR THE TREAD PLATES IS TO BE ASTM A36 STEEL. THE BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A307. NON-SLIP TEXTURE ON PLATE SHALL MEET ASTM A786 WITH RAISED FIGURES. FIGURES SHALL BE ANGULAR. ROUND FIGURES WILL NOT BE ACCEPTED. THE PLATES, BOLTS, NUTS, AND CAP SCREWS ARE TO BE GALVANIZED IN ACCORDANCE WITH ARTICLE 4100.07 OF THE STANDARD SPECIFICATIONS.

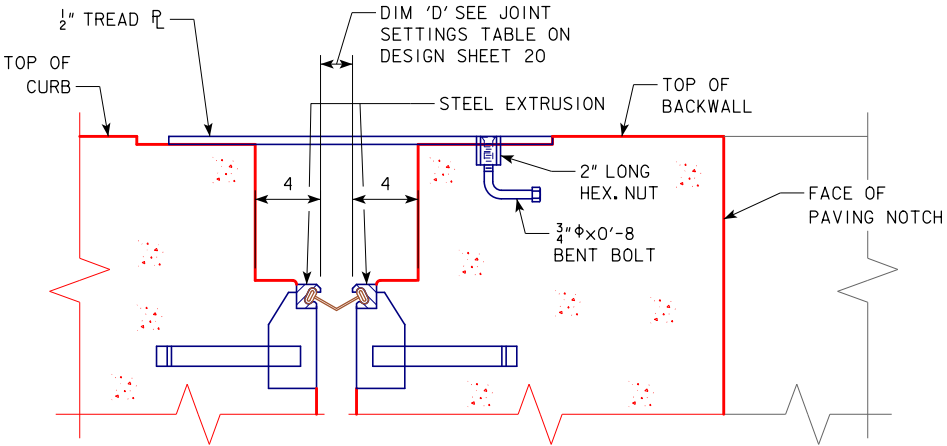


SECTION A-A

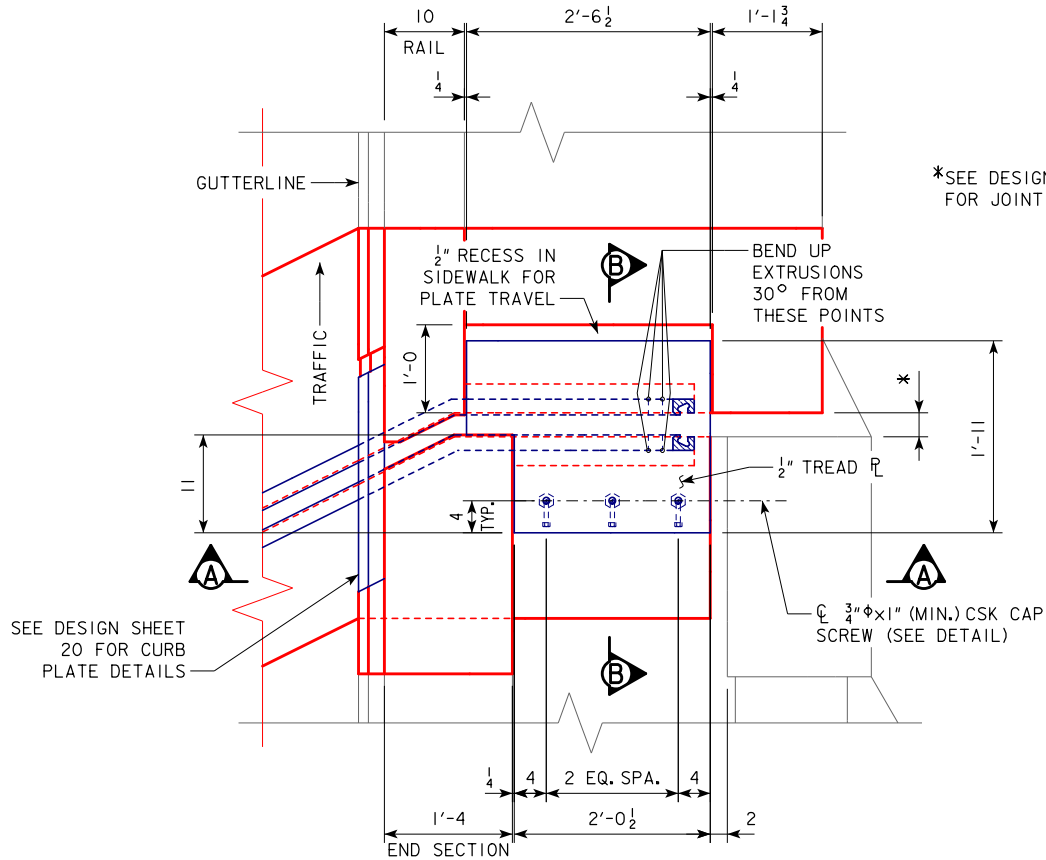


DETAIL 'C'

(SIDEWALK PL NOT SHOWN)

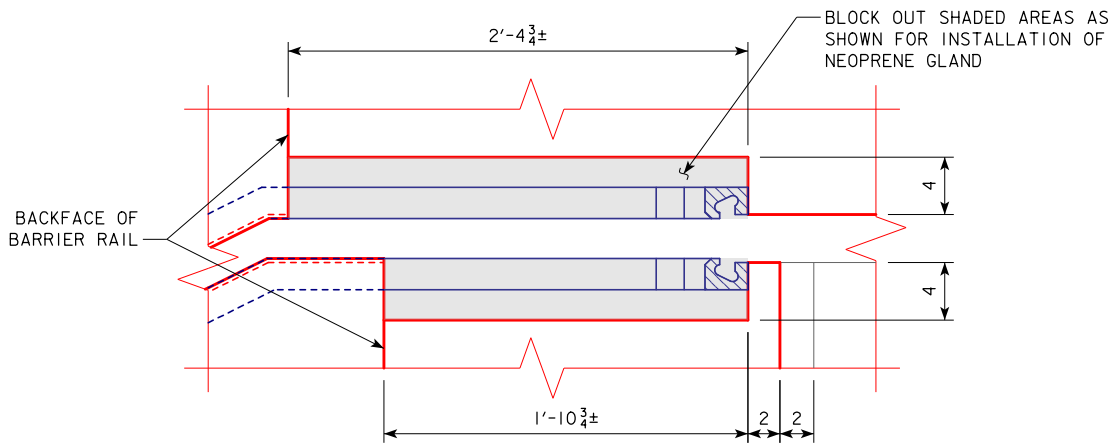


SECTION B-B

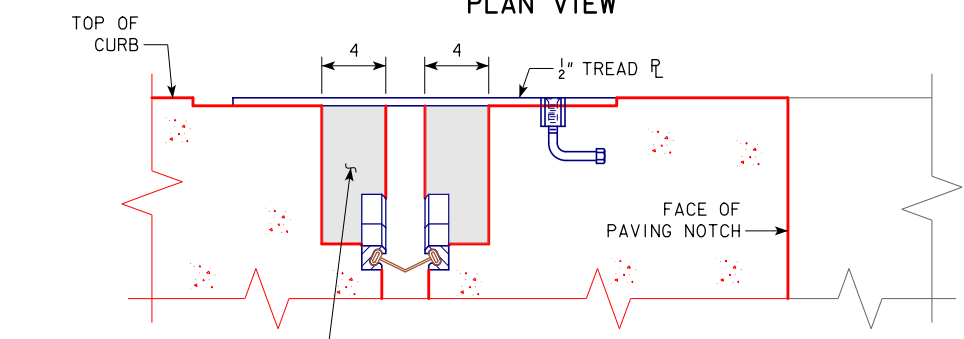


PART PLAN VIEW OF EXPANSION
DEVICE AT SOUTH CURB

(WEST ABUTMENT SHOWN, SIMILAR AT EAST ABUTMENT)



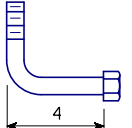
PLAN VIEW



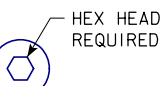
SECTION VIEW

BLOCK OUT SHADED AREAS AS
SHOWN FOR INSTALLATION OF
NEOPRENE GLAND

BLOCKOUT DETAILS



BENT BOLT DETAIL

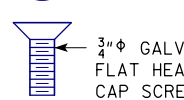


CAP SCREW DETAIL

DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)
**654'-8 x 57'-0 CONTINUOUS
WELDED PLATE GIRDER BRIDGE**
49'-0 & 49'-8 APPR. SPANS 126'-0, (2) 166'-0 & 98'-0 SPANS
EXPANSION DEVICE DETAILS
STA. 232+22.93 (IA 926) OCTOBER, 2020
WEBSTER COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 19 OF 21 FILE NO. 31780 DESIGN NO. 120

NOTE: SEE DESIGN SHEET 20 FOR DIMENSION 'D' AND
ADDITIONAL STRIP SEAL EXPANSION DEVICE DETAILS.





THE MATERIAL USED FOR THE CURB PLATES IS TO BE ASTM A36 STEEL. THE BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A307. THE PLATES, BOLTS, NUTS AND CAP SCREWS ARE TO BE GALVANIZED IN ACCORDANCE WITH ARTICLE 4100.07 OF THE STANDARD SPECIFICATIONS.



^Δ THIS DIMENSION MAY VARY SLIGHTLY DEPENDING ON MANUFACTURER FURNISHING THE JOINT.

Table 1 Demographic characteristics of study population

[illegible]



FOR 0° SKEW FOR ILLUSTRATION

JDAPP SHEET 1026-1 (MODIFIED)

654'-8 x 57'-0 CONTINUOUS
WELDED PLATE GIRDER BRIDGE

W50512 33.04	SHEET NUMBER 21
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REVISION 08-13 - STEEL EXTRUSION NOTE WAS ADDED TO SHOW A WELD DETAIL ON THE SHOP DRAWINGS FOR SPLICES.
AN ADDITIONAL NEOPRENE GLAND NOTE ABOUT THE CORRESPONDING MAXIMUM DECK TEMPERATURE WAS ADDED.
ENGLISHDECKRAILBRIDGES.DGN - 1026s2 - THIS SHEET ISSUED 11-08.

STEEL EXTRUSION NOTES:

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS OF THE EXPANSION DEVICES SHOWING LAYOUT, MATERIAL TO BE USED, AND PROVISIONS FOR THE HOLDING DEVICE DURING PLACEMENT OF CONCRETE.

THE EXPANSION DEVICE SHALL BE GALVANIZED AFTER WELDING. ALL CURB PLATES INCLUDING THEIR ANCHORAGES SHALL BE GALVANIZED.

THE EXPANSION DEVICE IS TO BE PARALLEL TO GRADE.

CAP SCREWS SHALL BE COUNTERSUNK $\frac{1}{16}$ " BELOW TOP OF THE PLATE. THE MINIMUM GRADE OF STRUCTURAL STEEL FOR THE EXPANSION DEVICE SHALL BE ASTM A36.

BLOCKOUT DETAILS MAY BE ALTERED FROM THOSE SHOWN PROVIDED THE GLAND MAY BE INSTALLED AND REMOVED IF NECESSARY AND THE CURB AREA REMAINS WATERTIGHT.

SHOP SPLICES OF THE STEEL EXTRUSION WILL BE PERMITTED. PRIOR TO MAKING SHOP SPLICES STEEL EXTRUSION PIECES SHALL HAVE A MINIMUM LENGTH OF 15 FEET. THE INDIVIDUAL LENGTH OF PIECES SHALL BE CHOSEN SO THAT A MINIMUM NUMBER OF SPLICES IS REQUIRED. ALL PIECES SHALL BE JOINED WITH A PREQUALIFIED PARTIAL PENETRATION SINGLE GROOVE WELD DETAILED ON THE SHOP DRAWING. ALL SURFACES NOT IN CONTACT WITH CONCRETE ARE TO BE GROUND FLUSH. NO WELD SHALL BE PERMITTED IN THE INTERNAL SECTION OF THE EXTRUSION WHERE THE NEOPRENE GLAND IS TO BE INSTALLED.

THE NUMBER OF FEET OF STEEL EXTRUSION INSTALLED SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT BASED ON PLAN QUANTITIES. THE PRICE BID FOR "STEEL EXTRUSION JOINT W/NEOPRENE" SHALL INCLUDE THE COST OF FURNISHING BUT NOT THE COST OF INSTALLING THE NEOPRENE GLAND. THE CONTRACT PRICE BID FOR "STEEL EXTRUSION JOINT W/NEOPRENE" SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING STEEL EXTRUSIONS. THIS WORK WILL CONSIST OF FURNISHING ALL REQUIRED MATERIALS, (INCLUDING THE $\frac{3}{8}$ " PLATES AT THE CURBS AND THEIR ANCHORAGE SYSTEMS), AND THE INSTALLATION AND ADJUSTMENT OF THE EXPANSION JOINTS IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE FURNISHING AND INSTALLATION OF ALL NECESSARY HARDWARE AND ACCESSORIES AS SUPPLIED BY THE EXPANSION JOINT MANUFACTURER ARE TO BE INCLUDED IN THIS WORK, INCLUDING THE ANCHORAGE SYSTEM AND ANY TEMPORARY ERECTION MATERIAL. ALL WORK AND MATERIALS FOR THE INSTALLATION OF THE EXPANSION JOINTS ARE TO COMPLY WITH THE WRITTEN RECOMMENDATIONS OF THE EXPANSION JOINT MANUFACTURER.

FIELD CONSTRUCTION NOTES:

IF THE STEEL EXTRUSION IS SPLICED IN THE FIELD, THE SPLICE LOCATION SHALL BE DETAILED ON THE SHOP DRAWINGS. THE CONNECTION DETAILS SHALL INCLUDE TAB PLATES AND PREPARED ENDS TO ACCOMMODATE THE NECESSARY WELDING. SEE DETAILS IN THESE PLANS.

GALVANIZED COATING DAMAGE BY FIELD WELDING SHALL BE REPAIRED IN ACCORDANCE WITH MATERIALS I.M. 410.

NEOPRENE GLAND NOTES:

THE NEOPRENE GLAND IS TO BE PLACED AS ONE CONTINUOUS PIECE FROM END TO END OF THE STEEL EXTRUSION.

THE NEOPRENE GLAND SHALL CONFORM TO ASTM-2628 MODIFIED TO EXCLUDE RECOVER TEST AND COMPRESSION SET.

THE CONTRACTOR SHALL INSTALL THE GLAND ABOVE THE MINIMUM TEMPERATURE OF 45° AND THE MINIMUM JOINT OPENING AND CORRESPONDING MAXIMUM DECK TEMPERATURE SHOWN IN THESE PLANS. THE DECK TEMPERATURE SHALL BE MEASURED BY RECORDING THE SURFACE TEMPERATURES ON THE UNDERSIDE OF THE DECK ADJACENT TO THE JOINTS. IF THE DECK TEMPERATURE DOES NOT FALL WITHIN THE SPECIFIED TEMPERATURE RANGE BEFORE THE CONTRACTOR HAS COMPLETED ALL OTHER REQUIRED WORK, IT WILL BE NECESSARY FOR THE CONTRACTOR TO RETURN TO THE PROJECT SITE TO COMPLETE INSTALLATION AND TESTING OF THE NEOPRENE GLAND. IF THE CONTRACTOR IS REQUIRED TO RETURN TO THE PROJECT SITE AFTER ALL OTHER REQUIRED WORK HAS BEEN COMPLETED, THE CONTRACTOR SHALL COMPLETE INSTALLATION AND TESTING OF NEOPRENE GLAND AT NO EXTRA CHARGE TO THE STATE.

THE NUMBER OF FEET OF NEOPRENE GLAND INSTALLED SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT BASED ON PLAN QUANTITIES. THE PRICE FOR "NEOPRENE GLAND INSTALLATION AND TESTING" SHALL BE FULL COMPENSATION FOR INSTALLING AND TESTING OF THE NEW NEOPRENE GLAND. THIS WORK WILL CONSIST OF CLEANING THE EXTRUSION, INSTALLATION OF THE NEOPRENE GLAND AND WATER TIGHT TESTING OF THE EXPANSION JOINT SYSTEM. ALL WORK AND MATERIALS NECESSARY FOR THE INSTALLATION OF THE NEOPRENE GLAND SHALL COMPLY WITH THE RECOMMENDATIONS OF THE EXPANSION JOINT MANUFACTURER. THE PRICE BID FOR "NEOPRENE GLAND INSTALLATION AND TESTING" SHALL INCLUDE ALL WATERTIGHT INTEGRITY TESTING, LEAK REPAIRS AS DIRECTED BY THE ENGINEER, AND SUBSEQUENT WATERTIGHT TESTING UNTIL A LEAK FREE INSTALLATION IS ACHIEVED.

WATERTIGHT INTEGRITY TESTING AND REPAIR NOTES:

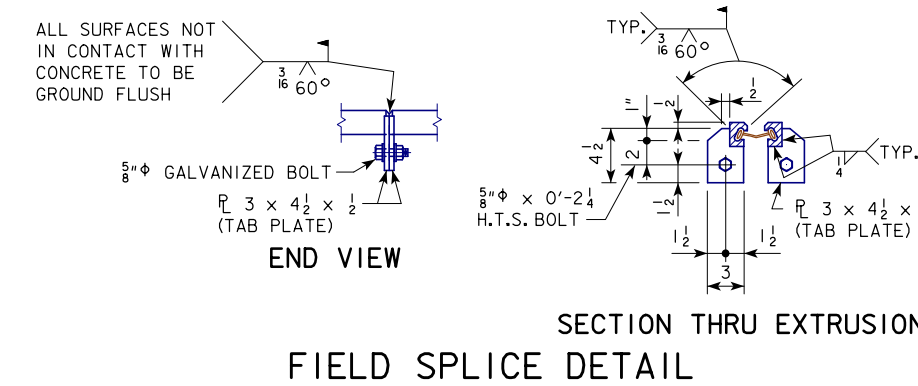
AFTER INSTALLATION OF EACH NEOPRENE GLAND, THE CONTRACTOR SHALL PERFORM WATERTIGHT INTEGRITY TESTS AT THE DECK LEVEL TO DETECT ANY LEAKAGE. THE TESTS ARE TO CHECK FOR LEAKAGE AT THE UPTURNED ENDS OF THE EXPANSION DEVICE AND FOR LEAKAGE ALONG THE EXPANSION DEVICE ACROSS THE DECK AND ANY MEDIANS OR SIDEWALKS. THE CONTRACTOR MAY CONDUCT A SINGLE TEST OF THE ENTIRE DEVICE INCLUDING UPTURNED ENDS OR MAY CONDUCT SEPARATE TESTS OF UPTURNED ENDS AND ONE OR MORE TESTS OF OVERLAPPING LENGTHS BETWEEN THE UPTURNED ENDS.

AT EACH UPTURNED END OF THE EXPANSION DEVICE, THE CONTRACTOR SHALL BLOCK OUT ON THE DECK AT LEAST 3 FEET OF THE EXPANSION DEVICE LEADING TO THE UPTURNED END AND FLOOD THE AREA. A MINIMUM WATER DEPTH OF 3" SHALL BE MAINTAINED AT THE GUTTERLINE FOR AT LEAST 30 MINUTES. DURING THE TEST, THE INSPECTOR SHALL OBSERVE FOR ANY OVERFLOW AT THE UPTURNED END. AT THE CONCLUSION OF THE TEST THE INSPECTOR WILL EXAMINE THE UNDERSIDE OF THE JOINT FOR LEAKAGE. THE EXPANSION DEVICE IS CONSIDERED WATERTIGHT IF THE INSPECTOR OBSERVES NO OVERFLOW DURING THE TEST AND IF NO DRIPPING WATER OR WATER DROPLETS ARE VISIBLE IN THE UNDERDECK AREAS NEAR THE UPTURNED END.

THE CONTRACTOR SHALL TEST THE EXPANSION DEVICE BETWEEN UPTURNED ENDS BY BLOCKING OUT AND COVERING THE DEVICE WITH PONDED OR FLOWING WATER TO A DEPTH OF AT LEAST 1" AT ALL POINTS, FOR AT LEAST 30 MINUTES. VERTICAL CURB SURFACES MAY BE TESTED WITH AN UNNOZZLED HOSE DELIVERING APPROXIMATELY ONE GALLON PER MINUTE DIRECTED TO FLOW OVER THE ENTIRE CURB HEIGHT FOR 30 MINUTES. AT THE CONCLUSION OF THE TEST, THE INSPECTOR WILL EXAMINE THE UNDERSIDE OF THE JOINT FOR LEAKAGE. THE EXPANSION DEVICE IS CONSIDERED WATERTIGHT IF NO DRIPPING WATER OR WATER DROPLETS ARE VISIBLE IN THE UNDERDECK AREAS ALONG THE FULL LENGTH OF THE EXPANSION JOINT. DAMP CONCRETE THAT DOES NOT SHOW DRIPPING WATER OR WATER DROPLETS IS NOT CONSIDERED A SIGN OF LEAKAGE.

IF THE EXPANSION DEVICE LEAKS AT AN UPTURNED END OR ALONG ITS LENGTH, THE CONTRACTOR SHALL LOCATE THE LEAK(S) AND TAKE REPAIR MEASURES TO STOP THE LEAKAGE. THE REPAIR MEASURES SHALL BE AS RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER PRIOR TO BEGINNING CORRECTIVE WORK.

IF MEASURES TO ELIMINATE LEAKAGE ARE TAKEN, THE CONTRACTOR SHALL PERFORM SUBSEQUENT WATERTIGHT INTEGRITY TESTS SUBJECT TO THE SAME CONDITIONS AS THE ORIGINAL TEST.



DESIGN FOR REPAIRS TO 26°24' SKEW (R.A.)

654'-8 x 57'-0 CONTINUOUS
WELDED PLATE GIRDER BRIDGE

49'-0 & 49'-8 APPR. SPANS126'-0, (2) 166'-0 & 98'-0 SPANS

EXPANSION DEVICE DETAILS

STA. 232+22.93 (IA 926)OCTOBER, 2020

WEBSTER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 21 OF 21FILE NO. 31780DESIGN NO. 120

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Roadway Title Sheet
C Sheets	Quantities and General Information
C.1	Project Description
C.1	Estimated Roadway Quantities
C.1	Estimate Reference Information
C.1	Index of Tabulations
C.2	General Notes
C.2 - 3	Tabulations
D Sheets	Mainline Plan and Profile Sheets
* D.1	IA-926 Plan Sheet
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes
J.1	511 Travel Restrictions
J.2	Staging Typical Cross Sections
* J.3	Traffic Control & Staging Legend & Symbol Info. Sheet
* J.4 - 11	Traffic Control Plan Staging and Details
	* Color Plan Sheets



Design No. 120
File No. 31780

	I hereby certify that this plan was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.	
		9-11-20
	Signature	Date
	Printed or Typed Name	
My license renewal date is December 31, 2020		
Pages or sheets covered by this seal: A.1, C.1-C.3, D.1, J.1-J.11		

100-1D 10-18-05 PROJECT DESCRIPTION
This project involves traffic control for bridge repairs and guardrail placement for the 655' x 53' bridge on IA 926 over the CNRR, located 0.8 miles east of US 169.

ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)					
Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2102-2625000	EMBANKMENT-IN-PLACE	CY	17.0	
2	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	36.1	
3	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	1	
4	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	1	
5	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	1	
6	2518-6910000	SAFETY CLOSURE	EACH	5	
7	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	8.08	
8	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	19.07	
9	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	1	
10	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	8.08	
11	2527-9263190	SYMBOLS AND LEGENDS REMOVED	EACH	1	
12	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	1400.0	
13	2528-8445110	TRAFFIC CONTROL	LS	1.00	
14	2528-8445113	FLAGGERS	EACH	See Proposal	
15	2528-9109020	TEMPORARY LANE SEPARATOR SYSTEM	LF	5844.0	
16	2551-0000130	TEMP CRASH CUSHION, SEVERE USE (SU)	EACH	2	
17	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	180.0	
18	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	180.0	

111-25 10-18-11 INDEX OF TABULATIONS		
Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-0A	ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)	C.1
100-1D	PROJECT DESCRIPTION	C.1
100-4A	ESTIMATE REFERENCE INFORMATION	C.1
100-19	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	C.2
105-4	STANDARD ROAD PLANS	C.1
107-23	GRADING FOR GUARDRAIL INSTALLATIONS	C.2
108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.2
108-13A	SAFETY CLOSURES	C.3
108-22	PAVEMENT MARKING LINE TYPES	C.3
108-29	PAVEMENT MARKING SYMBOLS AND LEGENDS	C.3
108-30	CRASH CUSHIONS	C.3
108-33	TEMPORARY BARRIER RAIL	C.3
108-35	TEMPORARY LANE SEPARATOR SYSTEM	C.3
111-25	INDEX OF TABULATIONS	C.1

			105-4 10-18-11
STANDARD ROAD PLANS			
The following Standard Road Plans apply to construction work on this project.			
Number	Date	Title	
BA-200	04-16-19	Steel Beam Guardrail Components	
BA-201	04-18-17	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)	
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor	
BA-205	04-19-16	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)	
BA-250	10-18-16	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)	
BA-401	10-15-19	Temporary Barrier Rail (Precast Concrete)	
PM-110	04-21-20	Line Types	
PM-111	04-21-20	Symbols and Legends	
PM-120	10-21-14	Stop Lines and Islands	
SI-173	04-19-16	Object Markers	
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail	
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)	
TC-81	10-15-19	Restricted Width Signing (Less Than 14.5 Feet)	
TC-228	10-16-18	Lane Closure Involving TWLTL	
TC-402	04-21-15	Work Within 15 ft of Traveled Way	
TC-419	10-16-18	Lane Closure on Undivided Highway	
TC-433	10-17-17	Pavement Marking Operations	

[illegible]

FILE NO.	31780	ENGLISH	DESIGN TEAM	WHKS & CO		WEBSTER	COUNTY	PROJECT NUMBER	MB-926-1(501)2--77-94	SHEET NUMBER	C.1
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108-8A
10-16-18

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

① Lane(s) to which the obstacle is adjacent.
② Not a bid item. Incidental to guardrail installation.

No.	Direction of Traffic	① Location		Station	Offset	Layout Lengths				Long-Span System		② Delineators and Object Markers				Bid Items										Remarks										
		Side	O = Outside M = Median			BA-250, BA-260, LS-630, or LS-635						SI-211	Delineator SI-172	Object Marker SI-173			Bolted End Anchor	Post Adapter	Steel Beam Guardrail	BA-250 or LS-630				BA-260 or LS-635												
						VT1	VF	VT2	ET					SI-173						Barrier Transition Section	End Terminal				Barrier Transition Section	End Terminal Tangent										
														Type 1	Type 2	Type 3					Tangent	Flared	Tangent	Flared												
									BA-211																											
						LF	LF	LF	LF	STATION	TYPE	TYPE	White EACH	OM2-2 EACH	OM3-L EACH	OM3-R EACH	BA-202 TYPE	BA-210 EACH	BA-200 LF	BA-201 EACH	BA-205 EACH	BA-206 EACH	LS-625 EACH	LS-626 EACH	BA-221 EACH	BA-225 EACH										
1	WB	O		235+43	FT 29.4	40.63				47.67																		STAGE 1								

107-23
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

① Lane(s) to which the installation is adjacent. Refer to EW-301

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks		
No.	Direction of Traffic	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10 CY	Embankment In Place CY			
1	WB	235+36	Rt.	6:1	38.1	5.0					88.1	7.0	58.3		17.0			

232-3B
04-16-19

EROSION CONTROL
(URBAN SEEDING)

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,4 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are incidental to mobilization and will not be paid for separately.

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
235+40.00	236+80.00	L		140.0		Stage 1
				Subtotal: 140.0		
				25% contingency: 35.0		
				Round to nearest 10': 180.0		

262-6
10-18-05

UTILITIES
(NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

(FCI) FRONTIER COMMUNICATIONS
Contact Name : Trent Flockhart
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Contact Email: trent.flockhart@ftr.com

(FDG) FORT DODGE, CITY OF
Contact Name : Brett Daniel
Contact Phone: 515-573-5071
Contact Email: meterroom@fortdodgeiowa.org

(INS) AUREON NETWORK SERVICES
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(M31G) MIDAMER-GAS
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(T20) MEDIACOM
Contact Name : Mike Lawler
Contact Phone: 515-571-2183
Contact Email: mlawler@mediacomcc.com

108-30
04-16-13

[illegible]

108-33
10-15-19

[illegible]

108-13A
08-01-08

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
228+25.00		1	Stage 1
236+15.00		1	Stage 1
211+65.00	1		Stage 2
228+25.00		1	Stage 2
236+40.00		1	Stage 2

108-35
04-17-12

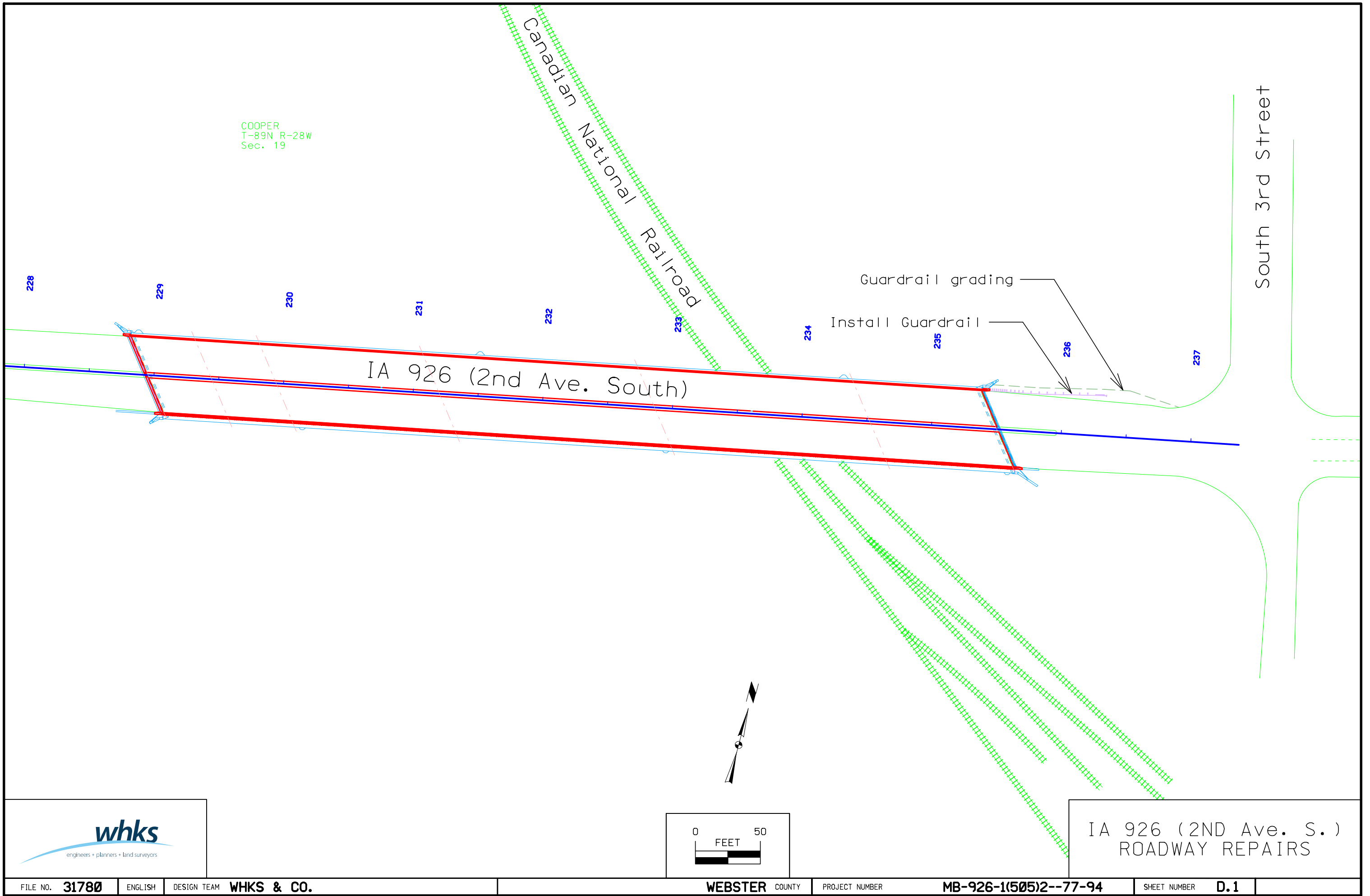
Station to Station		Length	Remarks
		LF	
207+63.00	237+00.00	2937.0	Stage 1
207+63.00	236+70.00	2907.0	Stage 2
	Total:	5844.0	

108-22
04-16-13

[illegible]

108-29
04-21-15

Road Identification	Location																	SCHOOL	XING	STOP	AHEAD	ONLY	BIKE	LANE	EXIT	Groove Cuts	Remarks
	Station	Side																									
IA 926	238+38	C	STAW	RTAW	LTAW	CSRW	CSLW	CSTW	CRLW	FERW	LLRW	RLRW	RRCW	BLSW	WCSW	WPSB	SCLW	XNGW	STPW	AHDW	ONLW	BIKW	LANW	XITW	EACH	Removal Prior to Stage 1 Placement After Stage 2	



108-25 10-21-14												
511 TRAVEL RESTRICTIONS												
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 926	Both	Webster	IA 926 Bridge 0.8 mi E of U.S.169	CN RR & Meriweather Dr.	Traffic Control Device	52310	Horizontal	N/A	11'-6	10'-6	N/A	

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1. IA 926 shall maintain at least one lane of traffic in both directions at all times.

2. Place Road Work Ahead signs 100-250' in advance of IA 926 on side roads that fall between the IA 926 roadwork ahead signs. Refer to J Sheets.

3. Contact the City of Fort Dodge 10 days prior to traffic control operations.

4. Refer to staging notes.

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided	

108-26A
08-01-08

STAGING NOTES

Stage 1:

Traffic: Merge eastbound traffic to outside (south) lane of eastbound lanes.
Shift westbound traffic to center lane between South 4th Street and South 3rd Street.
Shift westbound traffic on bridge to inside (north) lane of eastbound lanes.
Refer to J sheets.

Construction: Perform repairs on north half of bridge. Install guardrail on northeast corner of bridge.

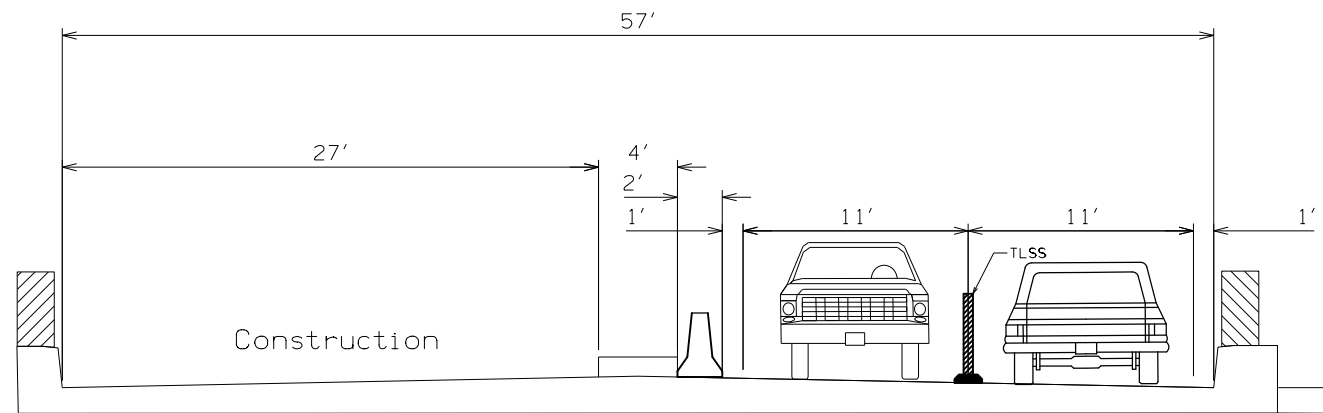
Stage 2:

Traffic: Maintain westbound traffic to north lane of westbound lanes between 3rd St. and 4th St. by closing the two-way left turn lane.
Shift westbound traffic to outside (north) land of westbound lanes.
Merge eastbound traffic to inside (south) lane of westbound lanes.
Merge eastbound traffic to back to original lane between 3rd St. and 4th St.
Refer to J sheets.

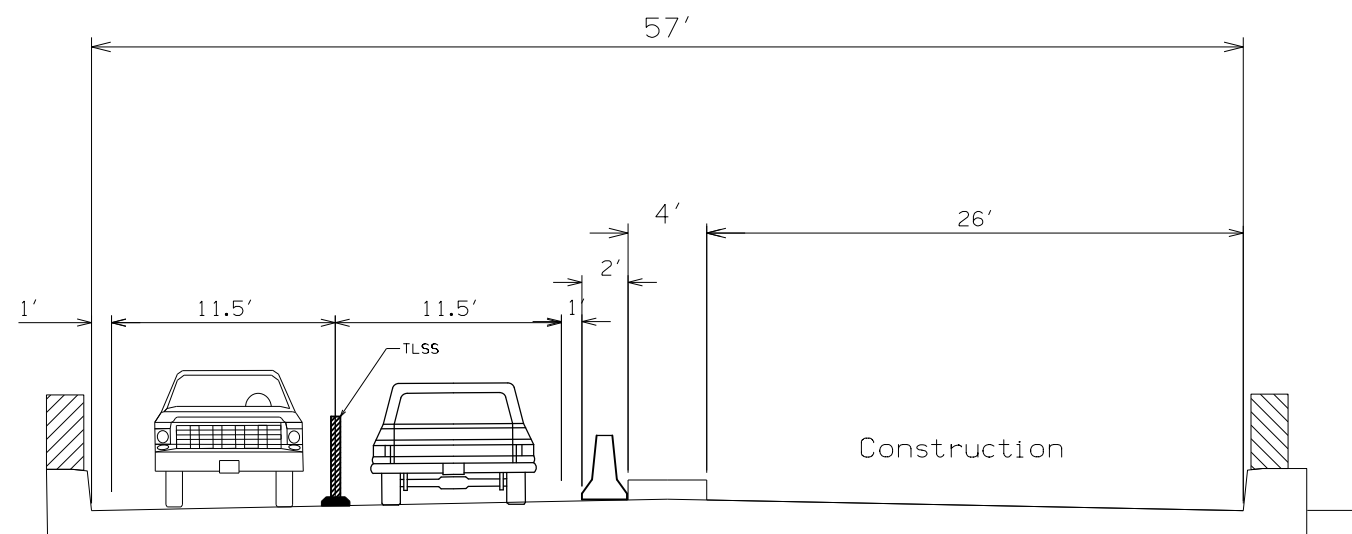
Construction: Perform repairs on south half of bridge.

FILE NO.	31780	ENGLISH	DESIGN TEAM	WHKS & CO.	WEBSTER COUNTY	PROJECT NUMBER	MB-926-1(501)2--77-94	SHEET NUMBER	J.1
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STAGE 1
(LOOKING EAST)



STAGE 2
(LOOKING EAST)

TYPICAL CONSTRUCTION SECTIONS

CROSS SECTION VIEW COLOR LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS

	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

PLAN VIEW PATTERN AND SYMBOL LEGEND
OF TRAFFIC CONTROL AND STAGING SHEETS

	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL
AND
STAGING

(COVERS SHEET SERIES J)

FILE NO.

31780

ENGLISH

DESIGN TEAM

WHKS & CO.

WEBSTER

COUNTY

PROJECT NUMBER

MB-926-1(505)2--77-94

SHEET NUMBER

J.3

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Stage 1

FILE NO. 31780

ENGLISH

DESIGN TEAM

WHKS & CO.

WEBSTER COUNTY

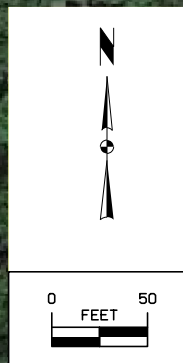
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MB-926-1(505)2--77-94

SHEET NUMBER

J.4

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Stage 1





Stage 1



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ENGLISH

DESIGN TEAM WHKS & CO.

WEBSTER COUNTY

PROJECT NUMBER

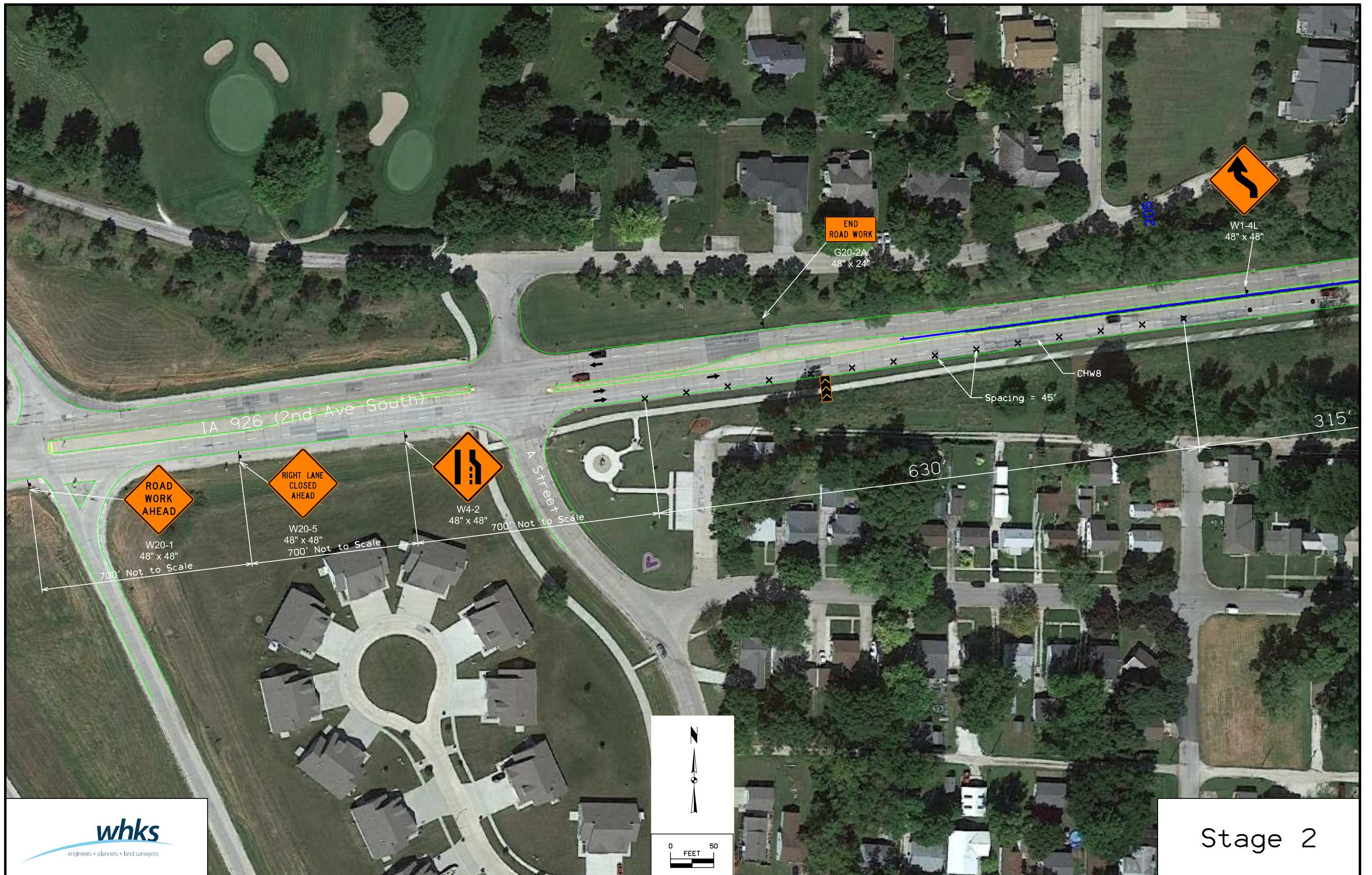
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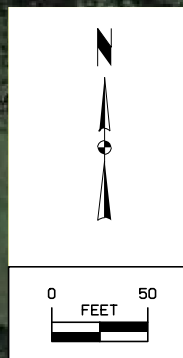
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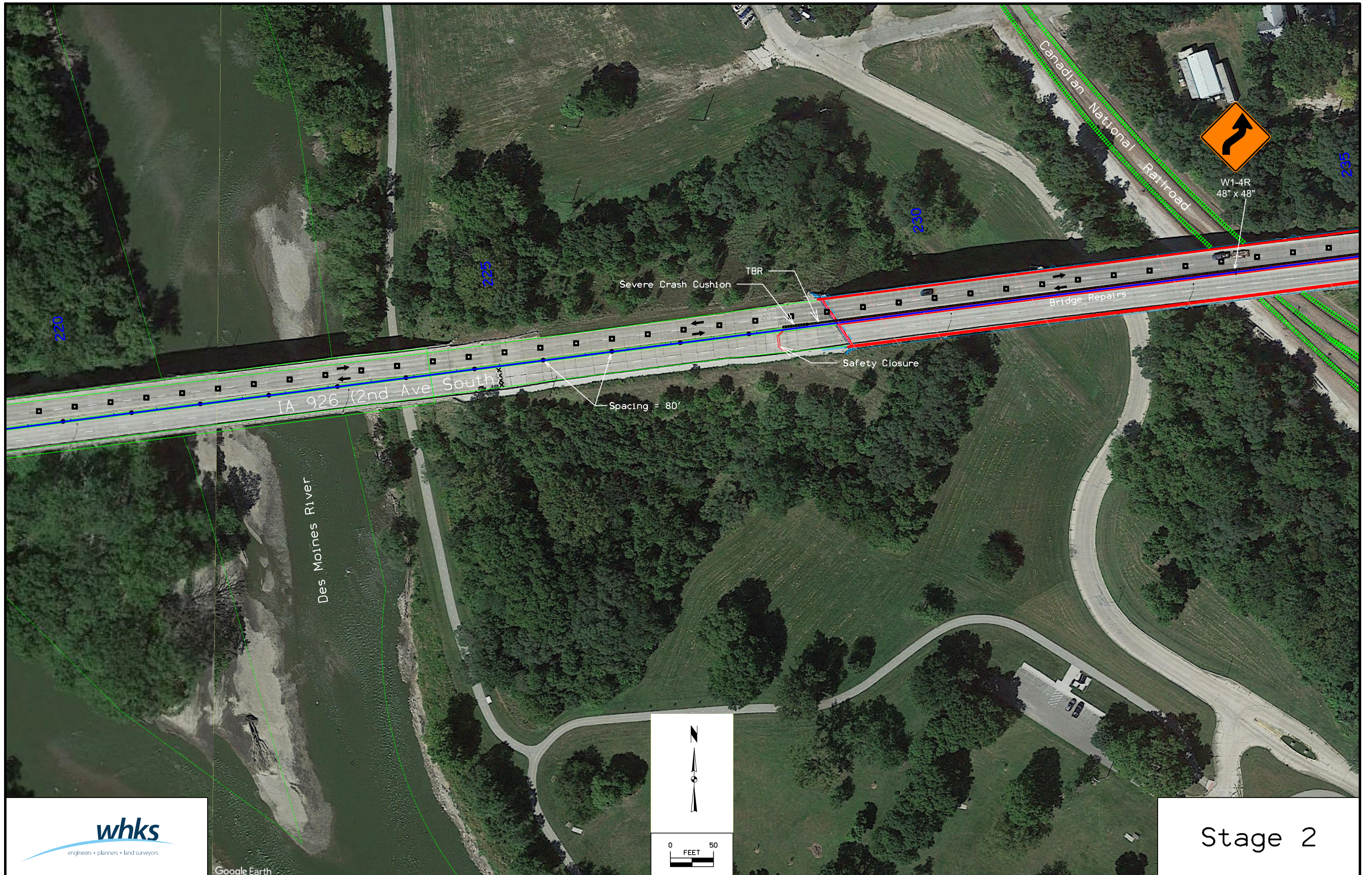
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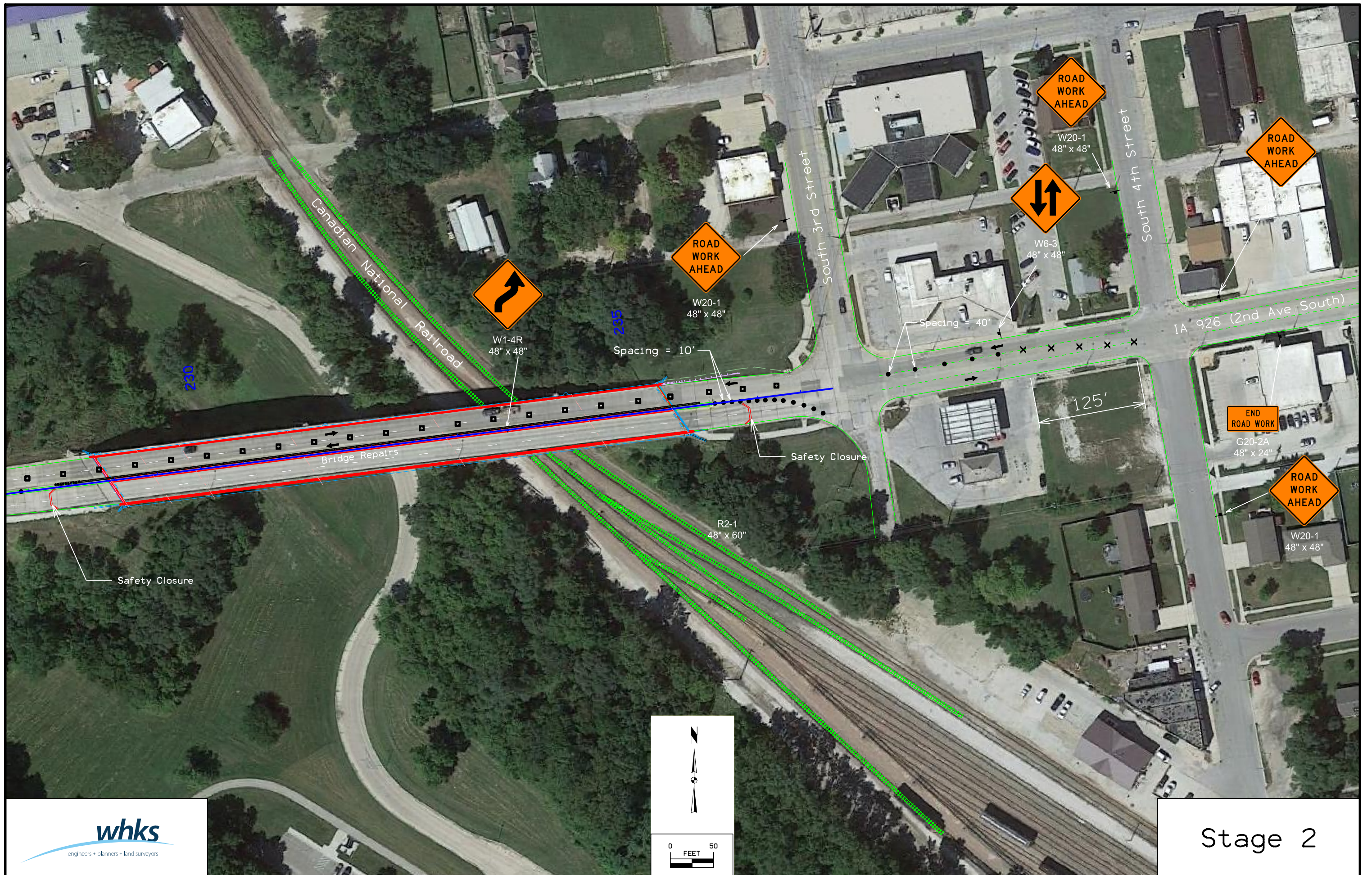
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Stage 2





FILE NO. 31780

ENGLISH

DESIGN TEAM WHKS & CO.

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WEBSTER COUNTY

PROJECT NUMBER

MB-926-1(505)2--77-94

SHEET NUMBER J.11

Stage 2