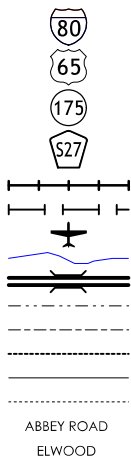


LEGEND

INTERSTATE HIGHWAY	
PRIMARY HIGHWAY-DIVIDED	
PRIMARY HIGHWAY	
PORTLAND CEMENT CONCRETE ROAD	
ASPHALT ROAD	
BITUMINOUS ROAD	
GRAVEL ROAD	
EARTHEN ROAD	
INTERSTATE HIGHWAY	
UNITED STATES HIGHWAY	
STATE HIGHWAY	
COUNTY HIGHWAY	
RAILROAD	
PIPELINE	
AIRPORT	
HYDROLOGY	
BRIDGE	
STATE BOUNDARY	
COUNTY BOUNDARY	
CORPORATE BOUNDARY	
TOWNSHIP LINE	
SECTION LINE	
ROAD NAMES	
UNINCORPORATED PLACE	



PLANS OF PROPOSED IMPROVEMENTS ON THE

PRIMARY ROAD SYSTEM
DUBUQUE COUNTY
BRIDGE SAFETY IMPROVEMENTS
*US-61 AND US-151 OVER
MISSISSIPPI RIVER (CITY ISLAND BRIDGE)*

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2012, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

	TOTAL SHEETS
	19
PROJECT NUMBER	
BRFN-061-8(132)--39-31	
R.O.W. PROJECT NUMBER	
-	
PROJECT IDENTIFICATION NUMBER	
03-31-061-010	

[illegible]

REVISIONS



STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED
ON SHEET NUMBER C.1

DESIGN DATA RURAL

2013	AADT	<u>21400</u>	V.P.D.
2034	AADT	<u>35066</u>	V.P.D.
202-	DHV	<u>-</u>	V.P.H.
TRUCKS		<u>8</u>	%
Total			
Design	ESALs	<u>-</u>	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
I	DEAN G. BIERWAGEN	STRUCTURAL DESIGN
C.I	DUNG T. TA	ROADWAY DESIGN

STRUCTURAL DESIGN

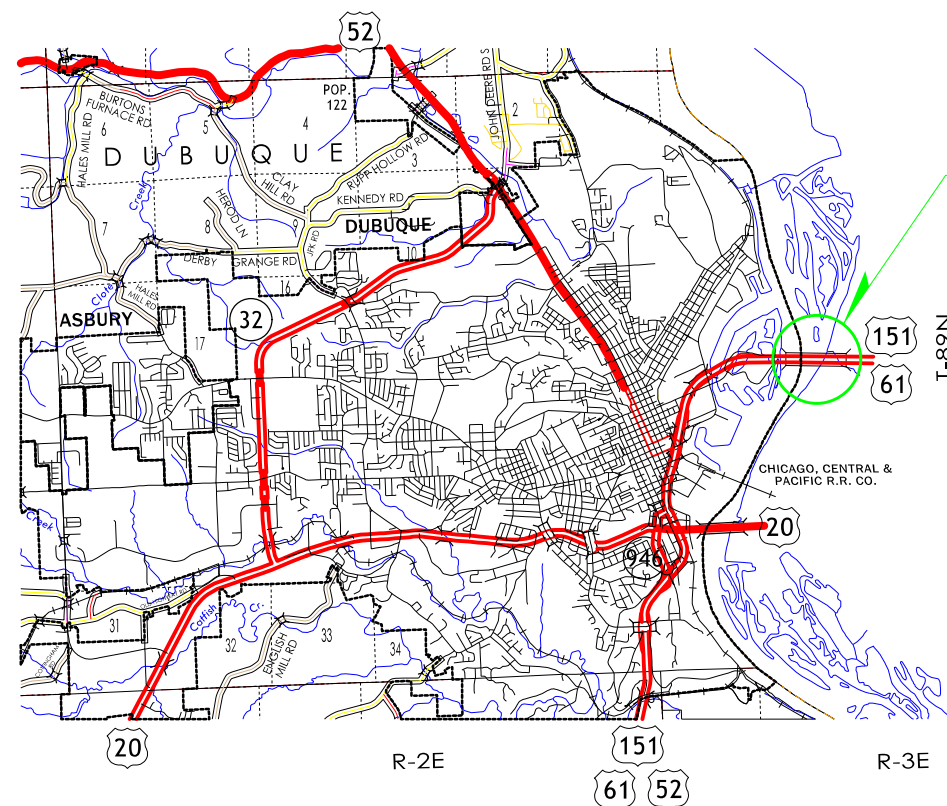


I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

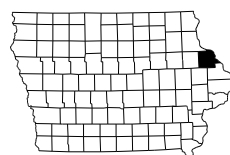
Signature Dean G. Bierwagen Date 3/3/15
Dean G. Bierwagen

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: SHEETS 1 THRU 17 OF 17



DESIGN NO. 114



LOCATION MAP

PROJECT DIRECTORY NAME: 3106101003

DESIGN TEAM	ENGLISH	IOWA DOT * OFFICE OF BRIDGES AND STRUCTURES	FILE NO. 30684	DUBUQUE COUNTY	PROJECT NUMBER BRFN-061-8(132)--39-31	SHEET NUMBER	
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ESTIMATED BRIDGE QUANTITIES					
ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2401-6750001	REMOVALS, AS PER PLAN	LS	1.00	
2	2508-0970000	CONTAINMENT	LS	1.00	
3	2508-0991000	PAINTING OF STRUCTURAL STEEL	LS	1.00	
4	2533-4980005	MOBILIZATION	LS	1.00	
5	2599-9999005	(‘EACH’ ITEM) ACCESS LADDERS	EACH	4	
6	2599-9999005	(‘EACH’ ITEM) CABLE TIE OFF	EACH	2	
7	2599-9999005	(‘EACH’ ITEM) PLATFORM EXTENSION	EACH	4	
8	2599-9999005	(‘EACH’ ITEM) TOE BOARD	EACH	2	

ESTIMATE REFERENCE INFORMATION		
ITEM NO.	ITEM CODE	DESCRIPTION
1	2401-6750001	REMOVALS, AS PER PLAN INCLUDES COST OF ALL LABOR AND MATERIAL REQUIRED FOR REMOVAL AND OFF-SITE DISPOSAL OF HAND RAIL (3 @ APPROX. 7’-6" AND 1 @ APPROX. 4’-6") AND HINGES (3 @ 4 LOCATIONS FOR 12 TOTAL) AS SHOWN IN THESE PLANS. 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	2508-0970000	CONTAINMENT - -
3	2508-0991000	PAINTING OF STRUCTURAL STEEL - -
4	2533-4980005	MOBILIZATION - -
5	2599-9999005	(‘EACH’ ITEM) ACCESS LADDERS INCLUDES COST OF ALL LABOR AND MATERIAL TO FABRICATE, SHOP PAINT AND INSTALL (1) TIE GIRDER ACCESS LADDER (EXTERIOR) AND (1) ARCH RIB ACCESS LADDER (INTERIOR) AT EACH TIED ARCH ACCESS LOCATION AS SHOWN IN THESE PLANS. THIS ITEM ALSO INCLUDES ALL LABOR AND MATERIAL TO INSTALL AND FIELD PAINT HINGE REPLACEMENTS AT TIE GIRDER ACCESS DOOR AS SHOWN ON PLANS.
6	2599-9999005	(‘EACH’ ITEM) CABLE TIE OFF INCLUDES COST OF ALL LABOR AND MATERIAL TO FABRICATE, SHOP AND FIELD PAINT AND INSTALL (1) TIE OFF CABLE AT END FLOOR BEAM OF TIED ARCH, AT PIER LINE 7 AND 8, AS SHOWN IN THESE PLANS.
7	2599-9999005	(‘EACH’ ITEM) PLATFORM EXTENSION INCLUDES COST OF ALL LABOR AND MATERIAL TO FABRICATE, SHOP PAINT AND INSTALL (1) PLATFORM EXTENSION AT EACH TIED ARCH ACCESS LOCATION AS SHOWN IN THESE PLANS.
8	2599-9999005	(‘EACH’ ITEM) TOE BOARD INCLUDES COST OF ALL LABOR AND MATERIAL TO FABRICATE, SHOP PAINT AND INSTALL CONTINUOUS TOE BOARD AT EACH TIED ARCH PIER LOCATION AS SHOWN IN THESE PLANS.

DESIGN FOR 0° SKEW

2950’-0 x 70’-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER

ESTIMATED QUANTITIES

STA. 102+59.00

FEBRUARY, 2015

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 16 FILE NO. 30684 DESIGN NO. 114

GENERAL NOTES:

THE INTENT OF THIS DESIGN IS FOR IMPROVEMENTS TO THE EXISTING CITY ISLAND BRIDGE AT DUBUQUE (US-61 AND US-151 OVER THE MISSISSIPPI RIVER). COPIES OF THE ORIGINAL DESIGN PLANS AND SHOP DRAWINGS WILL BE AVAILABLE TO THE CONTRACTOR. CONTACT THE OFFICE OF CONTRACTS - HIGHWAY DIVISION - IOWA D.O.T. - AMES. DIMENSIONS SHOWN ON THESE PLANS ARE BASED ON DESIGN PLANS (ORIGINAL DESIGN NO. 777, 1279, 1479, 1579, 1679 AND 1779 DUBUQUE COUNTY).

IMPROVEMENTS SHALL CONSIST OF (AT (4) ARCH BEARING LOCATIONS):

- 1. PROVIDE A WORKING PLATFORM AND LADDER AT THE BASE OF THE BRIDGE ARCH TO BETTER REACH THE ACCESS DOOR FOR INSPECTING THE ARCH.
- 2. TO ALLOW ACCESS INSIDE THE ARCH, PROVIDE A LADDER ATTACHED TO THE BOTTOM OF THE ARCH NEAR THE BASE.
- 3. PROVIDE A TOE PLATE AROUND THE BOTTOM OF THE HANDRAIL.
- 4. PROVIDE A CABLE TIE OFF FOR THE TRANSVERSE FLOOR BEAM THAT IS LOCATED AT EACH END OF THE ARCH.
- 5. REPLACE THE HINGES ON THE ACCESS DOORS.

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 EXISTING PORTIONS OF THE BRIDGE.

THE ROAD WILL BE OPEN TO TRAFFIC DURING CONSTRUCTION. SEE TRAFFIC CONTROL PLAN NOTE ON THESE PLANS.

THE BRIDGE CONTRACTOR MAY SHOP DRILL ANY CONNECTION THAT IS SHOWN AS FIELD DRILLED IF PERTINENT DIMENSIONS ARE ACCURATELY FIELD MEASURED AND THE BRIDGE CONTRACTOR CAN ENSURE PROPER FIT BETWEEN NEW AND EXISTING STRUCTURAL STEEL.

NO TORCHWORK, CUTTING, GRINDING OR DRILLING OF HOLES ON THE EXISTING STRUCTURAL STEEL OF THE BRIDGE SHALL BE PERFORMED WHEN THE AIR TEMPERATURE AND STEEL TEMPERATURE ARE BELOW 40°F.

THE LUMP SUM BID FOR "REMOVALS, AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH REMOVING THE EXISTING HAND RAIL AND DOOR HINGES AS SHOWN. REMOVAL OF SCHEDULED ITEMS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD 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.

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 THIS SAMPLE WAS 6000 (INCLUDES 1.55 PPM LEACHABLE) PARTS PER MILLION (PPM). ANALYSIS OF TOTAL CHROMIUM ON THIS SAMPLE WAS 1500 (INCLUDES LESS THAN 0.03 PPM LEACHABLE) PPM. 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 DEPARTMENT'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

GENERAL STEEL NOTES:

ALL FIELD CONNECTIONS ARE TO BE BOLTED USING "HIGH TENSILE STRENGTH BOLTS" UNLESS OTHERWISE NOTED. BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED PER THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. ALL EXISTING BOLTS, NUTS, AND WASHERS LOOSENEED DURING REMOVALS SHALL BE DISCARDED AND REPLACED WITH NEW BOLTS, NUTS AND WASHERS.

NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A709 GRADE 50 EXCEPT AS NOTED.

ANCHOR BOLTS MATERIALS SHALL CONFORM TO ASTM F 1554, GRADE 55, SI. THREADS ARE TO BE UNIFIED COURSE THREAD SERIES, CLASS 2A TOLERANCE. NUTS TO COMPLY WITH ASTM A563, DH AND WASHERS TO COMPLY WITH ASTM F436. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED PER THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

THE DESIGN DRAWINGS INDICATE AWS PREQUALIFIED WELDED JOINTS, AND UNLESS OTHERWISE NOTED THE DESIGN JOINT DETAILS ARE FOR MANUAL SHIELDED METAL-ARC WELDING. ALTERNATE JOINT DETAILS MAY BE SUBMITTED FOR APPROVAL.

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.	
1	PLATFORM EXTENSIONS
2	ACCESS LADDERS
3	TOE BOARD
4	CABLE TIE OFF
5	HINGE REPLACEMENT

SPECIFICATIONS:

DESIGN: AASHTO SERIES OF 2002.
CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2012, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2002. STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 10 ASTM A709 GRADE 36 OR GRADE 50.

TRAFFIC CONTROL PLAN

NOTE: THE ROADWAY WILL BE OPEN TO THRU TRAFFIC. REFER TO THE TRAFFIC CONTROL PLAN ON THE ROAD PLANS IN THESE PLANS.

DESIGN HISTORY AT THIS SITE

DES. NO.	TYPE OF WORK
777	ORIGINAL DESIGN
1279	ORIGINAL DESIGN
1479	ORIGINAL DESIGN
1579	ORIGINAL DESIGN
1679	ORIGINAL DESIGN
1779	ORIGINAL DESIGN
202	DECK OVERLAY
114	SAFETY IMPROVEMENTS

DESIGN FOR 0° SKEW

2950'-0 x 70'-0 STEEL TIED ARCH

CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER

GENERAL NOTES

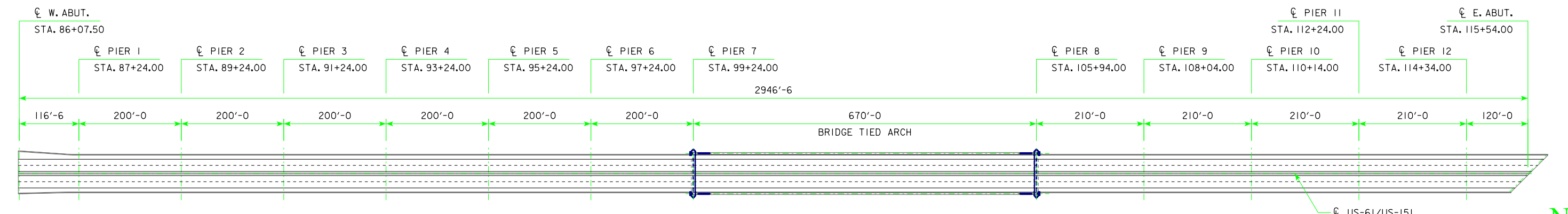
STA. 102+59.00

FEBRUARY, 2015

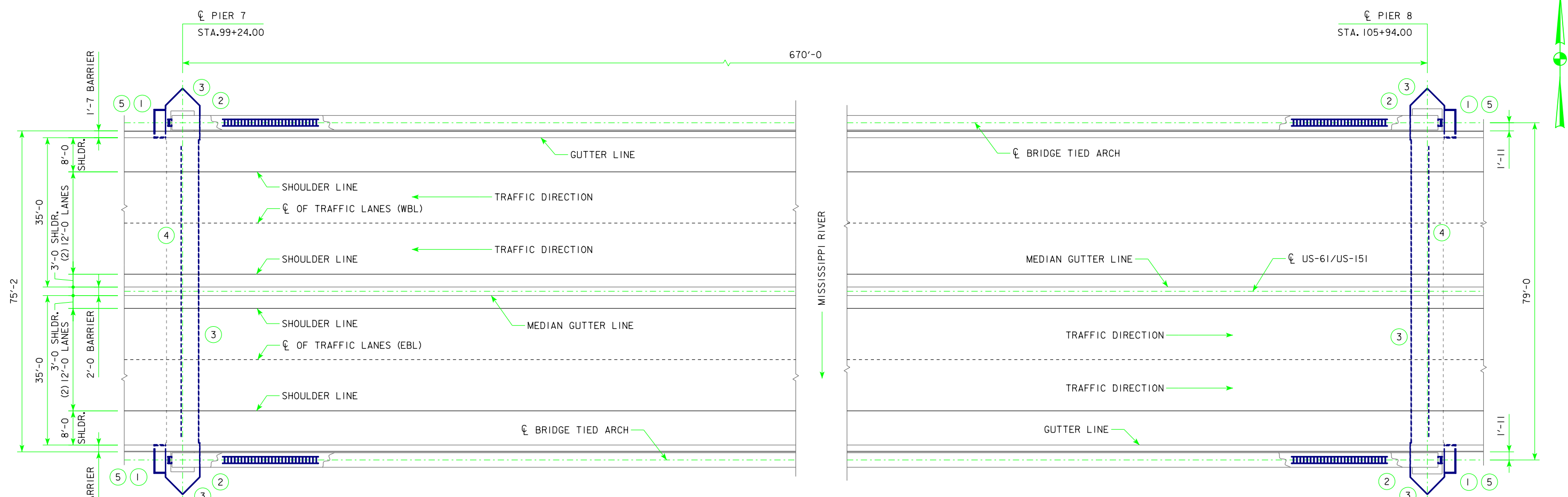
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 16 FILE NO. 30684 DESIGN NO. 114



SITUATION PLAN - CITY ISLAND BRIDGE



SITUATION PLAN - BRIDGE TIED ARCH

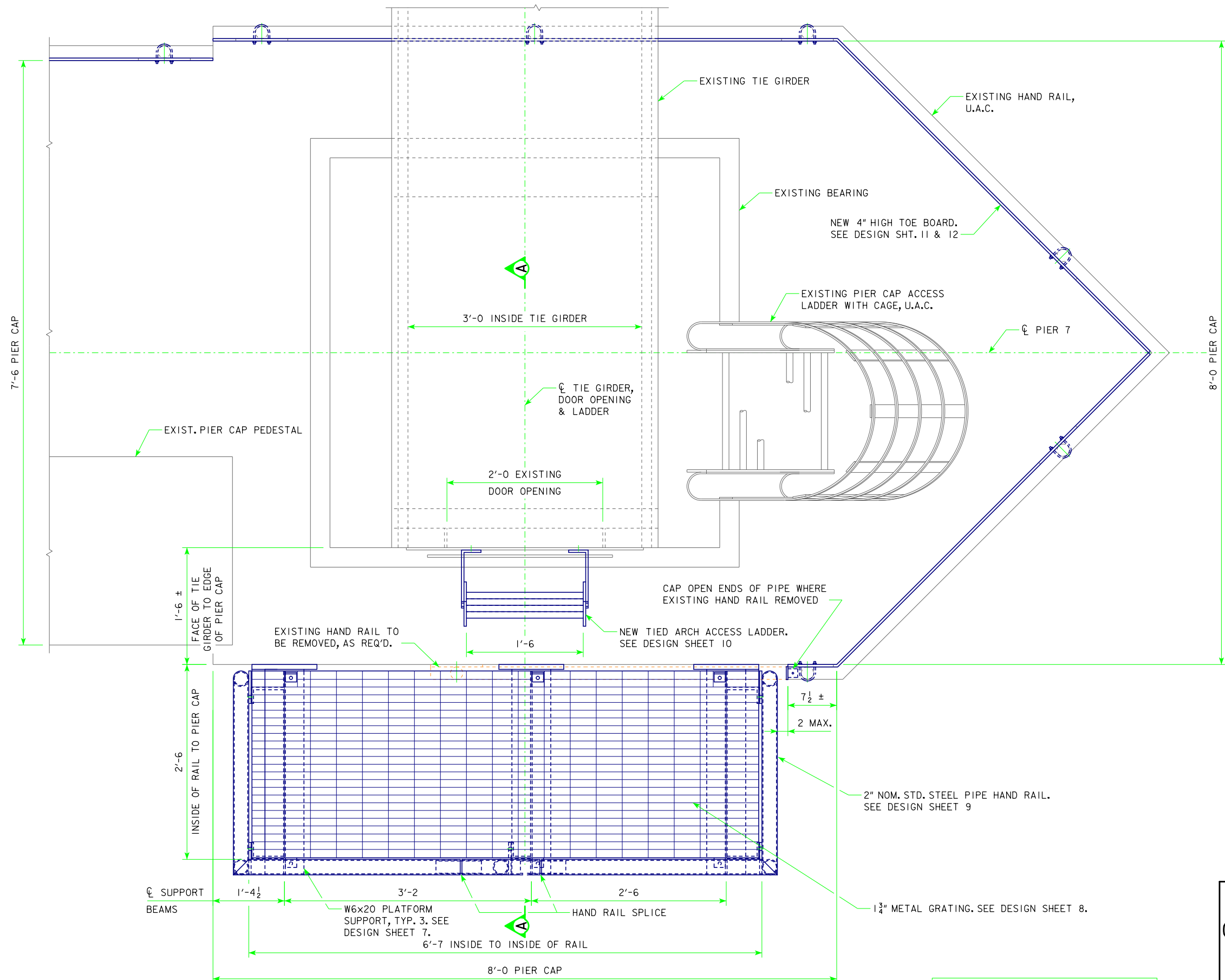
SAFETY IMPROVEMENTS:

- 1 INSTALL PLATFORM EXTENSION AT PIER CAP NEAR ENTRANCE OF TIE GIRDER, TYPICAL AT ALL 4 CORNERS.
- 2 INSTALL ACCESS LADDERS, OUTSIDE TIE GIRDER ACCESS DOOR AND INSIDE THE ACCESS DOOR NEAR BASE OF ARCH RIB, TYPICAL AT ALL 4 CORNERS.
- 3 INSTALL TOE PLATE AT BOTTOM OF EXISTING PIER CAP HAND RAIL, TYPICAL AT PIER LINE 7 AND 8.
- 4 INSTALL CABLE TIE OFF AT END FLOOR BEAM, TYPICAL AT PIER LINE 7 AND 8.
- 5 REPLACE TIE GIRDER ACCESS DOOR HINGES, TYPICAL AT ALL 4 CORNERS.

LOCATION

US-61/US-151 OVER MISSISSIPPI RIVER
T-89N R-3E
SECTION 17
DUBUQUE TOWNSHIP
DUBUQUE COUNTY
FHWA NO. 604440
BRIDGE MAINT. NO. 3191.8S061
LATITUDE 42.515508°
LONGITUDE -90.636330°

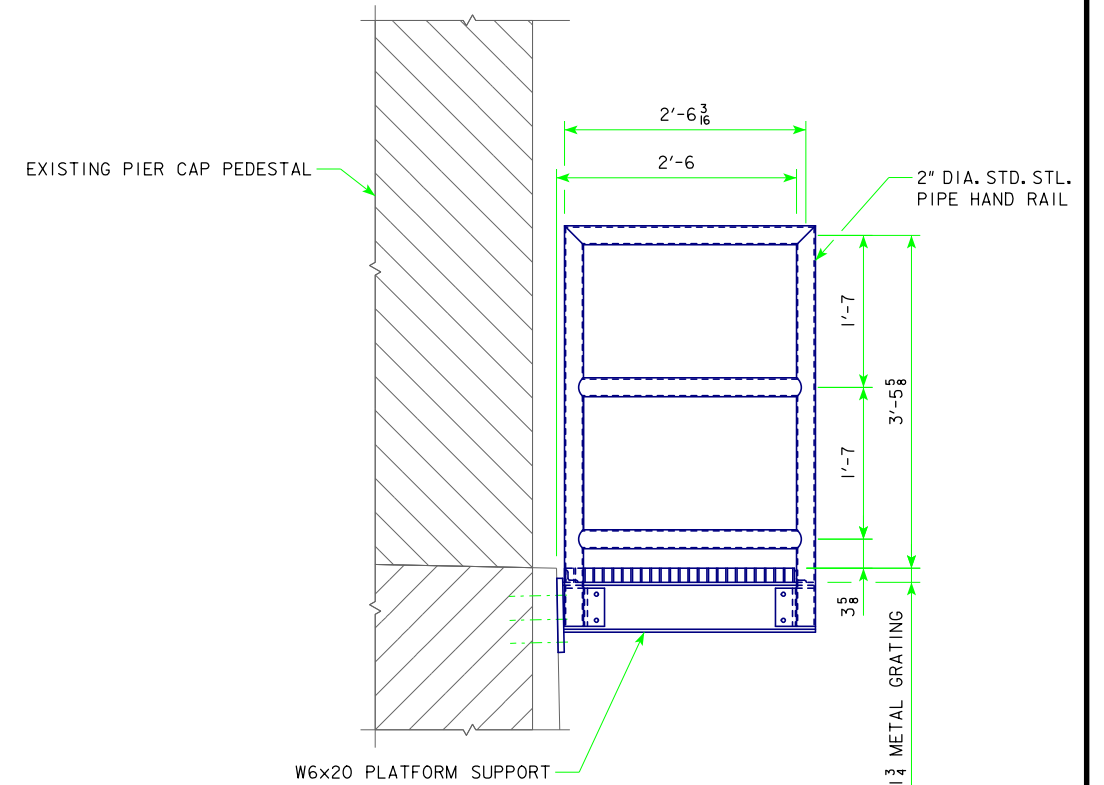
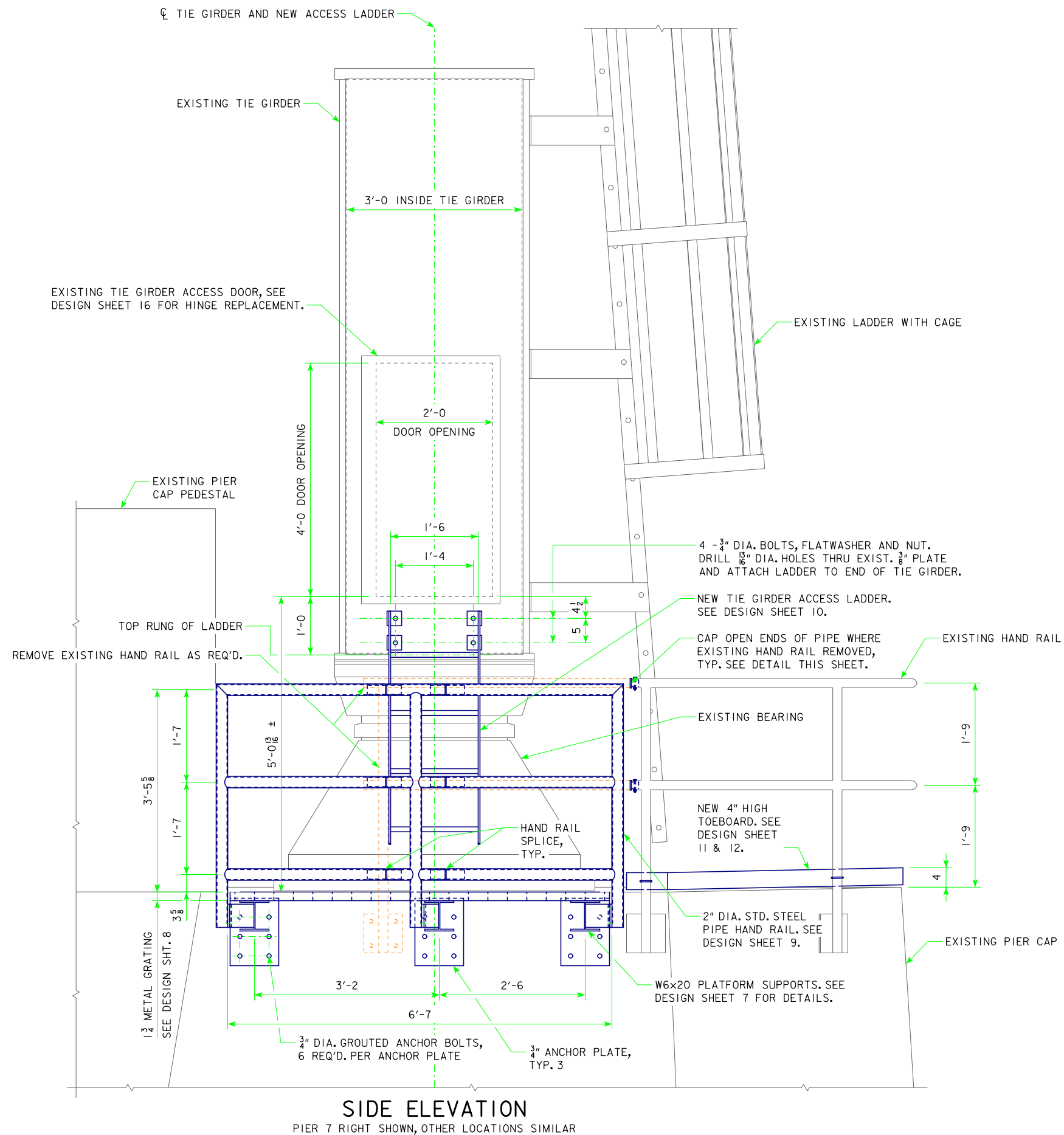
DESIGN FOR 0° SKEW
2950'-0 x 70'-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
SITUATION PLAN
STA. 102+59.00 FEBRUARY, 2015
DUBUQUE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 3 OF 16 FILE NO. 30684 DESIGN NO. 114



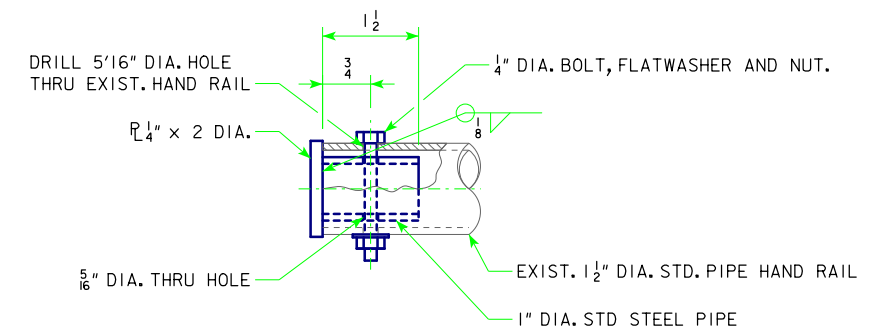
PARTIAL PIER CAP PLAN
 4-TOTAL REQ'D. PIER 7 RIGHT SHOWN.
 REMAINING LOCATIONS SIMILAR

REF. DESIGN SHEET 6 FOR SECTION A-A

DESIGN FOR 0° SKEW
2950'-0 x 70'-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
PLATFORM EXTENSION PLAN
 STA. 102+59.00 FEBRUARY, 2015
DUBUQUE COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 4 OF 16 FILE NO. 30684 DESIGN NO. 114



END ELEVATION



EXIST. HAND RAIL END CAP DETAIL
PAINT END CAP IN SHOP TO MATCH EXISTING HAND RAIL COLOR

DESIGN FOR 0° SKEW

2950'-0" x 70'-0" STEEL TIED ARCH

CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER

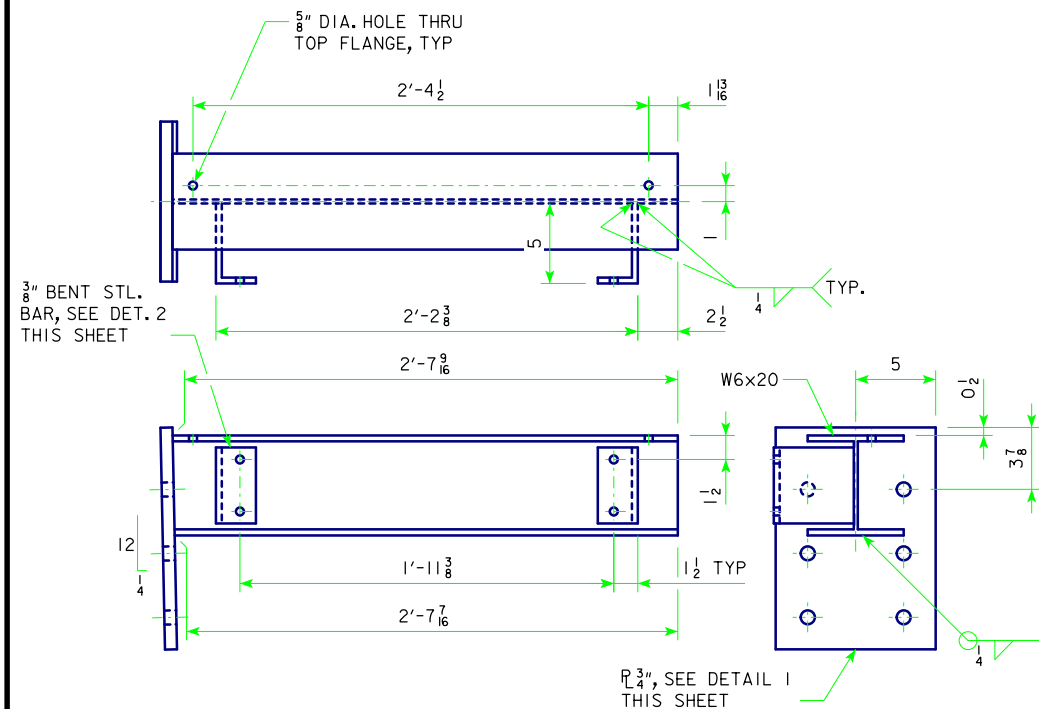
PLATFORM EXTENSION ELEVATION

STA. 102+59.00 FEBRUARY, 2015

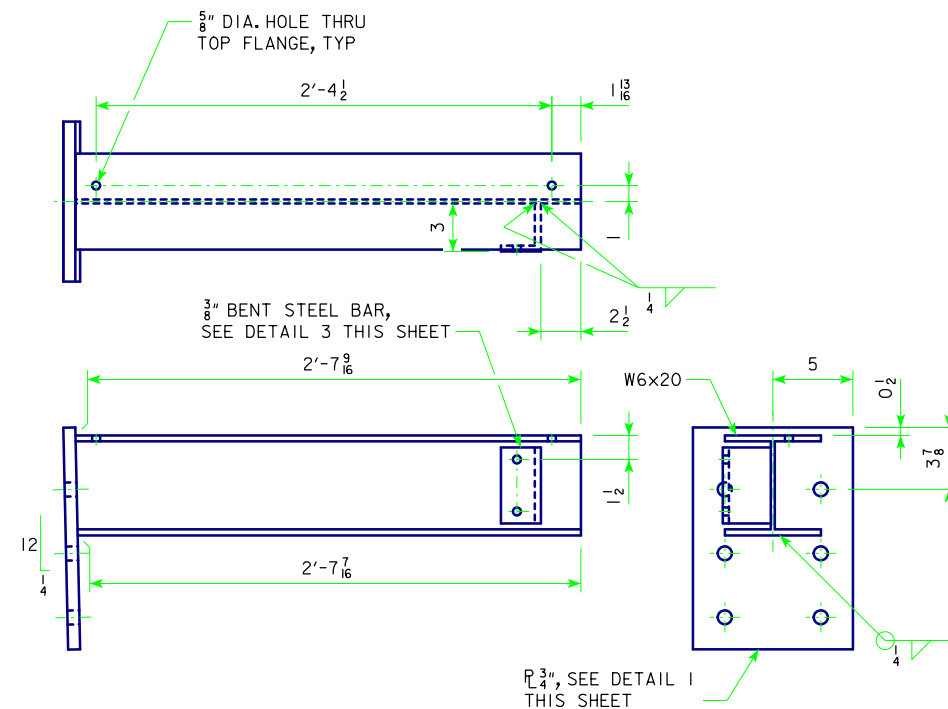
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

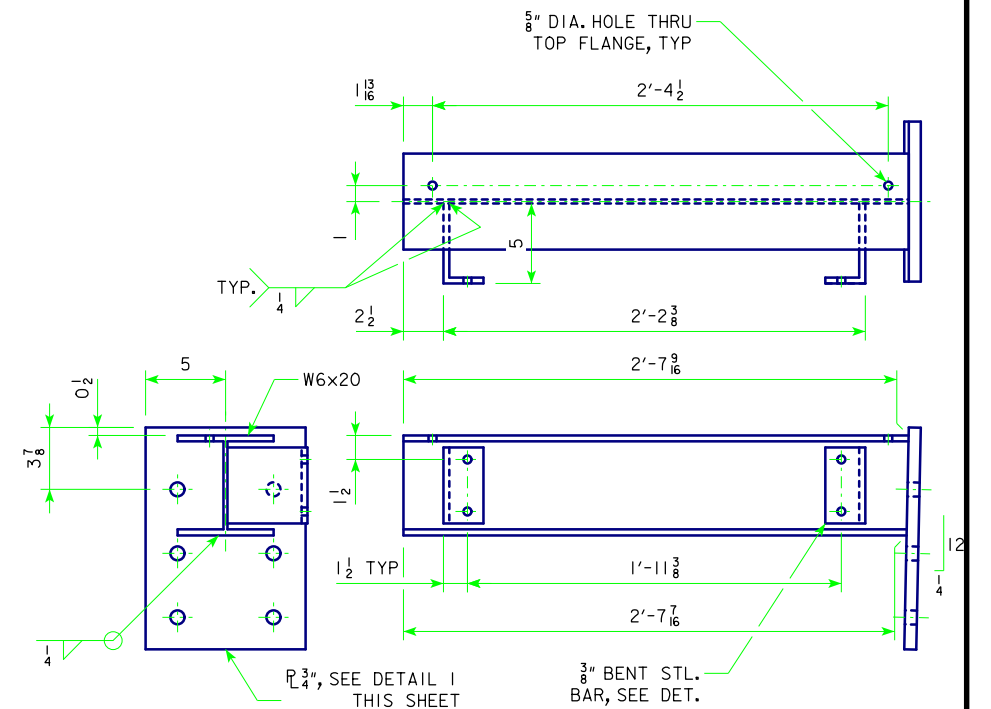
DESIGN SHEET NO. 5 OF 16 FILE NO. 30684 DESIGN NO. 114



OUTSIDE PLATFORM SUPPORT



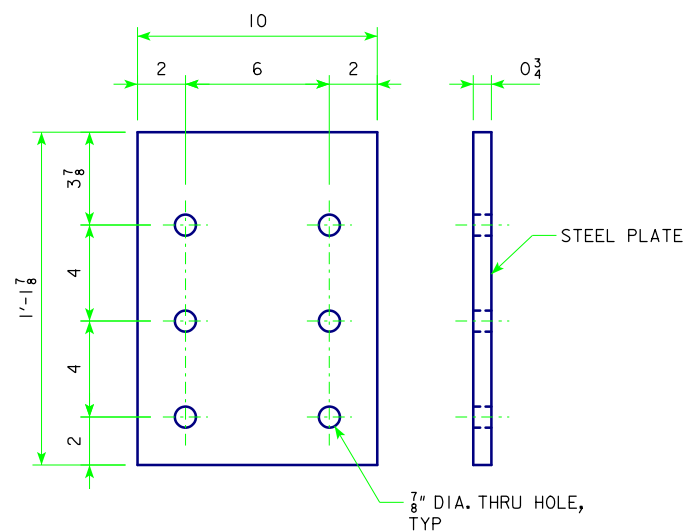
CENTER PLATFORM SUPPORT



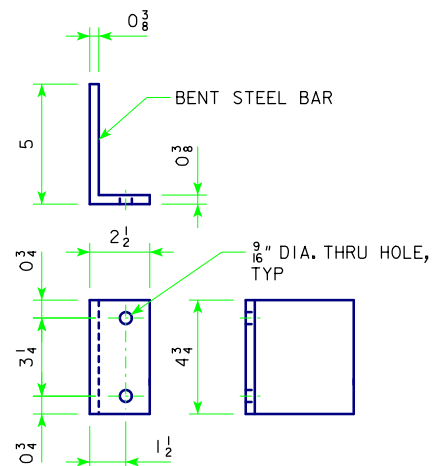
OUTSIDE PLATFORM SUPPORT

PLATFORM SUPPORT DETAILS

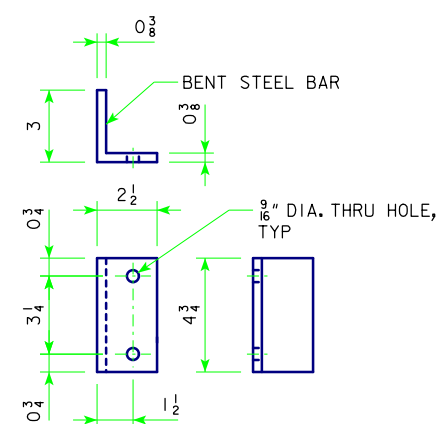
1 EACH REQUIRED PER PLATFORM



DETAIL 1
3 REQUIRED PER PLATFORM
(1-EA PLATFORM SUPPORT)



DETAIL 2
4 REQUIRED PER PLATFORM
(2-EA OUTSIDE PLATFORM SUPPORTS)

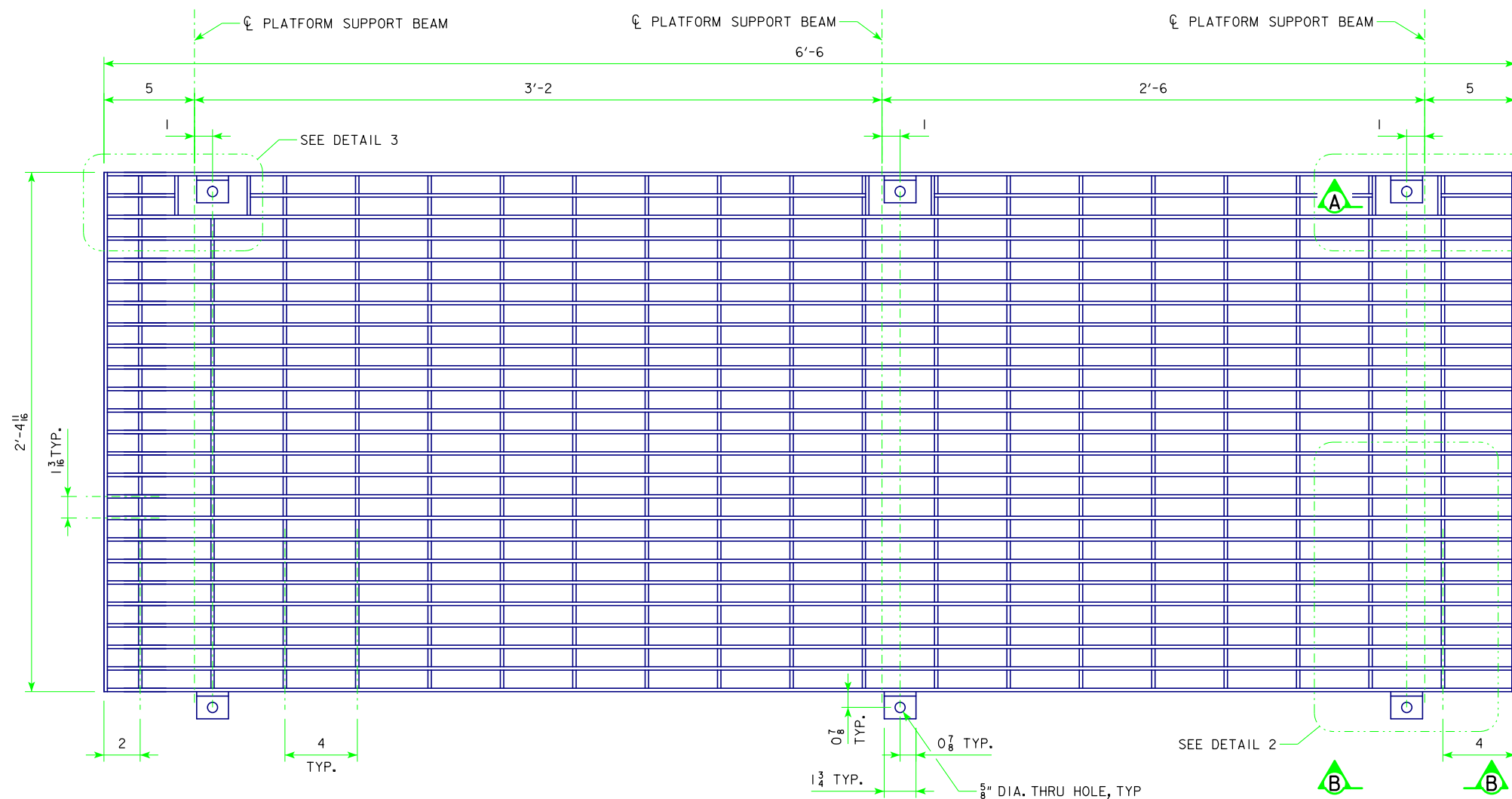


DETAIL 3
1 REQUIRED PER PLATFORM
(CENTER PLATFORM SUPPORT)

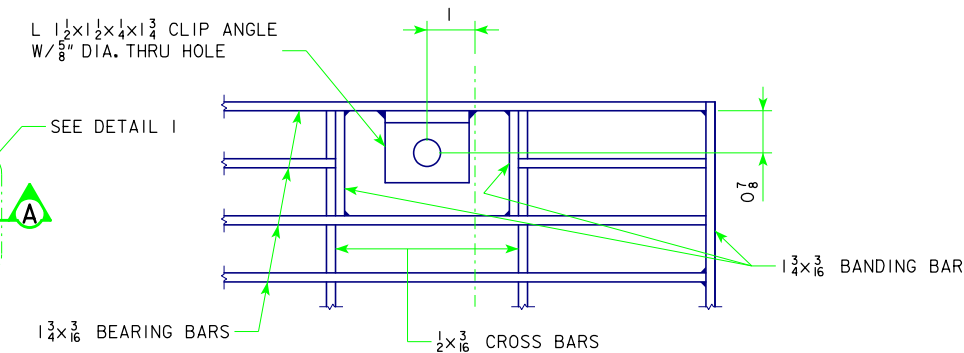
NOTES:

ALL PAINTING SHALL BE DONE IN THE SHOP PER STANDARD SPECIFICATIONS 2408.02 Q AND IN IOWA STANDARD COLOR FOLIAGE GREEN, FEDERAL COLOR STANDARD NUMBER 14223.

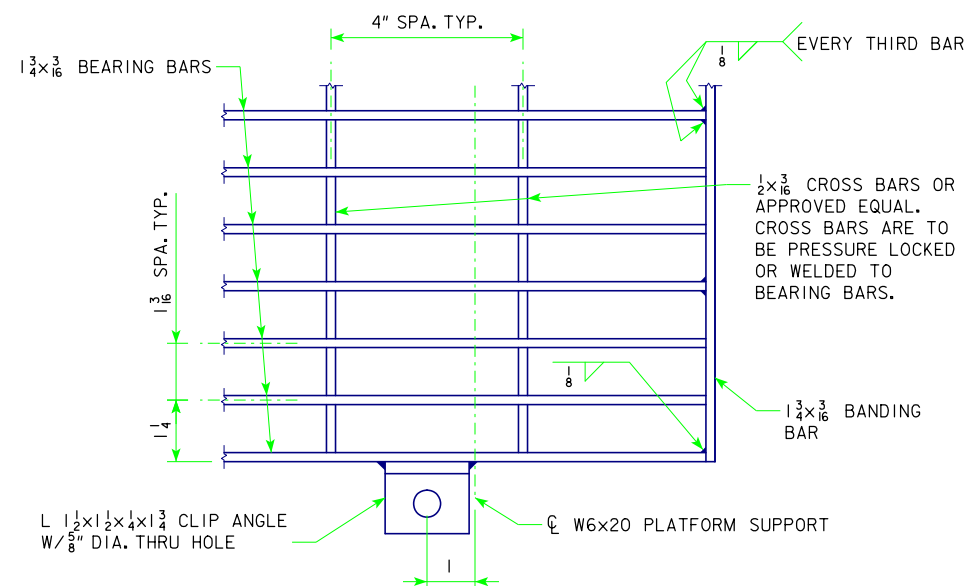
DESIGN FOR 0° SKEW	
2950'-0 x 70'-0 STEEL TIED ARCH	
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER	
PLATFORM EXTENSION SUPPORT DETAILS	
STA. 102+59.00	FEBRUARY, 2015
DUBUQUE COUNTY	
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION	
DESIGN SHEET NO. 7 OF 16	FILE NO. 30684
DESIGN NO. 114	



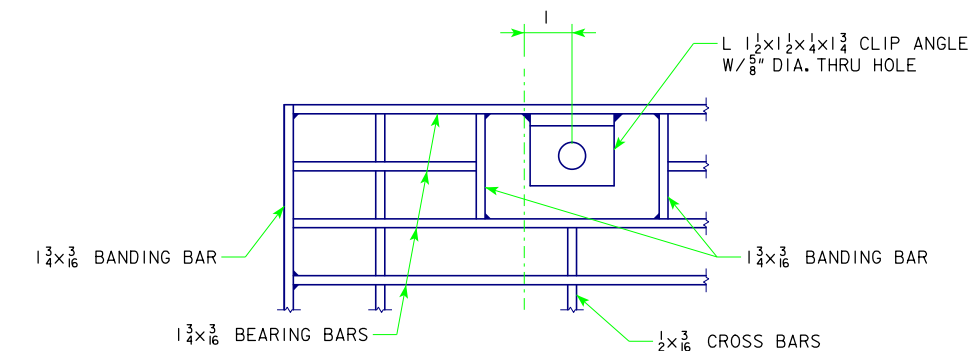
GRATING PLAN



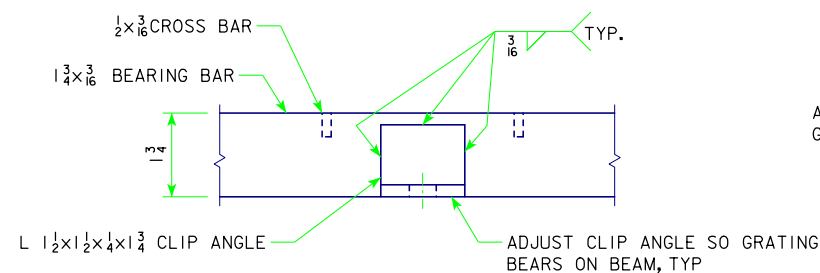
DETAIL 1



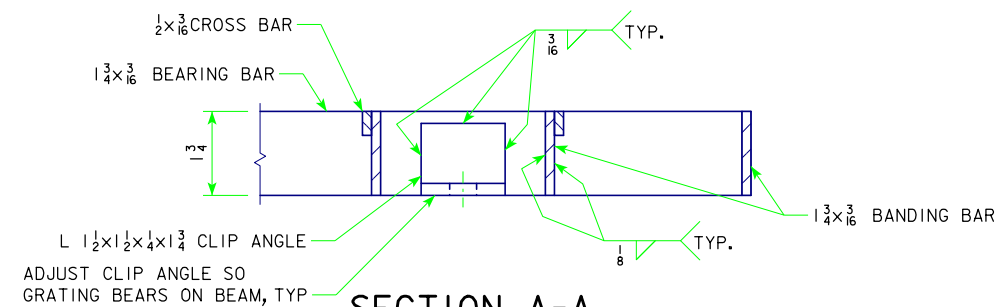
DETAIL 2



DETAIL 3



SECTION B-B



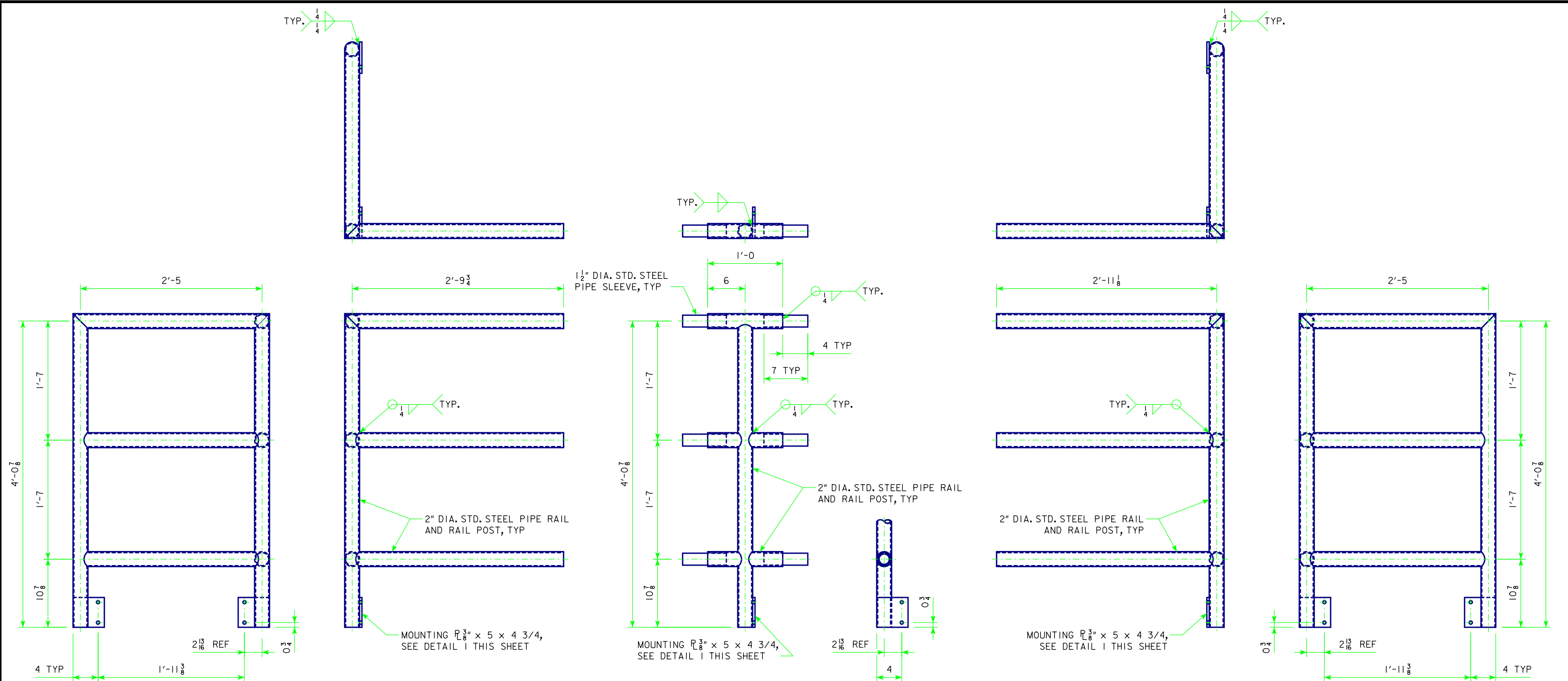
SECTION A-A

NOTES:

THE PAINTED STEEL BAR GRATING INCLUDING BEARING BAR, CROSS BARS, AND BANDING BARS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A1011 TYPE 2.

ALL PAINTING SHALL BE DONE IN THE SHOP PER STANDARD SPECIFICATIONS 2408.02 Q AND IN IOWA STANDARD COLOR FOLIAGE GREEN, FEDERAL COLOR STANDARD NUMBER 14223.

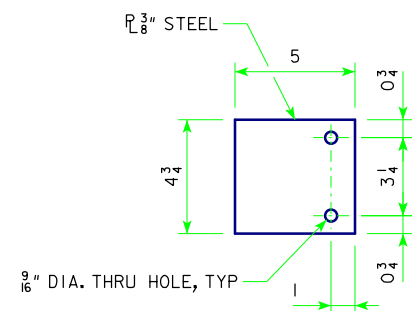
DESIGN FOR 0° SKEW
2950'-0 x 70'-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
PLATFORM EXTENSION GRATING
 STA. 102+59.00 FEBRUARY, 2015
DUBUQUE COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 8 OF 16 FILE NO. 30684 DESIGN NO. 114



HAND RAIL ASSEMBLY DETAILS

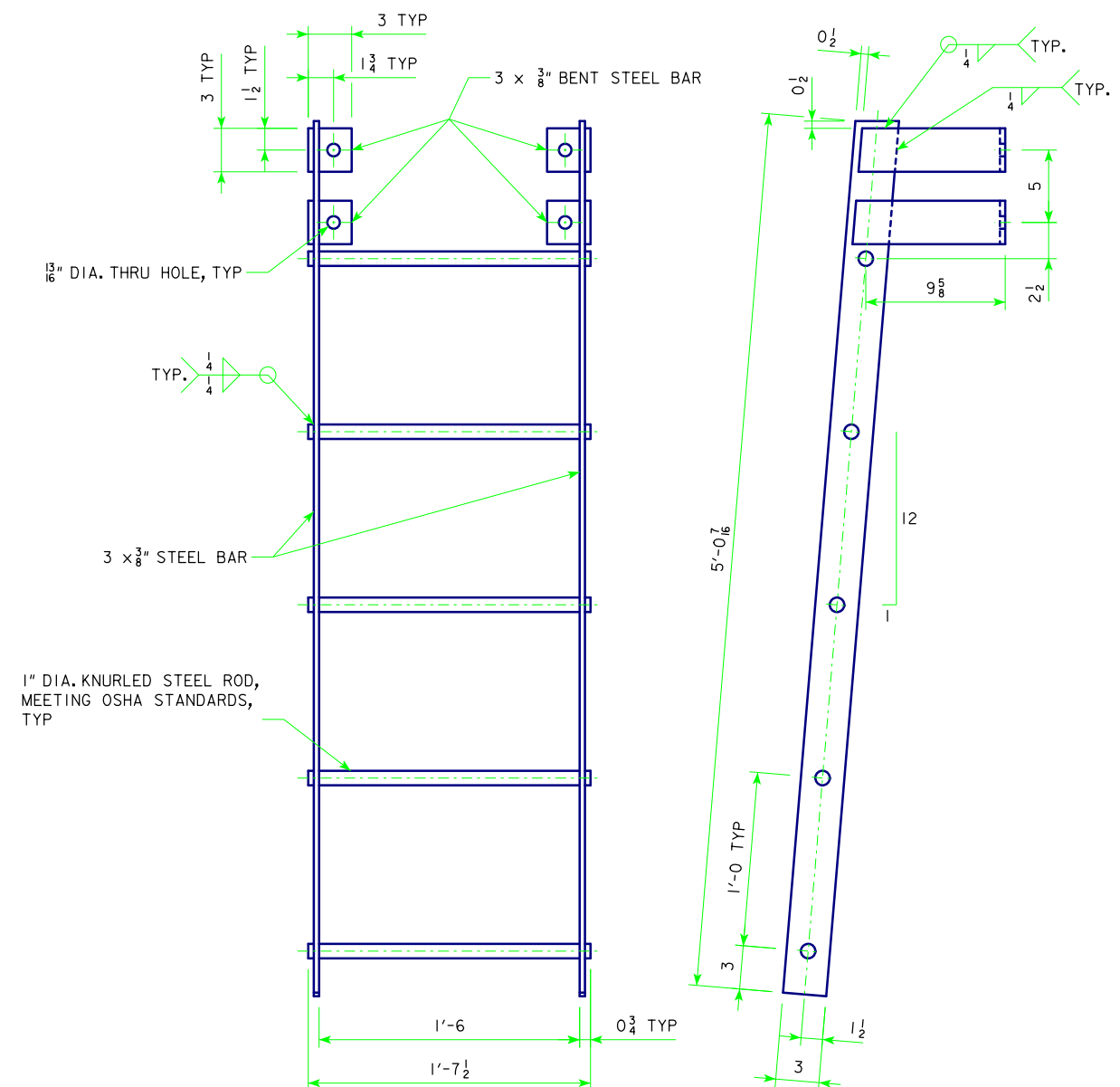
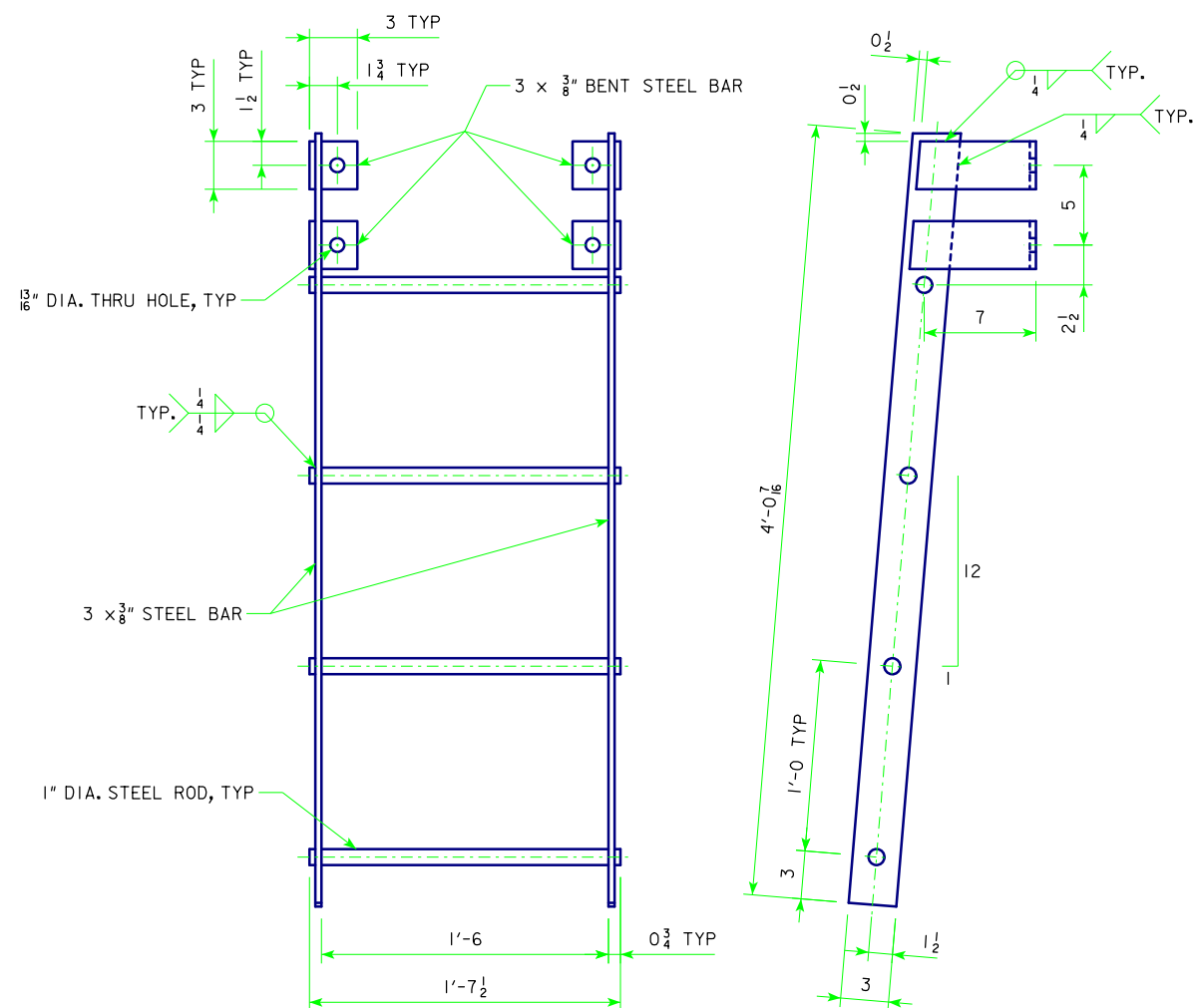
NOTES:

THE MATERIAL FOR TUBE RAILS, POSTS AND SPLICE TUBES SHALL BE STANDARD STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53, TYPE E OR S, GRADE B OR ASTM A500, GRADE B. MOUNTING PLATES SHALL MEET THE REQUIREMENTS OF ASTM A36. FABRICATED SECTIONS SHALL BE PAINTED AFTER FABRICATION, IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123. ENDS OF RAIL SECTIONS ARE TO BE SAWED OR MILLED. ALL CUT ENDS ARE TO BE TRUE, SMOOTH, AND FREE OF BURRS OR RAGGED EDGES. ALL PAINTING SHALL BE DONE IN THE SHOP PER STANDARD SPECIFICATIONS 2408.02 Q AND IN IOWA STANDARD COLOR FOLIAGE GREEN, FEDERAL COLOR STANDARD NUMBER 14223.



DETAIL I

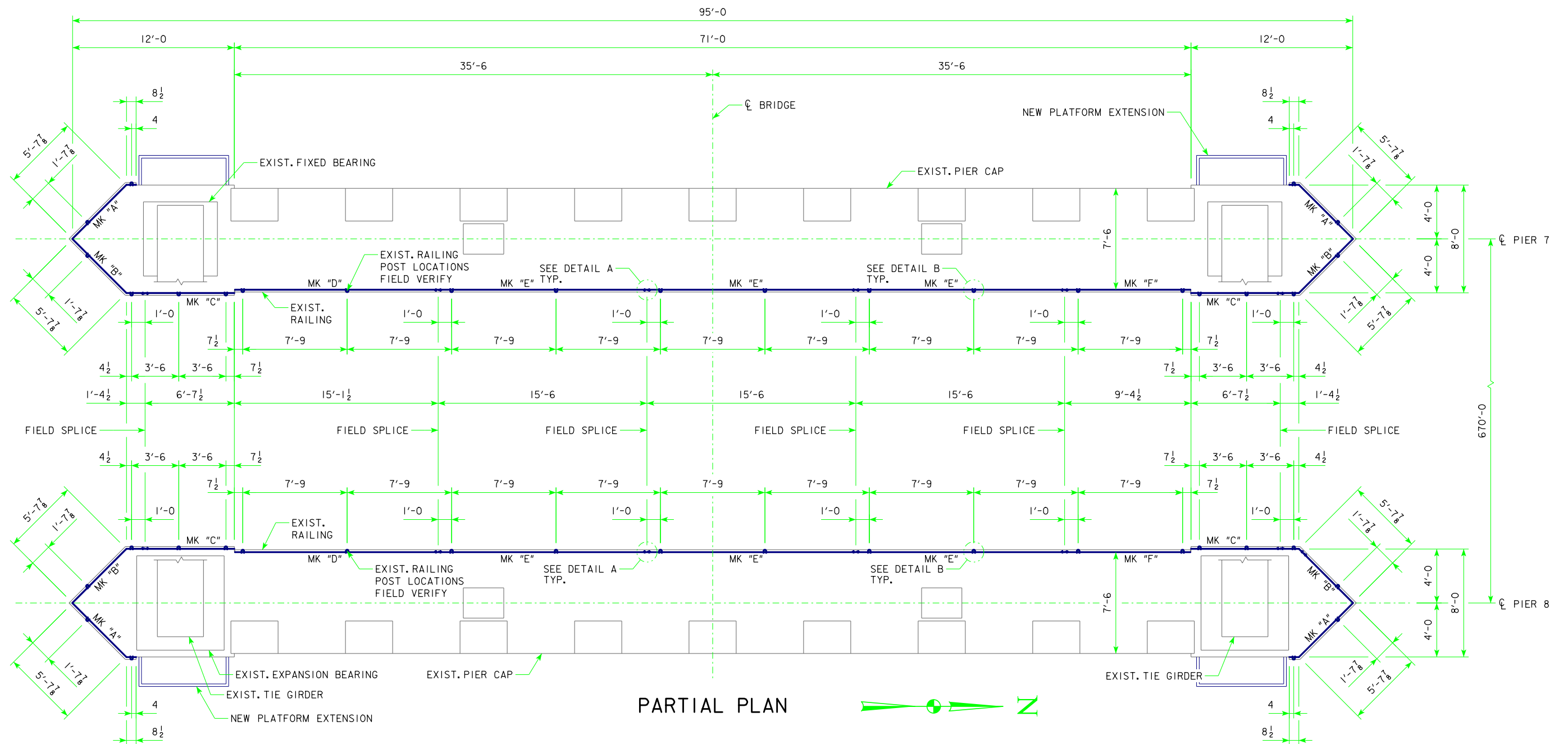
DESIGN FOR 0° SKEW
2950'-0 x 70'-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
PLATFORM EXTENSION HAND RAIL
 STA. 102+59.00 FEBRUARY, 2015
DUBUQUE COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 9 OF 16 FILE NO. 30684 DESIGN NO. 114



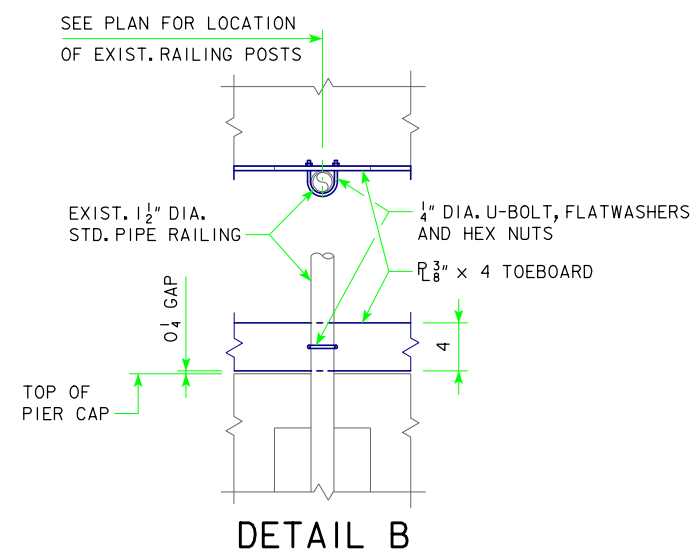
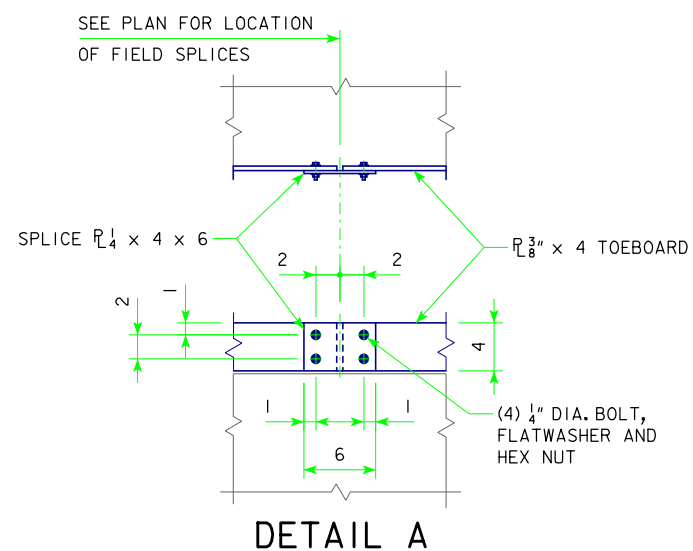
NOTES:

ALL PAINTING SHALL BE DONE IN THE SHOP PER STANDARD SPECIFICATIONS 2408.02 Q AND IN IOWA STANDARD COLOR FOLIAGE GREEN, FEDERAL COLOR STANDARD NUMBER 14223.

DESIGN FOR 0° SKEW
2950'-0 x 70'-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
TIED ARCH ACCESS LADDER
STA. 102+59.00 FEBRUARY, 2015
DUBUQUE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 10 OF 16 FILE NO. 30684 DESIGN NO. 114

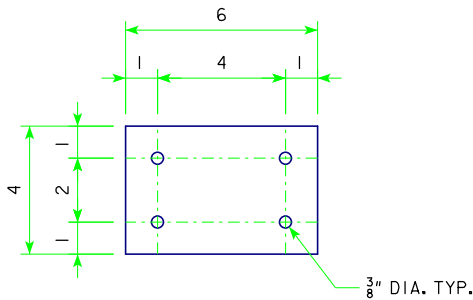
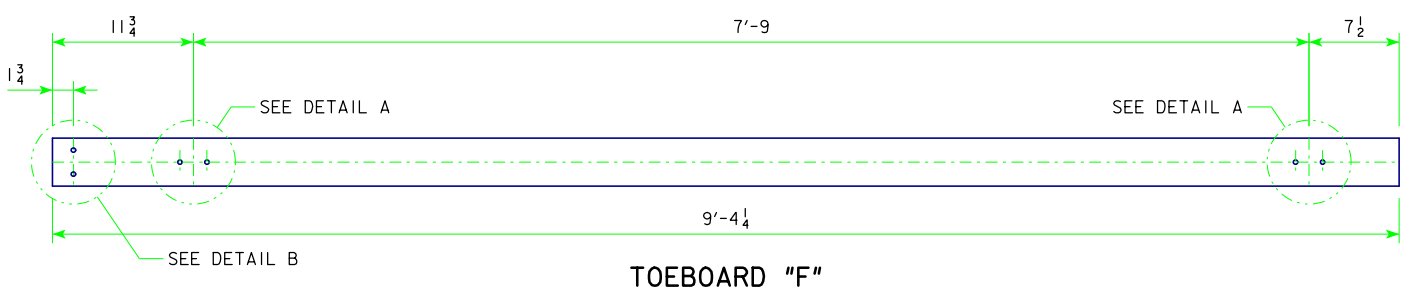
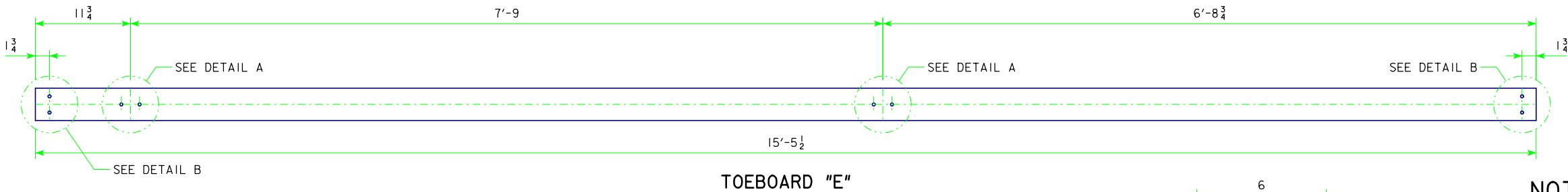
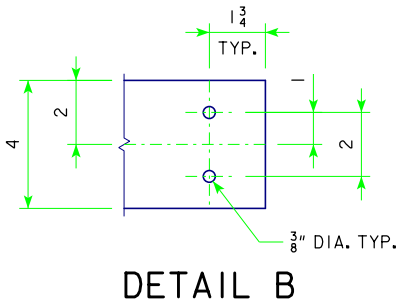
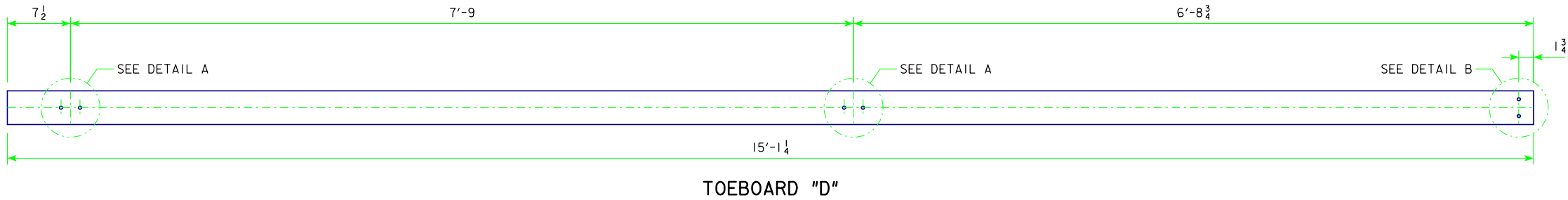
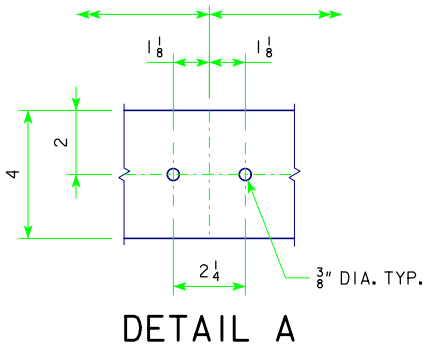
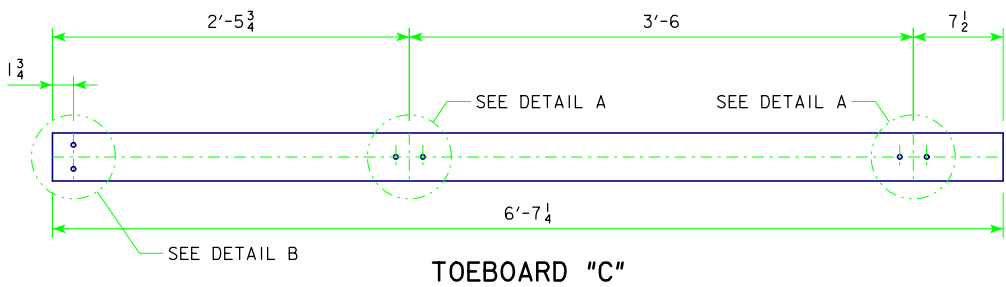
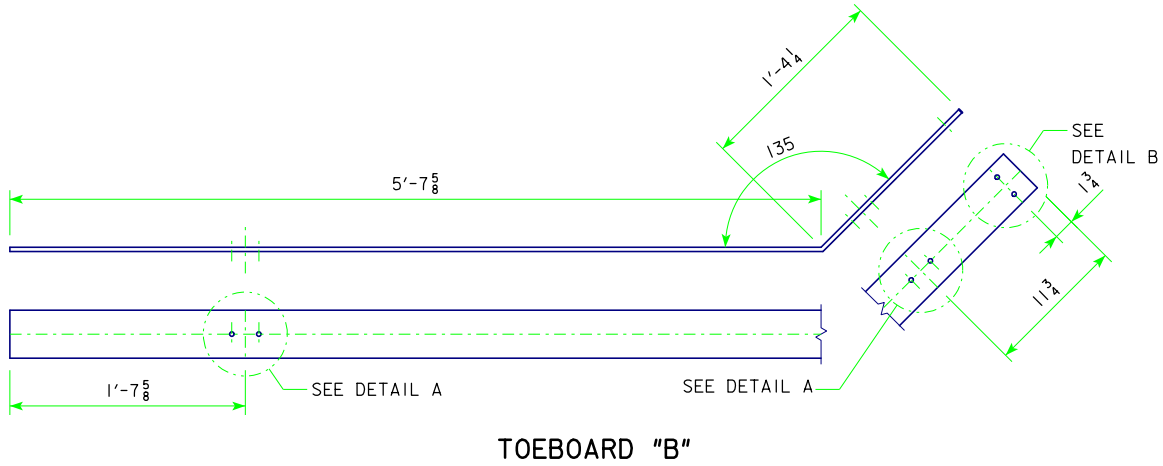
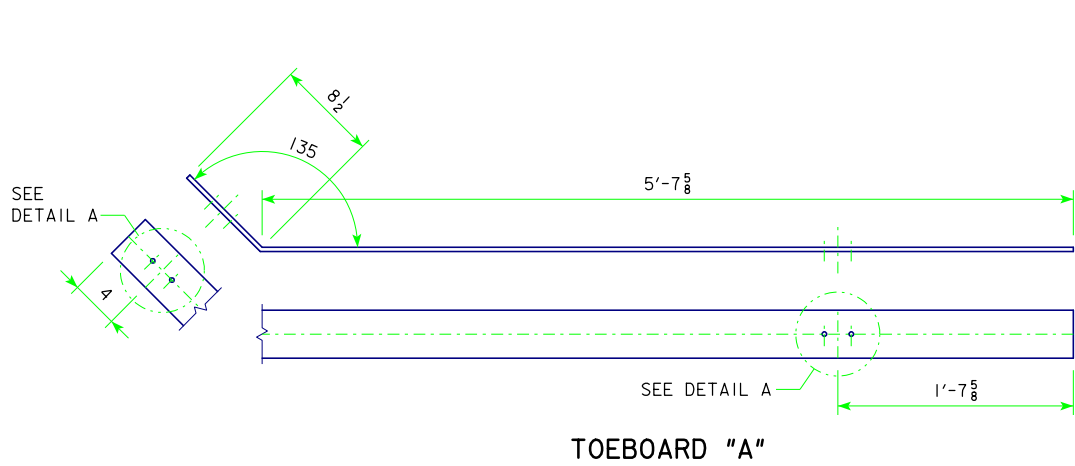


PARTIAL PLAN



DESIGN FOR 0° SKEW
2950'-0 x 70'-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
TOEBOARD PLAN
 STA. 102+59.00 FEBRUARY, 2015
DUBUQUE COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 11 OF 16 FILE NO. 30684 DESIGN NO. 114

TOEBOARD MATL. LIST - EACH PIER				
MARK	MATERIAL	SHAPE	QTY.	LENGTH
A	$P_{\frac{3}{8}} \times 4$		2	6'-4 $\frac{1}{8}$
B	$P_{\frac{3}{8}} \times 4$		2	6'-11 $\frac{7}{8}$
C	$P_{\frac{3}{8}} \times 4$		2	6'-7 $\frac{1}{4}$
D	$P_{\frac{3}{8}} \times 4$		1	15'-1 $\frac{1}{4}$
E	$P_{\frac{3}{8}} \times 4$		3	15'-5 $\frac{1}{2}$
F	$P_{\frac{3}{8}} \times 4$		1	9'-4 $\frac{1}{4}$
G	$P_{\frac{1}{4}} \times 4$		6	0'-6



NOTES:

ALL PAINTING SHALL BE DONE IN THE SHOP PER STANDARD SPECIFICATIONS 2408.02 Q AND IN IOWA STANDARD COLOR FOLIAGE GREEN, FEDERAL COLOR STANDARD NUMBER 14223.

DESIGN FOR 0° SKEW

2950'-0 x 70'-0 STEEL TIED ARCH

CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER

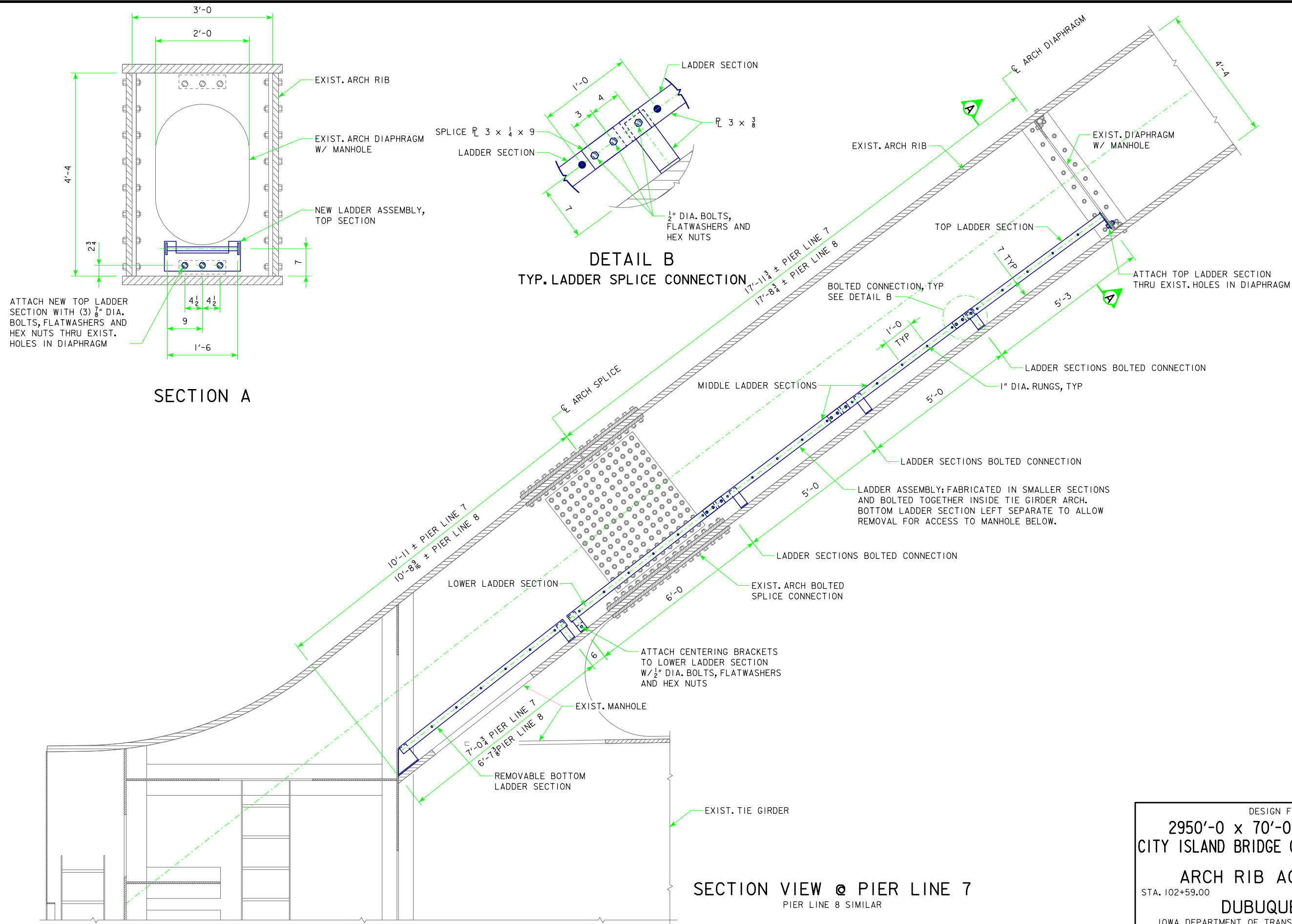
TOEBOARD DETAILS

STA. 102+59.00 FEBRUARY, 2015

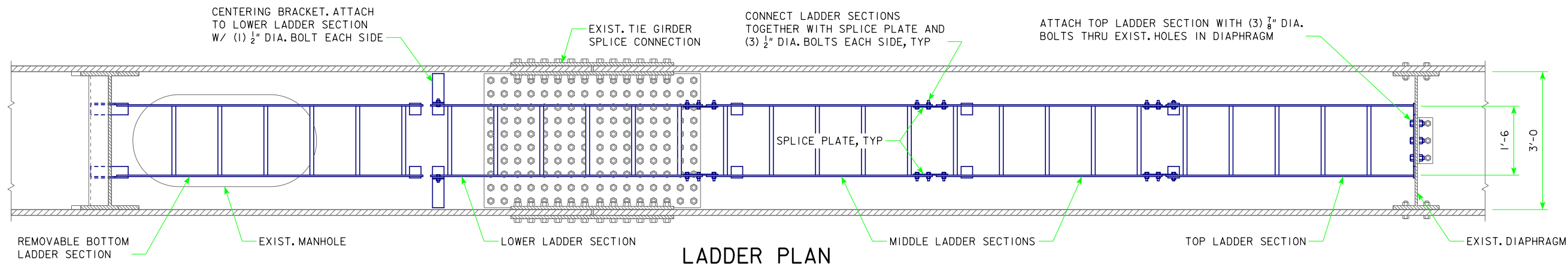
DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

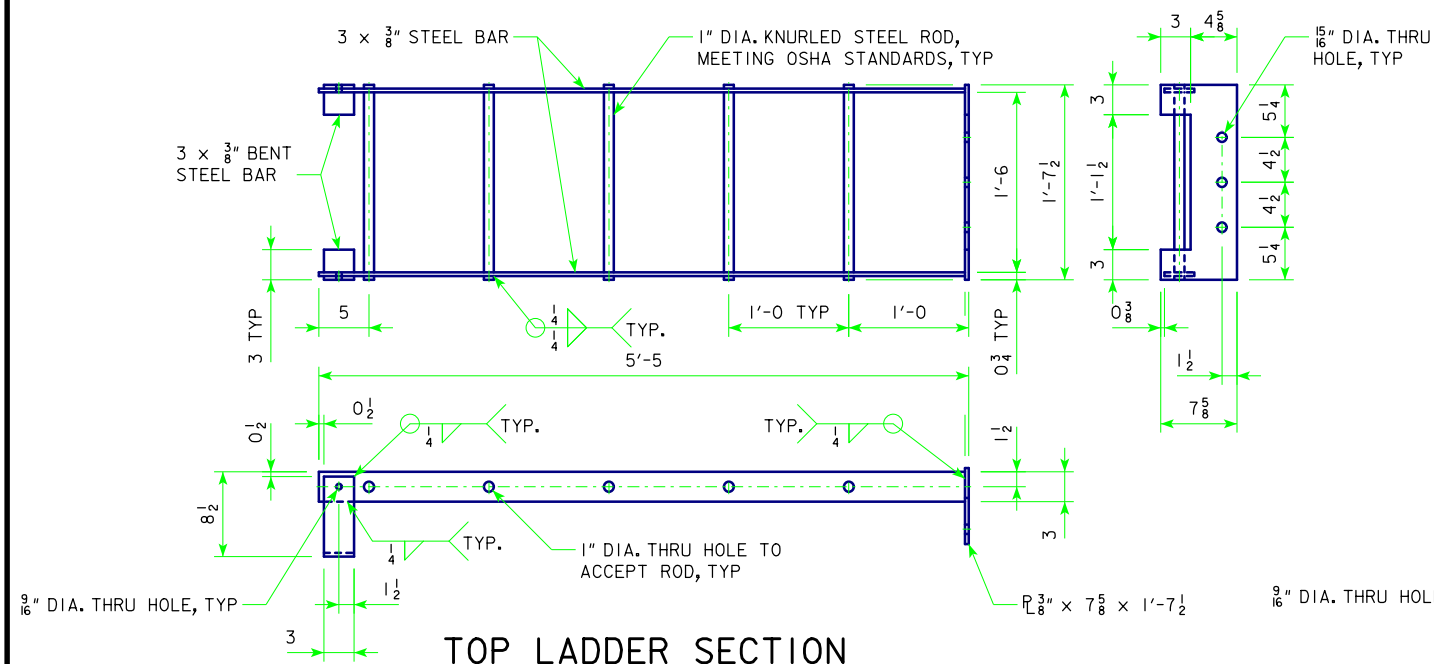
DESIGN SHEET NO. 12 OF 16 FILE NO. 30684 DESIGN NO. 114



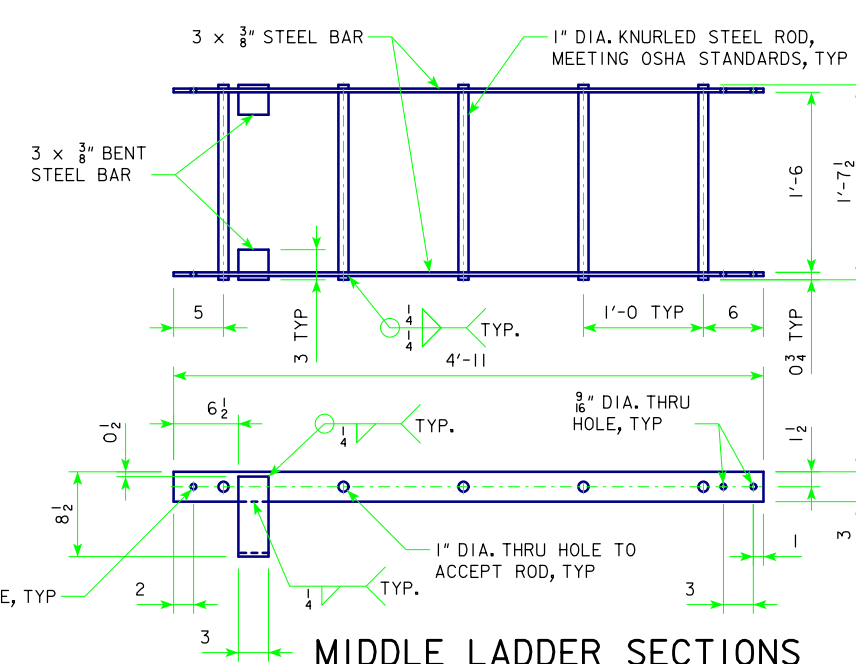
DESIGN FOR 0° SKEW
 2950'-0 x 70'-0 STEEL TIED ARCH
 CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
 ARCH RIB ACCESS LADDER
 STA. 102+59.00 FEBRUARY, 2015
 DUBUQUE COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 13 OF 16 FILE NO. 30684 DESIGN NO. 114



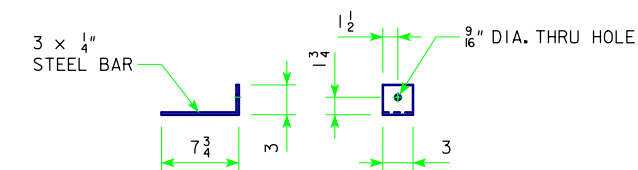
LADDER PLAN



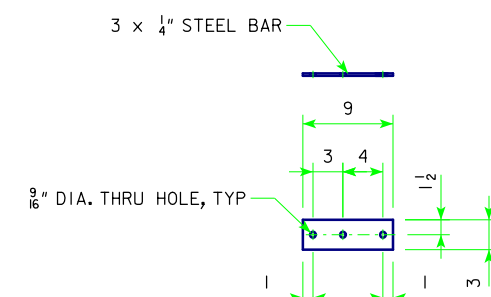
TOP LADDER SECTION



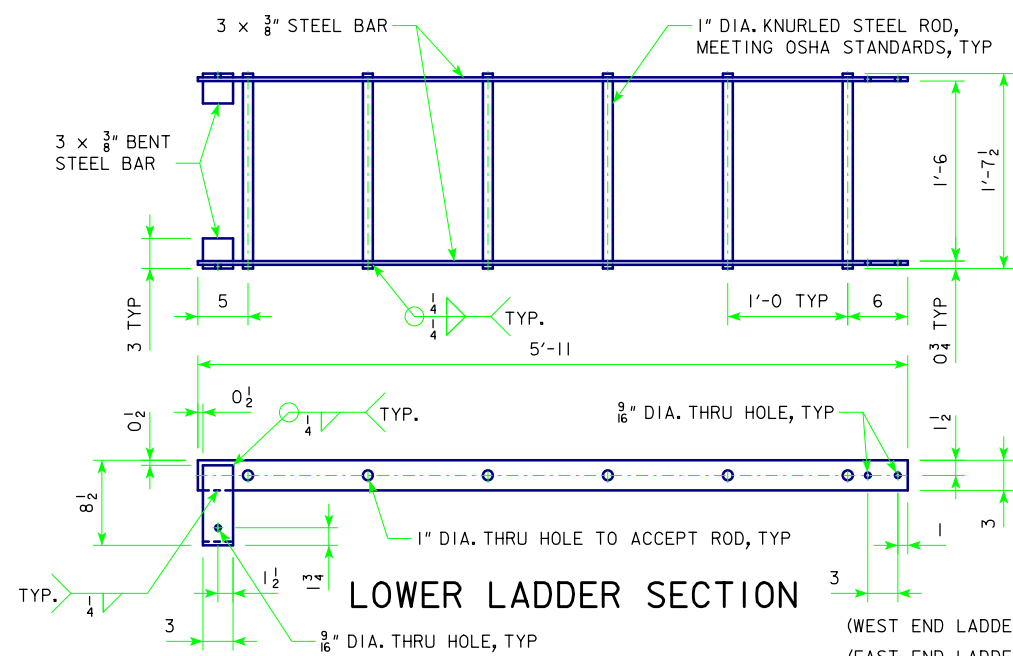
MIDDLE LADDER SECTIONS



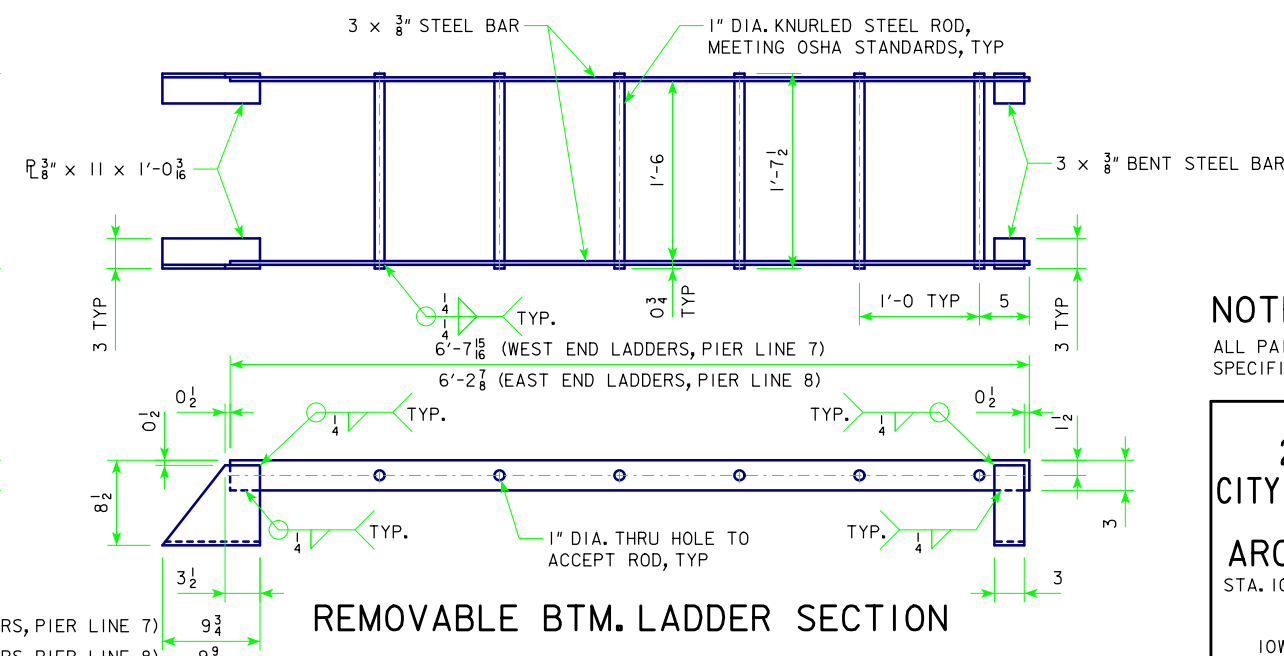
CENTERING BRACKET
(2-REQ'D. PER LADDER ASSEMBLY)



SPLICE PLATE
(6-REQ'D. PER LADDER ASSEMBLY)



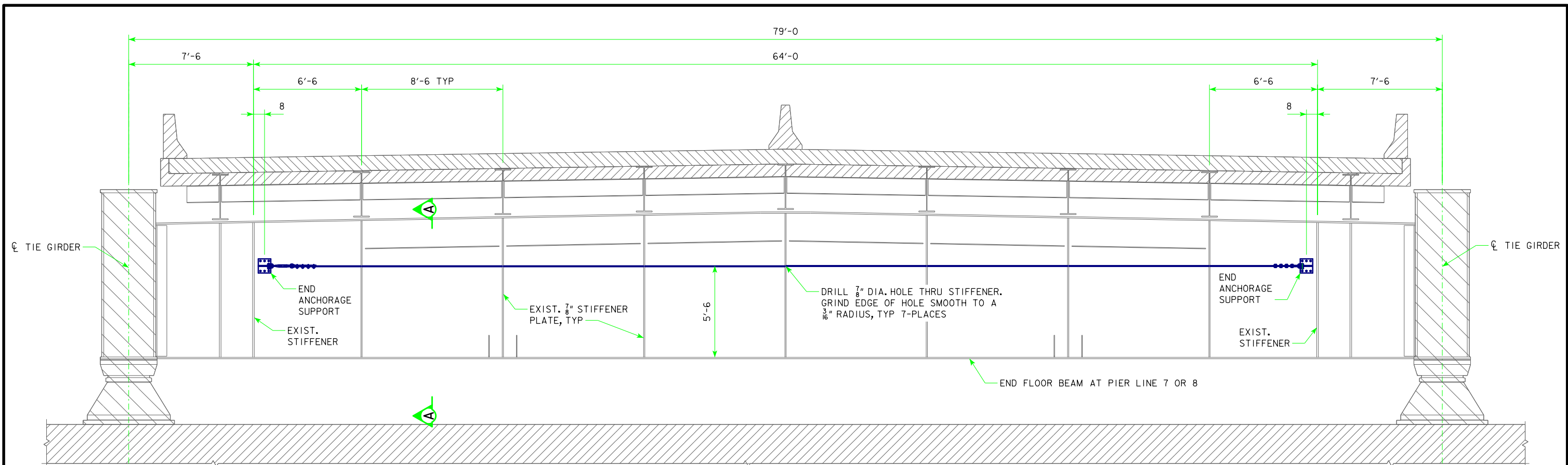
LOWER LADDER SECTION



REMOVABLE BTM. LADDER SECTION

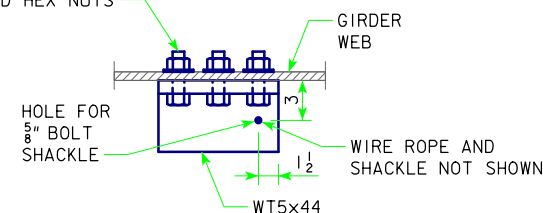
NOTES:
ALL PAINTING SHALL BE DONE IN THE SHOP PER STANDARD SPECIFICATIONS 2408.02 Q AND IN STANDARD WHITE COLOR .

DESIGN FOR 0° SKEW
2950'-0 x 70'-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
ARCH RIB ACCESS LADDER DETAILS
STA. 102+59.00
DUBUQUE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 14 OF 16 FILE NO. 30684 DESIGN NO. 114

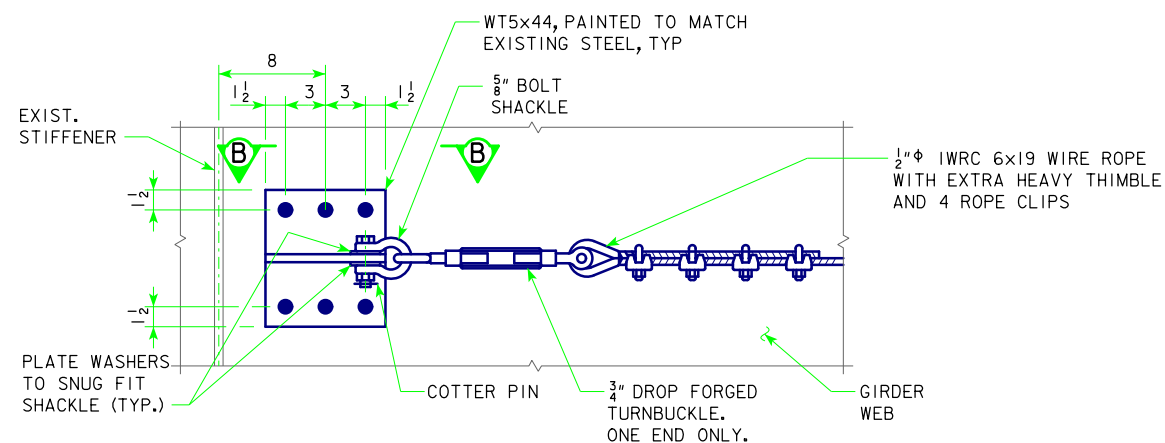


PARTIAL SECTION
@ PIER LINE 7 OR 8

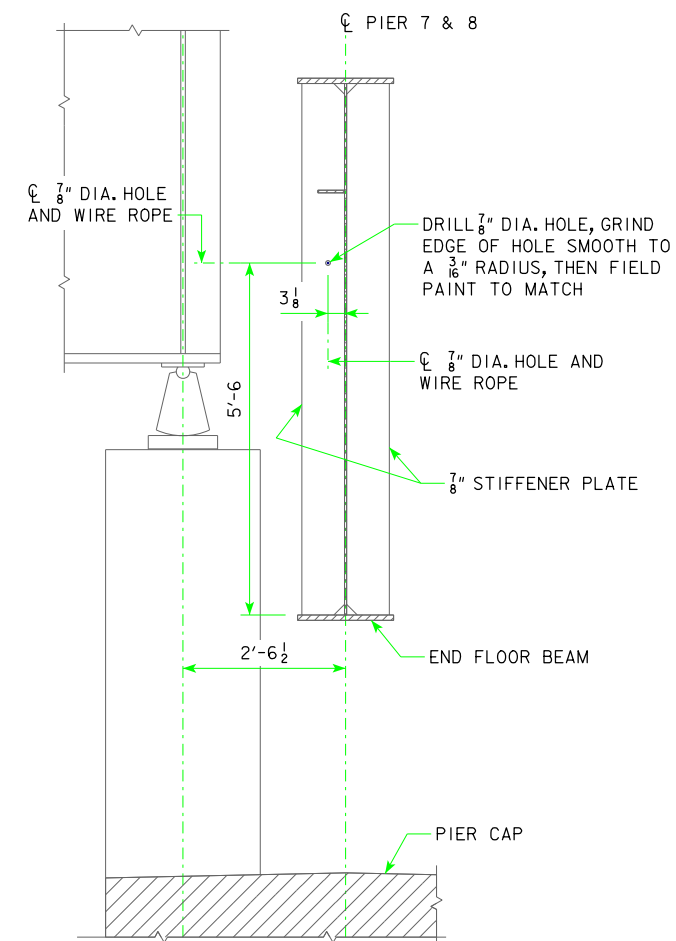
DRILL $\frac{15}{16}$ " DIA. HOLES THRU GIRDER WEB AND ATTACH WT5x44 WITH (6) $\frac{1}{2}$ " DIA. BOLTS, FLATWASHERS AND HEX NUTS



SECTION B-B



TYPICAL END ANCHORAGE SUPPORT DETAIL



SECTION A-A

NOTES:

WIRE ROPE SHALL COMPLY WITH FEDERAL SPECIFICATION RR-W-410F.

WIRE ROPE SHALL BE $\frac{1}{2}$ " ϕ IWRC GALVANIZED 6 X 19 WITH A MINIMUM NOMINAL LOAD CAPACITY OF 11.1 TONS.

WIRE ROPE CLIPS SHALL BE CAPABLE OF TRANSFERRING THE FULL CAPACITY OF THE WIRE ROPE. CLIPS SHALL BE INSTALLED IN ACCORDANCE WITH THE CLIP MANUFACTURERS RECOMMENDATIONS.

THE WIRE ROPE SHALL BE TENSIONED AT THE ENDS OF EACH SECTION TO 200 LBS. TO REMOVE SAG. THE END ANCHORAGE CLIPS SHALL BE TIGHTENED PRIOR TO TIGHTENING INTERIOR SUPPORT CLIPS. DO NOT OVER TENSION WIRE ROPE.

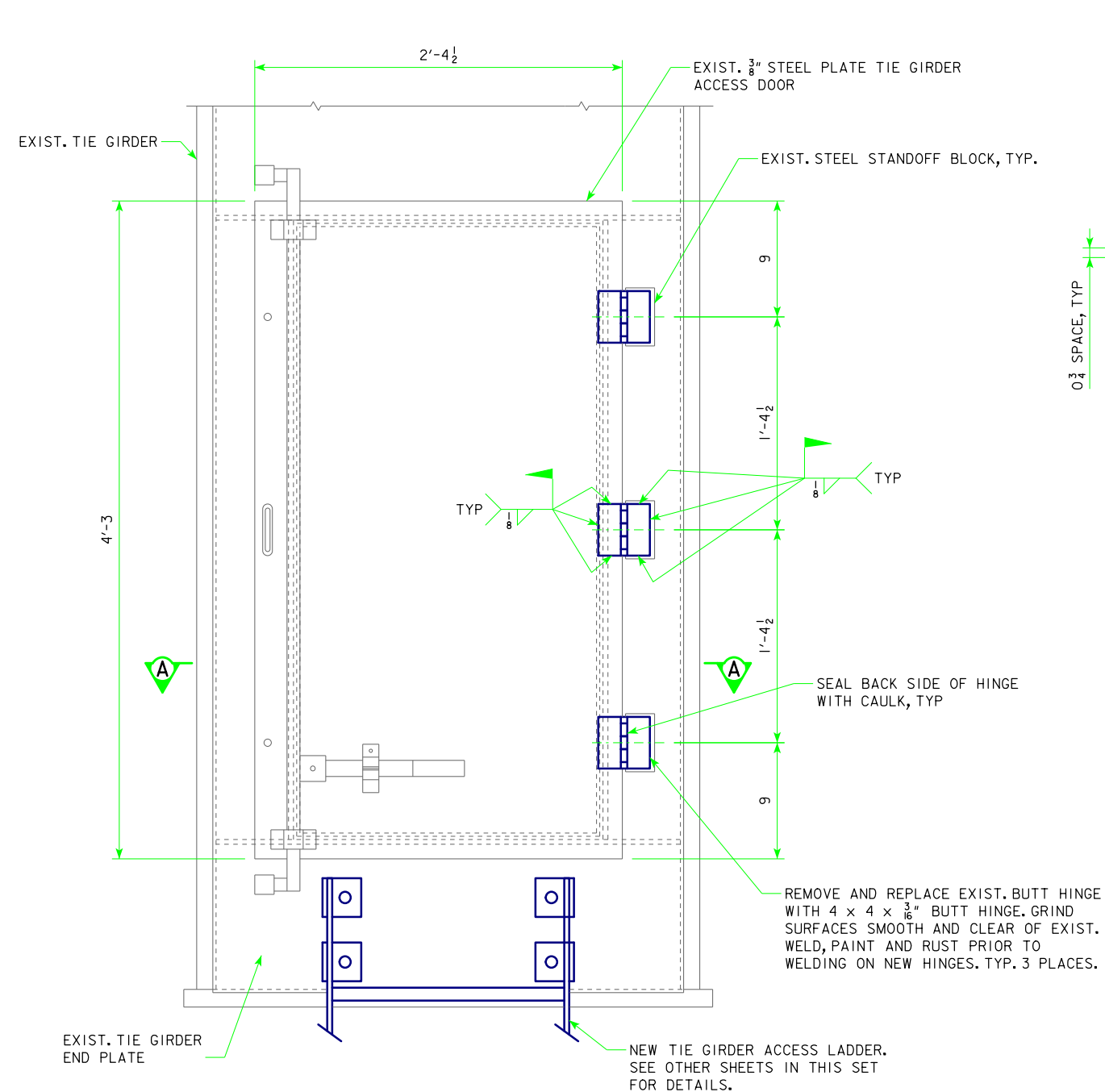
BOLT SHACKLE SHALL COMPLY WITH FEDERAL SPECIFICATION RR-C-271F TYPE IVA, GRADE A, CLASS 3, GALVANIZED.

THE COST OF FURNISHING AND INSTALLING THE INSPECTION CABLE SYSTEM SHALL BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL STEEL".

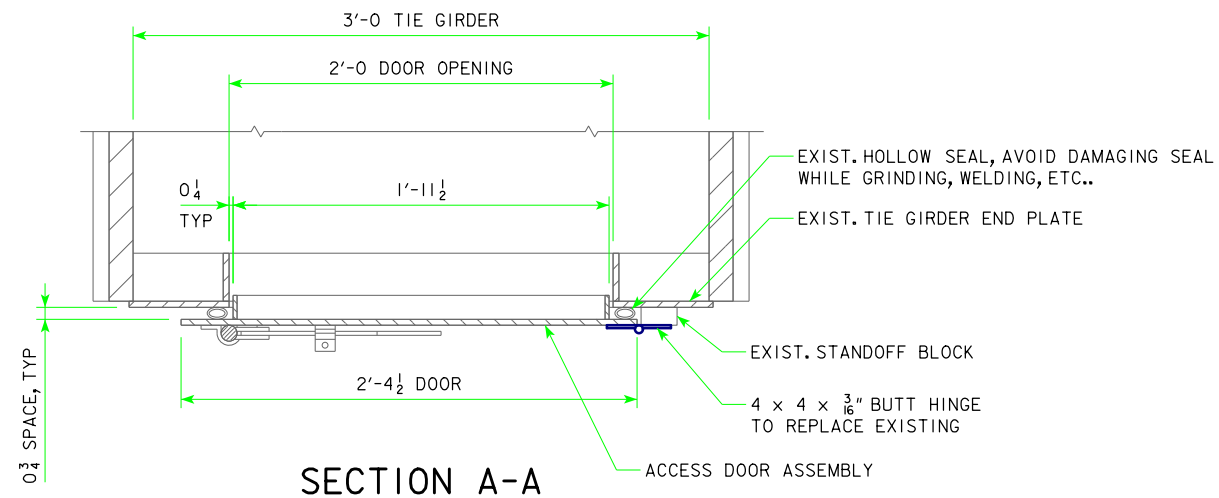
THE INSPECTION CABLE SYSTEM IS DESIGNED FOR A POINT LOAD OF 10,000 POUNDS BETWEEN END ANCHORAGE SUPPORTS.

ALL PAINTING SHALL BE DONE IN THE SHOP PER STANDARD SPECIFICATIONS 2408.02 Q AND IN IOWA STANDARD COLOR FOLIAGE GREEN, FEDERAL COLOR STANDARD NUMBER 14223.

DESIGN FOR 0° SKEW
2950'-0 x 70'-0 STEEL TIED ARCH
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER
TIE OFF CABLE DETAILS
 STA. 102+59.00 FEBRUARY, 2015
DUBUQUE COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 15 OF 16 FILE NO. 30684 DESIGN NO. 114



PARTIAL ELEVATION
PIER LINE 7 RIGHT SHOWN.
REMAINING (3) LOCATIONS SIMILAR.



NOTES:

REPLACE TIE GIRDER ACCESS DOOR HINGES ON ALL FOUR CORNERS OF TIED ARCH.

AFFECTED STEEL SURFACES OF AREAS AT AND AROUND THE HINGES ARE TO BE CLEANED OF EXISTING CORROSION AND PAINT IN PREPERATION FOR FIELD WELDING. THE AFFECTED AREAS SHALL BE CLEANED AFTER FIELD WELDING IN PREPERATION FOR PAINTING. THE CLEANING IS TO BE BY VACUUM BLAST OR BY A NON-BLASTING METHOD AND IS TO COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL SPECIFICATIONS SSPC-SP3. BECAUSE OF THE SMALL QUANTITY, ALL COSTS ASSOCIATED WITH CLEANING AND PAINTING OF THE HINGES AS NOTED IS TO BE INCLUDED IN THE PRICE BID LUMP SUM ITEM "PAINTING STRUCTURAL STEEL".

PAINT THE HINGE AND THE CLEANED AREA AROUND IT IN ACCORDANCE WITH SECTION 2508, OF THE STANDARD SPECIFICATION, AND WITH THE FOLLOWING ADDITIONS/EXCEPTIONS:

A. APPLY EPOXY ALUMINUM PRIMER TO THE HINGES AND PREPARED AREAS AROUND THE HINGES.

B. APPLY WATERBORNE ACRYLIC PAINT FINISH COAT OVER THE EPOXY ALUMINUM PRIMER. FINAL PAINT COAT SHALL MATCH THE COLOR OF THE EXISTING PAINT, IOWA STANDARD COLOR FOILAGE GREEN, FEDERAL COLOR STANDARD NUMBER 14223.

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 LUMP SUM FOR THE "CONTAINMENT" ITEM.

DESIGN FOR 0° SKEW	
2950'-0 x 70'-0 STEEL TIED ARCH	
CITY ISLAND BRIDGE OVER MISSISSIPPI RIVER	
HINGE REPLACEMENT DETAILS	
STA. 102+59.00	FEBRUARY, 2015
DUBUQUE COUNTY	
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION	
DESIGN SHEET NO. 16 OF 16	FILE NO. 30684 DESIGN NO. 114

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves Bridge Safety Platform Repair for access to Arch/Tie Door of 2950' X 70' Steel Arch (City Island Bridge over the Mississippi river) in Dubuque County.

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
SI-881	10-15-13	Special Signs for Workzones
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-402	04-21-15	Work Within 15 ft of Traveled Way
TC-419	10-15-13	Lane Closure on Undivided Highway
TC-420	04-21-15	Lane Closure at Ramps

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.

100-0A
10-28-97

ESTIMATED ROADWAY QUANTITIES

(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2528-8445110	TRAFFIC CONTROL	LS	1.00	

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2528-8445110	TRAFFIC CONTROL Refer to J sheet for details.
-	-	-

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER

Dung T. Ta

21117

IOWA

I hereby certify that this engineering document 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.

Signature

3/2/2015

Date

Printed or Typed Name

My license renewal date is December 31, 20 15

Pages or sheets covered by this seal: C.1, J.1

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic on US-61 will be maintained at all times.

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
BRFN-061-8(125)--39-31	Bridge Cleaning, City Island
MB-061-6(545)190--77-31	Bridge Cleaning, Peosta Channel
BRFN-20-9(200)--39-31	Bridge Painting, Julien Dubuque

511 TRAVEL RESTRICTIONS												108-25 10-21-14
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
No Travel Restrictions Expected												