SPECIFICATIONS:

DESIGN: AASHTO LRFD 7TH ED, SERIES OF 2016, EXCEPT AS NOTED IN THE CURRENT IOWA BRIDGE DESIGN MANUAL.

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS, INCLUDING THE FOLLOWING SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT:

- "DEVELOPMENTAL SPECIFICATIONS FOR HIGH PERFORMANCE CONCRETE FOR STRUCTURES",
- "DEVELOPMENTAL SPECIFICATIONS FOR MASS CONCRETE-CONTROL OF HEAT OF HYDRATION",
- "SPECIAL PROVISIONS FOR E-BUILDER",
- "DEVELOPMENTAL SPECIFICATIONS FOR PROGRESS SCHEDULING",
- "DEVELOPMENTAL SPECIFICATIONS FOR STRUCTURAL CONCRETE COATING",
- "DEVELOPMENTAL SPECIFICATIONS FOR CONCRETE SURFACE PREPARATION AND TESTING PRIOR TO COATING APPLICATION",
- "SPECIAL PROVISIONS FOR GIRDER ERECTION PLAN",
- "SPECIAL PROVISIONS FOR AESTHETIC TREATMENT OF CONCRETE BARRIER".
- "SPECIAL PROVISIONS FOR CONFORMITY WITH AND COORDINATION OF THE CONTRACT DOCUMENTS".

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH ED, SERIES OF 2016, EXCEPT AS NOTED IN THE CURRENT IOWA BRIDGE DESIGN MANUAL.

- REINFORCING STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 5, GRADE 60.
- CONCRETE IN ACCORDANCE WITH LRFD AASHTO SECTION 5, f'c = 4.0 KSI.
- STRUCTURAL STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 6, ASTM A709 GRADE 50W (AASHTO M270 GRADE 50W), EXCEPT AS NOTED.
- FATIGUE STRESSES BASED ON INFINITE LIFE.

GENERAL NOTES:

THIS BRIDGE IS DESIGNED FOR HL-93 LOADING, PLUS 20 LBS. PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE.

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

IT SHALL BE THE BRIDGE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

THIS STRUCTURE SHALL BE BUILT WITH WEATHERING STEEL. ALL STRUCTURAL STEEL, EXCEPT AS NOTED, SHALL CONFORM TO ASTM A709 GRADE 50W. PAINTING REQUIREMENTS FOR THIS STRUCTURE SHALL BE IN ACCORDANCE WITH ARTICLE 2408.02, Q, OF THE STANDARD SPECIFICATIONS.

SUBSTRUCTURE CONCRETE SHALL BE PROTECTED FROM STAINING BY A WRAPPING OF POLYETHYLENE OR SIMILAR MATERIALS WHICH SHALL BE LEFT IN PLACE AND KEPT IN A SERVICEABLE CONDITION UNTIL AFTER THE DECK HAS BEEN PLACED. IF SUBSTRUCTURE CONCRETE IS STAINED, THE STAINS SHALL BE REMOVED BY METHODS APPROVED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH THE PROTECTION AND ANY REQUIRED CLEANING OF THE SUBSTRUCTURE CONCRETE SHALL BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL STEEL".

CONCRETE BARRIER RAILS PLACED USING THE SLIPFORM METHOD WILL REQUIRE THE USE OF A CLASS BR CONCRETE IN ACCORDANCE WITH ARTICLE 2513.03, A, 2 OF THE STANDARD SPECIFICATIONS. CAST-IN-PLACE BARRIER RAILS SHALL USE CLASS C MIX. CLASS D CONCRETE IS NOT PERMITTED FOR CONCRETE BARRIER RAILS (CAST-IN-PLACE OR SLIPFORMED METHOD). THE CONCRETE BARRIERS ARE TO BE INTEGRALLY COLORED. SEE "SPECIAL PROVISIONS FOR AESTHETIC TREATMENT OF CONCRETE BARRIER" FOR ADDITIONAL INFORMATION.

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.

SEE DIGITAL CONTRACT FILES FOR ADDITIONAL DETAILS.

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.

DURING CONSTRUCTION OF THIS PROJECT THE BRIDGE CONTRACTOR WILL BE REQUIRED TO COORDINATE OPERATIONS WITH THOSE OF OTHER CONTRACTORS WORKING WITHIN THE SAME AREA. SEE COORDINATED OPERATIONS TAB 111-01 ELSEWHERE IN THESE PLANS FOR A LIST OF PROJECTS.

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 1105.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION OF THE IOWA DEPARTMENT OF TRANSPORTATION.

1	STRUCTURAL STEEL
2	BEARINGS
3	EXPANSION JOINTS AND SLIDER PLATES
4	DECK DRAINS
5	INSPECTION CABLE
6	FORMWORK FOR AESTHETIC TREATMENT AT PIERS, ABUTMENTS AND BARRIERS
7	ERECTION PLANS
8	REINFORCING BILL OF BARS

BRIDGE DECK DIMENSIONS TABLE

	ITEM	UNITS	QUANTITY
1	DECK LENGTH	L.F.	569.5
2	MINIMUM DECK WIDTH	L.F.	29.2
3	MAXIMUM DECK WIDTH	L.F.	35.3
4	DECK AREA	S.F.	16,964

1. DECK LENGTH IS MEASURED FROM ℄ PIER NO. 5A TO FACE OF PAVING NOTCH ALONG BASELINE RAMP B.

2, 3. DECK WIDTHS ARE MEASURED FROM OUT-TO-OUT OF DECK PERPENDICULAR TO BASELINE RAMP B.

4. DECK AREA IS TO BE BASED ON THE DECK LENGTH AND OUT-TO-OUT DECK DIMENSIONS.

IN ACCORDANCE WITH IOWA DOT STANDARD SPECIFICATIONS SECTION 1105, THE CONTRACTOR SHALL SUBMIT A GIRDER ERECTION PLAN (GEP) CONSISTING OF ERECTION PLANS, ERECTION PROCEDURES, AND ERECTION ENGINEERING CALCULATIONS TO THE ENGINEER ACCORDING TO SPECIAL PROVISION "GIRDER ERECTION PLAN".

FAINT LINES ON PLANS INDICATE THE EXISTING ROADWAYS AND STRUCTURES.

ROADWAY EXCAVATION IS TO BE DONE AS PART OF THE TIED PROJECT IM-080-6(243)239--13-52. EXCAVATION QUANTITIES FOR THE PIERS ARE BASED ON THE ASSUMPTION THAT ROADWAY EXCAVATION WILL HAVE BEEN COMPLETED AND ABUTMENT FILLS ARE IN PLACE PRIOR TO STARTING CONSTRUCTION OF THE ABUTMENTS AND PIERS.

THE APPROACH FILLS AS SHOWN ARE TO BE DONE AS PART OF THE TIED PROJECT IM-080-6(243)239--13-52 AND ARE TO BE IN PLACE BEFORE ABUTMENT PILES ARE DRIVEN. THE BRIDGE CONTRACTOR IS TO LEVEL OFF AND SHAPE THE BERMS TO THE ELEVATIONS AND DIMENSIONS SHOWN. DRESSING OF SLOPES OUTSIDE THE BRIDGE AREA NOT DISTURBED BY THE BRIDGE CONTRACTOR SHALL BE PAID FOR AS EXTRA WORK.

ABUTMENT PILES SHALL NOT BE DRIVEN FOR A MINIMUM OF 6 MONTHS AND PIER NO. 7A PILES SHALL NOT BE DRIVEN FOR A MINIMUM OF 2 MONTHS FOLLOWING THE COMPLETION OF THE APPROACH FILL AND 4'-0 SURCHARGE. THE PERIOD BETWEEN COMPLETION OF APPROACH FILL AND SURCHARGE AND DRIVING PILES MAY BE CHANGED AS ORDERED BY THE ENGINEER BASED UPON REVIEW OF THE SETTLEMENT PLATES.

THE CONTRACTOR IS RESPONSIBLE TO PROVIDE SUFFICIENT TEMPORARY BRACING TO MINIMIZE LATERAL DEFLECTION AND ROTATION OF EXTERIOR STEEL GIRDERS DURING DECK PLACEMENT. LATERAL DEFLECTION AND ROTATION OF EXTERIOR GIRDERS MAY RESULT IN THIN DECKS AND AN UPWARDS SHIFT IN BAR MATS WHICH CAN DECREASE CONCRETE COVER. PARTIALLY OR FULLY INSTALLED PERMANENT BRACING AS SHOWN IN THESE DESIGN PLANS SHALL NOT BE ASSUMED SUFFICIENT TO MINIMIZE LATERAL DEFLECTION AND ROTATION OF EXTERIOR GIRDERS DURING DECK PLACEMENT. TEMPORARY BRACING SHALL NOT BE WELDED TO THE STEEL GIRDERS OR ITS ATTACHMENTS INCLUDING THE STUDS.

RESEARCHERS FROM IOWA STATE UNIVERSITY WILL BE OBSERVING PLACEMENT OF DECK CONCRETE FOR THIS PROJECT. CONTRACTOR IS REQUIRED TO CONTACT BRENT PHARES AT (515) 294-5879 APPROXIMATELY 3 DAYS PRIOR TO DECK CONCRETE PLACEMENT AND WHENEVER A CHANGE IN DECK PLACEMENT SCHEDULE IS MADE. ACTIVITIES BY IOWA STATE UNIVERSITY WILL BE TO OBSERVE ONLY AND WILL NOT IMPACT CONSTRUCTION ACTIVITIES.

ALL PLAN DIMENSIONS ARE HORIZONTAL UNLESS NOTED OTHERWISE.

THE TIED ROAD PLANS, PROJECT NO. IM-080-6(243)239--13-52 CONTAIN THE POLLUTION PREVENTION PLAN.

TRAFFIC CONTROL PLAN:

THE STRUCTURE IS BEING CONSTRUCTED ON A RELOCATION AND THE ROAD WILL NOT BE OPEN TO TRAFFIC UNTIL AFTER COMPLETION OF CONSTRUCTION. SEE TIED PROJECT IM-080-6(243)239--13-52 FOR TRAFFIC CONTROL PLAN.

DESIGN FOR 0° SKEW ON 3,300' RADIUS CURVE

566'-6 X VARIES CONTINUOUS WELDED GIRDER BRIDGE

171'-0, 226'-0, 169'-6 SPANS

GENERAL NOTES

STA. 2543+48.27 (℄ RAMP B) APRIL 2018

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 3 OF 31 FILE NO. 30864 DESIGN NO. 420