BRIDGE REPLACEMENT - PPCB

LETTING DATE: NOVEMBER 17, 2026

PROJECT NO. BRS-C051(97)--60-51

JEFFERSON COUNTY

TOTAL SHEETS
35

STANDARD ROAD PLANS
STANDARD ROAD PLANS ARE LISTED ON SHEET 29.

SECTION 404 PERMIT AND CONDITIONS	281-1 MODIFIED
CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT 14. NATIONWIDE PERMIT 14 CONDITIONS CAN BE FOUND AT http://www.mvr.usace.army.mil/Missions/Regulatory/Permits/. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.	

THIS PROJECT IS COVERED BY IOWA DNR FLOODPLAIN CONSTRUCTION PERMIT NO. FP 2026-0238, DATED: 06-03-2026

IOWA | DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

FARM TO MARKET SYSTEM

JEFFERSON COUNTY

PROJECT NO. BRS-C051(97)--60-51

BRIDGE REPLACEMENT - PPCB

ON W 30, OVER CEDAR CREEK, S36 T71 R09

REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS.

THIS PROJECT IS COVERED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF GENERAL PERMIT NO. 2 AND THE STORM WATER POLLUTION PREVENTION PLAN WHICH IS A PART OF THESE CONTRACT DOCUMENTS. REFER TO SECTION 2602 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.

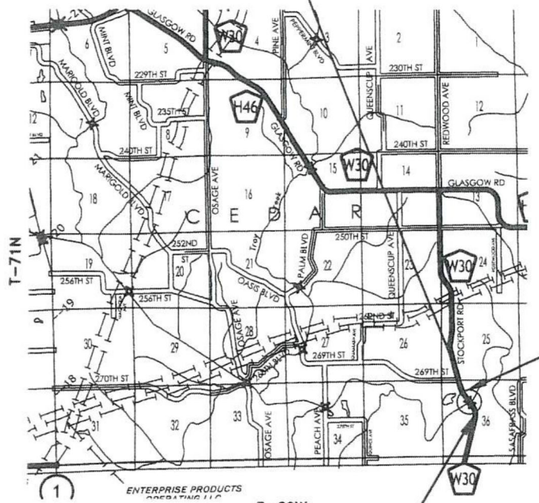
MILEAGE SUMMARY

STA. 1038+20.00 TO STA. 1043+75.00 = 555.00 LIN. FT. = 0.1051 MILES

2022, TRAFFIC COUNT = 340 V.P.D.

UTILITY CONTACTS				
COMPANY	UTILITY	CONTACT	PHONE #	EMAIL
ACCESS ENERGY COOP	ELECTRIC	DON ROACH	319-385-1577	DROACH@ACCESSENERGYCOOP.COM
VAN BUREN TELEPHONE CO.	COMMUNICATIONS	MONTE HAGGE	319-293-3187	MONTEHAGGE@NETINS.NET

B.O.P. STA. 1038+20.00
E.O.P. STA. 1043+75.00
FHWA NO. 200250
STATION 1041+00.00
PROPOSED 264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
15° SKEW, LT. AHEAD



PROJECT LOCATION

1 MI. 0 1 MI. 2 MI.

N

DRAWING APPROVAL

ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE SUBMITTED TO AND APPROVED BY THE CONTRACTOR, WHO SHALL STAMP, CERTIFY OR PROVIDE OTHER SUCH EVIDENCE ON THE DRAWINGS THAT THEY HAVE RECEIVED CONTRACTOR APPROVAL. THE APPROVED DRAWINGS SHALL THEN BE SUBMITTED TO CALHOUN-BURNS AND ASSOCIATES, FOR REVIEW AND APPROVAL.

ADDRESS : 6775 VISTA DRIVE
WEST DES MOINES, IOWA 50266
TELEPHONE : (515) 224-4344
FAX : (515) 224-1385

SHOP DRAWINGS SHALL BE INDEPENDENT DRAWINGS WITH ADEQUATE DIMENSIONING FOR FABRICATION OF INDIVIDUAL PIECES OF EACH COMPONENT. PHOTOCOPIES OF PLAN DRAWINGS AND NON-CONTRACTOR APPROVED PLANS WILL BE REJECTED.

THESE DRAWINGS SHALL NOT BE SENT TO IOWA D.O.T. BRIDGES AND STRUCTURES BUREAU.

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's Below. Call before you dig.

PROJECT NO. BRS-C051(97)--60-51
FHWA NO. 200250
COUNTY BR. NO. 200250

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6.	GENERAL NOTES
7.	POLLUTION PREVENTION PLAN
8.-9.	SOUNDING DATA
10.	SOUTH ABUTMENT DETAILS
11.	NORTH ABUTMENT DETAILS
12.	ABUTMENT DETAILS
13.	ABUTMENT BACKFILL DETAILS
14.	SOUTH PIER DETAILS
15.	NORTH PIER DETAILS
16.	PIER BEARING DETAILS
17.-21.	SUPERSTRUCTURE DETAILS
22.-24.	BEAM DETAILS
25.	STEEL DIAPHRAGM DETAILS
26.-27.	OPEN RAIL DETAILS (TL-4)
28.	SUBDRAIN & WING ARMORING DETAILS
29.	TYPICAL SECTIONS & TABULATIONS
30.-31.	TABULATIONS
32.-35.	CROSS SECTIONS

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
8	DAVID LOGEMANN	SOILS

LICENSED PROFESSIONAL ENGINEER
EVAN J. MURPHY
26410
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.

EVAN J. MURPHY, P.E. DATE: 7/6/2026

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2027.

PAGES OR SHEETS COVERED BY THIS SEAL:
1-7, 10-35 of 35

APPROVED
JEFFERSON COUNTY ENGINEER DATE 7/20/26

Brysie Dixon 07/27/26
Joseph Ledgerwood
BOARD OF SUPERVISORS DATE 7/27/26

CBA CALHOUN-BURNS & ASSOCIATES, CONSULTING ENGINEERS
WEST DES MOINES, IOWA 50266 (515) 224-4344

JOB NO. 2020238

DESIGNED BY : DJD
DRAWN BY : JML
CHECKED BY : EJM

JEFFERSON COUNTY

PROJECT NO. BRS-C051(97)--60-51

TOTAL ESTIMATED QUANTITIES:
264'–0 x 30'–0 P.P.C.B. BRIDGE

REF. NO.	CODE NO.	ITEM	UNIT	2 ABUTS	2 PIERS	SUPER	TOTAL
1	2101–0850001	CLEARING AND GRUBBING	ACRE	–	–	–	0.8
2	2102–2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	–	–	–	460
3	2102–2710090	EXCAVATION, CLASS 10, WASTE	CY	–	–	–	3,445
4	2104–2710020	EXCAVATION, CLASS 10, CHANNEL	CY	–	–	–	4,200
5	2105–8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	–	–	–	1,360
6	2121–7425020	GRANULAR SHOULDERS, TYPE B	TON	–	–	–	115
7	2123–7450020	SHOULDER FINISHING, EARTH	STA	–	–	–	4.8
8	2301–0690210	BRIDGE APPROACH, TWO LANE	SY	–	–	–	368.9
9	2401–6745625	REMOVAL OF EXISTING BRIDGE	LS	–	–	–	1
10	2402–2720000	EXCAVATION, CLASS 20	CY	214	226	–	440
11	2402–2721000	EXCAVATION, CLASS 21	CY	–	76	–	76
12	2402–2722000	EXCAVATION, CLASS 22	CY	–	82	–	82
13	2403–0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	44.3	169.6	319.7	533.6
14	2403–1000005	FIBER REINFORCEMENT FOR STRUCTURAL CONCRETE	CY	44.3	–	319.7	364.0
15	2403–1000010	TRIAL BATCH AND TEST PLACEMENT(FIBER REINFORCED CONCRETE)	LS	–	–	–	1
16	2404–7775000	REINFORCING STEEL	LB	–	19,382	–	19,382
17	2404–7775005	REINFORCING STEEL, EPOXY COATED	LB	8,506	9,313	98,838	116,657
18	2407–0564065	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTD65	EACH	–	–	8	8
19	2407–0564130	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, BTD130	EACH	–	–	4	4
20	2408–7800000	STRUCTURAL STEEL	LB	–	–	4,102	4,102
21	2412–0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK AND/OR APPROACHES	SY	–	–	–	798.3
22	2414–6424124	CONCRETE OPEN RAILING, TL–4	LF	–	–	582.2	582.2
23	2501–0201057	PILES, STEEL, HP 10 X 57 ; 7 @ 30' & 7 @ 40'	LF	490	–	–	490
24	2501–6335010	PREBORED HOLES ; 14 @ 10'	LF	140	–	–	140
25	2505–4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	–	–	–	240
26	2505–4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA–201	EACH	–	–	–	4
27	2505–4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	–	–	–	4
28	2505–4021710	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, LS–625	EACH	–	–	–	4
29	2507–2638650	BRIDGE WING ARMORING – EROSION STONE	SY	–	–	–	52
30	2507–3250005	ENGINEERING FABRIC	SY	–	–	–	1,350
31	2507–6800061	REVETMENT, CLASS E	TON	–	–	–	850

REF. NO. ESTIMATE REFERENCE INFORMATION

1. SEE GENERAL PLAN, SHEET 5, FOR LIMITS.
   SELECTIVE CLEARING WILL BE REQUIRED ON THIS PROJECT. ALL DESIRABLE TREES OUTSIDE THE CONSTRUCTION AREA WILL BE SAVED. TREES AND SHRUBS WITHIN THE CONSTRUCTION LIMITS THAT DO NOT HINDER CONSTRUCTION SHALL BE SAVED UNLESS DIRECTED BY THE ENGINEER TO BE REMOVED.

2. SEE TABULATION CBA-101 ON SHEET 30 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
   TYPE "A" COMPACTION WILL BE REQUIRED.

3. SEE TABULATION CBA-101 ON SHEET 30 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
   INCLUDES ALL COST TO REMOVE UNSUITABLE OR EXCESS MATERIAL FROM SITE. THE UNSUITABLE OR EXCESS MATERIAL SHALL BE WASTED AT A LOCATION PROVIDED BY THE CONTRACTOR AND NOTED TO THE ENGINEER.

4. SEE TABULATION CBA-101 ON SHEET 30 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
   INCLUDES COSTS TO CLEAR THE CHANNEL TO THE SHAPE, DEPTH, AND EXTENT SHOWN IN THE "LONGITUDINAL SECTION ALONG CENTERLINE OF ROADWAY" AND THE LIMITS SHOWN ON THE SITUATION PLAN, SHEET 4.
   INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02, D, 2 OF THE STANDARD SPECIFICATIONS.

5. IN ORDER TO MEET NPDES PERMIT REQUIREMENTS TOPSOIL STRIP, SALVAGE AND SPREAD SHALL BE REQUIRED ON THIS PROJECT. QUANTITY PERTAINS TO WORK WITHIN THE PROJECT LIMITS. SIX INCHES OF TOPSOIL SHALL BE STRIPPED FROM WITHIN THE PROJECT LIMITS AND SPREAD UNIFORMLY (6" TARGET WITH 4" MIN. DEPTH) OVER ALL AREAS THAT ARE NOT COVERED BY PAVEMENT OR GRANULAR MATERIAL. AREAS SHALL BE UNDERCUT PRIOR TO PLACING TOPSOIL. CROSS-SECTIONS SHOW FINISHED GRADELINE.

6. SEE TYPICAL SECTION CBA-641 ON SHEET 29.

7. INCLUDES ALL WORK AND FILL MATERIAL NECESSARY TO CONSTRUCT AND SHAPE SHOULDER AREAS. SEE TYPICAL SECTION CBA-641 ON SHEET 29.

8. SEE TABULATION 112-6 ON SHEET 30.
   COARSE AGGREGATE DURABILITY SHALL BE CLASS 3 OR BETTER.
   NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.
   CERTIFIED PLANT INSPECTION IS REQUIRED.
   REINFORCING STEEL SHALL BE EPOXY COATED.

9. THE EXISTING BRIDGE AT STATION 1041+15 IS A 250' x 20' CONTINUOUS CONCRETE GIRDER BRIDGE WITH CONCRETE STUB ABUTMENTS, CONCRETE PEDESTAL PIERS AND A CONCRETE DECK BUILT IN 1957.
   AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED AND NO SUSPECT MATERIALS WERE FOUND. IF ADDITIONAL MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE DISCOVERED DURING DEMOLITION OF THE BRIDGE, WORK SHALL BE STOPPED IMMEDIATELY AND THE ENGINEER NOTIFIED.
   THE LUMP SUM BID FOR "REMOVAL OF EXISTING BRIDGE" SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE. ALL SALVAGEABLE MATERIAL AND UNSALVAGEABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. THE EXISTING STRUCTURE SHALL BE REMOVED TO AN ELEVATION AT LEAST 1 FOOT BELOW FINISHED GROUNDLINE AND TO THE EXTENT THAT IT WILL NOT INTERFERE WITH THE NEW CONSTRUCTION. THE NORTH PIER SHALL BE COMPLETELY REMOVED.
   BROKEN CONCRETE FROM THE EXISTING BRIDGE WITH SIMILAR GRADATION TO CLASS 'E' REVETMENT MAY BE PLACED ON THE BANKS OUTSIDE THE LIMITS SHOWN FOR CLASS 'E' REVETMENT, AS DIRECTED BY THE ENGINEER. ALL REINFORCING SHALL BE CUT OFF FLUSH WITH THE CONCRETE. H.M.A. MATERIAL IS SPECIFICALLY EXCLUDED. ALTERNATELY, THE CONTRACTOR MAY DISPOSE OF THE BROKEN CONCRETE OFF SITE AT A LOCATION PROVIDED BY THE CONTRACTOR AND NOTED TO THE ENGINEER.
   SEE HAZARDOUS MATERIALS NOTES ON SHEET 6 FOR PAINT SCRAPE SAMPLE RESULTS.

10. QUANTITY IS BASED ON THE ASSUMPTION THAT CHANNEL EXCAVATION AND NECESSARY BERM CONSTRUCTION HAVE BEEN COMPLETED.
    INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02, D, 2 OF THE STANDARD SPECIFICATIONS.

11. QUANTITY IS BASED ON THE ASSUMPTION THAT CHANNEL EXCAVATION AND NECESSARY BERM CONSTRUCTION HAVE BEEN COMPLETED.

13. INCLUDES COST OF PREFORMED JOINT MATERIAL, PVC PIPE IN WINGS AND CONCRETE SEALER ALONG EDGES OF SLAB.
    INCLUDES COST OF FURNISHING AND PLACING SUBDRAINS (INCLUDING EXCAVATION), FLOODABLE BACKFILL, POROUS BACKFILL AND GEOTEXTILE FABRIC AT ABUTMENTS.
    NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.
    CERTIFIED PLANT INSPECTION IS REQUIRED.
    ARTICLE 2428 REGARDING BRIDGE DECK SMOOTHNESS DOES NOT APPLY TO THIS PROJECT.

14. – 15. SEE 'SPECIFICIATONS' ON SHEET 6 FOR ADDITIONAL INFORMATION.

16. – 17. ALL REINFORCING SHALL BE GRADE 60.

18. – 19. INCLUDES COST OF BEARING MATERIAL, COIL TIES AND COIL RODS.
    THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING STABILITY OF PRESTRESSED CONCRETE BEAMS DURING ERECTION AND CONSTRUCTION UP THROUGH THE CONCRETE BRIDGE DECK REACHING ITS FULL 28-DAY STRENGTH. THE CONTRACTOR SHALL PROVIDE SUFFICIENT TEMPORARY ANCHOR BRACING AT BEAM ENDS AND TEMPORARY INTERMEDIATE BRACING AS NEEDED TO ENSURE PRESTRESSED BEAM STABILITY. PARTIALLY OR FULLY INSTALLED PERMANENT BRACING AS SHOWN IN THESE DESIGN PLANS SHALL NOT BE ASSUMED SUFFICIENT TO BRACE PRESTRESSED BEAMS DURING ERECTION AND CONSTRUCTION. TEMPORARY BRACING SHALL NOT BE WELDED TO PRESTRESSED BEAM STIRRUPS.
    ABUTMENT BEARINGS SHALL BE THE 3"X3" BARS AS DETAILED. ALTERNATE DETAILS SHOWN IN MATERIALS IM 570 APPENDIX I WILL NOT BE ALLOWED. CONTRACTOR MAY SUBMIT ALTERNATE DETAILS SUCH AS STACKED ¾"X3" OR 1"X3" STEEL PLATES TO CREATE AN EQUIVALENT 3"X3" BAR. PLATES SHALL BE ADEQUATELY WELDED TOGETHER TO PREVENT MOVEMENT DURING TRANSPORT AND INSTALLATION. ALTERNATE BEARING DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

20. INCLUDES WEIGHT OF STEEL DIAPHRAGMS, SEE SHEET 25.

21. SURFACE FINISHING AND CURING OF THE BRIDGE DECK SHALL BE PER INTERSTATE AND PRIMARY PROJECTS REQUIREMENT IN STANDARD SPECIFICATION 2412.03, D, 4, a AND 2412.03, E, 1, a.
    LONGITUDINAL GROOVING IS FOR BRIDGE DECK ONLY AND DOES NOT APPLY TO THE APPROACHES.

22. CERTIFIED PLANT INSPECTION IS REQUIRED.
    INCLUDES COST OF CONCRETE SEALER AS SHOWN ON SHEET 27.
    ALL STRUCTURAL CONCRETE FOR THE RAIL IS TO BE CLASS C; SUBSTITUTION OF CLASS D CONCRETE IS NOT ALLOWED.
    NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.

23. SEE PILE NOTES ON SHEET 6.
    INCLUDES COST OF DRIVING POINTS.

24. THE BRIDGE CONTRACTOR SHALL PREBORE HOLES FOR ABUTMENT PILES. HOLES SHALL BE BORED TO THE ELEVATIONS SHOWN ON THE "LONGITUDINAL SECTION ALONG CENTERLINE ROADWAY" ON THE SITUATION PLAN. PILES SHALL BE DRIVEN THROUGH THE HOLES TO AT LEAST THE SPECIFIED DESIGN BEARING.

25. SEE TABULATION 110-7A ON SHEET 31.

26. – 28. SEE TABULATIONS 108-8A AND 107-23 ON SHEET 31.

29. SEE SHEET 28 FOR DETAILS. QUANTITY INCLUDES EROSION STONE ON THE BERMS.

30. SEE SITUATION PLAN, SHEET 4, AND GENERAL PLAN, SHEET 5, FOR LIMITS.
    ENGINEERING FABRIC SHALL BE LAPPED FOR FIELD SPLICING, THE LAPS SHALL BE A MINIMUM OF TWO FEET IN LENGTH, SHINGLE FASHION WITH UP SLOPE LAP PIECE ON TOP. THE CONTRACTOR SHALL PROVIDE A MEANS TO SECURE THE LAP DURING THE PLACEMENT OF THE REVETMENT.

31. REVETMENT IS TO BE PLACED AT A THICKNESS OF 1'-6. SEE SITUATION PLAN, SHEET 4, AND GENERAL PLAN, SHEET 5, FOR LIMITS.

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
66'–0 END SPANS — **132'–0 INTERIOR SPAN**

QUANTITY SUMMARY

STATION 1041+00.00 — **15° SKEW, LT. AHEAD**
JEFFERSON COUNTY, — **IOWA**

TOTAL ESTIMATED QUANTITIES:
264'–0 x 30'–0 P.P.C.B. BRIDGE

REF. NO.	CODE NO.	ITEM	UNIT	2 ABUTS	2 PIERS	SUPER	TOTAL
32	2507–6875002	REVETMENT, REMOVE AND REPLACE	CY	–	–	–	35
33	2507–8029000	EROSION STONE	TON	–	–	–	50
34	2510–6745850	REMOVAL OF PAVEMENT	SY	–	–	–	359.6
35	2519–3280000	FENCE, FIELD	LF	–	–	–	140
36	2519–3300400	FIELD FENCE BRACE PANELS	EACH	–	–	–	6
37	2519–3300700	FENCE, TEMPORARY	LF	–	–	–	125
38	2526–8285020	CONSTRUCTION SURVEY, CONTROL POINT SURVEY	LS	–	–	–	1
39	2526–8285030	CONSTRUCTION SURVEY, RIGHT OF WAY	LS	–	–	–	1
40	2526–8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	–	–	–	1
41	2527–9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT–BASED	STA	–	–	–	10.64
42	2528–2518000	SAFETY CLOSURE	EACH	–	–	–	2
43	2528–8445110	TRAFFIC CONTROL	LS	–	–	–	1
44	2533–4980005	MOBILIZATION	LS	–	–	–	1
45	2601–2634100	MULCHING	ACRE	–	–	–	3.4
46	2601–2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	–	–	–	1.7
47	2601–2642100	STABILIZING CROP – SEEDING AND FERTILIZING	ACRE	–	–	–	1.7
48	2602–0000020	SILT FENCE	LF	–	–	–	725
49	2602–0000030	SILT FENCE FOR DITCH CHECKS	LF	–	–	–	149
50	2602–0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	–	–	–	874
51	2602–0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	–	–	–	475
52	2602–0010010	MOBILIZATIONS, EROSION CONTROL	EACH	–	–	–	1
53	2602–0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	–	–	–	1

REF. NO. ESTIMATE REFERENCE INFORMATION

32. THE UNIT PRICE BID FOR "REVETMENT, REMOVE AND REPLACE" SHALL INCLUDE THE COST OF LABOR, EQUIPMENT AND MATERIALS REQUIRED TO REMOVE REVETMENT FROM THE EXISTING BANKS, STOCKPILE IF NECESSARY, AND PLACE THE REVETMENT ON THE BANKS OUTSIDE THE LIMITS SHOWN FOR CLASS E REVETMENT. ANY PIECE GREATER THAN 3 FEET IN ANY DIRECTION SHALL BE BROKEN UP SUCH THAT ITS SIZE IS REDUCED TO LESS THAN 3 FEET IN ANY DIRECTION. HMA MATERIAL SHALL NOT BE PLACED WITHIN THE FLOODPLAIN. ANY REINFORCING SHALL BE CUT OFF FLUSH OR REMOVED. MATERIAL IS TO BE PLACED AT A THICKNESS OF 1'-6. SEE SITUATION PLAN, SHEET 4, AND GENERAL PLAN, SHEET 5, FOR LIMITS.
THE METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE BY CUBIC YARD. PLAN QUANTITY WILL BE PAY QUANTITY.

33. INCLUDES COST OF EXCAVATING, FURNISHING, AND PLACING EROSION STONE UNDER THE DRIP EDGE OF THE DECK AS SHOWN.

34. SEE TABULATION 110-1 ON SHEET 29.
EXISTING PAVEMENT CONSISTS OF PCC OF AN UNKNOWN THICKNESS.
IN ORDER TO AVOID ANY UNNECESSARY SURFACE BREAKS OR PREMATURE SPALLING, THE CONTRACTOR IS CAUTIONED TO EXERCISE EXTREME CARE WHEN PERFORMING ANY OF THE NECESSARY SAW CUTTING OPERATIONS FOR THE PROPOSED PAVEMENT REMOVAL. SAW CUTS ARE TO BE MADE AT THE STATION INDICATED OR AT THE NEAREST TRANSVERSE PAVEMENT JOINT, AS DIRECTED BY THE ENGINEER.

35. – 36. SEE TABULATION 100-7 AND FENCE DETAIL ON SHEET 30.
PERMANENT FENCING SHALL BE INSTALLED TO CONTAIN CATTLE GRAZING EAST OF THE ROAD AND SOUTH OF THE CHANNEL PRIOR TO REMOVAL OF TEMPORARY FENCING.

37. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER PRIOR TO REMOVAL OF THE EXISTING FIELD FENCE. TEMPORARY FENCE IS TO BE PLACED AT THE SOUTHEAST CORNER OF THE PROJECT AS TABULATED IN TABULATION 100-7 ON SHEET 30. THE FENCE SHALL CONSIST OF 6' STEEL 'T' POSTS PLACED ON 10' CENTERS WITH A MINIMUM OF 2 ELECTRIFIED WIRES WITH APPROPRIATE INSULATORS. AN ELECTRIC FENCER SHALL BE PROVIDED AND RATED FOR CATTLE AND THE LENGTH OF WIRE USED IN THE FENCING. A CONTINUOUS ELECTRIC SUPPLY TO OPERATE THE FENCE SHALL BE PROVIDED BY THE CONTRACTOR. COSTS TO INCLUDE FURNISHING AND CONSTRUCTION OF TEMPORARY ELECTRICAL FENCE, MAINTAINING THE FENCE, MAINTAINING CHARGE OF THE ELECTRICAL FENCE, AND REMOVAL OF THE ELECTRICAL FENCE.

38. – 40. THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING AN INDEPENDENT CHECK OF ALL CONSTRUCTION STAKES PLACED FOR THE PROJECT. THIS INDEPENDENT CHECK SHALL BE SUFFICIENT TO UNDERSTAND THE PLACEMENT AND INTENT OF THE STAKES.
SEE TABULATION CBA-300 ON SHEET 29, FOR FIELD TIES TO THE SITE SURVEY.

41. SEE TABULATION 108-22 ON SHEET 29.
ON ALL NEW OR RECONSTRUCTED PAVEMENTS, THE LOCATION OF "NO PASSING" ZONE LINES SHALL BE LOCATED IN THE FIELD. THE LOCATIONS OF THE PROPOSED "NO PASSING" ZONE LINES SHOWN ON THE PAVEMENT MARKING TABULATION IS FOR ESTIMATING QUANTITIES ONLY.

42. SEE TABULATION 108-13A ON SHEET 29.

43. SEE TRAFFIC CONTROL PLAN ON SHEET 29. INCLUDES COST FOR PADDLING ROUTE SIGNAGE. SEE SHEET 31 FOR DETAILS.

45. – 47. THE CONTRACTOR IS TO RESHAPE, FERTILIZE, SEED AND MULCH ANY AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION. THIS SHALL BE INCLUDED IN THE PRICES BID FOR "MULCHING" AND "SEEDING AND FERTILIZING (RURAL)". SEE POLLUTION PREVENTION PLAN, SHEET 7, FOR STABILIZING CROP REQUIREMENT.

48. – 53. SEE POLLUTION PREVENTION PLAN, SHEET 7, AND TABULATIONS 100-17, 100-18 AND 100-19 ON SHEET 30.

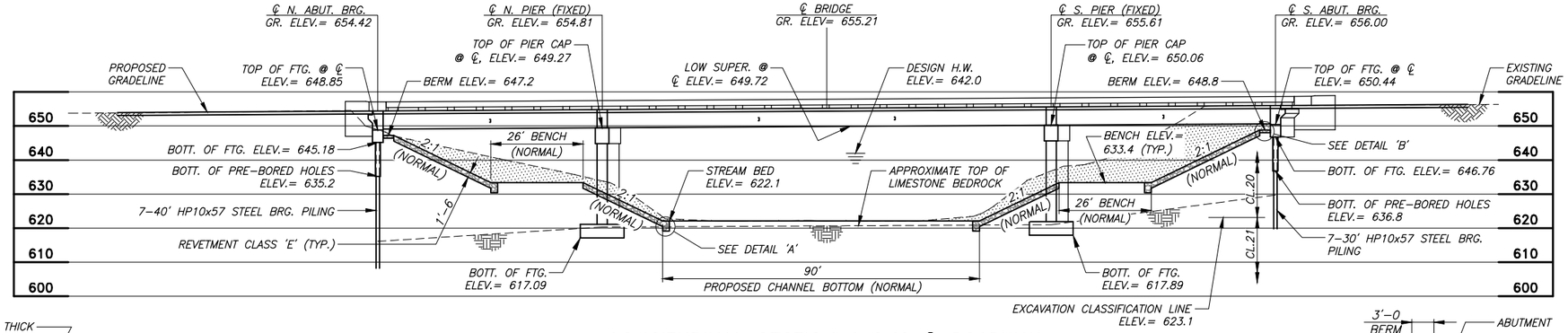
264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS **TEE PIERS**
66'–0 END SPANS **132'–0 INTERIOR SPAN**

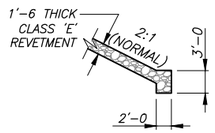
QUANTITY SUMMARY

STATION 1041+00.00 **15° SKEW, LT. AHEAD**
JEFFERSON COUNTY, **IOWA**

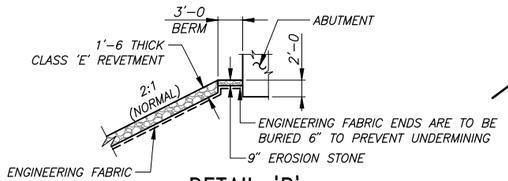
BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06



LONGITUDINAL SECTION ALONG ℄ ROADWAY



DETAIL 'A'



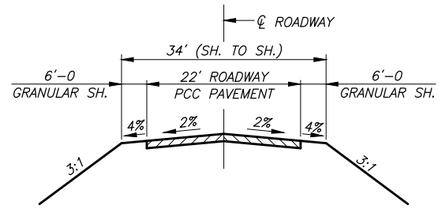
DETAIL 'B'

TIE-IN
STA. 1043+08.55
ELEV.= 653.96

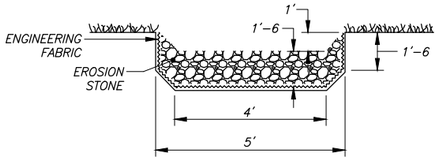
-0.60%

TIE-IN
STA. 1039+11.45
ELEV.= 656.34

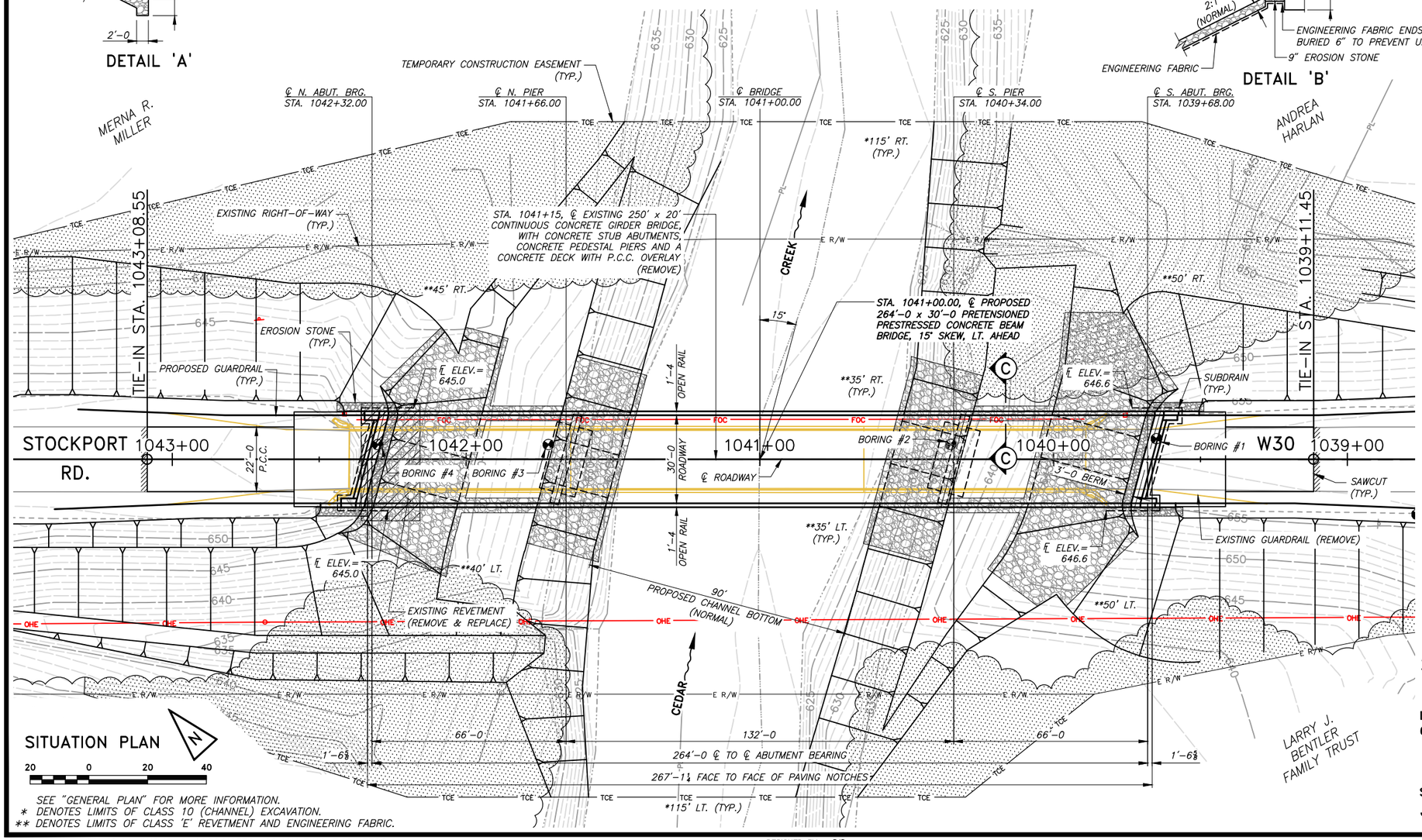
PROPOSED GRADE



TYPICAL APPROACH SECTION



SECTION C-C



SITUATION PLAN

20 0 20 40

SEE "GENERAL PLAN" FOR MORE INFORMATION.
* DENOTES LIMITS OF CLASS 10 (CHANNEL) EXCAVATION.
** DENOTES LIMITS OF CLASS 'E' REVETMENT AND ENGINEERING FABRIC.

LOCATION

JEFFERSON COUNTY
T-71N, R-09W
SECTION 36
CEDAR TOWNSHIP
OVER CEDAR CREEK

HYDRAULIC DATA

DRAINAGE AREA = 407.0 SQ. MI.
DESIGN DISCHARGE = 19,850 C.F.S.
DESIGN HIGH WATER ELEV. = 642.0
MANNING SLOPE = 0.00129 FT./FT.
BRIDGE WATERWAY AREA = 2,976 SQ. FT.
DESIGN VELOCITY = 6.7 F.P.S.
Q25 = 17,100 C.F.S. STAGE ELEV. = 640.9
Q50 = 19,850 C.F.S. STAGE ELEV. = 642.0 (DESIGN)
Q100 = 22,600 C.F.S. STAGE ELEV. = 643.0
Q200 = 25,300 C.F.S. STAGE ELEV. = 643.8
Q500 = 28,550 C.F.S. STAGE ELEV. = 644.8
EXT. H.W. ELEV. = UNKNOWN
ANTICIPATED Q100 SCOUR ELEV.= 614.7
ANTICIPATED Q200 SCOUR ELEV.= 614.6

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'-0 END SPANS

TEE PIERS
132'-0 INTERIOR SPAN

SITUATION PLAN

STATION 1041+00.00
15° SKEW, LT. AHEAD
JEFFERSON COUNTY, IOWA

BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06

MERNA R. MILLER

ANDREA HARLAN

MILLER & SON, A GENERAL PARTNERSHIP

LARRY J. BENTLER FAMILY TRUST

LARRY J. BENTLER FAMILY TRUST

E.O.P. STA. 1043+75.00

TIE–IN STA. 1043+08.55

TIE–IN STA. 1039+11.45

B.O.P. STA. 1038+20.00

TIE–IN STA. 1043+08.55
N: = 336565.58
E: = 2097609.57

TIE–IN STA. 1039+11.45
N: = 336245.75
E: = 2097844.93

STA. 1041+15, ℄ EXISTING 250' x 20' CONTINUOUS CONCRETE GIRDER BRIDGE, WITH CONCRETE STUB ABUTMENTS, CONCRETE PEDESTAL PIERS AND A CONCRETE DECK WITH P.C.C. OVERLAY (REMOVE)

STA. 1041+00.00, ℄ PROPOSED 264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE, 15° SKEW, LT. AHEAD

TEMPORARY CONSTRUCTION EASEMENT (TYP.)

CLEARING & GRUBBING (0.23 ACRES)

CLEARING & GRUBBING (0.27 ACRES)

STA. 1043+75 @ EXISTING

STA. 1041+85 @ 115' RT.

*115' RT. (TYP.)

STA. 1039+70 @ 115' RT.

STA. 1038+20 @ 70' RT.

STA. 1038+20 @ EXISTING

**45' RT.

**35' RT. (TYP.)

**50' RT.

CREEK

15'

BORING #3

BORING #4

BORING #2

BORING #1

℄ ROADWAY

STOCKPORT RD.

W30

1043+00

1042+00

1041+00

1040+00

1039+00

34'–0 SH. TO SH.

22'–0 P.C.C.

CONTROL POINT #1

CONTROL POINT #2

**35' LT. (TYP.)

**40' LT.

**50' LT.

EXISTING REVETMENT (REMOVE & REPLACE)

CEDAR

CLEARING & GRUBBING (0.02 ACRES)

BENCHMARK

END OF NON–REINFORCED APPROACH PAVEMENT STA. 1043+08.55 ELEV.= 653.96

END OF REINFORCED APPROACH PAVEMENT STA. 1042+58.55 ELEV. = 654.26

END OF REINFORCED APPROACH PAVEMENT STA. 1039+41.45 ELEV.= 656.16

END OF NON–REINFORCED APPROACH PAVEMENT STA. 1039+11.45 ELEV.= 656.34

EXISTING RIGHT–OF–WAY (TYP.)

STA. 1043+30 @ EXISTING

CLEARING & GRUBBING (0.19 ACRES)

STA. 1042+20 @ 115' LT.

*115' LT. (TYP.)

STA. 1039+86.2 @ 80' LT. @ E R/W CORNER

CLEARING & GRUBBING (0.10 ACRES)

STA. 1040+30 @ 115' LT.

PROPERTY LINE (TYP.)

E R/W

TCE

OHE

PL

GENERAL PLAN

N

30 0 30 60

SEE "SITUATION PLAN" FOR MORE INFORMATION.
* DENOTES LIMITS OF CLASS 10 (CHANNEL) EXCAVATION.
** DENOTES LIMITS OF CLASS 'E' REVETMENT AND ENGINEERING FABRIC.

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'–0 END SPANS

TEE PIERS
132'–0 INTERIOR SPAN

GENERAL PLAN

STATION 1041+00.00

15° SKEW, LT. AHEAD

JEFFERSON COUNTY, IOWA

SPECIFICATIONS

DESIGN: AASHTO LRFD 8TH EDITION, SERIES OF 2017, EXCEPT AS NOTED IN THE CURRENT IOWA BRIDGE DESIGN MANUAL. SEE SHEETS 22 - 24 FOR PRESTRESSED BEAMS.

CONSTRUCTION: THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2023, PLUS GENERAL SUPPLEMENTAL SPECIFICATIONS; AND APPLICABLE SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS, SHALL APPLY TO THE CONSTRUCTION ON THIS PROJECT.

DEVELOPMENTAL SPECIFICATION "FIBER REINFORCEMENT FOR STRUCTURAL CONCRETE" SHALL APPLY TO THE ABUTMENT FOOTINGS, WINGS, DIAPHRAGMS AND DECK. FIBER REINFORCEMENT HAS BEEN INCLUDED FOR THE ABUTMENT FOOTINGS TO PROVIDE ADDITIONAL EXPERIENCE TO THE CONTRACTOR PRIOR TO MASS PRODUCTION FOR THE DECK PLACEMENT.

DESIGN STRESSES

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, SERIES 2017, EXCEPT AS NOTED IN THE CURRENT IOWA BRIDGE DESIGN MANUAL.

REINFORCING STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 5, GRADE 60.

STRUCTURAL STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 6. ASTM A709 GRADE 36 (AASHTO M270 GRADE 36).

CONCRETE IN ACCORDANCE WITH LRFD AASHTO SECTION 5, F'C=4,000 PSI EXCEPT PRESTRESSED BEAM CONCRETE AS NOTED.

PRESTRESSING STEEL SEE SHEET 22

PRESTRESSED CONCRETE SEE SHEET 22

GENERAL NOTES

THIS DESIGN IS FOR A 264' x 30' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ON STOCKPORT ROAD (W30) OVER CEDAR CREEK IN JEFFERSON COUNTY, IOWA.

THIS BRIDGE IS DESIGNED FOR HL-93 LOADING PLUS 20 LBS. PER SQ. FT. OF ROADWAY FOR FUTURE WEARING SURFACE.

ACCESS SHALL BE MAINTAINED TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

THE PRIME CONTRACTOR SHALL EMPLOY CONTROLS TO REDUCE THE EROSIVENESS OF LAND ADJACENT TO SURFACE WATERS AND WETLANDS, INCLUDING ESTABLISHMENT AND MAINTENANCE OF EROSION CONTROL DURING AND AFTER CONSTRUCTION AND REVEGETATION OF ALL DISTURBED AREAS UPON PROJECT COMPLETION. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL EROSION CONTROL MEASURES.

STANDARD ROAD PLAN EW-401 IS LISTED IN TABULATION 105-4; HOWEVER, IT IS INCLUDED FOR INFORMATION PURPOSES ONLY SINCE IT IS AN OPTION. NO QUANTITIES ASSOCIATED WITH CONSTRUCTING EW-401 ARE INCLUDED IN ANY BID ITEMS.

STANDARD ROAD PLANS ARE AVAILABLE FROM THE IOWA DEPARTMENT OF TRANSPORTATION WEBSITE: http://erl.iowadot.gov.

UTILITY NOTES

SEE SECTION 1107.15 OF THE STANDARD SPECIFICATION REGARDING UTILITY COORDINATION.

WASTE AND DISPOSAL NOTES

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT AREAS (INCLUDING HAUL ROADS) SELECTED FOR WASTE OR DISPOSAL NOT IMPACT 1) CULTURALLY SENSITIVE SITES OR GRAVES OR 2) WETLANDS OR "WATERS OF THE U.S.", INCLUDING STREAMS OR STREAM BANKS BELOW THE "ORDINARY HIGH WATER MARK", WITHOUT AN APPROVED U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY STATED IN THE PLANS OR APPROVED BY THE ENGINEER.

HAZARDOUS MATERIALS NOTES

AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED BY:

SCOTT BROWN OF IOWA ENVIRONMENTAL SERVICES
IA LICENSE NUMBER: 20-5083I
DATE INSPECTED: 10/26/2020
PHONE: 515-279-8042

A SCRAPE SAMPLE OF THE EXISTING PAINT WAS TAKEN FROM THE BRIDGE RAILING AND ABUTMENT BEARINGS OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE AND OF THE LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. ANALYSIS OF TOTAL LEAD ON THESE SAMPLES WERE 22,900 AND 2,670 PART PER MILLION (PPM), RESPECTIVELY. ANALYSIS OF TOTAL CHROMIUM ON THESE SAMPLES WERE 33,800 AND 34,600 PPM, RESPECTIVELY. 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 COUNTY'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS IN SUCH A MANNER THAT ANY PAINT REMOVED DURING REMOVAL IS CONTAINED, COLLECTED, AND DISPOSED OF IN ACCORDANCE WITH SECTION 2508 OF THE STANDARD SPECIFICATIONS.

BEFORE DELIVERY OF ANY SCRAP STEEL THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE RECEIVING FACILITY. THIS NOTICE SHALL AT A MINIMUM INCLUDE:

1. A NOTICE THAT THE SCRAP STEEL IS COATED WITH PAINT THAT HAS REGULATED MATERIALS AT LEVELS THAT COULD BE HAZARDOUS TO EMPLOYEES OR THE ENVIRONMENT.
2. A COPY OF THE SCRAPE SAMPLE PROVIDED IN THE CONTRACT DOCUMENTS.
3. A SIGNATURE BLOCK FOR THE RECEIVING FACILITY TO CONFIRM THEIR RECEIPT OF THIS INFORMATION.

A COPY OF THIS NOTICE, SIGNED BY THE RECEIVING FACILITY, SHALL BE RETURNED TO THE ENGINEER BEFORE ANY SCRAP STEEL IS REMOVED FROM THE PROJECT.

ALL COSTS ASSOCIATED WITH COMPLIANCE WITH THE ABOVE REMOVAL AND DISPOSAL REQUIREMENTS WILL BE INCIDENTAL TO "REMOVAL OF EXISTING BRIDGE."

PILE NOTES

SOUNDING AND TEST BORING DATA SHOWN ON PLANS WERE ACCUMULATED FOR DESIGNING AND ESTIMATING PURPOSES. THEIR APPEARANCE ON THE PLAN DOES NOT CONSTITUTE A GUARANTEE THAT CONDITIONS OTHER THAN THOSE INDICATED WILL NOT BE ENCOUNTERED.

THIS PROJECT USES THE LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHODOLOGY FOR DETERMINING PILE CONTRACT LENGTH AND NOMINAL AXIAL BEARING RESISTANCE. A WEAP ANALYSIS AND BEARING GRAPH WILL BE PROVIDED BY THE ENGINEER THAT GIVES THE RELATIONSHIP BETWEEN REQUIRED NOMINAL AXIAL BEARING RESISTANCE AND BLOW COUNT.

SOUTH ABUTMENT PILE

THE CONTRACT LENGTH OF 40 FEET FOR THE ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 177 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF PREBORE.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR THE ABUTMENT PILES IS 127 TONS AT END OF DRIVE (EOD) OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

NORTH ABUTMENT PILE

THE CONTRACT LENGTH OF 30 FEET FOR THE ABUTMENT PILES IS BASED ON A MIXED SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 177 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A MIXED SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF PREBORE.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR THE ABUTMENT PILES IS 127 TONS AT END OF DRIVE (EOD) OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

CONCRETE AND REINFORCING STEEL NOTES

ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED. BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTERS IN EITHER DIRECTION SHALL BE USED TO SUPPORT ALL REINFORCING IN ACCORDANCE WITH THE SECTION 2404 OF THE STANDARD SPECIFICATIONS.

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

ALL EXPOSED CORNERS 90 DEGREES OR SHARPER ARE TO BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.

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

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 THE VERTICAL.

CONCRETE PAVING BLOCKS ARE NOT REQUIRED, HOWEVER, IF IT BECOMES NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR. ANY DAMAGE TO THE DECK OR BACKWALL SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE AUTHORIZED FOR THIS WORK.

CONTRACTOR'S WORK AREA

THE CONTRACTOR'S WORK AND MATERIAL STORAGE AREA SHALL BE DEFINED BY THE CONTRACTOR AND NOTED TO THE ENGINEER. THE CONTRACTOR SHALL SHAPE, FERTILIZE, AND SEED THIS CONTRACTOR'S AREA IN ORDER TO RETURN IT TO ITS ORIGINAL CONDITION. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR "SEEDING AND FERTILIZING (RURAL)" AND "MULCHING" BID ITEMS. AREAS OUTSIDE THE CONTRACTOR'S AREA DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THEIR ORIGINAL CONDITION, AS DETERMINED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE AUTHORIZED FOR THIS WORK.

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS **TEE PIERS**
66'–0 END SPANS **132'–0 INTERIOR SPAN**

GENERAL NOTES

STATION 1041+00.00 **15° SKEW, LT. AHEAD**
JEFFERSON COUNTY, **IOWA**

POLLUTION PREVENTION PLAN

THIS PROJECT IS REGULATED BY THE REQUIREMENTS OF THE IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT NO. 2 OR AN IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) INDIVIDUAL STORM WATER PERMIT. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF THIS PERMIT AND THE POLLUTION PREVENTION PLAN (PPP).

THIS BASE PPP INCLUDES INFORMATION ON ROLES AND RESPONSIBILITIES, PROJECT SITE DESCRIPTION, CONTROLS, MAINTENANCE PROCEDURES, INSPECTION REQUIREMENTS, NON-STORM WATER CONTROLS, POTENTIAL SOURCES OF OFF RIGHT-OF-WAY POLLUTION, AND DEFINITIONS. THIS PLAN REFERENCES OTHER DOCUMENTS RATHER THAN REPEATING THE INFORMATION CONTAINED IN THE DOCUMENTS. A COPY OF THIS BASE POLLUTION PREVENTION PLAN, AMENDED AS NEEDED DURING CONSTRUCTION, WILL BE READILY AVAILABLE FOR REVIEW.

ALL CONTRACTORS SHALL CONDUCT THEIR OPERATIONS IN A MANNER THAT CONTROLS POLLUTANTS, MINIMIZES EROSION, AND PREVENTS SEDIMENTS FROM ENTERING WATERS OF THE STATE AND LEAVING THE HIGHWAY RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND IMPLEMENTATION OF THE PPP FOR THEIR ENTIRE CONTRACT. THIS RESPONSIBILITY SHALL BE FURTHER SHARED WITH SUBCONTRACTORS WHOSE WORK IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP.

I. ROLES AND RESPONSIBILITIES
- A. DESIGNER:
  1. PREPARES BASE PPP INCLUDED IN THE PROJECT PLAN.
- B. OWNER
  1. PREPARES NOTICE OF INTENT (NOI) SUBMITTED TO IOWA DNR.
  2. IS SIGNATURE AUTHORITY ON THE BASE PPP.
- C. CONTRACTOR:
  1. SIGNS A CO-PERMITTEE CERTIFICATION STATEMENT ADHERING TO THE REQUIREMENTS OF THE NPDES PERMIT AND THIS PPP. ALL CO-PERMITTEES ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE IOWA ADMINISTRATIVE CODE TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PPP.
  2. DESIGNATES A WATER POLLUTION CONTROL MANAGER (WPCM), WHO HAS THE DUTIES AND RESPONSIBILITIES AS DEFINED IN SPECIFICATIONS SECTION 2602 OF THE STANDARD SPECIFICATIONS.
  3. SUBMITS AN EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND ECIP UPDATES ACCORDING TO SPECIFICATIONS SECTION 2602 OF THE STANDARD SPECIFICATIONS.
  4. INSTALLS AND MAINTAINS APPROPRIATE CONTROLS. THIS WORK MAY BE SUBCONTRACTED AS DOCUMENTED THROUGH SUBCONTRACTOR REQUEST FORMS (FORM 830231).
  5. SUPERVISES AND IMPLEMENTS GOOD HOUSEKEEPING PRACTICES ACCORDING TO PARAGRAPH III, C, 2.
  6. CONDUCTS JOINT REQUIRED INSPECTIONS OF THE SITE WITH INSPECTION STAFF. WHEN CONTRACTOR IS NOT MOBILIZED ON SITE, CONTRACTOR MAY DELEGATE THIS RESPONSIBILITY TO A TRAINED OR CERTIFIED SUBCONTRACTOR. CONTRACTING AUTHORITY ALSO MAY WAIVE JOINT INSPECTION REQUIREMENT DURING WINTER SHUTDOWN. IN BOTH CIRCUMSTANCES, WPCM (OR TRAINED OR CERTIFIED DELEGATE FROM THE CONTRACTOR) IS STILL RESPONSIBLE TO REVIEW AND SIGN INSPECTION REPORTS.
  7. COMPLIES WITH TRAINING AND CERTIFICATION REQUIREMENTS OF SECTION 2602 OF THE STANDARD SPECIFICATIONS.
  8. SUBMITS AMENDED PPP SITE MAP ACCORDING TO SECTION 2602 OF THE STANDARD SPECIFICATIONS.
- D. SUBCONTRACTORS:
  1. SIGN A CO-PERMITTEE CERTIFICATION STATEMENT ADHERING TO THE REQUIREMENTS OF THE NPDES PERMIT AND THIS PPP IF RESPONSIBLE FOR SEDIMENT OR EROSION CONTROLS; INVOLVED IN LAND DISTURBING ACTIVITIES; OR PERFORMING WORK THAT IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP. SUBCONTRACTED WORK ITEMS ARE IDENTIFIED IN SUBCONTRACTOR REQUEST FORMS (FORM 830231). ALL CO-PERMITTEES ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE IOWA ADMINISTRATIVE CODE TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PPP.
  2. IMPLEMENT GOOD HOUSEKEEPING PRACTICES ACCORDING TO PARAGRAPH III, C, 2.
- E. RCE/PROJECT ENGINEER:
  1. IS PROJECT STORM WATER MANAGER.
  2. TAKES ACTIONS NECESSARY TO ENSURE COMPLIANCE WITH STORM WATER REQUIREMENTS INCLUDING, WHERE APPROPRIATE, ISSUING STOP WORK ORDERS, AND DIRECTING ADDITIONAL INSPECTIONS AT CONSTRUCTION PROJECT SITES THAT ARE EXPERIENCING PROBLEMS WITH ACHIEVING PERMIT COMPLIANCE.
  3. ORDERS THE TAKING OF MEASURES TO CEASE, CORRECT, PREVENT, OR MINIMIZE THE CONSEQUENCES OF NON-COMPLIANCE WITH THE STORM WATER REQUIREMENTS OF THE APPLICABLE PERMIT.
  4. SUPERVISES ALL WORK NECESSARY TO MEET STORM WATER REQUIREMENTS AT THE PROJECT, INCLUDING WORK PERFORMED BY CONTRACTORS AND SUBCONTRACTORS.
  5. REQUIRES EMPLOYEES, CONTRACTORS, AND SUBCONTRACTORS TO TAKE APPROPRIATE RESPONSIVE ACTION TO COMPLY WITH STORM WATER REQUIREMENTS, INCLUDING REQUIRING ANY SUCH PERSON TO CEASE OR CORRECT A VIOLATION OF STORM WATER REQUIREMENTS, AND TO ORDER OR RECOMMEND SUCH OTHER ACTIONS AS NECESSARY TO MEET STORM WATER REQUIREMENTS.
  6. IS FAMILIAR WITH THE PROJECT PPP AND STORM WATER SITE MAP.
  7. IS THE POINT OF CONTACT FOR THE PROJECT FOR REGULATORY OFFICIALS, INSPECTOR, CONTRACTORS, AND SUBCONTRACTORS REGARDING STORM WATER REQUIREMENTS.
  8. IS SIGNATURE AUTHORITY ON NOTICE OF DISCONTINUATION.
  9. MAINTAINS AN UP-TO-DATE RECORD OF CONTRACTORS, SUBCONTRACTORS, AND SUBCONTRACTED WORK ITEMS THROUGH SUBCONTRACTOR REQUEST FORMS (FORM 830231).
  10. MAKES INFORMATION TO DETERMINE PERMIT COMPLIANCE AVAILABLE TO THE DNR UPON THEIR REQUEST.
- F. INSPECTOR:
  1. UPDATES PPP THROUGH FIELDBOOK ENTRIES AND STORM WATER SITE INSPECTION REPORTS IF THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE WHICH HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS FROM THE PROJECT.
  2. MAKES INFORMATION TO DETERMINE PERMIT COMPLIANCE AVAILABLE TO THE DNR UPON THEIR REQUEST.
  3. CONDUCTS JOINT REQUIRED INSPECTIONS OF THE SITE WITH THE CONTRACTOR/SUBCONTRACTOR.
  4. COMPLETES AN INSPECTION REPORT AFTER EACH INSPECTION.
  5. IS SIGNATURE AUTHORITY ON STORM WATER INSPECTION REPORTS.

II. PROJECT SITE DESCRIPTION
- A. THIS POLLUTION PREVENTION PLAN (PPP) IS FOR THE CONSTRUCTION OF A 264'-0 X 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ON STOCKPORT ROAD (W30) IN JEFFERSON COUNTY, IOWA.
- B. THIS PPP COVERS APPROXIMATELY 2.4 ACRES WITH AN ESTIMATED 2.0 ACRES BEING DISTURBED. THE PORTION OF THE PPP COVERED BY THIS CONTRACT HAS 2.0 ACRES DISTURBED.
- C. THE PPP IS LOCATED IN AN AREA OF ONE SOIL ASSOCIATION(S) (GRUNDY-HAIG-ARISPE-GARA). THE ESTIMATED WEIGHTED AVERAGE RUNOFF COEFFICIENT NUMBER FOR THIS PPP AFTER COMPLETION WILL BE 0.35.
- D. STORM WATER SITE MAP - MULTIPLE SOURCES OF INFORMATION COMPRISE THE BASE STORM WATER SITE MAP INCLUDING:
  1. DRAINAGE PATTERNS – SITUATION PLAN AND GENERAL PLAN.
  2. PROPOSED SLOPES – CROSS SECTIONS.
  3. AREAS OF SOIL DISTURBANCE – CONSTRUCTION LIMITS SHOWN ON SITUATION PLAN AND GENERAL PLAN.
  4. LOCATION OF STRUCTURAL CONTROLS – TABULATIONS.
  5. LOCATIONS OF NON-STRUCTURAL CONTROLS – TABULATIONS.
  6. LOCATIONS OF STABILIZATION PRACTICES – GENERALLY WITHIN CONSTRUCTION LIMITS SHOWN ON SITUATION PLAN AND GENERAL PLAN.
  7. SURFACE WATERS (INCLUDING WETLANDS) – PROJECT LOCATION MAP AND SITUATION PLAN AND GENERAL PLAN.
  8. LOCATIONS WHERE STORM WATER IS DISCHARGED – SITUATION PLAN AND GENERAL PLAN.
- E. THE BASE STORM WATER SITE MAP IS AMENDED BY CONTRACT MODIFICATIONS AND PROGRESS PAYMENTS (FIELDBOOK ENTRIES) OF COMPLETED EROSION CONTROL WORK. ALSO, DUE TO PROJECT PHASING, EROSION AND SEDIMENT CONTROLS SHOWN ON PROJECT PLANS MAY NOT BE INSTALLED UNTIL NEEDED, BASED ON SITE CONDITIONS. FOR EXAMPLE, SILT FENCE DITCH CHECKS WILL TYPICALLY NOT BE INSTALLED UNTIL THE DITCH HAS BEEN INSTALLED. INSTALLED LOCATIONS WILL BE DOCUMENTED BY FIELDBOOK ENTRIES AND AMENDED PPP SITE MAP.
- F. RUNOFF FROM THIS WORK WILL FLOW INTO CEDAR CREEK.

III. CONTROLS
- A. THE CONTRACTOR'S ECIP SPECIFIED IN ARTICLE 2602.03 OF THE STANDARD SPECIFICATIONS FOR ACCOMPLISHMENT OF STORM WATER CONTROLS SHOULD CLEARLY DESCRIBE THE INTENDED SEQUENCE OF MAJOR ACTIVITIES AND FOR EACH ACTIVITY DEFINE THE CONTROL MEASURE AND THE TIMING DURING THE CONSTRUCTION PROCESS THAT THE MEASURE WILL BE IMPLEMENTED.
- B. PRESERVE VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION.
- C. SECTIONS 2601 AND 2602 OF THE STANDARD SPECIFICATIONS DEFINE REQUIREMENTS TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES. ACTUAL QUANTITIES USED AND INSTALLED LOCATIONS MAY VARY FROM THE BASE PPP AND AMENDMENT OF THE PLAN WILL BE DOCUMENTED VIA FIELDBOOK ENTRIES, AMENDED PPP SITE MAP, OR BY CONTRACT MODIFICATION. ADDITIONAL EROSION AND SEDIMENT CONTROL ITEMS MAY BE REQUIRED AS DETERMINED BY THE INSPECTOR AND/OR CONTRACTOR DURING STORM WATER SITE INSPECTIONS. IF THE WORK INVOLVED IS NOT APPLICABLE TO ANY CONTRACT ITEMS, THE WORK WILL BE PAID FOR ACCORDING TO ARTICLE 1109.03 PARAGRAPH B OF THE STANDARD SPECIFICATIONS.
  1. EROSION AND SEDIMENT CONTROLS
     - a. STABILIZATION PRACTICES
       1) SITE PLANS WILL ENSURE THAT EXISTING VEGETATION OR NATURAL BUFFERS ARE PRESERVED WHERE ATTAINABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED.
       2) INITIALIZE STABILIZATION OF DISTURBED AREAS IMMEDIATELY AFTER CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE:
          a) PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR
          b) TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
       3) STAGED PERMANENT AND/OR TEMPORARY STABILIZING SEEDING AND MULCHING SHALL BE COMPLETED AS THE DISTURBED AREAS ARE COMPLETED. INCOMPLETE AREAS SHALL BE STABILIZED ACCORDING TO PARAGRAPH III, C, 1, a, 2, b ABOVE.
       4) PERMANENT AND TEMPORARY STABILIZATION PRACTICES TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION LOCATED IN THE PLANS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE PRACTICES TO BE USED ON THIS PROJECT ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION.
       5) PRESERVATION OF EXISTING VEGETATION WITHIN RIGHT-OF-WAY OR EASEMENTS WILL ACT AS VEGETATIVE BUFFER STRIPS.
       6) PRESERVATION OF TOPSOIL: BID ITEMS TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION LOCATED IN THE PLANS. ADDITIONAL INFORMATION MAY BE FOUND IN TABULATIONS OF THE PLANS OR IS REFERENCED IN STANDARD SECTION 2105 OF THE STANDARD SPECIFICATIONS.
     - b. STRUCTURAL PRACTICES
       1) STRUCTURAL PRACTICES WILL BE IMPLEMENTED TO DIVERT FLOWS FROM EXPOSED SOILS AND DETAIN OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. ADDITIONALLY, STRUCTURAL PRACTICES MAY INCLUDE: SILT BASINS THAT PROVIDE 3600 CUBIC FEET OF STORAGE PER ACRE DRAINED OR EQUIVALENT SEDIMENT CONTROLS, OUTLET STRUCTURES THAT WITHDRAW WATER FROM SURFACE WHEN DISCHARGING BASINS, AND CONTROLS TO DIRECT STORM WATER TO VEGETATED AREAS.
       2) STRUCTURAL PRACTICES TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION, AS WELL AS ALL OTHER ITEM SPECIFIC TABULATIONS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE DEVICES TO BE USED ON THIS PROJECT CAN BE FOUND IN THE PLANS OR ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION.
     - c. STORM WATER MANAGEMENT
       1) MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. THIS MAY INCLUDE VELOCITY DISSIPATION DEVICES AT DISCHARGE LOCATIONS AND ALONG LENGTH OF OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSION VELOCITY FLOW FROM STRUCTURE TO WATER COURSE. IF INCLUDED WITH THIS PROJECT, THESE ITEMS ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION, AS WELL AS ALL OTHER ITEM SPECIFIC TABULATIONS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE PRACTICES TO BE USED ON THIS PROJECT ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT.
  2. OTHER CONTROLS
     - a. CONTRACTOR DISPOSAL OF UNUSED CONSTRUCTION MATERIALS AND CONSTRUCTION MATERIAL WASTES SHALL COMPLY WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS. IN THE EVENT OF A CONFLICT WITH OTHER GOVERNMENTAL LAWS, RULES AND REGULATIONS, THE MORE RESTRICTIVE APPLICABLE LAWS, RULES OR REGULATIONS SHALL APPLY.
       1) VEHICLE ENTRANCES AND EXITS - CONSTRUCT AND MAINTAIN ENTRANCES AND EXITS TO PREVENT TRACKING OF SEDIMENTS ONTO ROADWAYS.
       2) MATERIAL DELIVERY, STORAGE AND USE - IMPLEMENT PRACTICES TO PREVENT DISCHARGE OF CONSTRUCTION MATERIALS DURING DELIVERY, STORAGE, AND USE.
       3) STOCKPILE MANAGEMENT - INSTALL CONTROLS TO REDUCE OR ELIMINATE POLLUTION OF STORM WATER FROM STOCKPILES OF SOIL AND PAVING.
       4) WASTE DISPOSAL - DO NOT DISCHARGE ANY MATERIALS, INCLUDING BUILDING MATERIALS, INTO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
       5) SPILL PREVENTION AND CONTROL - IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES TO CONTAIN AND CLEAN-UP SPILLS AND PREVENT MATERIAL DISCHARGES TO THE STORM DRAIN SYSTEM AND WATERS OF THE STATE.
       6) CONCRETE RESIDUALS AND WASHOUT WASTES - WASTE SHALL NOT BE DISCHARGED TO A SURFACE WATER AND IS NOT ALLOWED TO ADVERSELY AFFECT A WATER OF THE STATE. DESIGNATE TEMPORARY CONCRETE WASHOUT FACILITIES FOR RINSING OUT CONCRETE TRUCKS. PROVIDE DIRECTIONS TO TRUCK DRIVERS WHERE DESIGNATED WASHOUT FACILITIES ARE LOCATED. DESIGNATED WASHOUT AREAS SHOULD BE LOCATED AT LEAST 50 FEET AWAY FROM STORM DRAINS, STREAMS OR OTHER WATER BODIES. CARE SHOULD BE TAKEN TO ENSURE THESE FACILITIES DO NOT OVERFLOW DURING STORM EVENTS.
       7) CONCRETE GROOVING/GRINDING SLURRY – DO NOT DISCHARGE SLURRY TO A WATERBODY OR STORM DRAIN. SLURRY MAY BE APPLIED ON FORESLOPES OR REMOVED FROM THE PROJECT.
       8) VEHICLE AND EQUIPMENT STORAGE AND MAINTENANCE AREAS - PERFORM ON SITE FUELING AND MAINTENANCE IN ACCORDANCE WITH ALL ENVIRONMENT LAWS SUCH AS PROPER STORAGE OF ONSITE FUELS AND PROPER DISPOSAL OF USED ENGINE OIL OR OTHER FLUIDS ON SITE. EMPLOY WASHING PRACTICES THAT PREVENT CONTAMINATION OF SURFACE AND GROUND WATER FROM WASH WATER. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
       9) LITTER MANAGEMENT - ENSURE EMPLOYEES PROPERLY DISPOSE OF LITTER. MINIMIZE EXPOSURE OF TRASH IF EXPOSURE TO PRECIPITATION OR STORM WATER WOULD RESULT IN A DISCHARGE OF POLLUTANTS.
       10) DEWATERING – PROPERLY TREAT WATER TO REMOVE SUSPENDED SEDIMENT BEFORE IT RE-ENTERS A WATERBODY OR DISCHARGES OFF-SITE. MEASURES ARE ALSO TO BE TAKEN TO PREVENT SCOUR EROSION AT DEWATERING DISCHARGE POINT.
  3. APPROVED STATE OR LOCAL PLANS
     DURING THE COURSE OF THIS CONSTRUCTION, IT IS POSSIBLE THAT SITUATIONS WILL ARISE WHERE UNKNOWN MATERIALS WILL BE ENCOUNTERED. WHEN SUCH SITUATIONS ARE ENCOUNTERED, THEY WILL BE HANDLED ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS IN EFFECT AT THE TIME.

IV. MAINTENANCE PROCEDURES
THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN PROPER WORKING ORDER, INCLUDING CLEANING, REPAIRING, OR REPLACING THEM THROUGHOUT THE CONTRACT PERIOD. THIS SHALL BEGIN WHEN THE FEATURES HAVE LOST 50% OF THEIR CAPACITY.

V. INSPECTION REQUIREMENTS
- A. INSPECTIONS SHALL BE MADE JOINTLY BY THE CONTRACTOR AND THE CONTRACTING AUTHORITY AT LEAST ONCE EVERY SEVEN CALENDAR DAYS. STORM WATER SITE INSPECTIONS WILL INCLUDE:
  1. DATE OF THE INSPECTION.
  2. SUMMARY OF THE SCOPE OF THE INSPECTION.
  3. NAME AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION.
  4. REVIEW OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN DISTURBED AREAS FOR THE EFFECTIVENESS IN PREVENTING IMPACTS TO RECEIVING WATERS.
  5. MAJOR OBSERVATIONS RELATED TO THE IMPLEMENTATION OF THE PPP.
  6. IDENTIFICATION OF CORRECTIVE ACTIONS REQUIRED TO MAINTAIN OR MODIFY EROSION AND SEDIMENT CONTROL MEASURES.
- B. INCLUDE STORM WATER SITE INSPECTION REPORTS IN THE AMENDED PPP. INCORPORATE ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DETERMINED AS A RESULT OF THE INSPECTION. IMMEDIATELY BEGIN CORRECTIVE ACTIONS ON ALL DEFICIENCIES FOUND WITHIN 3 CALENDAR DAYS OF THE INSPECTION AND COMPLETE WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION. IF IT IS DETERMINED THAT MAKING THE CORRECTIONS LESS THAN 72 HOURS AFTER THE INSPECTION IS IMPRACTICABLE, IT SHOULD BE DOCUMENTED WHY IT IS IMPRACTICABLE AND INDICATE AN ESTIMATED DATE BY WHICH THE CORRECTIONS WILL BE MADE.

VI. NON-STORM WATER DISCHARGES
THIS INCLUDES SUBSURFACE DRAINS (I.E. LONGITUDINAL AND STANDARD SUBDRAINS) AND SLOPE DRAINS. THE VELOCITY OF THE DISCHARGE FROM THESE FEATURES MAY BE CONTROLLED BY THE USE OF HEADWALLS OR BLOCKS, CLASS A STONE, EROSION STONE OR OTHER APPROPRIATE MATERIALS. THIS ALSO INCLUDES UNCONTAMINATED GROUNDWATER FROM DEWATERING OPERATIONS, WHICH WILL BE CONTROLLED AS DISCUSSED IN SECTION III OF THE PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION
SILTS, SEDIMENT, AND OTHER FORMS OF POLLUTION MAY BE TRANSPORTED ONTO HIGHWAY RIGHT-OF-WAY (ROW) AS A RESULT OF A STORM EVENT. POTENTIAL SOURCES OF POLLUTION LOCATED OUTSIDE HIGHWAY ROW ARE BEYOND THE CONTROL OF THIS PPP. POLLUTION WITHIN HIGHWAY ROW WILL BE CONVEYED AND CONTROLLED PER THIS PPP.

VIII. DEFINITIONS
- A. BASE PPP - INITIAL POLLUTION PREVENTION PLAN.
- B. AMENDED PPP – BASE PPP AMENDED DURING CONSTRUCTION. MAY INCLUDE PLAN REVISIONS OR CONTRACT MODIFICATIONS FOR NEW ITEMS, STORM WATER SITE INSPECTION REPORTS, FIELDBOOK ENTRIES MADE BY THE INSPECTOR, AMENDED PPP SITE MAP BY THE CONTRACTOR, ECIP, NOI, CO-PERMITTEE CERTIFICATIONS, AND SUBCONTRACTOR REQUEST FORMS. ITEMS AMENDING THE PPP ARE STORED ELECTRONICALLY AND ARE READILY AVAILABLE UPON REQUEST.
- C. FIELDBOOK ENTRIES – THIS CONTAINS THE INSPECTOR'S DAILY DIARY AND BID ITEM POSTINGS.
- D. CONTROLS - METHODS, PRACTICES, OR MEASURES TO MINIMIZE OR PREVENT EROSION, CONTROL SEDIMENTATION, CONTROL STORM WATER, OR MINIMIZE CONTAMINANTS FROM OTHER TYPES OF WASTE OR MATERIALS. ALSO CALLED BEST MANAGEMENT PRACTICES (BMPS).
- E. SIGNATURE AUTHORITY - REPRESENTATIVE AUTHORIZED TO SIGN VARIOUS STORM WATER DOCUMENTS.

CERTIFICATION STATEMENT

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

DeWayne Heintz
SIGNATURE

DeWayne Heintz
PRINTED OR TYPED NAME

POLLUTION PREVENTION PLAN

JEFFERSON COUNTY, IOWA

BORING LOG NO. 1 STATION 1039+65, 7'RT | CBA Job No.: 2020238 | Project No.: 261221

Project: Stockport Rd Bridge over Cedar Creek
Section 36, Cedar Township
Jefferson County, Iowa

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA 50266

Surface Elevation: 655.7'
Datum: CL Road Elev at NW Abut = 654.56 feet

Date Drilled: 06/01/2026
Drilling Depth, ft.: 35
Drilling Method: HSA
Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength, psf	Material Description*	Graphic Log	USCS	Water Level	Depth	Elevation ft.
	0							PCC (12"±)					1
		1	ST		21.0	106	2890	Gray-brown sandy lean clay, trace gravel, moist Dark gray after 3.5' FILL		CL			654.7
648	8	2	ST		23.3		4000**						10.5
		3	ST		25.4		2000**	Gray-brown lean clay, moist to very moist		CL			645.2
640	16	4	ST		26.9	97	1600	COHESIVE ALLUVIUM (Stiff Silty Clay)					
		5	ST		24.5	99	850	Dark gray after 22'			▽	26	
		6	SSA	150				Tan fractured limestone, damp					629.7
624	32							Gray solid limestone after 30' BEDROCK					
		7	SSA	50/0.3"								35	
								End of Boring					620.7
616	40												
608	48												

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: 25 ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

BORING LOG NO. 2 STATION 1040+35, 5'RT | CBA Job No.: 2020238 | Project No.: 261221

Project: Stockport Rd Bridge over Cedar Creek
Section 36, Cedar Township
Jefferson County, Iowa

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA 50266

Surface Elevation: 655.5'
Datum: CL Road Elev at NW Abut = 654.56 feet

Date Drilled: 06/01/2026
Drilling Depth, ft.: 47
Drilling Method: HSA/NX Core
Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength, psf	Material Description*	Graphic Log	USCS	Water Level	Depth	Elevation ft.
	0							Reinforced PCC (8"±)					0.7
													654.8
648	8							Air					
640	16												20
								Dark brown clayey fine sand, moist GRANULAR ALLUVIUM (Silty Sand)		SC			635.5 23.5
632	24	1	SSA	4	22.2			Gray-brown very sandy lean clay, moist to very moist Dark gray lean clay, very moist after 25.5' COHESIVE ALLUVIUM (Soft Silty Clay)		CL			632
		2	SSA	4	27.0								
624	32	3	SSA	25									34.5
		4	SSA	50/0"				Tan fractured limestone, damp					621
		CR1	NX		4.3	145	9800psi	Core Run 1 (35.75' to 37') Rec. = 100% RQD = 39%					
616	40	CR2	NX		10.5	126	6970psi	Gray solid limestone after 36.5' Core Run 2 (37' to 43') Rec. = 100% RQD = 75%					
					11.7	125	5480psi	BEDROCK					
		CR3	NX					Core Run 3 (43' to 47') Rec. = 100% RQD = 73%					47
608	48							End of Boring					608.5

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: ____ ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

SOUNDING DATA

(SEE "SITUATION PLAN", SHEET 4 AND "GENERAL PLAN", SHEET 5, FOR BORING LOCATIONS)

LICENSED PROFESSIONAL ENGINEER
DAVID LOGEMANN
12394
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.

DATE: 7/21/26

DAVID LOGEMANN, P.E.

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2027.

PAGES OR SHEETS COVERED BY THIS SEAL:
8-9 OF 35

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'-0 END SPANS

TEE PIERS
132'-0 INTERIOR SPAN

SOUNDING DATA

STATION 1041+00.00
JEFFERSON COUNTY,

15° SKEW, LT. AHEAD
IOWA

BORING LOG NO. 3 STATION 1041+72, 5'RT | CBA Job No.: 2020238 | Project No.: 261221

Project: Stockport Rd Bridge over Cedar Creek
Section 36, Cedar Township
Jefferson County, Iowa

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA 50266

Surface Elevation: 654.8'
Datum: CL Road Elev at NW Abut = 654.56 feet

Date Drilled: 06/02/2026
Drilling Depth, ft.: 47
Drilling Method: HSA/NX Core
Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength, psf	Material Description*	Graphic Log	USCS	Water Level Depth	Elevation ft.
	0							Reinforced PCC (8"±)				0.7
												654.1
648	8							Air				
640	16											20
								Gray-brown very sandy lean clay, moist to very moist		CL		634.8
632	24	1	SSA	4	18.8			Moisture seepage near 27'				
		2	SSA	3	25.4			COHESIVE ALLUVIUM (Soft Silty Clay)		SC		
624	32							Dark brown clayey fine sand seam near 29.5'				34.5
		3	SSA	12	14.0			Gray fractured limestone, damp				620.3
		4	SSA	50/1.5"	15.3			Core Run 1 (36' to 37.5')				
616	40	CR1	NX		9.9	128	8380psi	Rec. = 67% RQD = 64%				
		CR2	NX					Gray solid limestone after 36.5'				
								Core Run 2 (37.5' to 40.5')				
		CR3	NX		0.2	163	8140psi	Rec. = 100% RQD = 50%				
608	48							Core Run 3 (40.5' to 47')				
								Rec. = 100% RQD = 79%				47
								BEDROCK				607.8
								End of Boring				

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: ____ ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

BORING LOG NO. 4 STATION 1042+30, 5'RT | CBA Job No.: 2020238 | Project No.: 261221

Project: Stockport Rd Bridge over Cedar Creek
Section 36, Cedar Township
Jefferson County, Iowa

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA 50266

Surface Elevation: 654.6'
Datum: CL Road Elev at NW Abut = 654.56 feet

Date Drilled: 06/03/2026
Drilling Depth, ft.: 44.5
Drilling Method: HSA
Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength, psf	Material Description*	Graphic Log	USCS	Water Level Depth	Elevation ft.
	0							Reinforced PCC (8"±)				0.7
												653.9
648	8							Air				
								Brown and dark brown sandy lean clay, trace gravel, moist		CL		645.6
640	16	1	SSA		19.0	99	1690	Moisture seepage near 10' FILL				15.5
								Dark gray very sandy lean clay, moist to very moist		CL		639.1
		2	ST		26.4	100	4000**					
632	24	3	ST		19.6	95	2000**	COHESIVE ALLUVIUM (Stiff Silty Clay)				
		4	ST		22.8	98						29
624	32							Dark gray silty fine sand, saturated		SM		625.6
		5	SSA	7				GRANULAR ALLUVIUM (Silty Sand)				
								Dark gray silty fine to medium sand, trace gravel after 35.5'				38.5
616	40	6	SSA	150	18.8			Tan fractured limestone, damp				616.1
								Gray solid limestone after 40.5' BEDROCK				44.5
		7	SSA	50/0.3"				End of Boring				610.1
608	48							**Estimated using calibrated hand penetrometer				

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: ____ ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

SOUNDING DATA

(SEE "SITUATION PLAN", SHEET 4 AND "GENERAL PLAN", SHEET 5, FOR BORING LOCATIONS)

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'–0 END SPANS

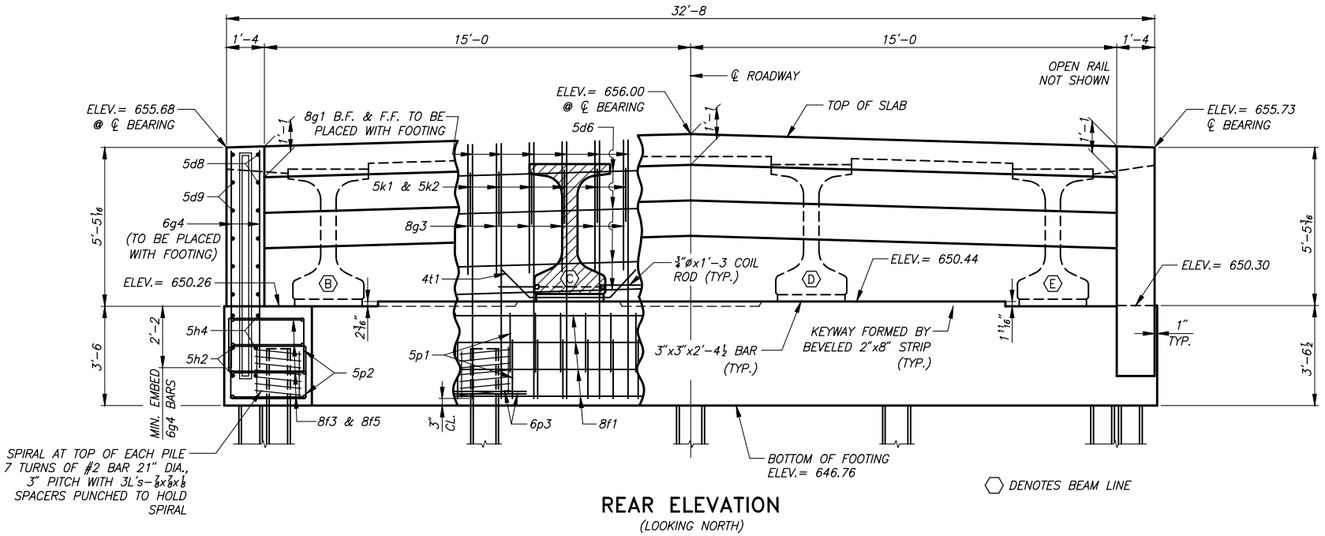
TEE PIERS
132'–0 INTERIOR SPAN

SOUNDING DATA

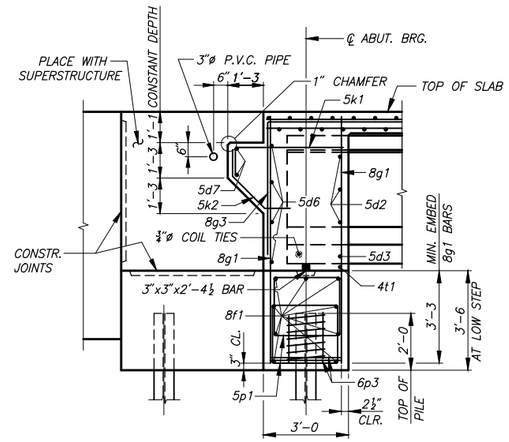
STATION 1041+00.00
JEFFERSON COUNTY,

15° SKEW, LT. AHEAD
IOWA

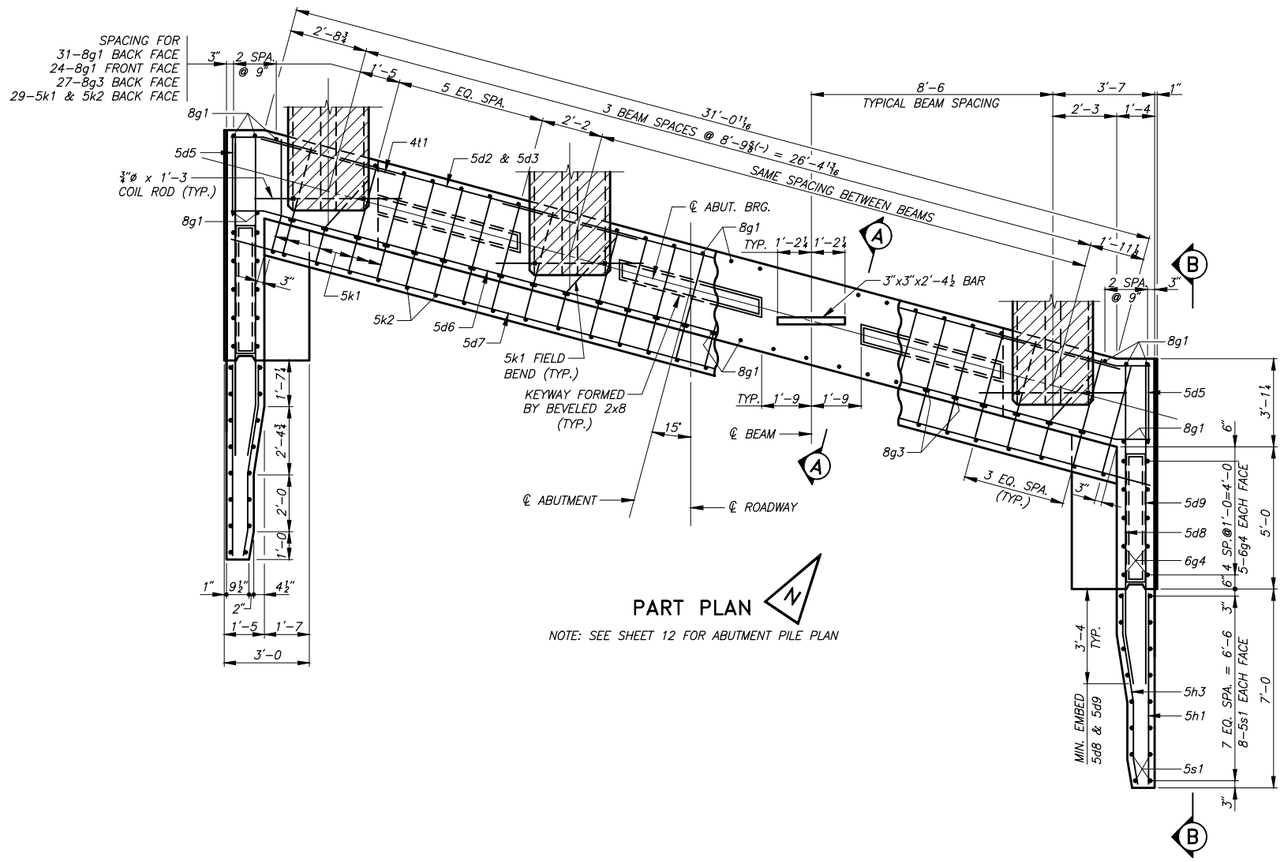
BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06



REAR ELEVATION
(LOOKING NORTH)

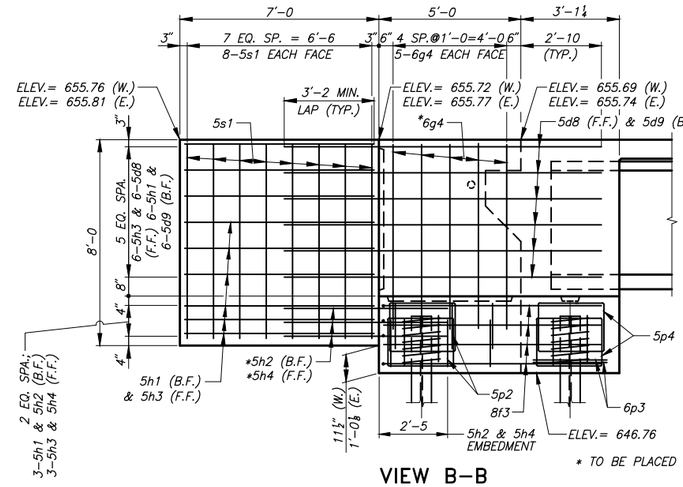


SECTION A–A



PART PLAN

NOTE: SEE SHEET 12 FOR ABUTMENT PILE PLAN



VIEW B–B

* TO BE PLACED WITH FOOTING.

NOTES: 1. ELEVATIONS AND VERTICAL DIMENSIONS SHOWN ARE AT OUTSIDE FACE.
2. SEE OPEN RAIL DETAILS, SHEETS 26 & 27 FOR ADDITIONAL WING AND WING EXTENSION REINFORCING.

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'–0 END SPANS

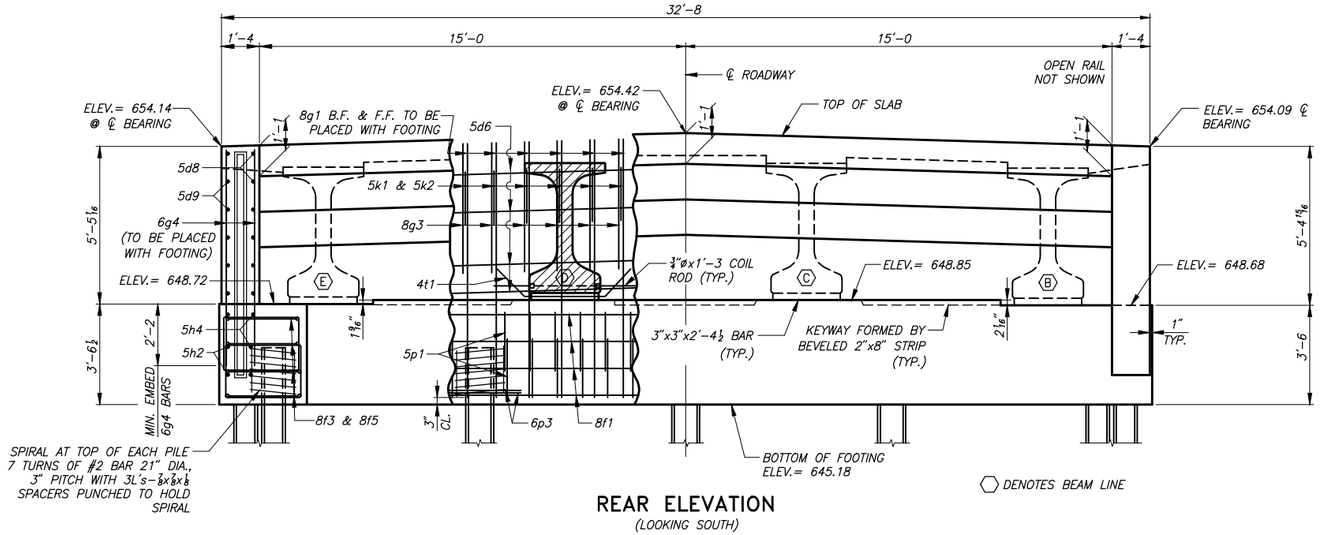
TEE PIERS
132'–0 INTERIOR SPAN

SOUTH ABUTMENT DETAILS

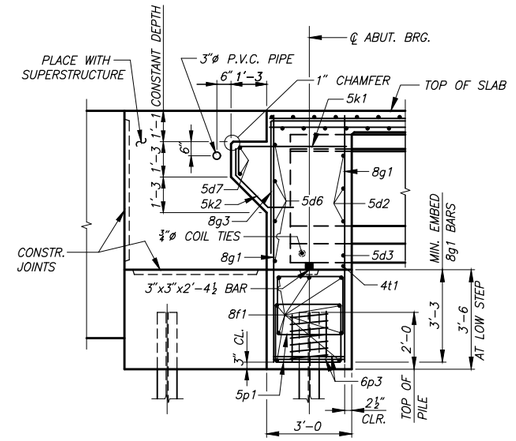
STATION 1041+00.00
JEFFERSON COUNTY,

15° SKEW, LT. AHEAD
IOWA

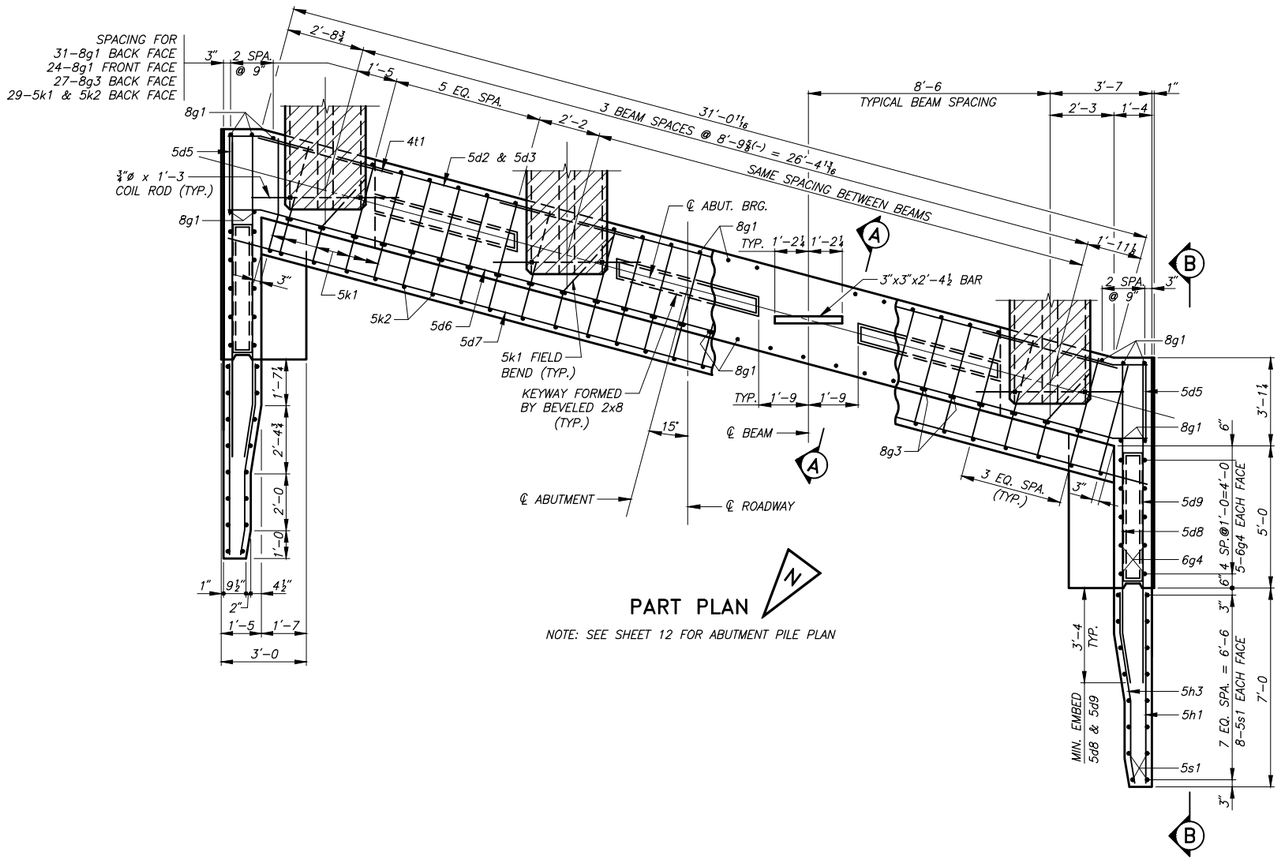
BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06



REAR ELEVATION
(LOOKING SOUTH)

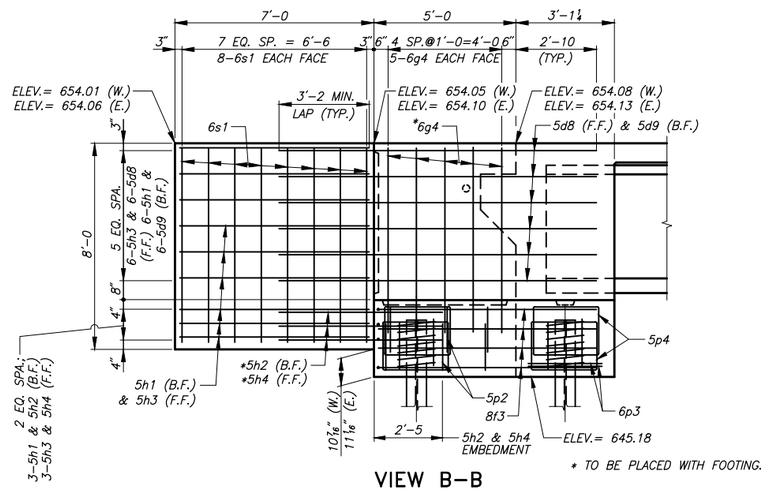


SECTION A–A



PART PLAN

NOTE: SEE SHEET 12 FOR ABUTMENT PILE PLAN



* TO BE PLACED WITH FOOTING.

VIEW B–B

NOTES: 1. ELEVATIONS AND VERTICAL DIMENSIONS SHOWN ARE AT OUTSIDE FACE.
2. SEE OPEN RAIL DETAILS, SHEETS 26 & 27 FOR ADDITIONAL WING AND WING EXTENSION REINFORCING.

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'–0 END SPANS

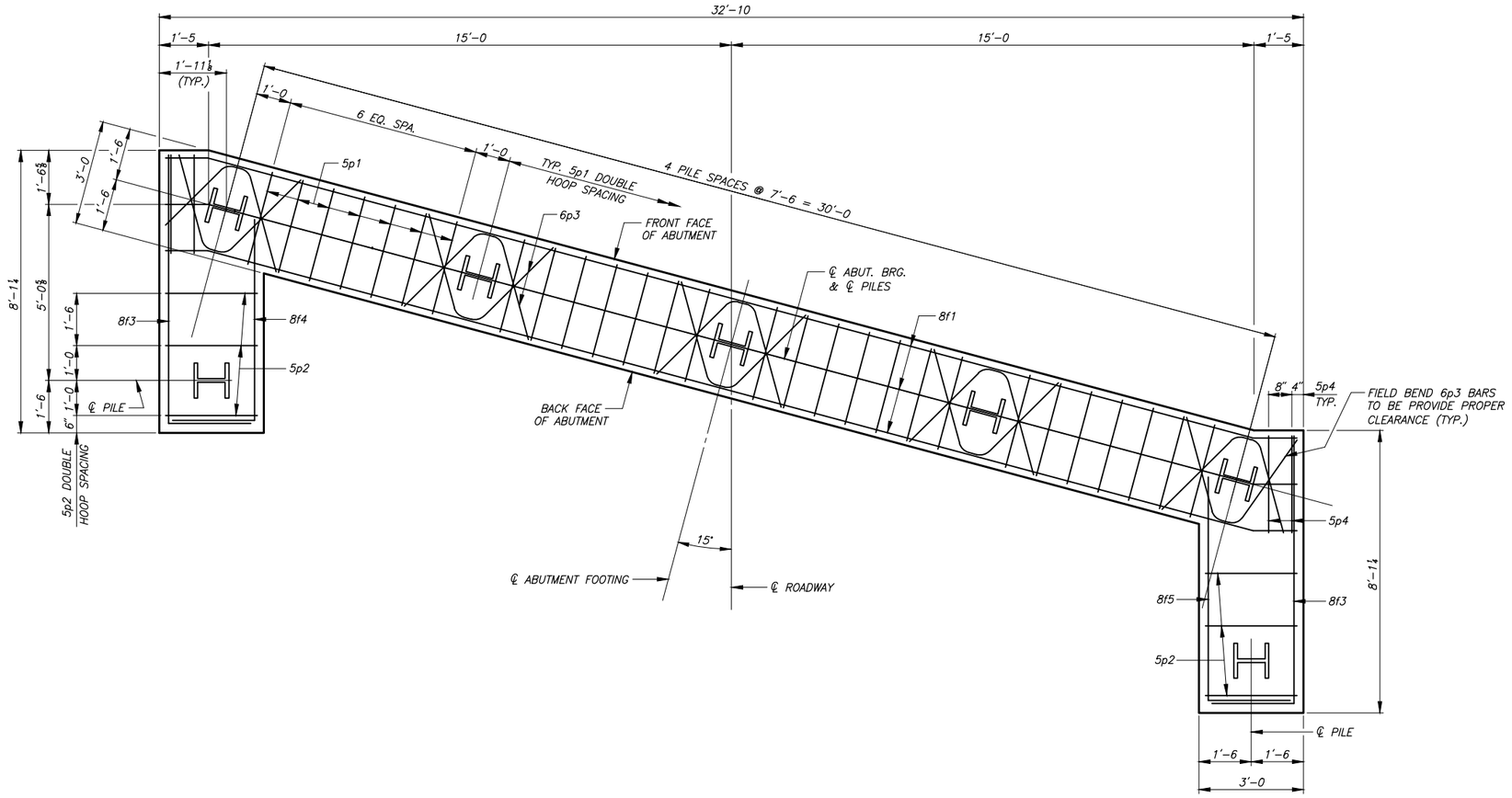
TEE PIERS
132'–0 INTERIOR SPAN

NORTH ABUTMENT DETAILS

STATION 1041+00.00

15° SKEW, LT. AHEAD

JEFFERSON COUNTY, IOWA



TYPICAL ABUTMENT PILE PLAN

NOTES: 1. 7–30' HP10x57 STEEL BEARING PILING REQUIRED FOR THE SOUTH ABUTMENT AND 7–40' HP10x57 STEEL BEARING PILING REQUIRED FOR THE NORTH ABUTMENT.
2. SEE SHEETS 10 & 11 FOR ABUTMENT DETAILS.
3. SEE SHEET 6 FOR PILE NOTES.

ABUTMENT NOTES

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

ALL REINFORCING STEEL TO BE SECURELY WIRED IN PLACE AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS POURED.

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

ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A ¾" DRESSED AND BEVELED STRIP.

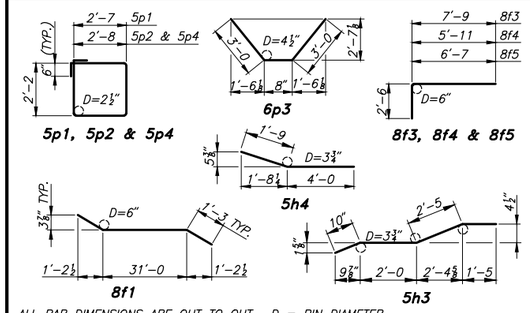
CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2 x 8'S.

SEE PILE NOTES ON SHEET 6 FOR ADDITIONAL INFORMATION.

REINFORCING BAR LIST – ONE ABUTMENT

	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
Δ	8f1	ABUT. FOOTING, LONGITUDINAL		9	33'–6	805
Δ	8f3	ABUT. EXTENSION, LONGITUDINAL		8	10'–3	219
Δ	8f4	ABUT. EXTENSION, LONGITUDINAL		4	8'–5	90
Δ	8f5	ABUT. EXTENSION, LONGITUDINAL		4	9'–1	97
Δ	8g1	ABUT. VERTICAL, B.F. & F.F.		55	8'–5	1,236
Δ	6g4	ABUT. DIAPHRAGM, WING EXT., VERT.		20	7'–4	220
Δ	5h1	ABUT. WING, HORIZONTAL, B.F.		18	6'–8	125
Δ	5h2	ABUT. TO WING, ANCHOR, B.F.		6	5'–9	36
Δ	5h3	ABUT. WING, HORIZONTAL, F.F.		18	6'–8	125
Δ	5h4	ABUT. TO WING, ANCHOR, F.F.		6	5'–9	36
Δ	5p1	ABUT. HOOPS		56	10'–6	613
Δ	5p2	ABUT. EXTENSION, HOOPS		12	10'–8	134
Δ	6p3	ABUT. BOTTOM, AT PILES		10	6'–8	100
Δ	5p4	ABUT. HOOPS, ENDS		8	10'–8	89
Δ	5s1	WING, VERTICAL		32	7'–8	256
Δ	*	PILE SPIRAL – #2 BAR		7	38'–6	45
Δ	*	SPIRAL SPACERS – L⅜x⅜x⅛ x 0.70		21	1'–10	27
	*	MAY BE UNCOATED @ CONTRACTOR'S OPTION				
Δ	EPOXY COATED BARS		EPOXY COATED TOTAL (LBS.)			4,253

BENT BAR DETAILS



ALL BAR DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

CONCRETE PLACEMENT QUANT.– TWO ABUTS.

LOCATION	UNIT	QUANTITY
FOOTING AND STEPS (2 @ 17.6 C.Y.)	CU.YDS.	35.2
WINGS (4 @ 2.27 C.Y.)	CU.YDS.	9.1
TOTAL	CU.YDS.	44.3

ESTIMATED QUANTITIES – TWO ABUTMENTS

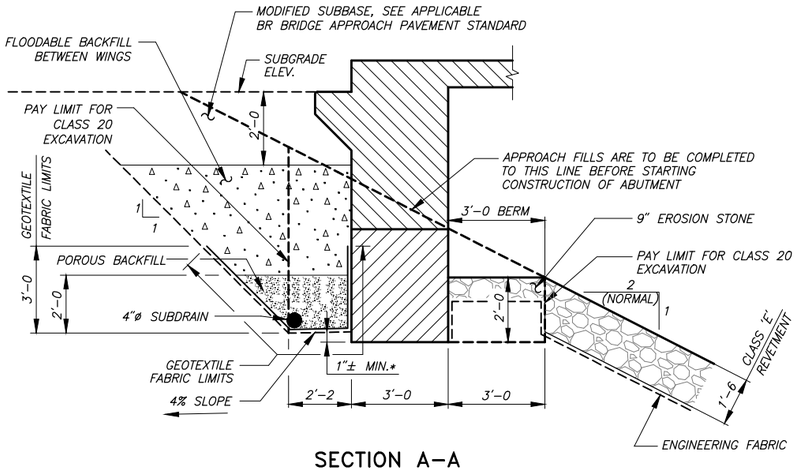
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (BRIDGE)	CU.YDS.	44.3
REINFORCING STEEL, EPOXY COATED	LBS.	8,506
PILES, STEEL, HP 10x57 (S. 7 @ 30' & N. 7 @ 40')	L.F.	490
PREBORED HOLES (14 @ 10')	L.F.	140
EXCAVATION, CLASS 20 (2 @ 107 C.Y.)	CU.YDS.	214

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
66'–0 END SPANS — **132'–0 INTERIOR SPAN**

ABUTMENT DETAILS

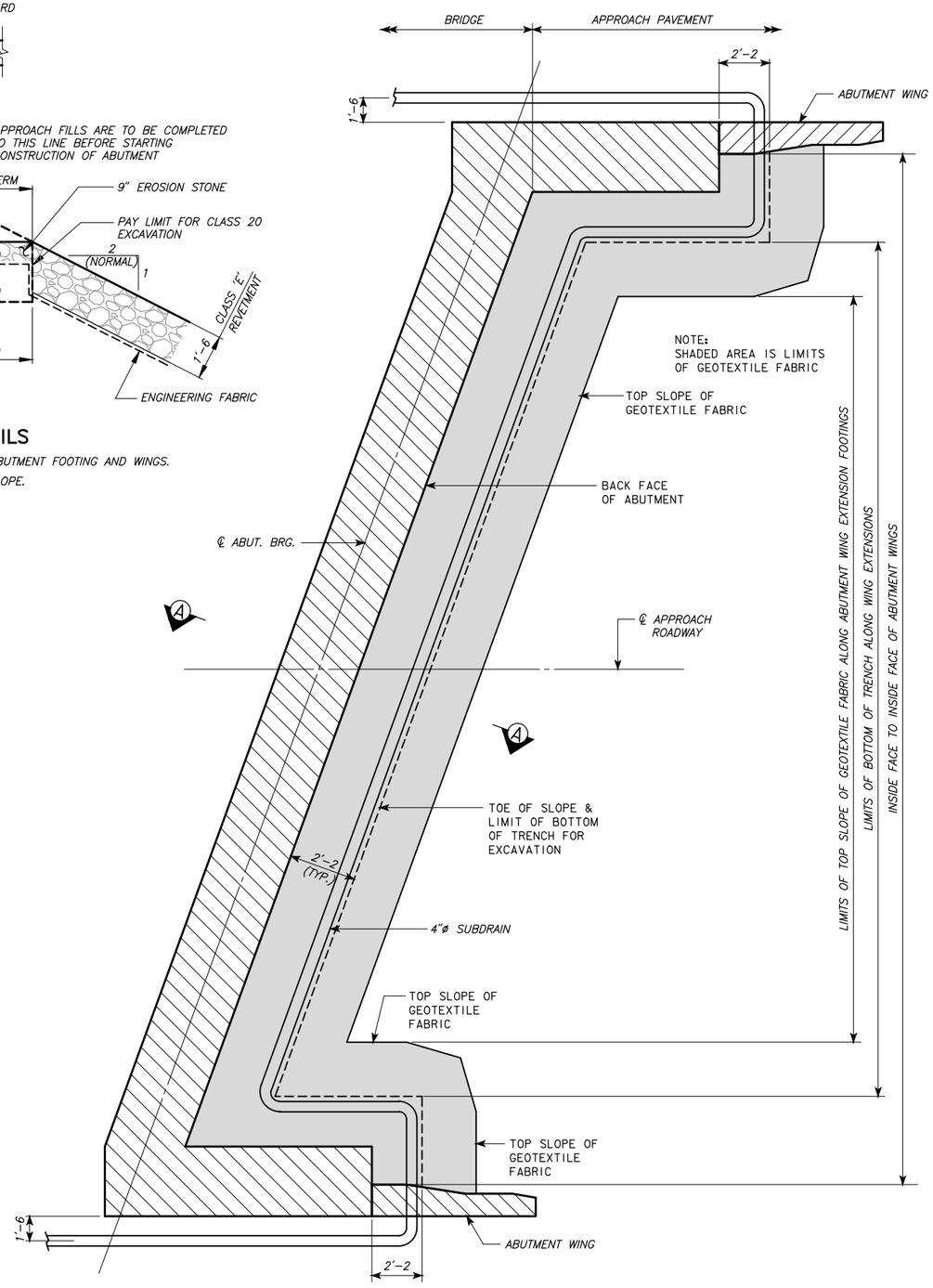
STATION 1041+00.00 — **15° SKEW, LT. AHEAD**
JEFFERSON COUNTY, — **IOWA**



SECTION A–A
GRANULAR BACKFILL DETAILS

NOTE: GEOTEXTILE FABRIC WILL BE ATTACHED TO FACE OF ABUTMENT FOOTING AND WINGS.

*DIMENSION VARIES DUE TO 2% SUBDRAIN SLOPE.



ABUTMENT PLAN WITH WING EXTENSIONS

ABUTMENT BACKFILL PROCESS

THE BASE OF THE EXCAVATION SUBGRADE BEHIND THE ABUTMENT IS TO BE GRADED WITH A 4% SLOPE AWAY FROM THE ABUTMENT FOOTING AND A 2% CROSS SLOPE IN THE DIRECTION OF THE SUBDRAIN OUTLET. THIS EXCAVATION SHAPING IS TO BE DONE PRIOR TO BEGINNING INSTALLATION OF THE GEOTEXTILE AND BACKFILL MATERIAL.

AFTER THE SUBGRADE HAS BEEN SHAPED THE GEOTEXTILE FABRIC SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN. THE FABRIC IS INTENDED TO BE INSTALLED IN THE BASE OF THE EXCAVATION AND EXTENDED VERTICALLY UP THE ABUTMENT BACKWALL, ABUTMENT WING WALLS, AND EXCAVATION FACE TO A HEIGHT THAT WILL BE APPROXIMATELY I TO 2 FOOT HIGHER THAN THE HEIGHT OF THE POROUS BACKFILL PLACEMENT AS SHOWN IN THE "GRANULAR BACKFILL DETAILS" ON THIS SHEET. THE STRIPS OF THE FABRIC PLACED SHALL OVERLAP APPROXIMATELY I FOOT AND SHALL BE PINNED IN PLACE. THE FABRIC SHALL BE ATTACHED TO THE ABUTMENT BY USING LATH FOLDED IN THE FABRIC AND SECURED TO THE CONCRETE WITH SHALLOW CONCRETE NAILS. THE FABRIC PLACED AGAINST THE EXCAVATION FACE SHALL BE PINNED.

WHEN THE FABRIC IS IN PLACE, THE SUBDRAIN SHALL BE INSTALLED DIRECTLY ON THE FABRIC AT THE TOE OF THE REAR EXCAVATION SLOPE. A SLOT WILL NEED TO CUT IN THE FABRIC AT THE POINT WHERE THE SUBDRAIN EXITS THE FABRIC NEAR THE END OF THE ABUTMENT WING WALL.

POROUS BACKFILL IS THEN PLACED AND LEVELED, NO COMPACTION IS REQUIRED.

THE REMAINING WORK INVOLVES BACKFILLING WITH FLOODABLE BACKFILL, SURFACE FLOODING, AND VIBRATORY COMPACTION. THE FLOODABLE BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE FLOODABLE BACKFILL SHALL BE PLACED IN INDIVIDUAL LIFTS, SURFACE FLOODED, AND COMPACTED WITH VIBRATORY COMPACTION TO ENSURE FULL CONSOLIDATION. LIMIT THE LOOSE LIFTS TO NO MORE THAN 2 FEET OF THICKNESS.

START SURFACE FLOODING FOR EACH FLOODABLE BACKFILL LIFT AT THE HIGH POINT OF THE SUBDRAIN AND PROGRESS TO THE LOW POINT WHERE THE SUBDRAIN EXITS THE FABRIC. TO ENSURE UNIFORM SURFACE FLOODING, WATER RUNNING FULL IN A 2-INCH DIAMETER HOSE SHOULD BE SPRAYED IN SUCCESSIVE 6-FOOT TO 8-FOOT INCREMENTS FOR 5 MINUTES WITHIN EACH INCREMENT.

FLOODABLE BACKFILL LIFT PLACEMENT, FLOODING, AND COMPACTION SHALL PROGRESS UNTIL THE REQUIRED FULL THICKNESS OF THE ABUTMENT BACKFILL HAS BEEN COMPLETED.

WATER REQUIRED FOR FLOODING, SUBDRAINS, POROUS BACKFILL, FLOODABLE BACKFILL, AND GEOTEXTILE FABRIC FURNISHED AT THE BRIDGE ABUTMENTS WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.

THE COST OF WATER REQUIRED FOR FLOODING, SUBDRAINS, POROUS BACKFILL, FLOODABLE BACKFILL, AND GEOTEXTILE FABRIC FURNISHED AT THE BRIDGE ABUTMENTS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".

NOTES:

SUBDRAIN SHALL SLOPE DOWNWARD 2% FROM CENTERLINE APPROACH ROADWAY WHEN OUTLETTING BOTH SIDES OF THE ABUTMENT.

THE GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH ARTICLE 4196.01,B,6 OF THE STANDARD SPECIFICATIONS. IF THE ENGINEERING FABRIC IS LAPPED, THE LAPS SHALL BE A MINIMUM OF ONE FOOT IN LENGTH, SINGLE FASHION WITH UP SLOPE LAP PIECE ON TOP AND STAPLED FOR CONTINUITY.

SEE SITUATION PLAN, SHEET 4, FOR ADDITIONAL INFORMATION.

SEE SUBDRAIN AND WING ARMORING DETAILS, SHEET 28, FOR ADDITIONAL INFORMATION.

MODIFIED STANDARD SHEET 1007E

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'–0 END SPANS

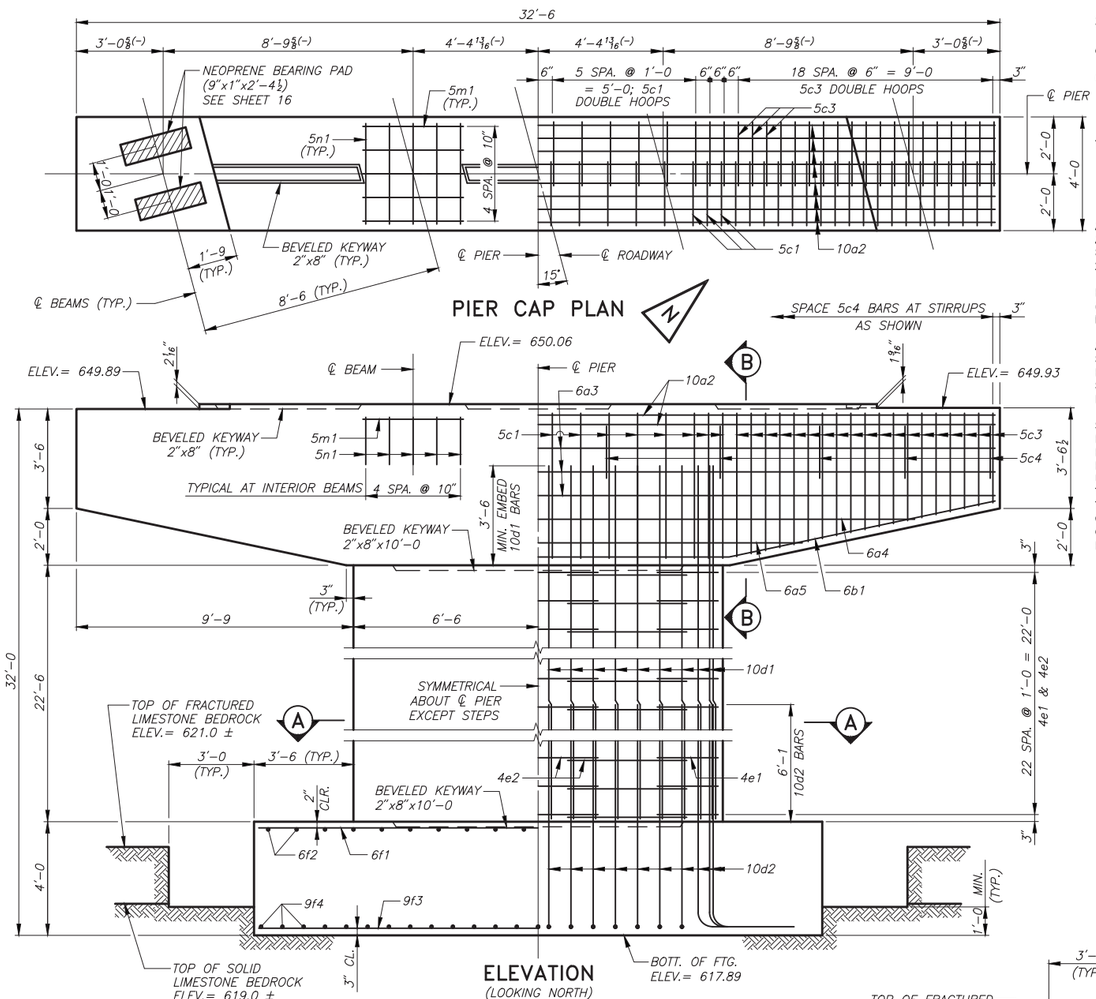
TEE PIERS
132'–0 INTERIOR SPAN

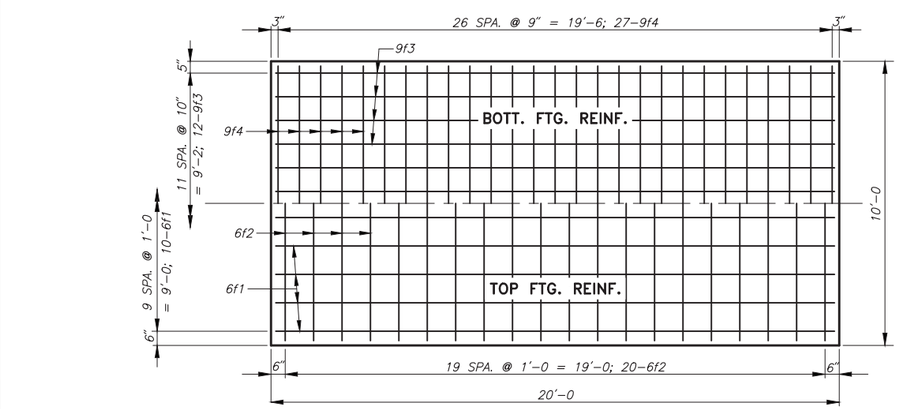
ABUTMENT BACKFILL DETAILS

STATION 1041+00.00

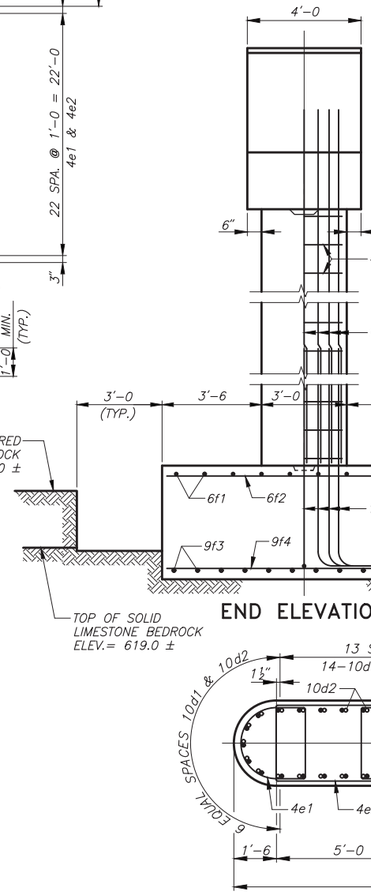
15° SKEW, LT. AHEAD

JEFFERSON COUNTY, IOWA

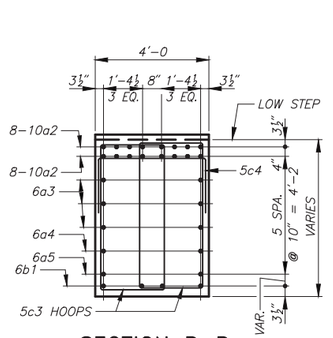




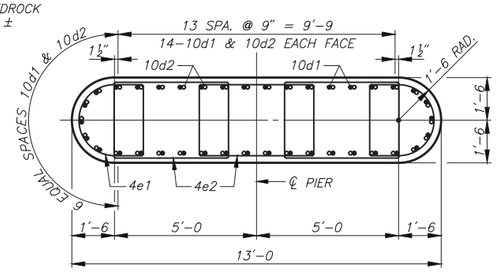
FOOTING PLAN



END ELEVATION



SECTION B-B



SECTION A-A

BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06

SOUTH PIER NOTES

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

ALL REINFORCING STEEL TO BE SECURELY WIRED IN PLACE AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS POURED.

ALL REINFORCING STEEL IS TO BE GRADE 60.

ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A ¾" DRESSED AND BEVELED STRIP.

CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2 x 8'S.

FORMS FOR PIER CAPS ON THE SOUTH PIER MAY BE REMOVED WITH THE APPROVAL OF THE ENGINEER WHEN THE FOLLOWING TWO CONDITIONS HAVE BEEN MET:

- PIER CAP CONCRETE HAS BEEN IN PLACE FOR A MINIMUM OF 2 CALENDAR DAYS EXCLUDING DAYS THAT THE CONCRETE SURFACE IS SUBJECTED TO TEMPERATURES AT OR BELOW 40° F AND
- THE PIER CAP CONCRETE COMPRESSIVE STRENGTH IS AT LEAST 2500 PSI.

MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 2500 PSI SHALL BE VERIFIED BY FLEXURAL STRENGTH ACCORDING TO MATERIALS I.M. 316 WITH A MINIMUM FLEXURAL STRENGTH OF 450 PSI OR BY THE MATURITY METHOD ACCORDING TO MATERIALS I.M. 383. CURING OF PIER CAP CONCRETE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PIER CAP CONCRETE SHALL BE SUBJECTED TO EXTERIOR LOADS IN ACCORDANCE WITH ARTICLE 2403.03, N, 2 OF THE STANDARD SPECIFICATIONS.

THE FOOTING SHALL BE FOUNDED IN SOLID LIMESTONE BEDROCK AS DETAILED IN THE PLANS. THE FOUNDATION ROCK SHALL HAVE A MINIMUM LRFD NOMINAL BEARING RESISTANCE OF 51 KIPS PER SQUARE FOOT (ALLOWABLE SERVICE LOAD BEARING VALUE OF AT LEAST 17 KIPS PER SQUARE FOOT). FOOTING DESIGNED TO MINIMIZE UPLIFT.

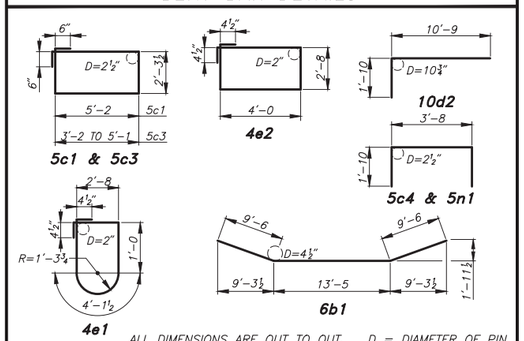
EXCAVATION FOR PIER FOOTINGS AND PLACEMENT OF PIER FOOTING CONCRETE ARE TO BE PERFORMED IN AS DRY OF CONDITIONS AS PRACTICABLE, USING COFFERDAMS, PUMPS, OR OTHER SUITABLE MEASURES TO ASSURE SUCH CONDITIONS IN ACCORDANCE WITH SECTION 2405 AND SUPPLEMENTAL SPECIFICATIONS. THE COST OF ALL PIER EXCAVATION AND DEWATERING IS TO BE INCLUDED IN THE BID FOR "EXCAVATION, CLASS 21". THE NEW PIER FOOTING SHALL BE KEYED A MINIMUM OF 1'-0 INTO SOUND BEDROCK. THE FINAL 1'-0 OF BEDROCK EXCAVATION IS TO BE NEAT LINES AS SHOWN IN THE PLANS.

THE CONTRACTOR AND ENGINEER ARE TO VERIFY THAT THE BEDROCK IS LOCATED AS SHOWN ON THE SOUNDING DATA DETAILED ON THE PLANS. DIFFERENCES WHICH CAUSE CHANGES IN BOTTOM OF FOOTING ELEVATIONS MAY BE CAUSE FOR DESIGN CHANGES. THE ENGINEER WILL RETAIN A QUALIFIED GEOTECHNICAL ENGINEER FOR REVIEW. AFTER EXCAVATING TO WITHIN 6" OF THE DESIGN FOOTING ELEVATION, AT LEAST TWO (2) PROBE HOLES ARE TO BE DRILLED BY THE CONTRACTOR INTO ROCK AT THE BASE OF THE FOOTING EXCAVATION UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER. THE PROBE HOLES SHOULD EXTEND AT LEAST 3'-6 INTO THE ROCK. IF LAYERS UNABLE TO WITHSTAND THE DESIGN BEARING ARE ENCOUNTERED WITHIN THE PROBE LIMITS, THE FOOTING MAY NEED TO BE LOWERED TO SUITABLE BEDROCK. THE PROBE HOLES SHALL BE GROUTED BY THE CONTRACTOR AFTER THE GEOTECHNICAL ENGINEER HAS COMPLETED VERIFICATION OF THE BEARING CAPACITY. COST OF DRILLING THE PROBE HOLES AND GROUTING, INCLUDING EQUIPMENT AND ALL LABOR IS TO BE INCLUDED IN PRICE BID FOR "EXCAVATION, CLASS 22".

REINFORCING BAR LIST – SOUTH PIER

	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
Δ	10a2	CAP, LONGITUDINAL, TOP	——	16	32'-2	2,215
Δ	6a3	CAP, LONGITUDINAL, SIDES	——	6	32'-2	290
Δ	6a4	CAP, LONGITUDINAL, SIDES	——	2	26'-6	80
Δ	6a5	CAP, LONGITUDINAL, SIDES	——	2	18'-7	56
Δ	6b1	CAP, LONGITUDINAL, BOTTOM	⌣	4	32'-5	195
Δ	5c1	CAP, HOOPS	▭	32	15'-11	531
Δ	5c3	CAP, HOOPS, ENDS	▭	76	VARIES	1,097
Δ	5c4	CAP, TIES	⊓	10	7'-4	76
	10d1	COLUMN, VERTICAL	——	38	27'-0	4,415
	10d2	COLUMN, VERTICAL, DOWELS	⌐	38	12'-7	2,057
	4e1	COLUMN, HOOPS, ENDS	▭	46	9'-7	294
	4e2	COLUMN, HOOPS	▭	69	14'-1	649
	6f1	FOOTING, LONGITUDINAL, TOP	——	10	19'-8	295
	6f2	FOOTING, TRANSVERSE, TOP	——	20	9'-8	290
	9f3	FOOTING, LONGITUDINAL, BOTTOM	——	12	19'-8	803
	9f4	FOOTING, TRANSVERSE, BOTTOM	——	27	9'-8	888
Δ	5m1	PIER CAP STEP, LONGITUDINAL	——	10	3'-10	40
Δ	5n1	PIER CAP STEP, TRANSVERSE	⊓	10	7'-4	76
	Δ EPOXY COATED			EPOXY COATED TOTAL (LBS.)		4,656
				NON-COATED TOTAL (LBS.)		9,691

BENT BAR DETAILS



ALL DIMENSIONS ARE OUT TO OUT. D = DIAMETER OF PIN
RADII ARE TO ℄ BAR.

CONCRETE PLACEMENT QUANT. – SOUTH PIER

LOCATION	QUANTITY
FOOTING	29.6
COLUMN	30.9
CAP	24.3
TOTAL (CU.YDS.)	84.8

ESTIMATED QUANTITIES – SOUTH PIER

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (BRIDGE)	CU.YDS.	84.8
REINFORCING STEEL (EPOXY COATED)	LBS.	4,656
REINFORCING STEEL	LBS.	9,691
EXCAVATION, CLASS 20	CU.YDS.	119
EXCAVATION, CLASS 21	CU.YDS.	33
EXCAVATION, CLASS 22	CU.YDS.	40

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

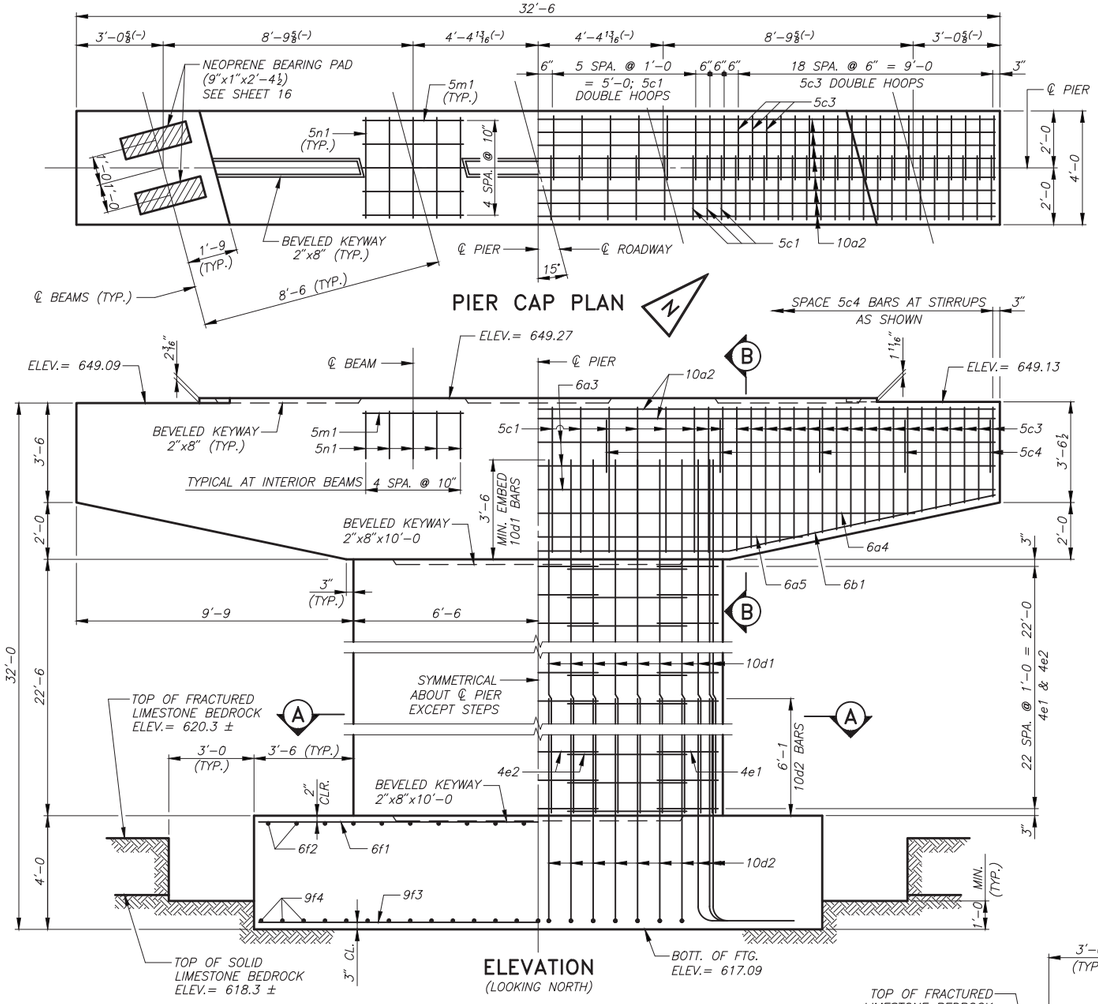
INTEGRAL ABUTMENTS
66'-0 END SPANS

TEE PIERS
132'-0 INTERIOR SPAN

SOUTH PIER DETAILS

STATION 1041+00.00
15° SKEW, LT. AHEAD
JEFFERSON COUNTY, IOWA

BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06



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ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A ¾" DRESSED AND BEVELED STRIP.

CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2 x 8'S.

FORMS FOR PIER CAPS ON THE NORTH PIER MAY BE REMOVED WITH THE APPROVAL OF THE ENGINEER WHEN THE FOLLOWING TWO CONDITIONS HAVE BEEN MET:

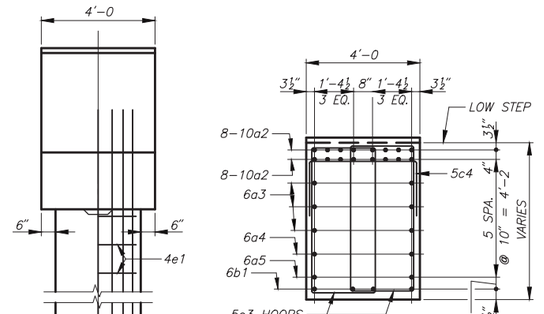
- PIER CAP CONCRETE HAS BEEN IN PLACE FOR A MINIMUM OF 2 CALENDAR DAYS EXCLUDING DAYS THAT THE CONCRETE SURFACE IS SUBJECTED TO TEMPERATURES AT OR BELOW 40° F AND
- THE PIER CAP CONCRETE COMPRESSIVE STRENGTH IS AT LEAST 2500 PSI.

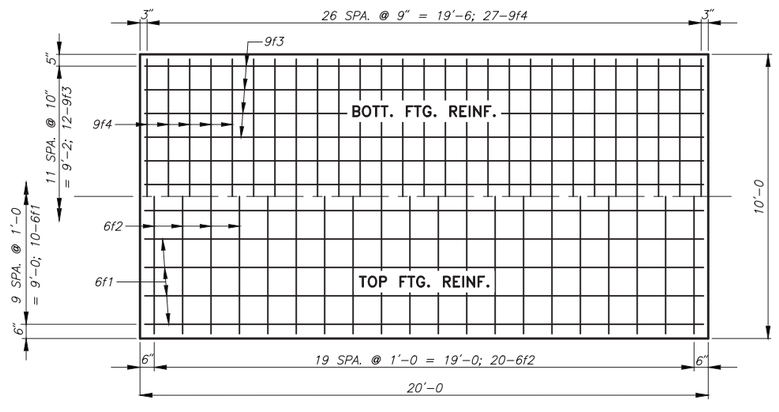
MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 2500 PSI SHALL BE VERIFIED BY FLEXURAL STRENGTH ACCORDING TO MATERIALS I.M. 316 WITH A MINIMUM FLEXURAL STRENGTH OF 450 PSI OR BY THE MATURITY METHOD ACCORDING TO MATERIALS I.M. 383. CURING OF PIER CAP CONCRETE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PIER CAP CONCRETE SHALL BE SUBJECTED TO EXTERIOR LOADS IN ACCORDANCE WITH ARTICLE 2403.03, N, 2 OF THE STANDARD SPECIFICATIONS.

THE FOOTING SHALL BE FOUNDED IN SOLID LIMESTONE BEDROCK AS DETAILED IN THE PLANS. THE FOUNDATION ROCK SHALL HAVE A MINIMUM LRFD NOMINAL BEARING RESISTANCE OF 51 KIPS PER SQUARE FOOT (ALLOWABLE SERVICE LOAD BEARING VALUE OF AT LEAST 17 KIPS PER SQUARE FOOT). FOOTING DESIGNED TO MINIMIZE UPLIFT.

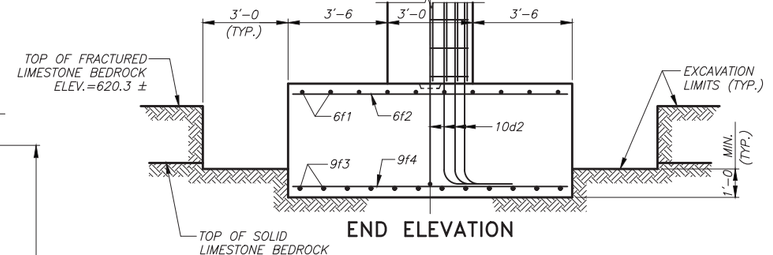
EXCAVATION FOR PIER FOOTINGS AND PLACEMENT OF PIER FOOTING CONCRETE ARE TO BE PERFORMED IN AS DRY OF CONDITIONS AS PRACTICABLE, USING COFFERDAMS, PUMPS, OR OTHER SUITABLE MEASURES TO ASSURE SUCH CONDITIONS IN ACCORDANCE WITH SECTION 2405 AND SUPPLEMENTAL SPECIFICATIONS. THE COST OF ALL PIER EXCAVATION AND DEWATERING IS TO BE INCLUDED IN THE BID FOR "EXCAVATION, CLASS 21". THE NEW PIER FOOTING SHALL BE KEYED A MINIMUM OF 1'-0 INTO SOUND BEDROCK. THE FINAL 1'-0 OF BEDROCK EXCAVATION IS TO BE NEAT LINES AS SHOWN IN THE PLANS.

THE CONTRACTOR AND ENGINEER ARE TO VERIFY THAT THE BEDROCK IS LOCATED AS SHOWN ON THE SOUNDING DATA DETAILED ON THE PLANS. DIFFERENCES WHICH CAUSE CHANGES IN BOTTOM OF FOOTING ELEVATIONS MAY BE CAUSE FOR DESIGN CHANGES. THE ENGINEER WILL RETAIN A QUALIFIED GEOTECHNICAL ENGINEER FOR REVIEW. AFTER EXCAVATING TO WITHIN 6" OF THE DESIGN FOOTING ELEVATION, AT LEAST TWO (2) PROBE HOLES ARE TO BE DRILLED BY THE CONTRACTOR INTO ROCK AT THE BASE OF THE FOOTING EXCAVATION UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER. THE PROBE HOLES SHOULD EXTEND AT LEAST 3'-6 INTO THE ROCK. IF LAYERS UNABLE TO WITHSTAND THE DESIGN BEARING ARE ENCOUNTERED WITHIN THE PROBE LIMITS, THE FOOTING MAY NEED TO BE LOWERED TO SUITABLE BEDROCK. THE PROBE HOLES SHALL BE GROUTED BY THE CONTRACTOR AFTER THE GEOTECHNICAL ENGINEER HAS COMPLETED VERIFICATION OF THE BEARING CAPACITY. COST OF DRILLING THE PROBE HOLES AND GROUTING, INCLUDING EQUIPMENT AND ALL LABOR IS TO BE INCLUDED IN PRICE BID FOR "EXCAVATION, CLASS 22".

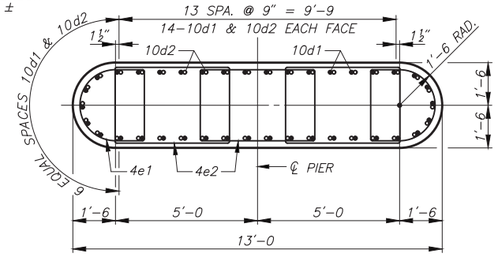




FOOTING PLAN



END ELEVATION

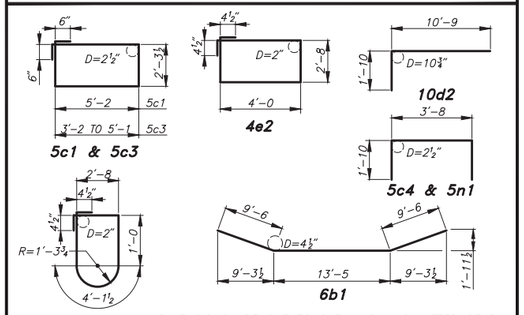


SECTION A-A

REINFORCING BAR LIST – NORTH PIER

	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
Δ	10a2	CAP, LONGITUDINAL, TOP	——	16	32'-2	2,215
Δ	6a3	CAP, LONGITUDINAL, SIDES	——	6	32'-2	290
Δ	6a4	CAP, LONGITUDINAL, SIDES	——	2	26'-6	80
Δ	6a5	CAP, LONGITUDINAL, SIDES	——	2	18'-7	56
Δ	6b1	CAP, LONGITUDINAL, BOTTOM	⌣	4	32'-5	195
Δ	5c1	CAP, HOOPS	▭	32	15'-11	531
Δ	5c3	CAP, HOOPS, ENDS	▭	76	VARIES	1,097
Δ	5c4	CAP, TIES	⊓	10	7'-4	76
	10d1	COLUMN, VERTICAL	——	38	27'-0	4,415
	10d2	COLUMN, VERTICAL, DOWELS	⌐	38	12'-7	2,057
	4e1	COLUMN, HOOPS, ENDS	▭	46	9'-7	294
	4e2	COLUMN, HOOPS	▭	69	14'-1	649
	6f1	FOOTING, LONGITUDINAL, TOP	——	10	19'-8	295
	6f2	FOOTING, TRANSVERSE, TOP	——	20	9'-8	290
	9f3	FOOTING, LONGITUDINAL, BOTTOM	——	12	19'-8	803
	9f4	FOOTING, TRANSVERSE, BOTTOM	——	27	9'-8	888
Δ	5m1	PIER CAP STEP, LONGITUDINAL	——	10	3'-10	40
Δ	5n1	PIER CAP STEP, TRANSVERSE	⊓	10	7'-4	76
	Δ EPOXY COATED		EPOXY COATED TOTAL (LBS.)			4,656
			NON-COATED TOTAL (LBS.)			9,691

BENT BAR DETAILS



ALL DIMENSIONS ARE OUT TO OUT. D = DIAMETER OF PIN RADII ARE TO ℄ BAR.

CONCRETE PLACEMENT QUANT. – NORTH PIER

LOCATION	QUANTITY
FOOTING	29.6
COLUMN	30.9
CAP	24.3
TOTAL (CU.YDS.)	84.8

ESTIMATED QUANTITIES – NORTH PIER

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (BRIDGE)	CU.YDS.	84.8
REINFORCING STEEL (EPOXY COATED)	LBS.	4,656
REINFORCING STEEL	LBS.	9,691
EXCAVATION, CLASS 20	CU.YDS.	107
EXCAVATION, CLASS 21	CU.YDS.	43
EXCAVATION, CLASS 22	CU.YDS.	42

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

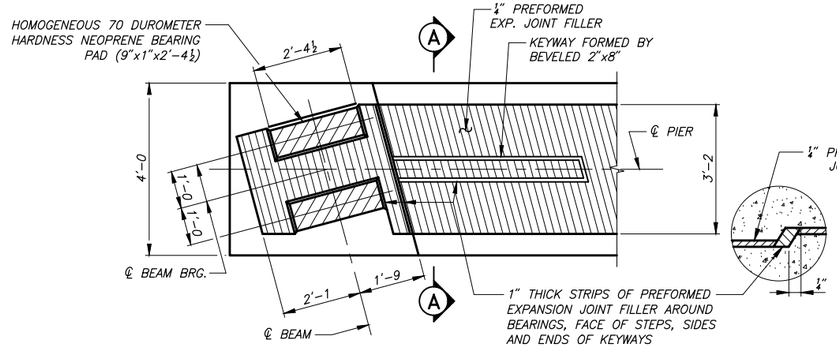
INTEGRAL ABUTMENTS
66'-0 END SPANS

TEE PIERS
132'-0 INTERIOR SPAN

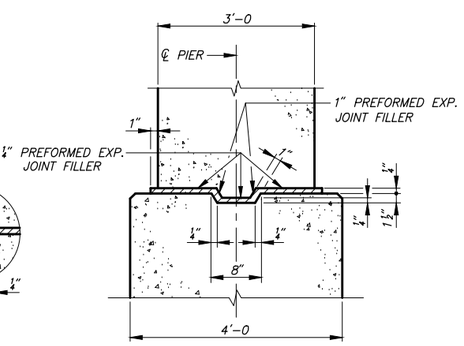
NORTH PIER DETAILS

STATION 1041+00.00
JEFFERSON COUNTY,

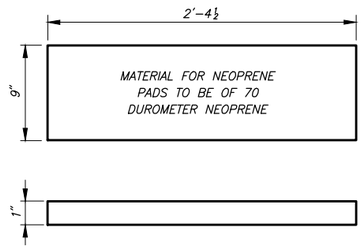
15° SKEW, LT. AHEAD
IOWA



PART PLAN AT PIER



SECTION A–A
(KEYED NOTCH DETAIL)



NEOPRENE BEARING PAD
(8 REQUIRED PER PIER)
(16 TOTAL)

PIER BEARING DETAILS

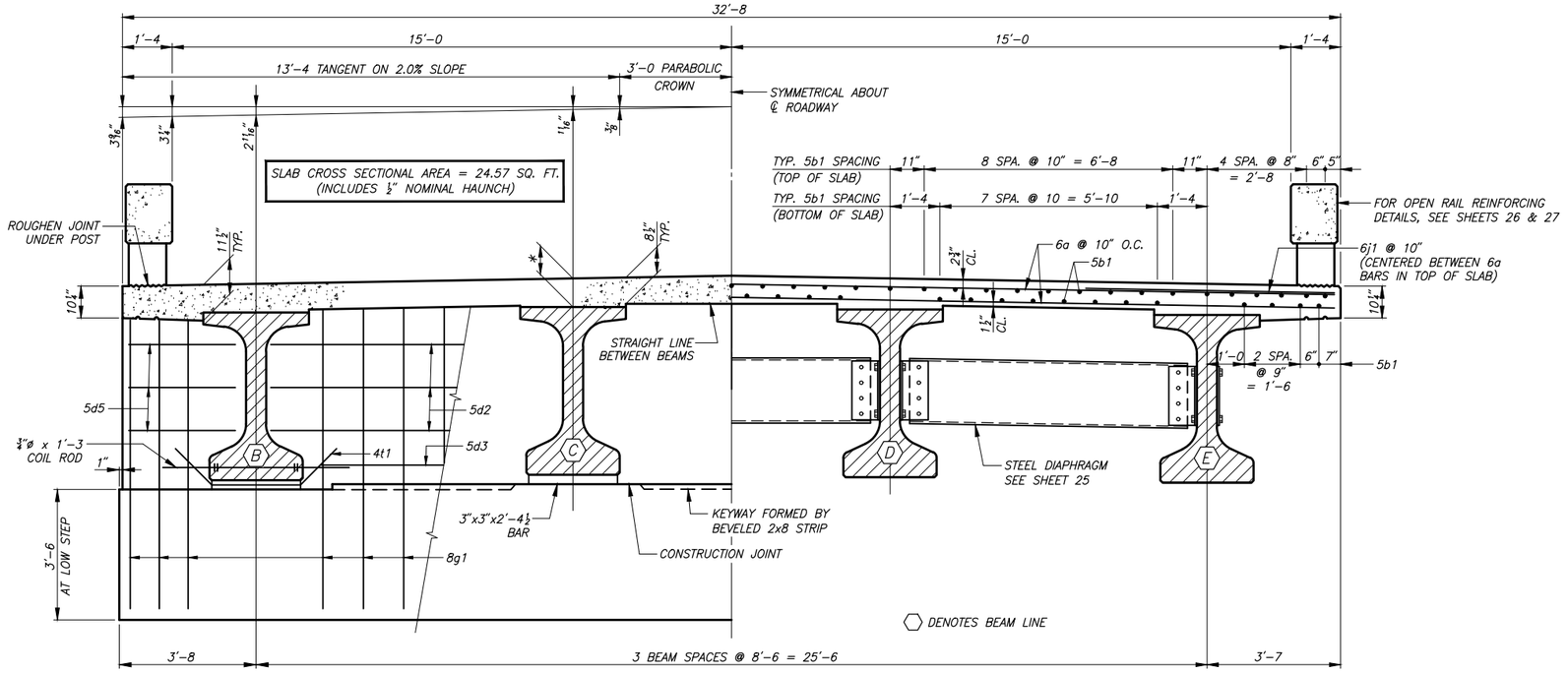
NOTE: COST OF NEOPRENE PADS SHALL BE INCLUDED IN THE PRICE BID FOR "PRETENSIONED PRESTRESSED CONCRETE BEAMS".

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — TEE PIERS
66'–0 END SPANS — 132'–0 INTERIOR SPAN

PIER BEARING DETAILS

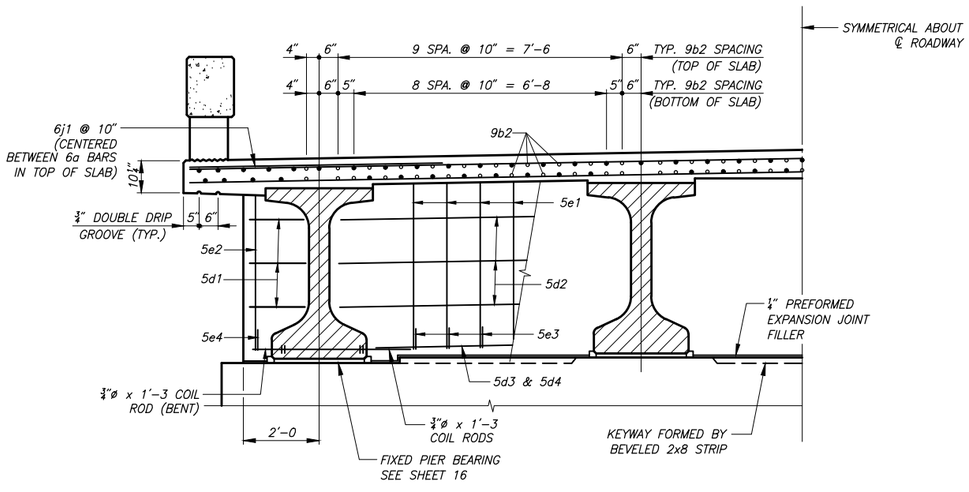
STATION 1041+00.00 — 15° SKEW, LT. AHEAD
JEFFERSON COUNTY, IOWA



HALF SECTION NEAR ABUTMENT

* FOR SLAB THICKNESS OVER BEAMS, SEE SHEET 20

HALF SECTION NEAR MID SPAN



HALF SECTION NEAR PIER

SUPERSTRUCTURE NOTES

THIS BRIDGE SUPERSTRUCTURE IS DESIGNED FOR HL93 LOADING PLUS AN ALLOWANCE OF 20 POUNDS PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE.

THE SLAB AS SHOWN INCLUDES A ¾" INTEGRAL WEARING SURFACE.

COST OF ALL PREFORMED EXPANSION JOINT FILLER AND TAR PAPER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)."

ALL EXPOSED CORNERS OF 90 DEGREES OR SHARPER ARE TO BE FORMED WITH A ¾" DRESSED AND BEVELED STRIP.

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

ALL REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS POURED.

THE TOP MAT OF REINFORCING STEEL IS TO BE PARALLEL AND 2 ¾" CLEAR BELOW TOP OF SLAB. THE BOTTOM MAT OF REINFORCING STEEL IS TO BE PARALLEL AND 1 ½" CLEAR ABOVE BOTTOM OF SLAB. TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF HIGH CHAIRS OR SLAB BOLSTERS SPACED 4'-0 APART. I.M. 451.01 REQUIREMENTS SHALL APPLY FOR BAR CHAIRS, BAR HIGH CHAIRS, AND SLAB BOLSTERS.

ALL REINFORCING STEEL IS TO BE GRADE 60 AND EPOXY COATED, EXCEPT FOR PRESTRESSED BEAMS.

THE PIER AND ABUTMENT DIAPHRAGMS ARE TO BE PLACED MONOLITHICALLY WITH THE BRIDGE SLAB.

ALL BEAMS ARE TO BE SET VERTICAL.

FORMS FOR THE SLAB AND RAIL ARE TO BE SUPPORTED BY THE PRESTRESSED CONCRETE BEAMS.

NEOPRENE BEARING PADS, ABUTMENT BEARING BARS, COIL TIES AND COIL RODS ARE INCLUDED IN THE PRICE BID FOR "PRETENSIONED PRESTRESSED CONCRETE BEAMS"

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'-0 END SPANS

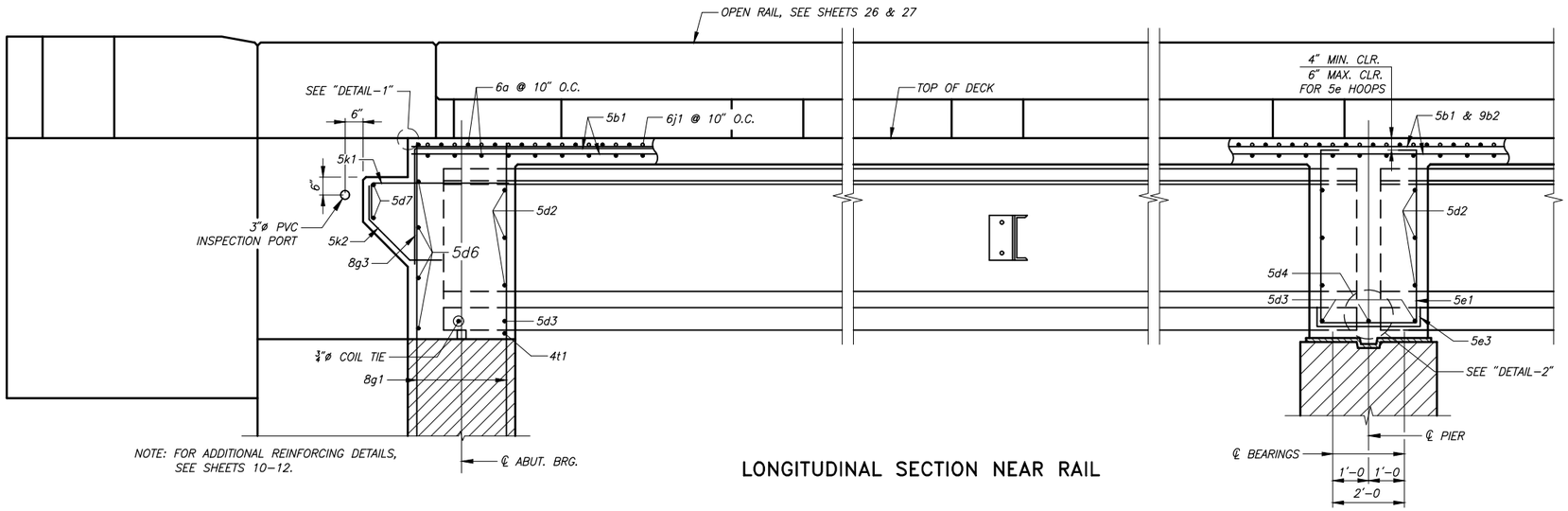
TEE PIERS
132'-0 INTERIOR SPAN

SUPERSTRUCTURE DETAILS

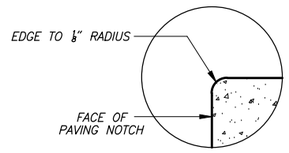
STATION 1041+00.00

15° SKEW, LT. AHEAD

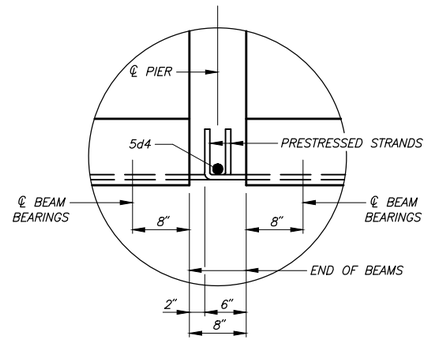
JEFFERSON COUNTY, IOWA



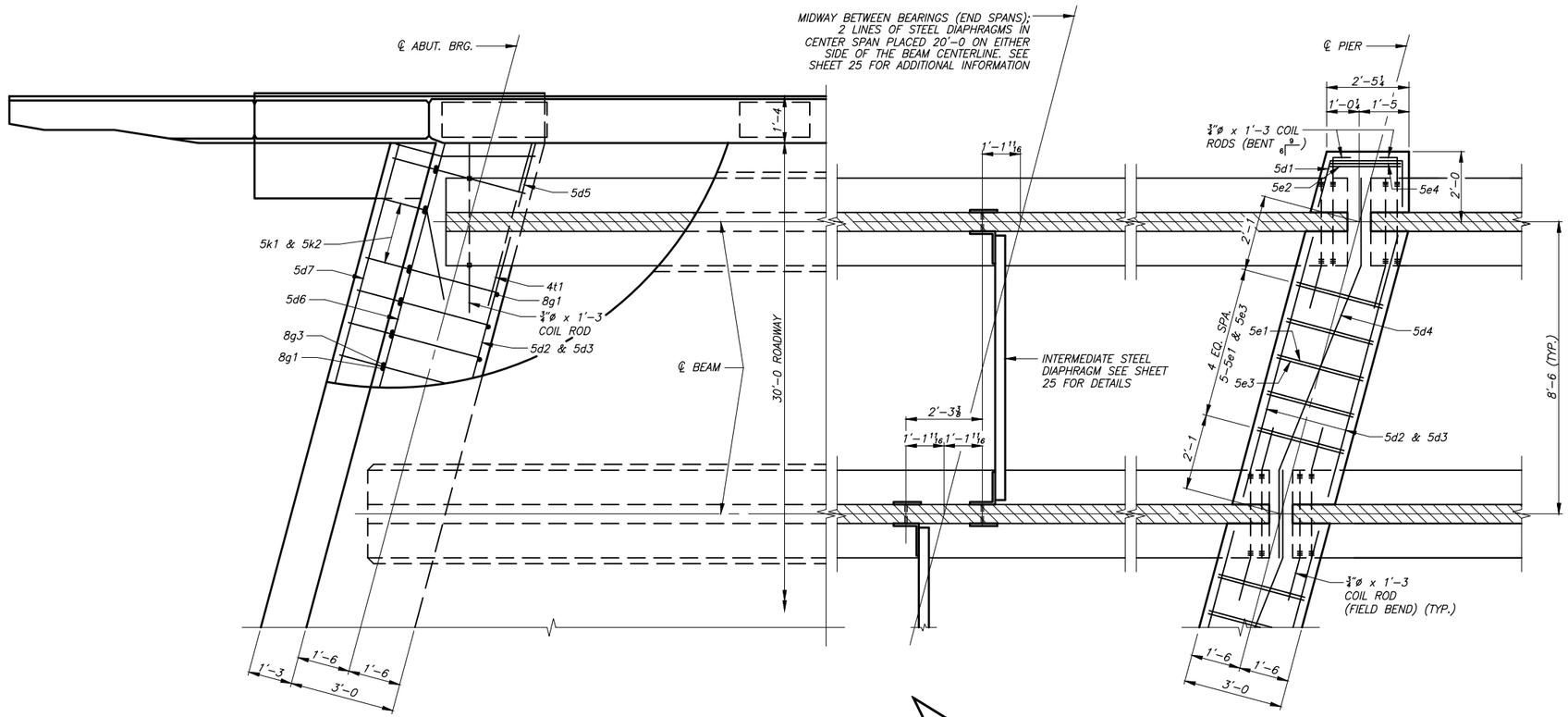
LONGITUDINAL SECTION NEAR RAIL



DETAIL-1



DETAIL-2



PART PLAN

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'-0 END SPANS

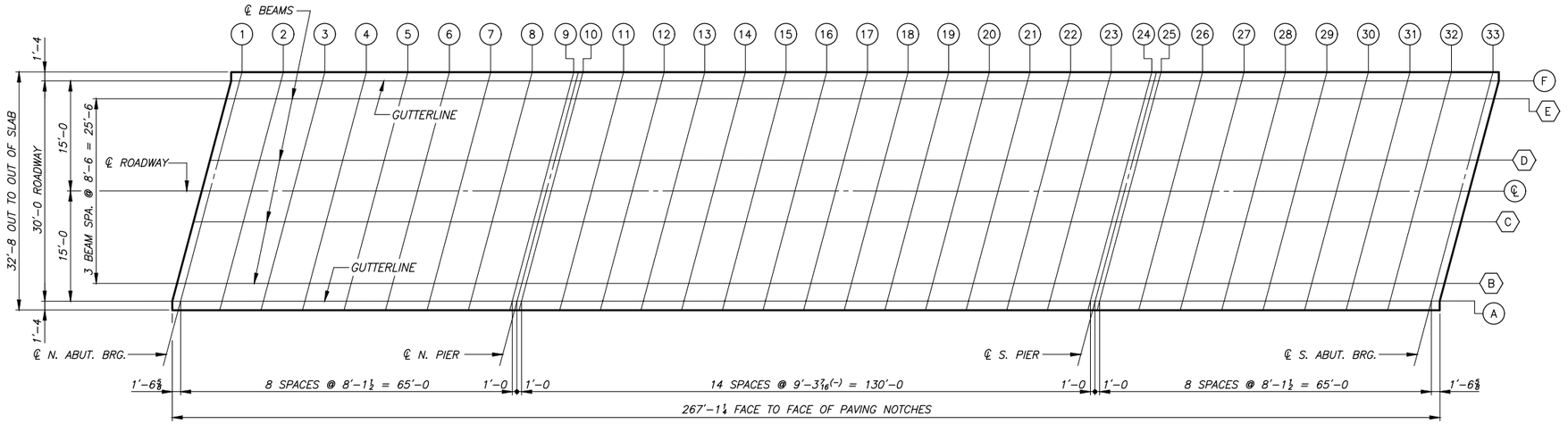
TEE PIERS
132'-0 INTERIOR SPAN

SUPERSTRUCTURE DETAILS

STATION 1041+00.00
JEFFERSON COUNTY,

15° SKEW, LT. AHEAD
IOWA

BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06



TOP OF SLAB ELEVATIONS

INDICATES BEAM LINE

	℄ N. ABUT. BRG.								℄ N. BRG. N. PIER	℄ S. BRG. N. PIER														℄ N. BRG. S. PIER	℄ S. BRG. S. PIER							℄ S. ABUT. BRG.	
LOC.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	LOC.
F	654.17	654.22	654.27	654.32	654.37	654.42	654.46	654.51	654.56	654.57	654.63	654.69	654.74	654.80	654.85	654.91	654.96	655.02	655.08	655.13	655.19	655.24	655.30	655.35	655.37	655.41	655.46	655.51	655.56	655.61	655.66	655.71	655.76	F
E	654.22	654.27	654.32	654.36	654.41	654.46	654.51	654.56	654.61	654.62	654.68	654.73	654.79	654.84	654.90	654.95	655.01	655.07	655.12	655.18	655.23	655.29	655.34	655.40	655.41	655.46	655.51	655.56	655.61	655.66	655.70	655.75	655.80	E
D	654.36	654.41	654.46	654.51	654.56	654.61	654.66	654.71	654.75	654.77	654.82	654.88	654.93	654.99	655.05	655.10	655.16	655.21	655.27	655.32	655.38	655.44	655.49	655.55	655.56	655.61	655.66	655.71	655.75	655.80	655.85	655.90	655.95	D
℄	654.42	654.47	654.52	654.56	654.61	654.66	654.71	654.76	654.81	654.82	654.88	654.93	654.99	655.04	655.10	655.15	655.21	655.27	655.32	655.38	655.43	655.49	655.54	655.60	655.61	655.66	655.71	655.76	655.81	655.86	655.90	655.95	656.00	℄
C	654.35	654.40	654.45	654.50	654.55	654.59	654.64	654.69	654.74	654.75	654.81	654.86	654.92	654.98	655.03	655.09	655.14	655.20	655.25	655.31	655.37	655.42	655.48	655.53	655.55	655.59	655.64	655.69	655.74	655.79	655.84	655.89	655.94	C
B	654.18	654.23	654.28	654.32	654.37	654.42	654.47	654.52	654.57	654.58	654.64	654.69	654.75	654.80	654.86	654.91	654.97	655.03	655.08	655.14	655.19	655.25	655.30	655.36	655.37	655.42	655.47	655.52	655.57	655.62	655.66	655.71	655.76	B
A	654.12	654.17	654.22	654.27	654.32	654.37	654.42	654.47	654.51	654.53	654.58	654.64	654.69	654.75	654.80	654.86	654.92	654.97	655.03	655.08	655.14	655.19	655.25	655.31	655.32	655.37	655.42	655.46	655.51	655.56	655.61	655.66	655.71	A

BRIDGE COORDINATES

LOCATION	WEST EDGE OF DECK	C.L. APPROACH ROADWAY	EAST EDGE OF DECK
SOUTH ABUTMENT	N = 336285.14 E = 2097795.66	N = 336291.29 E = 2097811.41	N = 336297.45 E = 2097827.16
SOUTH PIER	N = 336338.30 E = 2097756.54	N = 336344.45 E = 2097772.29	N = 336350.61 E = 2097788.04
NORTH PIER	N = 336444.61 E = 2097678.30	N = 336450.76 E = 2097694.05	N = 336456.92 E = 2097709.80
NORTH ABUTMENT	N = 336497.77 E = 2097639.19	N = 336503.92 E = 2097654.94	N = 336510.08 E = 2097670.69

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

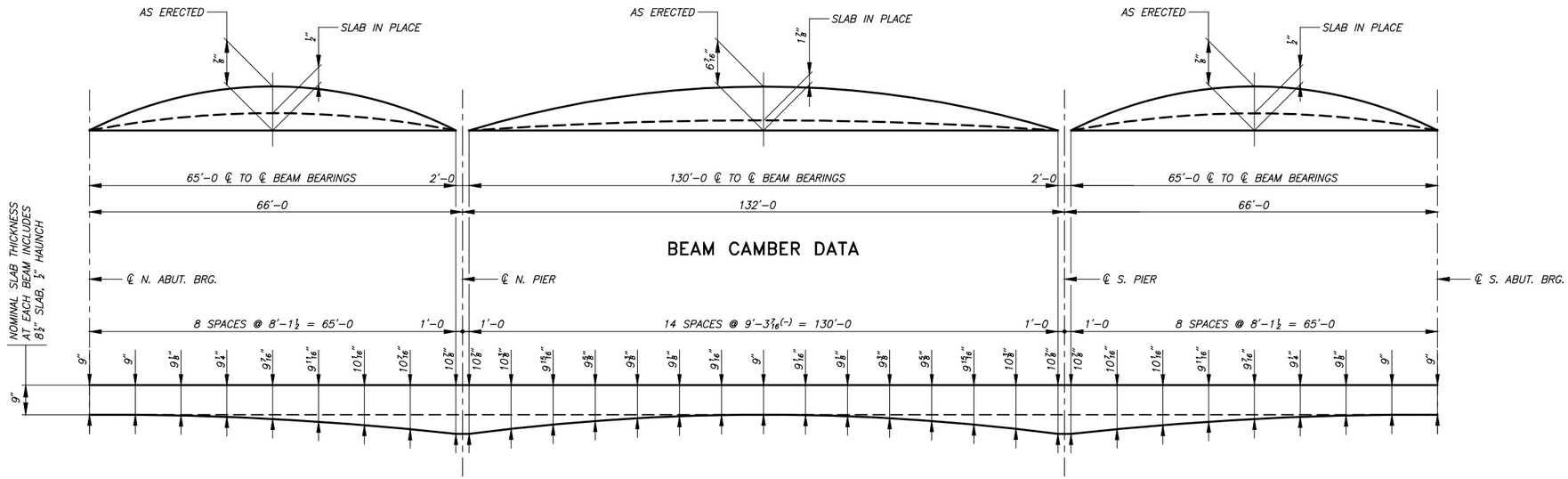
INTEGRAL ABUTMENTS
66'-0 END SPANS

TEE PIERS
132'-0 INTERIOR SPAN

SUPERSTRUCTURE DETAILS

STATION 1041+00.00
JEFFERSON COUNTY,

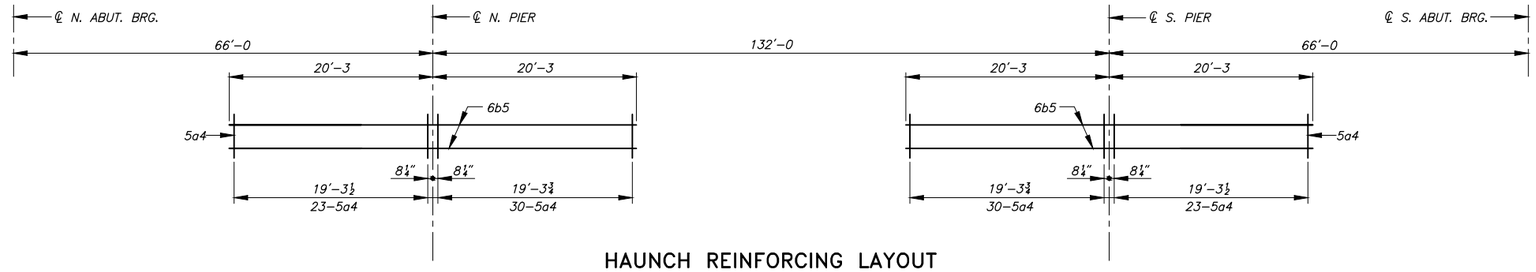
15° SKEW, LT. AHEAD
IOWA



BEAM CAMBER DATA

HAUNCH DIAGRAM AND SLAB THICKNESS AT BEAM (T)

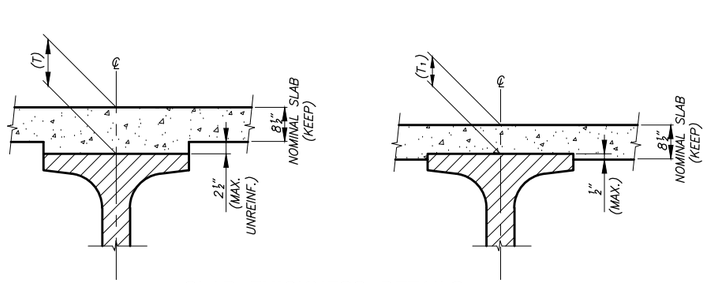
NOTE: HAUNCH THICKNESSES ARE SHOWN FOR ESTIMATING ONLY AND ARE NOT GUARANTEED FOR CONSTRUCTION.



HAUNCH REINFORCING LAYOUT

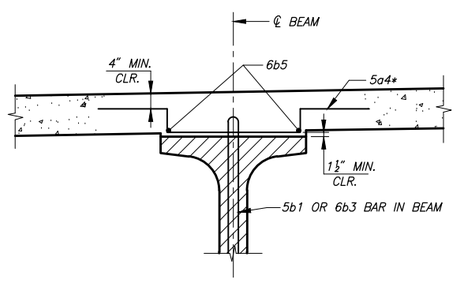
(TYPICAL EACH BEAM)

NOTE: 1-5a4 BAR IS TO BE PLACED ADJACENT TO 5b1 & 6b3 BEAM TIE BARS THAT EXTEND FROM THE BEAMS INTO SLAB IN THE AREA SHOWN.



SLAB THICKNESS DETAILS

NOTE: THE SLAB THICKNESS (T) AT BEAMS IS BASED ON THE ANTICIPATED BEAM CAMBER REMAINING AFTER PLACING THE SLAB, BUT IS NOT GUARANTEED FOR CONSTRUCTION. IF BEAM IS UNDER CAMBERED, INCREASE SLAB THICKNESS (T) AT BEAMS TO COMPENSATE. IF BEAM IS OVER CAMBERED, THE SLAB THICKNESS (T) MAY BE DECREASED A MAXIMUM OF 1/2" EMBEDMENT AT THE BEAM (T1). IF MORE THAN 1/2" EMBEDMENT IS REQUIRED, OR IF THE HAUNCH EXCEEDS 2 1/2" AND IS UNREINFORCED, THE GRADE LINE IS TO BE REVISED. THE ABOVE DIAGRAMS DO NOT APPLY TO THE CANTILEVERED SLAB SIDE OF THE EXTERIOR BEAM.



SECTION THRU SLAB HAUNCH

NOTE: TYPICAL EACH BEAM LINE WHERE HAUNCH EXCEEDS 2 1/2". SEE "HAUNCH REINFORCING LAYOUT" FOR PLACEMENT LOCATIONS.

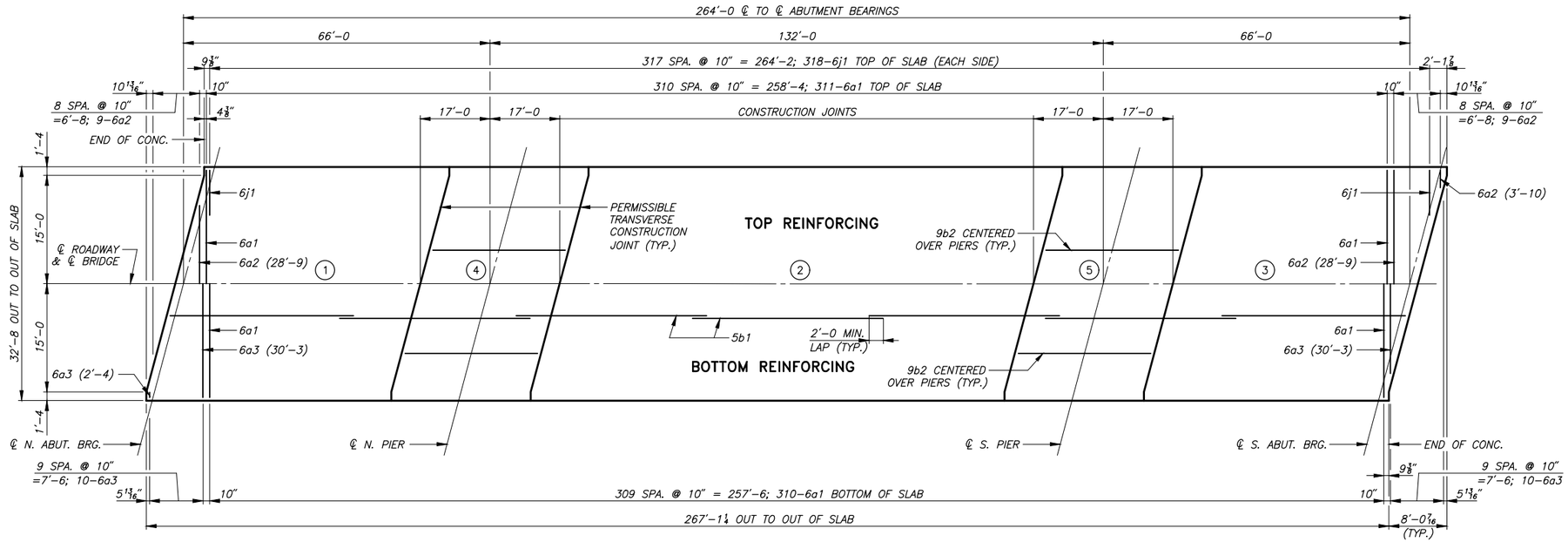
** STIRRUPS MAY BE TILTED AS NEEDED TO PROVIDE NECESSARY CLEARANCES.*

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
66'-0 END SPANS — **132'-0 INTERIOR SPAN**

SUPERSTRUCTURE DETAILS

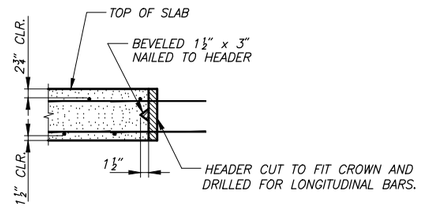
STATION 1041+00.00 — **15° SKEW, LT. AHEAD**
JEFFERSON COUNTY, — **IOWA**



CONCRETE PLACEMENT DIAGRAM AND SLAB REINFORCING LAYOUT

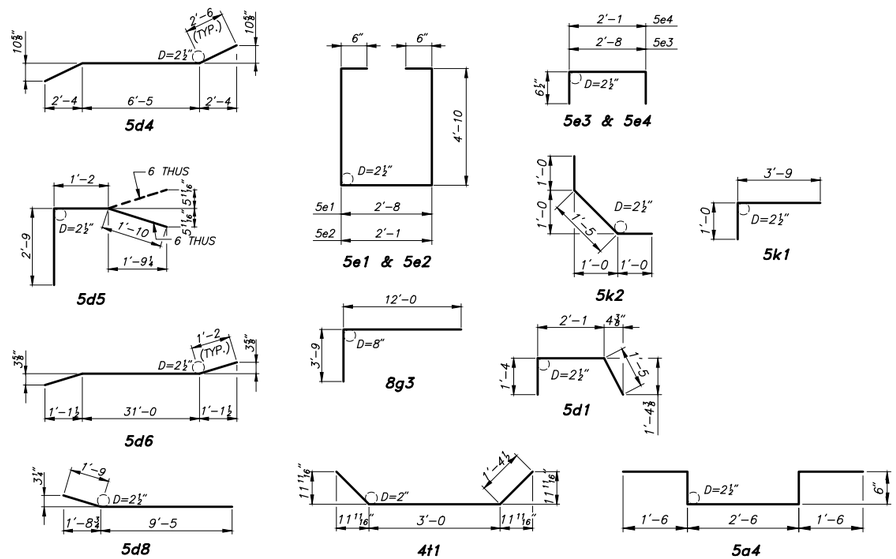
CONCRETE DECK SLAB SHALL BE PLACED IN SECTIONS AND IN SEQUENCES INDICATED. AN APPROVED ALTERNATE PROCEDURE IS TO PLACE THE CONCRETE DECK IN ONE CONTINUOUS POUR BEGINNING AT ONE END OF THE BRIDGE. ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULT. THE BRIDGE ENGINEER SHALL REVIEW ANY ALTERNATE PROCEDURES. THE COST OF ANY ADDITIONAL ANALYSIS AND PLAN MODIFICATIONS SHALL BE PAID FOR BY THE CONTRACTOR. THE ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PLASTICITY OF THE CONCRETE DECK DURING PLACEMENT.

DECK CONCRETE SECTIONS SHALL CURE FOR A MINIMUM OF 48 HOURS AND SHALL ACHIEVE A MINIMUM STRENGTH OF 75% OF THE 28 DAY DECK CONCRETE STRENGTH PRIOR TO REMOVING DECK HEADERS AND BEGINNING AN ADJACENT POUR.



PERMISSIBLE TRANSVERSE SLAB CONSTRUCTION JOINT DETAIL

BENT BAR DETAILS



REINFORCING BAR LIST – SUPERSTRUCTURE

	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
△	6a1	SLAB, TRANSVERSE, TOP & BOTT.		621	32'-4	30,158
△	6a2	SLAB, TRANSVERSE, TOP, ENDS		18	VARIES	440
△	6a3	SLAB, TRANSVERSE, BOTTOM, ENDS		20	VARIES	489
△	5a4	SLAB, HAUNCH, TRANSVERSE		424	6'-6	2,876
△	5b1	SLAB, LONGIT., TOP & BOTTOM		511	39'-10	21,230
△	9b2	SLAB, LONGIT., OVER PIERS		134	33'-8	15,340
△	6b5	SLAB, HAUNCH, LONGIT.		16	40'-6	973
△	5d1	PIER DIAPHRAGM, ENDS		12	4'-10	60
△	5d2	PIER & ABUT. DIAPHRAGMS, LONGIT.		54	7'-10	441
△	5d3	PIER & ABUT. DIAPHRAGMS, LONGIT.		18	5'-10	110
△	5d4	PIER DIAPHRAGM, LONGITUDINAL		6	11'-5	71
△	5d5	ABUTMENT DIAPHRAGM, ENDS		12	5'-9	72
△	5d6	ABUT. DIAPH., LONGIT., B.F.		8	33'-4	278
△	5d7	PAVING NOTCH, LONGIT.		4	33'-5	139
△	5d8	ABUT. DIAPH. WING EXT., LONGIT. F.F.		24	11'-2	280
△	5d9	ABUT. DIAPH. WING EXT., LONGIT. B.F.		24	11'-2	280
△	5e1	PIER DIAPHRAGM, HOOPS		30	13'-4	417
△	5e2	PIER DIAPHRAGM, HOOPS, ENDS		4	12'-9	53
△	5e3	PIER DIAPHRAGM, TIES		30	3'-9	117
△	5e4	PIER DIAPHRAGM, TIES, ENDS		4	3'-2	13
△	8g3	ABUTMENT, VERTICAL, BACK FACE		54	15'-9	2,271
△	6j1	SLAB, TRANSVERSE, TOP AT RAIL		636	6'-3	5,970
△	5k1	PAVING NOTCH, TRANSVERSE		58	4'-9	287
△	5k2	PAVING NOTCH, TRANSVERSE		58	3'-5	207
△	4t1	ABUT.,DIAPH.,HORIZ.,FRONT FACE		8	5'-9	31
△		OPEN RAIL, SEE SHEET 27				16,235
△ EPOXY COATED			EPOXY COATED TOTAL (LBS.)			98,838

CONCRETE PLACEMENT QUANT. – SUPERSTR.

LOCATION	UNIT	QUANTITY
SEC. (1) & (3), SLAB, DIAPH. & WING EXT.; 2 @ 68.1	CU.YDS.	136.2
SECTION (2), SLAB	CU.YDS.	90.3
SECTION (4) & (5), SLAB, DIAPH.; 2 @ 46.6	CU.YDS.	93.2
TOTAL	CU.YDS.	319.7

ESTIMATED QUANTITIES – SUPERSTRUCTURE

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (BRIDGE)	CU.YDS.	319.7
REINFORCING STEEL, EPOXY COATED	LBS.	98,838
STRUCTURAL STEEL	LBS.	4,102
BEAMS, PRETENSIONED PRESTRESSED CONC., BTD65	EACH	8
BEAMS, PRETENSIONED PRESTRESSED CONC., BTD130	EACH	4

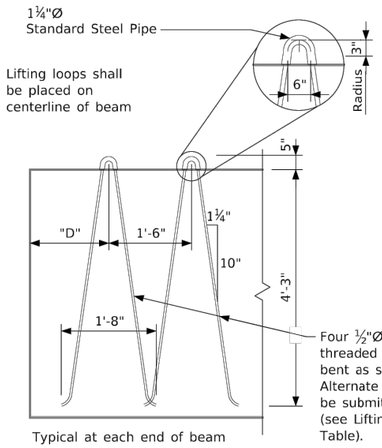
264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'-0 END SPANS

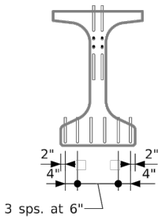
TEE PIERS
132'-0 INTERIOR SPAN

SUPERSTRUCTURE DETAILS

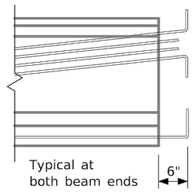
STATION 1041+00.00
15° SKEW, LT. AHEAD
JEFFERSON COUNTY, IOWA



Lifting Loop Detail



The top and bottom rows of the deflected strands are to be cut with 1'-2" projections which are to be shop bent as shown. The remaining top deflected strands are to be cut with 5" projections. Six bottom strands are to be cut with 1'-6" projections which are to be shop bent as shown. The remaining bottom strands are to be cut off reasonably flush with the concrete.



Strand Projection at Beam Ends When Embedded in Concrete End Diaphragms

Design Stresses:

Design stresses for the following materials are to be in accordance with AASHTO LRFD Bridge Design Specifications For, Series of 2017.
Reinforcing steel in accordance with Section 5, Grade 60.
Concrete in accordance with Section 5.
Prestressing steel in accordance with Section 5, Grade 270.

Specifications:

Construction: Standard Specifications of the Iowa Department of Transportation, current series, with current applicable special provisions and supplemental specifications.
Design: AASHTO LRFD, Series of 2017 with minor modifications.

Alternate Bar Notes:

Alternate bars shown in Bent Bar Details may be used in lieu of reinforcing bars shown in bar list. No additional payment shall be made for use of alternate bars.

BTD Beam Data

BTD Beam	Span Length ℄-℄ Bearing	Overall Beam Length (L)	Concrete Strength f'ci (ksi.)	Concrete Strength f'c (ksi.)	Strand Size Dia. (in.)	Number of Strands Straight	Number of Strands Deflected	Total Initial Prestress ③ (kips)	Hold Down Force (kips)	Camber (in.) ⑤ At Release	Camber (in.) ⑤ After Losses	Deflection (in.) Δ_D Immediate ① (elastic) Δ_I Steel Diaphragm	Deflection (in.) Δ_D Time ② (plastic) Δ_T Steel Diaphragm	Permissible Maximum Spacing HL-93 Loading Steel Diaphragm	Weight (tons)	Concrete (cu. yd.)	Reinforcing Steel (weight lb.)
BTD50	50'-0"	51'-4"	4.50	5.00	0.60"	12	—	510	—	0.24"	0.45"	0.12"	0.03"	9'-3"	20.0	9.9	1585
BTD55	55'-0"	56'-4"	4.50	5.00	0.60"	14	—	596	—	0.34"	0.63"	0.18"	0.04"	9'-3"	22.0	10.8	1696
BTD60	60'-0"	61'-4"	4.50	5.00	0.60"	12	2	596	13.6	0.36"	0.67"	0.25"	0.06"	9'-3"	23.9	11.8	1803
BTD65	65'-0"	66'-4"	4.50	5.00	0.60"	14	2	681	12.6	0.47"	0.87"	0.35"	0.09"	9'-3"	25.9	12.8	1906
BTD70	70'-0"	71'-4"	4.50	5.00	0.60"	14	2	681	11.3	0.49"	0.91"	0.46"	0.12"	9'-3"	27.8	13.7	2013
BTD75	75'-0"	76'-4"	5.00	6.00	0.60"	16	2	766	10.5	0.62"	1.14"	0.58"	0.14"	9'-3"	29.8	14.7	2082
BTD80	80'-0"	81'-4"	5.00	6.00	0.60"	18	2	851	9.9	0.78"	1.44"	0.74"	0.19"	9'-3"	31.7	15.7	2207
BTD85	85'-0"	86'-4"	5.00	6.00	0.60"	18	4	936	17.9	0.90"	1.66"	0.94"	0.24"	9'-3"	33.7	16.6	2311
BTD90	90'-0"	91'-4"	5.50	6.50	0.60"	20	4	1021	17.7	1.03"	1.91"	1.15"	0.29"	9'-3"	35.6	17.6	2470
BTD95	95'-0"	96'-4"	5.50	6.50	0.60"	24	4	1191	16.8	1.38"	2.55"	1.42"	0.36"	9'-3"	37.6	18.6	2570
BTD100	100'-0"	101'-4"	6.00	7.00	0.60"	26	4	1276	16.0	1.57"	2.86"	1.70"	0.43"	9'-3"	39.5	19.5	2673
BTD105	105'-0"	106'-4"	6.00	7.00	0.60"	28	6	1446	21.9	1.89"	3.03"	2.06"	0.52"	9'-3"	41.5	20.5	2795
BTD110	110'-0"	111'-4"	6.50	7.50	0.60"	30	6	1531	20.9	2.34"	3.74"	2.43"	0.61"	9'-3"	43.4	21.4	2976
BTD115	115'-0"	116'-4"	7.00	8.00	0.60"	34	6	1701	20.3	2.75"	4.40"	2.83"	0.71"	9'-3"	45.4	22.4	3130
BTD120	120'-0"	121'-4"	7.00	8.00	0.60"	36	8	1872	24.4	3.14"	5.03"	3.25"	0.81"	9'-3"	47.3	23.4	3265
BTD125	125'-0"	126'-4"	7.50	8.50	0.60"	38	10	2042	27.9	3.46"	5.53"	3.86"	0.97"	9'-3"	49.3	24.3	3440
④ BTD130	130'-0"	131'-4"	7.50	9.00	0.60"	42	12	2297	30.6	4.04"	6.46"	4.43"	1.11"	9'-3"	51.2	25.3	3543

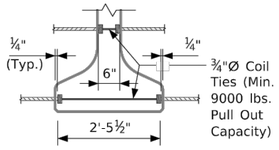
Lifting Loop And Overhang Table

Beams	Lifting Loops Each End	# of Strands Per Loop	D	Beam Overhang (ft.)
BTD50-BTD80	1	4	2'-0"	**
BTD85-BTD90	2	4	2'-0"	**
BTD95	2	4	2'-0"	10
BTD100	2	4	3'-9"	9
BTD105	2	4	6'-3"	11
BTD110	2	4	8'-2"	11
BTD115	2	4	8'-3"	11
BTD120	2	4	9'-3"	14
BTD125	2	4	9'-3"	14
BTD130	2	4	9'-3"	14

** In accordance with Article 2407.03, K of the Standard Specifications.

Lifting loops shall carry loads equally.

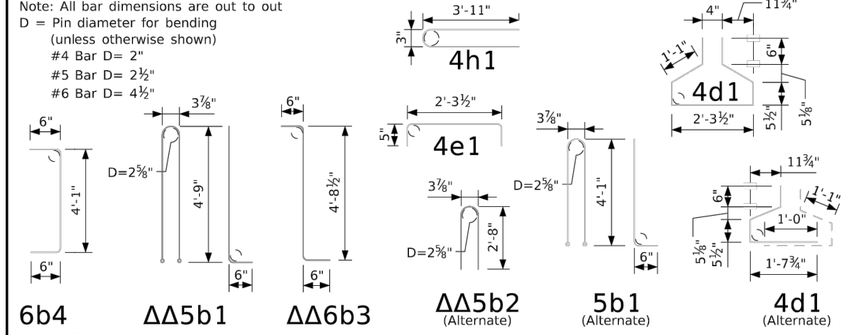
Number and exact location of coil ties to be as detailed on specific bridge design.



Coil Tie Detail

Bent Bar Detail

Note: All bar dimensions are out to out
D = Pin diameter for bending (unless otherwise shown)
#4 Bar D= 2"
#5 Bar D= 2½"
#6 Bar D= 4½"



① Deflections at mid-span due to weight of deck and diaphragm. The deflections shown are for a deck (8.5") and haunch (1.5") weight of:
1.04 kips/ft for 9'-3" beam spacing and one steel diaphragm (0.500 kips) at ℄ of span for BTD50 to BTD120, and two steel diaphragms (0.500 kips) placed 20'-0", on either side, of the beam ℄ for BTD125 to BTD130. For different deck and diapragm weights, deflections will be directly proportional.

② Deflections due to the combined effect of creep due to weight of deck and shrinkage of deck.
Total beam deflections at ℄ of span, Δ_D , due to weight of deck and diaphragms for detailing purpose:
(A) $\Delta_D=\Delta_I+\Delta_T$ for simple span.
(B) $\Delta_D=\Delta_I+\frac{3}{4}\Delta_T$ for end spans of continuous bridge.
(C) $\Delta_D=\Delta_I+\frac{1}{2}\Delta_T$ for interior spans of continuous bridge.

③ Total initial prestress is based on 72.6% f's, f's= 270 ksi. and As= 0.217 in.^{2}.

④ Includes partial length debonded strands, see individual Beam Sheets for locations and details.

⑤ Calculated design cambers are based on multipliers developed from research in Iowa.

Beam Notes: (continued)

When expansion joints are used, concrete sealer shall be applied to the prestressed beam end sections. The sealing shall be in accordance with materials I.M.570 (Fabricator Application) and I.M.491.12 (Contractor Application).

Note: All mild reinforcing steel can be epoxy coated at Contractor's option without modification to bar length or details at no additional cost to the State.

Beam Notes:

These beams are designed for AASHTO live loads as indicated in above table with an allowance of 20 lbs. per square foot of roadway for future wearing surface.

All PPC beams shall use high performance concrete ('HPC') in accordance with the Standard Specifications.

Hold down points for deflected strands may be moved toward ends of beam a distance of 0.05 L maximum at producer's option.

All prestressing strands except lifting loop strands shall be 0.60 in. nominal diameter (nominal steel area = 0.217 in.^{2}) and conform to ASTM A416 Grade 270 Low Relaxation Strands. Minimum strand breaking strength shall be 58.6 kips.

Tops of beams are to be struck off level and finished as per Materials I.M.570.

Bearings shall be as detailed on other design sheets.

Beams to be used in bridges made continuous by the poured in place deck, are to be at least 28 days old before the deck is placed unless a shorter curing time is approved by the Bridge Engineer.

The portions of the prestressed beams that are to be embedded in the abutment and pier diaphragms shall be roughened for a distance of 10" from the beam end by sandblasting or other approved methods to provide suitable bond between the beam and the diaphragm in accordance with Article 2403.03, I, of the Standard Specifications.

All beams are to be increased in length to compensate for elastic shortening, creep and shrinkage.

For transporting, the allowable overhang is shown in the "Lifting Loop and Overhang Table".

The Contractor shall assure the lateral stability of the BTD110 to BTD130 beam during handling, transporting and erection by providing temporary bracing as needed.

Holes must be cast in the web to accommodate the steel diaphragm attachments as detailed on the Steel Diaphragm Detail Sheet.

If sole plate is required for bearing, sole plate is to be set in forms when beam is cast and formed out below to exclude concrete as detailed on the Bearing Sheet.

If stub abutments are used, all strands at the ends of beams at stub abutments shall be cut off reasonably flush with the concrete.

Minimum concrete f'c (at 28 days) and minimum f'ci at release are located in the BTD Beam Data Table above.

Four 0.60 in. diameter strands stressed to not more than 5000 lbs. each may be used in lieu of bars 5a1 and 5a2 in the top flange.

Reinforcing Bar List

Beam Bar	Beam Shape	BTD50 No.	BTD50 Length	BTD55 No.	BTD55 Length	BTD60 No.	BTD60 Length	BTD65 No.	BTD65 Length	BTD70 No.	BTD70 Length	BTD75 No.	BTD75 Length	BTD80 No.	BTD80 Length	BTD85 No.	BTD85 Length	BTD90 No.	BTD90 Length	BTD95 No.	BTD95 Length	BTD100 No.	BTD100 Length	BTD105 No.	BTD105 Length	BTD110 No.	BTD110 Length	BTD115 No.	BTD115 Length	BTD120 No.	BTD120 Length	BTD125 No.	BTD125 Length	BTD130 No.	BTD130 Length	Beam Bar
5a1		12	27'-3"	12	29'-9"	12	32'-3"	12	34'-9"	12	37'-3"	12	39'-9"	12	24'-0"	12	26'-6"	12	29'-0"	12	31'-6"	12	34'-0"	12	36'-6"	12	39'-0"	12	23'-2"	12	25'-8"	12	28'-2"	12	30'-8"	5a1
5a2		—	—	—	—	—	—	—	—	—	—	—	—	6	40'-0"	6	40'-0"	6	40'-0"	6	40'-0"	6	40'-0"	6	40'-0"	6	40'-0"	12	40'-0"	12	40'-0"	12	40'-0"	12	40'-0"	5a2
ΔΔ 5b1		35	10'-8"	39	10'-8"	43	10'-8"	47	10'-8"	51	10'-8"	53	10'-8"	57	10'-8"	61	10'-8"	67	10'-8"	71	10'-8"	75	10'-8"	81	10'-8"	85	10'-8"	91	10'-8"	97	10'-8"	103	10'-8"	107	10'-8"	5b1 ΔΔ
ΔΔ* 6b3		32	5'-9"	32	5'-9"	32	5'-9"	32	5'-9"	32	5'-9"	32	5'-9"	32	5'-9"	32	5'-9"	36	5'-9"	36	5'-9"	36	5'-9"	36	5'-9"	40	5'-9"	40	5'-9"	40	5'-9"	40	5'-9"	40	5'-9"	6b3 ΔΔ*
* 6b4		16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	16	5'-1"	20	5'-1"	20	5'-1"	20	5'-1"	24	5'-1"	24	5'-1"	6b4 *
4c1		67	2'-7"	73	2'-7"	81	2'-7"	87	2'-7"	95	2'-7"	99	2'-7"	105	2'-7"	111	2'-7"	119	2'-7"	123	2'-7"	129	2'-7"	135	2'-7"	141	2'-7"	147	2'-7"	153	2'-7"	165	2'-7"	171	2'-7"	4c1
4d1		59	6'-5"	63	6'-5"	67	6'-5"	71	6'-5"	75	6'-5"	77	6'-5"	81	6'-5"	85	6'-5"	89	6'-5"	93	6'-5"	97	6'-5"	103	6'-5"	107	6'-5"	113	6'-5"	119	6'-5"	125	6'-5"	129	6'-5"	4d1
4e1		30	3'-2"	30	3'-2"	30	3'-2"	30	3'-2"	30	3'-2"	30	3'-2"	30	3'-2"	30	3'-2"	28	3'-2"	28	3'-2"	28	3'-2"	28	3'-2"	28	3'-2"	28	3'-2"	28	3'-2"	28	3'-2"	28	3'-2"	4e1
4h1		6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	6	8'-0"	4h1

ΔΔ 5b1 and 6b3 bars to be epoxy coated
* 6b3 and 6b4 bars to be used in pairs

IDOT STANDARD SHEET 4730 | DATE: 10-2024

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'-0 END SPANS

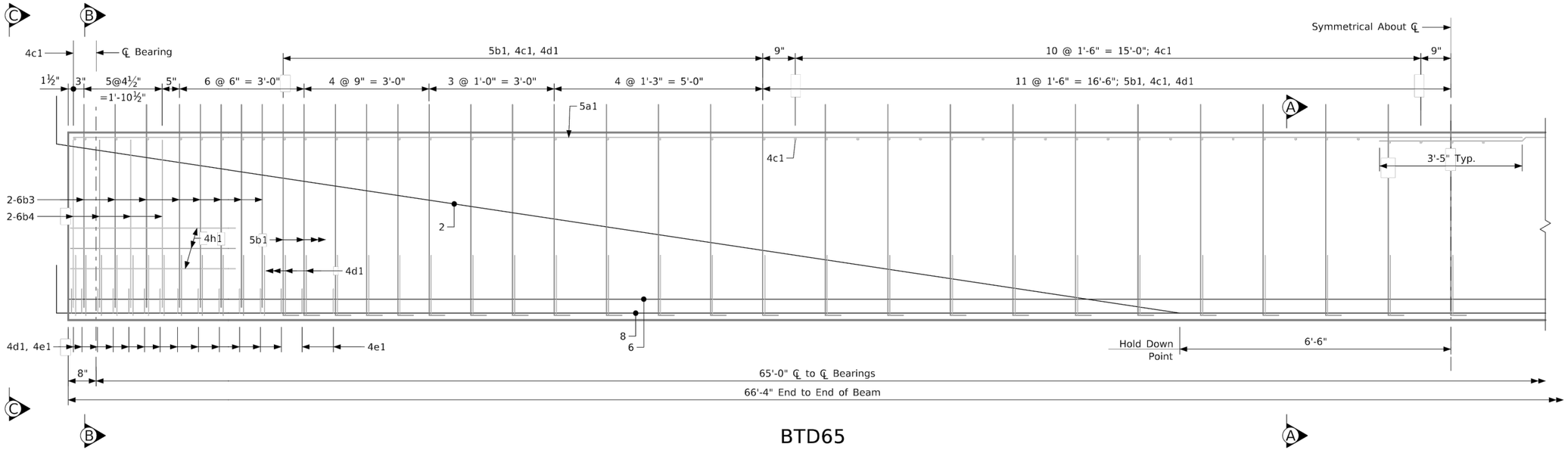
TEE PIERS
132'-0 INTERIOR SPAN

BEAM DETAILS

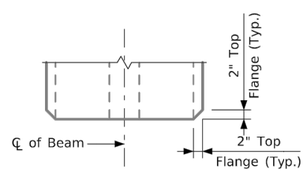
STATION 1041+00.00

15° SKEW, LT. AHEAD

JEFFERSON COUNTY, IOWA

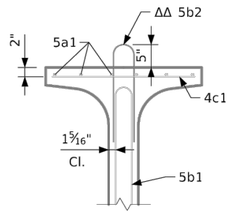


BTD65



Top View

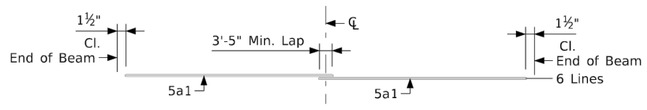
The top flange beam corners are to be chamfered 2" as shown at both ends of the beam.



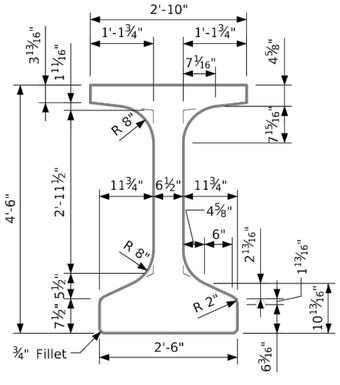
Section A-A
(Alternate)
See Alternate Bar Note on Standard Sheet 4730.

Area = 748.8 in.^{2}
$\bar{y}_b$ = 24.64 in.
I = 285,860 in.^{4}

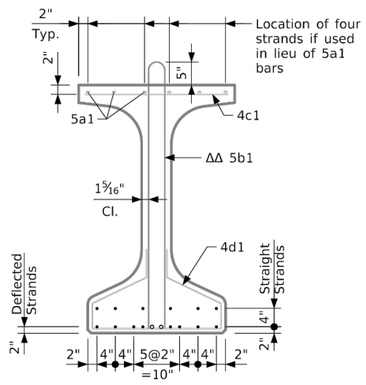
Beam Section Properties



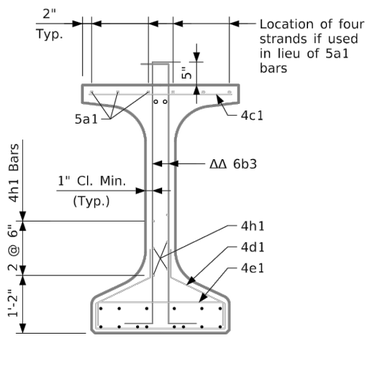
Top Flange Longitudinal Bar Layout



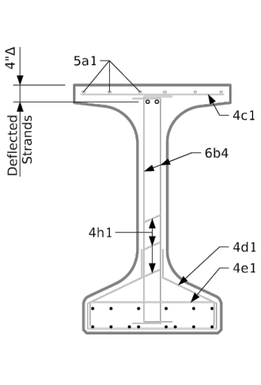
BTD Beam Cross Section



Section A-A



Section B-B



View C-C

- ○ Deflected Strands
- Δ Dimensions at End of Beam
- ΔΔ Epoxy Coated Bars

IDOT STANDARD SHEET 4734
DATE: 04–2024

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

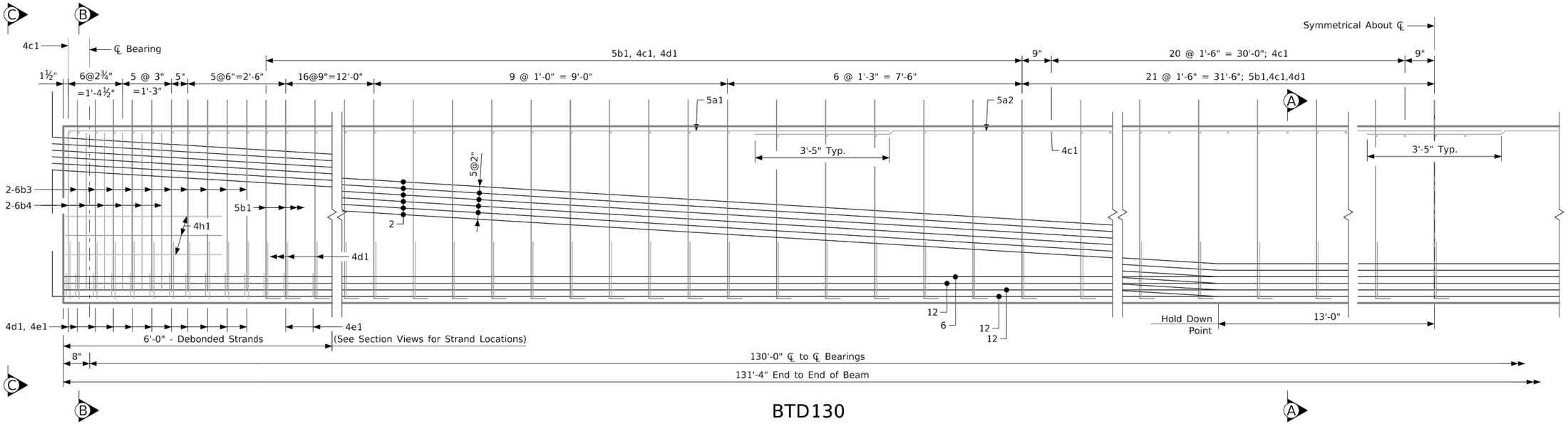
INTEGRAL ABUTMENTS
66'–0 END SPANS

TEE PIERS
132'–0 INTERIOR SPAN

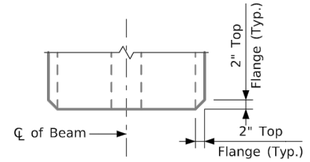
BEAM DETAILS

STATION 1041+00.00
JEFFERSON COUNTY,

15° SKEW, LT. AHEAD
IOWA

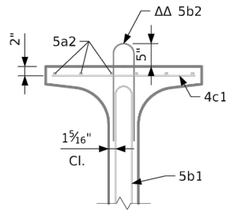


BTD130



Top View

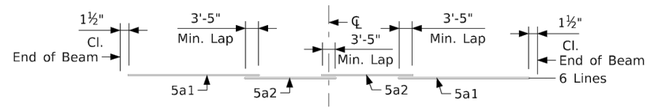
The top flange beam corners are to be chamfered 2" as shown at both ends of the beam.



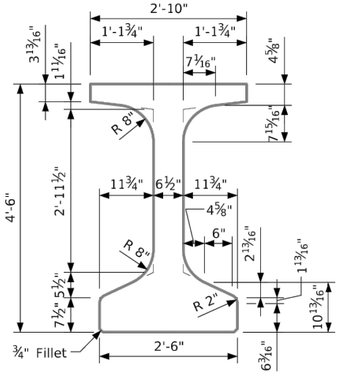
Section A-A
(Alternate)
See Alternate Bar Note on Standard Sheet 4730.

Area = 748.8 in.^{2}
$\bar{y}_b$ = 24.64 in.
I = 285,860 in.^{4}

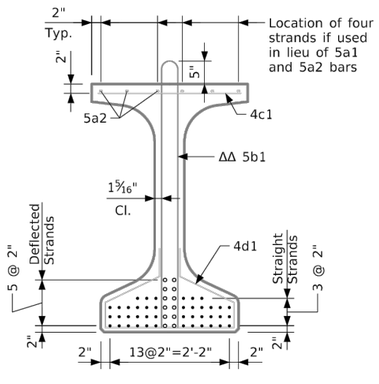
Beam Section Properties



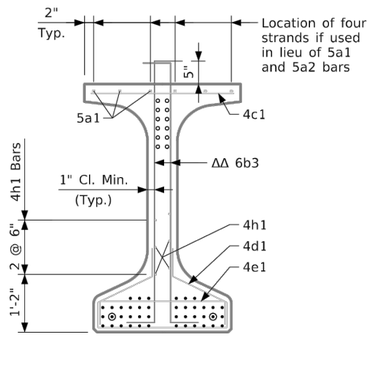
Top Flange Longitudinal Bar Layout



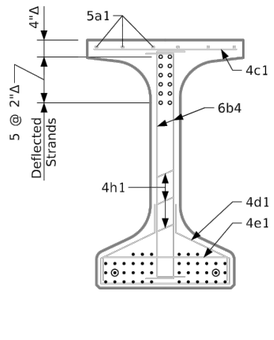
BTD Beam Cross Section



Section A-A



Section B-B



View C-C

- ○ Deflected Strands
- Δ Dimensions at End of Beam
- ΔΔ Epoxy Coated Bars
- ⊙ Strands Debonded 6'-0" from Beam Ends

IDOT STANDARD SHEET 4747
DATE: 04–2024

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

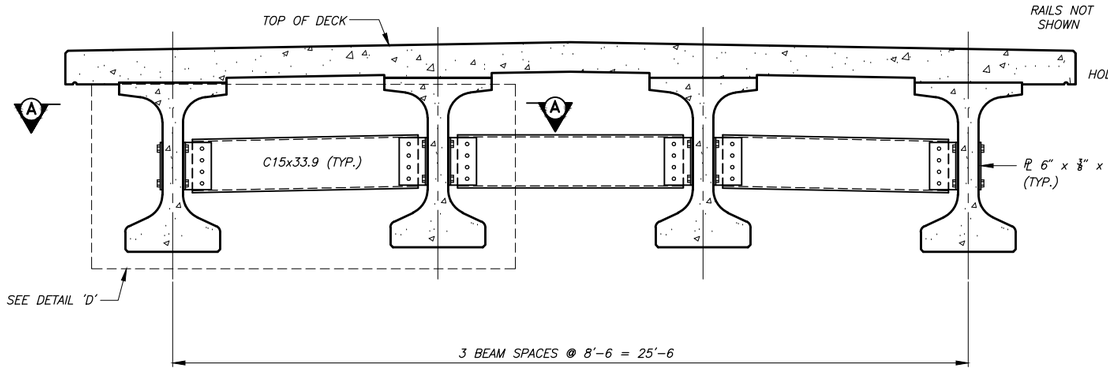
INTEGRAL ABUTMENTS
66'–0 END SPANS

TEE PIERS
132'–0 INTERIOR SPAN

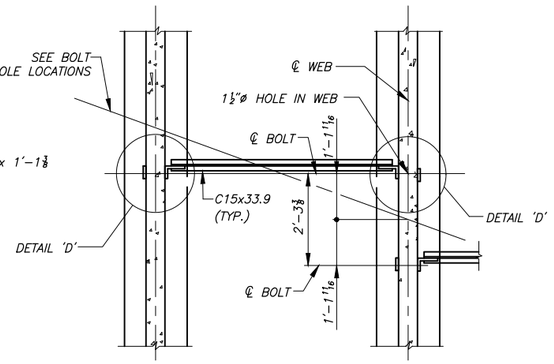
BEAM DETAILS

STATION 1041+00.00
JEFFERSON COUNTY,

15° SKEW, LT. AHEAD
IOWA

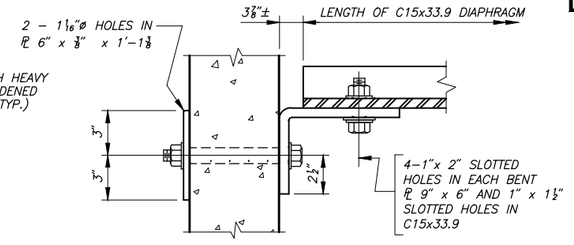


SECTION SHOWING INTERMEDIATE DIAPHRAGMS



PART SECTION A–A

BULB TEE "D" BEAM INTERMEDIATE DIAPHRAGM STRUCTURAL STEEL			
ONE BEAM CONNECTION (DETAIL "D")			WEIGHT
		NO. OF BEAM CONNECTIONS	
2–7/8"ø x 9¼" H.S. BOLTS WITH NUTS & WASHERS = 4.8 LBS.		24	115
ONE DETAIL "D"	1 - BACKING PL 6 x 3/8 x 1'-1 3/8 = 8.5 LBS.	24	204
	1 - BENT PL 9 x 6 x 1/2 x 1'-1 3/8 = 28.5 LBS.	24	684
ONE DIAPHRAGM			
		NUMBER OF DIAPHRAGMS	
8 - 7/8"Φ x 2¾" H.S.BOLTS WITH NUTS & WASHERS = 10.3 LBS.		12	124
	LENGTH OF MEMBER		
1 - C15 x 33.9 = 33.9 LBS/FT.	7'-3¾	12	2,975
INTERMEDIATE DIAPHRAGM STRUCTURAL STEEL - TOTAL (LBS.)			4,102



SECTION B–B

DIAPHRAGM NOTES

ALL DIAPHRAGM MATERIALS, INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.

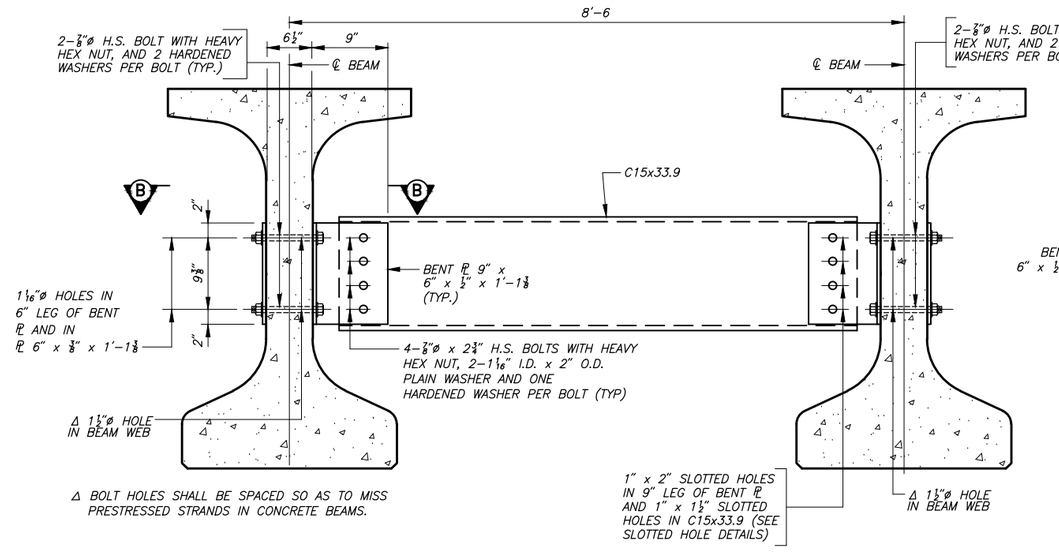
SHOP DRAWINGS OF THE STEEL DIAPHRAGMS SHOWING LAYOUT AND DETAILS OF THE DIAPHRAGMS SHALL BE SUBMITTED FOR APPROVAL.

ALL COSTS FOR FURNISHING AND INSTALLING STEEL INTERMEDIATE DIAPHRAGMS SHALL BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL STEEL."

THE 1½" DIAMETER HOLES FOR THE 7/8" DIAMETER H.S. BOLTS SHALL BE CAST INTO THE WEB. DRILLING IS NOT ALLOWED.

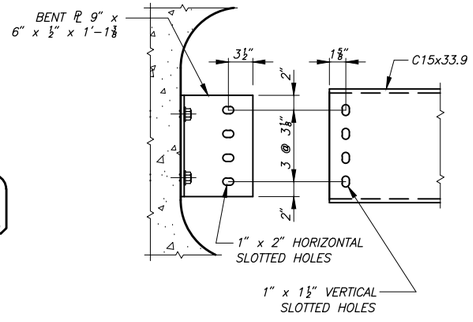
THE 7/8" DIAMETER H.S. BOLTS THROUGH THE WEB SHALL HAVE A THREAD LENGTH OF 3" MIN. AND 4" MAX. AND SHALL MEET THE REQUIREMENTS OF ASTM A449.

ALL BOLTS ARE TO BE TIGHTENED PRIOR TO PLACING BRIDGE FLOOR CONCRETE.

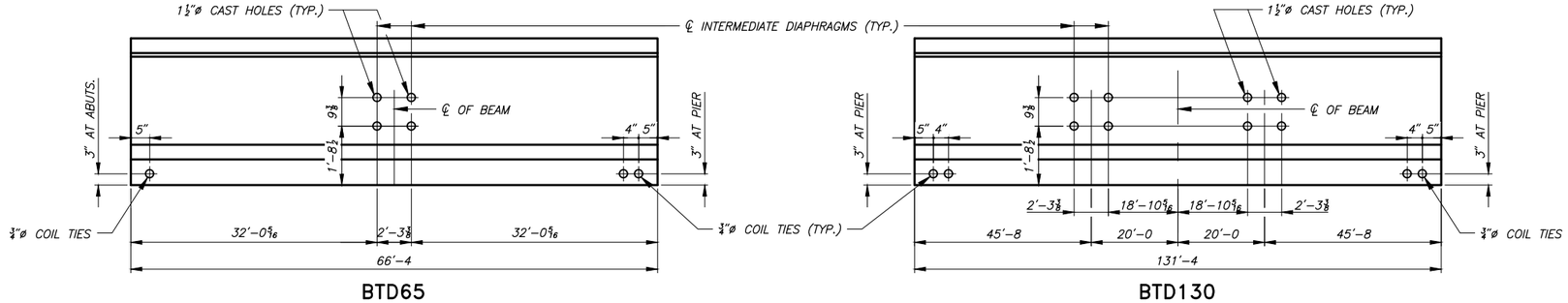


DETAIL 'D'

DETAIL 'D'



SLOTTED HOLE DETAILS



BTD65
(END SPANS)

BEAM COIL TIE AND BOLT HOLE LOCATIONS

BTD130
(INT. SPAN)

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'–0 END SPANS

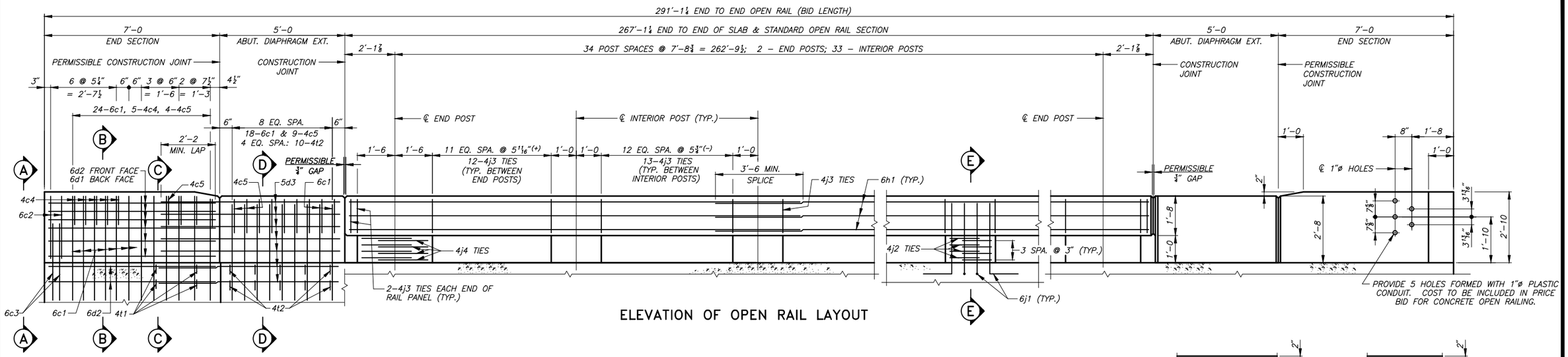
TEE PIERS
132'–0 INTERIOR SPAN

STEEL DIAPHRAGM DETAILS

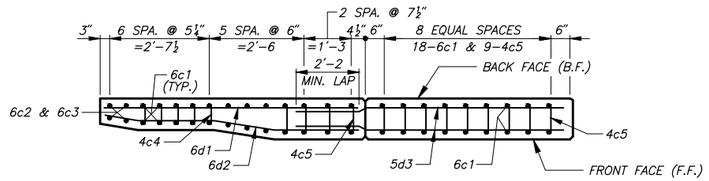
STATION 1041+00.00

15° SKEW, LT. AHEAD

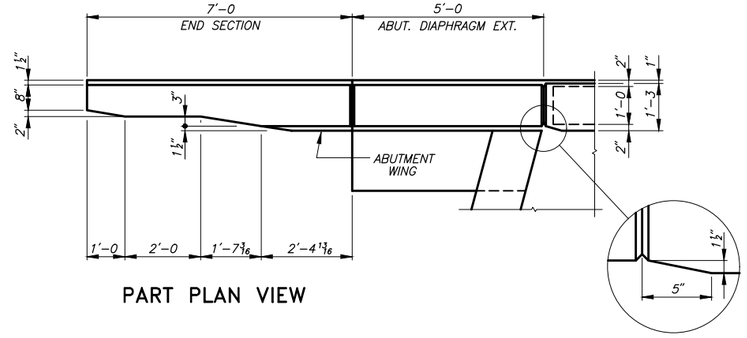
JEFFERSON COUNTY, IOWA



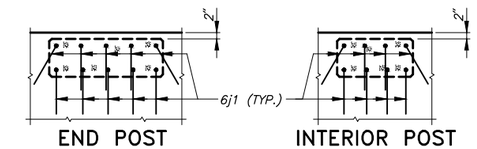
ELEVATION OF OPEN RAIL LAYOUT



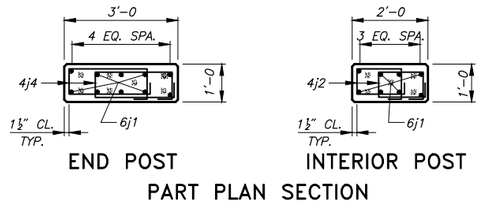
PART PLAN SECTION



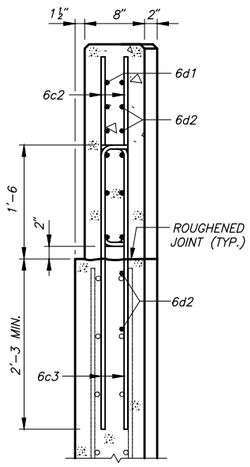
PART PLAN VIEW



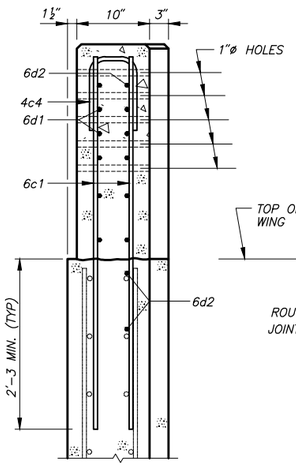
PART PLAN VIEW



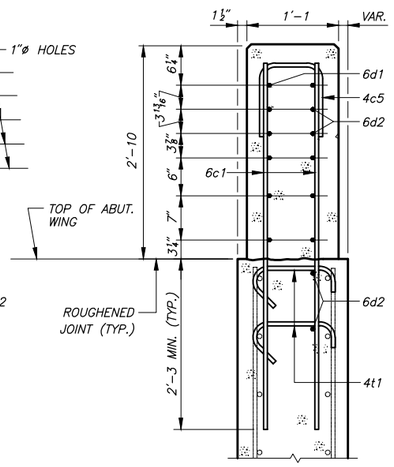
PART PLAN SECTION



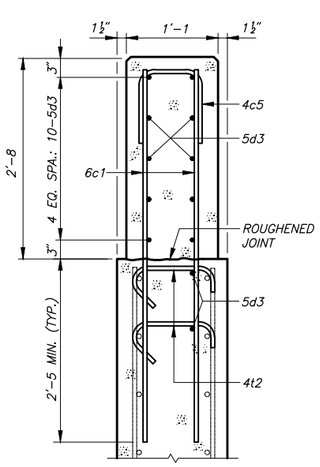
VIEW A-A



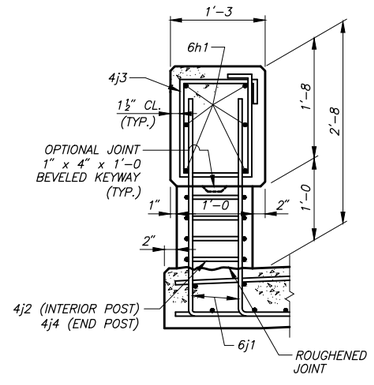
SECTION B-B



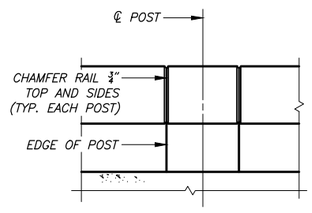
SECTION C-C



SECTION D-D



PART SECTION E-E



RAIL CHAMFER DETAIL

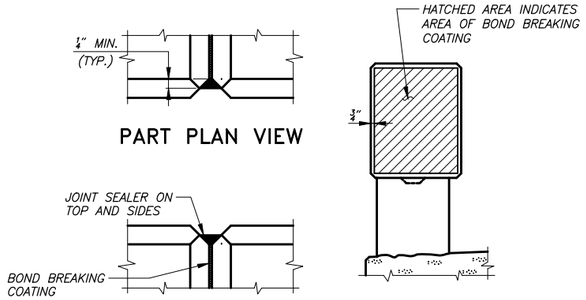
NOTE: SEE ABUTMENT DETAILS FOR ADDITIONAL WING REINFORCING.

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
66'-0 END SPANS — **132'-0 INTERIOR SPAN**

OPEN RAIL DETAILS (TL-4)

STATION 1041+00.00 — **15° SKEW, LT. AHEAD**
JEFFERSON COUNTY, — **IOWA**



PART PLAN VIEW

PART ELEVATION VIEW

OPEN RAIL JOINT DETAILS

NOTE: OMIT THIS DETAIL IF PERMISSIBLE GAP IS UTILIZED BETWEEN THE END SECTION AND STANDARD SECTION.

CONCRETE PLACEMENT SUMMARY (TWO RAILS)

SECTION	TOTAL
STANDARD SECTIONS (2 @ 20.6 C.Y.)	41.2
INTERIOR POSTS (66 @ 0.074 C.Y.)	4.9
END POSTS (4 @ 0.111 C.Y.)	0.4
ABUT. DIAPH. EXT. (4 @ 0.535 C.Y.)	2.1
END SECTIONS (4 @ 0.687 C.Y.)	2.7
TOTAL (C.Y.)	51.3

CONCRETE OPEN RAIL QUANTITIES (TWO RAILS)

ITEM	UNIT	QUANTITY
CONCRETE OPEN RAILING, TL-4 (2 @ 291.10)	L.F.	582.2

OPEN RAIL NOTES

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

ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A ¾" DRESSED AND BEVELED STRIP.

CONSTRUCTION JOINT BETWEEN THE WING AND RAIL IS TO BE ROUGHENED CONCRETE.

THE CONCRETE OPEN RAIL IS TO BE BID ON A LINEAL FOOT BASIS MEASURED FROM END TO END OF RAIL. THE NUMBER OF LINEAL FEET OF OPEN RAIL INSTALLED WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAL FOOT. PRICE BID FOR "CONCRETE OPEN RAILING, TL-4" SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, EXCLUDING REINFORCING STEEL, AND ALL OF THE EQUIPMENT AND LABOR REQUIRED TO CONSTRUCT THE RAIL IN ACCORDANCE WITH THESE PLANS AND CURRENT SPECIFICATIONS.

ALL OPEN RAIL REINFORCING STEEL IS TO BE EPOXY COATED GRADE 60 AND IS INCLUDED IN THE SUPERSTRUCTURE REINFORCING STEEL.

THE JOINT SEALER SHALL BE LIGHT GRAY NONSAG LATEX CAULKING SEALER MARKETED FOR OUTDOOR USE. NO TESTING OR CERTIFICATION IS REQUIRED.

TOP OF OPEN RAIL IS TO BE PARALLEL TO THE THEORETICAL CENTERLINE GRADE.

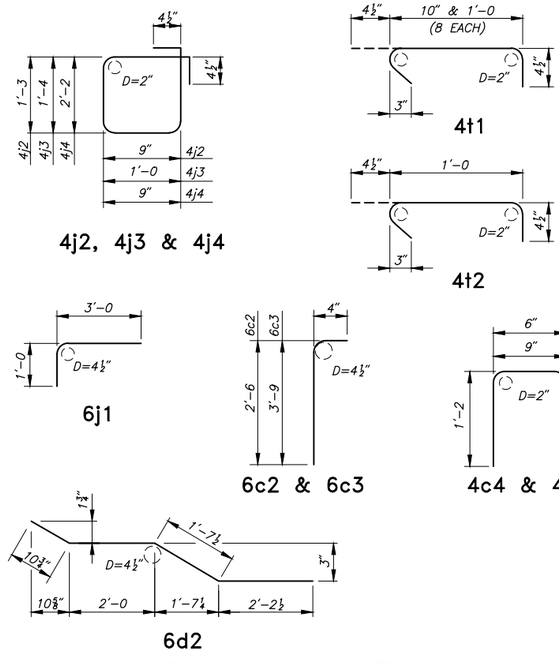
THE CAST-IN-PLACE OPEN RAILS SHALL USE CLASS C MIX. CLASS D CONCRETE IS NOT PERMITTED.

COST OF JOINT SEALER AND BOND BREAKER SHALL BE CONSIDERED INCIDENTAL TO OTHER CONSTRUCTION.

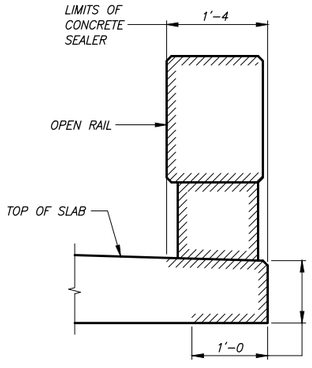
REINFORCING BAR LIST (TWO OPEN RAILS)

SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
4 END SECTIONS & ABUT. DIAPH. SECTIONS	6c1	VERTICAL, END SECTION & ABUT. DIAPHRAGM EXT.		168	4'-11	1,241
	6c2	VERTICAL, END SECTION		16	2'-10	68
	6c3	VERTICAL, END SECTION		16	4'-1	98
	4c4	VERTICAL HOOPS, END SECTION		20	2'-10	38
	4c5	VERT. HOOPS, END SECT. & ABUT. DIAPH., EXT.		52	3'-1	107
	6d1	HORIZONTAL, END SECTION B.F.		24	6'-8	240
	6d2	HORIZONTAL, END SECTION F.F.		32	6'-9	324
	5d3	HORIZONTAL, ABUT. DIAPHRAGM EXT.		48	7'-2	359
	4t1	WING FOOTING TIE BARS		16	SHOWN	18
	4t2	WING FOOTING TIE BARS		40	1'-9	47
STANDARD SECTION	6h1	LONGITUDINAL OPEN RAIL		96	36'-5	5,251
	6j1	VERTICAL DOWELS OPEN RAIL		568	4'-0	3,413
	4j2	HOOPS INTERIOR POSTS		528	4'-9	1,675
	4j3	HOOPS OPEN RAIL		888	5'-5	3,215
	4j4	HOOPS END POSTS		32	6'-7	141
INCLUDE WITH SUPERSTRUCTURE REINFORCING			EPOXY COATED TOTAL (LBS.)			16,235

BENT BAR DETAILS



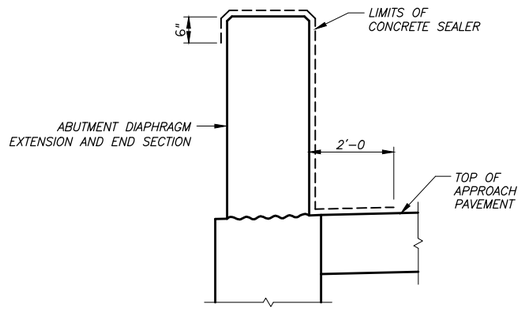
ALL BAR DIMENSIONS ARE OUT TO OUT. "D"= PIN DIAMETER



CONCRETE SEALER LIMITS FOR OPEN RAILS

CONCRETE SEALER SHALL BE APPLIED TO BOTH SIDES OF BRIDGE SLAB ON THE TOP, EDGE OF SLAB AND UNDER SLAB. THE CONCRETE SEALER SHALL ALSO BE APPLIED TO THE OPEN RAIL ON THE TOP, TRAFFIC FACE SIDE, BOTTOM OF RAIL, AND ON ALL SIDES OF THE OPEN RAIL POSTS.

THE CONCRETE SEALER LIMITS ARE SHOWN IN THE DETAIL AND SHALL APPLY TO THE FULL LENGTH OF BRIDGE. CONCRETE SEALER SHALL BE APPLIED IN ACCORDANCE WITH ARTICLE 2403.03, P, 3, OF THE STANDARD SPECIFICATIONS.



CONCRETE SEALER LIMITS FOR ABUTMENT DIAPHRAGM EXTENSIONS AND END SECTIONS

THE CONCRETE SEALER SHALL BE APPLIED TO THE ABUTMENT DIAPHRAGM EXTENSIONS AND END SECTIONS ON THE TOP, TRAFFIC FACE SIDE, 6 INCHES ONTO THE BACK FACE OF RAIL, AND 2 FT. OF THE APPROACH GUTTERLINE.

THE CONCRETE SEALER LIMITS ARE SHOWN IN THE DETAIL AND SHALL APPLY TO THE FULL LENGTH OF ABUTMENT DIAPHRAGM EXTENSIONS AND END SECTIONS. CONCRETE SEALER SHALL BE APPLIED IN ACCORDANCE WITH ARTICLE 2403.03, P, 3, OF THE STANDARD SPECIFICATIONS.

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

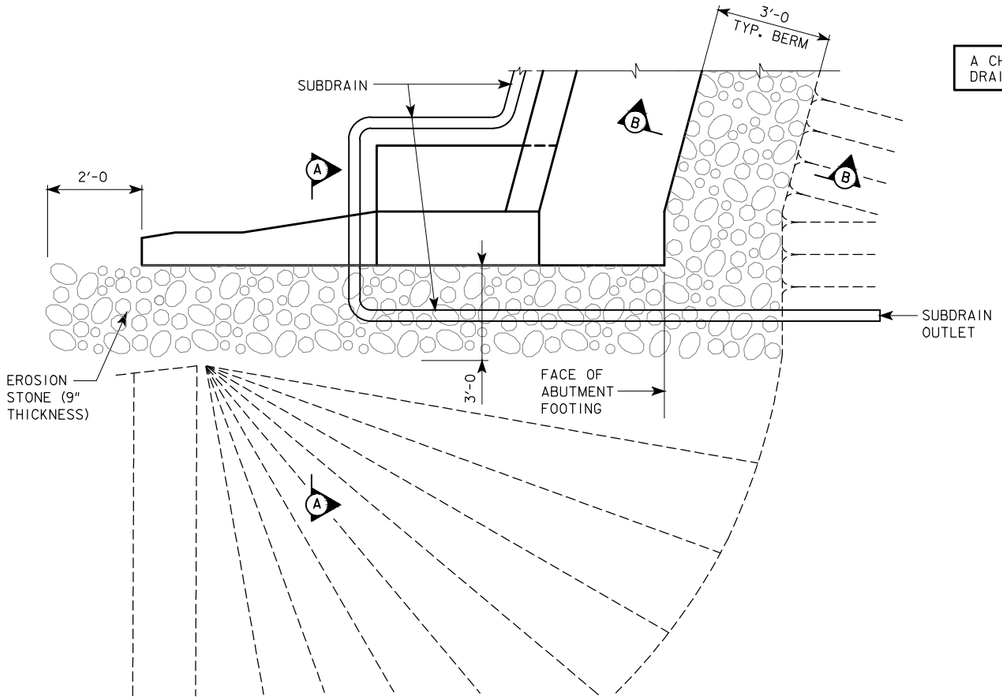
INTEGRAL ABUTMENTS — **66'-0 END SPANS**

TEE PIERS — **132'-0 INTERIOR SPAN**

OPEN RAIL DETAILS (TL-4)

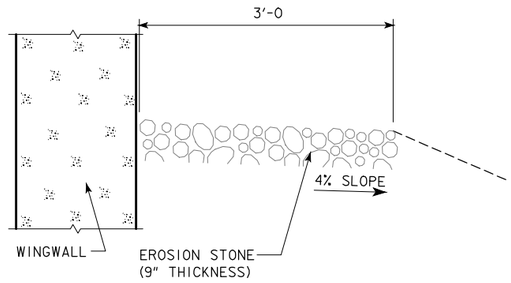
STATION 1041+00.00 — **15° SKEW, LT. AHEAD**

JEFFERSON COUNTY, — **IOWA**

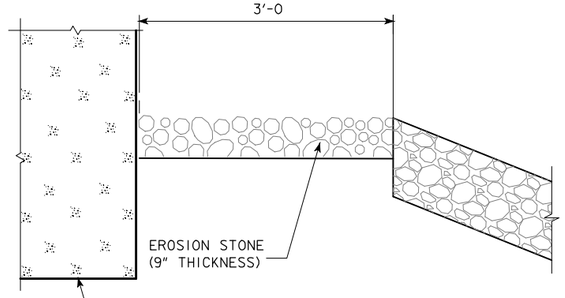


TOP VIEW OF WING ARMORING WITH WING EXTENSION

A CHECK SHALL BE MADE AT THE SUBDRAIN OUTLET TO ENSURE THAT IT IS DRAINING PROPERLY DURING THE BACKFILL FLOODING PROCESS.



SECTION A–A



SECTION B–B

SUBDRAIN NOTES

THIS PLAN SHEET SHOWS DETAILS FOR PLACING SUBDRAINS AND SUBDRAIN OUTLETS REQUIRED FOR THIS STRUCTURE.

THE SUBDRAINS SHALL BE 4" IN DIAMETER AND SHALL BE IN ACCORDANCE WITH ARTICLE 4143.01, B, OF THE STANDARD SPECIFICATIONS.

THE SUBDRAIN OUTLET SHALL CONSIST OF A LENGTH OF PIPE WITH A REMOVABLE RODENT GUARD AS DETAILED ON THIS SHEET. THE LENGTH OF THE OUTLET PIPE SHALL BE DETERMINED BY THE REVETMENT AND ITS PLACEMENT LOCATION. THE CONTRACTOR IS TO ENSURE THE OUTLET PIPE IS ADEQUATELY STRONG ENOUGH AND WILL NOT BE DAMAGED WHEN REVETMENT IS PLACED. A CHECK WILL BE MADE AT THE SUBDRAIN OUTLET TO ENSURE THAT THE SUBDRAIN IS NOT DAMAGED AND IS DRAINING PROPERLY DURING THE BACKFILL FLOODING PROCESS. IF A METAL OUTLET IS USED, IT SHALL BE 6 INCHES IN DIAMETER AND COUPLED TO THE 4 INCH DIAMETER SUBDRAIN IN ONE OF THE TWO FOLLOWING WAYS.

1. USE AN INSIDE FIT REDUCER COUPLER (COUPLER MUST BE INSERTED A MINIMUM OF 1'-0 INTO THE METAL OUTLET PIPE).
2. INSERT 1'-0 OF THE 4"ø SUBDRAIN INTO THE 6"ø METAL OUTLET PIPE, THEN FULLY SEAL THE ENTIRE OPENING WITH GROUT.

THE COST OF FURNISHING AND PLACING SUBDRAIN (INCLUDING EXCAVATION), GRANULAR BACKFILL, POROUS BACKFILL, AND SUBDRAIN OUTLET IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)". NO EXTRA PAYMENT WILL BE MADE.

SEE SITUATION PLAN, SHEET 4, FOR SUBDRAIN OUTLET ELEVATIONS.

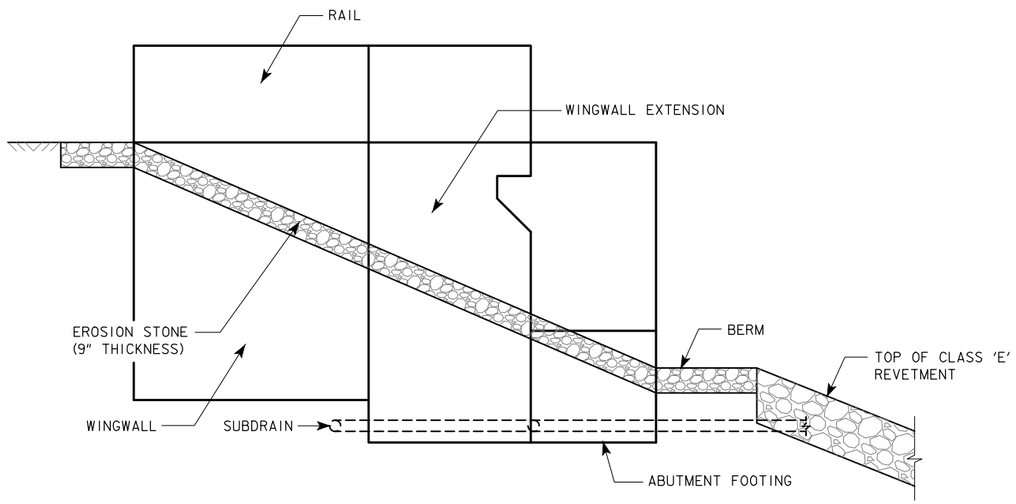
WING ARMORING NOTES

EROSION STONE SHALL BE PLACED ALONG THE SIDE OF THE WINGS AND ABUTMENT FOOTINGS AS SHOWN IN SECTION A-A AND SECTION B-B. THIS IS TYPICAL AT EACH CORNER OF THE BRIDGE UNLESS OTHERWISE NOTED IN THE PLANS. THE EROSION STONE AT THESE LOCATIONS SHALL BE UNDERLAYED WITH ENGINEERING FABRIC IN ACCORDANCE WITH ARTICLE 4196.01, B, 3, OF THE STANDARD SPECIFICATIONS.

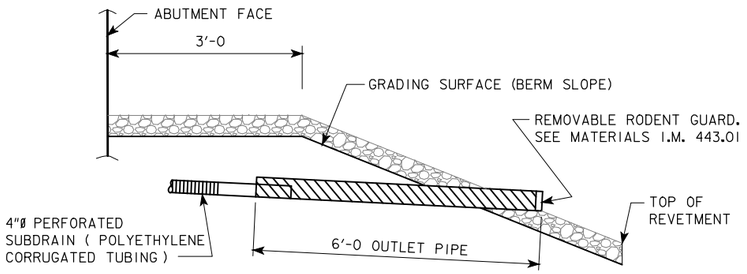
THE EROSION STONE SHALL BE IN ACCORDANCE WITH SECTION 4130, OF THE STANDARD SPECIFICATIONS. MATERIAL PASSING THE 3 INCH SCREEN BUT 100% RETAINED ON A 1 INCH SCREEN MAY BE USED AS CHOKE STONE.

THE EROSION STONE SHALL BE DEPOSITED, SPREAD, CONSOLIDATED AND SHAPED BY MECHANICAL OR HAND METHODS THAT WILL PROVIDE UNIFORM 9" DEPTH AND DENSITY AND PROVIDE UNIFORM SURFACE APPEARANCE.

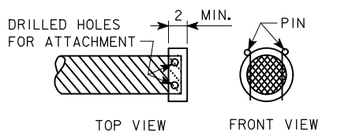
PAYMENT FOR THE BRIDGE WING ARMORING WILL BE BID PER SQUARE YARD. COST WILL INCLUDE ENGINEERING FABRIC, EROSION STONE, EXCAVATION, SHAPING AND COMPACTION TO DIMENSIONS SHOWN IN THESE PLANS. BID ITEM SHALL BE "BRIDGE WING ARMORING - EROSION STONE".



PROFILE VIEW OF WING ARMORING WITH WING EXTENSION



TYPICAL SECTION OF SUBDRAIN OUTLET



REMOVABLE RODENT GUARD DETAILS

SUBDRAIN OUTLET DETAILS

MODIFIED STANDARD SHEETS 1005A & 1007C

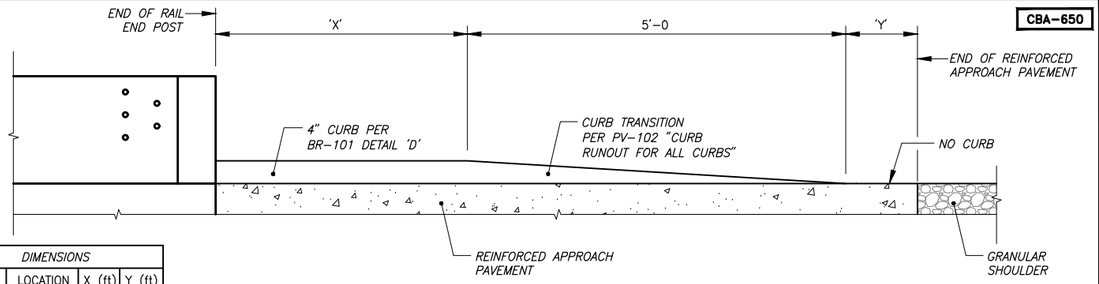
264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
66'–0 END SPANS — **132'–0 INTERIOR SPAN**

SUBDRAIN & WING ARMORING DETAILS

STATION 1041+00.00 — **15° SKEW, LT. AHEAD**
JEFFERSON COUNTY, — **IOWA**

CBA-650

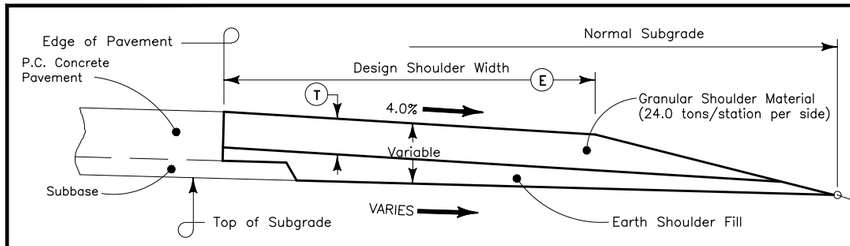


DIMENSIONS			
NO.	LOCATION	X (ft)	Y (ft)
1	SE	11.00	1.02
2	SW	3.98	0.00
3	NE	3.98	0.00
4	NW	11.00	1.02

REINFORCED BRIDGE APPROACH CURB LAYOUT

SEE TABULATION 112-6 AND BR. ROAD STANDARDS FOR ADDITIONAL INFORMATION.

CBA-641



Note:
Methods of construction and basis for payment shall be in conformance with current Standard Specifications for the type of shoulder work specified in "Estimate of Quantities" for the project.

LOCATION			E Feet	T Inches	SIDE
ROAD IDENTIFICATION	STATION TO STATION				
W30	1038+20.00	1039+41.45	6	6	L/R
W30	1042+58.55	1043+75.00	6	6	L/R

TYPICAL SECTION GRANULAR SHOULDER
Adjacent to Pavement

① Includes 50% for Shrinkage

DESIGN QUANTITY RATE Earth Shoulder Material per Shoulder Per Station	
E	CU. YDS. ①
6	11.0 (RT.)

105_04
10/20/26

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BA-200	10-20-26	Steel Beam Guardrail Components
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-26	Steel Beam Guardrail Bolted End Anchor
BR-101	10-20-26	Bridge Approach Section (General Details)
BR-103	10-20-26	Bridge Approach Section (Two-Lane for Bridge Reconstruction, PCC Pavement)
DR-306	10-17-23	Precast Concrete Headwall for Subdrain Outlets
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EW-301	10-20-26	Guardrail Grading
EW-401	10-20-15	Temporary Stream Crossing, Causeway, or Equipment Pad
LS-625	10-19-21	Steel Beam Guardrail Tangent End Terminal (NCHRP 350 TL-3)
LS-630	10-19-21	Steel Beam Guardrail Installation At Concrete Barrier Or Bridge Rail End Section (NCHRP 350 TL-3)
MI-103	10-20-15	Deer Fence and Field Fence Construction
PM-110	10-15-24	Line Types
PV-101	10-20-26	Joints
PV-102	10-21-25	PCC Curb Details
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
TC-252	10-20-26	Routes Closed to Traffic

110_01
4/5/24

REMOVAL OF PAVEMENT

~~Refer to Tabulation 102-5.~~

* Not a bid item.

Line No.	Station From	Station To	Side	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
1.0	1039+11.45	1039+90.00	2-Lane	PCC	192.0	22.0	SOUTH SIDE
2.0	1042+40.00	1043+08.55	2-Lane	PCC	167.6	22.0	NORTH SIDE
Total:					**359.6**		

TRAFFIC CONTROL PLAN

1. ROUTE WILL BE CLOSED TO VEHICULAR AND PEDESTRIAN TRAFFIC DURING CONSTRUCTION.
2. TRAFFIC CONTROL ON THE PROJECT SHALL BE IN ACCORDANCE WITH STANDARD ROAD PLAN TC-252.
3. TRAFFIC WILL BE MAINTAINED ON A DETOUR ROUTE. JEFFERSON COUNTY WILL PROVIDE, MAINTAIN AND REMOVE DETOUR ROUTE.
4. JEFFERSON COUNTY MAINTENANCE SHALL SALVAGE EXISTING ROAD MARKERS AFTER THE ROAD IS CLOSED.

108_13A
3/27/25

SAFETY CLOSURES

Station	Road Closure Qty.	Hazard Closure Qty.	Remarks
1038+00.00	1		SOUTH END
1045+00.00	1		NORTH END
Total:	**2**		

108_22
11/25/25

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17 — BCY6: Broken Centerline (Yellow) @ 0.25 — BLC6: Broken Line Contrast (White/Black) @ 0.50 — BLW4: Broken Lane Line (White) @ 0.17 — BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00 — CHW8: Channelizing Line (White) @ 1.33 — CHW10: Channelizing Line (White) @ 1.67 — CHY8: Channelizing Line (Yellow) @ 1.33 — CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00 — DCY4: Double Centerline (Yellow) @ 1.34 — DCY6: Double Centerline (Yellow) @ 2.00 — DDY4: Double Dotted Line (Yellow) @ 0.44 — DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22 — DLW6: Dotted Line (White) @ 0.33 — DLY4: Dotted Line (Yellow) @ 0.22 — DLY6: Dotted Line (Yellow) @ 0.33 — ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00 — ELY4: Edge Line Left (Yellow) @ 0.67 — ELY6: Edge Line Left (Yellow) @ 1.00 — LDW8: Lane Drop (White) @ 0.33 — LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00 — NPY4: No Passing Zone Line (Yellow) @ 0.84 — NPY6: No Passing Zone Line (Yellow) @ 1.25 — RLW4: Ramp Edge Line Right (White) @ 0.67 — RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67 — RLY6: Ramp Edge Line Left (Yellow) @ 1.00 — SLW2: Stop Line (White) @ 4.00 — SLW4: Solid Lane Line (White) @ 0.67 — SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16 — SPW6: Sloped Curb 6" (White) @ 2.28 — SPY4: Sloped Curb 4" (Yellow) @ 2.16 — SPY6: Sloped Curb 6" (Yellow) @ 2.28 — STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03 — YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	DCY4 (STA)	DCY4 Factored (STA)	ELW4 (STA)	ELW4 Factored (STA)	Remarks
1.0	W30	1039+11.45	1043+08.55	2-Lane	Waterborne/Solvent Paint		X		No		3.97	5.34			
2.0	W30	1039+11.45	1043+08.55	2-Lane	Waterborne/Solvent Paint			X	No				7.94	5.32	
3.0															TOTAL FACTORED = 10.64 STA

SURVEY CONTROL POINTS

CBA-300

Description	Northing	Easting	Approx. Station	Approx. Offset	Elevation
CP #2, SET ⅝" REBAR W/AI. CAP STAMPED "FRA CP 2"	*336206.30*	*2097850.70*	*1038+76*	*19' LT.*	*655.45*
CP #1, SET ⅝" REBAR W/AI. CAP STAMPED "FRA CP 1"	*336612.52*	*2097552.91*	*1043+80*	*18' LT.*	*652.79*
Coordinate System				**Vertical Datum**	
(NAD83)	*IOWA STATE PLANES, SOUTH ZONE, US FOOT*			*NAVD88*	

264'-0 x 30'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'-0 END SPANS

TEE PIERS
132'-0 INTERIOR SPAN

TYPICAL SECTIONS & TABULATIONS

STATION 1041+00.00
JEFFERSON COUNTY,

15° SKEW, LT. AHEAD
IOWA

112_06
10/20/26

BRIDGE APPROACH SECTION

Refer to the BR Series.

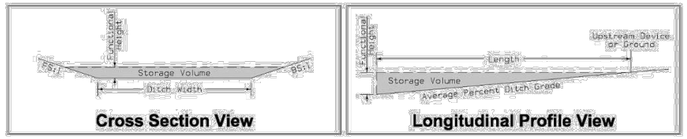
* Not a bid item
** Verify layout of bridge approach does not conflict with guardrail posts.

Line No.	Bridge Station	End	Skew Ahead Left (Degrees)	Skew Ahead Right (Degrees)	(T) Thickness (IN)	Pay Length (FT)	Right Edge Offset (FT) **	Left Edge Offset (FT) **	Non-Reinf. Area (SY)	Single-Reinf. Area (SY)	Double-Reinf. Area (SY)	SRP Approach	SRP Abutment Type	SRP Abutting Pavement	Perforated * 4" Subdrain (LF)	Subdrain * Outlet (STA)	Subdrain * Outlet Side	Porous * Backfill (CY)	Modified * Subbase (TON)	Polymer * Grid (SY)	Special * Backfill (TON)	Remarks
1.0	1041+00.00	S	15.0		10.0	55.0	16.2	16.2	73.3	86.7			Movable		40.0	1039+21.45	Right	3.0	170.000	175.0		SOUTH SIDE; BR-103, SEE CBA-650
2.0	1041+00.00	N	15.0		10.0	75.0	16.2	16.2	122.2	86.7			Movable		40.0	1042+98.55	Right	3.0	230.000	235.0		NORTH SIDE; BR-103, SEE CBA-650
Total:									**195.5**	**173.4**												

100_18
8/15/22

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

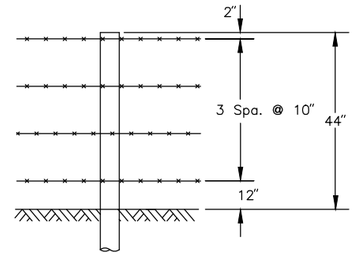
Line No.	Basin No.	Type	Station	Side	Installation (LF)	Maintenance (LF)	Removal (LF)	Foreslope (FS:1)	Backslope (BS:1)	Ditch Width (FT)	Avg. % Slope Ditch Grade	Volume (CF)	Remarks
1.0	1	Type 1	1038+70.00	Right	20.0	20.0		3.0	2.0	10.0	3.0	448.50	SE DITCH
2.0	1	Type 1	1040+20.00	Right	17.0	17.0		3.0	3.0	5.0	3.0	303.25	SE DITCH @ BANK
3.0	3	Type 1	1041+80.00	Left	14.0	14.0		2.0	2.0	6.0	6.2	233.40	NW DITCH
4.0	3	Type 1	1042+05.00	Left	14.0	14.0		2.0	2.0	6.0	6.2	233.40	NW DITCH
5.0	3	Type 1	1042+30.00	Left	14.0	14.0		2.0	2.0	6.0	6.2	233.40	NW DITCH
6.0	3	Type 1	1042+55.00	Left	14.0	14.0		2.0	2.0	6.0	6.2	145.88	NW DITCH
7.0	3	Type 1	1042+90.00	Left	14.0	14.0		2.0	2.0	6.0	4.1	145.88	NW DITCH
8.0	3	Type 1	1043+25.00	Left	14.0	14.0		2.0	2.0	6.0	4.1	145.88	NW DITCH
9.0	3	Type 1	1043+45.00	Left	14.0	14.0		2.0	2.0	6.0	4.1	145.88	NW DITCH
10.0	3	Type 1	1043+70.00	Left	14.0	14.0		2.0	2.0	6.0	6.7	145.88	NW DITCH
Total:					**149**	**149**							

CBA-101

SUMMARY OF EARTHWORK QUANTITIES

EXCAVATION TYPE	RAW CUT CY	RAW FILL CY	WASTE ** CY	USABLE CUT CY	SHRINKAGE FACTOR	FILL +35% SHRINKAGE CY	PAYMENT QUANTITY CY
CLASS 10, ROADWAY AND BORROW	460	900	0	460	35%	1,215	460
CLASS 10, CHANNEL	4,200	0	3,445	755	35%	0	4,200
TOTALS			3,445	1,215		1,215	

ASSUMES SOME MATERIAL WILL BE UNSUITABLE AND/OR EXCESS AND WILL NEED TO BE WASTED OFF SITE.



ELEVATION OF
BARBED WIRE FENCE,
4 BARB

100_17
8/15/22

TABULATION OF SILT FENCES

Refer to EC-201

Line No.	Station From	Station To	Side	Length (FT)	Remarks
1.0	1038+20.00	1040+00.00	Left	200.00	SW FORESLOPE
2.0	1039+95.00	1040+70.00	Left	90.00	TOP OF SW BANK
3.0	1038+95.00	1039+80.00	Right	85.00	SE FORESLOPE
4.0	1040+15.00	1040+20.00	Right	35.00	TOP OF SE BANK
5.0	1041+45.00	1042+00.00	Right	95.00	TOP NE BANK
6.0	1042+00.00	1043+75.00	Right	180.00	NE FORESLOPE
7.0	1041+70.00	1041+85.00	Left	40.00	TOP OF NW BANK
Total:				**725**	

100_07
1/13/23

FENCING

* Bid Item

Line No.	Station From	Offset	Station To	Offset	Side	Fence Type	Fence Feature	Height (FT)	Quantity (EA) *	Length (LF) *	Remarks
1.0	1038+20.00	68.0	1039+40.00	106.0	Right	Field	Running Fence	3.7		140.0	REPLACES EXISTING FENCE
2.0	1038+20.00	68.0	1039+40.00	106.0	Right	Field	Brace Panel	3.7	6		BRACE PANELS
3.0	1038+20.00	70.0	1039+40.00	106.0	Right		Running Fence	3.7		125.0	TEMPORARY FENCING

100_19
10/15/24

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
1.0	1040+40.00	1040+90.00		Perimeter and Slope	12 inch	230.00	SOUTH BANK LINE
2.0	1041+10.00	1041+60.00		Perimeter and Slope	12 inch	245.00	NORTH BANK LINE
Total:						**475**	

264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
66'–0 END SPANS

TEE PIERS
132'–0 INTERIOR SPAN

TABULATIONS

STATION 1041+00.00
JEFFERSON COUNTY,

15° SKEW, LT. AHEAD
IOWA

108_08A
4/25/25

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-209, 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.

Line No.	Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	BA-211 Station	BA-211 (Type)	SI-211 (Type) (2)	Delineator SI-172 Type 1 (EA) (2)	Object Marker Type 2 (EA) (2)	Object Marker Type 3 Lt (EA)(2)	Object Marker Type 3 Rt (EA)(2)	Bolted End Anchor BA-202 (Type)	Bolted End Anchor BA-202 (EA)	Post Adapter BA-210 (EA)	Steel Beam Guardrail BA-200 (LF)	Remarks
1.0	NB	Right	1039+50.43	15.5	BA-201	1	LS-625	1	40.630			50.00			2	3			1	A	1			SE CORNER, LS-630
2.0	SB	Left	1039+58.47	15.5	BA-201	1	LS-625	1	40.630			50.00			2	3		1		A	1			SW CORNER, LS-630
3.0	NB	Right	1042+41.53	15.5	BA-201	1	LS-625	1	40.630			50.00			2	3		1		A	1			NE CORNER, LS-630
4.0	SB	Left	1042+49.57	15.5	BA-201	1	LS-625	1	40.630			50.00			2	3			1	A	1			NW CORNER, LS-630
Total:						**4**		**4**													**4**			

110_07A
8/15/22

REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
(2) Includes length of End Terminals and End Anchors.

Line No.	No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
1.0		NB	1039+29.00	1039+89.00	Right	60.0
2.0		SB	1039+29.00	1039+89.00	Left	60.0
3.0		NB	1042+40.00	1043+00.00	Right	60.0
4.0		SB	1042+40.00	1043+00.00	Left	60.0
Total:						**240**

107_23
8/15/22

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

(1) Lane(s) to which the installation is adjacent.

Line No.	Direction of Traffic (1)	Station	Side	Foreslope at Guardrail	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	X3 (FT)	Y3 (FT)	X4 (FT)	Y4 (FT)	Z (FT)	Excavation Class 10 (CY)	Embankment-in-Place (CY)	Remarks
1.0	NB	1039+50.43	Right	3:1	40.0	3.1					90.0	5.1	39.0	90.0		SE QUADRANT
2.0	SB	1039+58.47	Left	3:1	40.0	3.1					90.0	5.1	39.0	176.0		SW QUADRANT
3.0	NB	1042+41.53	Right	3:1	40.0	3.1					90.0	5.1	39.0	117.0		NE QUADRANT
4.0	SB	1042+49.57	Left	2:1	40.0	3.1					90.0	5.1	39.0	244.0		NW QUADRANT

For placement at the Turkey-Run Access:

Sign #1 Facing to parking lot from water access

[[[Style of Sign]]]

Warning
Construction Hazard
at Stockport Rd Bridge
Don't Launch Here
For Downstream Trip

[[[3"Letterheight: Use this text.]]]
Warning

[[[2"Letterheight Use this text.]]]
Construction Hazard
at Stockport Rd Bridge

Don't Launch Here
For Downstream Trip

[[[Placement: Near top of boat ramp facing parking area]]]

At construction site

Sign #2-5 Center of Bridge Decks/Adjacent River Banks (facing upstream and downstream)

[[[Style of Sign]]]

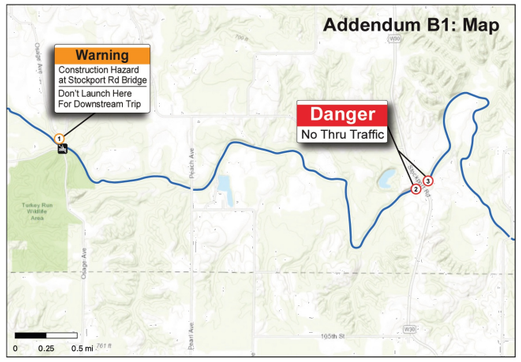
Danger
No Thru Traffic

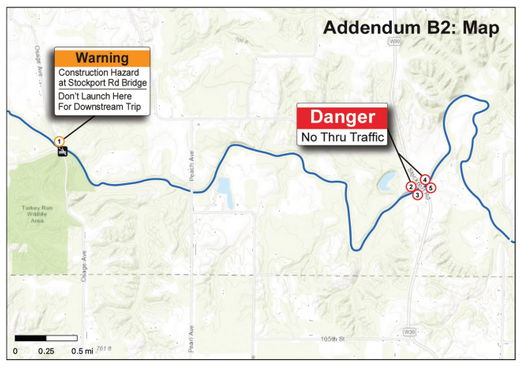
[[[River Width 115']]]

[[6"Letterheight: Use this text.]]]
Danger

[[[4"Letterheight Use this text.]]]
No Thru Traffic

[[[Placement: When no structure is present, install along adjacent river banks facing upstream and downstream (Addendum B1; See Addendum C for limb-mounted installation option). When structure is present, may be installed on center of bridge facing upstream and downstream (Addendum B2). Signage must be present throughout the entirety of the project.]]]





NAVIGABLE WATER CONDITIONS

THE IOWA DNR HAS BEEN NOTIFIED THAT PADDLING ACCESS ON CEDAR CREEK WILL BE INTERRUPTED DURING A PORTION OF THE CONSTRUCTION FOR THIS PROJECT. THE CONTRACTOR SHALL MEET THE FOLLOWING REQUIREMENTS:

1. INSTALL THE SIGNAGE SYSTEM AS DETAILED ON THIS SHEET. SIGNS SHOULD BE PLACED PRIOR TO OBSTRUCTING THE RIVER AND BE REMOVED AFTER THE OBSTRUCTION IS COMPLETE.
2. CONTRACTOR TO NOTIFY JOHN WENCK AT JOHN.WENCK@DNR.IOWA.GOV WHEN TEMPORARY CHANNEL OBSTRUCTION IS PLACE AND WHEN THE CHANNEL OBSTRUCTION IS REMOVED.
3. NOTIFY AND COORDINATE WITH CONSERVATION OFFICER CHRIS FLYNN AT CHRIS.FLYNN@DNR.IOWA.GOV OR DAN HENDERSON AT DAN.HENDERSON@DNR.IOWA.GOV FOR ADVICE ON PLACEMENTS AS CREWS INSTALL SIGNS
4. CONTACT JEFFERSON COUNTY CONSERVATION AT INFO@JEFFERSONCOUNTYCONSERVATION.COM. FOR ADVICE ON SIGN PLACEMENT AT TURKEY-RUN ACCESS.
5. CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS FROM RIVER CHANNEL.
6. CONTRACTOR SHALL MINIMIZE TIME THE RIVER IS OBSTRUCTED.

ALL SIGNS SHALL USE COLOR CODING STYLE ACCORDING TO THE WATER TRAIL DEVELOPMENT MANUAL (HTTPS://WWW.IOWADNR.GOV/THINGS-TO-DO/CANOEING-KAYAKING/WATER-TRAIL-DEVELOPMENT) SIGNS SHALL BE INSTALLED ON UPSTREAM AND DOWNSTREAM SIDE OF BRIDGE. SIGNS SHALL BE MOUNTED ON THE EXISTING BRIDGE NEAR THE CENTER OF THE RIVER. SIGNS SHALL BE MOUNTED VERTICALLY WITHIN THE LIMITS OF THE BRIDGE SUPERSTRUCTURE AND SHALL NOT HANG MORE THAN 2'-0 BELOW THE LOW SUPERSTRUCTURE.

CONTRACTOR SHALL PROVIDE MEANS TO ATTACH/HANG THE SIGNS. WELDING OR DRILLING OF STRUCTURAL STEEL WILL NOT BE ALLOWED. ANY CONCRETE ANCHORS SHALL BE FULLY REMOVED AND HOLES FILLED WITH MORTAR. ATTACHMENTS SHALL NOT PROJECT INTO VEHICULAR TRAVELED WAY.

LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PLACE AND MAINTAIN SIGNAGE SHALL BE INCIDENTAL TO THE "TRAFFIC CONTROL" BID ITEM.

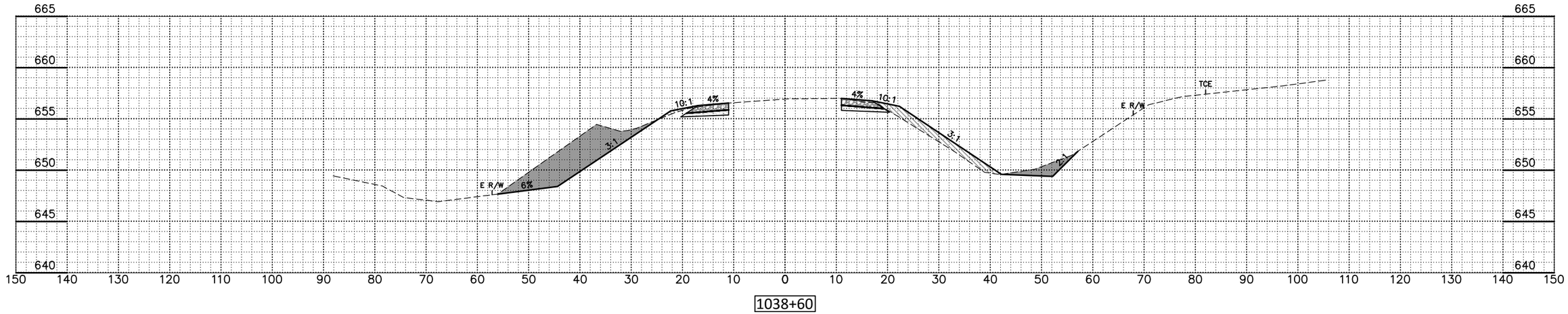
264'–0 x 30'–0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
66'–0 END SPANS — **132'–0 INTERIOR SPAN**

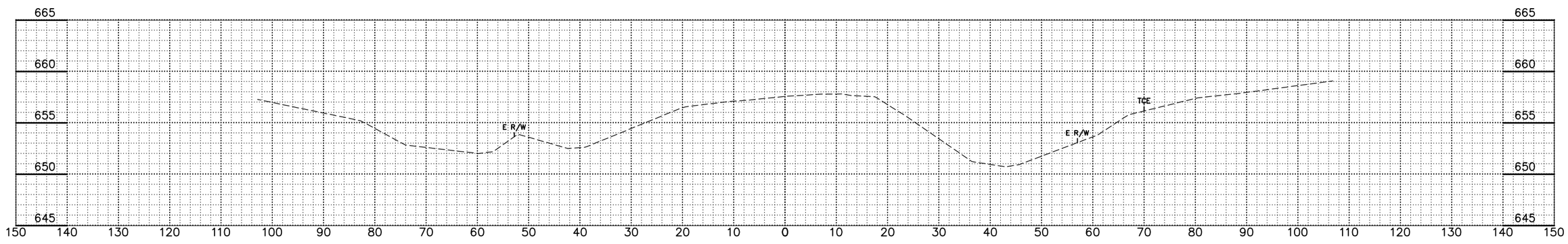
TABULATIONS

STATION 1041+00.00 — **15° SKEW, LT. AHEAD**
JEFFERSON COUNTY, — **IOWA**

BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06



1038+60

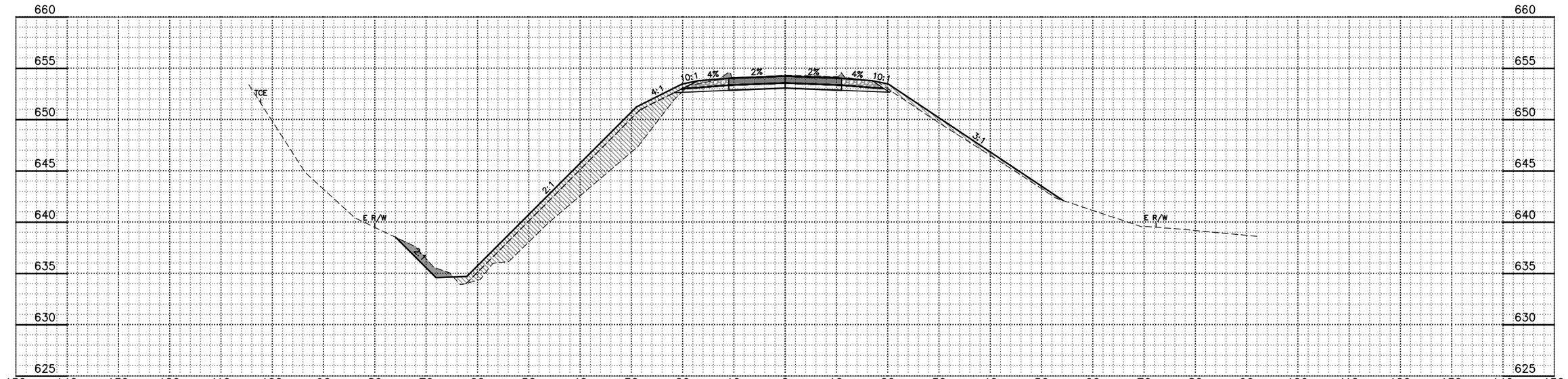


1038+20

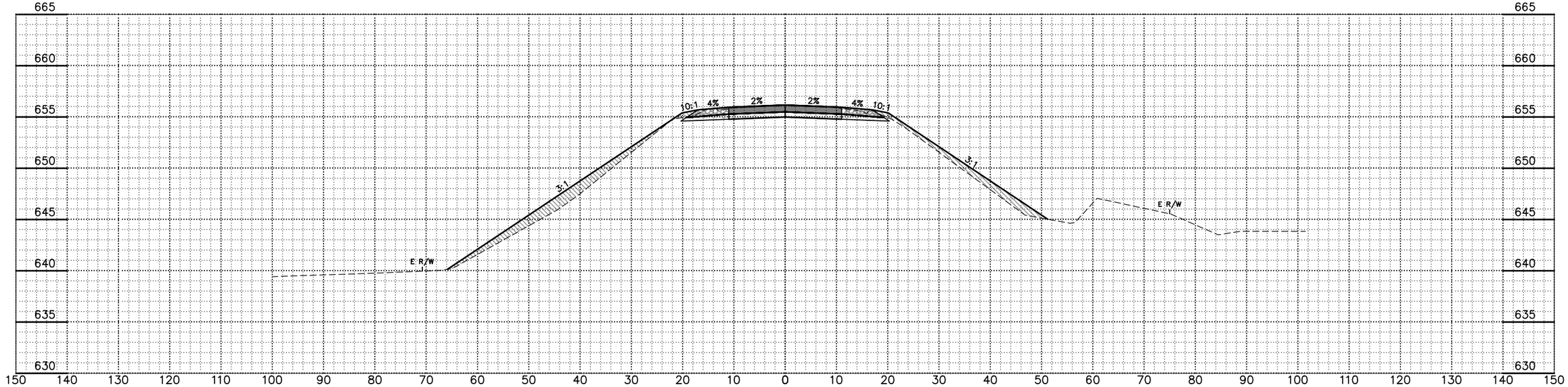
CROSS SECTIONS

JEFFERSON COUNTY, IOWA

BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06



1042+60
℄ EL = 654.25

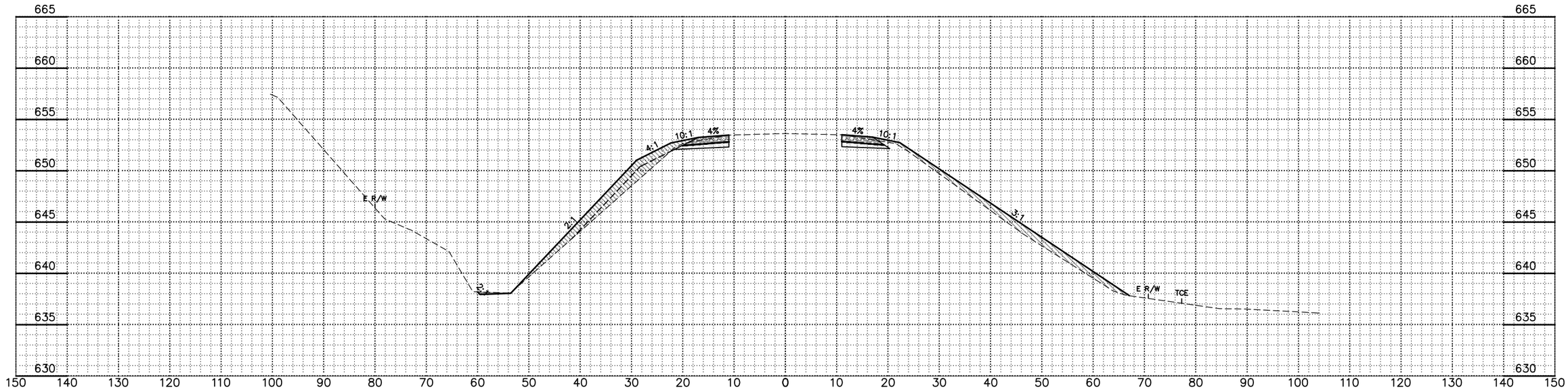


1039+40
℄ EL = 656.17

CROSS SECTIONS

JEFFERSON COUNTY, IOWA

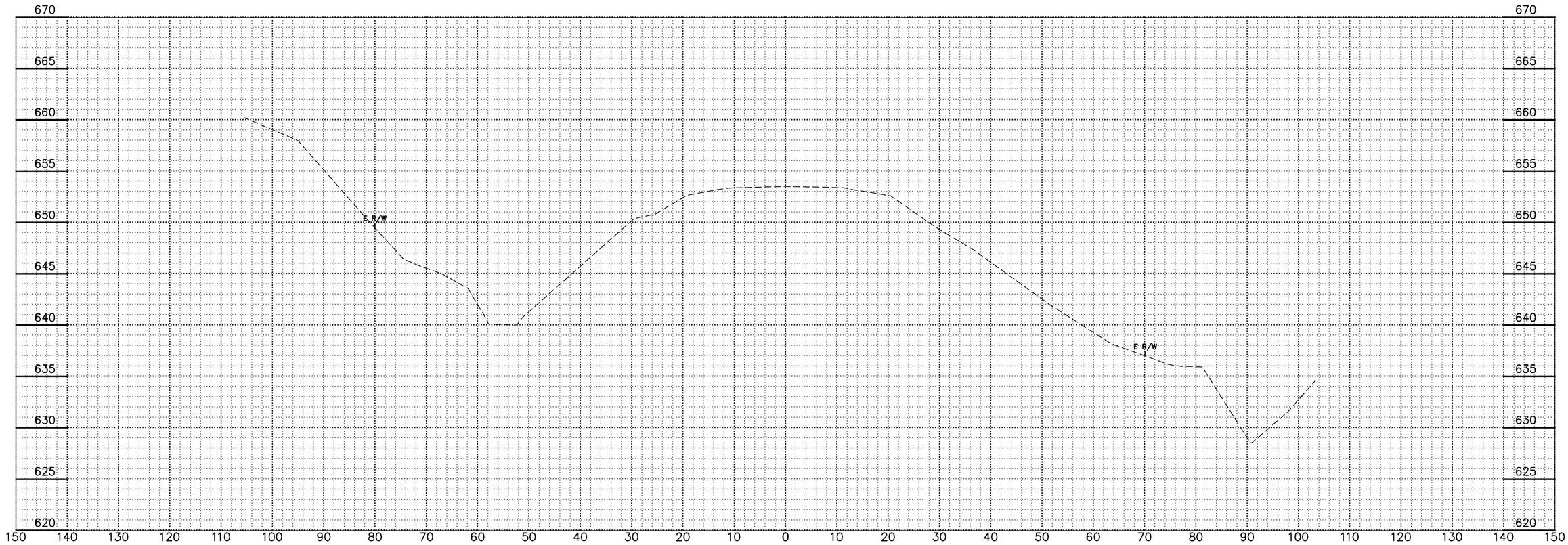
BENCH MARK: RR SPIKE IN POWER POLE, STA. 1038+10, 53' LT., ELEV.= 654.06



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JEFFERSON COUNTY, IOWA

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