

TRAFFIC CONTROL PLAN

108-23A
08-01-08

This road will be closed to traffic during construction. Local traffic to adjacent properties will be maintained as provided for in Article 1107.08 of the current Standard Specifications plus current Supplemental Specifications.

Traffic control devices, procedures, layouts, signing, and pavement markings installed within the limits of this project shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways" as adopted by the department per 761 of the Iowa Administrative Code (IAC) Chapter 130.

Traffic control shall be a bid item on this project. The contractor shall be responsible for all aspects of traffic control. The contractor shall use the traffic control layouts and procedures outlined in the TC series of the Standard Road Plans listed on these plans.

Howard County will be responsible for the detour route.

UTILITY CONTACTS

COMPANY	CONTACT NAME	PHONE #	CONTACT EMAIL
Alliant Energy	Field Engineer	800-255-4268	locate_IPL@alliantenergy.com
Dairyland Power Cooperative	Jason Hovey	608-518-1436	jason.hovey@dairylandpower.com
Harmony Telephone Company	Barry Churchill	507-886-2525	barry@harmonytel.com
MiEnergy Cooperative	Dave Wilkes	563-547-3801	dwilkes@mienergy.coop
Windstream Communications	Locate Desk	800-289-1901	locate@windstream.com

SECTION 404 PERMIT AND CONDITONS

Construct this project according to the requirements if U.S. Army Corps of Engineers Nationwide Permid 14. Permit No. n/a. A copy of this permit is available from the Iowa DOT website (<http://www.envpermits.iowadot.gov/>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

Iowa DNR Floodplain permit is not required for this project.

NPDES permit is not required for this project.

IOWA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

DESIGN FOR

110'-0 X 30'-6 CCS BRIDGE AT 0° SKEW

PLAN OF PROPOSED IMPROVEMENT ON THE

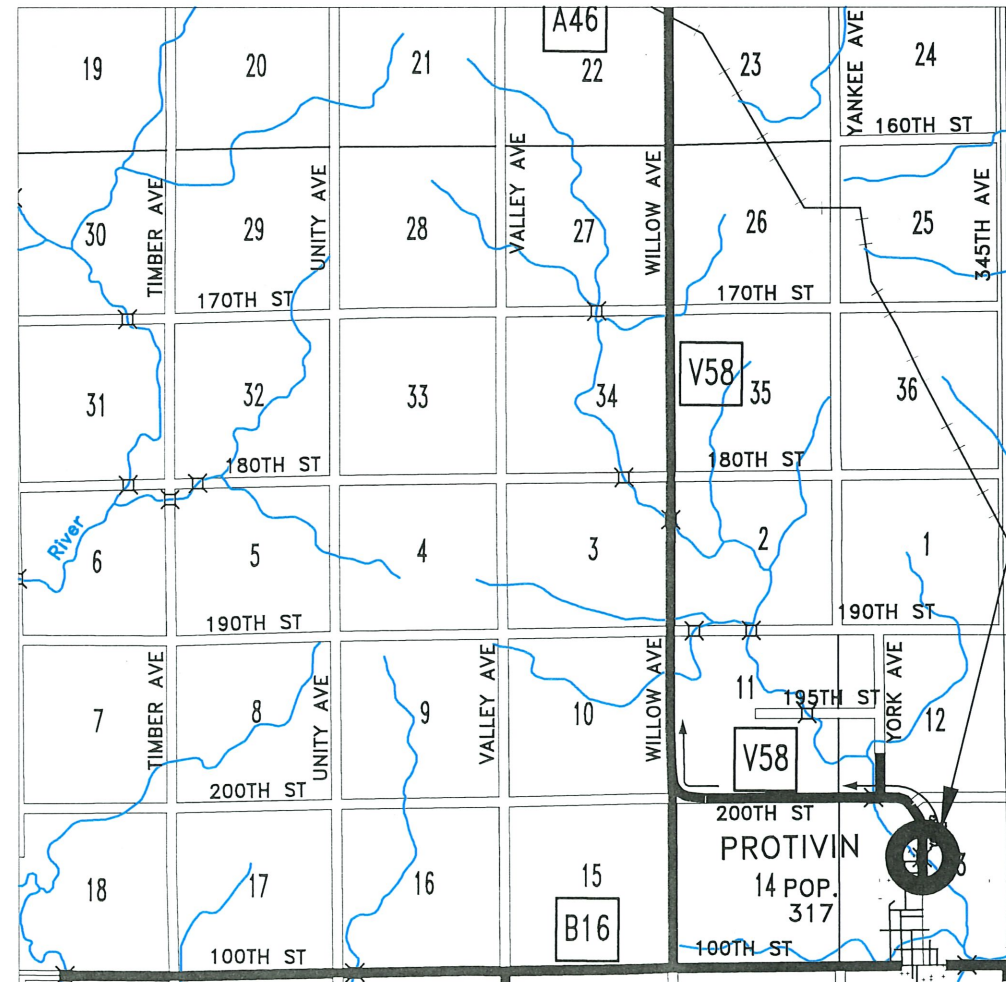
FARM-TO-MARKET SYSTEM
HOWARD COUNTY

BRS-6257(601)--60-45

BRIDGE REPLACEMENT - CCS

In The City of Protivin, On V58, Over Bohemian Creek, S13 T97 R11

Refer to the Proposal Form for list of applicable specifications.



NOT TO SCALE

PROPOSED 110'-0 X 30'-6
CCS ON 0 DEGREE SKEW
COUNTY BRIDGE ID: NO-38
FHWA #: 028780



PROJECT NUMBER: BRS-6257(601)--60-45

INDEX OF SHEETS

105-3
10-18-05

No.	Description
1.	Title Sheet
2-3.	Estimate of Quantities, Ref. Notes, Road Standards
4.	Situation Plan, Typical Sections, Bridge Standards
5-6.	Situation Plan
7.	General Notes
8-9.	Tabulations
10-11.	Soil Borings
12.	Plan & Profile Sheet
13-14.	Cross Sections

MILEAGE SUMMARY

105-1
9-27-94

DIV.	LOCATION	LIN. FT.	MILES
1.	STA 113+05.00 TO 114+15.00 *Bridge STA 112+00 TO 117+00	500.00	0.095
	Total	500.00	0.095

STANDARD PLANS

Standard Road Plans	Sheet 3
Standard Bridge Plans	Sheet 3

All working drawings including shop drawings and falsework drawings will be reviewed by:

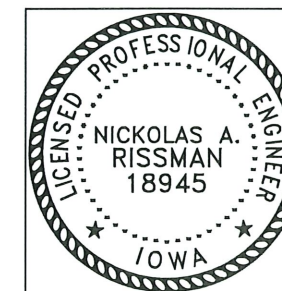
Howard County Engineer's Office
114 7th Street West
Cresco, Iowa 52136
Phone: 563-547-2620
Fax: 563-547-2576

JOE PISNEY CHAIRPERSON

DEAN EASTMAN VICE-CHAIRPERSON

PAT MURRAY

APPROVED
BOARD OF SUPERVISORS



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.

Nickolas A. Rissman 8/3/26
NICKOLAS A. RISSMAN, P.E. Date

My license renewal date is December 31, 2027

Pages or sheets covered by this seal:
All sheets listed in the index above.

TOTAL ESTIMATED QUANTITIES: 110'-0 x 30'-6 C.C.S BRIDGE							
ITEM NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	2 ABUTS	2 PIERS	SUPER	TOTAL
1	2101-0850001	CLEARING AND GRUBBING	ACRE	-	-	-	0.15
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	-	-	-	159.51
3	2104-2710020	EXCAVATION, CLASS 10 CHANNEL	CY	-	-	-	142.82
4	2115-0100000	MODIFIED SUBBASE	CY	-	-	-	13.89
5	2121-7425020	GRANULAR SHOULDER, TYPE B	TON	-	-	-	59.83
6	2213-7100400	RELOCATION OF MAIL BOXES	EACH	-	-	-	1.00
7	2301-0690210	BRIDGE APPROACH, TWO LANE	SY	-	-	-	362.46
8	2301-1033080	STD OR SLIP-FORM P.C.C. PAVEMENT, CLASS C, CLASS 3 DURABILITY, 8 INCH	SY	-	-	-	41.56
9	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	-	-	-	1.00
10	2402-2720000	EXCAVATION, CLASS 20	CY	-	-	-	185.03
11	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	22.20	-	232.90	255.10
12	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	3116.00	-	62940.00	66056.00
13	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE, BRIDGE DECK AND/OR APPROACHES	SY	-	-	-	664.49
14	2414-6424124	CONCRETE OPEN RAILING, TL-4	LF	-	-	-	242.00
15	2501-0201042	PILES, STEEL, HP 10 X 42; 10 @ 40 FT	LF	400.00	-	-	400.00
16	2501-0201253	PILES, STEEL, HP 12 X 53; 20 @ 40 FT	LF	-	800.00	-	800.00
17	2501-5478053	CONCRETE ENCASEMENT OF STEEL H PILES, HP 12 X 53 (P10L TYPE 3); 20 @ 21 FT	LF	-	420.00	-	420.00
18	2502-8221305	SUBDRAIN OUTLET, DR-305	EACH	-	-	-	1.00
19	2505-4008300	STEEL BEAM GUARDRAIL	LF	-	-	-	75.00
20	2505-4008420	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-221	EACH	-	-	-	3.00
21	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	-	-	-	4.00
22	2505-4021722	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-225	EACH	-	-	-	4.00

ITEM NUMBER ESTIMATE REFERENCE INFORMATION

1. SEE SITUATION PLAN, SHEET 5. CONTRACTOR TO DOWN AND REMOVE TREES/BRUSH NOTED BY THE COUNTY AS WELL AS GRUB THE STUMPS.
2. BID ITEM INCLUDES BOTH EXCAVATION FROM BORROW AREA AND PLACEMENT ON DESIGNATED PROJECT SITE LOCATION. TYPE "A" COMPACTION WILL BE REQUIRED. QUANTITY DOES NOT COMPENSATE FOR SHRINKAGE.
3. SEE TABULATION ON SHEET 9 FOR BREAKDOWN OF EXCAVATION QUANTITIES. INCLUDES COST 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. IF PREVIOUS SUBSTRUCTURE IS ENCOUNTERED NEAR SOUTH PIER, IT SHALL BE REMOVED A MINIMUM OF 1 FT BELOW BOTTOM OF CHANNEL ELEVATION. INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE DEFINED BY ARTICLE 2102.02, D, 2 OF THE STANDARD SPECIFICATIONS. UNSUITABLE MATERIAL SHALL BE WASTED OFF SITE TO A LOCATION PROVIDED BY THE CONTRACTOR.
4. PLACE MATERIAL AT THE BRIDGE AVE APPROACH FILLET. DOES NOT INCLUDE MATERIAL PLACED BELOW BRIDGE APPROACHES AS THAT MATERIAL IS INCIDENTAL TO BID ITEM. MATERIAL TO BE PLACED 28 FT WIDE BY 3 IN DEPTH
5. SHOULDER MATERIAL TO BE FURNISHED, DELIVERED, AND PLACED BY CONTRACTOR. MATERIAL SHALL BE CLASS "A". DESIGN DEPTH TO BE 8 INCHES. SEE TABULATION, SHEET 9, FOR ADDITIONAL INFORMATION.
6. ALL MAIL BOXES IN CONFLICT WITH CONSTRUCTION OPERATIONS SHALL BE REMOVED TO A LOCATION APPROVED BY THE LOCAL POSTMASTER AND SHALL BE REINSTALLED AT PROJECT COMPLETION. SEE TABULATION ON SHEET 8. THE ENGINEER WILL MEASURE BY COUNT EACH MAILBOX MOVED AND REINSTALLED TO THEIR CURRENT LOCATION AND THE CONTRACTOR SHALL BE PAID THE PRICE BID PER EACH.
7. SEE TABULATION 112-6 ON SHEET 9. 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.
8. TO BE PLACED ON BRIDGE AVE FILLET FROM STA 112+44.58 TO 112+78.50. SEE JOINTING DETAIL ON SHEET 5. CERTIFIED PLANT INSPECTION IS REQUIRED.

9. THE EXISTING BRIDGE AT STATION 113+60 IS A 90' X 30' CONTINUOUS CONCRETE SLAB BRIDGE WITH INTEGRAL CONCRETE STUB ABUTMENTS ON TIMBER PILING, AND CONCRETE ENCASED 10 X 42 STEEL H-PILE AT BOTH PIER LOCATIONS BUILT IN 1951. CONTRACTOR MAY ENCOUNTER CONCRETE ABUTMENTS COMPONENTS BELOW ELEVATION 1148.00 FROM A 36' X 18' CONCRETE ARCH CULVERT REMOVED IN 1951. SEE PLAN VIEW SKETCH FOR ESTIMATED ABUTMENT LOCATIONS. CONTRACTOR SHALL REMOVE ANY FORMER SUBSTRUCTURE COMPLETELY IF IT INTERFERES WITH CONSTRUCTION PROCESS OF NEW BRIDGE. 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. 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 STEEL SHALL BE CUT FLUSH WITH THE CONCRETE. HMA 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 7 FOR PAINT SCRAPE SAMPLE RESULTS.
10. INCLUDES ALL EXCAVATION REQUIRED FOR THE CONSTRUCTION OF THE ABUTMENTS, PIERS, AND BRIDGE BERMS. ALL SUITABLE EXCESS MATERIAL SHALL BE STOCKPILED WITHIN THE RIGHT-OF-WAY AS DIRECTED BY THE ENGINEER, FOR USE BY THE COUNTY. SUITABLE SOILS SHALL BE DEFINED BY ARTICLE 2102.02.D.2 OF THE STANDARD SPECIFICATIONS. UNSUITABLE MATERIAL SHALL BE WASTED OFF SITE TO A LOCATION PROVIDED BY THE CONTRACTOR.
11. ALL STRUCTURAL CONCRETE SHALL BE CLASS C. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY. CERTIFIED PLANT INSPECTION IF REQUIRED. ARTICLE 2428 REGARDING BRIDGE DECK SMOOTHNESS SHALL APPLY TO THIS PROJECT. THE STRUCTURAL CONCRETE QUANTITY HAS BEEN REDUCED BY 1.4 CU. YDS. FOR THE ELIMINATION OF THE PAVING BLOCKS.
12. ALL REINFORCING STEEL SHALL BE GRADE 60.
13. APPLIES FROM TIE-IN STATION TO TIE-IN STATION. SEE TABULATION 100-28 ON SHEET 8 FOR ADDITIONAL INFORMATION. PAVEMENT SMOOTHNESS SECTION 2428 OF THE STANDARD SPECIFICATIONS SHALL APPLY.
14. ALL STRUCTURAL CONCRETE SHALL 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. CERTIFIED PLANT INSPECTION IS REQUIRED.
15. SEE PILE NOTES ON SHEET 7. INCLUDES COST OF DRIVING POINTS AT BOTH ABUTMENT LOCATIONS.
16. SEE PILE NOTES ON SHEET 7. INCLUDES COST OF DRIVING POINTS AT BOTH PIER LOCATIONS.
17. THE PIER PILE ENCASEMENTS ARE TO BE DETAILED AS NOTED ON IOWA DOT STANDARD P10L, AS SHOWN IN PLANS. CERTIFIED PLANT INSPECTION IS REQUIRED. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE.
18. INCLUDES THE COST TO ADJUST THE 10 IN ROAD TILE NEAR THE SOUTHEAST ABUTMENT WING WALL AND TO OUTLET IT WHERE SUITABLE IN THE SOUTHEAST DITCH. SHALL INCLUDE CRITTER GUARDS AND "TILE OUTLET" SIGNAGE.
19. SEE TABULATIONS ON SHEET 9.
20. SEE TABULATIONS ON SHEET 9.
21. SEE TABULATIONS ON SHEET 9.
22. SEE TABULATIONS ON SHEET 9.

110'–0 X 30'–60° Skew
Continuous Concrete Slab Bridge

INTEGRAL ABUTMENTS
CONCRETE ENCASED PIER PILES
33'–6 END SPANS

MONOLITHIC PIER CAPS
CONCRETE OPEN RAIL
43'–0 INTERIOR SPAN

HOWARD COUNTY
Co. Bridge No. NO–38

IOWA
FHWA #028780

TOTAL ESTIMATED QUANTITIES: 110'-0 x 30'-6 C.C.S BRIDGE							
23	2507-6800061	REVTMENT, CLASS E	TON	-	-	-	574.19
24	2507-6875002	REVTMENT, REMOVE AND REPLACE	CY	-	-	-	65.56
25	2510-6745850	REMOVAL OF PAVEMENT	SY	-	-	-	425.03
26	2527-9263209	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	-	-	-	4.86
27	2528-2518000	SAFETY CLOSURE	EACH	-	-	-	3.00
28	2528-8445110	TRAFFIC CONTROL	LS	-	-	-	1.00
29	2533-4980005	MOBILIZATION	LS	-	-	-	1.00
30	2599-9999009	EARTH CORING; 10 @ 5.5' & 10 @ 1.5'	LF	-	70.00	-	70.00
31	2599-9999009	ROCK CORING; 20 @ 3'	LF	-	60.00	-	60.00
32	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	-	-	-	120.00
33	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	-	-	-	120.00

ITEM NUMBER ESTIMATE REFERENCE INFORMATION

23. REVETMENT IS TO BE PLACED AT A THICKNESS OF 1'-6. SEE SITUATION PLAN, SHEET 4, AND GENERAL PLAN, SHEET 5, FOR LIMITS. NO ENGINEERING FABRIC TO BE PLACED UNDER REVETMENT. SMALL AMOUNT OF FILL TO BE PLACED ON TOP OF RIP RAP AT ABUTMENTS AT ENGINEERS DIRECTION. RIP RAP TO BE PLACED IN LIEU OF WING ARMORING.
24. THE UNIT PRICE BID FOR "REVTMENT, 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 STEEL 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 PLAN QUANTITY.
25. SEE TABULATION 110-1 ON SHEET 9. EXISTING BRIDGE AVE FILLET PAVEMENT CONSISTS OF PCC PAVEMENT. EXISTING V58/YOUNG AVE PAVEMENT CONSISTS OF APPROXIMATELY 9-1/2" OF VARIOUS HMA LIFTS DATING BACK TO 1954. 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. ALL REMOVED PAVEMENT SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF AWAY FROM THE PROJECT SITE.
26. SEE TABULATIONS 108-22 ON SHEET 9. 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.
27. SEE TABULATION 108-13A ON SHEET 8 FOR LOCATIONS.
28. SEE TRAFFIC CONTROL PLAN ON TITLE SHEET.
30. SEE PILE NOTES ON PAGE 7. INCLUDES ALL LABOR, EQUIPMENT, MATERIAL REQUIRED FOR EARTH CORING (OR DRILLING) HOLES TO THE TOP OF SOLID LIMESTONE BEDROCK, AND MAINTAIN HOLES OPEN WHILE THE ROCK CORING IS PERFORMED. METHOD OF MEASUREMENT SHALL BE BOTTOM OF PILE ENCASEMENT TO THE TOP OF LIMESTONE AND BASIS OF PAYMENT SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT OF EARTH CORING (OR DRILLING) AS SPECIFIED IN THE PLANS.
31. SEE PILE NOTES ON SHEET 7. INCLUDES ALL LABOR, EQUIPMENT, MATERIAL REQUIRED FOR ROCK CORING (OR DRILLING) HOLES INTO SOLID LIMESTONE BEDROCK, MAINTAINING HOLES OPEN. PILES SHALL BE DRIVEN TO AT LEAST THE SPECIFIED DESIGN BEARING OR REFUSAL FOR EACH PIER. THE PRICE WILL INCLUDE THE COST OF THE CONTRACTOR FURNISHING AND PLACING CONCRETE FROM THE BOTTOM OF ROCK CORING TO THE BOTTOM OF PILE ENCASEMENTS. CERTIFIED PLANT INSPECTION IS NOT REQUIRED FOR CONCRETE PLUG. METHOD OF MEASUREMENT SHALL BE BOTTOM OF EARTH CORING TO THE BOTTOM OF ROCK CORING AND BASIS OF PAYMENT SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT OF ROCK CORING (OR DRILLING) AS SPECIFIED IN THE PLANS.
32. SEE TABULATION 100-19 ON SHEET 8 FOR MORE INFORMATION.
33. SEE TABULATION 100-19 ON SHEET 8 FOR MORE INFORMATION.

STANDARD ROAD PLANS			105-4
			10-18-11
THE FOLLOWING STANDARD ROAD PLANS SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT			
NUMBER	DATE	TITLE	
BA-200	10-20-26	STEEL BEAM GUARDRAIL COMPONENTS	
BA-202	10-20-26	STEEL BEAM GUARDRAIL BOLTED END ANCHOR	
BA-221	10-18-22	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION (MASH TL-2)	
BA-225	10-17-23	STEEL BEAM GUARDRAIL TANGENT END TERMINAL (MASH TL-2)	
BR-101	10-20-26	BRIDGE APPROACH SECTION (GENERAL DETAILS)	
BR-106	10-20-26	BRIDGE APPROACH SECTION (2-LANE FOR BR RECONSTR, HMA PAVEMENT)	
EC-201	04-20-21	SILT FENCE	
EW-301	10-20-26	GUARDRAIL GRADING	
EW-401	10-20-15	TEMPORARY STREAM CROSSING, CAUSEWAY OR EQUIPMENT PAD	
LS-635	10-18-22	STEEL BEAM GUARDRAIL INST AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION (MASH TL-2)	
PM-110	10-15-24	LINE TYPES	
PV-101	10-20-26	JOINTS	
SI-173	04-19-16	OBJECT MARKERS	
SI-211	10-18-22	OBJECT MARKER AND DELINEATOR PLACEMENT WITH GUARDRAIL	
TC-001	10-15-19	WORK NOT AFFECTING TRAFFIC	
TC-252	10-20-26	ROAD CLOSURE TO TRAFFIC	
TC-283	04-18-23	SURVEYING OPERATIONS	

IOWA DEPARTMENT OF TRANSPORTATION BRIDGE STANDARDS REQUIRED			
STANDARD	TITLE	DATE ISSUED	REVISION
J30-01-06	INDEX SHEET	NOVEMBER 2006	09-2020
J30-01A-06	GENERAL NOTES	NOVEMBER 2006	09-2020
J30-10E-06	SUBSTRUCTURE DETAILS	NOVEMBER 2006	09-2020
J30-11E-06	SUBSTRUCTURE DETAILS	NOVEMBER 2006	09-2020
J30-20-06	SUPERSTRUCTURE DETAILS ALL BRIDGES	NOVEMBER 2006	09-2020
J30-21-06	SUPERSTRUCTURE DETAILS ALL BRIDGES	NOVEMBER 2006	09-2020
J30-23-06	MONOLITHIC PIER CAP DETAILS ALL BRIDGES	NOVEMBER 2006	09-2020
J30-24-06	MONOLITHIC PIER CAP DETAILS ALL BRIDGES	NOVEMBER 2006	09-2020
J30-34-06	ABUTMENT DETAILS 0° SKEW STEEL PILING	NOVEMBER 2006	09-2020
J30-39-06	ABUTMENT DETAILS 0° SKEW STEEL PILING	NOVEMBER 2006	09-2020
J30-43-06	OPEN BARRIER RAIL DETAILS	NOVEMBER 2006	09-2020
J30-44-06	OPEN BARRIER RAIL DETAILS	NOVEMBER 2006	09-2020
J30-45-06	SUBDRAIN DETAILS	NOVEMBER 2006	09-2020
J30-47-06	ABUTMENT BACKFILL DETAILS - 0° SKEWS	DECEMBER 2008	09-2020
LRFD-P10L	LRFD TRESTLE PILE BENTS - P10L	JANUARY 2009	06-2025

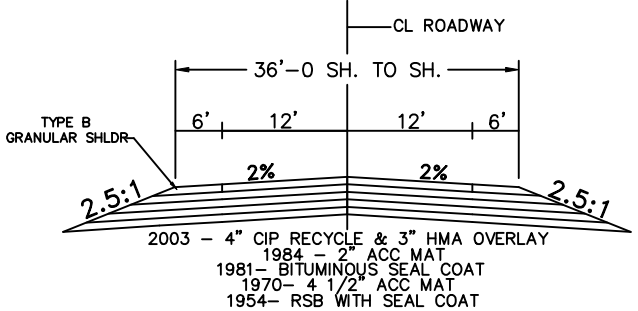
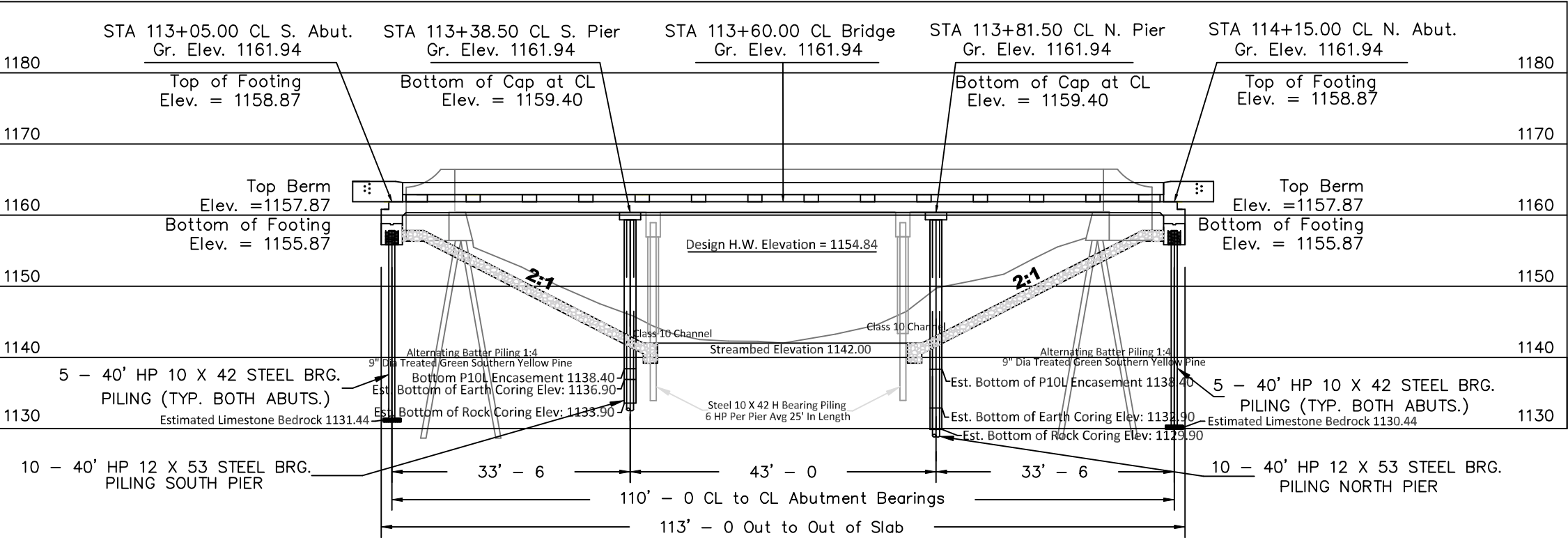
110'-0 X 30'-60° Skew
Continuous Concrete Slab Bridge

INTEGRAL ABUTMENTS
CONCRETE ENCASED PIER PILES
33'-6 END SPANS

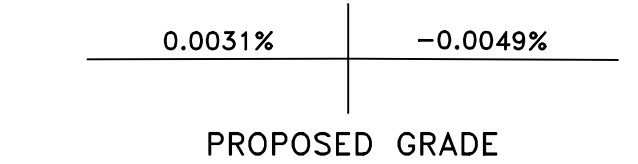
MONOLITHIC PIER CAPS
CONCRETE OPEN RAIL
43'-0 INTERIOR SPAN

HOWARD COUNTY
Co. Bridge No. NO-38

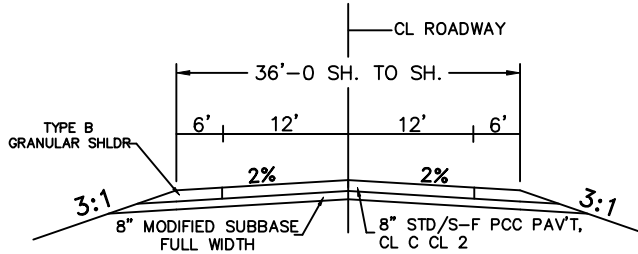
IOWA
FHWA #028780



EXISTING TYPICAL APPROACH SECTION



PROPOSED GRADE



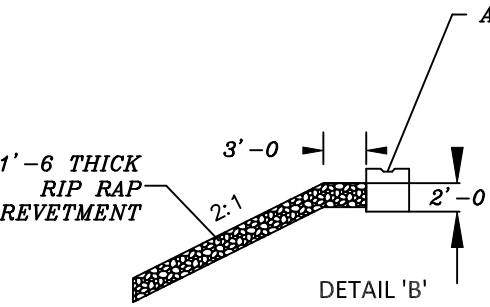
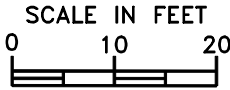
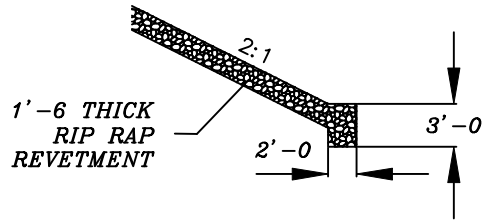
PROPOSED TYPICAL APPROACH SECTION

LOCATION

HOWARD COUNTY T-97N, R11W
SECTION 13 LOWER NEW OREGON TOWNSHIP
ON YOUNG AVE OVER BOHEMIAN CREEK

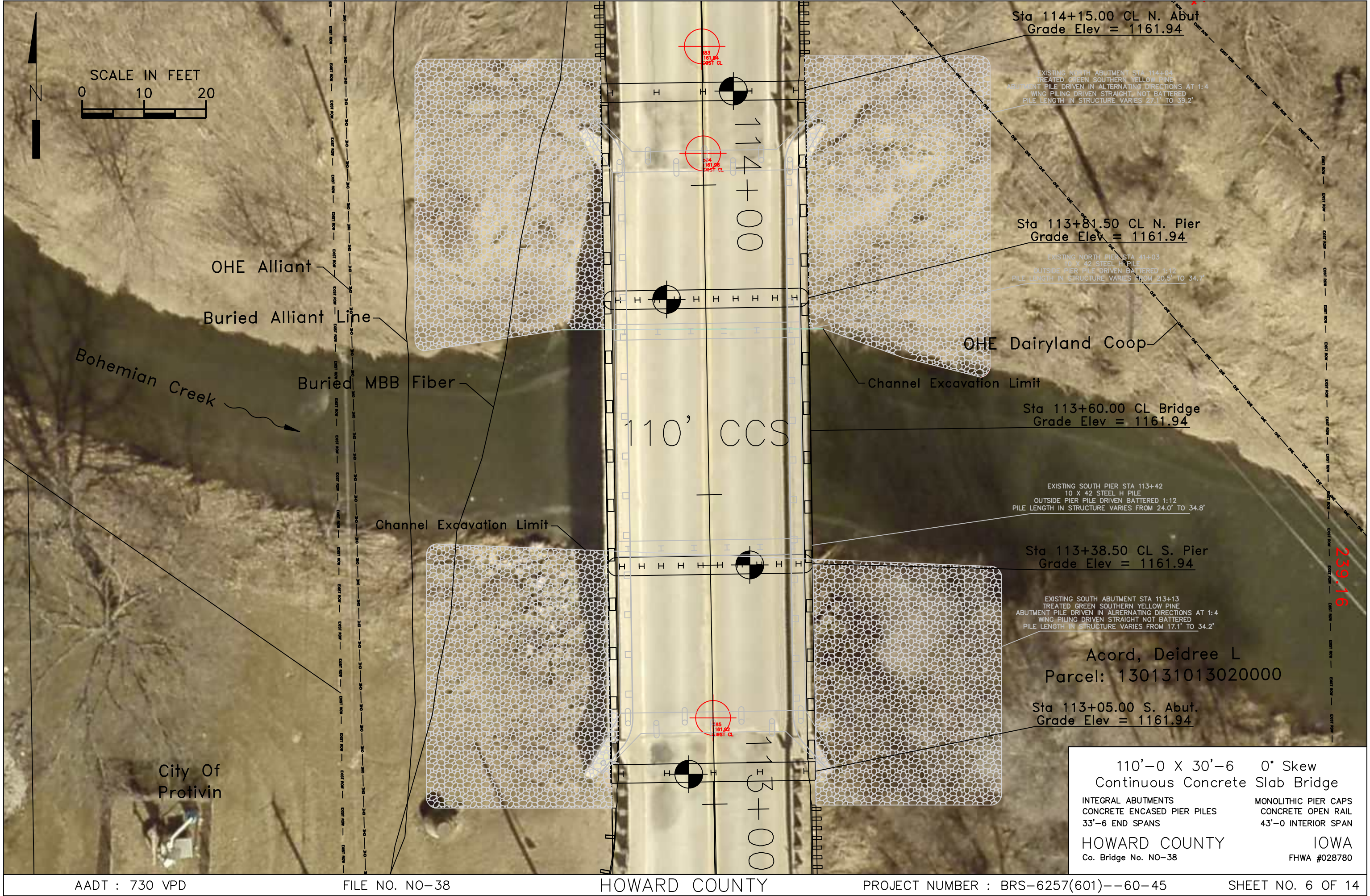
HYDRAULIC DATA

Drainage Area = 12.9 sq mi
Design Discharge = 5120 cfs
Design Highwater = 1154.84
Exist Highwater = 1154.84
Stream Slope = 9.06 ft/mi
Bridge Waterway Area = 1485 sq ft
Design Velocity = 6.29 ft/s
Design Freeboard = 5.36 ft
Max Design Backwater = 0.97 ft
Q10 = 2320 cfs Stage Elev. = 1153.03
Q25 = 3510 cfs Stage Elev. = 1153.97
Q50 = 4320 cfs Stage Elev. = 1154.43
Q100 = 5120 cfs Stage Elev. = 1154.84 (Design)
Q200 = 6640 cfs Stage Elev. = 1155.47
Q500 = 7290 cfs Stage Elev. = 1155.71
Anticipated Scour Elevation = 1134.94 Q100 Design Flood
Anticipated Scour Elevation = 1134.94 Q500 Design Check



SURVEY CONTROL POINTS					
Description	Northing	Easting	Approx. Station	Approx. Offset	Elevation
Control Point #75	3911908.6480	5296763.0710	116+65.71	59' LT.	1154.17
Control Point #77	3911402.2770	5296786.6060	111+59.25	45' LT.	1152.75

110'-0 X 30'-6 0° Skew
Continuous Concrete Slab Bridge
INTEGRAL ABUTMENTS
CONCRETE ENCASED PIER PILES
33'-6 END SPANS
HOWARD COUNTY
Co. Bridge No. NO-38
MONOLITHIC PIER CAPS
CONCRETE OPEN RAIL
43'-0 INTERIOR SPAN
IOWA
FHWA #028780



Sta 114+15.00 CL N. Abut
Grade Elev = 1161.94

Sta 113+81.50 CL N. Pier
Grade Elev = 1161.94

Sta 113+60.00 CL Bridge
Grade Elev = 1161.94

Sta 113+38.50 CL S. Pier
Grade Elev = 1161.94

Sta 113+05.00 S. Abut.
Grade Elev = 1161.94

EXISTING SOUTH ABUTMENT STA 113+13
TREATED GREEN SOUTHERN YELLOW PINE
ABUTMENT PILE DRIVEN IN ALTERNATING DIRECTIONS AT 1:4
WING PILING DRIVEN STRAIGHT NOT BATTERED
PILE LENGTH IN STRUCTURE VARIES FROM 17.1' TO 34.2'

EXISTING NORTH PIER STA 113+03
10 X 42 STEEL H PILE
OUTSIDE PIER PILE DRIVEN BATTERED 1:12
PILE LENGTH IN STRUCTURE VARIES FROM 20.5' TO 34.7'

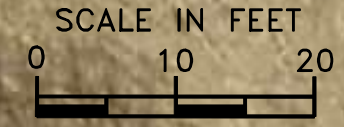
EXISTING NORTH ABUTMENT STA 114+04
TREATED GREEN SOUTHERN YELLOW PINE
ABUTMENT PILE DRIVEN IN ALTERNATING DIRECTIONS AT 1:4
WING PILING DRIVEN STRAIGHT NOT BATTERED
PILE LENGTH IN STRUCTURE VARIES 27.1' TO 39.2'

Acord, Deidree L
Parcel: 130131013020000

110'-0 X 30'-6 0° Skew
Continuous Concrete Slab Bridge

INTEGRAL ABUTMENTS	MONOLITHIC PIER CAPS
CONCRETE ENCASED PIER PILES	CONCRETE OPEN RAIL
33'-6 END SPANS	43'-0 INTERIOR SPAN

HOWARD COUNTY IOWA
Co. Bridge No. NO-38 FHWA #028780



GENERAL NOTES

THE CONTRACTOR SHALL VISIT THE CONSTRUCTION SITE TO ENSURE THAT THEY ARE FAMILIAR WITH THE EXISTING SITE CONDITIONS. ACCESS SHALL BE MAINTAINED TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION AND SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

HOWARD COUNTY TO BE RESPONSIBLE FOR CONSTRUCTION STAKING. 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. TOP OF SLAB ELEVATIONS SHOWN IN THESE PLANS DO NOT INCLUDE DEAD LOAD DEFLECTION. THE FORM CAMBER DIAGRAM IS SHOWN IN THE BRIDGE STANDARDS.

HOWARD COUNTY TO BE RESPONSIBLE FOR REMOVAL OF SILT FENCES.

ANY UNSUITABLE MATERIAL SHALL BE WASTED OFF SITE TO A LOCATION PROVIDED BY THE CONTRACTOR AND NOTED TO THE ENGINEER.

WING ARMORING NOTE: THE MACADAM STONE, ENGINEERING FABRIC AND TIMBER EDGING AS SHOWN IN THE BRIDGE STANDARDS SHALL BE OMITTED, CLASS E RIP RAP SHALL BE PLACED AS WING ARMORING, THE QUANTITY FOR THIS WORK IS INCLUDED IN THE REVETMENT CLASS E BID ITEM. THE COST OF FURNISHING AND PLACING ABUTMENT SUBDRAIN (INCLUDING EXCAVATION, GRANULAR & POROUS BACKFILL AND SUBDRAIN OUTLET) AS SHOWN IN THE BRIDGE STANDARD WING ARMORING DETAIL IS TO BE INCLUDED IN THE PRICE BID FOR STRUCTURAL CONCRETE (BRIDGE). NO EXTRA PAYMENT WILL BE MADE.

PILE NOTES

HOWARD COUNTY SHALL RETAIN OWNERSHIP OF PILE CUTOFFS LONGER THAN 3 FEET. CUTOFFS SHALL BE LOADED ONTO HOWARD COUNTY TRUCK/TRAILERS AT THE CONTRACTOR’S CONVENIENCE AND PROMPTLY HAULED OFF SITE BY THE COUNTY.

ABUTMENTS

THE CONTRACT LENGTH IS 40 FEET FOR THE NORTH AND SOUTH ABUTMENT PILES. THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE IS 88 TON AT END OF DRIVE OR RETAP. THE CONTRACT PILE LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. IN NO CASE SHALL A PILE BE EMBEDDED LESS THAN 1-3 FEET INTO LIMESTONE. DRIVING PIONTS WILL BE INCLUDED IN THE COST OF THE PILE.

PIERS

THE ELEVATION OF SOLID LIMESTONE CAN BE INCONSISTENT ACROSS THE LENGTH OF EACH PIER. HOWARD COUNTY WILL BE ON SITE DURING CORING TO CONFIRM SOLID LIMESTONE ELEVATIONS IN EACH HOLE. THE ELEVATIONS/DEPTHS LISTED BELOW AND ON SHEET 4 ARE ESTIMATES BASED ON THE SOIL BORINGS. ACTUAL DEPTHS WILL BE FIELD DETERMINED.

NORTH PIER

EARTH CORING SHALL BEGIN AT THE BOTTOM OF THE PILE ENCASEMENTS. CORING SHALL BE A MINIMUM OF 18 INCH DIAMETER. THE ESTIMATED PLAN DEPTH IS 5.46 FEET. THE EARTH CORING SHALL BE MEASURED AND PAID FROM THE BOTTOM OF THE PILE ENCASEMENT TO THE TOP OF THE LIMESTONE BEDROCK. PAYMENTS WILL BE TO THE NEAREST TENTH OF A FOOT. IT SHALL BE THE CONTRACTOR’S RESPONSIBILITY TO MAINTAIN THE HOLES OPEN. THE CASING MAY BE TEMPORARY OR PERMANENT, AT THE CONTRACTOR’S OPTION. IF A TEMPORARY CASING IS USED, IT SHALL BE REMOVED AS THE HOLE IS BEING BACKFILLED.

ROCK CORING SHALL BEGIN FROM THE END OF THE EARTH CORING. CORING SHALL BE A MINIMUM OF 18 INCHES IN DIAMETER. THE PLAN DEPTH FOR ROCK CORING IS 3.00 FEET. THE ROCK CORING SHALL BE MEASURED AND PAID FROM THE END OF EARTH CORING TO THE ESTIMATED ELEVATION OF 1229.94. PAYMENTS WILL BE TO THE NEAREST TENTH OF A FOOT.

THE CONTRACT LENGTH IS 40 FEET FOR THE PILES. DRIVING POINTS WILL BE INCLUDED IN THE COST OF THE PILES. PILES WILL BE PLACED, SET, AND DRIVEN TO THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE OF 78 TONS OR REFUSAL. AFTER PILES ARE PLACED, CLASS ‘C’ CONCRETE SHALL BE PLACED FROM THE BOTTOM OF THE HOLES TO BOTTOM OF THE PILE ENCASEMENTS. PILES SHALL BE BRACED IN THE CORRECT POSITION UNTIL CONCRETE HAS SET.

SOUTH PIER

EARTH CORING SHALL BEGIN AT THE BOTTOM OF THE PILE ENCASEMENTS. CORING SHALL BE A MINIMUM OF 18 INCH DIAMETER. THE ESTIMATED PLAN DEPTH IS 1.46 FEET. THE EARTH CORING SHALL BE MEASURED AND PAID FROM THE BOTTOM OF THE PILE ENCASEMENT TO THE TOP OF THE LIMESTONE BEDROCK. PAYMENTS WILL BE TO THE NEAREST TENTH OF A FOOT. IT SHALL BE THE CONTRACTOR’S RESPONSIBILITY TO MAINTAIN THE HOLES OPEN. THE CASING MAY BE TEMPORARY OR PERMANENT, AT THE CONTRACTOR’S OPTION. IF A TEMPORARY CASING IS USED, IT SHALL BE REMOVED AS THE HOLE IS BEING BACKFILLED.

ROCK CORING SHALL BEGIN FROM THE END OF THE EARTH CORING. CORING SHALL BE A MINIMUM OF 18 INCHES IN DIAMETER. THE PLAN DEPTH FOR ROCK CORING IS 3.00 FEET. THE ROCK CORING SHALL BE MEASURED AND PAID FROM THE END OF EARTH CORING TO THE ESTIMATED ELEVATION OF 1133.94. PAYMENTS WILL BE TO THE NEAREST TENTH OF A FOOT.

THE CONTRACT LENGTH IS 40 FEET FOR THE PILES. DRIVING POINTS WILL BE INCLUDED IN THE COST OF THE PILES. PILES WILL BE PLACED, SET, AND DRIVEN TO THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE OF 72 TONS OR REFUSAL. AFTER PILES ARE PLACED, CLASS ‘C’ CONCRETE SHALL BE PLACED FROM THE BOTTOM OF THE HOLES TO BOTTOM OF THE PILE ENCASEMENTS. PILES SHALL BE BRACED IN THE CORRECT POSITION UNTIL CONCRETE HAS SET.

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 SECTION 2404 OF THE STANDARD SPECIFICATIONS.

TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED AS NOTED ON THE APPLICABLE BRIDGE STANDARDS. 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 ¼” 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.

COORDINATION

DURING CONSTRUCTION OF THIS PROJECT, THE CONTRACTOR WILL BE REQUIRED TO COORDINATE THEIR OPERATIONS WITH THOSE OF THE COUNTY AND/OR OTHER CONTRACTORS WHO MAY BE WORKING IN THE SAME AREA.

CONTRACTOR’S WORK AREA

THE CONTRACTOR’S WORK AND MATERIAL STORAGE AREA SHALL BE DEFINED BY THE CONTRACTOR AND NOTED TO THE ENGINEER. 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.

HAZARDOUS MATERIALS NOTES

AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED AND NO SUSPECT MATERIALS WERE FOUND. A COMPLETE REPORT OF MATERIALS TESTED CAN BE OBTAINED FROM THE ENGINEER. IF MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE DISCOVERED DURING DEMOLITION OF THE BRIDGE, WORK SHALL BE STOPPED IMMEDIATELY AND THE ENGINEER NOTIFIED.

DEMOLITION (BRIDGE REMOVAL)	271-9 09-27-94
An analysis for paint was performed by Iowa Environmental Services of Urbandale, IA. A scrape sample was taken to get an indication of the existence and of the level of total chromium and total lead. Analysis of total lead on the railing was 5,960 mg/kg. Analysis of the total chromium was conducted and results were non-detectable. Levels indicated by these tests could create conditions above regulatory limits for health and safety requirements. 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 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:

- 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.
- A COPY OF THE SCRAPE SAMPLE PROVIDED IN THE CONTRACT DOCUMENTS.
- 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.”

UTILITY NOTES

THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE COMMENCING WORK. SEE SPECIFICATION 1107.15 FOR MORE INFORMATION PERTAINING TO THE CONTRACTOR’S RESPONSIBILITY FOR UTILITY FACILITIES. DAIRYLAND COOPERATIVE OWNS THE HIGH VOLTAGE OVERHEAD LINES THAT CROSS THE RIGHT OF WAY DIAGONALLY NORTH OF THE PROPOSED NORTH ABUTMENT. THIS WILL NOT BE ABLE TO BE DISCONNECTED OR RELOCATED DURING CONSTRUCTION. HOWEVER, IT IS ABLE TO BE PUT IN “ONE SHOT” MODE AS WELL AS BEING POWERED DOWN DURING LOW ENERGY DEMAND WEEKS BY CONTACTING DAIRYLAND/MIENERGY REPRESENTATIVE WHOSE CONTACT WILL BE GIVEN BY THE CONTRACTING AUTHORITY TO THE CONTRACTOR. THE BURIED MIBROADBAND FIBER LOCATED WEST OF THE BRIDGE HAS SUFFICIENT DEPTH THAT DRIVING GUARDRAIL POSTS IN THE NORTHWEST CORNER WILL NOT BE AN ISSUE.

PROJECT STAGING AND COORDINATION

DAIRYLAND POWER HAS A HIGH VOLTAGE ELECTRICAL LINE THAT RUNS DIAGONALLY ACROSS THE ROAD, JUST NORTH OF THE PROPOSED BRIDGE. THIS LINE CAN BE POWERED DOWN DURING THE WEEK AND RE-ENERGIZED ON THE WEEKENDS WHEN ENERGY DEMAND IS LOW. ENERGY DEMAND IS TYPICALLY LOW DURING THE MONTHS OF APRIL, MAY, AND JUNE. FOR SAFETY, ALL WORK REQUIRING THE LINE TO BE POWERED DOWN SHALL BE COMPLETED DURING THIS TIME FRAME. EXAMPLES OF WORK INCLUDE, BUT IS NOT LIMITED TO, DRIVING PILING AND/OR PLACING CONCRETE FOR THE NORTH ABUTMENT AND NORTH PIER.

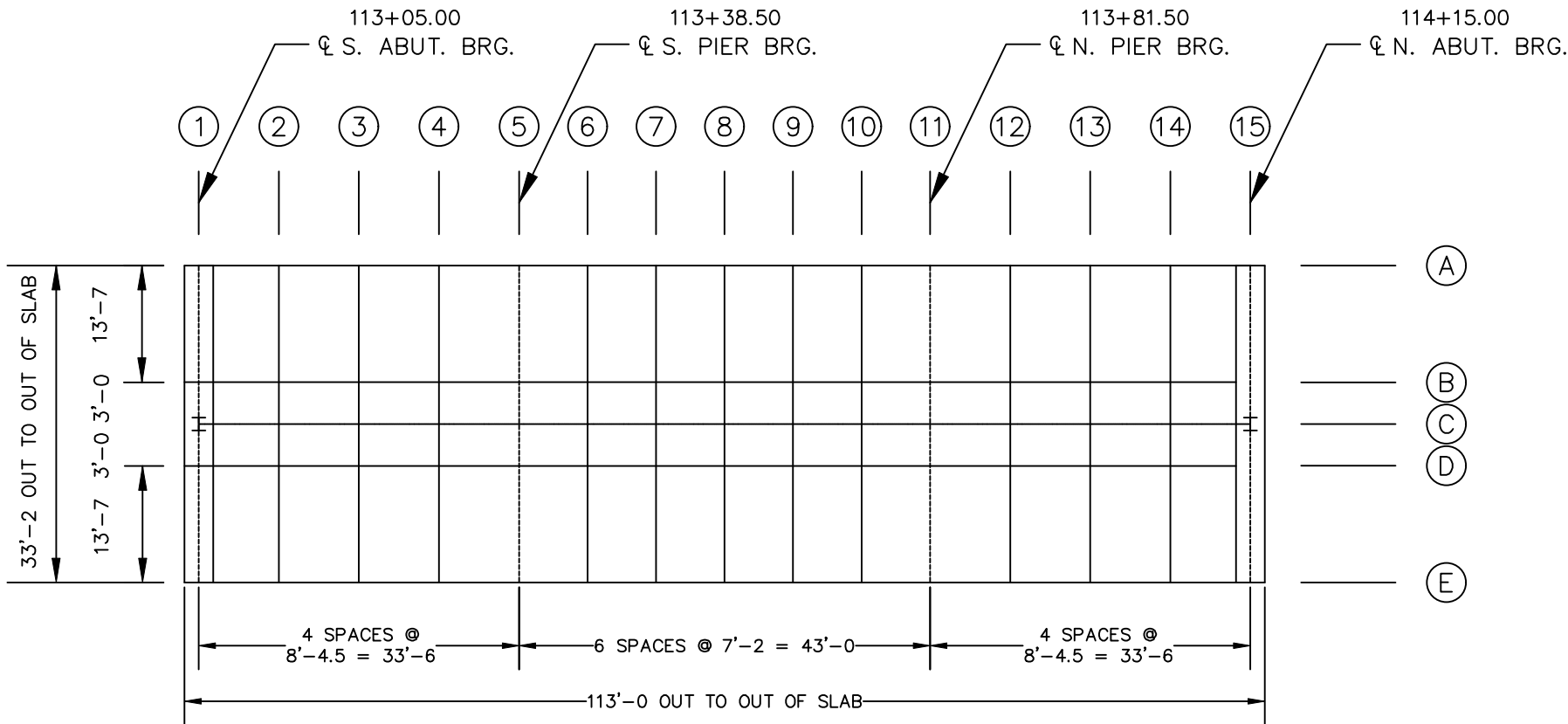
MIENERGY DOES NOT HAVE AN ELECTRICAL LINE IN THE PROJECT AREA, HOWEVER, THEY WILL BE AFFECTED WHEN THE DAIRYLAND LINE IS SHUT DOWN. CONTRACTOR SHALL COORDINATE WITH BOTH DAIRYLAND POWER AND MIENERY FOR PROPOSED SHUTDOWNS. IT IS ALSO UNDERSTOOD THAT THE LINE MAY NEED TO BE RE-ENERGIZED ON SHORT NOTICE IN EMERGENCY SITUATIONS AS DETERMINED BY DAIRYLAND POWER. PRIOR TO RE-ENERGIZING OF LINE, DAIRYLAND SHALL NOTIFY THE CONTRACTOR AND THE CONTRACTOR SHALL STOP CRANE WORK WITHIN 20 FT OF DAIRYLAND’S LINE. DAIRYLAND WILL NOTIFY CONTRACTOR AS SOON AS LINE IS DEENERGIZED AND IT IS SAFE TO WORK.

ALLIANT ENERGY HAS OVERHEAD AND BURIED ELECTRIC LINE ALONG THE WEST RIGHT-OF-WAY LINE. DUE TO THE LOCATION OF THE OVERHEAD DAIRYLAND AND ALLIANT ELECTRICAL LINES, IT IS RECOMMENDED TO CONSTRUCT THE SUBSTRUCTURES FROM NORTH TO SOUTH AND UTILIZE A TEMPORARY STREAM CROSSING ALONG THE EAST SIDE OF THE PROPOSED BRIDGE FOR CRANE AND EXCAVATOR OPERATIONS. SEE UTILITY NOTE FOR ADDITIONAL INFORMATION.

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.

110’–0 X 30’–6 0° Skew Continuous Concrete Slab Bridge	
INTEGRAL ABUTMENTS CONCRETE ENCASED PIER PILES 33’–6 END SPANS	MONOLITHIC PIER CAPS CONCRETE OPEN RAIL 43’–0 INTERIOR SPAN
HOWARD COUNTY Co. Bridge No. NO–38	IOWA FHWA #028780



LONGITUDINAL GROOVING			100-28 10-19-10
LOCATION	TOTAL SY	Remarks	
114+15.42 TO 114+75.42	153.33	NORTH BRIDGE APPROACH	
113+04.58 TO 114+15.42	357.83	NO-38 BRIDGE	
112+44.58 TO 113+04.58	153.33	SOUTH BRIDGE APPROACH	
Total	664.49		

TOP OF SLAB ELEVATION PLAN															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64
B	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91
C	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94	1161.94
D	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91	1161.91
E	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64	1161.64

TABULATION OF SAFETY CLOSURES				108-13A 10-18-22
Refer to Section 2518 of the Standard Specifications				
STATION	CLOSURE TYPE		REMARKS	
	Road Qty.	Hazard Qty.		
117+00.00	1		NORTH END	
112+43.50	1		BRIDGE AVE 80 FT LEFT	
112+00.00	1		SOUTH END	
TOTAL	3			

<i>PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES</i>								100-19 10-19-21
Possible Standards: EC-204								
Location			Perimeter and Slope			Ditch Check		Remarks
Begin Station	End Station	Side	Length of Installation			Length of Installation		
			9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
113+90	113+90	LT				30.0		NW Corner of Bridge
113+90	113+90	RT				30.0		NE Corner of Bridge
113+25	113+25	LT				30.0		SW Corner of Bridge
113+25	113+25	RT				30.0		SE Corner of Bridge

RELOCATION OF MAILBOXES		
STATION	SIDE	REMARKS
112+05	RT.	-

110'-0 X 30'-6 0° Skew
Continuous Concrete Slab Bridge

INTEGRAL ABUTMENTS
CONCRETE ENCASED PIER PILES
33'-6 END SPANS

MONOLITHIC PIER CAPS
CONCRETE OPEN RAIL
43'-0 INTERIOR SPAN

HOWARD COUNTY
Co. Bridge No. NO-38

IOWA
FHWA #028780

BRIDGE APPROACH SECTION																		112-6	
* Not a bid item																		04-18-17	
Location				Approach Pavement					Standard Road Plans			Subdrain					Modified Subbase	Polymer Grid	Remarks
BRIDGE STATION	End	SKEW AHEAD		T Thickness	Pay Length	Non-Reinf. Pavement Area	Single-Reinf. Pavement Area	Double-Reinf. Pavement Area	BR Series			Perforated Subdrain 4"	Subdrain Outlet		Porous Backfill	Class 'A' Crushed Stone Backfill			
		DEGREES							Approach	Fixed or Movable Abutment	Abutting Pavement								
		LEFT	RIGHT																
				Inches	FT	SY	SY	SY				LF	STA	Side	CY	CY	TON	SY	
112+44.58	SOUTH	N/A	N/A	8	60	106.67	74.56		BR-106	M	HMA						114.17	181.23	
114+75.42	NORTH	N/A	N/A	8	60	106.67	74.56		BR-106	M	HMA						114.17	181.23	

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE END POST																											
① Lane(s) to which the obstacle is adjacent.			Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-201, BA-211, BA-221, BA-225, BA-250, BA-260, BA-625, BA-626, LS-630, LS-635, SI-172, SI-173 and SI-211.																								
② Not a bid item. Incidental to guardrail installation.																											
No.	Direction of Traffic	① Side Outside = Median	Station	Offset	Layout Lengths				Long-Span System		Delineators and Object Markers ②				Bid Items										Remarks		
					BA-250, BA-260, LS-630, or LS-635						SI-211	Delineator SI-172	Object Markers SI-173		Bolted End Anchor	Post Adapter	Steel Beam Guardrail	BA-250 or LS-630				BA-260 or LS-635					
					VT1	VF	VT2	ET										Barrier Transition Section	End Terminal				Barrier Transition Section	End Terminal			
																			Tangent	Flared	Tangent	Flared				Tangent	
					FT	LF	LF	LF	LF	STATION	TYPE	TYPE	Each	Each	Each	Each	TYPE	EACH	EACH	LF	EACH	EACH	EACH	EACH		EACH	EACH
1	S	O		15.8'	37.5	—	—	35.2			2		2		1	A	1		12.5						1	1	NW Corner of Bridge
2	N	O		15.8'	37.5	—	—	35.2			2		2	1		A	1		12.5						1	1	NE Corner of Bridge
3	N	O		15.8'	37.5	—	—	35.2			2		2		1	A	1		12.5						1	1	SE Corner of Bridge
4	S	O		15.8'	—	—	—	—			2		2	1		A	1		37.5								SW Corner of Bridge

TABULATION OF PAVEMENT MARKING										108-22 Modified
BCY4: BROKEN CENTERLINE (YELLOW) @ 0.17 DCY4: DOUBLE CENTERLINE (YELLOW) @ 1.34 NPY4: NO PASSING ZONE LINE (YELLOW) @ 0.84 ELW4: EDGE LINE RIGHT (WHITE) @ 0.67										
Location					Length by Line Type (Unfactored)					MAP NO.
Map No.	Route	Description	Approx. Length (Miles)	A.D.T.	BCY4 (Sta)	DCY4 (Sta)	NPY4 (Sta)	ELW4 (Sta)	Comments	
	V58 (YOUNG AVE)	STA 112+44.58 TO 114+75.42	0.0437	730		0	2.33	4.33		
					Length Subtotals	0.00	0.00	2.33	4.33	
					Quantity Factors	0.17	1.34	0.84	0.67	
					Total Quantities	0.00	0.00	1.96	2.90	Total All Line Types (Sta) 4.86

SUMMARY OF EARTHWORK QUANTITIES							
Excavation Type	RAW CUT	RAW FILL	WASTE**	USABLE CUT	SHRINKAGE	FILL +35%	PAYMENT
	CY	CY	CY	CY	FACTOR	SHRIKAGE CY	QUANTITY CY
EXCAVATION, CLASS 20	185.03	0	0	185.03	35%	0	185.03
CLASS 10, CHANNEL	142.82	0	0	142.82	35%	0	142.82
**Assumes some material will be unsuitable.							

New PCC Pavement Existing Shoulder Width Type 'B' Granular Shoulder 4% Min. 6% Max. 1'-0" 0'-6" 1:1 Existing Foreslope						Notes: Quantities have been determined on the basis of a design weight of 140 lbs. per cubic foot. 1 Place and compact material to the dashed lines; then blade and shape to foreslope that portion above the solid line in the outer 2' and roll with loaded truck tire. 2 Existing shoulder surface to be shaped to a uniform cross slope prior to placing granular shoulder material. Shape to ensure the thickness of the granular shoulder material is not less than the thickness of the resurfacing. Shaping shall be paid for in accordance with Section 2121 of the Standard Specifications.		
LOCATION				TOTAL TONS	T Inches	E Feet	TYPICAL SECTION FOR TYPE 'B' GRANULAR SHOULDER	
ROAD IDENTIFICATION	STATION TO STATION		SIDE					
V58 (Young Ave)	112+44.58	114+75.42	BOTH	59.83	8"	6'		
TOTAL				59.83				

REMOVAL OF PAVEMENT						110-1 04-16-13
* Not a Bid Item						Refer to Tabulation 102-5
Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks
				SY	LF	
112+44.58	113+14.99	Rt. & Lt.	HMA	190.59	24'	EXISTING PAVEMENT THICKNESS IS APPROXIMATELY 9-1/2" IN DEPTH. SEE EXISTING CROSS SECTION, SHEET 3 AND BORING LOGS SHEET 10 & 11.
114+04.19	114+75.42	Rt. & Lt.	HMA	192.88	24'	
112+44.58	112+78.50	Lt.	PCC	41.56		
			Total	= 425.03		

110'-0 X 30'-6 0° Skew		
Continuous Concrete Slab Bridge		
INTEGRAL ABUTMENTS		MONOLITHIC PIER CAPS
CONCRETE ENCASED PIER PILES		CONCRETE OPEN RAIL
33'-6 END SPANS		43'-0 INTERIOR SPAN
HOWARD COUNTY		IOWA
Co. Bridge No. NO-38		FHWA #028780

LOG OF BORING

CHOSEN VALLEY TESTING



PROJECT: 26013.25.IAM Design Phase Geotechnical Evaluation Proposed Young Avenue Bridge Replacement (NO-38) NW 1/4 Sec. 13 - T97N - R11W New Oregon Twp., Howard Co., Iowa				BORING: B-01 LOCATION: See attached sketch		
				DATE: 9/30/2025	SCALE: 1" = 5'	
Elev.	Depth	USCS Symbol	Description of Materials (ASTM D 2487/2488)	BPF	WL	Tests and Notes
99.4	0.0					
98.4	1.0		12 1/2" ASPHALT			Benchmark: Top of northeast wing wall.
97.2	2.2		14" AGGREGATE BASE			Assigned elevation of 100.0 feet.
		CL	SANDY LEAN CLAY trace of gravel, trace of asphalt to about 4 feet, dark brown to black, wet, medium to rather stiff. (Fill) (IADOT: Firm Silty Clay)	8		PP = 3.5 tsf
				9		PP = 3.0 tsf, MC = 16.4%
92.9	6.5	CL	SANDY LEAN CLAY trace of gravel to about 14 feet, black, wet, rather soft to rather stiff. (Alluvium) (IADOT: Firm Silty Clay)	6		PP = 4.0 tsf
				7		PP = 3.5 tsf, MC = 28.4%
				11		
				6		MC = 41.4%
			Trace of gravel below about 18 feet.			
				4		MC = 19.9%
77.4	22.0	CH	FAT CLAY light brown, wet, stiff. (Residium) (IADOT: Firm-Very Firm Glacial Clay)			
73.4	26.0	CH	FAT CLAY with GRAVEL light brown, wet, hard. (Residium) (IADOT: Very Firm Glacial Clay)	16		PP = 3.0 tsf, MC = 28.1%
						PP = 2.25 tsf
68.4	31.0			*		* 6 / 50 = 4"
67.9	31.5	GP	POORLY-GRADED GRAVEL trace of silt, light brown, moist, very dense. (Weathered Limestone) (IADOT: Granular Material) Auger refusal at about 31.5 feet during drilling, presumably on bedrock. Boring sealed upon completion.			

26013.25.IAM

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LOG OF BORING

CHOSEN VALLEY TESTING



PROJECT: 26013.25.IAM Design Phase Geotechnical Evaluation Proposed Young Avenue Bridge Replacement (NO-38) NW 1/4 Sec. 13 - T97N - R11W New Oregon Twp., Howard Co., Iowa				BORING: B-02		
				LOCATION: See attached sketch		
				DATE: 9/30/2025	SCALE: 1" = 5'	
Elev.	Depth	USCS Symbol	Description of Materials (ASTM D 2487/2488)	BPF	WL	Tests and Notes
99.4	0.0					
98.2	1.3		15" ASPHALT			Benchmark: Top of northeast wing wall.
97.8	1.6		4" AGGREGATE BASE			Assigned elevation of 100.0 feet.
		CL	SANDY LEAN CLAY trace of gravel, brown to dark brown to black, wet, medium to rather stiff. (Fill) (IADOT: Firm Silty Clay)	7		PP = 1.75 tsf
				7		PP = 2.75 tsf, MC = 21.6%
				10		PP = 3.5 tsf
				12		PP > 4.5 tsf, MC = 11.3%
87.9	11.5	CL	LEAN CLAY trace of gravel, trace of iron staining, brown to dark brown, wet, rather stiff. (Alluvium) (IADOT: Firm Silty Clay)	11		PP = 2.5 tsf
				10		PP = 2.5 tsf, MC = 26.7%
81.4	18.0	GP	POORLY-GRADED GRAVEL with SAND mostly medium grained, trace of silt, light brown, moist, medium dense. (Weathered Limestone) (IADOT: Gravely Sand)		▽	Water encountered at about 19.5 feet during drilling.
77.4	22.0	GP	POORLY-GRADED GRAVEL with LEAN CLAY mostly medium grained, trace of sand, brown, moist, very dense. (Weathered Limestone) (IADOT: Granular Material)	15		
73.4	26.0	GP	POORLY-GRADED GRAVEL with SAND mostly medium grained, trace of silt, light brown, moist, very dense. (Weathered Limestone) (IADOT: Granular Material)	79		
68.9	30.5		Auger refusal at about 30.5 feet during drilling, presumably on bedrock. Boring sealed upon completion.	*		* 33 / 50 = 4"

26013.25.IAM

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110'-0 X 30'-6 0° Skew
Continuous Concrete Slab Bridge

INTEGRAL ABUTMENTS
CONCRETE ENCASED PIER PILES
33'-6 END SPANS
MONOLITHIC PIER CAPS
CONCRETE OPEN RAIL
43'-0 INTERIOR SPAN

HOWARD COUNTY IOWA
Co. Bridge No. NO-38 FHWA #028780

LOG OF BORING

CHOSEN VALLEY TESTING



PROJECT: 26013.25.IAM Design Phase Geotechnical Evaluation Proposed Young Avenue Bridge Replacement (NO-38) NW 1/4 Sec. 13 - T97N - R11W New Oregon Twp., Howard Co., Iowa				BORING: B-03		
				LOCATION: See attached sketch		
				DATE: 10/15/2025	SCALE: 1" = 5'	
Elev.	Depth	USCS Symbol	Description of Materials (ASTM D 2487/2488)	BPF	WL	Tests and Notes
99.5	0.0					
97.9	1.6		<u>19 1/4" CONCRETE</u>			Benchmark: Top of northeast wing wall. Assigned elevation of 100.0 feet.
			<u>15 1/2' AIR SPACE</u>			
82.5	17.0					
		CL	<u>SANDY LEAN CLAY</u> trace of gravel, black, wet, rather soft to hard. (Alluvium) (IADOT: Stiff Silty Clay)	*		* 50 / 1"
				4		MC = 19.4%
78.0	21.5	GP	<u>POORLY-GRADED GRAVEL with LEAN CLAY</u> brown, waterbearing, medium dense. (Alluvium) (IADOT: Gravely Sand)	19	▽	Water encountered at about 22.5 feet during drilling.
75.5	24.0	CL	<u>SANDY LEAN CLAY with GRAVEL</u> black, wet, rather stiff. (Alluvium) (IADOT: Firm Silty Clay)	9		
72.5	27.0	GP	<u>POORLY-GRADED GRAVEL to CLAYEY GRAVEL</u> mostly medium grained, brown to dark brown, moist to waterbearing, very dense. (Weathered Limestone) (IADOT: Granular Material)	*		* 50 = 6"
70.5	29.0	GC		*		* 50 = 1/2"
			Auger refusal at about 29 feet during drilling, presumably on bedrock. Boring sealed upon completion.			

26013.25.IAM

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LOG OF BORING

CHOSEN VALLEY TESTING



PROJECT: 26013.25.IAM Design Phase Geotechnical Evaluation Proposed Young Avenue Bridge Replacement (NO-38) NW 1/4 Sec. 13 - T97N - R11W New Oregon Twp., Howard Co., Iowa				BORING: B-04 LOCATION: See attached sketch DATE: 10/15/2025		SCALE: 1" = 5'
Elev.	Depth	USCS Symbol	Description of Materials (ASTM D 2487/2488)	BPF	WL	Tests and Notes
99.5	0.0					
97.9	1.6		19" CONCRETE			Benchmark: Top of northeast wing wall. Assigned elevation of 100.0 feet.
			15 1/2' AIR SPACE			
82.5	17.0	CH	FAT CLAY with GRAVEL , dark brown, wet, hard. (Residuum) (IADOT: Very Firm Sandy Glacial Clay)	30		
				27		
78.0	21.5	GP	POORLY-GRADED GRAVEL to CLAYEY GRAVEL , mostly medium grained, brown, moist, medium dense.	10		
75.5	24.0	GC	(Weathered Limestone) (IADOT: Gravely Sand)	*		
74.5	25.0	GC	CLAYEY GRAVEL , mostly medium grained, brown, moist, medium dense to very dense. (Weathered Limestone) (IADOT: Granular Material) Auger refusal at about 25 feet during drilling, presumably on bedrock. Boring sealed upon completion.			*15 / 42 / 50 = 2"

26013.25.IAM

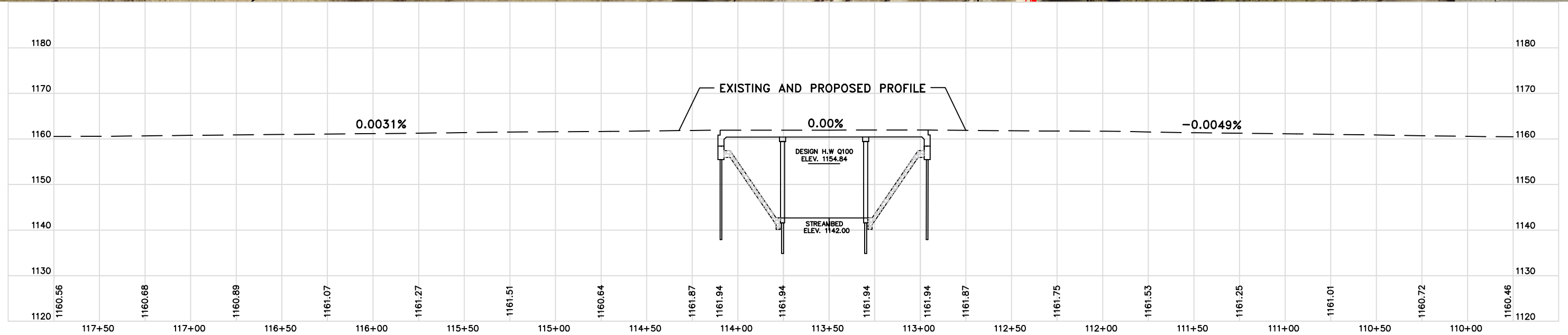
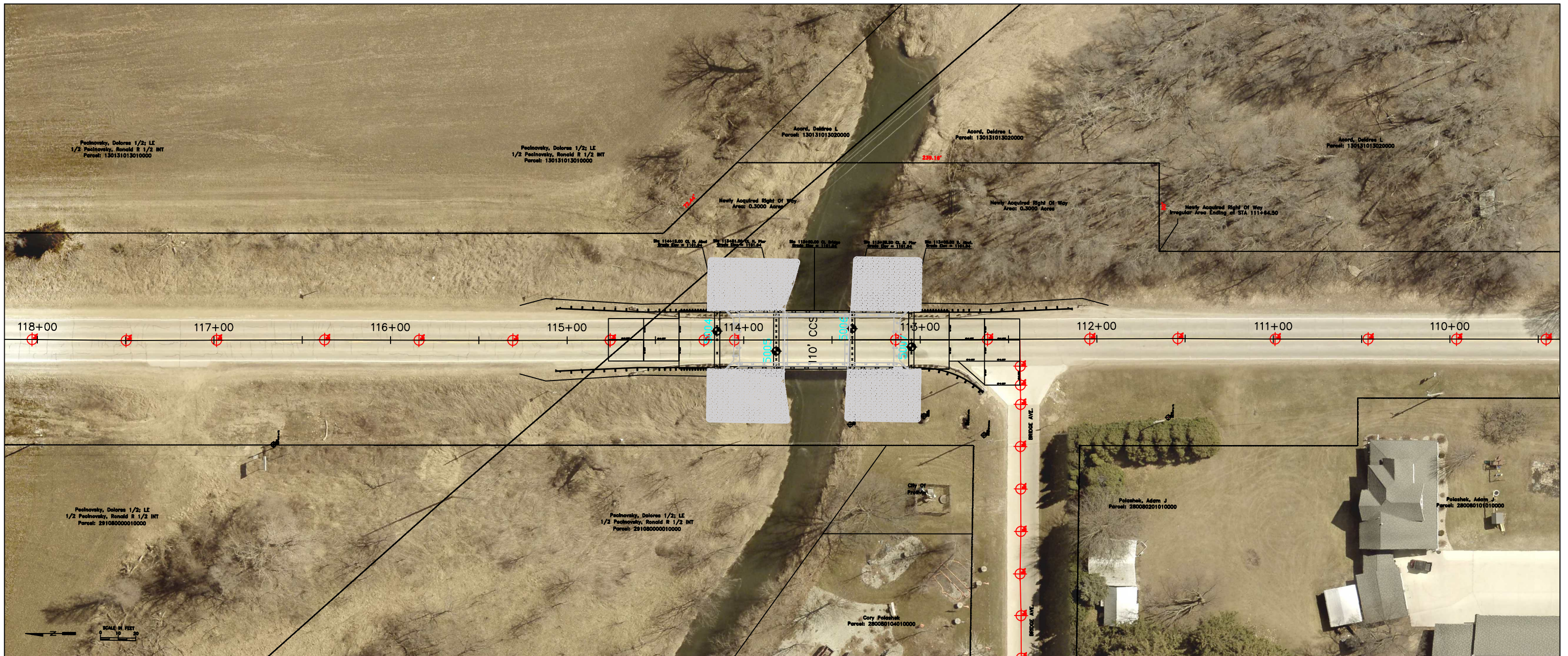
B-04 page 1 of 1

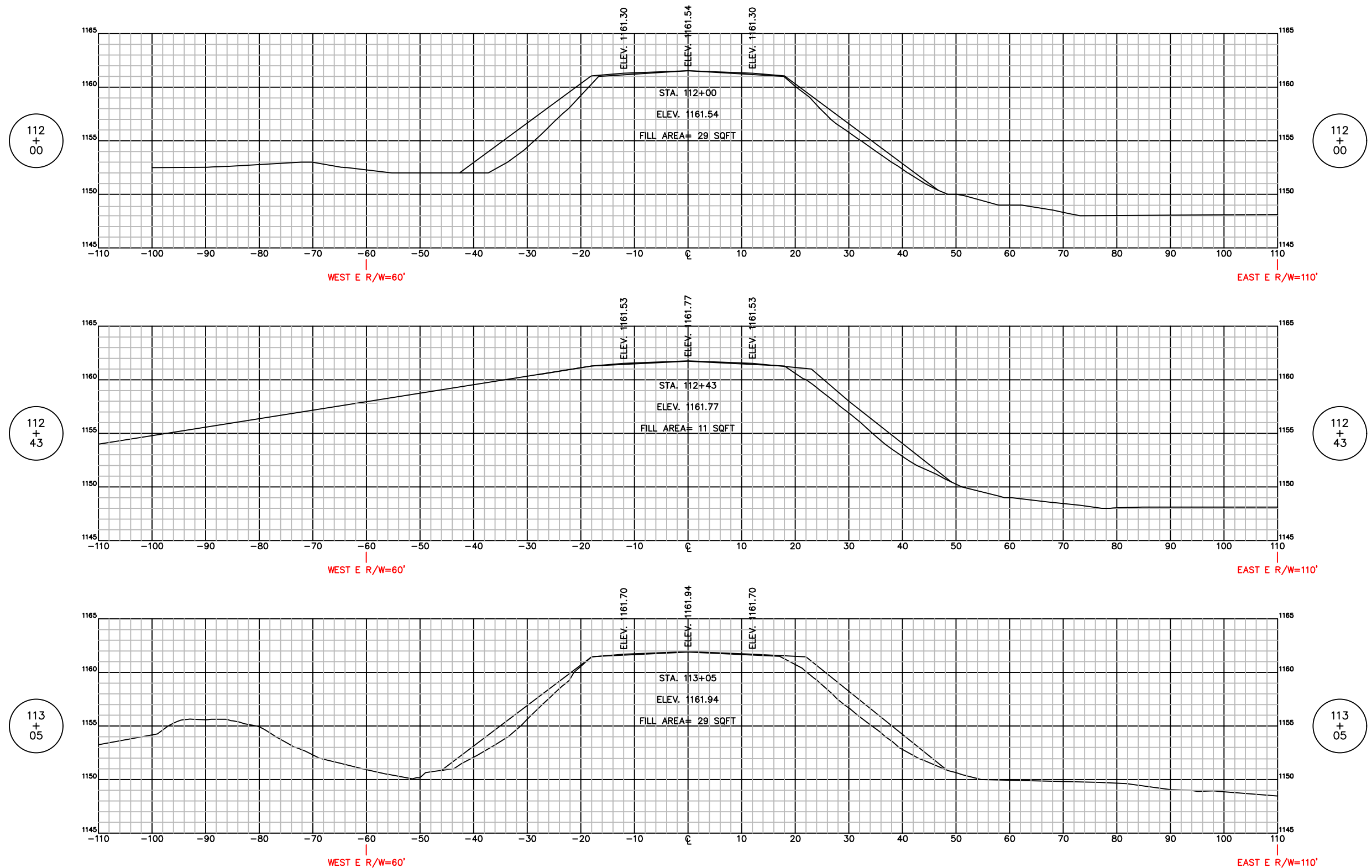


110'-0 X 30'-6 0° Skew
Continuous Concrete Slab Bridge

INTEGRAL ABUTMENTS
CONCRETE ENCASED PIER PILES
33'-6 END SPANS
MONOLITHIC PIER CAPS
CONCRETE OPEN RAIL
43'-0 INTERIOR SPAN

HOWARD COUNTY IOWA
Co. Bridge No. NO-38 FHWA #028780

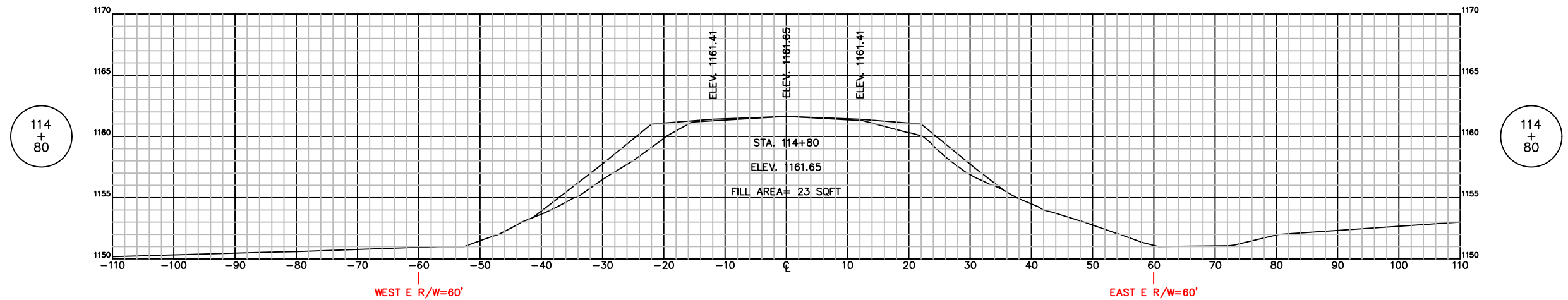
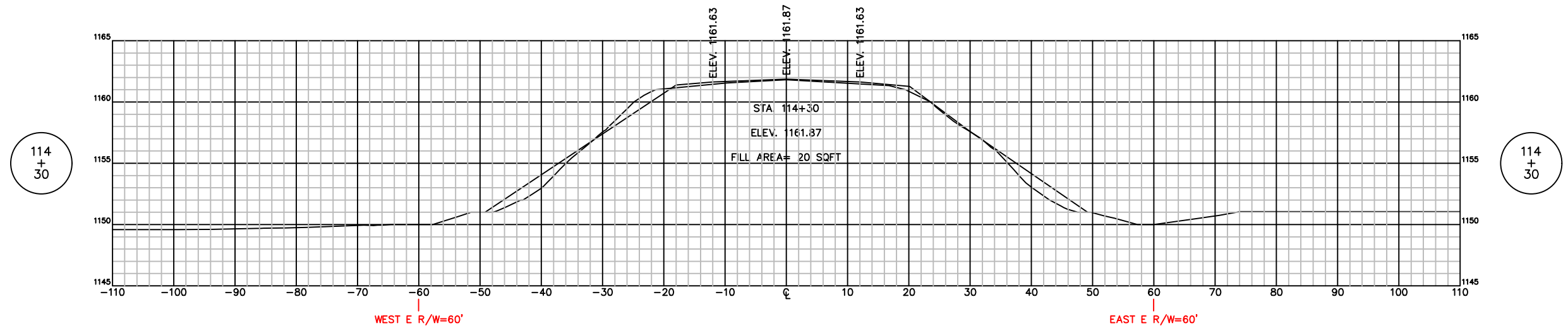
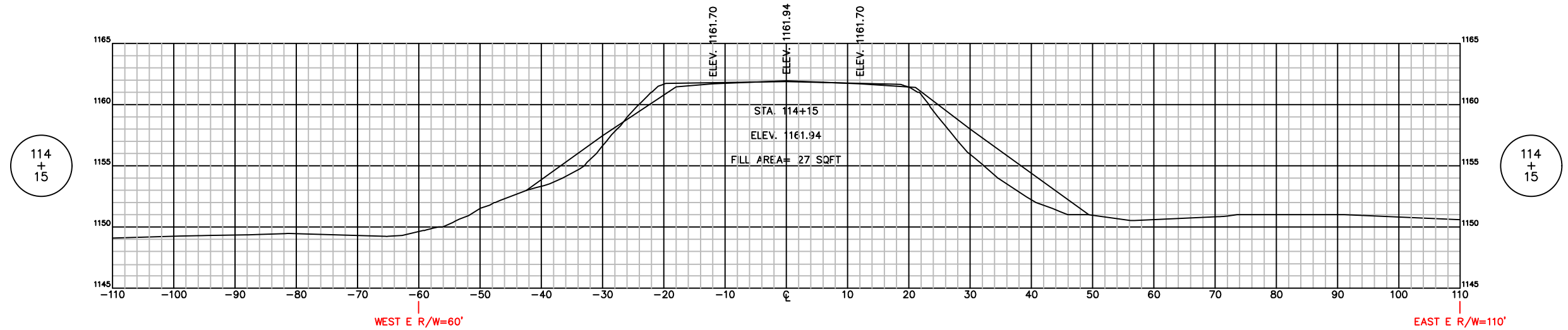




110'-0 X 30'-6 0° Skew
Continuous Concrete Slab Bridge

INTEGRAL ABUTMENTS	MONOLITHIC PIER CAPS
CONCRETE ENCASED PIER PILES	CONCRETE OPEN RAIL
33'-6 END SPANS	43'-0 INTERIOR SPAN

HOWARD COUNTY IOWA
Co. Bridge No. NO-38 FHWA #028780



110'-0 X 30'-6 0° Skew
Continuous Concrete Slab Bridge

INTEGRAL ABUTMENTS	MONOLITHIC PIER CAPS
CONCRETE ENCASED PIER PILES	CONCRETE OPEN RAIL
33'-6 END SPANS	43'-0 INTERIOR SPAN

HOWARD COUNTY IOWA
Co. Bridge No. NO-38 FHWA #028780