

RECEIVED MAR - 9 2002

BRIDGE REPLACEMENT-CCS
LETTING DATE : FEBRUARY 19, 2002

PROJECT NO. BRS-CO24(55)--60-24

CRAWFORD COUNTY

STANDARD ROAD PLANS					
THE FOLLOWING STANDARD ROAD PLANS SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT.					
IDENT.	DATE	IDENT.	DATE	IDENT.	DATE
RE-2B	04-03-01	RF-19E	10-03-00	RL-1A	10-03-00
RE-7	10-03-00			RL-1B	10-03-00
RE-12A	10-02-01	RH-37D	04-03-01	RL-14	01-12-99
RE-12B	10-02-01	RH-50	04-27-99		
RE-47	04-03-01	RH-51	10-03-00	RS-26A	10-28-97
RE-48A	04-03-01	RH-52	08-20-96		
RE-65A	10-02-01				
RE-66	10-02-01	RK-19A	10-02-01		
RE-76	10-02-01	RK-19C	10-03-00		

PROJECT TRAFFIC CONTROL PLAN
 THIS ROAD WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC TO ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN ARTICLE 1107.08 OF THE CURRENT STANDARD SPECIFICATIONS. TRAFFIC CONTROL DEVICES, PROCEDURES, AND LAYOUTS SHALL BE AS PER PART VI OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REVISION 3, DATED SEPTEMBER 3, 1993.

THIS PROJECT (COE #416730) IS COVERED BY THE CORPS OF ENGINEERS NATIONWIDE 404 PERMIT #14.

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES OF 2001, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

IOWA
 DEPARTMENT OF TRANSPORTATION
 Highway Division
 PLANS OF PROPOSED IMPROVEMENT ON THE
 FARM TO MARKET SYSTEM
CRAWFORD COUNTY

PROJECT NO. BRS-CO24(55)--60-24

BRIDGE REPLACEMENT - CCS

COUNTY HIGHWAY M-55 OVER THE WEST FORK OF THE WEST NISHNABOTNA RIVER FOUR MILES N.E. OF MANILLA

PROJECT NO. BRS-CO24(55)--60-24
FHWA NO. 127470

INDEX OF SHEETS

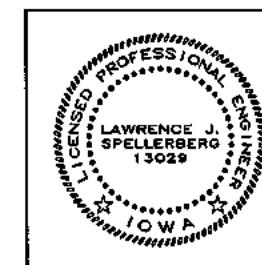
1. TITLE SHEET
2. QUANTITY SUMMARY
3. SITUATION PLAN
4. GENERAL NOTES
5. SOUNDING DATA AND MISC. DETAILS
6. TABULATIONS
7. MODIFIED RE-69

IOWA DEPARTMENT OF TRANSPORTATION STANDARDS REQUIRED		
STANDARD	DATE ISSUED	LATEST REVISION
J30C-87	JUNE, 1987	1-89
J30C-5-87	JUNE, 1987	-
J30C-6-87	JUNE, 1987	-
J30C-7-87	JUNE, 1987	-
J30C-10-87	JUNE, 1987	-
J30C-11-87	JUNE, 1987	-
J30C-18-87	JUNE, 1987	-
J30C-22-87	JUNE, 1987	6-89
P10A	AUGUST, 1988	8-1-96

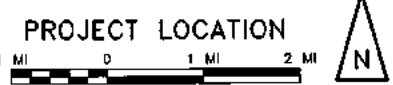
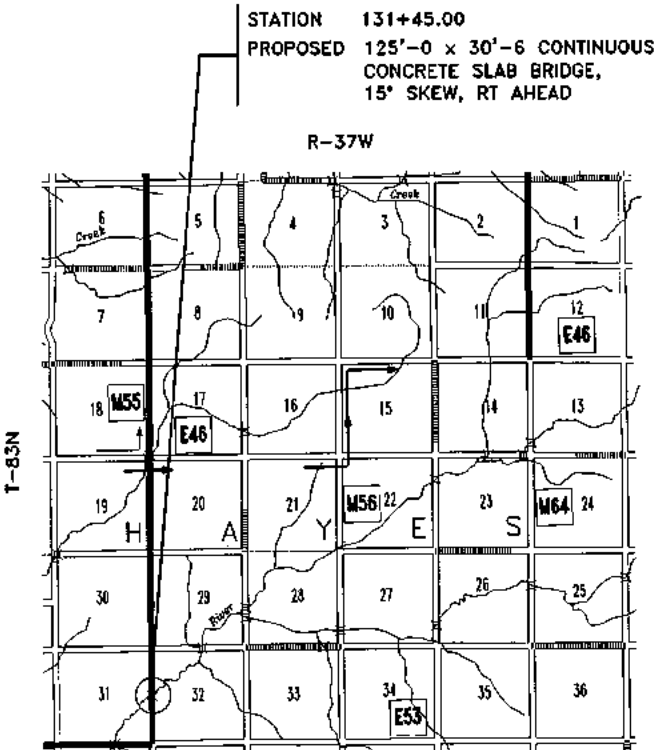
THESE SHEETS MAY BE OBTAINED AT THE OFFICE OF LOCAL SYSTEMS.

MILEAGE SUMMARY:

STA. 130+10.95 TO STA. 132+79.05 = 268.10 LIN.FT. = 0.0508 MILES



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.
Lawrence J. Spellerberg DATE: 10/22/01
 LAWRENCE J. SPELLERBERG
 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2001.
 PAGES OR SHEETS COVERED BY THIS SEAL:
 1-7 OF 7



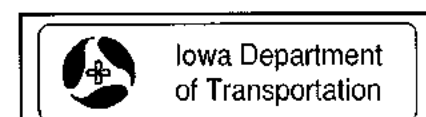
DRAWING APPROVAL
 ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE APPROVED BY CALHOUN-BURNS AND ASSOCIATES, INC.
 ADDRESS : 1801 FULLER ROAD, P.O. BOX 68859
 WEST DES MOINES, IOWA 50265
 TELEPHONE : (515) 224-4344
 THESE SHOP DRAWINGS SHALL NOT BE SENT TO IOWA D.O.T. OFFICE OF BRIDGES AND STRUCTURES.

1996, TRAFFIC COUNT = 280 V.P.D.

134/KGH -150-

APPROVED
[Signature] 12/4/01
 CRAWFORD COUNTY ENGINEER DATE

[Signatures]
 BOARD OF SUPERVISORS DATE



Highway Division

ACCEPTED FOR LETTING

[Signature] 12-7-01
 DISTRICT LOCAL SYSTEMS ENGINEER DATE

127471

TOTAL ESTIMATED QUANTITIES

REF.NO.	CODE NO.	ITEM	UNIT	2 ABUTS	2 PIERS	SUPERST.	TOTAL
1	2101-085002	CLEARING AND GRUBBING	UNITS	-	-	-	16.7
2	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	C.Y.	-	-	-	2,249
3	2121-7425020	GRANULAR SHOULDERS, TYPE B	TONS	-	-	-	63
4	2301-0685100	BRIDGE APPROACH SECTION	SQ.YDS.	-	-	-	385.6
5	2401-6745650	REMOVAL OF EXISTING STRUCTURES	L.S.	-	-	-	1
6	2401-6750001	REMOVALS, AS PER PLAN	L.S.	-	-	-	1
7	2402-2720000	EXCAVATION, CLASS 20	C.Y.	92	-	-	92
8	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	C.Y.	22.8	-	288.8	311.6
9	2404-7775000	REINFORCING STEEL	LBS.	3,016	-	35,482	38,498
10	2404-7775005	REINFORCING STEEL, EPOXY COATED	LBS.	-	-	34,083	34,083
11	2414-6424120	CONCRETE OPEN RAILING	L.F.	-	-	272.2	272.2
12	2501-5425042	PILES, DRIVE STEEL BEARING, HP 10x42 10 @ 65'	L.F.	650	-	-	650
13	2501-5425053	PILES, DRIVE STEEL BEARING, HP 12x53 18 @ 80'	L.F.	-	1,440	-	1,440
14	2501-5475053	CONC. ENCASE. OF STEEL H PILES, HP 12x53 (P10A TYPE 3) 18 @ 24'	L.F.	-	432	-	432
15	2501-5550042	PILES, FURNISH STEEL BEARING, HP 10x42 10 @ 65'	L.F.	650	-	-	650
16	2501-5550053	PILES, FURNISH STEEL BEARING, HP 12x53 18 @ 80'	L.F.	-	1,440	-	1,440
17	2505-4008100	REMOVAL OF GUARDRAIL	L.F.	-	-	-	275
18	2505-4008200	INSTALLATION OF GUARDRAIL	L.F.	-	-	-	275
19	2505-4021690	GUARDRAIL, END ANCHORAGE, BEAM, RE-69	EACH	-	-	-	4
20	2505-4021761	GUARDRAIL TERMINAL, BEAM RE-76	EACH	-	-	-	4
21	2507-3250005	ENGINEERING FABRIC	S.Y.	-	-	-	1,848
22	2507-6800042	REVTMENT, CLASS 'D'	TON	-	-	-	1,786
23	2510-6745850	REMOVAL OF PAVEMENT	SQ.YDS.	-	-	-	362.0
24	2518-6910000	SAFETY CLOSURE	EACH	-	-	-	2
25	2527-9263111	PAINTED PAVEMENT MARKINGS, WATERBOURNE	STA.	-	-	-	10,724
26	2528-8445110	TRAFFIC CONTROL	L.S.	-	-	-	1
27	2533-4980005	MOBILIZATION	L.S.	-	-	-	1
28	2601-2632110	FERTILIZING	ACRE	-	-	-	1.1
29	2601-2634100	MULCHING	ACRE	-	-	-	1.1
30	2601-2636015	NATIVE GRASS SEEDING	ACRE	-	-	-	1.1

REF NO. ESTIMATE REFERENCE INFORMATION

1. SEE "SITUATION PLAN", SHEET 3. QUANTITIES SHOWN ARE APPROXIMATIONS. ACTUAL MEASUREMENTS WILL BE MADE AT TIME OF CONSTRUCTION.
2. & 7. APPROXIMATELY 388 C.Y. OF FILL IS REQUIRED TO CONSTRUCT APPROACHES AND GUARDRAIL BLISTERS AND APPROXIMATELY 965 C.Y. OF FILL IS REQUIRED FOR CHANNEL SHAPING ALONG THE SOUTH BANK. SUITABLE CLASS 10 CHANNEL AND CLASS 20 EXCAVATION SHALL BE USED IN THE CONSTRUCTION OF THESE FILLS. ALL EXCESS OR UNSUITABLE MATERIAL SHALL BE WASTED OFF SITE TO A LOCATION PROVIDED BY THE CONTRACTOR AND NOTED TO THE ENGINEER. TYPE 'A' COMPACTION WILL BE REQUIRED. NO PAYMENT WILL BE MADE FOR OVERHAUL.
4. INCLUDES 141.2 SQ. YDS. OF REINFORCED AND 244.4 SQ. YDS. OF NON-REINFORCED PAVEMENT. SEE TABULATIONS, SHEET 6.
5. SEE "GENERAL NOTES", SHEET 4. STEEL I-BEAMS SHALL REMAIN THE PROPERTY OF THE COUNTY.
6. INCLUDES REMOVAL OF EXISTING REVTMENT FROM SOUTH BANK. REVTMENT MAY BE PLACED ALONG BANKS UPSTREAM OR DOWNSTREAM OF BRIDGE IN CHANNEL SHAPING OR MAY BE REMOVED TO A LOCATION OFF SITE PROVIDED BY THE CONTRACTOR. NO PAYMENT FOR OVERHAUL WILL BE MADE. SEE SITUATION PLAN, SHEET 3.
8. INCLUDES COST OF FURNISHING AND PLACING SUBDRAINS, INCLUDING EXCAVATION, GRANULAR MATERIAL AND POROUS BACKFILL AT ABUTMENTS. PAVING BLOCKS ARE NOT REQUIRED. SUPERSTRUCTURE QUANTITY HAS BEEN INCREASED BY 0.5 CU. YDS. OVER QUANTITY SHOWN ON IDOT STANDARD J30C-10-87 DUE TO SUBSTITUTION OF P10A TYPE 3 PILING AND DECREASED BY 1.0 CU.YDS. DUE TO ELIMINATION OF PAVING BLOCKS. CERTIFIED PLANT INSPECTION IS REQUIRED.
9. SUPERSTRUCTURE QUANTITY HAS BEEN DECREASED BY 79 LBS UNDER QUANTITY SHOWN ON IDOT STANDARD J30C-10-87 DUE TO ELIMINATION OF 5x1 PAVING BLOCK BARS AND REDUCTION OF 5x1 BARS TO 48 REQUIRED.
- 13.-14. SEE STANDARD P10A REVISED AUGUST 1, 1996 FOR TYPE 3 DETAILS FOR PILES. THE PILING ENCASEMENTS ARE TO EXTEND DOWN TO THE ELEVATIONS SHOWN ON SHEET 3. THE UNIT PRICE BID FOR ENCASEMENTS SHALL BE FULL PAYMENT FOR FURNISHING AND PLACING MATERIAL AND, WHERE NECESSARY, EXCAVATION. CAP STEEL IS REQUIRED.
- 15.-16. STEEL BEARING PILING SHALL BE DRIVEN TO FULL PENETRATION IF PRACTICABLE. HP10x42 ABUTMENT PILE SHALL BE DRIVEN TO A MINIMUM OF 34 TONS PER PILE. HP12x53 PIER PILES SHALL BE DRIVEN TO A MINIMUM OF 45 TONS PER PILE.
17. SEE "TABULATIONS", SHEET 6, THE GUARDRAIL BEAM SHALL REMAIN THE PROPERTY OF THE COUNTY AND THE CONTRACTOR SHALL CAREFULLY REMOVE AND NEATLY STACK THESE ITEMS WITHIN THE RIGHT-OF-WAY. ALL REMAINING SALVAGEABLE MATERIAL AND UNSALVAGEABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.
- 18.-20. SEE "TABULATIONS", SHEET 6 AND "MODIFIED RE-69", SHEET 7.
- 21.-22. SEE "SITUATION PLAN", SHEET 3, FOR LIMITS. REVTMENT TO BE PLACED AT 2'-0" THICKNESS.
- 23., 24. & 25. SEE "TABULATIONS", SHEET 6.
26. SEE SHEETS 1 AND 6.

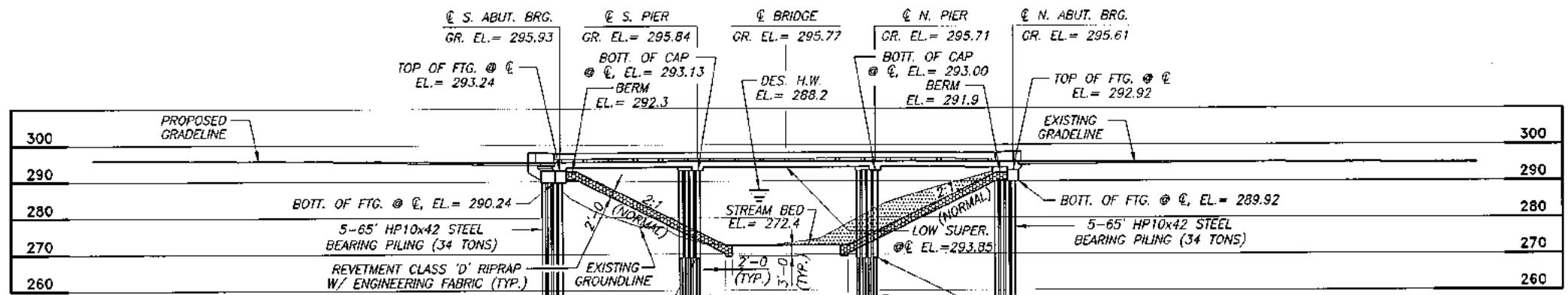
**125'-0 x 30'-6 CONTINUOUS CONCRETE
SLAB BRIDGE**

INTEGRAL ABUTMENTS MONOLITHIC P10A PIERS
38'-0 END SPANS 49'-0 INTERIOR SPAN

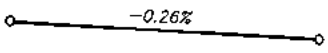
QUANTITY SUMMARY

STATION 131+45.00 15' SKEW, RT. AHEAD
CRAWFORD COUNTY, IOWA

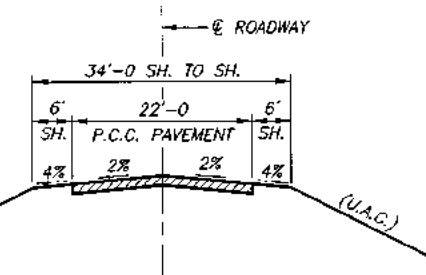
BENCH MARK #1: R.R. SPIKE IN POWER POLE, STA. 126+37, 50' LT., EL. = 300.94
 BENCH MARK #2: R.R. SPIKE IN POWER POLE, STA. 136+71, 51' LT., EL. = 287.93



TIE-IN STA. 130+10.95 EL. = 296.12
 TIE-IN STA. 132+79.05 EL. = 295.42



PROPOSED GRADE



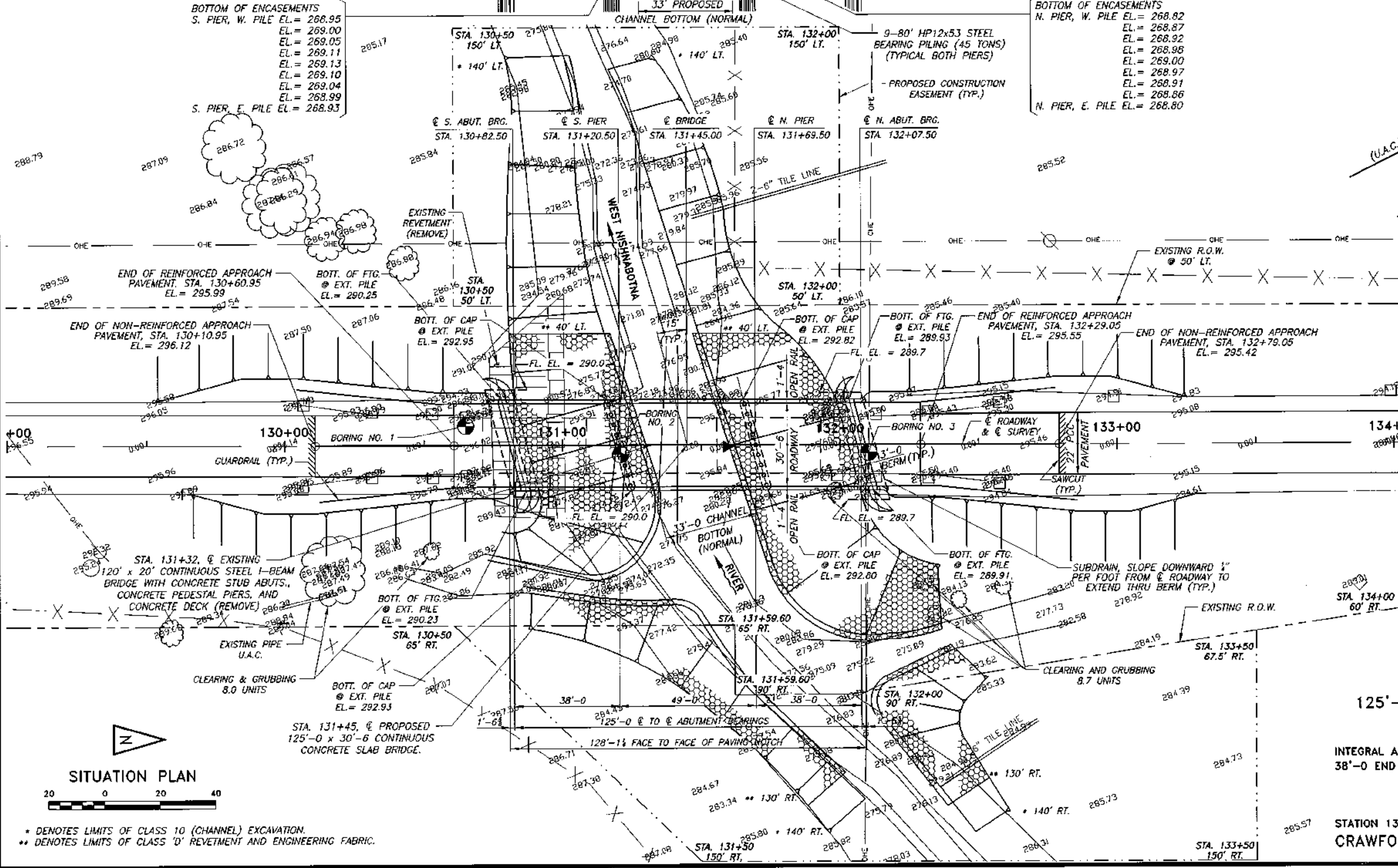
TYPICAL APPROACH SECTION

LOCATION

CRAWFORD COUNTY
 T-83N, R-37W
 SECTION 32
 HAYES TOWNSHIP
 OVER WEST FORK OF WEST NISHNABOTNA RIVER

HYDRAULIC DATA

DRAINAGE AREA = 23.3 SQ. MI.
 DESIGN DISCHARGE = 5,400 C.F.S.
 DESIGN HIGH WATER EL. = 288.2
 MANNING SLOPE = 0.000870 FT./FT.
 BRIDGE WATERWAY AREA = 957 SQ. FT.
 DESIGN VELOCITY = 5.6 F.P.S.
 Q25 = 4,400 C.F.S. STAGE EL. = 287.6
 Q50 = 5,400 C.F.S. STAGE EL. = 288.2 (DESIGN)
 Q100 = 6,500 C.F.S. STAGE EL. = 288.7
 Q500 = 9,300 C.F.S. STAGE EL. = 289.9
 EXT. H.W. EL. = UNKNOWN
 ANTICIPATED SCOUR EL. = 266.3



SITUATION PLAN



* DENOTES LIMITS OF CLASS 10 (CHANNEL) EXCAVATION.
 ** DENOTES LIMITS OF CLASS 'D' REVETMENT AND ENGINEERING FABRIC.

SPECIFICATIONS

DESIGN: AASHTO SERIES OF 1996, PLUS INTERIM SPECIFICATIONS
CONSTRUCTION: STANDARD SPECIFICATION OF THE IOWA DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION, SERIES OF 2001, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN STRESSES

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 1996, PLUS INTERIM SPECIFICATIONS.

CONCRETE IN ACCORDANCE WITH SECTION 8 $f_c = 3,500$ PSI.
REINFORCING STEEL IN ACCORDANCE WITH SECTION 8 $f_s = 24,000$ PSI (GRADE 60).

GENERAL NOTES

THIS DESIGN IS FOR A 125'-0 x 30'-6 REINFORCED CONCRETE SLAB BRIDGE ON M-55 OVER THE WEST FORK OF THE WEST NISHNABOTNA RIVER IN CRAWFORD COUNTY, IOWA.

THIS BRIDGE IS DESIGNED FOR HS20-44 LOADING PLUS 20 LBS. PER SQ. FT. OF ROADWAY FOR FUTURE WEARING SURFACE.

THE EXISTING BRIDGE IS A 120' x 20' CONTINUOUS STEEL I-BEAM BRIDGE WITH CONCRETE STUB ABUTMENTS AND CONCRETE PEDESTAL PIERS. THE STRUCTURE HAS A CONCRETE DECK.

THE LUMP SUM BID FOR "REMOVAL OF EXISTING STRUCTURES" SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS. THE STEEL I-BEAMS SHALL REMAIN THE PROPERTY OF THE COUNTY AND THE CONTRACTOR SHALL CAREFULLY REMOVE AND NEATLY STACK THESE ITEMS WITHIN THE RIGHT-OF-WAY. ALL REMAINING 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' ± BELOW FINISHED GROUNDLINE AND TO THE EXTENT THAT IT WILL NOT INTERFERE WITH THE NEW CONSTRUCTION.

THE LUMP SUM BID FOR "REMOVALS, AS PER PLAN" SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING REVETMENT AS SHOWN ON THE SITUATION PLAN, SHEET 3. THE EXISTING REVETMENT MAY BE PLACED ALONG BANKS UPSTREAM OR DOWNSTREAM OF THE BRIDGE IN CHANNEL SHAPING OR MAY BE REMOVED TO A LOCATION OFF SITE PROVIDED BY THE CONTRACTOR. NO PAYMENT WILL BE MADE FOR OVERHAUL.

SCRAPE SAMPLES OF PAINT FROM THIS BRIDGE WERE TAKEN TO GET AN INDICATION OF THE EXISTENCE OF AND LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. THE ANALYSIS OF TOTAL CHROMIUM IN THESE SAMPLES WAS 32 PARTS PER MILLION (PPM). THE ANALYSIS OF TOTAL LEAD IN THESE SAMPLES WAS 0.4 PPM. THE ANALYSES SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. THE LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER SUBSTANCES WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE CONTRACTING AUTHORITY'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

ALL UNSALVAGEABLE MATERIAL AND RUBBLE FROM THIS PROJECT SHALL BE REMOVED FROM THE HIGHWAY RIGHT-OF-WAY TO A WASTE AREA PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH CURRENT LAWS AND RESTRICTIONS. THE WASTED MATERIAL MUST NOT CREATE AN UNSIGHTLY CONDITION WHEN VIEWED FROM PUBLIC HIGHWAYS. THE COST OF WASTING THIS MATERIAL IS TO BE INCLUDED IN THE LUMP SUM BID FOR "REMOVAL OF EXISTING STRUCTURES" AND "REMOVALS, AS PER PLAN." NO PAYMENT WILL BE MADE FOR OVERHAUL.

UNLESS OTHERWISE DIRECTED OR AUTHORIZED, ALL ASPHALTIC CEMENT CONCRETE AND OTHER BITUMINOUS MATERIALS WHICH ARE NOT SPECIFICALLY ADDRESSED OR DESCRIBED IN THE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

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

THE CONTRACTOR IS ENCOURAGED TO CONDUCT CONSTRUCTION ACTIVITIES DURING A PERIOD OF LOW FLOW. ANY TEMPORARY CROSSINGS SHALL INCLUDE ENOUGH CULVERTS TO ACCOMMODATE LOW FLOWS AND MUST BE REMOVED AFTER COMPLETION OF WORK ON THIS PROJECT. THE CONTRACTOR IS REQUIRED TO REMOVE ALL FILL MATERIAL USED AS A TEMPORARY CROSSING TO AN UPLAND, NON-WETLAND SITE, TO SEED ALL DISTURBED AREAS WITH NATIVE GRASSES, AND TO IMPLEMENT APPROPRIATE MEASURES TO INSURE SEDIMENTS ARE NOT INTRODUCED INTO WATERS OF THE UNITED STATES DURING CONSTRUCTION OF THIS PROJECT. IF CLEAN EARTH IS USED AS FILL IN A TEMPORARY CROSSING, THE UPSTREAM FACE SHALL BE ARMORED. THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY CROSSINGS, INCLUDING CULVERTS, SHALL BE INCIDENTAL TO THE PROJECT.

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.

CULVERTS SHALL BE INSTALLED, AS REQUIRED, IN ANY TEMPORARY CROSSING TO CARRY LOW STREAM FLOWS. THE CONTRACTOR SHALL REMOVE ANY TEMPORARY CROSSINGS PRIOR TO COMPLETION OF THE PROJECT. THE COST OF INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY CROSSING SHALL BE INCIDENTAL TO THE PROJECT.

SUITABLE CLASS 10 (CHANNEL) EXCAVATION AND CLASS 20 EXCAVATION SHALL BE USED FOR CONSTRUCTION OF APPROACH FILLS. COST OF PLACEMENT SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE BID ITEM. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.06 PARAGRAPH A2 OF THE STANDARD SPECIFICATIONS. ANY UNSUITABLE AND/OR EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. NO PAYMENT FOR OVERHAUL WILL BE MADE.

GENERAL NOTES (CONTINUED)

THE CONTRACTOR IS 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." THIS WORK WILL BE PAID FOR AS "EXCAVATION, CLASS 10, CHANNEL."

THE APPROACH BERMS SHALL BE BUILT TO THE CONSTRUCTION LIMITS SHOWN AND SHALL BE IN PLACE BEFORE ABUTMENT PILES ARE DRIVEN. THE CONTRACTOR SHALL LEVEL AND SHAPE THE BERMS TO THE ELEVATIONS AND DIMENSIONS SHOWN ON THE SITUATION PLAN. DRESSING OF SLOPES OUTSIDE THE BRIDGE AREA NOT DISTURBED BY THE CONTRACTOR WILL BE PAID FOR AS EXTRA WORK.

CLASS 20 EXCAVATION FOR THE ABUTMENTS IS BASED ON THE ASSUMPTION THAT THE CHANNEL EXCAVATION AND THE NECESSARY BERM CONSTRUCTION HAS BEEN COMPLETED.

HP10x42 ABUTMENT PILE AND HP12x53 PIER PILE ARE TO BE DRIVEN TO FULL PENETRATION IF PRACTICABLE. MINIMUM BEARING CAPACITY IS TO BE 45 TONS PER PILE AT PIERS AND 34 TONS PER PILE AT ABUTMENTS.

THE PIER PILES ARE TO BE P10A TYPE 3 (HP12X53). SUPERSTRUCTURE CONCRETE QUANTITY HAS BEEN INCREASED BY 0.5 C.Y. OVER QUANTITY SHOWN ON I.D.O.T. STANDARD J30C-10-87 DUE TO SUBSTITUTION OF P10A TYPE 3 PILING IN MONOLITHIC PIER BENTS. THE PILING ENCASEMENTS ARE TO EXTEND DOWN TO THE ELEVATIONS SHOWN ON THE PLANS, SHEET 3. THE UNIT PRICE BID FOR ENCASEMENT SHALL BE FULL PAYMENT FOR FURNISHING AND PLACING MATERIAL AND WHERE NECESSARY, EXCAVATION. CAP STEEL IS REQUIRED.

THE REINFORCING STEEL QUANTITY SHOWN IS FOR MONOLITHIC PIERS WITH NINE (9) STEEL H-PILES PER I.D.O.T. STANDARD SHEET J30C-10-87, WHICH WILL REQUIRE FORTY-EIGHT (48) 5#1 PIER CAP STIRRUPS TOTALING 397 LBS.

THE UNIT PRICE BID FOR "RETVEMENT, CLASS D" SHALL INCLUDE COST OF LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PLACE CLASS D REVETMENT STONE ON BOTH BANKS OF THE CHANNEL TO THE EXTENT SHOWN ON SHEET 3 AND IN ACCORDANCE WITH SECTION 4130 OF THE STANDARD SPECIFICATIONS.

ALL REINFORCING SHALL BE GRADE 60.
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.

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT MANY OF THE REINFORCING BARS IN THE SLAB AND ABUTMENTS ARE TO BE EPOXY COATED. SEE RESPECTIVE REINFORCING BAR LISTS ON DESIGN SHEETS. EPOXY COATING SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS OF THE IOWA DOT, PROJECT DEVELOPMENT DIVISION.

TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED AS NOTED ON STANDARD J30C-5-87.

ALL STRUCTURAL CONCRETE FOR THE BRIDGE DECK IS TO BE CLASS "C"; SUBSTITUTION OF CLASS "D" CONCRETE IS NOT ALLOWED.

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

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

ALL BACKFILL BEHIND THE ABUTMENT BETWEEN THE WINGS SHALL BE POROUS AND GRANULAR BACKFILL AS SHOWN. THE REMAINDER OF THE ABUTMENT EXCAVATION SHALL BE BACKFILLED WITH SOIL.

THE BRIDGE CONTRACTOR IS TO INSTALL SUBDRAINS BEHIND THE ABUTMENTS AS DETAILED. THE SUBDRAINS SHALL MEET THE REQUIREMENTS FOR TYPES PERMITTED IN SECTION 4143.01C. WHEN THE SUBDRAINS ARE INSTALLED USING FLEXIBLE TUBING, THE ENDS SHALL CONSIST OF 6' LENGTHS OF CORRUGATED METAL PIPE (CMP) THAT PROTRUDE A MINIMUM THROUGH THE FORESLOPE. THE CONNECTION BETWEEN THE FLEXIBLE TUBING AND THE CMP CAN BE MADE WITH A REDUCER COUPLING OR BY EXTENDING THE FLEXIBLE TUBING INTO THE CMP A MINIMUM OF 6 INCHES AND PACKING THE OPEN SPACE BETWEEN THE PIPES WITH GROUT. A REMOVABLE 3/8" MESH GALVANIZED SCREEN, OR OTHER APPROVED RODENT GUARD, IS TO BE FASTENED TO THE END OF EACH OUTLET PIPE. THE COST OF SUBDRAINS, INCLUDING ALL MATERIALS, LABOR AND EXCAVATION NECESSARY FOR ITS INSTALLATION, SHALL BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".

THE CONTRACTOR SHALL VISIT THE CONSTRUCTION SITE TO ENSURE THAT HE IS FAMILIAR WITH THE EXISTING SITE CONDITIONS. THE CONTRACTOR WILL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. SHOULD ANY UTILITIES BE FOUND, THEY SHALL BE PROTECTED IN PLACE AND THE ENGINEER IMMEDIATELY NOTIFIED. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO.

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

WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. ACCESS SHALL BE AFFORDED TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR INTERFERENCE, OR DELAY CAUSED BY SUCH WORK.

GENERAL NOTES (CONTINUED)

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. NO ADDITIONAL PAYMENT WILL BE AUTHORIZED FOR THIS WORK. THE STRUCTURAL CONCRETE AND REINFORCING STEEL QUANTITIES HAVE BEEN REDUCED BY 1.0 CU. YDS. AND 30 LBS., RESPECTIVELY FOR THE ELIMINATION OF THE PAVING BLOCKS.

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 "NATIVE GRASS SEEDING", "FERTILIZING" 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.

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 "NATIVE GRASS SEEDING", "FERTILIZING" AND "MULCHING."

STANDARD ROAD PLANS ARE AVAILABLE FROM THE IOWA DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION, AMES, IOWA.



125'-0 x 30'-6 CONTINUOUS CONCRETE
SLAB BRIDGE

INTEGRAL ABUTMENTS
38'-0 END SPANS

MONOLITHIC P10A PIERS
49'-0 INTERIOR SPAN

GENERAL NOTES

STATION 131+45.00
CRAWFORD COUNTY,

15' SKEW, RT. AHEAD
IOWA

BORING LOG NO. 1		STATION 130+66.6' LT		Project No.: 011498							
Project: Bridge W. Fork W. Mississippi River		Client: Calhoun-Burns and Associates, Inc.		1891 Fuller Road West Des Moines, Iowa 50265							
Surface Elevation: 295.8'		Date Drilled: 10-31-01		Drilling Method: 4" CFA							
Datum: CL South End Exit Bridge = 296.02'		Drilling Depth, ft.: 65'		Page: 1 of 1							
Elevation ft.	Depth ft.	Sample No.	Type	SPT Blows	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psi	Material Description*	USCS	Water Level	Depth Elevation ft.
288	0							8" PORTLAND CEMENT CONCRETE	CL	57	295.53
	1	1	ST	21.5	92	2690		Brown and dark brown mixed lean clay, minor sand, moist to very moist	CL		11
	2	2	SS					FILL (Stiff Silty Clay)	CL		265
	3	3	ST	40.3	75	1700		Dark gray silty clay, moist to very moist	CH		
	4	4	ST	29.3	91	1740		Very dark gray fat clay, moist to very moist below 16'	CL		
								Gray-brown silty clay, trace sand, very moist below 19'	CL		
								COHESIVE ALLUVIUM (Soft Silty Clay)			
								Dark gray sandy lean clay, trace gravel, moist	CL		35
								GLACIAL TILL (Very Firm Glacial Clay)			261
								End of Boring			65
											231

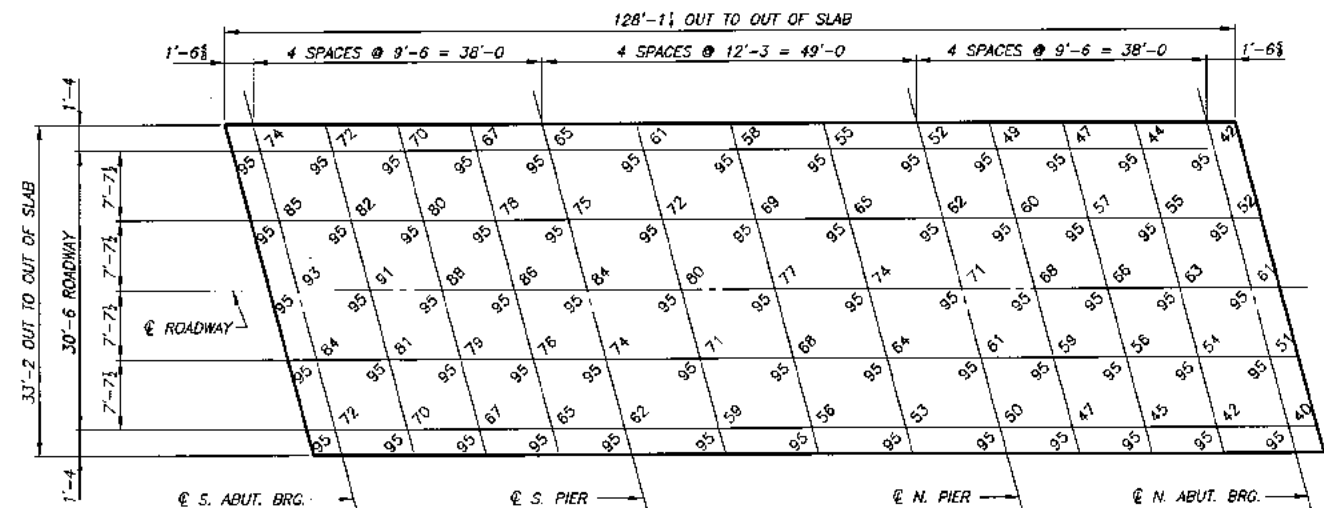
BORING LOG NO. 2		STATION 131+20.2' RT		Project No.: 011498							
Project: Bridge W. Fork W. Mississippi River		Client: Calhoun-Burns and Associates, Inc.		1891 Fuller Road West Des Moines, Iowa 50265							
Surface Elevation: 296.11'		Date Drilled: 10-31-01		Drilling Method: 4" CFA							
Datum: CL South End Exit Bridge = 296.02'		Drilling Depth, ft.: 76'		Page: 1 of 1							
Elevation ft.	Depth ft.	Sample No.	Type	SPT Blows	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psi	Material Description*	USCS	Water Level	Depth Elevation ft.
288	0							8" PORTLAND CEMENT CONCRETE BRIDGE DECK	CL	57	295.43
								BRIDGE DECK TO GROUND			
								Rip rap			23
								Gray silty clay, very moist	CL		273.1
								COHESIVE ALLUVIUM (Soft Silty Clay)			
								Gray-brown with interbedded sand seams below 30.5'			37
								Dark gray sandy lean clay, trace gravel, moist	CL		259.1
								GLACIAL TILL (Very Firm Glacial Clay)			
								Silt with organics, damp below 74.5'	OL		76
								End of Boring			220.1

BORING LOG NO. 3		STATION 132+09.5' RT		Project No.: 011498							
Project: Bridge W. Fork W. Mississippi River		Client: Calhoun-Burns and Associates, Inc.		1891 Fuller Road West Des Moines, Iowa 50265							
Surface Elevation: 295.8'		Date Drilled: 10-31-01		Drilling Method: 4" CFA							
Datum: CL South End Exit Bridge = 296.02'		Drilling Depth, ft.: 65'		Page: 1 of 1							
Elevation ft.	Depth ft.	Sample No.	Type	SPT Blows	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psi	Material Description*	USCS	Water Level	Depth Elevation ft.
288	0							8" PORTLAND CEMENT CONCRETE	CL	57	295.13
	1	1	ST	30.0				Brown and dark brown mixed lean clay, trace sand and pebbles, moist to very moist	CL		11.5
	2	2	ST	23.3	92	4770		FILL (Stiff Silty Clay)	CL		284.3
	3	3	ST	32.1	86	4810		Dark gray silty clay, moist to very moist	CL		
	4	4	ST	32.1	84	2050		Gray-brown to gray below 19.5'			
								Moisture seepage near 22'			
								COHESIVE ALLUVIUM (Soft Silty Clay)			
								Dark gray sandy lean clay, trace gravel, moist	CL		40
								GLACIAL TILL (Very Firm Glacial Clay)			255.8
								End of Boring			65
											230.8

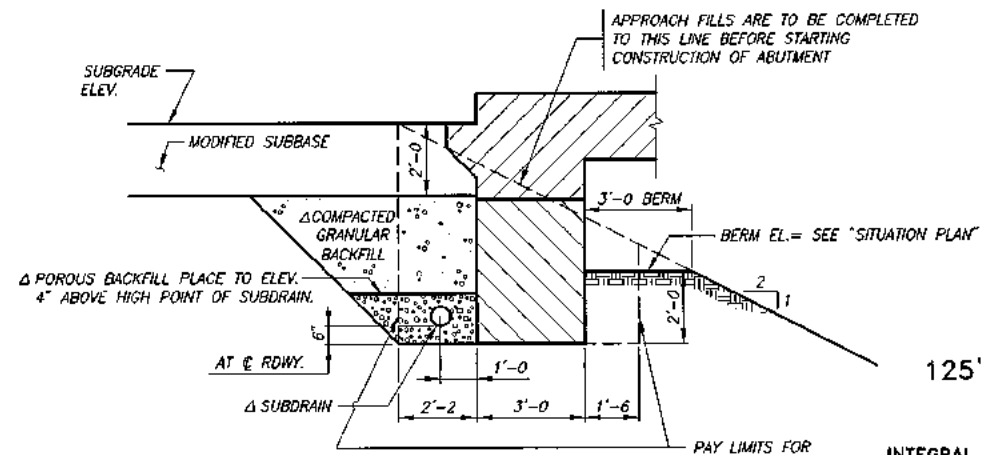
SOUNDING DATA

(SEE "SITUATION PLAN", SHEET 3, FOR BORING LOCATIONS)

GEOTECHNICAL INFORMATION PROVIDED HEREWITH IS THE SOLE RESPONSIBILITY OF ALLENDER BUTZKE ENGINEERS, INC., WHOSE GEOTECHNICAL REPORT DATED 10-08-01, COMPLETE WITH THE LICENSED ENGINEER'S SEAL AND CERTIFICATION, IS AVAILABLE FOR VIEWING.



TOP OF SLAB ELEVATIONS
 NOTE: ADD 200 TO ABOVE ELEVATIONS.



GRANULAR BACKFILL DETAIL
 SEE "SITUATION PLAN", SHEET 3 FOR LAYOUT OF SUBDRAIN.
 INCLUDE IN COST OF "STRUCTURAL CONCRETE (BRIDGE)."
 NOTE: MODIFIED SUBBASE MAY BE SUBSTITUTED FOR GRANULAR BACKFILL.

125'-0 x 30'-6 CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
 38'-0 END SPANS
 MONOLITHIC P10A PIERS
 49'-0 INTERIOR SPAN

SOUNDING DATA & MISC. DETAILS

STATION 131+45.00
 CRAWFORD COUNTY, IOWA
 15' SKEW, RT. AHEAD

TABULATION OF STEEL BEAM GUARDRAIL AT BRIDGE END POST, CONCRETE BARRIER AND RAILROAD SIGNALS

Refer to Standard Road Plan RE-83, RE-85A and RE-85B

108-8A
10-02-01

NO.	DIRECTION OF TRAFFIC	End	Side	STATION	STANDARD ROAD PLAN	CASE	LAYOUT LENGTHS				MATERIALS REQUIRED				BID ITEMS				REMARKS				
							STS (18.75')	VT	VF	ET Terminal (37.5')	STS		Posts ④ 6"x 8"x 7" with 8"x 8" Spacer Blocks (7)	Posts ⑤ 6"x 8"x 6" with 6" x 8" Spacer Blocks	CRT Posts 6"x 8"x 6" with 6" x 8" Spacer Blocks (5)	Installation of Guardrail (STS+VT+VF+ET)	Anchorage and Terminal Systems						
											Thrie Beam (25.0')	Transition Section (6.25')					'W' Beam ③	No.		No.	No.	Lin.Ft.	No.
1	S.	T	O	131+45.00	RE-85A	F	-	18.75	-	12.50	37.5	25.0	6.25	50.0	6	4	5	68.75	-	1*	-	1	SOUTH END, LT.
2	N.	A	O	131+45.00	RE-85A	F	-	18.75	-	12.50	37.5	25.0	6.25	50.0	6	4	5	68.75	-	1*	-	1	SOUTH END, RT.
3	S.	A	O	131+45.00	RE-85A	F	-	18.75	-	12.50	37.5	25.0	6.25	50.0	6	4	5	68.75	-	1*	-	1	NORTH END, LT.
4	N.	T	O	131+45.00	RE-85A	F	-	18.75	-	12.50	37.5	25.0	6.25	50.0	6	4	5	68.75	-	1*	-	1	NORTH END, RT.

* SEE MODIFIED RE-69 DETAILS, SHEET 7.

TABULATION OF BRIDGE APPROACH SECTION ① Not a bid item

112-6
10-03-00

Refer to Standard Road Plan RF-19E, RK-16, RK-19A, RK-19B, RK-19C, RK-19D, RK-19E, RK-19F, RK-19G, RK-19H, or RK-19J.

Bridge Station	End	Thickness	APPROACH PAVEMENT				Fixed or Movable Abutment	SUBDRAIN				APPROACH SUBGRADE		REMARKS
			Pay Length	Non-Reinf. Pavement Area	Reinforced Pavement Area	Perforated Subdrain ①		Subdrain Outlet ①		Porous Backfill ①	Class 'A' Crushed Stone Backfill ①	Modified Subbase ①	Polymer Grid ①	
								Sq.Yds.	Sq.Yds.					
131+45.00	S.	8	70.0	122.2	70.6*	M	44	130+20.95	RT.	3	-	214	227	S. END
131+45.00	N.	8	70.0	122.2	70.6*	M	44	132+69.05	RT.	3	-	214	227	N. END

* BACK TO BACK CURB WIDTH OF REINFORCED APPROACH PAVEMENT SHALL BE 32'-0".

TABULATION OF DELINEATORS AND OBJECT MARKERS

108-17
04-28-98

Refer to Standard Road Plan RE-48A-B* and RE-29C

STATION	LOCATION	DELINATOR TYPE*	OBJECT MARKER				REMARKS
			SINGLE ① WHITE D-1W Number	TYPE 2 ① OM2-3YV Number	TYPE 3 ①		
					OM-3L Number	OM-3R Number	
131+45.00		2	-	4	1	1	S. END
131+45.00		2	-	4	1	1	N. END

① NOT A BID ITEM

REMOVAL OF PAVEMENT

110-1
04-27-99

STATION TO STATION	PAVEMENT TYPE	AREA Sq.Yds.	SAW CUT Ln.Ft.*	REMARKS
130+10.95 to 130+72.00	P.C.C.	149.2	22	
131+92.00 to 132+79.05	P.C.C.	212.8	22	
TOTAL		362.0	44	

EXISTING PAVEMENT CONSISTS OF 7" P.C.C.

TABULATION OF PAVEMENT MARKINGS

LINE TYPE *	STATION TO STATION	SIDE	LENGTH Sta.
EDGE LINE RIGHT	130+10.95 TO 132+79.05	RT.	2.681
EDGE LINE RIGHT	130+10.95 TO 132+79.05	LT.	2.681
DOUBLE CENTER LINE	130+10.95 TO 132+79.05	②	5.362
TOTAL (STA.)			10.724

* REFER TYP. DETAIL 9001

TABULATION OF SAFETY CLOSURES

108-13A
10-28-97

Refer to Section 2518 of the Standard Specifications

STATION	CLOSURE TYPE		REMARKS
	Road Qty.	Hazard Qty.	
129+00	1	-	S. END
134+00	1	-	N. END

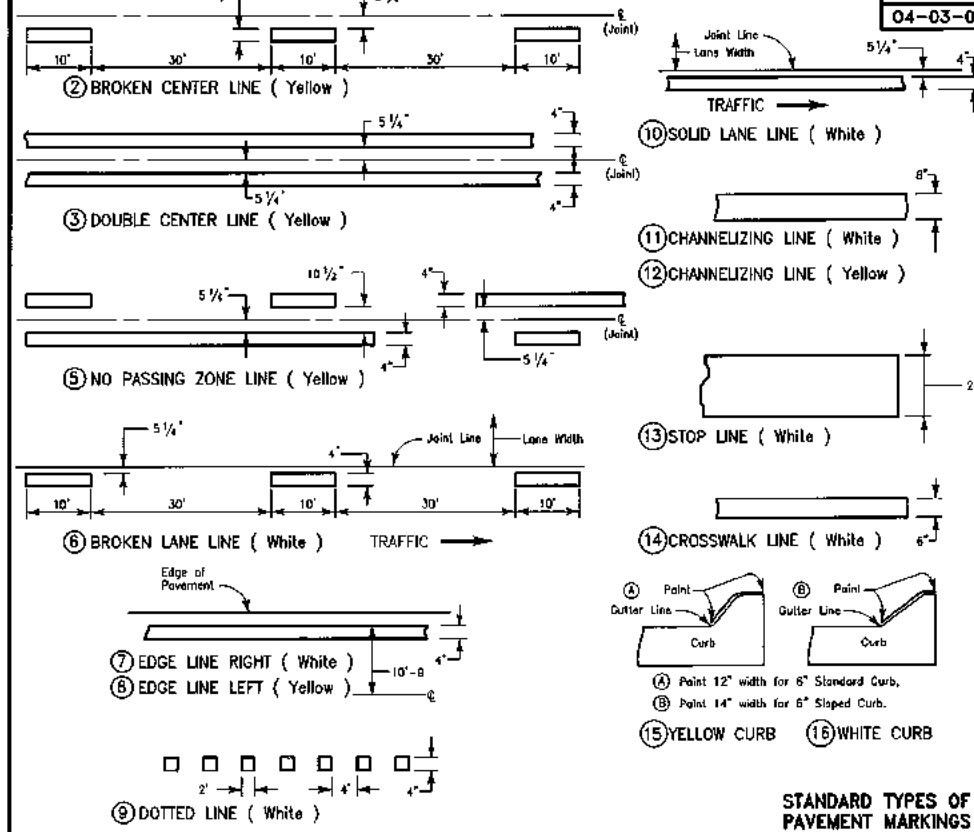
REMOVE BEAM GUARDRAIL

110-7A
10-02-01

No.	DIRECTION OF TRAFFIC	Station	SIDE	STEEL BEAM GUARDRAIL REMOVE Ln.Ft.	POSTS REMOVE No.	END ANCHORAGE REMOVE		REMARKS
						REMOVE No.	TYPE	
						REMOVE No.	TYPE	
1	S	131+45	LT.	68.75	12	1	RE-2A	S. END LT.
2	N	131+45	RT.	68.75	12	1	RE-2A	S. END RT.
3	S	131+45	LT.	68.75	12	1	RE-2A	N. END LT.
4	N	131+45	RT.	68.75	12	1	RE-2A	N. END RT.

STANDARD TYPES OF PAVEMENT MARKINGS

9001
04-03-01

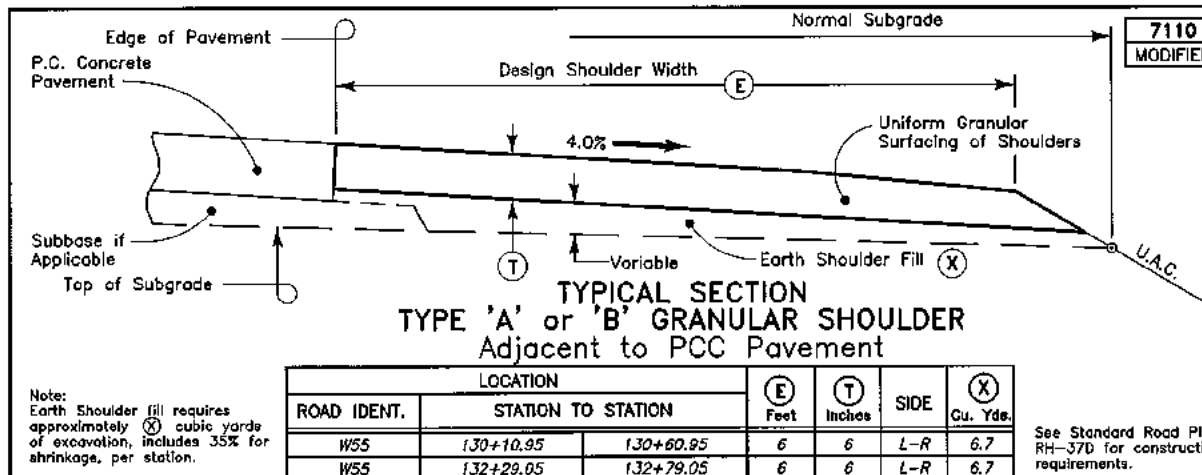


TABULATION OF GRADING FOR GUARDRAIL INSTALLATIONS

107-23
04-27-99

No.	DIRECTION OF TRAFFIC	Station	SIDE	TYPE	DIMENSIONS ②				CLASS 10 EXCAV. Δ	EMBANK. IN PLACE	PIPE		REMARKS
					BY Feet		Z Feet				Size	Type	
					A	T	A	T					
1	S.	130+06.80	LT.	1	-	7.4	-	48	97	-	-	S. END LT.	
2	N.	130+14.84	RT.	1	-	7.4	-	48	97	-	-	S. END RT.	
3	S.	132+75.16	LT.	1	-	7.4	-	48	97	-	-	N. END LT.	
4	N.	132+83.20	RT.	1	-	7.4	-	48	97	-	-	N. END RT.	

Δ INCLUDES 35% FOR SHRINKAGE



TRAFFIC CONTROL PLAN

THE PROJECT ROUTE WILL BE CLOSED TO TRAFFIC. TRAFFIC CONTROL DEVICES, PROCEDURES, AND LAYOUTS SHALL BE AS PER PART VI OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REVISION 3, DATED SEPTEMBER 3, 1993.

PLASTIC SAFETY FENCE SHALL BE PLACED ON BOTH SIDES OF THE BRIDGE SITE. IN ADDITION, A TYPE III BARRICADE SHALL BE PLACED IN ADVANCE OF THE PLASTIC SAFETY FENCE. A "ROAD CLOSED" SIGN (R-11-2, 48" x 30") SHALL BE PLACED ON EACH TYPE III BARRICADE ALONG WITH TWO TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS.

THE CRAWFORD COUNTY MAINTENANCE SHALL SALVAGE ALL ROAD MARKERS AFTER ROAD IS CLOSED.

THE BID ITEM "TRAFFIC CONTROL" SHALL INCLUDE THE COST FOR ALL TRAFFIC CONTROL MEASURES REQUIRED OF THE CONTRACTOR EXCEPT FOR THOSE WHICH ARE SEPARATE BID ITEMS OR ARE INCIDENTAL TO OTHER BID ITEMS.

THE GUARDRAIL INSTALLATION MUST BE COMPLETED BEFORE THE ROAD IS OPENED TO TRAFFIC.

ALL CONTRACTOR FURNISHED TRAFFIC CONTROL SIGNS USED ON THIS PROJECT SHALL BE SHEETED WITH ENCAPSULATED LENS SHEETING.

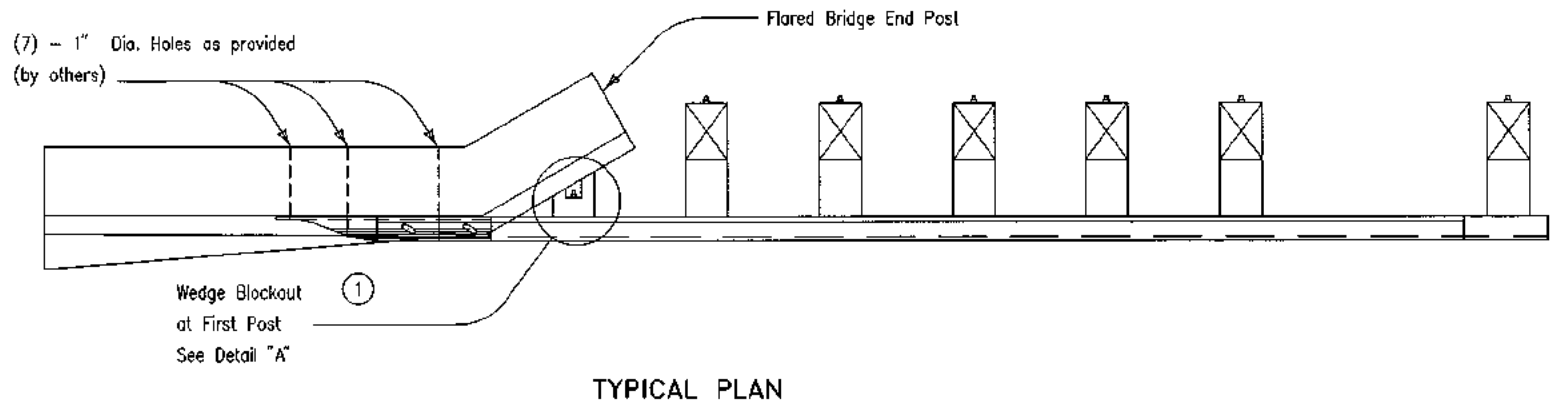
TYPE 'C' STEADY BURN WARNING LIGHTS ARE NOT REQUIRED FOR VERTICAL PANELS, BARRICADES, AND DRUMS WHEN THESE TRAFFIC CONTROL DEVICES ARE SHEETED WITH ENCAPSULATED LENS SHEETING.

125'-0 x 30'-6 CONTINUOUS CONCRETE SLAB BRIDGE

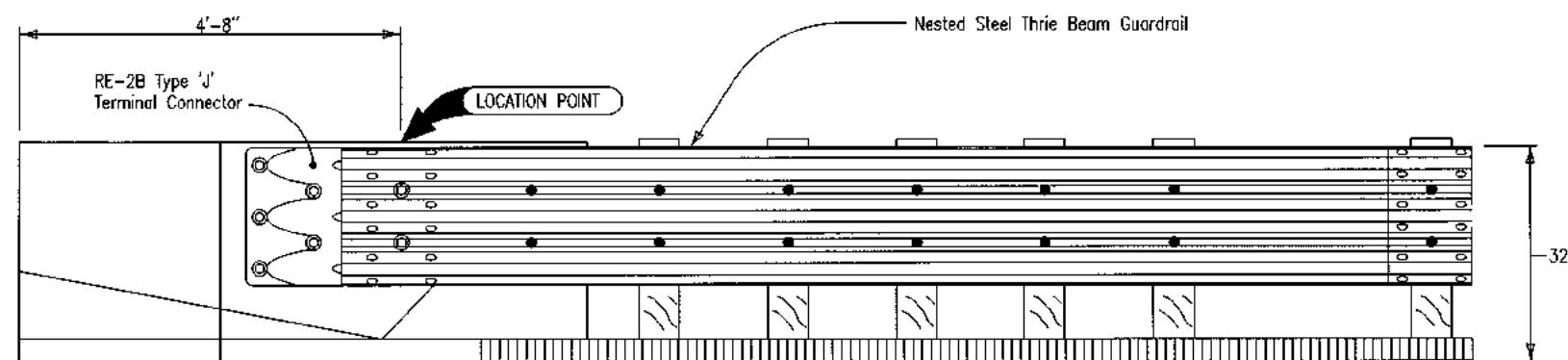
INTEGRAL ABUTMENTS 38'-0 END SPANS MONOLITHIC P10A PIERS 49'-0 INTERIOR SPAN

TABULATIONS

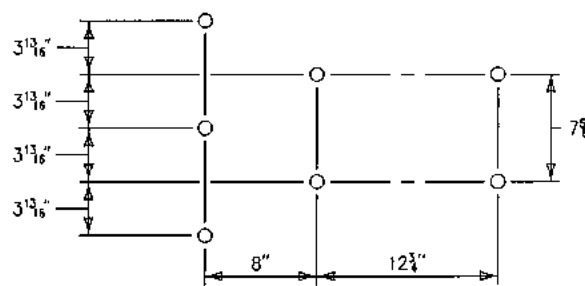
STATION 131+45.00 15' SKEW, RT. AHEAD CRAWFORD COUNTY, IOWA



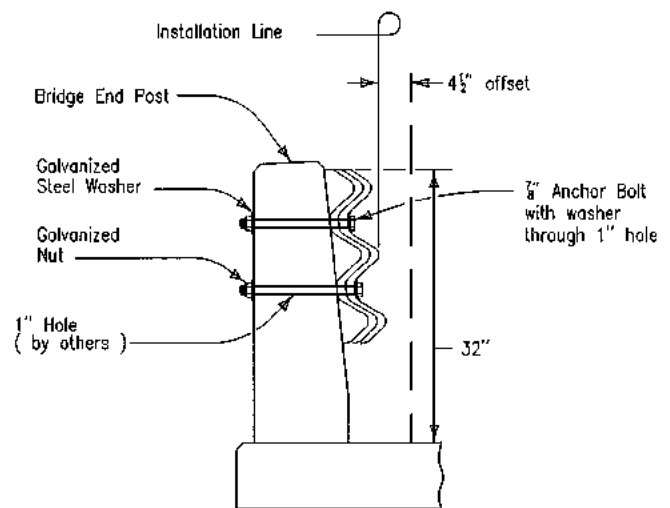
TYPICAL PLAN



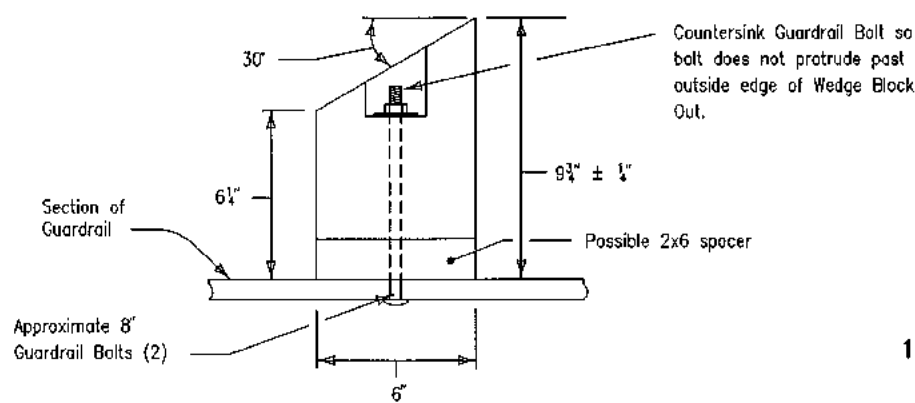
TYPICAL ELEVATION



BOLT PATTERN
For RE-2B Type "J" Terminal Section



SECTION A-A



DETAIL "A"

GENERAL NOTES:

This plan illustrates the method of attaching thrie beam guard-rail to a flared bridge endpost or a flared concrete barrier end-post.

Horizontal and vertical alignment of the guardrail in the area immediately adjacent to the connection shall be adjusted to a smoothly curved line with no abrupt changes.

The anchor bolts shall conform to requirements of ASTM F-1554, Grade 55, threaded full length, and be galvanized. Threads may be chased after galvanizing. Washers shall conform to requirements of ASTM F-436 and be galvanized. Nuts shall conform to requirements of ASTM A-563 DH and be galvanized. These materials shall be galvanized in compliance with ASTM A-153, Class C.

The price bid for "Guardrail, End Anchorages, Beam, RE-69" each shall be considered full compensation for furnishing all materials listed below and the construction of the end anchorage as detailed herein.

LIST OF MATERIALS FOR THE RE-69 END ANCHORAGE:

- (1) - RE-2B Type 'J' Terminal Connector.
 - (7) - Approved 3/8" x Sufficient length H.S. Hex Bolts.
 - (7) - Approved 7/8" H.S. Hex Nuts.
 - (14) - Approved 1 5/16" I.D., 2-1/4" O.D., 5/32" Thick Washers.
- ① First post shown on RE-68 is skipped. Only the wedge blockout is installed at this location.

For additional information see Standard Road Plan RE-2B and RE-68.

125'-0 x 30'-6 CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
38'-0 END SPANS
(MODIFIED RE-69) GUARDRAIL INSTALLATION CONNECTION TO FLARED BRIDGE ENDPOST OR CONCRETE BARRIER
STATION 131+45.00
CRAWFORD COUNTY, IOWA

MONOLITHIC P10A PIERS
49'-0 INTERIOR SPAN
15' SKEW, RT. AHEAD
IOWA