

12c

Project Number: BR-SWAP-C097(146)-FF-97

INDEX OF SHEETS

No.	Description
1	TITLE SHEET
2	LOCATION MAP
3	ESTIMATE OF QUANTITIES AND REFERENCE INFORMATION
4	GENERAL NOTES
5	TABULATIONS
6	PLAN VIEW
7	PROFILE VIEW
8	SITUATION PLAN
9-12	ROADWAY CROSS SECTIONS

ROAD STANDARD PLANS

The following Standard Plans shall be considered applicable to construction work on this project.

Identification	Date	Identification	Date	Identification	Date
EW-101	10-17-17	TC-252	04-21-20		
EW-401	10-20-15				
EW-402	04-18-17				
PM-110	04-21-20				
PR-101	04-19-22				

RCB STANDARD PLANS

(May be obtained at Woodbury County Engineer Office)

Standard	Date Issued	Date Revised	Standard	Date Issued	Date Revised
TRRCB 01-20	JULY, 2020		TRRCB 30-3-20	JULY, 2020	
TRRCB 02-20	JULY, 2020		TRRCB 30-4-20	JULY, 2020	
TRRCB 03-20	JULY, 2020		TRRCB 30-5-20	JULY, 2020	
TRRCB 12-8-20	JULY, 2020		TRRCB 30-8-20	JULY, 2020	
TRRCB 30-1-20	JULY, 2020				
TRRCB 30-2-20	JULY, 2020				

BRIDGE REPLACEMENT RCB CULVERT

PROJECT NO: BRS-SWAP-C097(146)-FF-97

WOODBURY COUNTY

Letting Date May 17 2022.

**SECTION 404 PERMIT AND CONDITIONS**

CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF THE U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NO 14 CSRW-80-2022-1410. A COPY OF THIS PERMIT IS AVAILABLE FROM THE IOWA DOT WEBSITE (<http://dot.iowa.gov/permits>) THE US ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.

Project Development Division  
PLANS OF PROPOSED IMPROVEMENT ON THE

# FARM-TO-MARKET SYSTEM WOODBURY COUNTY

## BRIDGE REPLACEMENT RCB CULVERT

### PROJECT NO: BRS-SWAP-C097(146)-FF-97

UTILITY CONTACTS

WESTERN IOWA TELEPHONE, 202 CEDAR STREET  
LAWTON, IA 51030 - 712-670-1290 - PHIL ROBINSON

WOODBURY COUNTY REC, 1405 HUMBOLDT AVE  
MOVILLE, IA 51038 - 712-670-1021 - NATIE BAUER

REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS.

ON D12, OVER OVER CREEK, FROM BARKER AVE,  
EAST 0.08 MILES IN SECTION 7, T89N, R16W.

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, LAYOUTS, AND SIGNING 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.

ALL SAFETY CLOSURES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR.

MAINTENANCE OF SIGNS, BARRICADES AND SAFETY CLOSURES AS STATED BY ARTICLE 1107.09 SHALL APPLY ON THIS PROJECT.

ROAD CLOSURES ON THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH ROAD STANDARD TC-252. GUARDRAIL INSTALLATION MUST BE COMPLETE BEFORE THE ROAD IS OPENED TO TRAFFIC.

WOODBURY COUNTY WILL BE RESPONSIBLE FOR DETOUR ROUTE

REFER TO SHEET 2 FOR LOCATION MAP

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.

Signature Date

Mark J. Nahra  
Printed or Typed Name

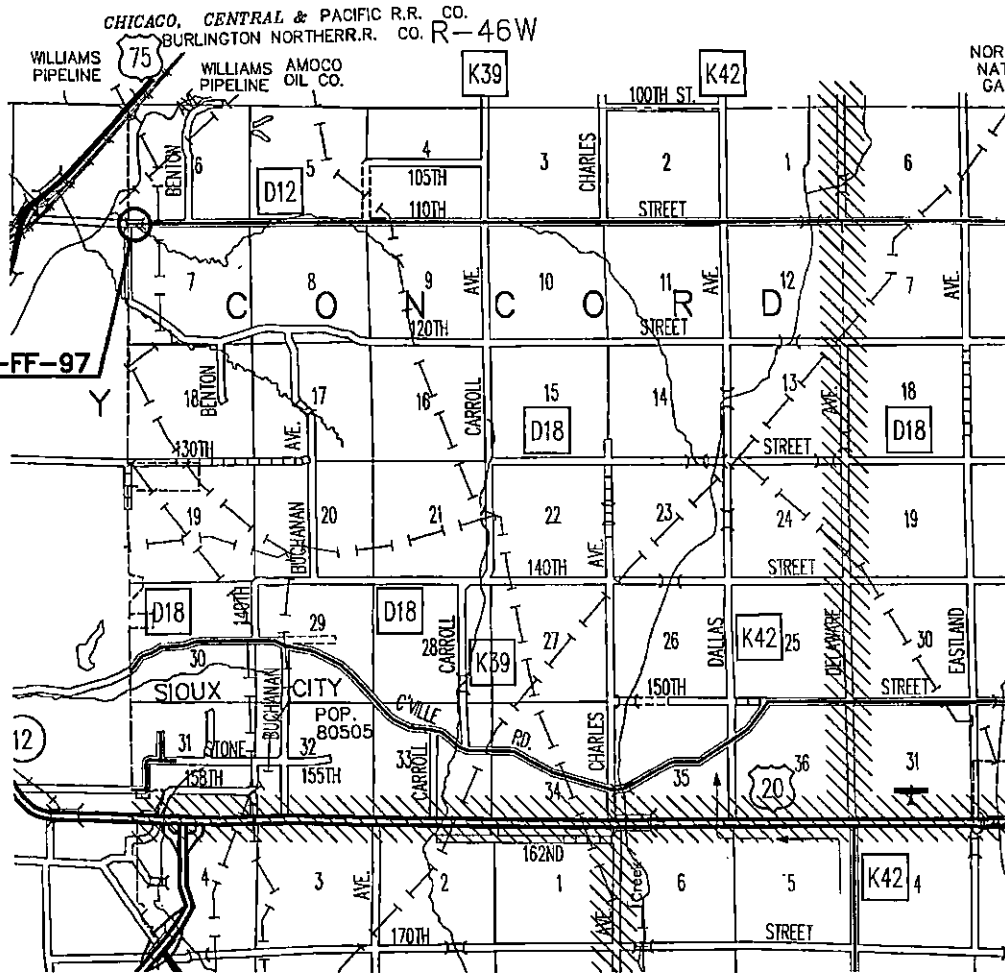
My license renewal date is December 31, 2022  
Pages of sheets covered by this seal:  
Pages 1, thru 12



2019 AADT 200 V.P.D.



**BRS-SWAP-CO97(146)---FF-97**  
**BRIDGE REPLACEMENT,**  
**FWHA #355190**  
**STA. 9+25.00 TO**  
**STA. 11+25.00**



T-89N

Location Map Scale: 1"=1 Mile



WOODBURY COUNTY  
 ENGINEERS OFFICE

DATE:	
REVISION:	
DATE:	
APPROVED BY:	
MIN:	
DESIGNED BY:	
EIK:	
DRAWN BY:	
BSS:	

PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 110TH ST. (D12)  
 SEC. 7-T89N-R46W CONCORD TOWNSHIP

SHEET DESCRIPTION: LOCATION MAP

PROJECT NO. BRS-SWAP-CO97(146)-FF-97  
 SHEET

### ESTIMATED QUANTITIES

No.	ITEM CODE	ITEM	UNIT	TOTAL
1.	2101-0850001	CLEARING AND GRUBBING	ACRE	0.28
2.	2102-0425070	SPECIAL BACKFILL	TON	284
3.	2102-2825000	EMBANKMENT-IN-PLACE	C.Y.	504
4.	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	C.Y.	89
5.	2104-2710020	EXCAVATION CLASS 10, CHANNEL	C.Y.	468
6.	2116-0100000	MODIFIED SUBBASE	C.Y.	86.42
7.	2121-7426020	GRANULAR SHOULDERS, TYPE B	TON	208
8.	2301-1033000	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 8 IN.	SQ. YD.	489
9.	2401-6745825	REMOVAL OF EXISTING BRIDGE	L.S.	1
10.	2402-2720000	EXCAVATION, CLASS 20	C.Y.	2,075
11.	2403-0100020	STRUCTURAL CONCRETE (RCB CULVERT)	C.Y.	326.99
12.	2404-7775000	REINFORCING STEEL	LB.	50,987
13.	2417-0330024	APRONS, SAFETY SLOPE, 24 IN DIA	EACH	1
14.	2417-1060024	CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.	LIN. FT.	58
15.	2418-0000010	TEMPORARY STREAM DIVERSION	EACH	1
16.	2510-8745850	REMOVAL OF PAVEMENT	SQ. YD.	468.0
17.	2519-3280000	FENCE, FIELD	LIN. FT.	130
18.	2519-3300400	FIELD FENCE BRACE PANELS	EACH	5
19.	2527-9283109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA.	4.6
20.	2528-2518000	SAFETY CLOSURE	EACH	2
21.	2528-8446110	TRAFFIC CONTROL	L.S.	1
22.	2533-4980005	MOBILIZATION	L.S.	1
23.	2601-2634100	MULCHING	ACRE	0.60
24.	2601-2836043	SEEDING AND FERTILIZING (RURAL)	ACRE	0.60

#### CONCRETE AND REINFORCING STEEL SUBTOTALS FOR TWIN 12'x8'x84' RCB CULVERT

LOCATION	CONCRETE QUANTITIES, C.Y.				REINFORCING STEEL, LBS.
	FLOOR	WALLS	SLAB	TOTAL	
HEADWALL	41.30	13.90	3.0	58.20	7,966
84' BARREL	84.67	53.09	72.83	210.59	34,865
HEADWALL	41.30	13.90	3.0	58.20	7,966
CONST--JOINTS	95		95		190
<b>TOTALS</b>	<b>167.27</b>	<b>80.89</b>	<b>78.83</b>	<b>326.99</b>	<b>50,987</b>

#### ESTIMATE REFERENCE INFORMATION THE DATA BELOW IS FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT CONSTITUTE A BASIS FOR ANY EXTRA WORK ORDERS.

- This bid item includes removal of trees, field fence, rubbish and woody plants within the Project Limits. Contractor shall have written permission before burning grubbed materials on private property. No burning of grubbed materials inside project limits allowed.
- Special Backfill shall be placed under the Reinforced Box Culvert 12" deep. The material shall be compacted utilizing a smooth roller or vibrating plate to the satisfaction of the County Engineer. The lower 9" shall consist of material meeting specifications for gradation 14 while the final 3" shall consist of material meeting specifications for gradations 1 or 32 as set forth by the Iowa DOT Standard Specifications for Highway and Bridge Construction
- See tabulation Wood-100 on sheet 4 for breakdown of cut and fills. Type "A" compaction is required. After all material has been depleted, the contractor all remaining material required. The contractor shall furnish his own borrow material for "Embankment-In-Place". No payment for overhaul shall be made on this project
- Bid item shall include the removal and disposal of the existing single span continuous slab bridge at station 10 + 25. The structure is a 32' long and 30' wide with timber pile abutments and backing plank. All substructure shall be removed to a minimum of 2'-0" below finished ground. All bridge items that are removed shall become the property of the contractor and shall be disposed of off the project site according to applicable Federal, State, and Local regulations. Laboratory results show no traces of asbestos. Test Results for lead and chromium can be found on Sheet 4.
- Includes all labor, equipment and incidentals required for the excavation relating to culvert construction. The quantity shown is based on existing undisturbed conditions. Includes costs of using suitable Class excavation to backfill the culvert in accordance with Section 2107 of the Standard Specifications and/or for construction elsewhere on this project. See tabulation Wood-100 on sheet 4 for breakdown of cut and fills.
- Aggregate shall be Class 2 durability. Itemized concrete placement quantities are indicated below the estimated project quantities. Concrete shall be class "C-4". Certified Plant inspection is required.
- See sheet 6 for placement details. Pipe shall be 2 $\frac{3}{4}$ 'x $\frac{1}{2}$ ' corrugations and shall be 14 gauge. Subgrade shall be compacted and inspected prior to placement of the pipe.
- Temporary Stream Diversion as per Standard Plan EW-402. Stream shall be diverted by pumping, no diversion of channel will be allowed.
- Removal of existing 8" HMA pavement with 6" of Asphalt Treated Base, see tabulation on sheet 5. Saw cuts are to be made at the station indicated or as directed by the Engineer.
- This item shall be full compensation for placement of new 4 strand barbed wire fence. New fence shall be installed alternating between steel and wood fence posts. See sheet 5 for tabulation.
- Standard Road Plan MI-103 shall be used as construction guide. Two brace panels are required at each end of new fencing.
- See tabulation on sheet 5, the contractor shall use a 2 gun painting system.
- This bid item shall include providing, installing, maintaining and removing safety closures according to IDOT Standard Standard Road Plan TC-252.
- This bid item shall include all transportation costs associated with the movement by the contractor and their equipment.
- Mulching is intended to cover seeding on reconstructed slopes and ditches.
- The Contractor shall verify with the Engineer all areas to be seeded prior to commencing any work in this item.

WOODBURY COUNTY  
ENGINEERS OFFICE

DATE	DATE
DESIGNED BY	APPROVED BY
DRAWN BY	DATE

PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 110TH ST. (D12)  
SEC. 7-T89N-R46W CONCORD TOWNSHIP

SHEET DESCRIPTION: ESTIMATE OF QUANTITIES AND  
REFERENCE INFORMATION

PROJECT NO.  
893-SHAP-COBY(140)-1747

SHEET  
3

**GENERAL NOTES:**

CONTRACTOR IS TO USE CARE IN WORKING AROUND AND OVER ALL TILE LINES. BREAKS IN THE TILE LINES DUE TO THE CONTRACTOR'S CARELESSNESS ARE TO BE REPLACED AT HIS EXPENSE WITHOUT COST TO WOODBURY COUNTY. ANY TILE LINES BROKEN OR DISTURBED BY CUT LINES WILL BE REPLACED AS DIRECTED BY THE ENGINEER IN CHARGE OF CONSTRUCTION AT WOODBURY COUNTY'S EXPENSE.

A UTILITY ONE CALL (1-800-292-6989) WILL BE MADE BY THE CONTRACTOR WITHIN 30 DAYS OF RECEIVING A SIGNED CONTRACT AND NO LESS THEN 10 WORKING DAYS BEFORE BEGINNING THE PROJECT. THE CONTRACTOR WILL NOTIFY THE WOODBURY COUNTY ENGINEER'S OFFICE WITH THE ONE CALL UTILITY MEETING TIME.

CONTRACTOR IS RESPONSIBLE FOR CLEANING UP AREAS OF THE PROJECT AS WORK PROGRESSES. ALL RUBBISH, EXCESS MATERIALS, EQUIPMENT, DEBRIS, AND GRUBBED MATERIALS SHALL BE CLEANED UP AND REMOVED FROM THE WORK AREAS PRIOR TO ACCEPTANCE OF THE PROJECT.

**DESIGN STRESSES**

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2015, REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60, CONCRETE IN ACCORDANCE WITH SECTION 8,  $f_c = 3,500$  psi.

**SPECIFICATIONS**

DESIGN: A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2015, AND ALL CURRENT REVISIONS.

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES OF 2015, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

**SCHEDULE OF OPERATION**

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, PRIOR TO THE PRECONSTRUCTION CONFERENCE, A WRITTEN SCHEDULE FOR PERFORMANCE OF THE WORK ITEMS. THE SCHEDULE SHALL BE IN THE FORM OF A BAR GRAPH OR CHART SHOWING STARTING AND COMPLETION DATES FOR THE ITEMS. THE CONTRACTOR SHALL THEN MAKE EVERY EFFORT TO CONFORM TO THE ACCEPTED SCHEDULE.

**CULVERT GENERAL NOTES**

DESIGNED FOR A FILL HEIGHT OF 7'.

THE REINFORCEMENT SUPPLIED FOR THIS STRUCTURE SHALL BE GRADE 60 REINFORCING STEEL IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

METAL BAR CHAIRS SPACED AT NOT OVER 3'-0" C-C IN EITHER DIRECTION ARE TO BE USED TO SUPPORT ALL SLAB AND FLOOR STEEL AS OUTLINED IN THE STANDARD SPECIFICATIONS (ARTICLE 2404.07).

THE CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR EDGE OR END OF REINFORCING BAR SHALL BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE THE CONCRETE IS POURED (ARTICLE 2404.06).

FLOOR OF BARREL SHALL BE FINISHED SMOOTH. SIDE OF FOOTING SHALL BE FORMED TO INSURE CORRECT LINE AND GRADE.

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

THE PERMISSIBLE CONSTRUCTION JOINT AT THE TOP OF THE WALLS MAY BE LOWERED.

232-8  
10-18-11

**EROSION CONTROL  
(DISTURBED AREAS)**

ENSURE THE TOP 6 INCHES OF THE DISTURBED AREAS ARE FREE OF ROCK AND DEBRIS AND ARE SUITABLE FOR THE ESTABLISHMENT OF VEGETATION, SUBJECT TO THE ENGINEER'S APPROVAL.

**EROSION CONTROL  
(RURAL SEEDING)**

FOLLOWING THE COMPLETION OF WORK, PLACE SEED, FERTILIZER, AND MULCH ON THE PORTION OF THE AREA LYING WITHIN THE COUNTY RIGHT OF WAY AS FOLLOWS:

SEEDING:  
PERMANENT SEEDING FOR RURAL AREA AS PER THE IDOT CURRENT SPECIFICATIONS.  
FERTILIZER:  
17 LBS. OF 13-13-13 (OR EQUIVALENT) COMMERCIAL FERTILIZER PER 1000 SQ. FT.

MULCH:  
70 LBS. OF DRY CEREAL STRAW PER 1000 SQ. FT. CONSOLIDATE ALL MULCH INTO THE SOIL USING A MULCH STABILIZER.

PREPARING THE SEEDBED AND FURNISHING AND APPLYING SEED, FERTILIZER, AND MULCH IS INCIDENTAL TO MOBILIZATION. NO EXTRA COMPENSATION WILL BE ALLOWED.

271-9  
09-27-94

**DEMOLITION  
(BRIDGE REMOVAL)**

A SCRAPE SAMPLE WAS TAKEN FROM TWO AREAS OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE OF THE LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. ANALYSIS OF TOTAL LEAD ON THIS SAMPLE WERE 43,000 PARTS PER MILLION (PPM). ANALYSIS OF TOTAL CHROMIUM ON THESE SAMPLES WERE 12 PPM. THESE ANALYSES SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER CONSTITUENTS WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE DEPARTMENT'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. AN ASBESTOS INSPECTION WAS CONDUCTED AND THE RESULTS WERE NEGATIVE.

**SUMMARY OF EARTHWORK QUANTITIES**

Wood-100

EXCAVATION TYPE	RAW	RAW	WASTE	USABLE	SHRINKAGE FACTOR	FILL + 40% SHRINKAGE	PAYMENT
	CUT	FILL	*****	CUT		CY	QUANTITY
	CY	CY	CY	CY		CY	CY
EXCAVATION TO ROADWAY AND BORROW	89	957	0	89	40%	1,340	89
EXCAVATION TO CHANNEL	488	175	188	300	40%	245	488
EXCAVATION 2D	2,075	722	575	1,500	40%	1,010	2,075
TOTALS				1,889	40%	2,595	

EMBANKMENT IN PLACE (EIP) EIP = (2,595 - 1,889) / 1.40 SHRINK = 504

WOODBURY COUNTY  
ENGINEERS OFFICE

DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

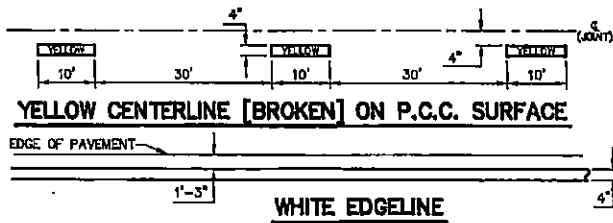
PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 110TH ST. (D12)  
SEC. 7-189N-R4RW CONCORD TOWNSHIP

SHEET DESCRIPTION: GENERAL NOTES

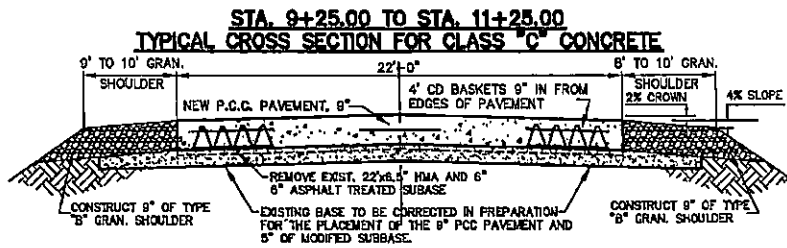
PROJECT NO. 818-SHA-P-CO071(4)-FT-07  
SHEET

TABULATION OF PAVEMENT MARKINGS						
LOCATION	SIDE	LENGTH IN STATIONS				
		SOLID WHITE EDGE LINE	YELLOW CENTER LINE BROKEN	YELLOW CENTER LINE SOLID	STOP BAR SOLID WHITE LINE	
STATION TO STATION	LT. RT.					
STA. 9+25.00 TO 11+25.00	X	2.0				
STA. 9+25.00 TO 11+25.00	X	2.0				
STA. 9+25.00 TO 11+25.00	X		0.50			
TOTALS		4.0	0.50			4.5

REMOVAL OF PAVEMENT							110-1 04-16-13
* Not a Bid Item							
Begin Station	End Station	Side	Payment Type	Area	Saw Cut <sup>a</sup>	Remarks	
				SY	LF		
9+25.00	11+25.00	LT	HMA	244.44	11	See Cross Section this sheet.	
9+25.00	11+25.00	RT	HMA	244.44	11	See Cross Section this sheet.	



TABULATION OF SAFETY CLOSURES					108-13A 10-22-07
Refer to Section 2518 of the Standard Specifications					
Station	Closure Type		Remarks		
	Road	Hazard			
7+00	1.0				
33+70	1.0				
Totals	2.0				



WOODBURY COUNTY  
ENGINEERS OFFICE

DATE: \_\_\_\_\_  
 REVIEW: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_

PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 110TH ST. (D12)  
 SEC. 7 T86N R48W CONCRD TOWNSHIP

SHEET DESCRIPTION: TABULATIONS

PROJECT NO.  
 BR3 SHW-CO07(14)-FF-01

SHEET  
 5

CONCORD  
T89N

TOWNSHIP  
R46W

SEC. 6

SEC. 7

STATION 8+15

SMALL FAMILY FARM, LLC  
4629 46TH ST  
SIOUX CITY, IA 51108

75'  
STA. 10+55.00 CONTRACTOR TO  
CONSTRUCT A TWIN 12"x8' RCB  
CULVERT ON A 30' SKEW RT.  
AHEAD CLASS 20 = 2,075 CU YD

BEGINNING OF PROJECT  
STA. 9+25

R.O.W.

TEMPORARY EASEMENT

EXISTING DRIVEWAY  
TO BE USED AS BUILT

STA. 11+00.00 CONTRACTOR TO  
INSTALL A 24"x56' CMP ROADWAY

END OF PROJECT  
STA. 11+25

R.O.W.

R.O.W.

P.I. STA. 7+06.71  
 $\Delta = 02^{\circ}56'00.00"$  LT.  
 $D_0 = 00^{\circ}29'59.87"$   
 $T = 293.42'$   
 $R = 11460.00'$   
 $L = 586.71'$   
 $E = 3.76'$

60'

EXISTING DRIVEWAY  
TO BE USED AS BUILT

STATION 9+00

TEMPORARY EASEMENT  
DERRILL TOWNLEY REVOCABLE TRUST  
1414 110TH ST.  
SIOUX CITY, IA 51108

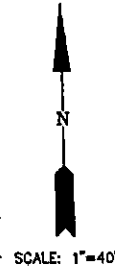
R.O.W.

STATION 12+00

CP

110TH STREET (012)

WESTERN IOWA TELEPHONE  
UTILITY POLES



WOODBURY COUNTY  
ENGINEERS OFFICE

DATE	
REVISION	
APPROVED BY:	
DESIGNED BY:	
DRAWN BY:	

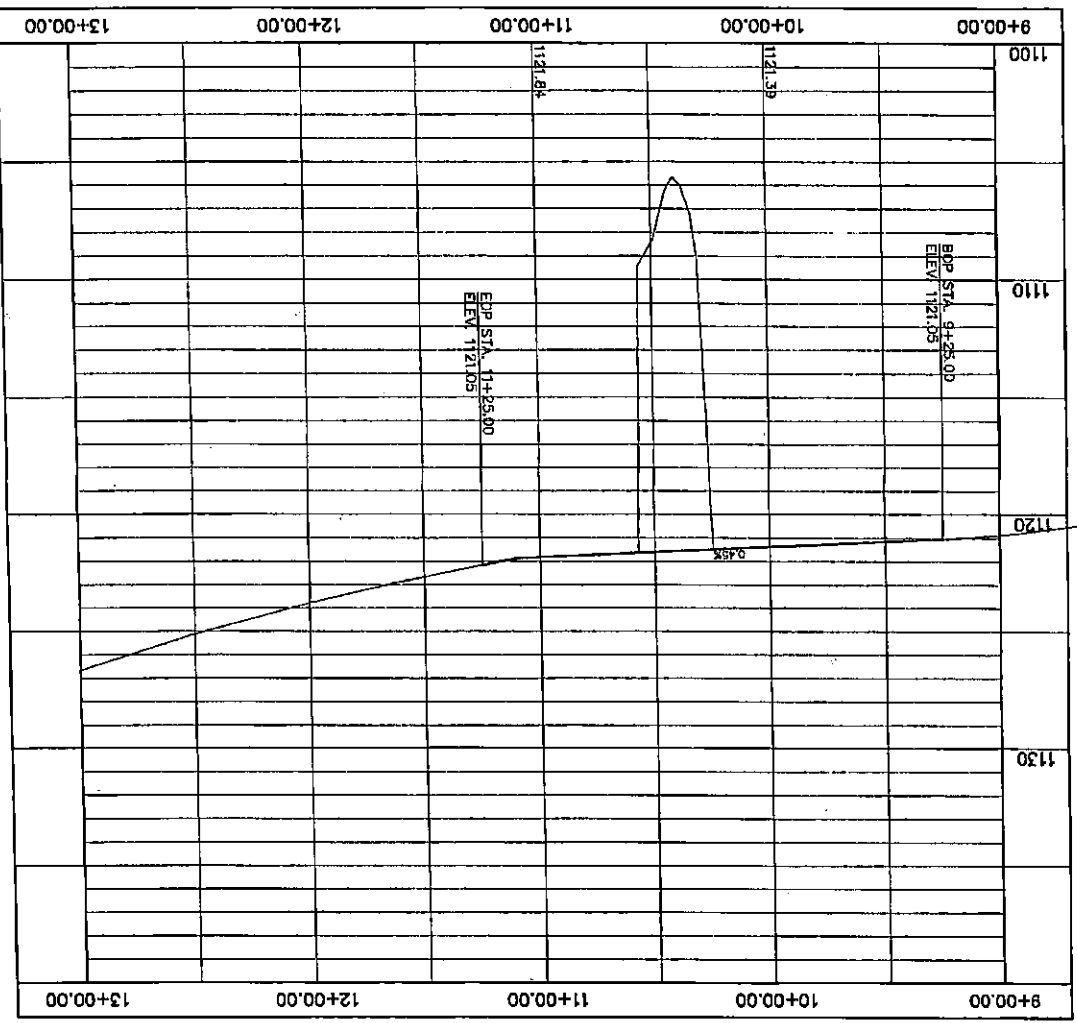
PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 110TH ST. (D12),  
SEC. 7 T89N R46W CONCORD TOWNSHIP

SHEET DESCRIPTION: PLAN VIEW

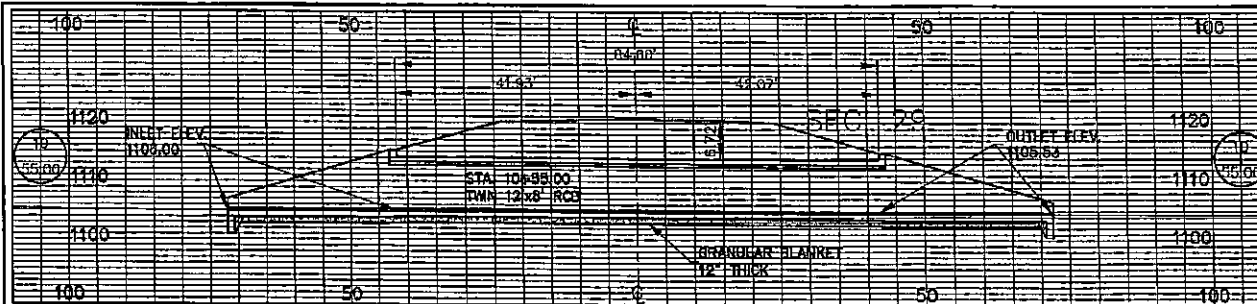
PROJECT NO.  
205-SWAP-CORR(145)-FF-#1

SHEET  
6

CONTROL POINT #1: NORTHING 3675264.079, EASTING 4158316.716, ELEVATION 1119.308'  
CONTROL POINT #2: NORTHING 3675291.685, EASTING 4158752.910, ELEVATION 1119.047'



7	SHEET	PROJECT NO. 88-6M/RP/007R(4)T-7
PROJECT DESCRIPTION: BRIDGE REPLACEMENT ON 110TH ST. (D12) SEC. 7 T89N R46W CONCORD TOWNSHIP SHEET DESCRIPTION: PROFILE VIEW		
DESIGNED BY: _____	DATE: _____	<b>WOODBURY COUNTY</b> ENGINEERS OFFICE
CHECKED BY: _____	REVISION: _____	
APPROVED BY: _____	DATE: _____	
DATE: _____	DATE: _____	



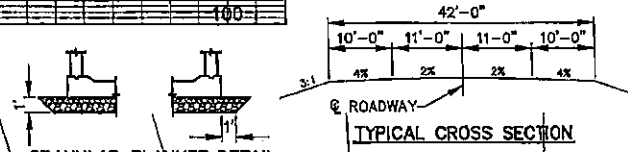
LOCATION  
 WOODBURY COUNTY  
 T89N, R46W, SECTION 7  
 CONCORD TOWNSHIP OVER UNNAMED CREEK

HYDRAULIC DATA  
 DRAINAGE AREA = 3.03 SQ. MI.  
 STREAM SLOPE = 30.6 FT./MI.

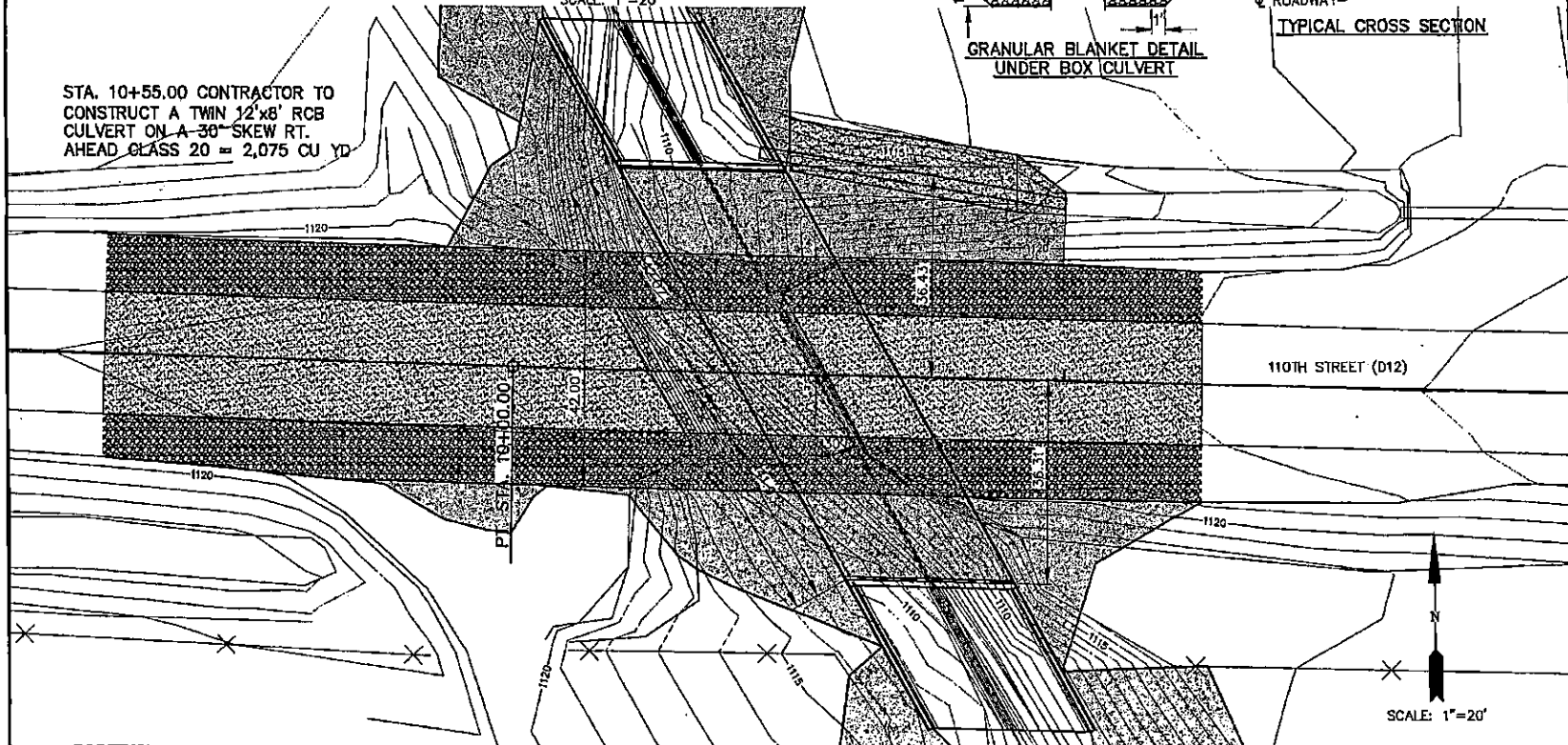
Q10 = 1,200 CFS    Q25 = 1,790 FS  
 Q50 = 2,230 CFS    Q100 = 2,720 CFS  
 STAGE = 1,116.64

**LONGITUDINAL SECTION OF TWIN 12'x8' RCB  
 ON A 30° SKEW RT. AHEAD**

ALL DIMENSIONS ARE ALONG THE SKEW  
 SCALE: 1"=20'



STA. 10+55.00 CONTRACTOR TO  
 CONSTRUCT A TWIN 12'x8' RCB  
 CULVERT ON A 30° SKEW RT.  
 AHEAD CLASS 20 = 2,075 CU YD



**WOODBURY COUNTY  
 ENGINEERS' OFFICE**

PROJECT NO. BRIDGE REPLACEMENT ON 110TH ST. (D12) SEC. 7 T89N R46W CONCORD TOWNSHIP	SHEET DESCRIPTION SITUATION PLAN
PROJECT NO. BRIDGE REPLACEMENT ON 110TH ST. (D12) SEC. 7 T89N R46W CONCORD TOWNSHIP	SHEET 8

DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_



