

AS-BUILT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

F.A. ROUTE 840 (ILL. ROUTE 49)
SECTION 121BR
PROJECT BRF-840(28)
VERMILION COUNTY
C-95-187-90

BRIDGE REPLACEMENT

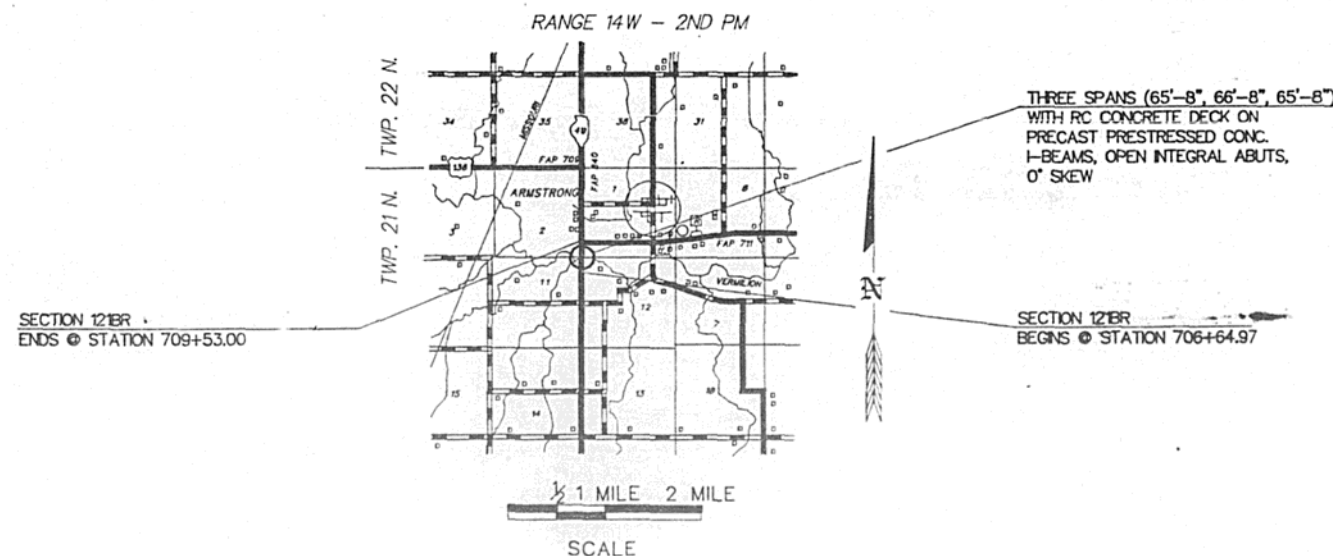
FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

CONTRACTOR:

Newell Const. Co., Inc.
P.O. Box 1097
Danville, IL 61832

RE: E. BLANK

CONSTRUCTION BEGAN: 6-7-93
COMPLETED: 10-28-94



NET LENGTH OF SECTION 121BR = 288 FEET = 0.055 MILES

ROUTE #	SECTION	COUNTY	TOTAL	SHEET #
FA 840	121BR	VERMILION	20	1
*				

* PROJ. BRF-840(28)
D-95-003-90



LOCATION OF SECTION INDICATED THUS: [Symbol]

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED July 23 19 92
EXAMINED _____ 19 ____
PASSED Dec. 11 19 92
APPROVED Dec. 11 19 92

DISTRICT ENGINEER
ENGINEER OF PLANS AND CONTRACTS
ENGINEER OF DESIGN
DISTRICT DIVISION OF HIGHWAYS

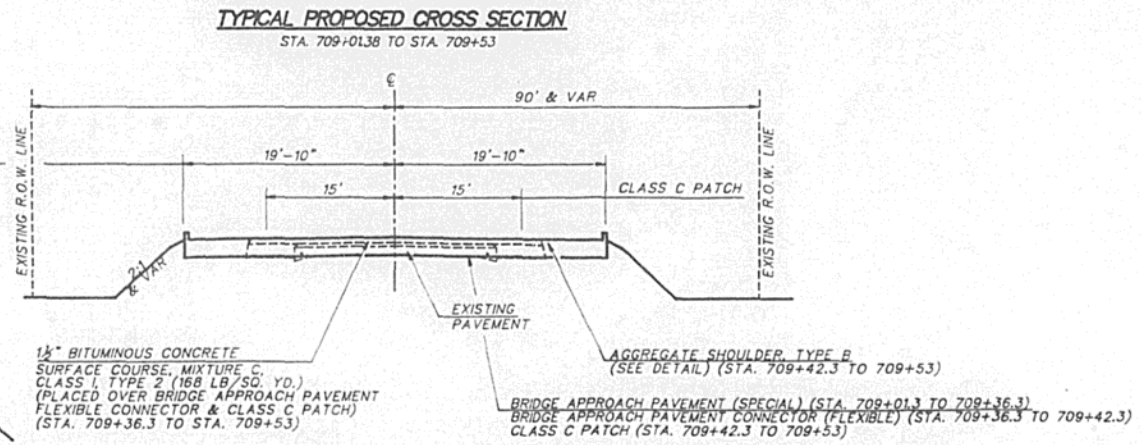
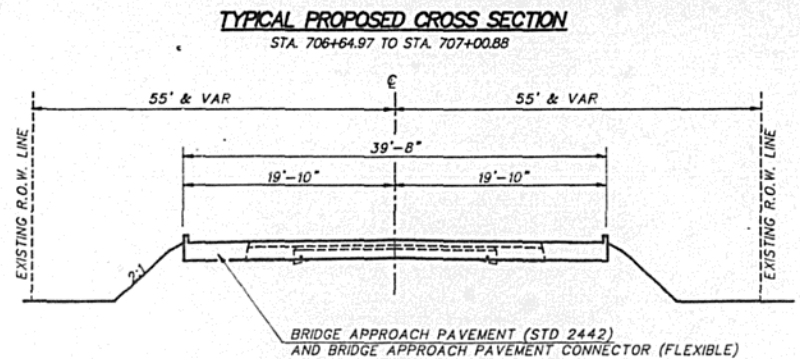
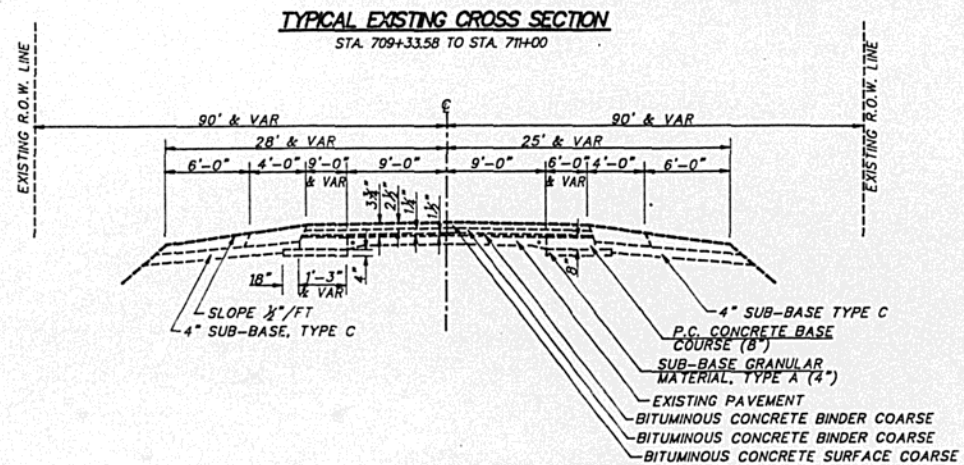
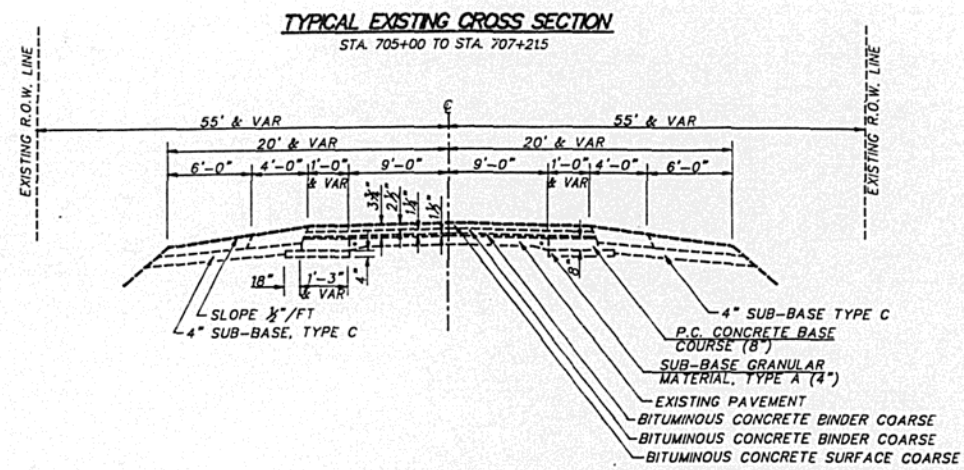
TOLL FREE JILLIE TELEPHONE NO.
1-800-892-0123



I hereby certify that these plans were
prepared by me or under my direct personal
supervision, and that I am a duly registered
structural and professional engineer under
the laws of the State of Illinois.

Robert L. McClintock DATE: 7/16/92
Robert L. McClintock S.E. #3137
LICENSE EXPIRES 11-30-92 P.E. #24158

ROUTE #	SECTION	COUNTY	TOTAL	SHEET #
FA 840	121BR	VERMILION	20	2



INDEX OF SHEETS

SHEET NO.	ITEM
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2	TYPICAL CROSS - SECTIONS, INDEX OF SHEETS, SIGNATURE BLOCK
3	SUMMARY OF QUANTITIES, GENERAL NOTES
4	PLAN & PROFILE SHEET
5 - 16	STRUCTURE PLANS
17	BRIDGE APPROACH PAVEMENT (2442 SPECIAL)
18	BRIDGE APPROACH PAVEMENT (STANDARD 2442 MODIFICATIONS)
19	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR ROAD CLOSURE
20	STATION CROSS SECTIONS

STANDARDS

1686-4	STANDARD SYMBOLS AND ABBREVIATIONS
2113-2	DETAILS FOR NAME PLATES FOR BRIDGES
2230-16	STEEL PLATE BEAM GUARD RAIL (2 SHEETS)
2298-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (2 SHEETS)
2299-13	DESIGN OF TRAFFIC CONTROL DEVICES
2300-3	FLAGMAN TRAFFIC CONTROL SIGN
2302-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
2303-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
2306-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
2307-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
2308-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (2 SHEETS)
2336-4	TRAFFIC BARRIER TERMINAL TYPE 1 & 1A (2 SHEETS)
2341-5	TRAFFIC BARRIER TERMINAL TYPE 6 (2 SHEETS)
2381	EROSION CONTROL
2396	TYPICAL PAVEMENT MARKINGS
2427-1	CLASS C AND D PATCHES
2442 -1	BRIDGE APPROACH PAVEMENT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE

REVIEWED BY: *Phillip A. Ingeler*
ENGR. IN CHARGE OF DESIGN
7-23-92
DATE: *Raymond L. D'Amico*
DISTRICT CONSTRUCTION ENGR.
EXAMINED BY: *C. Thomas Egan*
ENGR. IN CHARGE OF MAINTENANCE
Phillip A. Ingeler
ENGR. IN CHARGE OF PLANNING
C. Thomas Egan
DISTRICT TRAFFIC ENGR.
Robert D. Bailey
DISTRICT ENGINEER OF MATERIALS

Current date is Thu 07-03-1992
Current time is 1:32:28.07p

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY	APPROACHES SFTY-3Q	BRIDGE X081/2B
20700100	EMBANKMENT	CU YD	1785.0	1785.0	
20900200	POROUS GRANULAR EMBANKMENT	CU YD	122 136.0		122 136.0
21501200	AGGREGATE SHOULDERS, TYPE B	TON	2.0	2.0	
40500100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	10.0 5	10.0 5	
40600840	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE C, CLASS I, TYPE 2	TON	5.0 5.7	5.0 5.7	
40801160	BRIDGE APPROACH PAVEMENT (STANDARD 2442)	SQ YD	126.0	126.0	
40801300	PROTECTIVE COAT	SQ YD	272.0	272.0	
40801340	BRIDGE APPROACH PAVEMENT (STANDARD 2442 SPECIAL)	SQ YD	146.0	146.0	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.0	1.0	
50200100	STRUCTURE EXCAVATION	CU YD	88 68.0		88 68.0
50300100	FLOOR DRAINS	EACH	24.0	24.0	
50300250	CLASS X CONCRETE SUPERSTRUCTURE	CU YD	268.8	268.8	
50300300	PROTECTIVE COAT	SQ YD	167.0	167.0	
50400300	CLASS X CONCRETE	CU YD	115.1	115.1	
50500800	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 36 IN.	LIN FT	1390.0	1390.0	
51200200	REINFORCEMENT BARS, EPOXY COATED	POUND	64550.0	64550.0	
51301100	FURNISHING METAL PILE SHELLS 14"	LIN FT	1699.0 1365	1365 1699.0	
51302600	DRIVING AND FILLING SHELLS	LIN FT	1699.0 985	985 1699.0	
51303200	TEST PILE METAL SHELLS	EACH	2.0	2.0	
51400100	NAME PLATES	EACH	1.0	1.0	
60100107	STONE RIPRAP, CLASS A4	SQ YD	886 532.0		886 532.0
61700100	PAVEMENT REMOVAL	SQ YD	197 186.0	197 186.0	
62001357	CLASS C PATCHES, TYPE III, 10 INCH	SQ YD	43 37.0	43 37.0	
62800000	STEEL PLATE BEAM GUARD RAIL, TYPE A	LIN FT	325.0	325.0	
62800035	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2.0	2.0	
62800085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4.0	4.0	
62802005	REMOVAL AND REINSTALLATION OF EXISTING STEEL PLATE BEAM GUARD RAIL, TYPE A	LIN FT	175 150.0	175 150.0	
63300710	STEEL PLATE BEAM GUARD RAIL REMOVAL, TYPE A	LIN FT	442 447.0	442 447.0	
64201000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.5 0.2	0.5 0.2	
64600400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6.0	6.0	
65000100	MOBILIZATION	L SUM	1.0	1.0	
X5020200	PAINT PAVEMENT MARKING - LINE 4"	LIN FT	1405 1245.0	1245.0 1405	
X0320851	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	50.0	50.0	
Z0006070	BRIDGE DECK GROOVING	SQ YD	802.0		802.0
Z0024405	FILTER FABRIC FOR USE WITH RIPRAP	SQ YD	532.0 886		532.0 886
Z0038700	PERMANENT BENCH MARKS	EACH	1.0	1.0	
Z0076600	TRAINEES	HOOR	500.0 46A		

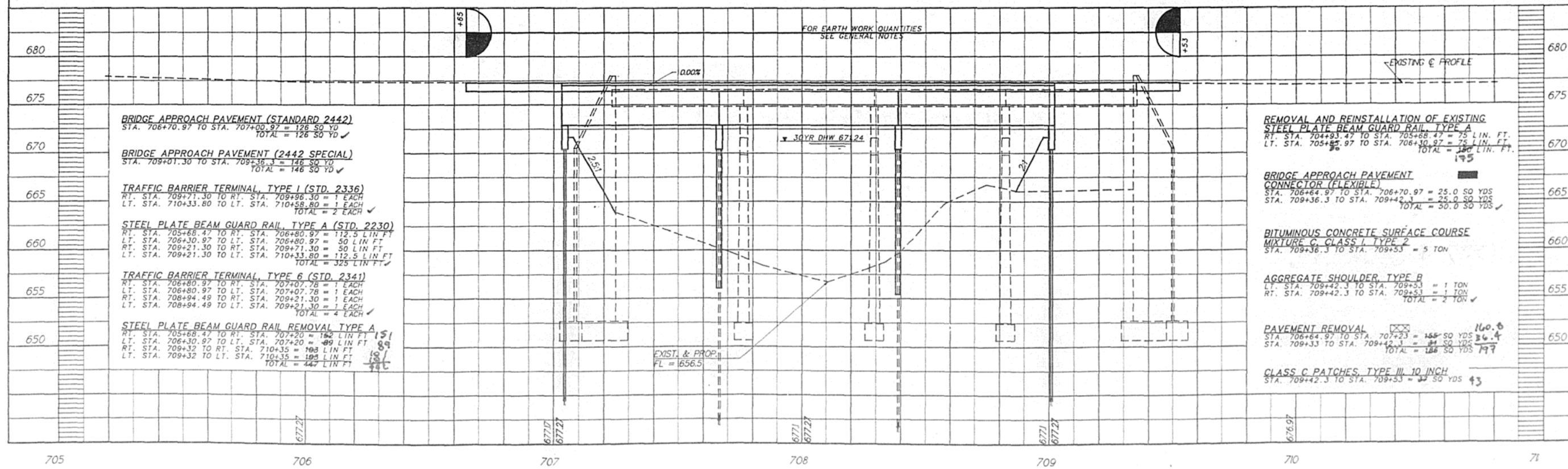
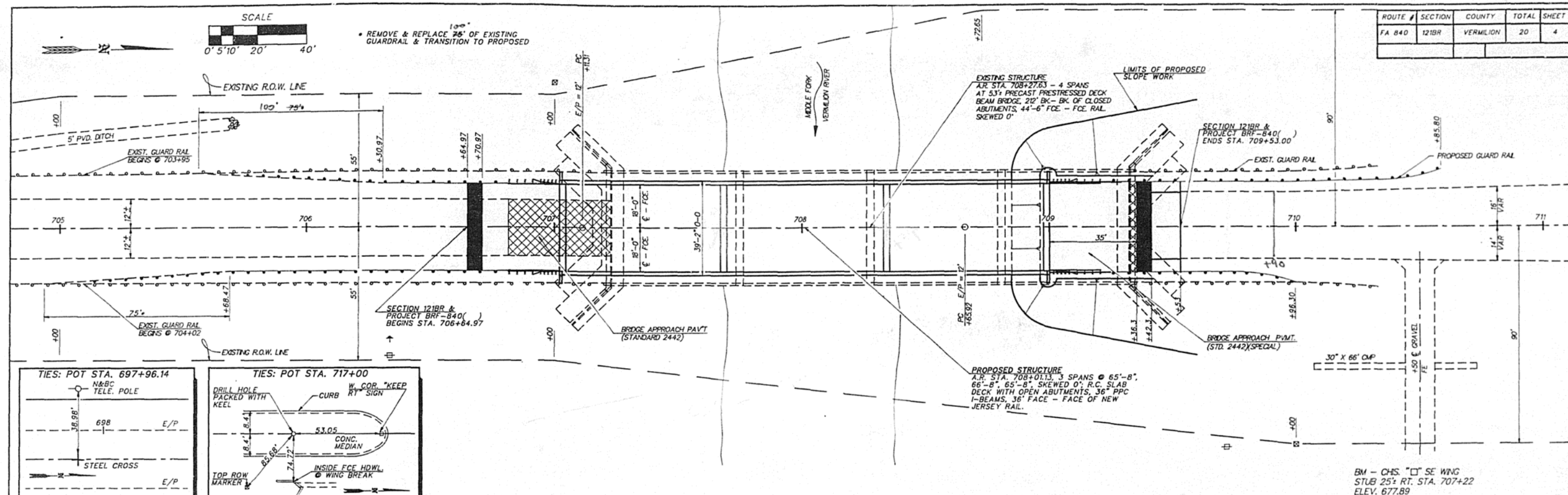
X9500016	COPIER FOR ENGR F.O.	CAL MO	6.0	6.0	
FR000100	TC+P FOR JOB LAYOUT	#	681.01	681.01	
FR000200	EROSION CONTROL	#	1310.59	1310.59	
FR000300	RE-BUILD RADIUS AT INTERSECTION	#	1128.10	1128.10	
FR000400	REM. EXIST. STR. NO. 2	#	9350.15	9350.15	
X9500122	INSULATING BRIDGE DECK	CU. YD.	268.8	268.8	
T5170200	TEMP. PAVT MARK LINE 4"	LIN. FT.	28	28	
FR000500	EXTRA WORK FOR TUG TERM.	#	113.10	113.10	
FR000800	REPAIR RIP RAP	#	1711.14	1711.14	
FR000801	MILL & RESURF. N. APPR.	#	7104.23	7104.23	

GENERAL NOTES

ROUTE	SECTION	COUNTY	TOTAL	SHEET
FA 840	121BR	VERMILION	20	3

- G.N.-105.09
ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.
- IF THE CONTRACTOR OPENS THE ROAD BEFORE THE PAVEMENT IS STRIPED, TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED ON CENTERLINE AS DIRECTED BY THE ENGINEER. NO ADDITIONAL COMPENSTATION WILL BE ALLOWED.
- G.N.-107.19-A
WHERE SECTION OR SUB SECTION MARKERS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED AGENT OR LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATIONS.
- G.N.-107.28-A
THE FOLLOWING IS A LIST OF UTILITY COMPANIES THAT HAVE UTILITIES LOCATED ALONG THIS SECTION. THE UTILITY OWNERS MARKED WITH AN "*" BELONG TO J.U.L.I.E.
• ILLINOIS POWER
• GTE NORTH
- G.N.-207-A
BENCHING PROCEDURES SHALL BE USED IN AREAS WHERE EXISTING EMBANKMENTS ARE WIDENED FOR THE PROPOSED PAVEMENT. STEPS SHALL BE CUT INTO THE EXISTING EMBANKMENT SLOPED AND SHALL HAVE THE FOLLOWING DIMENSIONS:
HORIZONTAL: 2
VERTICAL: 1
- G.N.-215-A
FOR USE IN AGGREGATE SHOULDERS, TYPE B ADD THE FOLLOWING TO THE MATERIALS ALLOWED UNDER ARTICLE 704.05(a):
RECLAIMED ASPHALT PAVEMENT (RAP).
- EARTHWORK QUANTITIES FOR THE ENTIRE SECTION INCLUDE:
PAY QUANTITIES:
EMBANKMENT 1785 CU. YD.
STRUCTURE EXCAVATION 68 CU. YD.
NON PAY QUANTITIES:
EXCAVATION BEHIND EXISTING SOUTH ABUTMENT 540 CU. YD.
EMBANKMENT FOR TYPE I TERMINAL PLATFORM 31 CU. YD.
ESTIMATED QUANTITY OF BORROW 1350 CU. YD. (BASED ON A COMPACTION/WASTE FACTOR OF 1.3)
- G.N.-406-A
THE QUANTITIES INCLUDED IN THE PLANS FOR BITUMINOUS CONCRETE RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE BITUMINOUS MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.
- G.N.-406-B
THE TOTAL AREA TO BE RESURFACED IS 57 SQ. YDS.
ESTIMATED QUANTITIES:
10 GALLONS BITUMINOUS MATERIALS (PRIME COAT)
4 TONS BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE C, CLASS I, TYPE 2
- G.N.-406-E
THE BITUMINOUS MIXTURE FOR LEVELING BINDER (MACHINE METHOD) SHALL MEET THE CRITERIA FOR BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE C, CLASS I, TYPE 2.
- G.N.-601-A
THE RIPRAP GRADATION SHALL BE IN ACCORDANCE WITH THE GRADATION SPECIFIED IN THE PLANS OR WITH APPROVAL OF THE ENGINEER. A RIPRAP GRADATION MEETING A D50 GREATER THAN OR EQUAL TO .51 FEET. D50 IS DEFINED AS THE MEAN ROCK SIZE AS DESCRIBED IN THE FHWA HYDRAULIC ENGINEERING CIRCULARS (HEC 11, HEC 14 AND HEC 15)
- G.N.-601-B
IF GRAVEL IS USED FOR THE BEDDING MATERIAL UNDER RIPRAP, THE GRAVEL SHALL BE CRUSHED AS ALLOWED UNDER ARTICLE 705.01.
- G.N.-617-B
WHERE PROPOSED CONSTRUCTION ABUTS EXISTING APPURTENANCES, A SAW CUT SHALL BE MADE TO ACHIEVE A NEAT BUTT JOINT. THIS SHALL ALSO BE INTERPRETED TO INCLUDE BUTT ASSOCIATED WITH THE COLD-MILLING INCLUDED WITH THIS IMPROVEMENT. THESE SAW CUTS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE VARIOUS TYPES OF WORK ENCOUNTERED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- G.N.-628-A
GUARD RAIL DESIGN IN THESE PLANS WERE BASED ON THE FOLLOWING INFORMATION:
CLEAR ZONE WIDTH 12' (FROM THE EDGE OF PAVEMENT)
OPERATING SPEED 55 M.P.H. (POSTED SPEED LIMIT).
A.D.T. = 750 (1994).
- G.N.-633-A
GUARDRAIL REMOVAL QUANTITIES INCLUDED IN THE PLANS SHALL BE INTERPRETED TO INCLUDE EXISTING TERMINAL SECTIONS BOTH ON AND OFF THE EXISTING STRUCTURES.
- G.N.-642-C
SEEDING DATES FOR ALL CLASSES OF SEEDING WILL BE AS LISTED BELOW:
CLASS OF SEEDING BEGINNING DATES TERMINATION DATES
1,1A,2,2A,3,6,6A&7 (IN SPRING) APRIL 1 MAY 15
1,1A,2,2A,3,6,6A&7 (IN FALL) AUGUST 15 OCTOBER 15
4&5 REFER TO ARTICLE 642.06
- G.N.-643-B
THE APPLICATION RATE FOR STRAW IN MULCH, METHODS 1, 2, 3, 5, OR 6 SHALL BE 2 TONS PER ACRE.
- G.N.-704.01
COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.
- G.N.-2003B-A
A BRONZE TABLET OF THE TYPE SHOWN ON STANDARD 2135 SHALL BE PLACED ON THE PROPOSED STRUCTURE AS DIRECTED BY THE ENGINEER. THE BENCH MARK ELEVATION WILL BE ESTABLISHED AND MARKED BY THE STATE.
ESTIMATED QUANTITY:
1 EACH PERMANENT BENCH MARK
- A PROTECTIVE COAT SHALL BE APPLIED TO THE BRIDGE APPROACH PAVEMENT AND BRIDGE APPROACH SHOULDER PAVEMENTS IN ACCORDANCE WITH APPLICABLE PORTIONS OF ART. 408.23 OF THE STD. SPECS. AND TO THE INSIDE FACE AND TOP OF THE PARAPET IN ACCORDANCE WITH APPLICABLE PORTIONS OF ART. 503.12 OF THE STANDARD SPECIFICATIONS
ESTIMATED QUANTITIES:
BRIDGE APPROACH 272 SQ. YD.
BRIDGE SUPERSTRUCTURE 167 SQ. YD.
- THE EXISTING CENTERLINE AND EDGLINES SHALL BE STRIPED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AS DIRECTED BY THE ENGINEER.
ESTIMATED QUANTITIES:
PAINT PAVEMENT MARKING LINE 4"
WHITE: 830 LIN. FT.
YELLOW: 415 LIN. FT.
- ALL DISTURBED AREAS INCLUDING NEW EMBANKMENT AND TYPE I TERMINAL PLATFORMS SHALL BE FERTILIZED AND SEEDED AT THE FOLLOWING RATES:
NITROGEN 60 LBS PER ACRE
PHOSPHORUS 200 LBS PER ACRE
POTASSIUM 60 LBS PER ACRE
ESTIMATED QUANTITIES:
SEEDING, CLASS II (SPECIAL) 0.2 ACRE

ROUTE #	SECTION	COUNTY	TOTAL SHEET #
FA 840	121BR	VERMILION	20 4

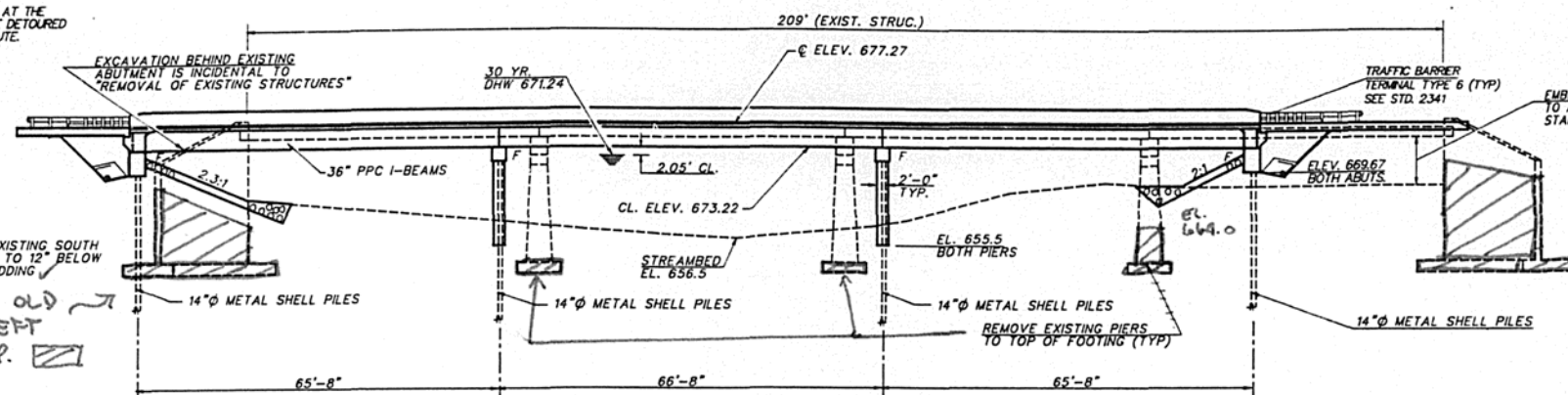


FAC00801 - MILL + RESURF N. APR
STA 709+36.5 TO STA 709+90

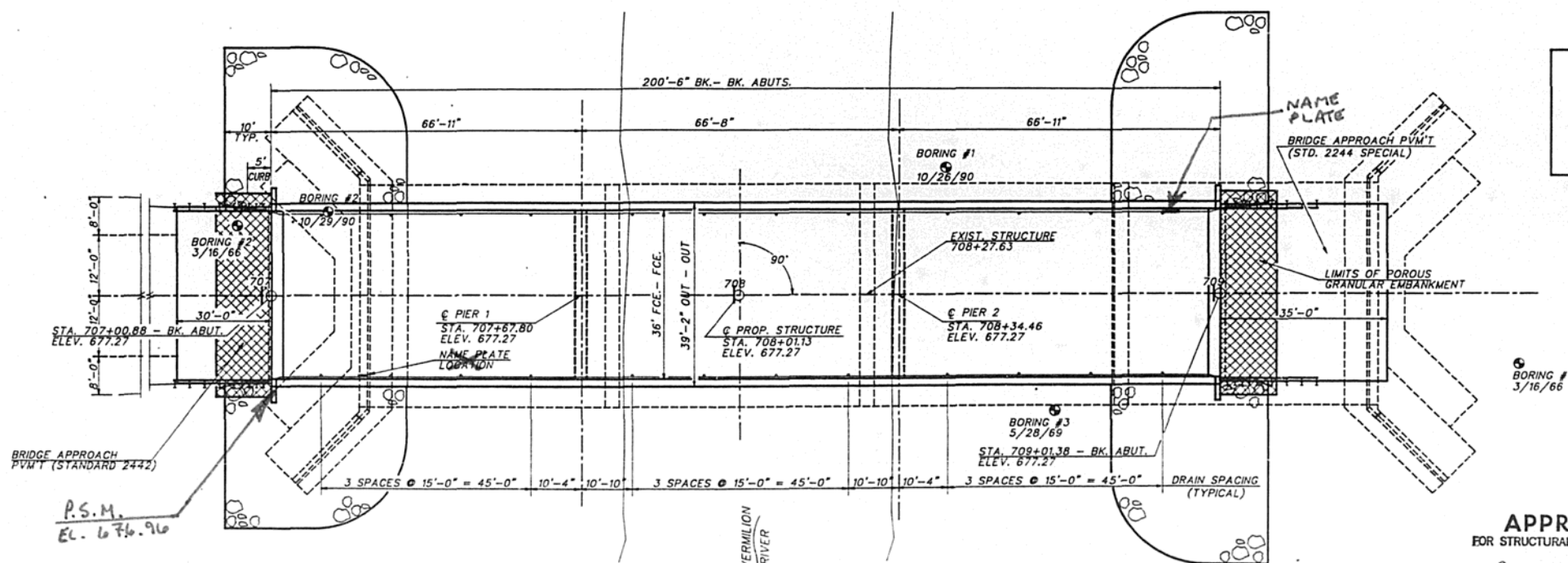
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Current time is 11:04:23.60g

NO SALVAGE

PORTIONS OF OLD
STRUCTURE LEFT
IN PLACE, TYP. 



ELEVATION



PLAN

WATERWAY INFORMATION									
DRAINAGE AREA = 279.5 SQ. MI. LOW GRADE ELEV. 676.8 AT STATION 710+00									
FLOOD	FREQ. YR.	Q C.F.S.	OPENING SQ. FT.		NAT. H.W.E.	HEAD - FOOT		HEADWATER EL.	
			EXISTING	PROP.		EXIST.	PROP.	EXIST.	PROP.
DESIGN	30	7890	1928	1774	671.24	0.39	0.45	671.63	671.69
BASE	100	9860	2135	1967	672.22	0.50	0.58	672.72	672.80
OVERTOPPING									
MAX. CALC.	500	12230	2356	2155	673.28	0.63	1.03	673.91	674.31

PROFILE GRADE
(ALONG & ROADWAY)

DESIGN SPECIFICATIONS

1989 AASHTO AND 1990, 1991 INTERIM
1983 SEISMIC DESIGN OF HIGHWAY BRIDGES AND 1991 INTERIM
LOADING HS 20-44
ALLOW 25#/SQ. FT. FOR FUTURE WEARING SURFACE

DESIGN STRESSES

FIELD UNITS

$f_c = 3,500 \text{ P.S.I.}$

$f_y = 60,000 \text{ P.S.I. (REINFORCEMENT)}$

PRECAST PRESTRESSED UNITS

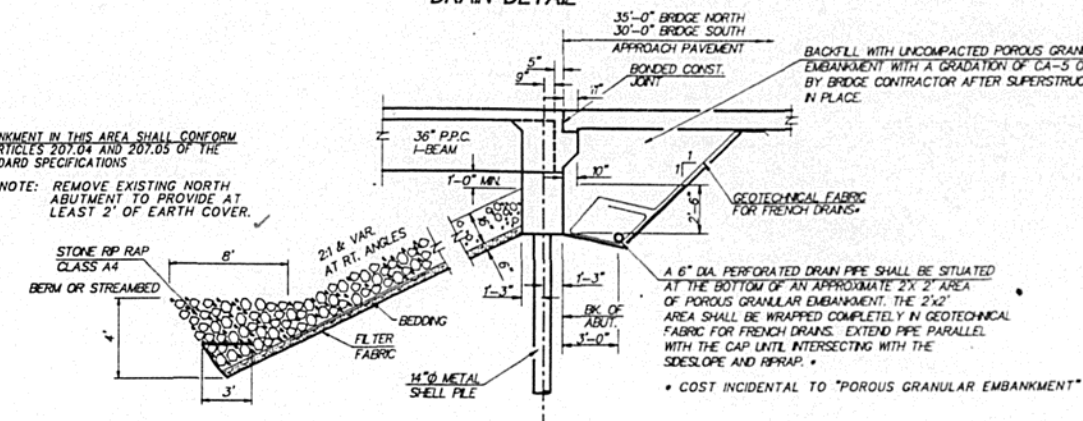
$f_c = 6,000 \text{ P.S.I.}$
 $f_{ci} = 4,300 \text{ P.S.I.}$
 $f_s = 270,000 \text{ P.S.I. (1/2" DIA. STRANDS)}$
 $f_{si} = 189,000 \text{ P.S.I. (1/2" DIA. STRANDS)}$

I hereby certify that these plans were prepared by me or under my direct personal supervision, and that I am a duly registered structural engineer under the laws of the State of Illinois.

Robert L. McClintock
LICENSE EXPIRES 11-30-92



INTEGRAL ABUTMENT
DRAIN DETAIL



GENERAL NOTES

CLASS X CONCRETE SHALL BE USED THROUGHOUT.

THE CONTRACTOR SHALL DRIVE ONE METAL SHIELD TEST PILE IN A PERMANENT LOCATION. ONE SHIELD TEST PILE SHALL BE DRIVEN IN A PERMANENT LOCATION AT THE NORTH ABUTMENT AND ONE SHIELD TEST PILE IN A PERMANENT LOCATION AT THE SOUTH ABUTMENT. THE NUMBER OF TEST PILES SHALL BE AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31, M42 OR M63 GRADE 60.

LAYOUT OF SLOPE PROTECTION SYSTEM MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
POROUS GRANULAR EMBANKMENT	CU. YD.		136	136 122
REMOVAL OF EXISTING STRUCTURES	EACH		1	✓
STRUCTURE EXCAVATION	CU. YD.		68	68 88
FLOOR DRAINS	EACH	24	24	✓
CLASS X CONCRETE SUPERSTRUCTURE	CU. YD.	268.8		268.8 ✓
• PROTECTIVE COAT	SQ. YD.	167	NOT USED	167 86
CLASS X CONCRETE	CU. YD.		715.1	715.1 ✓
FURNISHING & ERECTING PRECAST PRESTRESSED				
CONCRETE I-BEAMS, 36"	LIN. FT.	1390		1390 ✓
REINFORCEMENT BARS (EPOXY COATED)	POUND	54290	10260	64550 ✓
FURNISHING METAL PILE SHELLS, 14"	LIN. FT.		1699	1699 1365
DRIVING AND FILLING SHELLS	LIN. FT.		1699	1699 985
TEST PILE METAL SHELL	EACH		2	2 ✓
NAME PLATES	EACH	1	1	✓
STONE RIPRAP, CLASS A4	SQ. YD.		532	532 886
FILTER FABRIC FOR USE WITH RIPRAP	SQ. YD.		532	532 886
BRIDGE DECK GROOVING	SQ. YD.	802		802 ✓

* QUANTITY IS FOR TOP AND INSIDE SURFACES OF PARAPETS



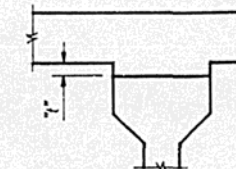
GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 49 OVER THE MIDDLE
FORK OF THE VERMILION RIVER
F.A. ROUTE 842 - SECTION 121BR
VERMILION COUNTY
STA. 708+0113
STRUCTURE NUMBER 092-0196



McCLINTOCK
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD, PARS, IL 61944
PHONE (217) 466-6710

Current date is Tue 06-30-1992

TO DETERMINE "I": AFTER ALL PRECAST PRESTRESSED BEAMS HAVE BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN IN PLAN BELOW. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "I" ABOVE THE TOP FLANGES OF THE BEAMS.



CENTER LINE (P. G. L.) & BEAM 4

LOCATION	STATION	OFFSET	THEOR. GRADE ELEV.	THEORETICAL GRADE ELEV. ADJUSTED FOR DEFLECTION
BK. OF S. ABUT.	707+00.88	0.00	677.270	677.270
€ . ABUT.	707+02.13	0.00	677.270	677.270
A	707+12.13	0.00	677.270	677.308
B	707+22.13	0.00	677.270	677.336
C	707+32.13	0.00	677.270	677.350
D	707+42.13	0.00	677.270	677.345
E	707+52.13	0.00	677.270	677.323
F	707+62.13	0.00	677.270	677.289
€ BRG	707+67.05	0.00	677.270	677.270
€ PIER 1	707+67.80	0.00	677.270	677.270
€ BRG	707+68.55	0.00	677.270	677.270
G	707+77.80	0.00	677.270	677.308
H	707+87.80	0.00	677.270	677.337
I	707+97.80	0.00	677.270	677.351
J	708+07.80	0.00	677.270	677.346
K	708+17.80	0.00	677.270	677.325
L	708+27.80	0.00	677.270	677.290
€ BRG	708+33.71	0.00	677.270	677.270
€ PIER 2	708+34.46	0.00	677.270	677.270
€ BRG	708+35.21	0.00	677.270	677.270
M	708+44.46	0.00	677.270	677.308
N	708+54.46	0.00	677.270	677.336
O	708+64.46	0.00	677.270	677.350
P	708+74.46	0.00	677.270	677.345
Q	708+84.46	0.00	677.270	677.323
R	708+94.46	0.00	677.270	677.289
€ N. ABUT	709+00.13	0.00	677.270	677.270
BK. OF N. ABUT	709+01.38	0.00	677.270	677.270

BEAM #3 & BEAM #5

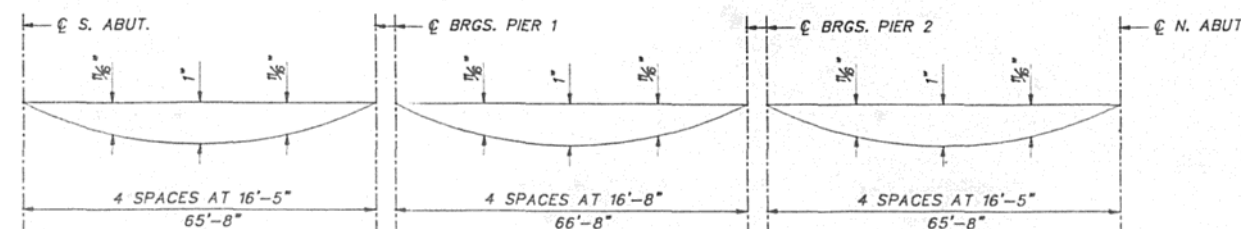
LOCATION	STATION	OFFSET	THEOR. GRADE ELEV.	THEORETICAL GRADE ELEV. ADJUSTED FOR DEFLECTION
BK. OF S. ABUT.	707+00.88	5.50	677.184	677.184
€ . ABUT.	707+02.13	5.50	677.184	677.184
A	707+12.13	5.50	677.184	677.222
B	707+22.13	5.50	677.184	677.250
C	707+32.13	5.50	677.184	677.264
D	707+42.13	5.50	677.184	677.259
E	707+52.13	5.50	677.184	677.237
F	707+62.13	5.50	677.184	677.203
€ BRG	707+67.05	5.50	677.184	677.184
€ PIER 1	707+67.80	5.50	677.184	677.184
€ BRG	707+68.55	5.50	677.184	677.184
G	707+77.80	5.50	677.184	677.222
H	707+87.80	5.50	677.184	677.251
I	707+97.80	5.50	677.184	677.265
J	708+07.80	5.50	677.184	677.260
K	708+17.80	5.50	677.184	677.239
L	708+27.80	5.50	677.184	677.204
€ BRG	708+33.71	5.50	677.184	677.184
€ PIER 2	708+34.46	5.50	677.184	677.184
€ BRG	708+35.21	5.50	677.184	677.184
M	708+44.46	5.50	677.184	677.222
N	708+54.46	5.50	677.184	677.250
O	708+64.46	5.50	677.184	677.264
P	708+74.46	5.50	677.184	677.259
Q	708+84.46	5.50	677.184	677.237
R	708+94.46	5.50	677.184	677.203
€ N. ABUT	709+00.13	5.50	677.184	677.184
BK. OF N. ABUT	709+01.38	5.50	677.184	677.184

BEAM #2 & BEAM #6

LOCATION	STATION	OFFSET	THEOR. GRADE ELEV.	THEORETICAL GRADE ELEV. ADJUSTED FOR DEFLECTION
BK. OF S. ABUT.	707+00.88	11.00	677.098	677.098
€ . ABUT.	707+02.13	11.00	677.098	677.098
A	707+12.13	11.00	677.098	677.136
B	707+22.13	11.00	677.098	677.164
C	707+32.13	11.00	677.098	677.178
D	707+42.13	11.00	677.098	677.173
E	707+52.13	11.00	677.098	677.151
F	707+62.13	11.00	677.098	677.117
€ BRG	707+67.05	11.00	677.098	677.098
€ PIER 1	707+67.80	11.00	677.098	677.098
€ BRG	707+68.55	11.00	677.098	677.098
G	707+77.80	11.00	677.098	677.136
H	707+87.80	11.00	677.098	677.165
I	707+97.80	11.00	677.098	677.179
J	708+07.80	11.00	677.098	677.174
K	708+17.80	11.00	677.098	677.153
L	708+27.80	11.00	677.098	677.119
€ BRG	708+33.71	11.00	677.098	677.098
€ PIER 2	708+34.46	11.00	677.098	677.098
€ BRG	708+35.21	11.00	677.098	677.098
M	708+44.46	11.00	677.098	677.136
N	708+54.46	11.00	677.098	677.164
O	708+64.46	11.00	677.098	677.178
P	708+74.46	11.00	677.098	677.173
Q	708+84.46	11.00	677.098	677.151
R	708+94.46	11.00	677.098	677.117
€ N. ABUT	709+00.13	11.00	677.098	677.098
BK. OF N. ABUT	709+01.38	11.00	677.098	677.098

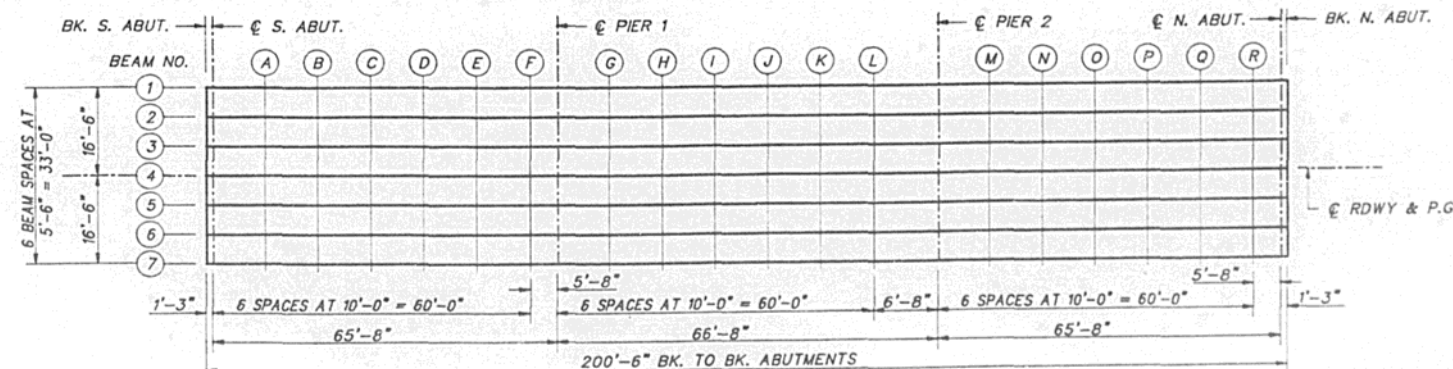
BEAM #1 & BEAM #7

LOCATION	STATION	OFFSET	THEOR. GRADE ELEV.	THEORETICAL GRADE ELEV. ADJUSTED FOR DEFLECTION
BK. OF S. ABUT.	707+00.88	16.50	676.989	676.989
€ . ABUT.	707+02.13	16.50	676.989	676.989
A	707+12.13	16.50	676.989	677.027
B	707+22.13	16.50	676.989	677.055
C	707+32.13	16.50	676.989	677.068
D	707+42.13	16.50	676.989	677.064
E	707+52.13	16.50	676.989	677.042
F	707+62.13	16.50	676.989	677.008
€ BRG	707+67.05	16.50	676.989	676.989
€ PIER 1	707+67.80	16.50	676.989	676.989
€ BRG	707+68.55	16.50	676.989	676.989
G	707+77.80	16.50	676.989	677.027
H	707+87.80	16.50	676.989	677.056
I	707+97.80	16.50	676.989	677.069
J	708+07.80	16.50	676.989	677.065
K	708+17.80	16.50	676.989	677.044
L	708+27.80	16.50	676.989	677.009
€ BRG	708+33.71	16.50	676.989	676.989
€ PIER 2	708+34.46	16.50	676.989	676.989
€ BRG	708+35.21	16.50	676.989	676.989
M	708+44.46	16.50	676.939	677.027
N	708+54.46	16.50	676.989	677.055
O	708+64.46	16.50	676.989	677.068
P	708+74.46	16.50	676.989	677.064
Q	708+84.46	16.50	676.989	677.042
R	708+94.46	16.50	676.989	677.008
€ N. ABUT	709+00.13	16.50	676.989	676.989
BK. OF N. ABUT	709+01.38	16.50	676.989	676.989



DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE SLAB ONLY)

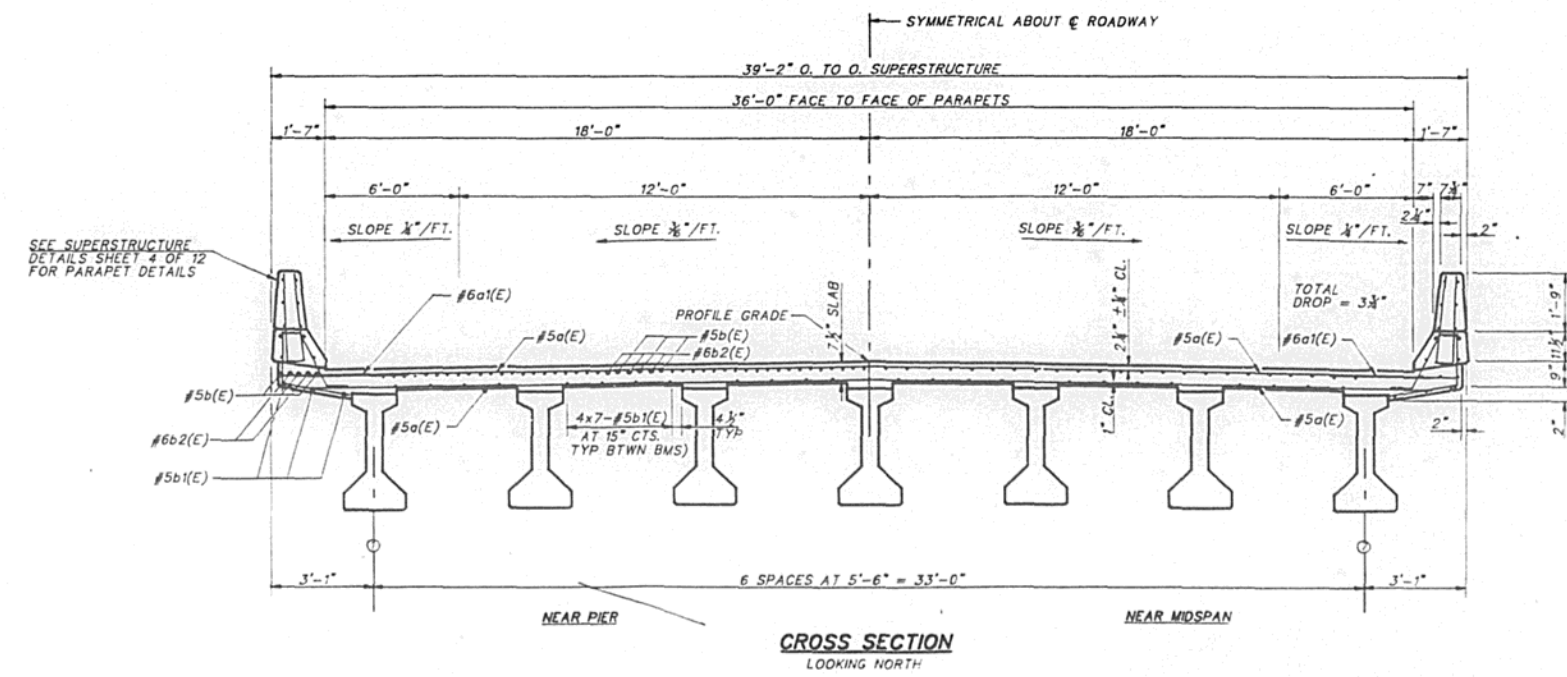
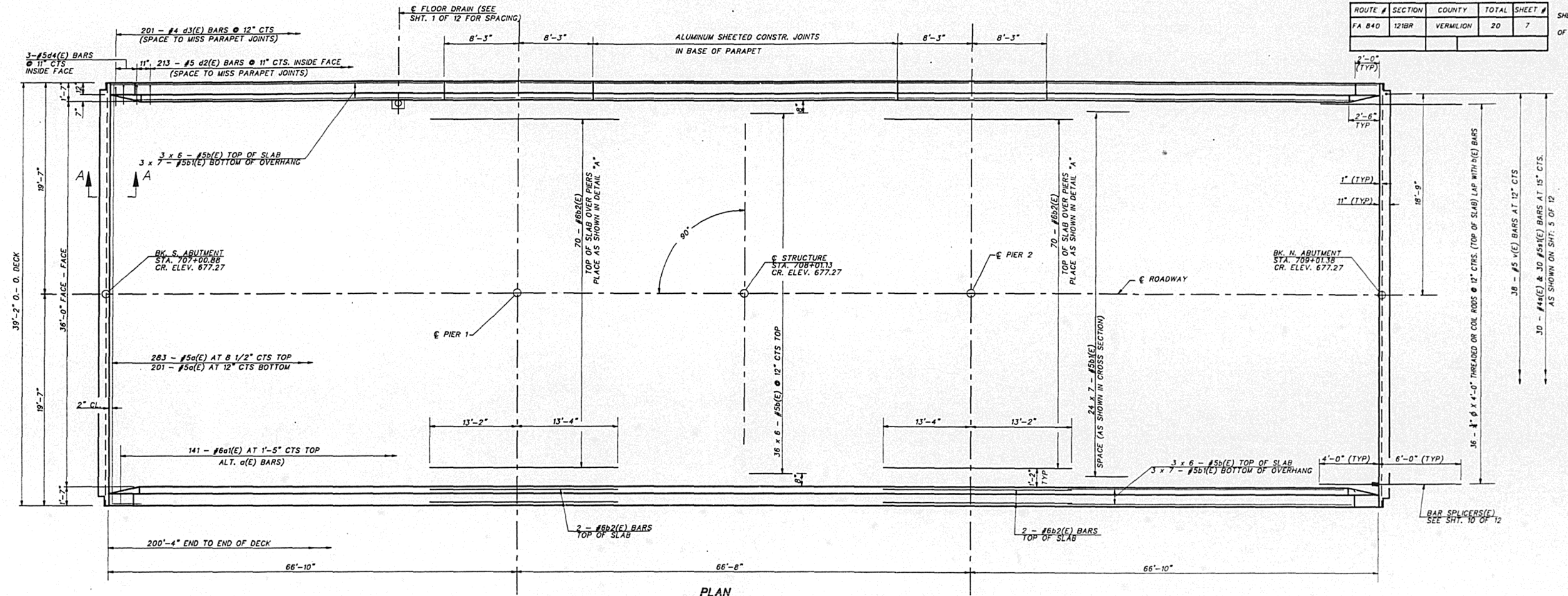
NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS AS SHOWN IN THE ABOVE TABLES.



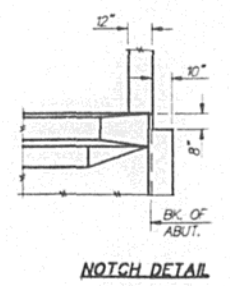
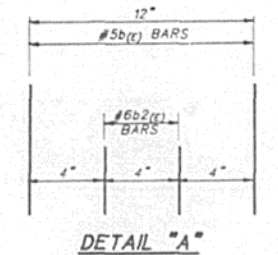
PLAN

TOP OF SLAB ELEVATIONS
F.A. ROUTE 840 - SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

ROUTE #	SECTION	COUNTY	TOTAL	SHEET #	SHEET NO. 3
FA 840	121BR	VERMILION	20	7	OF 12 SHEETS



NOTES: SEE SHEET 4 & 5 FOR SUPERSTRUCTURE DETAILS.
SEE SHEET 4 FOR BILL OF MATERIAL.
REINFORCEMENT BARS AND BAR SPlicERS DESIGNATED (E) SHALL BE EPOXY COATED.
BARS INDICATED THUS 20 x 3 - #5 ETC. INDICATE 20 LINES OF BARS WITH 3 LENGTHS PER LINE.
MINIMUM BAR LAP FOR #5 BARS IS 2'-2".
MINIMUM BAR LAP FOR #8 BARS IS 4'-6".
SEE SHEET 5 OF 12 FOR SECTION A-A



SUPERSTRUCTURE
F.A. ROUTE 840 - SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

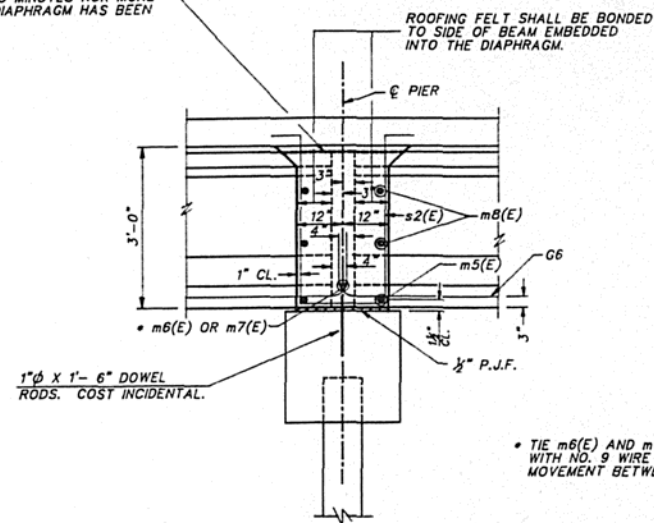
McCLINTOCK
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD PARK, L. 6044
PHONE (217) 466-6710

Current date is Wed 06-24-1993
Current time is 4:05:25.46p

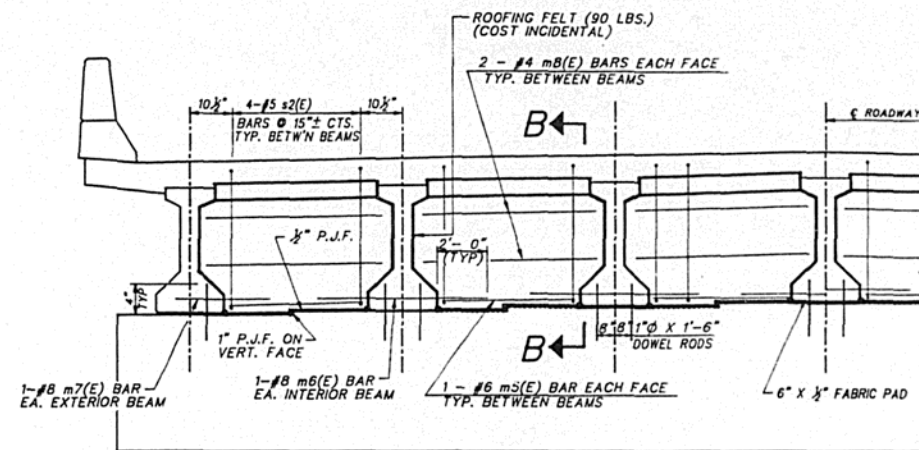
ROUTE #	SECTION	COUNTY	TOTAL	SHEET #
FA 840	121BR	VERMILION	20	9

SHEET NO. 5
OF 12 SHEETS

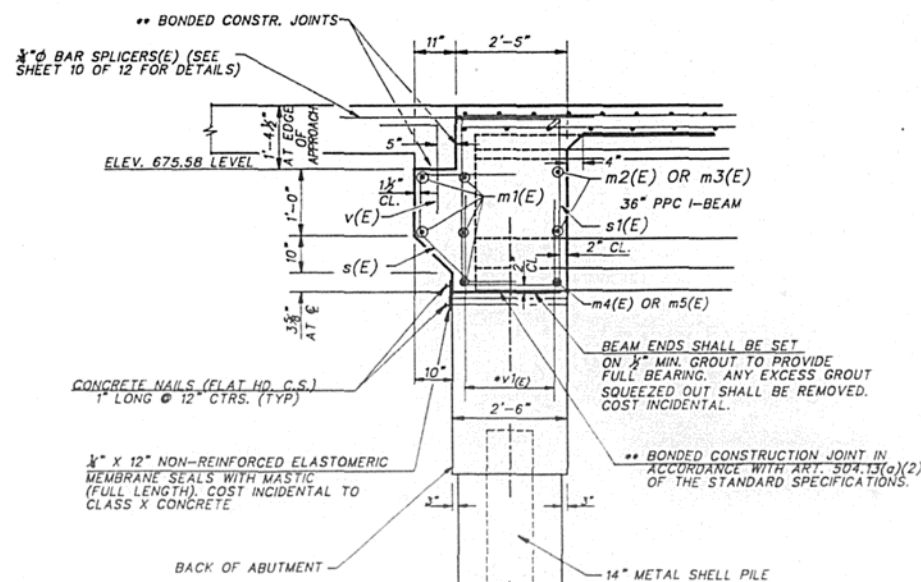
POUR DIAPHRAGM FLUSH WITH TOP OF BEAMS.
CONCRETE IN SLAB ABOVE THIS LINE SHALL BE
PLACED NOT LESS THAN 45 MINUTES NOR MORE
THAN 90 MINUTES AFTER DIAPHRAGM HAS BEEN
POURED.



**SECTION B-B
AT PIERS**

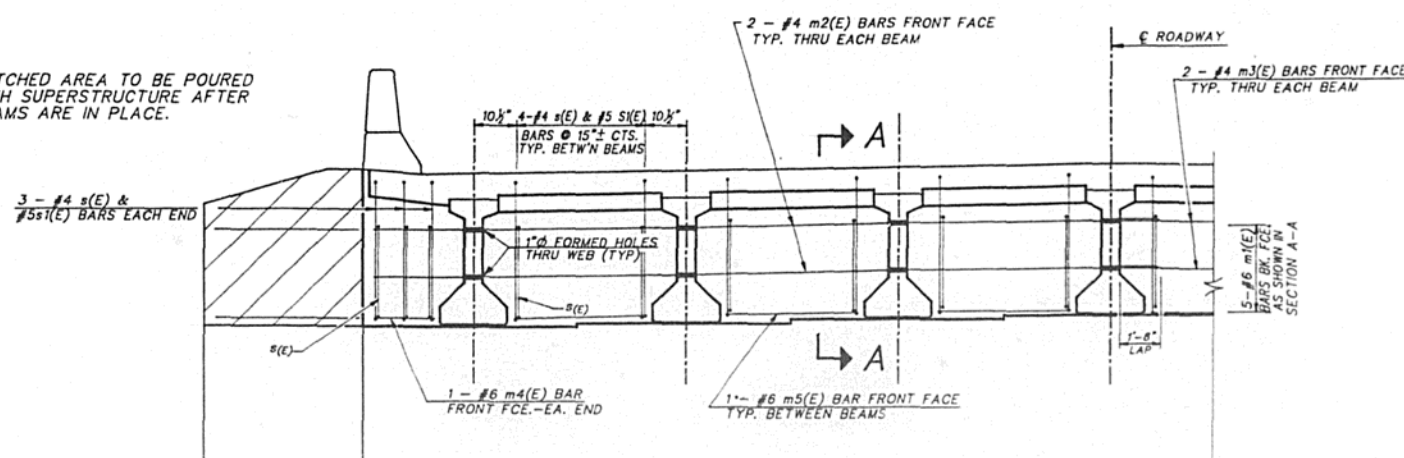


**DIAPHRAGM NORTH PIER
(SOUTH PIER SIMILAR)**



**SECTION A-A
AT ABUTMENTS**

HATCHED AREA TO BE POURED WITH SUPERSTRUCTURE AFTER BEAMS ARE IN PLACE.



**DIAPHRAGM AT NORTH ABUTMENT
(SOUTH ABUTMENT SIMILAR)**

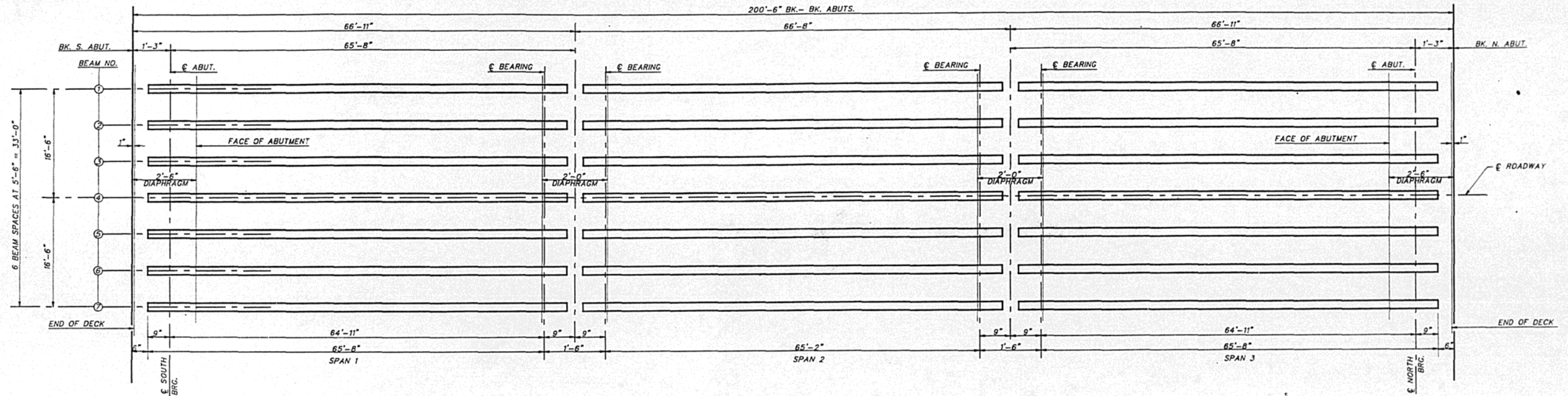
NOTES: REINFORCEMENT BARS SHOWN ON THIS SHEET ARE INCLUDED IN THE BILL OF MATERIAL ON SHEET #4 OF 12.
REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
CLASS X CONCRETE IN DIAPHRAGMS IS INCLUDED WITH CLASS X CONCRETE SUPERSTRUCTURE ON SHEET #4 OF 12.
MINIMUM LAP FOR #4 BAR = 1'-8"

* v1(E) BARS ARE BILLED WITH THE ABUTMENT ON SHEET 6 OF 12

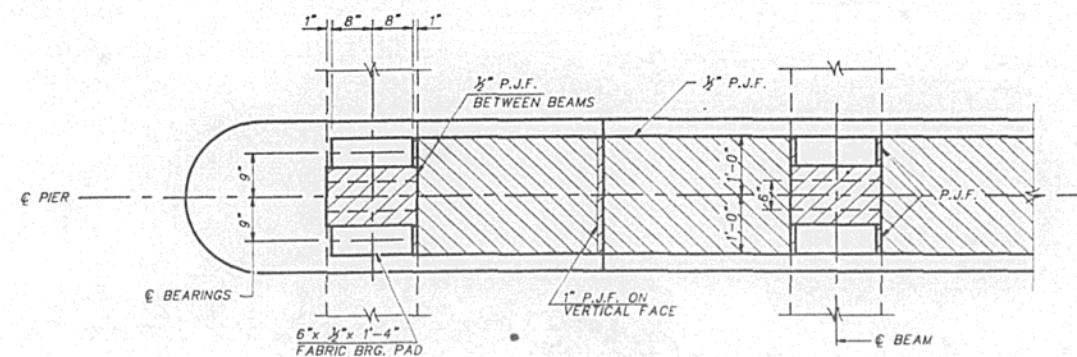
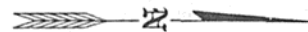
DIAPHRAGM DETAILS
F.A. ROUTE 840 - SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

McCLINTOCK
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD, PA. 15144
PHONE (215) 486-6100

ROUTE	SECTION	COUNTY	TOTAL SHEET #	SHEET NO. 6
FA 840	121BR	VERMILION	20	10
				OF 12 SHEETS

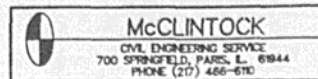


FRAMING PLAN

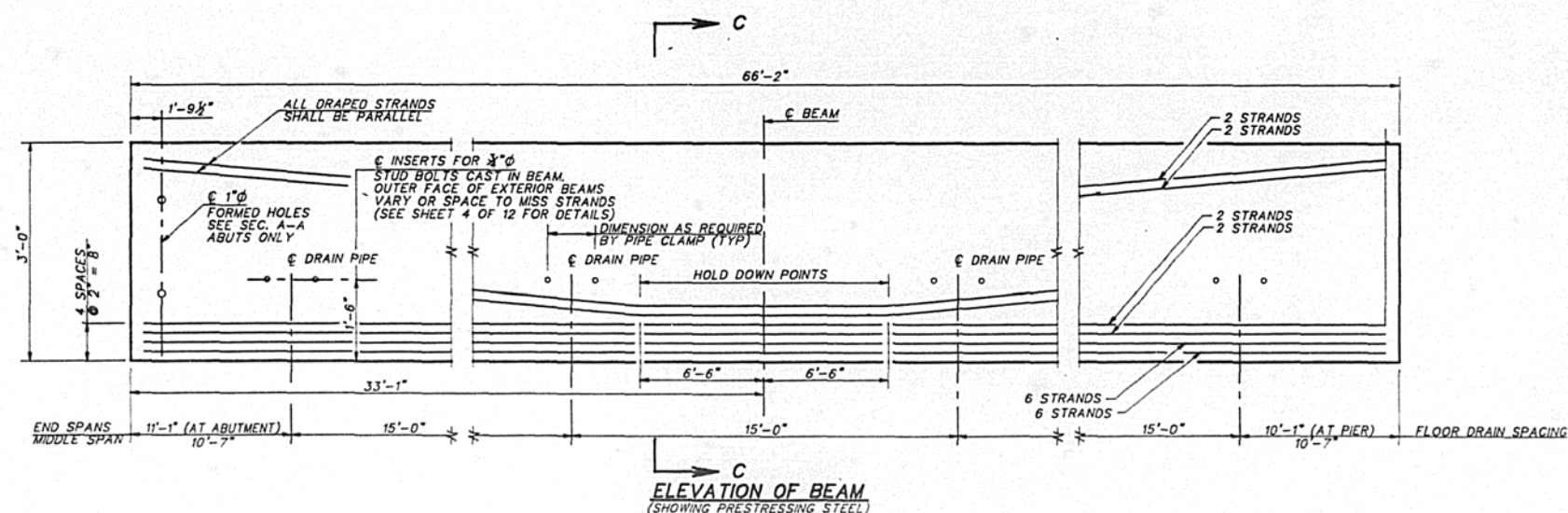
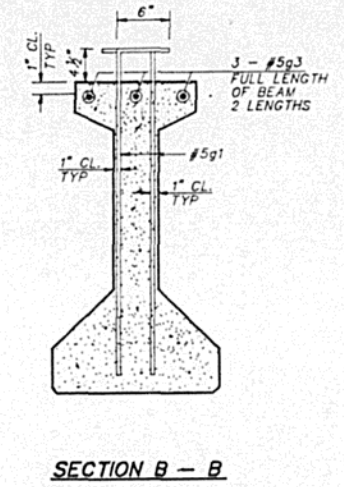
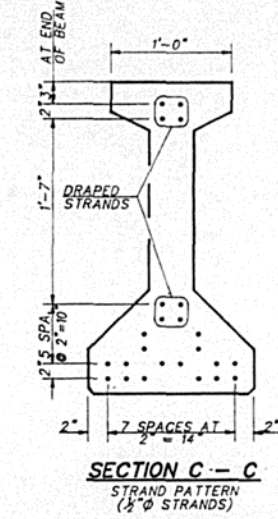
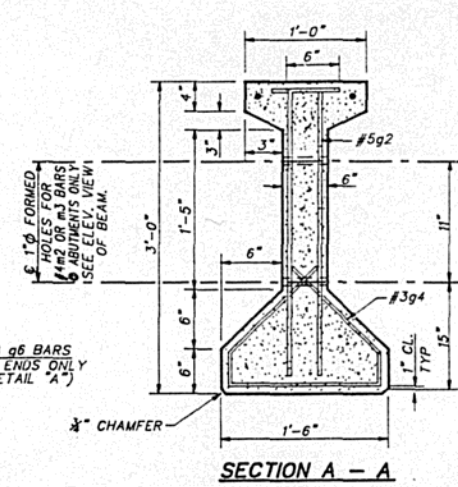
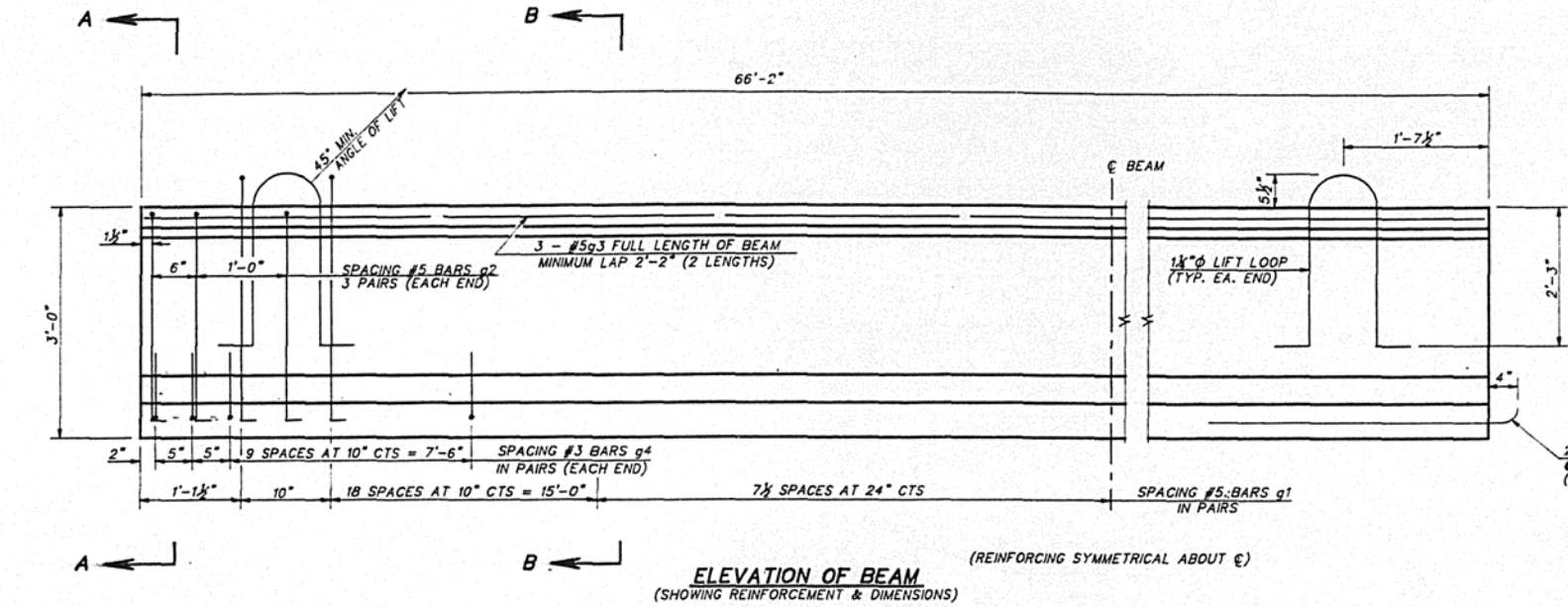


PARTIAL PLAN AT PIERS

FRAMING PLAN
F.A. ROUTE 840 - SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196



ROUTE #	SECTION	COUNTY	TOTAL	SHEET #	SHEET NO. 7
FA 840	121BR	VERMILION	20	11	OF 12 SHEETS

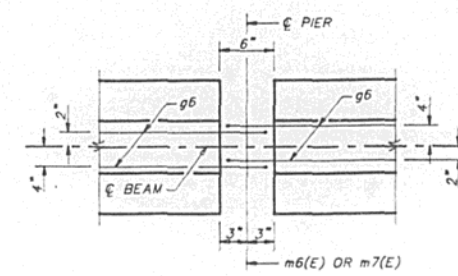
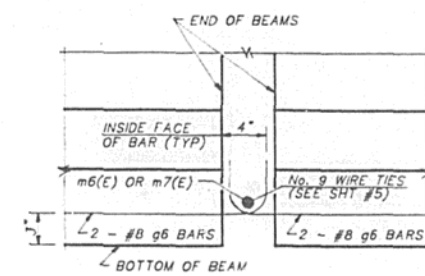
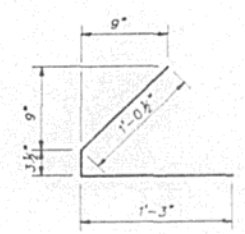
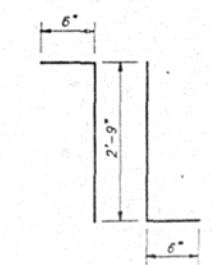
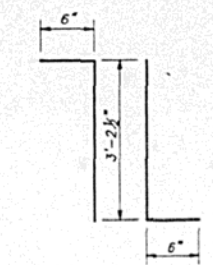
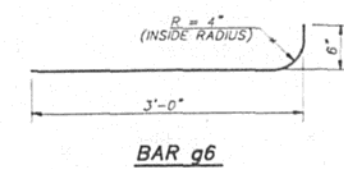
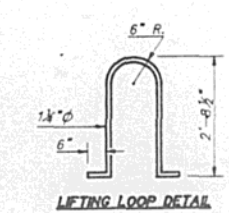


- NOTES:**
- ALL INSERTS AND THREADED DOWEL RODS FOR INSERTS, REINFORCING AND PRESTRESSING STEEL, AND OTHER ITEMS WHICH ARE CAST INTO THE PRECAST CONCRETE I-BEAMS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LINEAL FOOT OF "FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 36 IN."
 - PRESTRESSING STEEL SHALL BE NON-GALVANIZED HIGH STRENGTH, STRESS-RELIEVED 7-WIRE STRAND, GRADE 270.
 - THE NOMINAL DIAMETER SHALL BE 1/2" AND THE NOMINAL CROSS-SECTIONAL AREA SHALL BE 0.153 SQ. IN.
 - NON-PRESTRESSING STEEL SHALL CONFORM TO AASHTO DESIGNATION M-31, M-42 OR M-53 GRADE 60.
 - STEEL FOR LIFTING LOOPS SHALL BE NON-DEFORMED BARS 1"y = 40,000 PSI.
 - REQUIRED RELEASE STRENGTH, 1'ci, SHALL BE 4,300 PSI.
 - INSERTS FOR PIPE CLAMP ON OUTSIDE FACE OF EXTERIOR I-BEAMS ONLY.
 - INSERTS FOR 1/2" Ø STUD BOLTS SHALL BE SINGLE COIL, FLARED LOOP TYPE.

BAR	QTY	SIZE	LENGTH	SHAPE
g1	54 PRS	#5	4'-2 1/2"	7L
g2	6 PRS	#5	3'-9"	7L
g3	8 PRS	#5	3'-0"	—
g4	24 PRS	#3	2'-7"	—
g6**	4	#8	3'-6"	—
g6***	2	#8	3'-6"	—

* FOR ONE BEAM ONLY
** SPAN 2 ONLY
*** SPAN 1 & 3 ONLY

ITEM	UNIT	TOTAL
FURNISHING & ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS 36"	LIN. FT.	1390



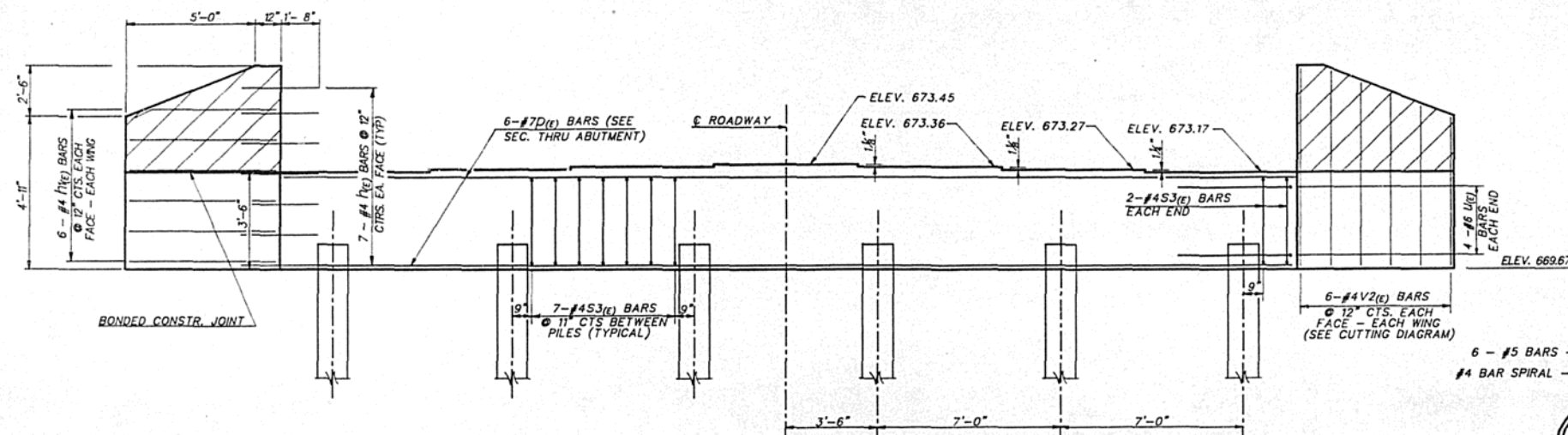
DETAIL "A"

ALL SPANS
P.P.C. I-BEAMS
F.A. ROUTE 840 - SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

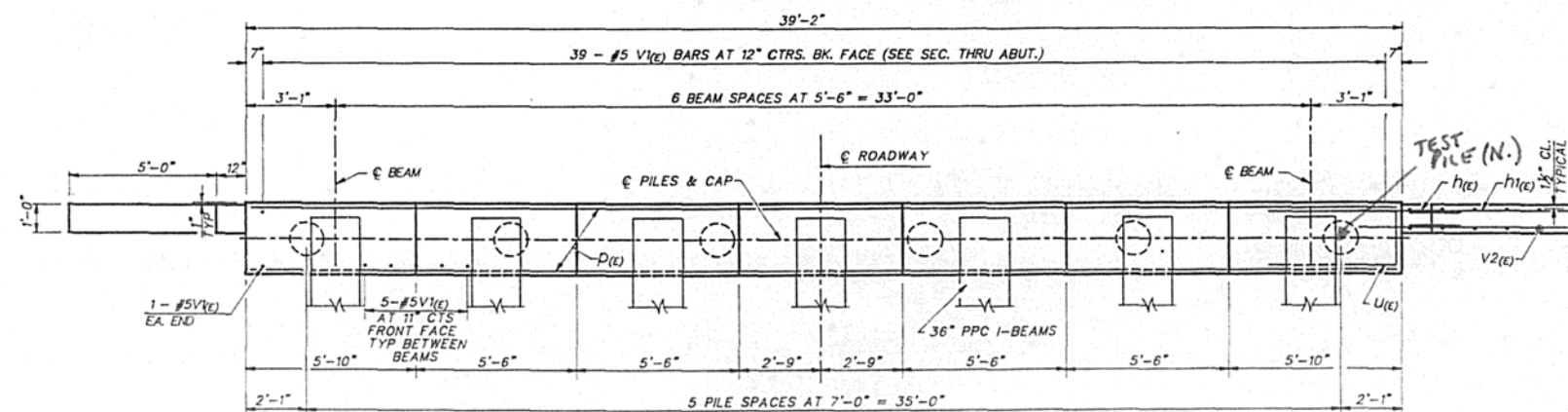
McCLINTOCK
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD, ILL. 61844
PHONE (217) 466-6100

NOTES: ALL EDGES SHALL BE CHAMFERED $\frac{1}{4}$ " UNLESS OTHERWISE NOTED.
SOUTH & NORTH ABUTMENTS ARE SYMMETRICAL ABOUT C OF STRUCTURE.
HATCHED AREA TO BE POURED WITH DECK AFTER BEAMS ARE IN PLACE.
QUANTITY FOR HATCH AREA IS INCLUDED WITH CLASS X CONCRETE SUPERSTRUCTURE.

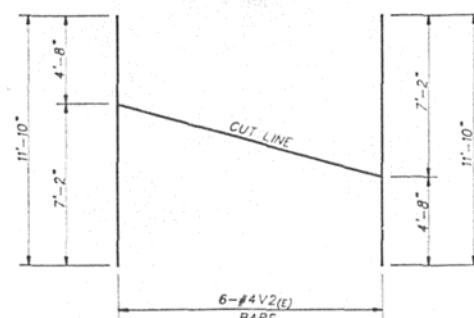
POUR STEPS MONOLITHICALLY WITH CAP.



ELEVATION
(LOOKING NORTH)



PLAN

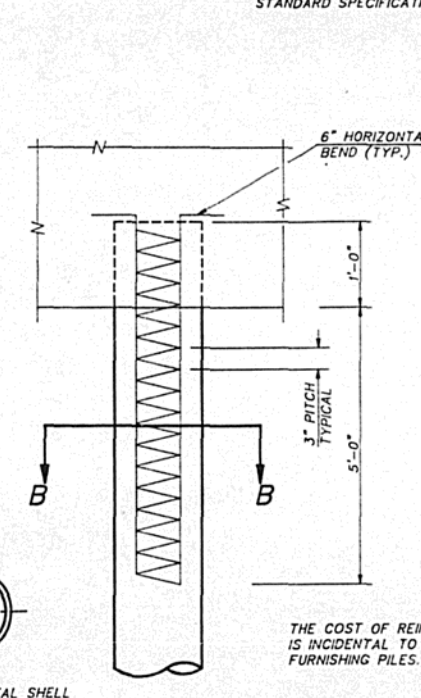


BAR CUTTING DIAGRAM
ORDER V2(E) BARS FULL LENGTH
CUT AS SHOWN AND USE REMAINDER OF
BAR IN OTHER FACE

NOTES: DRIVING AND BEARING ENDS
OF PIPE SHALL BE CUT SQUARE

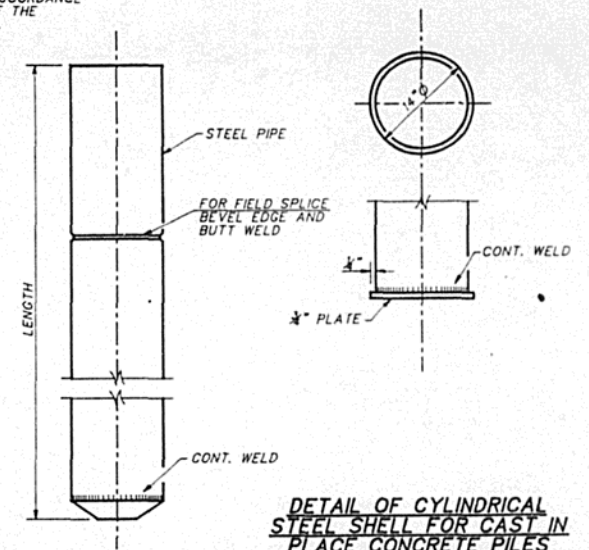
THE THICKNESS OF THE SHELL
SHALL BE 0.250 INCHES WITH
A TOLERANCE OF 5%

THE SHELL SHALL BE IN ACCORDANCE
WITH ARTICLE 710.05(d) OF THE
STANDARD SPECIFICATIONS.



SECTION B-B

**DETAIL OF REINFORCEMENT
FOR METAL SHELLS**



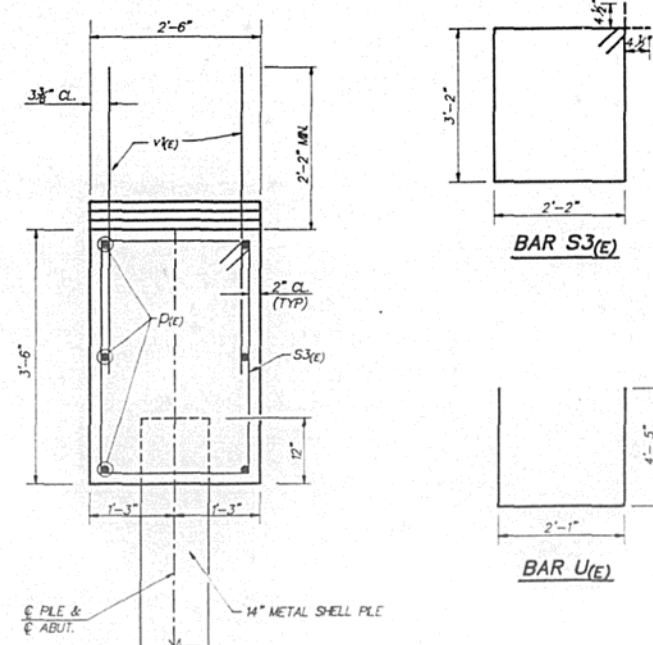
**DETAIL OF CYLINDRICAL
STEEL SHELL FOR CAST IN
PLACE CONCRETE PILES**

**BILL OF MATERIAL
2 - ABUTMENTS**

BAR	QTY	SIZE	LENGTH	SHAPE
h(E)	56	#4	3'-0"	—
h1(E)	48	#4	5'-8"	—
p(E)	12	#7	38'-10"	—
s3(E)	78	#4	11'-5"	□
u(E)	16	#6	10'-11"	—
v1(E)	142	#5	4'-4"	—
v2(E)	24	#4	11'-10"	—

CLASS X CONCRETE	CU. YD.	28.9
REINFORCEMENT BARS EPOXY CTD.	LBS.	2940
FUR. METAL PILE SHELLS (H"Ø)	LN. FT.	521
DRIVING AND FILLING SHELLS	LN. FT.	521
TEST PILE METAL SHELLS (H"Ø)	EACH	1
STRUCTURE EXCAVATION	CU. YD.	68

BARS DESIGNATED (E) SHALL BE EPOXY COATED



SECTION THRU ABUTMENT

ABUTMENT DETAILS
F.A. ROUTE 840 - SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

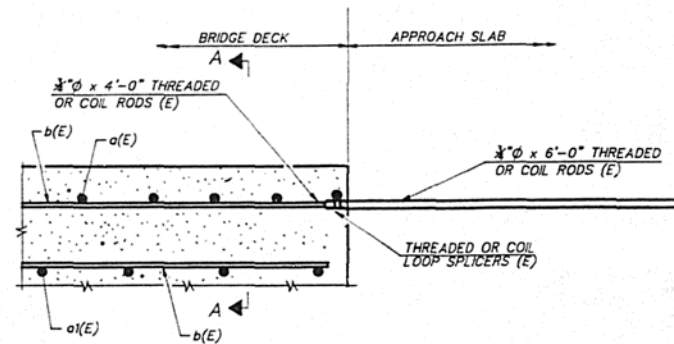
McCLINTOCK
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD, PARKS, L. 61844
PHONE (217) 466-6100



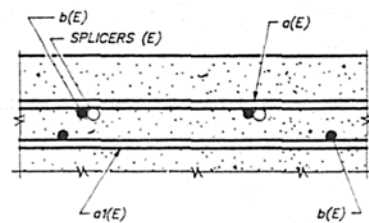
McCLINTOCK
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD, PARIS, L. 69444
PHONE (217) 486-6710

ROUTE	SECTION	COUNTY	TOTAL	SHEET #
FA 840	121BR	VERMILION	20	14

SHEET NO. 10
OF 12 SHEETS

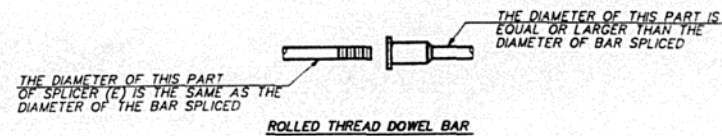


SECTION THRU END OF DECK



SECTION A-A

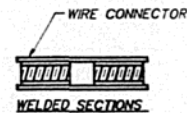
SPLICER DETAILS
(3/4\"/>



ROLLED THREAD DOWEL BAR

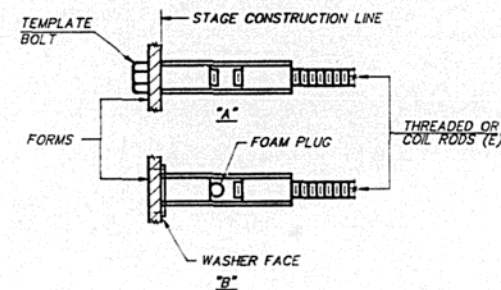


ONE PIECE



SPLICER ALTERNATIVES

HEAVY HEX NUTS CONFORMING TO ASTM A 563 GRADE C, D OR DH MAY BE USED



INSTALLATION AND SETTING METHODS

A: SET SPLICER BY MEANS OF TEMPLATE BOLT
B: SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS
(E): INDICATES EPOXY COATING

NOTES

STEEL SPLICER (E) (COUPLER) ASSEMBLY SHALL BE OF AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE LAPPED REINFORCEMENT BARS.
STEEL SPLICER RODS (E) SHALL BE OF MINIMUM 60 KSI YIELD STRENGTH, THREADED OR COILED FULL LENGTH AND HAVE EFFECTIVE TENSILE STRESS AREA EQUAL TO OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.
ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER RODS (E).
SPLICER (E) (COUPLER) ASSEMBLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.
OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENTS:

- MINIMUM CAPACITY (TENSION IN KIPS) = $1.25 \times f_y \times A_t$
- MINIMUM PULL-OUT STRENGTH (TENSION IN KIPS) = $1.25 \times f_s \times a_{allow} \times A_t$

WHERE f_y = YIELD STRENGTH OF LAPPED REINFORCEMENT BARS IN KSI
 f_s allow = ALLOWABLE TENSILE STRESS IN LAPPED REINFORCEMENT BARS IN KSI (SERVICE LOAD)
 A_t = TENSILE STRESS AREA OF LAPPED REINFORCEMENT BARS.
= 28 DAY CONCRETE

TYPICAL SPLICER (COUPLER) ASSEMBLY SIZE:

IN SLAB	5 BAR LAP WITH 3/4\"/>
IN APPROACH	5 BAR LAP WITH 3/4\"/>

BAR SPLICER (COUPLER) DETAILS
AT INTEGRAL ABUTMENTS
F.A. ROUTE 840 - SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

McCLINTOCK
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD, PARIS, IL 61944
PHONE (217) 466-8110

SHEET NO. 11
OF 12 SHEETS

Project Route FA B40 Sec. 121 BR County Vermillion Bridge 092-0102 Boring No. (1) Boring Desc. Sta. 117+14 O/S 18' 1"						SHEET 2 OF 2			
	EI.	N	Qu t/sf	W %		EI.	N	Qu t/sf	W %
-45		12							
FINE GRAY SAND									
-50		23				-75			
611.6									
GRAY SANDY CLAY LOAM TILL	-55		S 28 3.1_8.5			-80			
608.1									
FINE GRAY SAND	-60					-85			
603.1		9							
COARSE SAND W/FINE GRAVEL	-65					-90			
599.6		40							
LIMIT OF BORING									
-70						-95			

Project FA 840
Route 121 BR
County Vermillion
Bridge 092-0102
Boring No. (2)
Boring Des
Stg 117+14
O/S 18' LT

SHEET 2 OF 2

	El.	N	Qu	t/sf	W	%		El.	N	Qu	t/sf	W	%
BROWN CLAY	-45		100										
LOAM TILL			11	9.2	9.1								
629.1													
GRAY CLAY													
LOAM TILL													
626.1	-50		S	67	6.8	7.9		-75					
LIMIT OF BORING													
	-55							-80					
	-60							-85					
	-65							-90					
	-70							-95					



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700 SPRINGFIELD, PARS., L. 61944
PHONE (217) 466-6110

[illegible]

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Five Materials

Bridge Foundation
Boring Log

S.B.I. 49 OVER MIDDLE FORK

PROJECT _____ BRIDGE 092-0102 Date Sh. 1 of 2
05/28/69

ROUTE S.B.I. 49 Bored By Baker

SEC. 121BR STA. 708+27.63 Checked By C.W.K.

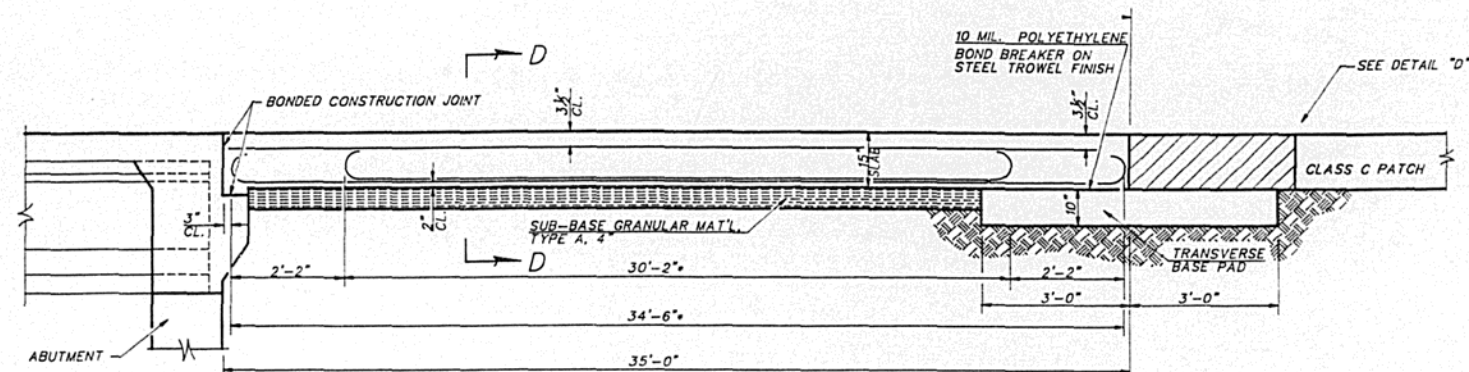
COUNTY Vermilion					Surf Wat El.				
Boring No. (3)					Groundwater El.				
Boring Desc					at Compl				
Sta 708+67	El.	N	Qu t/sf	W %	At Hrs	El.	N	Qu t/sf	W %
O/S 25 RI									
MEDIUM BLACK CLAY LOAM ALLUVIUM	0							E	
								24	4.0
					641.7				
					VERY STIFF GRAY SILTY CLAY TO SILTY CLAY LOAM VARVED	-25		B	
								14	3.5
					639.7				
	-5				LOOSE FINE GRAY SAND				
	659.7							7	
					637.2				
DARK BROWN TO BLACK SAND LOAM ALLUVIUM						-30			
								20	
	655.7	-10							
HARD DARK GRAY SILTY CLAY LOAM									
			S		MEDIUM FINE GRAY SAND	-35			
	652.2		17	4.5	21			11	
VERY STIFF ORGANIC BLACK SILTY CLAY LOAM WITH SAND GRAINS	-15		S						
			22	2.4	50				
	647.7		S			-40			
			12	2.9	43			14	
BROWN PEAT	646.7								
VERY STIFF DARK BROWN LACUSTRINE VARVED SILTY CLAY LOAM WITH SHELLS, PLANT AND WOOD FRAGMENTS	-20		E			-45			
			17	3.0	58				

N-Sid Penetr Test: 2" OD Sampler
140# Hammer Falling 30" (Type Fall. B Bulge S-Shear E-Estimated P-Penetrom)

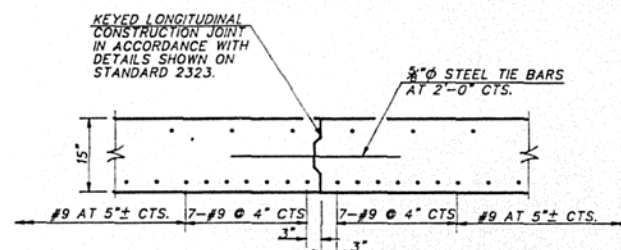
Project Route FA B40										
Sec. 121 BR										
County Vermillion										
Bridge 092-0102										
Boring No. (J)										
Boring Des.										
Sta. 117+14										
O/S 1R' IT										
	EI.	N	Ou t/sf	W %			EI.	N	Ou t/sf	W %
	-45									
620.7		16								
MEDIUM FINE GRAY SAND	-50						-75			
	-55									
609.7							-80			
COARSE GRAY SAND WITH COBBLE		GRAVEL AND								
608.7										
HARD GRAY SANDY CLAY-LOAM TILL										
	-60						-85			
605.2		50	8	8						
LIMIT OF BORING										
	-65						-90			
	-70						-95			

BRIDGE LOCATED AT THE SE CORNER OF SECTION 2, T2N., R14W OF THE 2ND P.M.

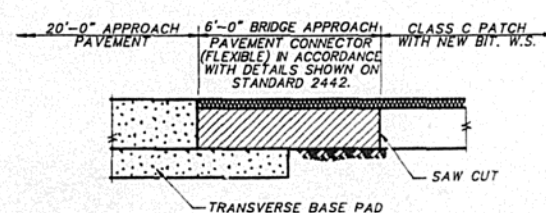
ROUTE	SECTION	COUNTY	TOTAL SHEET
FA 840	121BR	VERMILION	20 17



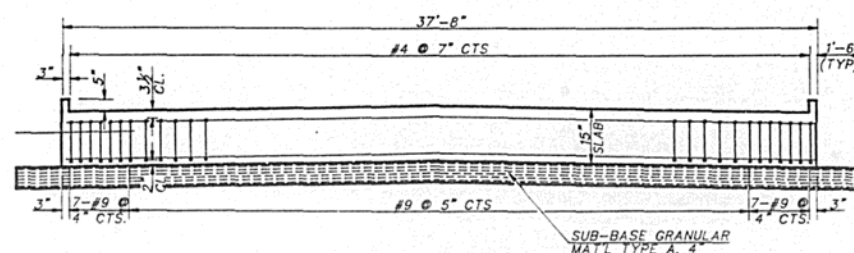
SECTION C-C
* STAGGER ALTERNATE #9 BARS AS SHOWN ON PLAN - FULL WIDTH



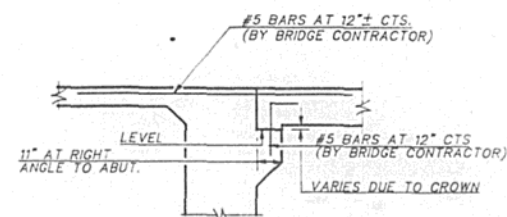
OPTIONAL LONGITUDINAL CONSTRUCTION JOINT
AS APPROVED BY THE ENGINEER, THE CONTRACTOR MAY ELECT TO REDUCE THE WIDTHS OF POUR BY USE OF THE OPTIONAL LONGITUDINAL CONSTRUCTION JOINT SHOWN. JOINTS SHALL BE LOCATED AT THE EDGE OF A TRAFFIC LANE.



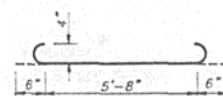
DETAIL D



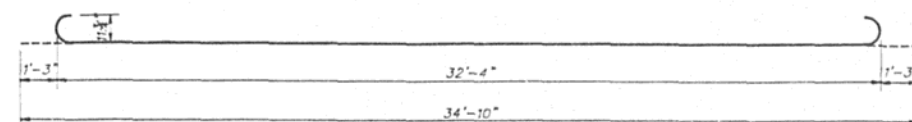
SECTION D-D



SECTION E-E



BAR C



#9 BARS

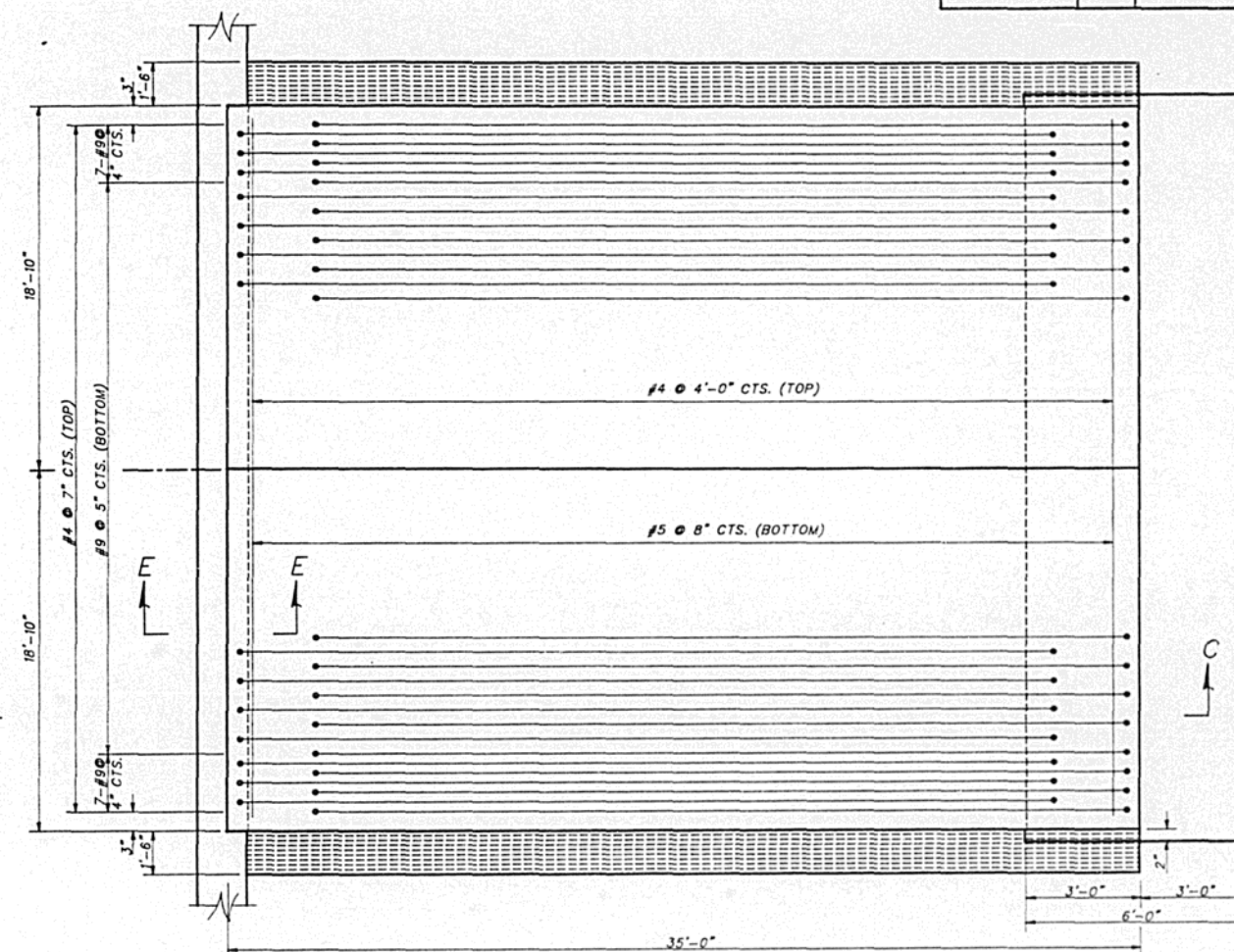
NOTE: REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31, M42 OR M53 AND SHALL BE EPOXY COATED.

DESIGN STRESSES

$f_y = 60,000 \text{ psi}$
 $f'_c = 3,500 \text{ psi}$
 $N = 8.5$

GENERAL NOTES

THE COST OF REINFORCEMENT BARS, TIE BARS, 10 MIL POLYETHYLENE BOND BREAKER, SUB BASE, TRANSVERSE BASE PAD (INCLUDING REINFORCEMENT AND EXCAVATION), AND BITUMINOUS PRIME WHEN REQUIRED SHALL BE CONSIDERED AS INCLUDED IN THE UNIT COST OF THE BRIDGE APPROACH PAVEMENT (SPECIAL)



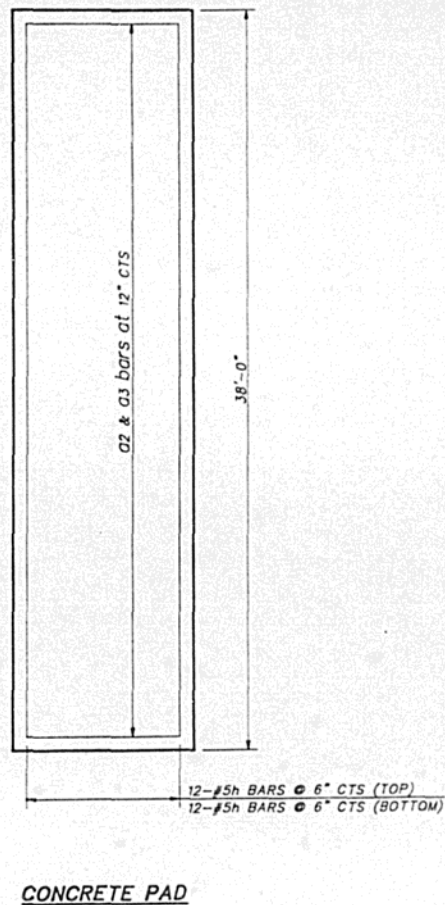
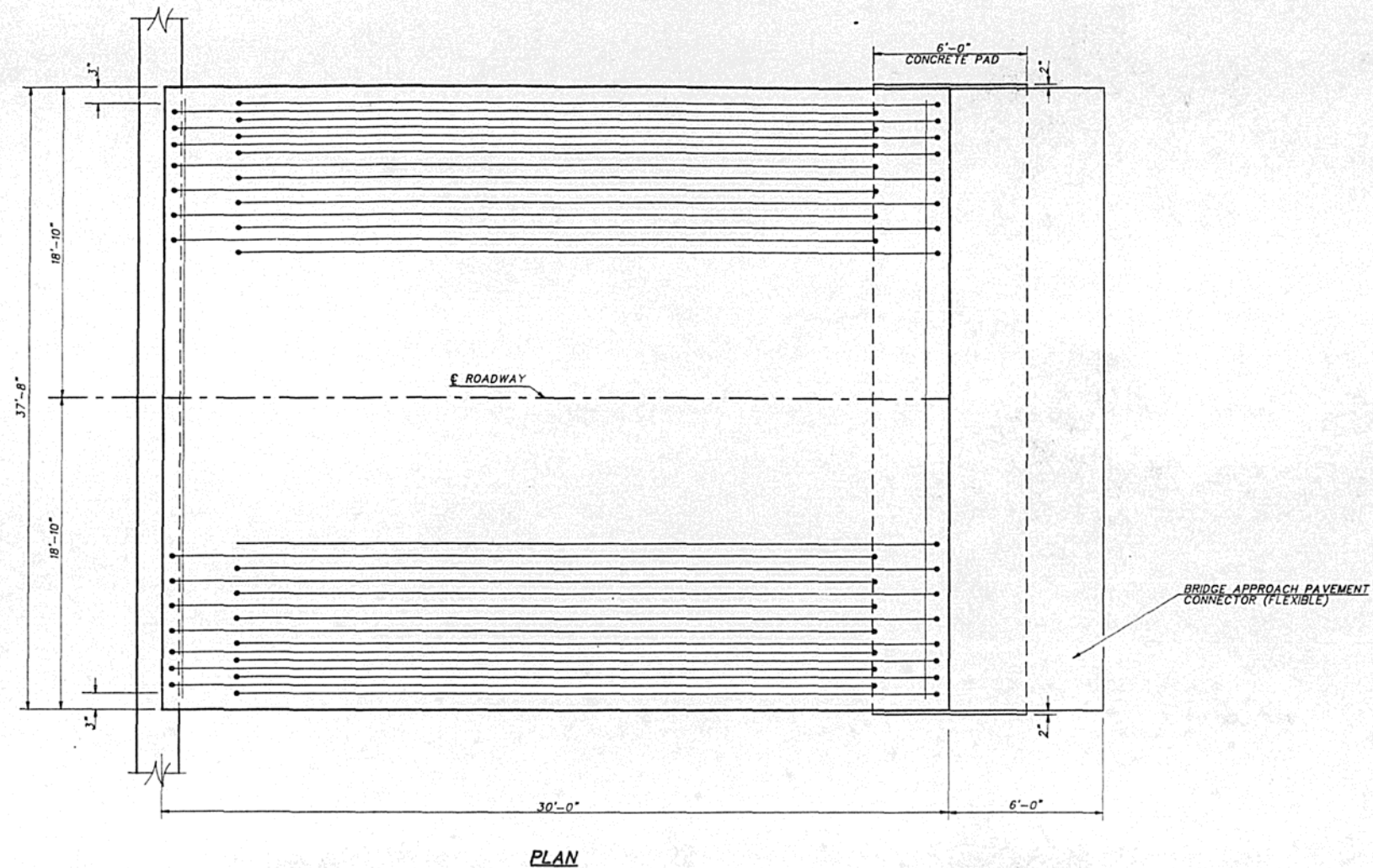
PLAN

BOTTOM REINFORCEMENT				TOP REINFORCEMENT				REINFORCEMENT (TOTAL WEIGHT) (POUNDS)	SLAB AREA (SQ. YDS.)	TRANSVERSE BASEPAD			
TRANSVERSE #5	LONGITUDINAL #5	TRANSVERSE #4	LONGITUDINAL #4	TRANSVERSE #5	LONGITUDINAL #5	TRANSVERSE #4	LONGITUDINAL #4			BAR NO.	SIZE	LENGTH	SHAPE
53	37'-2"	98	34'-10"	10	37'-2"	68	34'-6"	15,480	146	h	24	#5	37'-6"
										a	38	#4	6'-8"
										a1	38	#4	5'-8"
7 (EACH EDGE BEAM) + 84 (SLAB) AT 5'-CENTERS										CLASS X CONCRETE CU. YD. 7.0			
										REINFORCEMENT BAR POUNDS 1250			

BRIDGE APPROACH PAVEMENT (SPECIAL)
F.A. ROUTE 840 - SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

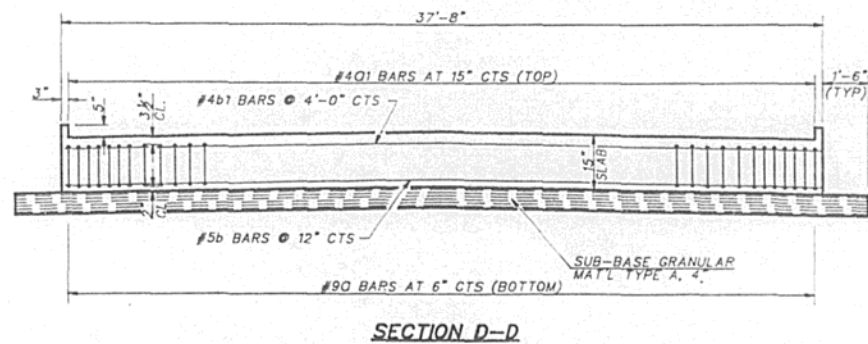
McCLINTOCK
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD PARK, L. 61944
PHONE (217) 466-6110

ROUTE #	SECTION	COUNTY	TOTAL	SHEET #
F.A. 840	121BR	VERMILION	20	18



NOTES

1. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH STANDARD 2442.
2. THE MODIFICATIONS SHOWN ON THIS SHEET SHALL TAKE PRECEDENCE OVER STANDARD 2442.
3. THE TOP 1 1/2" OF THE BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE) SHALL MEET THE STANDARDS FOR BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE C, CLASS I, TYPE 2.



BILL OF MATERIAL FOR 1 APPROACH PAVEMENT AND 1 CONCRETE PAD

FOR INFORMATION ONLY, INCIDENTAL TO BRIDGE APPROACH PAVEMENT

CONCRETE PAD					APPROACH PAVEMENT				
BAR NO.	SIZE	LENGTH	SHAPE		BAR NO.	SIZE	LENGTH	SHAPE	
a2(e)	38	#4	6'-8"	(C)	a(e)	75	#9	29'-6"	(C)
a3(e)	38	#4	5'-8"	(C)	a(e)	30	#4	29'-6"	(C)
b(e)	24	#5	37'-6"	(C)	b(e)	30	#5	37'-2"	(C)
					b(e)	8	#4	37'-2"	(C)
CLASS X CONCRETE CU. YD. 7.0					CLASS X CONCRETE CU. YD. 52.3				
REINFORCEMENT BAR POUNDS 1,250					REINFORCEMENT BAR POUNDS 9,480				

BRIDGE APPROACH PAVEMENT
(STD 2442 MODIFICATIONS)
FA ROUTE 840 SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

ROUTE #	SECTION	COUNTY	TOTAL	SHEET #
FA 840	121BR	VERMILION	20	19

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR ROAD CLOSURE

SYMBOLS

-  TYPE III BARRICADE
(SEE NOTE 1)
-  18"x18" ORANGE FLAG
-  FLASHING AMBER LIGHT
(HIGH INTENSITY)

EXISTING STOP

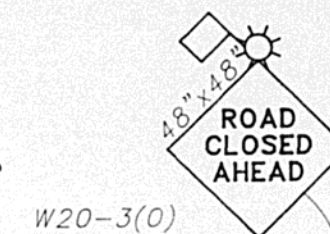
STOP EXISTING

WORK AREA



W21-1100(0)-48

500'



W20-3(0)

500'

GENERAL NOTES

1. TYPE III BARRICADES SHALL BE AS SHOWN ON STD. 2298 "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD." SIGN STD. R-11-2, 3 OR 4 SHALL BE MOUNTED ON THE BARRICADE. EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
2. IF THE ROAD IS OPEN TO LOCAL TRAFFIC OR "D" EXCEEDS 1000', ANOTHER SET OF TYPE III BARRICADES, EQUIPPED AS IN NOTE 1 ABOVE, SHALL BE PLACED AT EACH END OF THE WORK AREA.
3. WHEN A STOP CONDITION EXISTS, AS SHOWN ABOVE, NO SIGNS ARE REQUIRED IN ADVANCE OF THE "STOP" SIGN WHEN THE ROAD IS CLOSED WITHIN 100' OF THE INTERSECTION.
4. STANDARD 2298 & 2299 SHALL APPLY FOR THE PLACEMENT & DESIGN OF TYPE III BARRICADES.

GENERAL NOTES (CON'T)

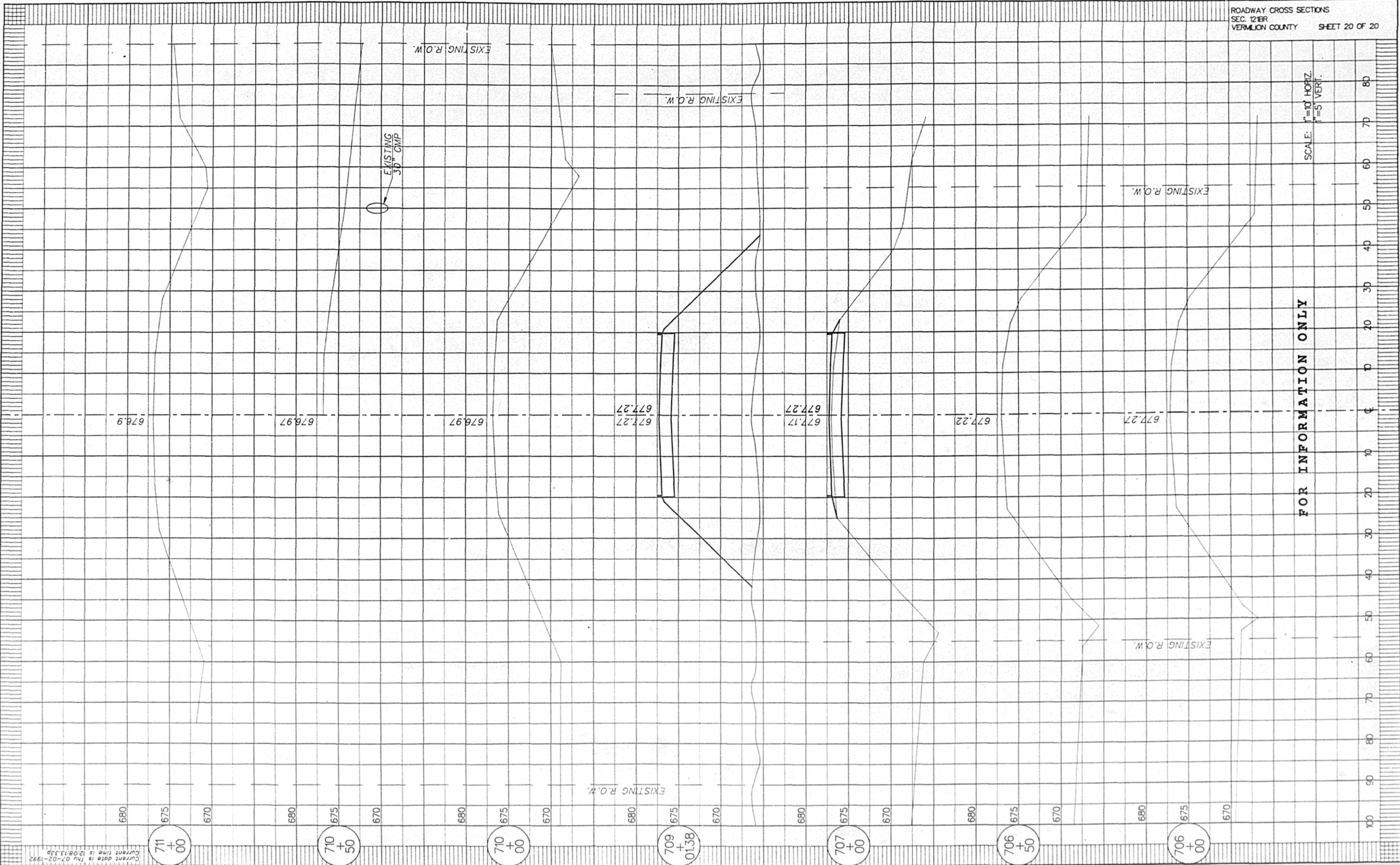
5. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
6. A MINIMUM OF TWO FLASHING LIGHTS SHALL BE USED AT NIGHT ON EACH APPROACH IN ADVANCE OF THE WORK AREA. FLASHING LIGHTS SHALL BE INSTALLED ABOVE THE FIRST TWO SIGNS IN THE SERIES.
7. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
8. ALL WARNING SIGNS SHALL HAVE MINIMUM DIMENSIONS OF 48" BY 48" AND HAVE BLACK LEGEND AND BORDER ON AN ORANGE REFLECTORIZED BACKGROUND.
9. FORMS BT. 725 AND BT. 726 ARE REQUIRED.
10. WHEN A SIDEROAD INTERSECTS THE HIGHWAY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC DEVICES SHALL BE ERECTED AND PROVIDED AS DIRECTED BY THE ENGINEER.

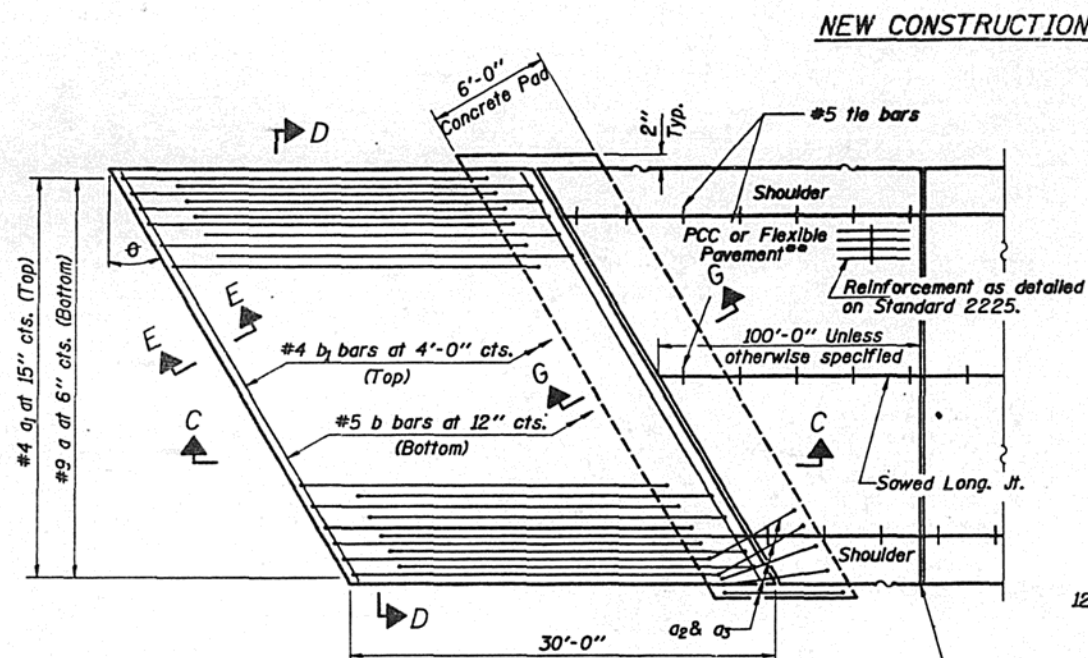
TYPICAL APPLICATION FOR
TRAFFIC CONTROL
F.A. ROUTE 840 SECTION 121BR
VERMILION COUNTY
STA. 708+01.13
STRUCTURE NUMBER 092-0196

 **McCLINTOCK**
CIVIL ENGINEERING SERVICE
700 SPRINGFIELD, PAULS. L. 61944
PHONE (217) 466-6100

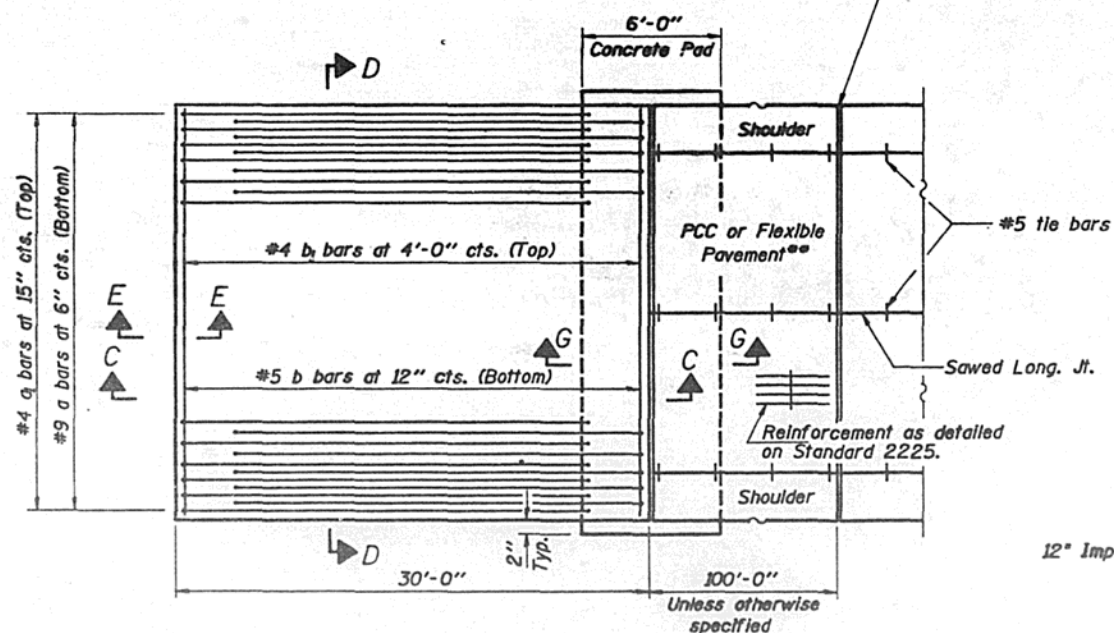
SCALE: 1"=10' HORIZ.
1"=5' VERT.

FOR INFORMATION ONLY



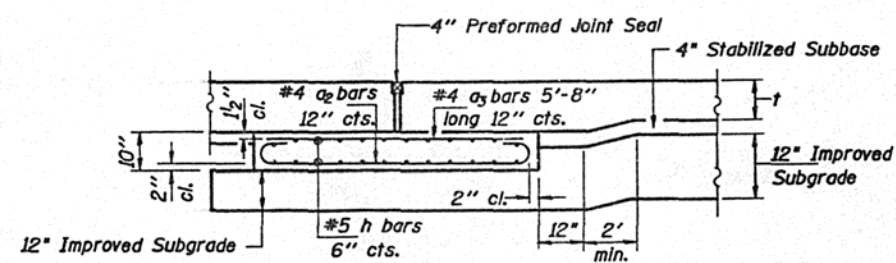


PLAN - WITH SKEW



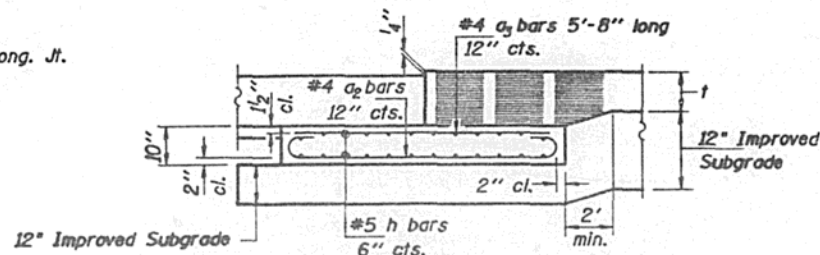
PLAN - WITHOUT SKEW

**Omit Reinforcement, tie bars and sawed Long. Jt. for Flexible Pavement.

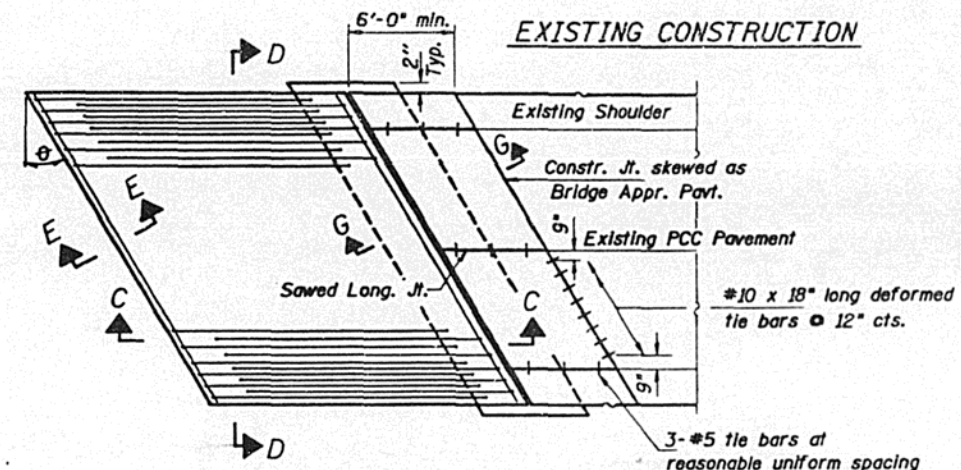


SECTION G-G - RIGID PAVEMENT
(Showing reinforcement)

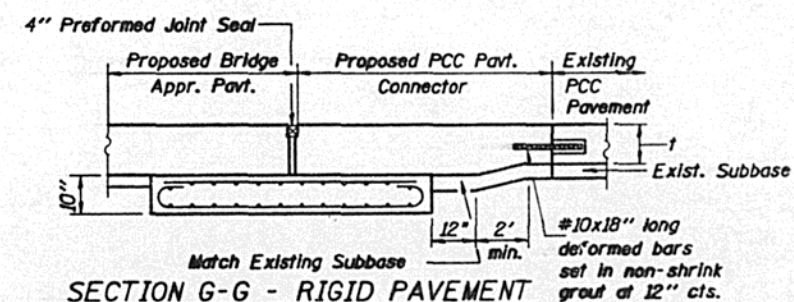
PCC Pavement only:
Wide Flange Beam Terminal Joint (See DETAIL AT BEAM-Standard 2224) or 3" Exp. Joint as detailed on Standard 2323.



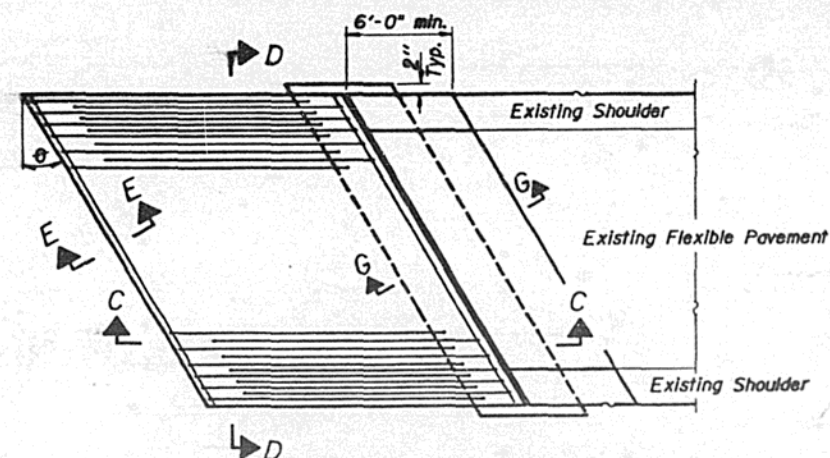
SECTION G-G - FLEXIBLE PAVEMENT
(Showing reinforcement)



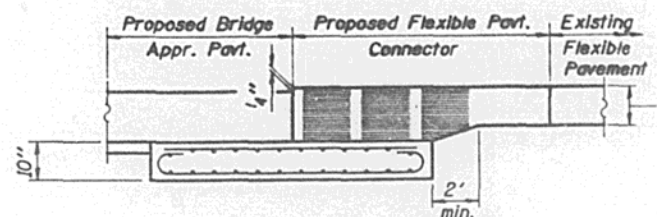
BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)



SECTION G-G - RIGID PAVEMENT



BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)



SECTION G-G - FLEXIBLE PAVEMENT

GENERAL NOTES

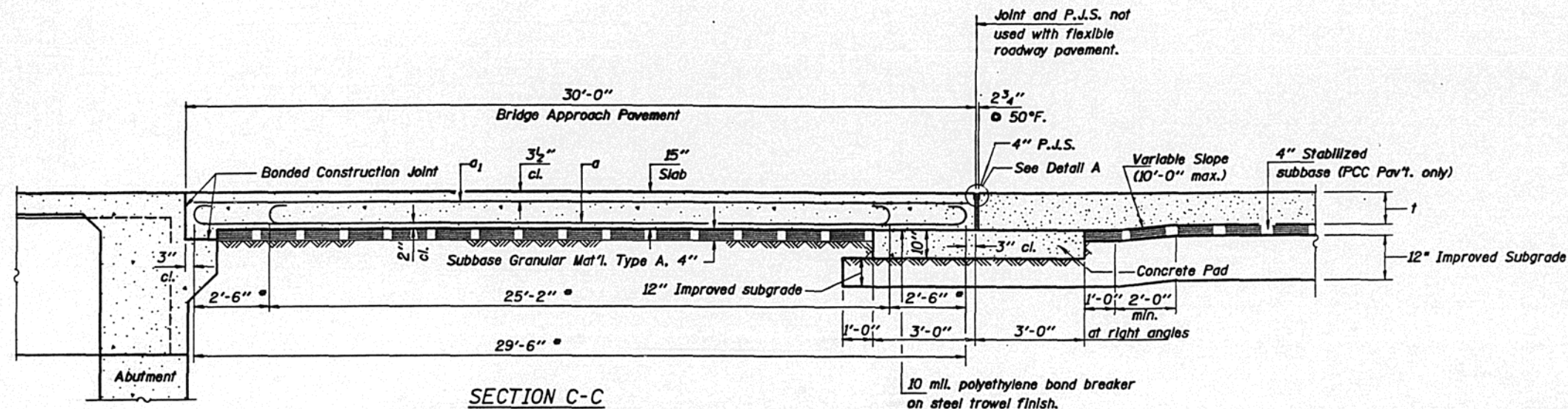
THICKNESS-"T"=Thickness of Pavement.

Width of Bridge Approach Slab shall be determined before the reinforcement bars are fabricated.

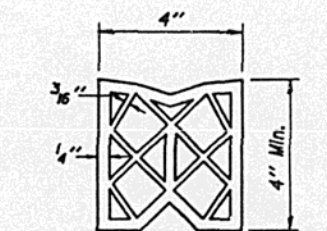
BRIDGE APPROACH PAVEMENT

STANDARD 2442-1

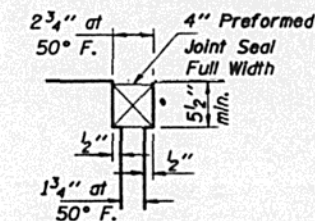
Sheet 1 of 2



SECTION C-C
* Stagger #9 a bars as shown on plan - full width

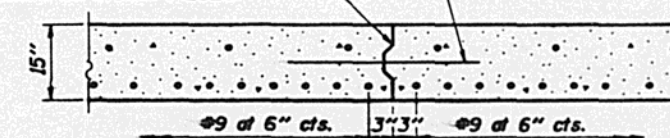


PREFORMED JOINT SEAL (4'')



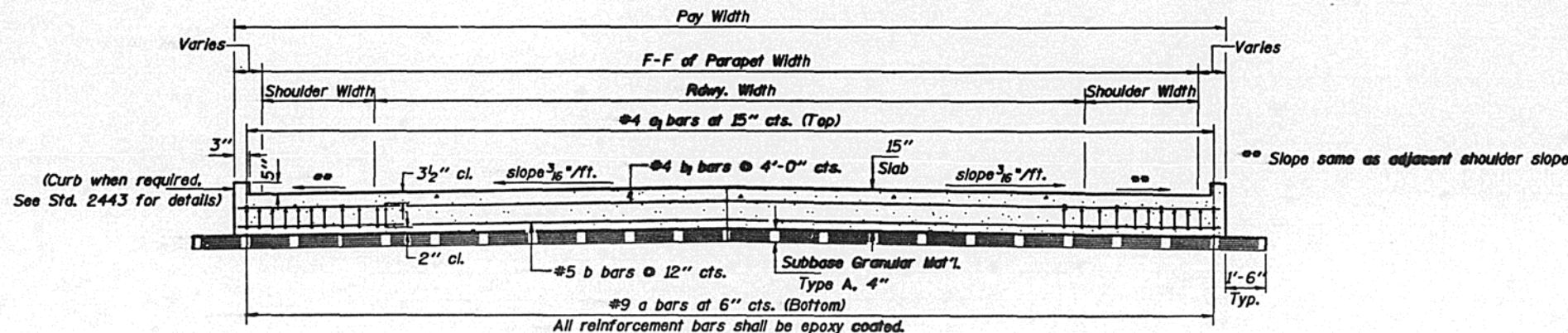
DETAIL A

Keyed Longitudinal Construction Joint in accordance with details shown on Standard 2323.

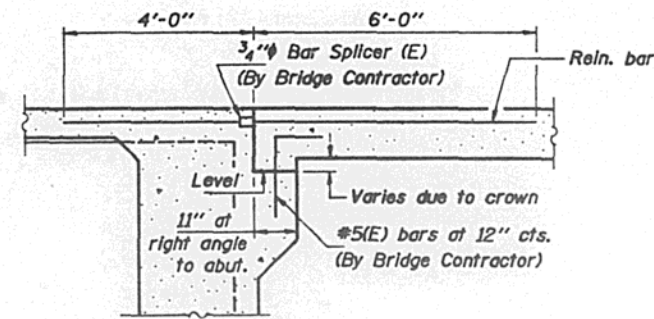
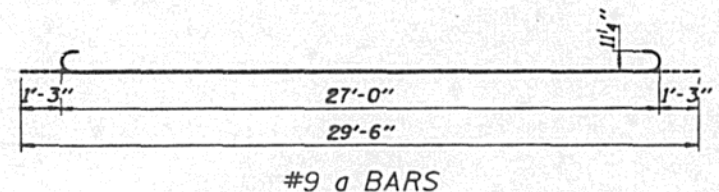


OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

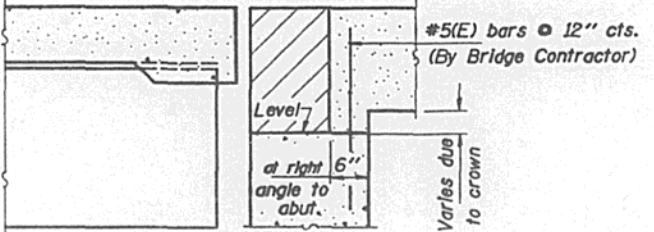
As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.



SECTION D-D
(See Plan for Dimensions not shown)

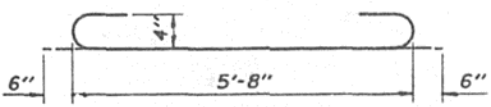


SECTION E-E
(Integral Abutments)



SECTION E-E
(Jointed Abutments)

DESIGN STRESSES
 $f_y = 60,000$ p.s.i.
 $f'_c = 3,500$ p.s.i.
 $n = 8.5$



BRIDGE APPROACH PAVEMENT	
Sheet 2 of 2	
STANDARD 2442-1	