INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET AND INDEX OF SHEETS
2	GENERAL NOTES, TYPICAL SECTIONS AND SUMMARY OF QUANTITIES
3	PLAN AND PROFILE
4	DETAIL OF STAGE CONSTRUCTION
5 - 12	BRIDGE PLANS
13	TRAFFIC CONTROL STANDARD 2309 (SPECIAL)

THE FOLLOWING STANDARDS ARE PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 13:

BLR 14-1	PCC PAVEMENT
1686-4	SYMBOLS AND ABBREVIATIONS
2113-2	NAME PLATES
2230-13	STEEL PLATE BEAM GUARD RAIL
2298-5	TRAFFIC CONTROL AND PROTECTION
2299-8	TRAFFIC CONTROL AND PROTECTION
2300-2	TRAFFIC CONTROL AND PROTECTION
2302-4	TRAFFIC CONTROL AND PROTECTION
2307-4	TRAFFIC CONTROL AND PROTECTION
2336-2	TRAFFIC BARRIER TERMINAL, TYPE 1A
2340-3	TRAFFIC BARRIER TERMINAL, TYPE 5A
2383-1	TEMPORARY CONCRETE BARRIER
2388-1	TRAFFIC BARRIER TERMINAL, TYPE 1
2303-5	TRAFFIC CONTROL AND PROTECTION
2305-4	TRAFFIC CONTROL AND PROTECTION
2306-4	TRAFFIC CONTROL AND PROTECTION
2381	TEMPORARY EROSION CONTROL SYSTEMS
2309-3	TRAFFIC CONTROL AND PROTECTION
2228-4	METAL END SECTION
2324-5	BRIDGE APPROACH SHOULDER PAVEMENT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

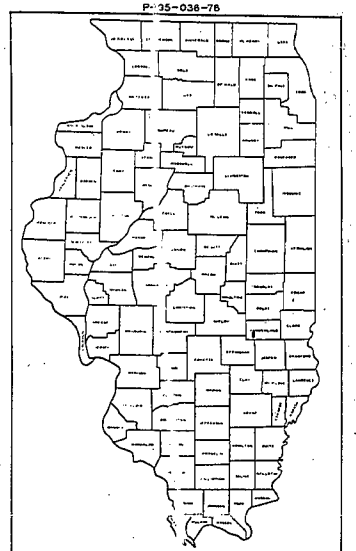
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALES { PLAN, PROFILE HOR., PROFILE VERT., CROSS-SECTIONS } 0 10 20 40 FEET

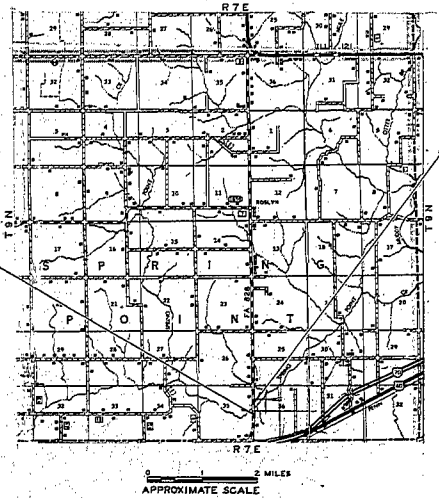
F.A. ROUTE 828
PROJECT BR-F-828(8)
SECTION 12BR-1
CUMBERLAND COUNTY
C-95-078-80

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
828	12BR-1	CUMBERLAND	13	1
F.A.P. RTE.	ILLINOIS	PROJECT BR-F-828(8)		

P-95-036-78



LOCATION OF SECTION INDICATED THUS: —



F.A. ROUTE 828
PROJECT BR-F-828(8)
SECTION 12BR-1
CUMBERLAND COUNTY
BEGINS STA. 452+63.54

F.A. ROUTE 828
PROJECT BR-F-828(8)
SECTION 12BR-1
CUMBERLAND COUNTY
ENDS STA. 453+72.46

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Jan 9 19 81
M G Jagels
DISTRICT ENGINEER

EXAMINED Feb 24 19 81
INCHARGE OF PLANS AND CONTRACTS

PASSED Feb 24 19 81
Thomas E Bright
ENGINEER OF BRIDGES

APPROVED Feb 25 19 81
DIRECTOR OF HIGHWAYS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

CONTRACT NO. 34939

LENGTH OF PROJECT BR-F-828(8) = 108.92 LIN. FT. = 0.021 MILES

CUMBERLAND COUNTY SECTION 12BR-1 F. A. ROUTE 828

828 12BRICUMBERLAND 13 2

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED OCTOBER 1, 1979, THE "MIMEOGRAPHED SPECIFICATIONS" AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

SECTION 12BR-1 CONSISTS OF REMOVING THE EXISTING BRIDGE OVER SPRING POINT CREEK AT STATION 453+18, NEW PIERS AND ABUTMENTS, NEW PRECAST PRESTRESSED CONCRETE DECK BEAM SUPERSTRUCTURE, BITUMINOUS CONCRETE RESURFACING, EARTHWORK AND OTHER INCIDENTAL WORK NECESSARY TO COMPLETE THIS SECTION.

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 SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ANY REFERENCE TO A STANDARD SHOWN IN THE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUB-NUMBER LISTED IN THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THE PLANS.

FOR BURIED UTILITY INFORMATION CALL "U.U.L.I.E." 800-892-0123

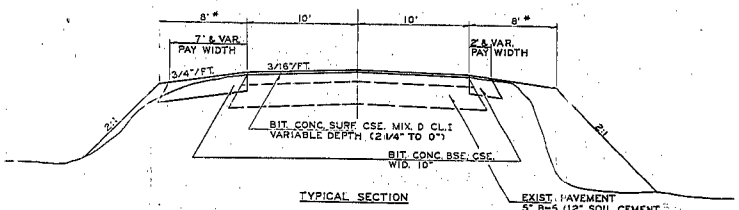
BORROW EXCAVATION NECESSARY FOR THE CONSTRUCTION OF THIS SECTION SHALL BE FURNISHED BY THE CONTRACTOR FROM LOCATIONS APPROVED BY THE ENGINEER.

THE SPRING SEEDING SEASON SHALL EXTEND FROM JANUARY 1 THROUGH JUNE 30. THE FALL SEEDING SEASON SHALL EXTEND FROM JULY 1 THROUGH DECEMBER 31. SEEDING SHALL BE DONE AT SUCH TIME AS TO PROVIDE FOR STRICT COMPLIANCE WITH ARTICLE 107.30 OF THE STANDARD SPECIFICATIONS. SPECIFIC APPLICATION RATES FOR SEEDING CLASS II SUPPORTIVE MATERIALS SHALL BE:

80 POUNDS PER ACRE OF NITROGEN FERTILIZER NUTRIENTS
80 POUNDS PER ACRE OF PHOSPHORUS FERTILIZER NUTRIENTS
80 POUNDS PER ACRE OF POTASSIUM FERTILIZER NUTRIENTS
4 TONS PER ACRE OF AGRICULTURAL GROUND LIMESTONE
2 TONS PER ACRE OF MULCH

ESTIMATED QUANTITIES FOR EARTHWORK INCLUDE:

EARTH EXCAVATION 422 CU. YD.
BORROW EXCAVATION 88 CU. YD.



TYPICAL SECTION

STA. 452+43.54 TO STA. 452+63.54
STA. 453+72.46 TO STA. 453+92.46

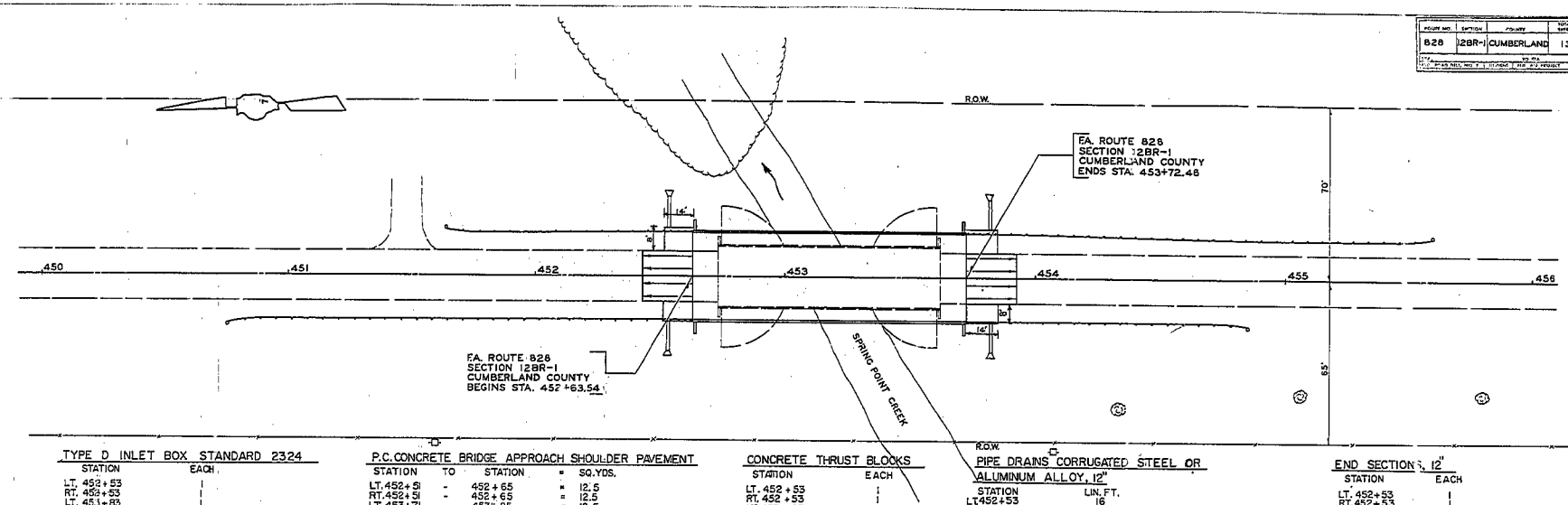
* VARIES FROM 4' EXIST. SHOULDER TO 8'
STA. 451+44 TO STA. 452+43.54
STA. 453+92.46 TO STA. 454+93

SUMMARY OF QUANTITIES

CODE	ITEM	UNIT	SAFETY CODE / CONSTRUCTION TYPE CODE TOTAL	SECTION 12BR-1 CUMBERLAND CO. S31 X080
X04748	MOBILIZATION	L. SUM	1	1
X05728	TEMPORARY BRIDGE RAIL	LIN. FT.	112	112
X61840	TEMPORARY CONCRETE BARRIER	LIN. FT.	390	390
X61841	TEMPORARY CONCRETE BARRIER, TERMINAL SECTION	EACH	2	2
X61842	RELOCATE TEMPORARY CONCRETE BARRIER	LIN. FT.	244	244
X62835	TRAFFIC BARRIER TERMINAL, TYPE 1A	EACH	4	4
X62837	STEEL PLATE BEAM GUARD RAIL, TYPE A	LIN. FT.	437.5	437.5
X62843	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4	4
X62875	TRAFFIC BARRIER TERMINAL, TYPE 11	EACH	2	2
Z10317	PORTLAND CEMENT MORTAR FAIRING COURSE	LIN. FT.	847	847
Z10530	WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	408	408
207001	EMBANKMENT	CU. YD.	358	358
306005	BITUMINOUS CONCRETE BASE COURSE WIDENING 10"	SQ. YD.	112	112
406005	LEVELING BINDER (MACHINE METHOD)	TON	15	15
406013	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS 2	TON	46	46
304005	PORTLAND CEMENT CONCRETE BASE COURSE 10".	SQ. YD.	15	15
501001	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
502001	STRUCTURE EXCAVATION	CU. YD.	29	129
503003	PROTECTIVE COAT	SQ. YD.	0	30
504003	CLASS X CONCRETE	CU. YD.	13.7	156.7
505003	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ. FT.	3677	3807
508009	STEEL RAILING, TYPE T	LIN. FT.	2.2	212
511759	END SECTION 12"	EACH	4	4
512001	REINFORCEMENT BARS	POUND	8800	9680
513013	FURNISHING STEEL PILES HP8X36	LIN. FT.	61	661
513027	DRIVING STEEL PILES	LIN. FT.	61	661
513033	TEST PILE STEEL HP8X36	EACH	1	1
408015	P.C.CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT	SQYD	50	50
514001	NAME PLATES	EACH	1	1
601001	STONE RIPRAP	SQ. YD.	730	730
612471	TYPE D INLET BOX STANDARD 2324	EACH	4	4
642010	SEEDING, CLASS II (SPECIAL)	ACRE	0.5	0.5
648009	TRAFFIC CONTROL AND PROTECTION, STANDARD 2309 (SPECIAL)	EACH	1	1
646004	ENGINEER'S FIELD OFFICE, TYPE A	CAL. MO.	6	6
607050	PIPE DRAINS CORRUGATED STEEL OR ALUMINUM ALLOY 12"	LIN.FT.	64	64
XZ1232	CONCRETE THRUST BLOCK	EACH	4	4

Revised

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
828	12BR-1	CUMBERLAND	13	3



TYPE D INLET BOX STANDARD 2324

STATION	EACH
LT. 452+53	1
RT. 452+53	1
LT. 453+83	1
RT. 453+83	1
TOTAL =	4

P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT

STATION		TO	STATION	=	SQ.YDS.
LT. 452+51	-		452+65	=	12.5
RT. 452+51	-		452+65	=	12.5
LT. 453+71	-		453+85	=	12.5
RT. 453+71	-		453+85	=	12.5
TOTAL				=	50 SQ.YDS.

CONCRETE THRUST BLOCKS

STATION	EACH
LT. 452+53	1
RT. 452+53	1
LT. 453+83	1
RT. 453+83	1
TOTAL	4

PIPE DRAINS CORRUGATED STEEL OR ALUMINUM ALLOY, 12"

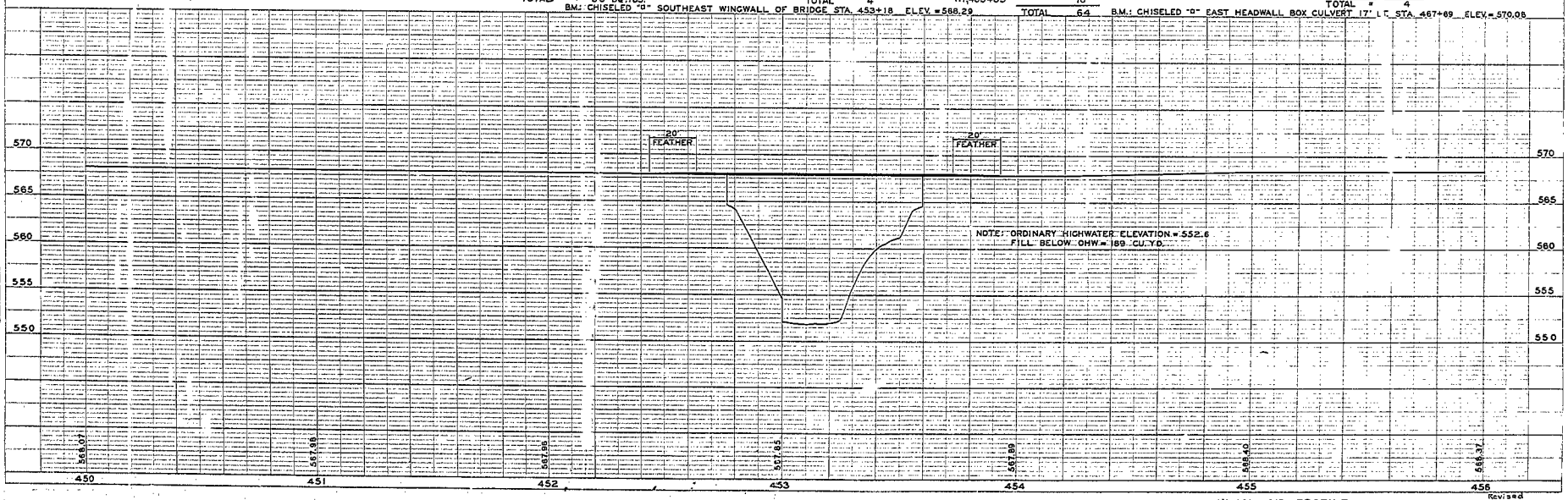
STATION	LIN. FT.
LT. 452+53	16
RT. 452+53	16
LT. 453+83	16
RT. 453+83	16
TOTAL	64

END SECTIONS, 12"

STATION	EACH
LT. 452+53	1
RT. 452+53	1
LT. 453+83	1
RT. 453+83	1
TOTAL =	4

B.M.: CHISELED "D" SOUTHEAST WINGWALL OF BRIDGE STA. 453+18 ELEV. = 568.29

B.M.: CHISELED "D" EAST HEADWALL BOX CULVERT 17' LT. STA. 467+69 ELEV. = 570.08

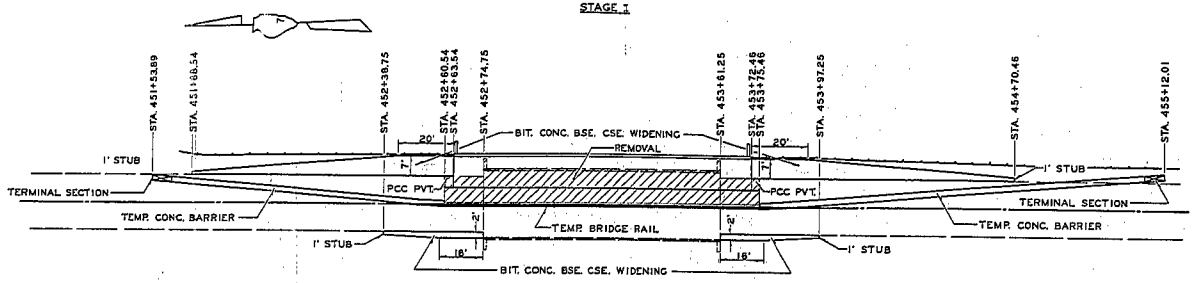


PLAN AND PROFILE

Revised

SHEET NO.	DISTRICT	COUNTY	TOTAL SHEETS	SHEET NO.
828	12BR-1	CUMBERLAND	13	4

STAGE I



CONSTRUCT TEMPORARY CONCRETE BARRIER

STA. 451+60.89	TO	STA. 452+80.54	100 LIN. FT.
STA. 453+75.46	TO	STA. 455+05.01	130 LIN. FT.
		TOTAL	230 LIN. FT.

CONSTRUCT TEMPORARY CONCRETE BARRIER, TERMINAL SECTION

STA. 451+53.89	1 EACH
STA. 455+12.01	1 EACH
TOTAL	2 EACH

CONSTRUCT TRAFFIC BARRIER TERMINAL, TYPE 1I

STA. 452+60.54	1 EACH
STA. 453+75.46	1 EACH
TOTAL	2 EACH

CONSTRUCT BITUMINOUS CONCRETE BASE COURSE WIDENING 10"

LT. STA. 451+68.54	TO	STA. 452+63.54	49 SQ. YD.
RT. STA. 452+38.75	TO	STA. 452+74.75	7 SQ. YD.
RT. STA. 453+61.25	TO	STA. 453+97.25	7 SQ. YD.
LT. STA. 453+72.46	TO	STA. 454+70.46	49 SQ. YD.
		TOTAL	112 SQ. YD.

CONSTRUCT PCC BASE COURSE 10"

STA. 452+60.54	TO	STA. 452+63.54	1.5 SQ. YD.
STA. 453+72.46	TO	STA. 453+75.46	1.5 SQ. YD.
		TOTAL	3.0 SQ. YD.

EARTHWORK QUANTITIES

EARTH EXCAVATION	211 CU. YD.
BORROW EXCAVATION	47 CU. YD.
EMBANKMENT	180 CU. YD.

CONSTRUCT STEEL PLATE BEAM GUARD RAIL, TYPE A

LT. STA. 451+89.29	TO	STA. 452+51.79	62.5 LIN. FT.
LT. STA. 453+84.21	TO	STA. 455+34.21	150.0 LIN. FT.
		TOTAL	212.5 LIN. FT.

CONSTRUCT TRAFFIC BARRIER TERMINAL, TYPE 1A

LT. STA. 451+64.29	TO	STA. 451+89.29	1 EACH
LT. STA. 455+34.21	TO	STA. 455+59.21	1 EACH
		TOTAL	2 EACH

CONSTRUCT TRAFFIC BARRIER TERMINAL, TYPE 5A

LT. STA. 452+51.79	TO	STA. 452+65.04	1 EACH
LT. STA. 453+70.96	TO	STA. 453+84.21	1 EACH
		TOTAL	2 EACH

STAGE I

1- CONSTRUCT BITUMINOUS CONCRETE SHOULDER DETOUR ON SOUTHBOUND SHOULDER.

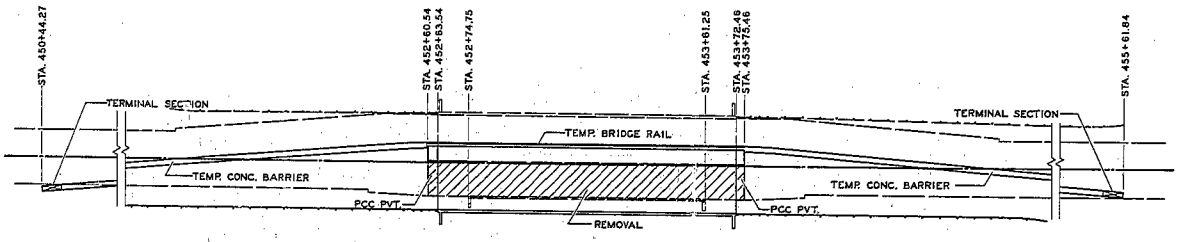
2- PLACE TRAFFIC SIGNALS, TEMPORARY BRIDGE RAIL, TEMPORARY CONCRETE BARRIER, ETC. ACCORDING TO TRAFFIC CONTROL STANDARD 2309 (SPECIAL).

3- REMOVE AND RECONSTRUCT BRIDGE FOR STAGE I.

4- CONSTRUCT BITUMINOUS CONCRETE SHOULDER DETOUR ON NORTHBOUND SHOULDER AND PCC PAVEMENT FOR NORTHBOUND LANE.

5- CONSTRUCT GUARD RAIL ON NORTHBOUND SHOULDER.

STAGE II



CONSTRUCT TEMPORARY CONCRETE BARRIER

STA. 450+44.27	TO	STA. 452+80.54	110 LIN. FT.
STA. 453+75.46	TO	STA. 455+61.84	50 LIN. FT.
		TOTAL	160 LIN. FT.

RELOCATE TEMPORARY CONCRETE BARRIER

STA. 450+44.27	TO	STA. 452+80.54	107 LIN. FT.
STA. 453+75.46	TO	STA. 455+61.84	137 LIN. FT.
		TOTAL	244 LIN. FT.

CONSTRUCT PCC BASE COURSE 10"

STA. 452+60.54	TO	STA. 452+83.54	6.0 SQ. YD.
STA. 453+72.46	TO	STA. 453+75.46	6.0 SQ. YD.
		TOTAL	12.0 SQ. YD.

EARTHWORK QUANTITIES

EARTH EXCAVATION	211 CU. YD.
BORROW EXCAVATION	41 CU. YD.
EMBANKMENT	178 CU. YD.

CONSTRUCT STEEL PLATE BEAM GUARD RAIL, TYPE A

RT. STA. 451+01.79	TO	STA. 452+51.79	150.0 LIN. FT.
RT. STA. 453+84.21	TO	STA. 454+59.21	75.0 LIN. FT.
		TOTAL	225.0 LIN. FT.

CONSTRUCT TRAFFIC BARRIER TERMINAL, TYPE 1A

RT. STA. 450+76.79	TO	STA. 451+01.79	1 EACH
RT. STA. 454+59.21	TO	STA. 454+84.21	1 EACH
		TOTAL	2 EACH

CONSTRUCT TRAFFIC BARRIER TERMINAL, TYPE 5A

RT. STA. 452+51.79	TO	STA. 452+65.04	1 EACH
RT. STA. 453+70.96	TO	STA. 453+84.21	1 EACH
		TOTAL	2 EACH

STAGE II

1- RELOCATE TEMPORARY BRIDGE RAIL TEMPORARY CONCRETE BARRIER ETC. ACCORDING TO TRAFFIC CONTROL STANDARD 2309 (SPECIAL).

2- REMOVE AND RECONSTRUCT BRIDGE FOR STAGE II.

3- CONSTRUCT SOUTHBOUND SHOULDER AND PAVEMENT FOR SOUTHBOUND LANE.

4- CONSTRUCT GUARD RAIL ON SOUTHBOUND SHOULDER.

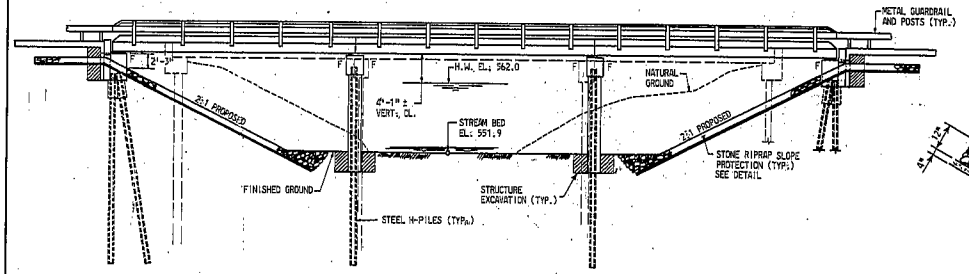
STAGE CONSTRUCTION DETAILS

BM CHISELED "□" ON SOUTHEAST WINGWALL OF BRIDGE STA. 453+18 EL. 568.29 THE EXISTING 3 SPAN (88'-9" ± 24'-ROWY.) I-BEAM BRIDGE WITH CONCRETE SLAB, TIMBER BENTS AND SPILL THRU ABUTMENTS, BUILT IN 1936 AS S.A. 3 SEC 12B-1, IS TO BE REMOVED IN STAGES AND REPLACED BY THE PROPOSED STRUCTURE.

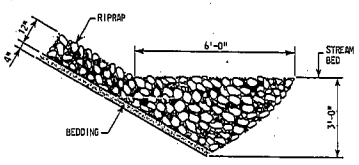
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. F.A.828	12BR-1	CUMBERLAND	13	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

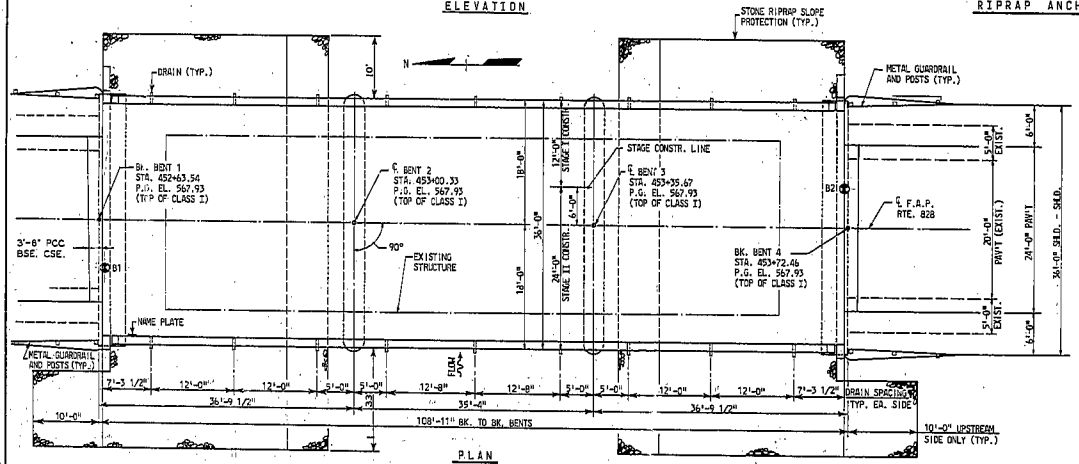
SHEET NO. 1
8 SHEETS



ELEVATION



RIPRAP ANCHOR DETAIL



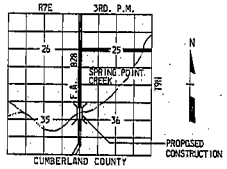
PLAN

WATERWAY INFORMATION

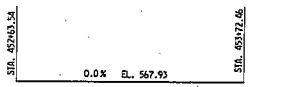
DRAINAGE AREA = 17.1 SQ. MILES LOW GRADE ELEV. = 551.9 @ STA. 453+14.

FLOOD	FREQ. YR.	Q C.F.S.	OPENING SQ. FT. EXIST.	OPENING SQ. FT. PROP.	NAT. H.W.E.	HEAD - FT. EXIST.	HEAD - FT. PROP.	HEADWATER ELEV. EXIST.	HEADWATER ELEV. PROP.
DESIGN	50	3375	453	732	562.0	1.85	0.7	563.85	562.7
BASE	100	3865	480	769	562.4		0.9		563.3
OVERTOPPING									
MAX. CALC.	500								

DESIGNED	Y. DONNICH	Thomas D. Jenkins 10-17-80
DRAWN	H.L. METCALF	Greiner Engineering Sciences, Inc.
CHECKED	M.E. ZAGLAMA	CONSULTING ENGINEERS



LOCATION SKETCH



PROPOSED PROFILE F.A.P. RTE. 828
(TOP OF CLASS I)

GENERAL NOTES

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY UTILIZING STAGED CONSTRUCTION AND TEMPORARY BRIDGE RAIL.

CONTRACTOR SHALL BE RESPONSIBLE FOR SAFE LATERAL SUPPORT OF BENTS 2 AND 3 DURING ALL STAGES OF CONSTRUCTION. TEMPORARY LATERAL SUPPORTS MAY BE REMOVED FROM BENTS 2 AND 3 ONLY WHEN THE WHOLE SUPERSTRUCTURE STAGE I HAS BEEN COMPLETED.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT UNIT PRICE BID FOR THE WORK.

THE TOP SURFACE OF THE BEAMS SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 505.06 OF THE STANDARD SPECIFICATION EXCEPT THAT THE SURFACE SHALL NOT BE ROUGHENED BY GROOVING. THE FINISHED SURFACE SHALL BE FREE OF DEPRESSIONS OR HIGH SPOTS WITH SHARP CORNERS, AND THE TOP SIDE OF KEYS SHALL BE ROUNDED OR CHAMFERED A MINIMUM OF ¾". PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH WATERPROOFING MEMBRANE SYSTEM IS APPLIED.

LIMITS OF WATERPROOFING MEMBRANE SYSTEM SHALL BE BK. TO BACK ABUTMENTS AND FACE TO FACE OF CURBS.

FOR BORING DATA SEE THE PROPOSAL.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. M-31 OR M-53 GRADE 60, EXCEPT AS NOTED.

PAVEMENT REMOVAL BETWEEN STATIONS 452+60.54 AND 453+75.46 IS INCLUDED IN REMOVAL OF EXISTING STRUCTURES.

THE CONTRACTOR SHALL DRIVE 1 STEEL HP 8 x36 TEST PILE IN A PERMANENT LOCATION AT BENT 2 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

DESIGN STRESSES

FIELD UNITS
fc = 1,400 PSI. SUB & CURB
fs = 24,000 PSI. REINF. (Except as noted)

PRECAST PRESTRESSED UNITS
f'c = 5,000 PSI.
fci = 4,000 PSI.
f's = 270,000 PSI. 1/2"ø STRANDS
fsi = 189,000 PSI. 1/2"ø STRANDS

LOADING HS 20-44
DESIGN SPECIFICATIONS AASHTO 1977, INCLUDING 1978 & 1979 INTERIMS. ALLOW 25# SQ. FT. FOR FUTURE WEARING SURFACE.

Note: X, X, ℄ X℄ bars shall conform to AASHTO Designation M31 or M53 except that the minimum yield strength shall not be less than 40,000 psi. or exceed 45,000 psi.

STATION 453+18
BUILT 198_ BY
STATE OF ILLINOIS
F.A. RT. 828 SEC. 12 BR-1
PROJ. BR-F-828(8)
LOADING HS20
STR. NO. 018-0057

NAME PLATE
(SEE STD. 2113)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
BITUMINOUS CONCRETE SURFACE COURSE MIXTURE D, CLASS I	TONS	46	-	46
REMOVAL OF EXISTING STRUCTURES	LSUM	-	-	1
CLASS X CONCRETE	CU. YD.	6.5	150.2	156.7
PRECAST PRESTRESSED CONCRETE DECK BEAM (17" DEPTH)	SQ. FT.	3807	-	3807
REINFORCEMENT BARS	LBS.	320	8560	8880
STEEL RAILING TYPE "T"	LIN. FT.	212	-	212
PROTECTIVE COAT	SQ. YD.	35	3	38
WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	408	-	408
STEEL PILES (HP 8 x36)	LIN. FT.	-	66/	66/
TEMPORARY BRIDGE RAIL	LIN. FT.	112	-	112
NAME PLATE	EACH	1	-	1
PORTLAND CEMENT MORTAR FAIRING COURSE	LIN. FT.	847	-	847
STONE RIPRAP	SQ. YD.	-	730	730
TEST PILE STEEL HP 8 x36	EACH	-	1	1
STRUCTURE EXCAVATION	CU. YD.	-	129	129

STATE OF ILLINOIS 1975 REGISTERED STRUCTURAL ENGINEER

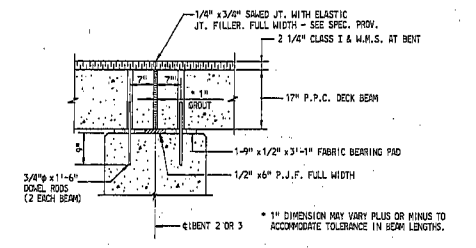
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Carl E. Thunmann
DIRECTOR OF HIGHWAYS

GENERAL PLAN AND ELEVATION
F.A. RTE. 828 OVER SPRING POINT CREEK
F.A. RTE. 828 SEC. 12BR-1
CUMBERLAND COUNTY
STATION 453+18
P-95-036-78

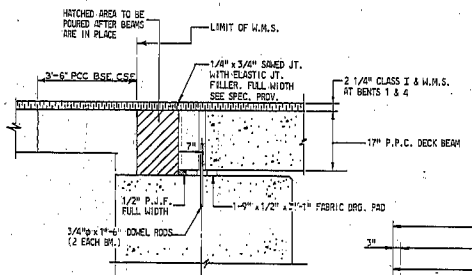
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. 828	12BR-1	CUMBERLAND	13	6
FED. ROAD - ST. NO. 7	ILLINOIS	FED. AID PROJECT		

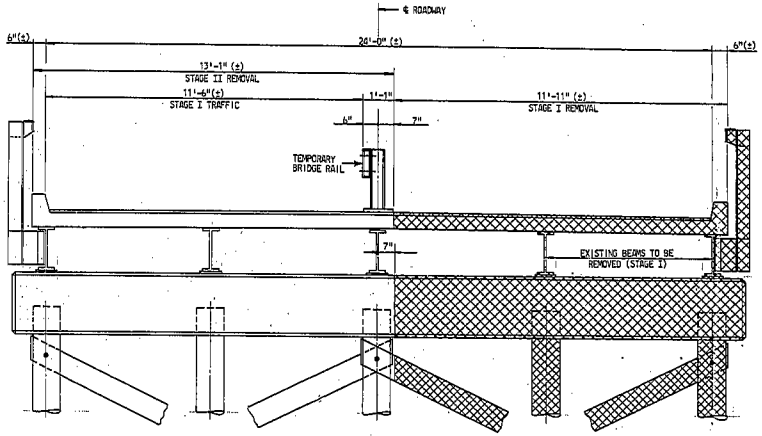
SHEET NO. 2
8 SHEETS



SECTION THRU BENTS 2 & 3

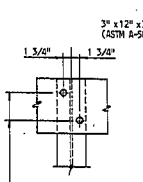


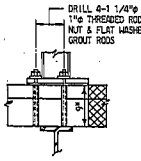
SECTION THRU BENTS 1 & 4



REMOVAL
(LOOKING NORTH)

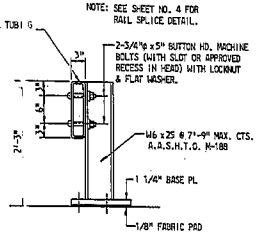
NOTE:
CROSS HATCHED AREAS INDICATE STAGE I REMOVAL.

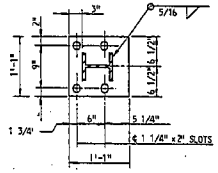




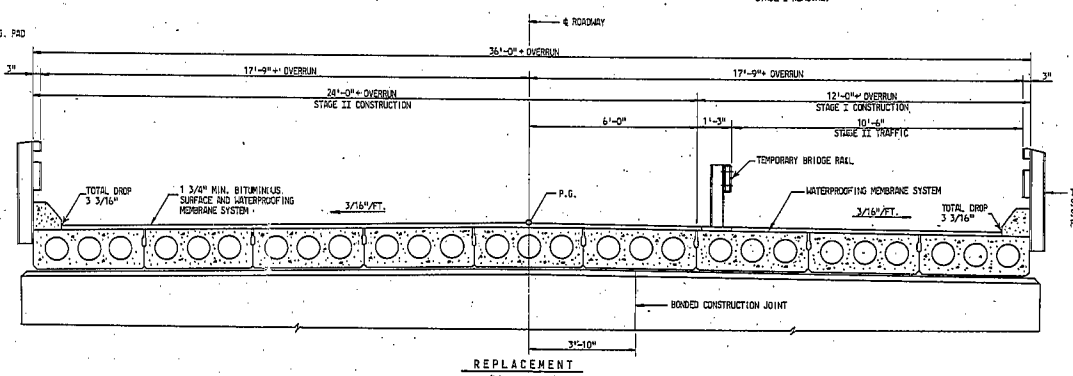
EXISTING DECK ANCHORAGE DETAIL

NOTE: SEE SHEET NO. 4 FOR RAIL SPLICE DETAIL.

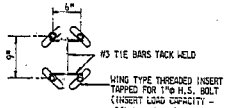




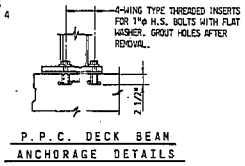
BASE PLATE



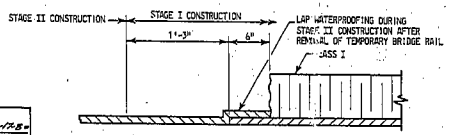
REPLACEMENT
(LOOKING NORTH)



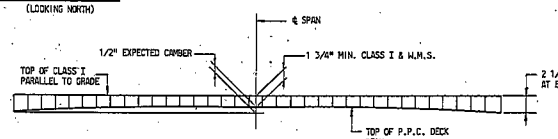
INSERT DETAIL



P.P.C. DECK BEAM ANCHORAGE DETAILS



WATERPROOFING TREATMENT



BITUMINOUS SURFACE PROFILE
(TYPICAL)

TEMPORARY BRIDGE RAIL DETAILS
(SEE SPECIAL PROVISIONS)

DESIGNED	Y. DOMNICH
DRAWN	O.A.&BENDIUK
CHECKED	M.E.ZAGLAVA

Thomas D. Johnson 10-17-80

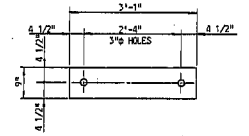
Greiner Engineering Sciences, Inc.
CONSULTING ENGINEERS

STAGE CONSTRUCTION
F.A. RTE. 828 SEC. 12BR-1
CUMBERLAND COUNTY
STATION 453+16

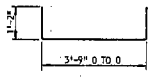
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. 828	12BR-1	CUMBERLAND	13	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

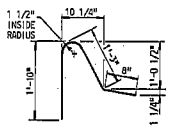
SHEET NO. 3
8 SHEETS



1/2" FABRIC BEARING PAD

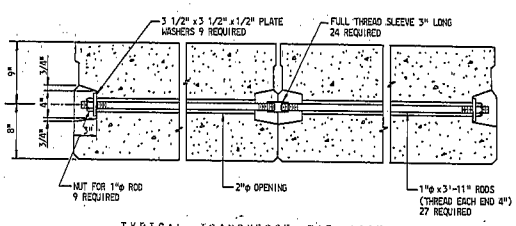


U BAR

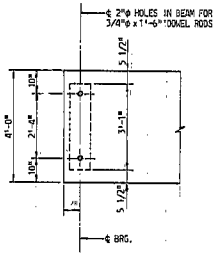


D BAR

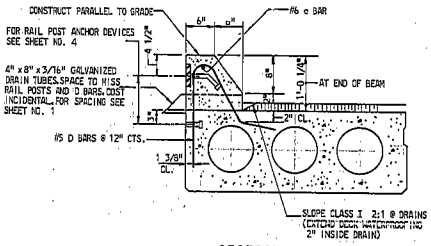
NOTE: INCLUDE 3 NUTS & WASHERS FOR STAGE CONSTRUCTION.



TYPICAL TRANSVERSE TIE ASSEMBLY

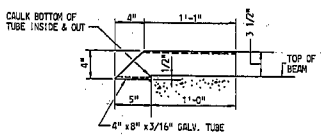


PLAN OF END OF BEAM

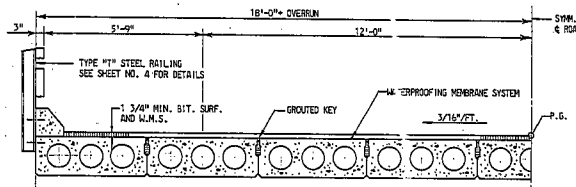


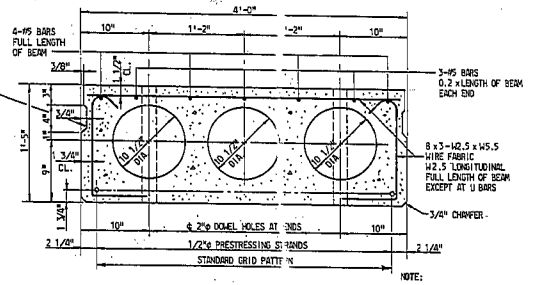
SECTION THRU CURB

CURBS SHALL BE POURED IN THE FIELD CLASS X CONCRETE & ○ BARS FOR CURBS ARE BILLED ON SHEET NO. 4.



DRAIN DETAIL
(COST INCIDENTAL)

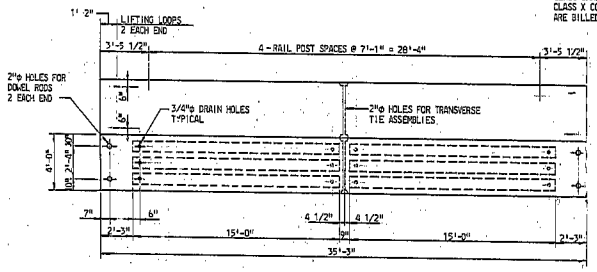




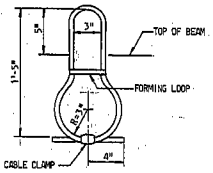
TYPICAL BEAM SECTION

1/2"ϕ STRANDS, EACH STRAND STRESSED TO 28900 LBS. 10 STRANDS 1 3/4" UP.

NOTE: PLACE STRANDS SYMMETRICALLY ABOUT ℄ BEAM.



TYPICAL PLAN OF BEAM



LIFTING LOOP DETAIL

HALF CROSS SECTION

FOR STAGE CONSTRUCTION SEE SHEET NO. 2.

NOTES

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 SQUARE INCH.

LIFTING LOOPS SHALL BE 1/2" DIAMETER, 6 x 25 CLASS WIRE ROPE WITH FIBER CORE AND SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH OF 21,000 LBS.

THE 1"ϕ RODS IN THE TRANSVERSE TIE ASSEMBLY SHALL BE TIGHTENED TO A SNUG FIT AND THE THREADS SET. POCKETS THAT RECEIVE TRANSVERSE TIE BAR ON OUTSIDE SHALL BE FILLED WITH GROUT AFTER TRANSVERSE TIE ASSEMBLY IS IN PLACE.

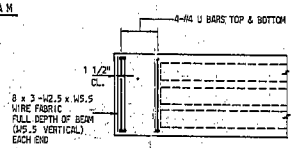
AFTER BEAMS HAVE BEEN ERECTED, HOLES FOR THE DOWEL ANCHORS SHALL BE DRILLED INTO THE SUBSTRUCTURE AND THE ANCHOR DOWELS SHALL BE GROUTED IN PLACE.

REINFORCEMENT SHALL BE A.A.S.H.T.O. M-31 OR M-53 GRADE 60.

AFTER FABRICATION THE TRANSVERSE TIE ASSEMBLIES (TIE RODS, NUTS, WASHERS AND SLEEVES) SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH A.A.S.H.T.O. DESIGNATION M232.

COST OF REINFORCEMENT AND ACCESSORIES CAST INTO THE BEAM, OF TIE ROD ASSEMBLIES, OF DOWEL BARS, OF BEARING PADS, AND OF GROUTING LONGITUDINAL SHEAR KEYS IS INCLUDED IN UNIT PRICE BID FOR "PRECAST PRESTRESSED CONCRETE DECK BEAMS".

TEMPORARY BARRIER ANCHOR INSERTS SHALL BE CAST INTO THE BEAMS. FOR DETAIL OF INSERT SEE SHEET NO. 2.



BEAM END REINFORCEMENT

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEEP)			SQ. FT.	3807

DESIGNED	Y. DOMNICH
DRAWN	D.A. WENDIUK
CHECKED	M.E. ZAGLAMA

Thomas D. Johnson 10-17-84

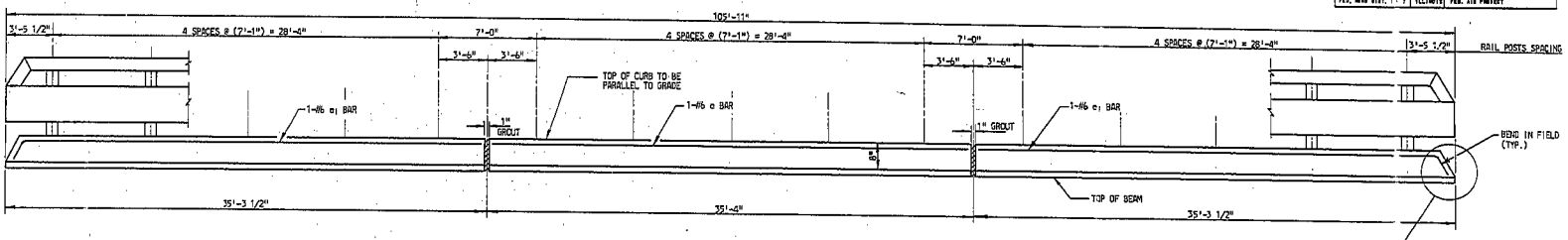
Greiner Engineering Sciences, Inc.
CONSULTING ENGINEERS

SUPERSTRUCTURE
SPANS 1, 2 AND 3
F.A. RTE. 828 SEC. 12BR-1
CUMBERLAND COUNTY
STATION 453+18

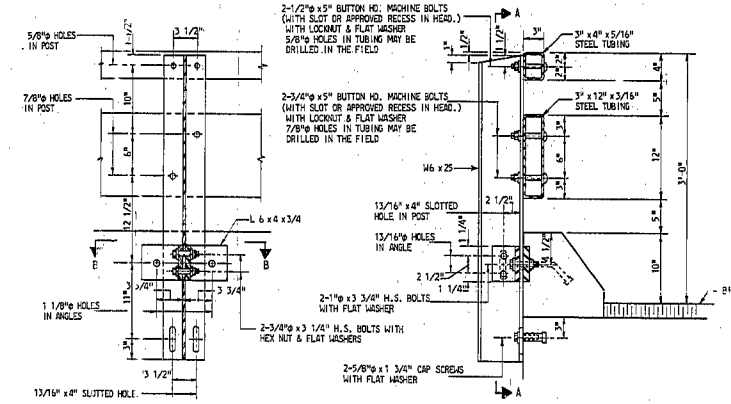
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. F.A.828	122 R-1	CUMBERLAND	13	8
FED. ROAD DIST.	7	ILLINOIS	FED. AID PROJECT	

SHEET NO. 4
8 SHEETS

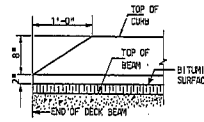


ELEVATION
(SHOWING INSIDE FACE)

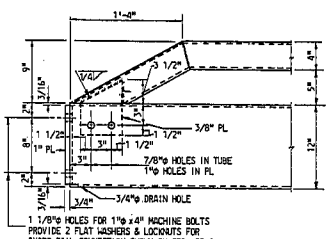


SECTION A-A

SECTION AT RAIL POST



END OF CURB DETAIL
(FOR SECTION THRU CURB SEE SHEET NO. 3).



END OF RAIL DETAILS

NOTES

HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A-500 GRADE B STRUCTURAL STEEL TUBING.

ALL OTHER STEEL SHAPES AND PLATE SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M-183 EXCEPT FOR POSTS AND ANGLES THAT SHALL CONFORM TO A.A.S.H.T.O. M-223 GRADE 50.

BOLTS, CAP SCREWS, AND NUTS SHALL CONFORM TO THE REQUIREMENT OF A.S.T.M. DESIGNATION A-307 EXCEPT FOR HIGH STRENGTH BOLTS, NUTS AND WASHERS NOTED WHICH SHALL CONFORM TO A.A.S.H.T.O. M-164.

ALL BOLTS, NUTS, CAP SCREWS, WASHERS AND LOCK WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH A.A.S.H.T.O. M-232.

ALL POSTS, RAILING, RAIL SPLICES, ANCHOR DEVICES AND ANGLES SHALL BE GALVANIZED AFTER SHOP FABRICATION IN ACCORDANCE WITH A.A.S.H.T.O. M-111 AND A.S.T.M. A-385. GALVANIZED RAIL SHALL NOT BE PAINTED.

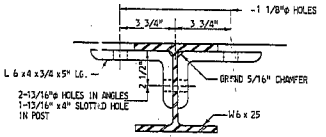
RAILING SHALL BE IN ACCORDANCE WITH SECTION 508 OF THE STANDARD SPECIFICATIONS, EXCEPT AS NOTED, AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR STEEL RAILING, TYPE T.

ALL FIELD DRILLED HOLES SHALL BE COATED WITH AN APPROVED ZINC RICH PAINT BEFORE ERECTION.

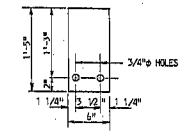
THE LOWER PORTION OF THE POST FLANGE IN CONTACT WITH CONCRETE SHALL RECEIVE TWO COATS OF ASPHALT PAINT CONFORMING TO SECTION 714.08 TYPE B OR PLACE 1/8" FABRIC BEARING PAD BETWEEN THE POST AND CONCRETE.

THE 3/4"ø HIGH STRENGTH BOLTS USED TO CONNECT THE 6 x 4 x 3/4 ANGLES TO THE POST SHALL BE TIGHTENED IN ACCORDANCE WITH ARTICLE 507.04(g)(3) OF THE STANDARD SPECIFICATIONS. THE 1"ø HIGH STRENGTH BOLTS CONNECTING THE ANGLES TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/6 TURN. THE 5/8" CAP SCREWS IN BOTTOM OF POSTS SHALL BE TIGHTENED TO A SNUG FIT ONLY.

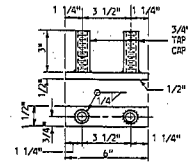
SUFFICIENT 1/4" x 6" x 1'-5" GALVANIZED STEEL SHIMS SHALL BE PROVIDED TO ALIGN RAIL BETWEEN ADJACENT SPANS. COST INCIDENTAL TO STEEL RAILING.



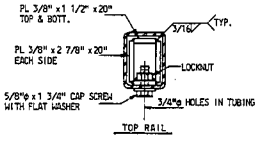
SECTION B-B

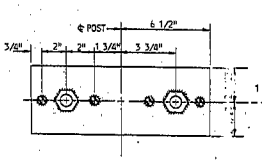


1/4" SHIM PLATE

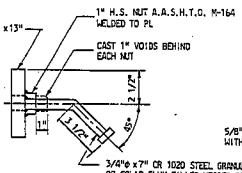


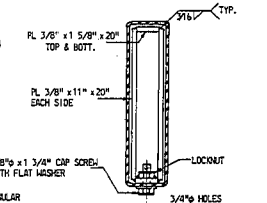
BOTTOM ANCHOR DEVICE



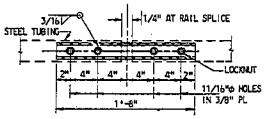


TOP ANCHOR DEVICE





SECTIONS AT RAIL SPLICE



PLAN - BOTT. SPLICE PL
TYPICAL

CURB & RAIL
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
c	2	6	35'-0"	——
c1	4	6	35'-2"	——
REINFORCEMENT BARS			LBS.	320
CLASS X CONCRETE			CU. YDS.	6.5
STEEL RAILING, TYPE T			LIN. FT.	212

DESIGNED	Y. DOMNICH	Thomas D. Gehrig 10-17-80
DRAWN	M.F. GRUN	Greiner Engineering Sciences, Inc.
CHECKED	M.E. ZIOLKO	CONSULTING ENGINEERS

TYPE T STEEL RAILING
F.A. RTE. 828 SEC. 12BR-1
CUMBERLAND COUNTY
STATION 453+16

Type T Steel Railing

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.828	2BR-1	CUMBERLAND	13	9
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 5
8 SHEETS

PILE DATA
TYPE: HP8 x 36
CAPACITY: DRIVE TO REFUSAL
ESTIMATED LENGTH: 24 FT.
NUMBER REQ.: 7

SECTION THRU BENT

ELEVATION
(LOOKING NORTH)

SECTION A-A
(TYPICAL WALL PILES)

PLAN

PLAN - PILE CAP

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	4	#5	31'-6"	
h1	4	#5	51'-11"	
h2	4	#5	61'-0"	
h3	20	#5	61'-6"	
h4	4	#5	171'-2"	
h5	4	#5	211'-10"	
p	10	#7	211'-10"	
p1	10	#7	141'-2"	
x	10	#7	7'-8"	
s	12	#4	151'-11"	
s1	16	#4	161'-3"	
u	8	#6	121'-11"	
v	12	#4	81'-9"	
v1	68	#4	21'-6"	
v2	4	#4	51'-11"	
REINFORCEMENT BARS			LBS.	1910
CLASS X CONCRETE			CU. YD.	27.4
STEEL PILES (HP 8 x 36)			LIN. FT.	168

BAR x
BAR h
BARS s AND s1
BARS u AND v2
BAR v

FIELD CUT AS SHOWN AND USE REMAINING BARS IN OPPOSITE FACE.

LEGEND:
INDICATES PILE BATTERED 2:12 IN DIRECTION OF ARROW
INDICATES PLUMB PILE

DESIGNED	Y. DOMICH
DRAWN	T. CISSNER
CHECKED	M.E.J ZAGLAMA

Greiner Engineering Sciences, Inc.
CONSULTING ENGINEERS

BENT 1
F.A. RTE. 828 SEC. 12BR-1
CUMBERLAND COUNTY
STATION 453+18

Spring Pt Cr

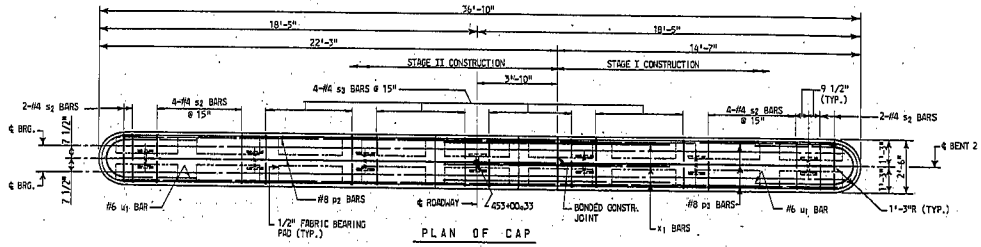
PILE DATA

TYPE: HP 8 x 36
CAPACITY: DRIVE TO REFUSAL
ESTIMATED LENGTH: 25' FT.
NUMBER REQ.: 7 (Includes 1 Test Pile)

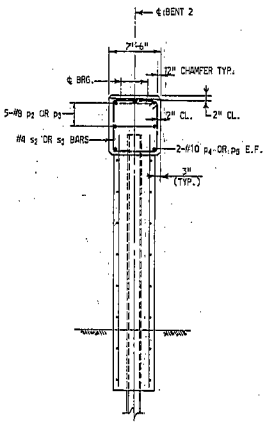
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 1.A.82	12BR-1	CUMBERLAND	13	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

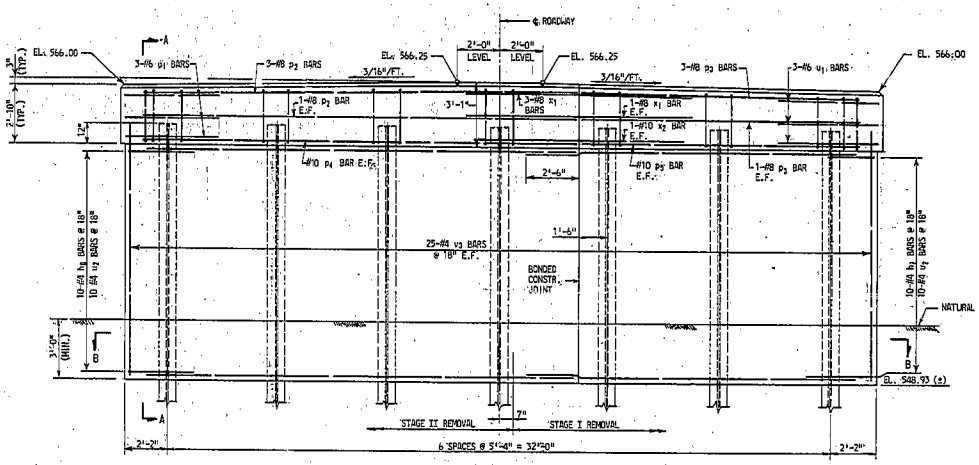
SHEET NO. 6
8 SHEETS



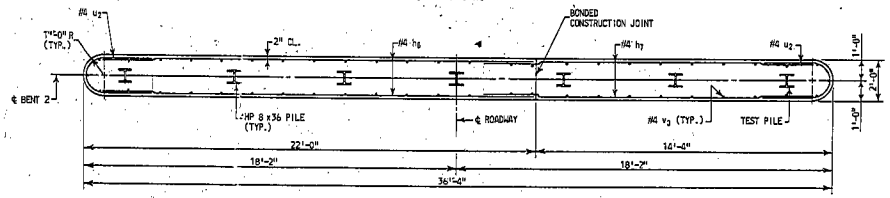
PLAN OF CAP



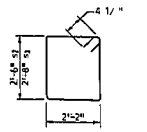
SECTION A-A



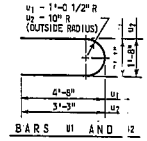
ELEVATION
(LOOKING NORTH)



SECTION B-B



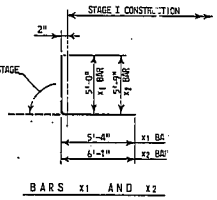
BARS s2 AND s3



BARS u1 AND u2

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
p2	5	#8	20'-11"	
p3	5	#8	13'-3"	
p4	2	#10	20'-11"	
p5	2	#10	13'-3"	
h2	20	#4	20'-11"	
h3	20	#4	15'-10"	
s2	12	#4	10'-1"	
s3	16	#4	10'-2"	
v3	50	#4	15'-0"	
u1	6	#6	10'-4"	
u2	20	#4	7'-5"	
x1	5	#8	10'-4"	
x2	2	#10	11'-10"	
REINFORCEMENT BARS			LBS.	2370
CLASS X CONCRETE			CU. YD.	42.7
STEEL PILES (HP 8 x 36)			LIN. FT.	150
TEST PILES (HP 8 x 36)			EACH	1



BARS x1 AND x2

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFE LATERAL SUPPORT OF THE BENT DURING ALL STAGES OF CONSTRUCTION. DURING STAGE I CONSTRUCTION TEMPORARY SUPPORTS MAY BE REMOVED FROM BENT ONLY WHEN THE WHOLE SUPERSTRUCTURE STAGE I HAS BEEN COMPLETED.

DESIGNED	Y. DOMNICH
DRAWN	T. GISSNER
CHECKED	R.E. ZAGLAMA

Greiner Engineering Sciences, Inc.
CONSULTING ENGINEERS

10-17-80

BENT 2
F.A. RTE. 828 SEC. 12BR-1
CUMBERLAND COUNTY
STATION 453+18

Spring Pd Cr

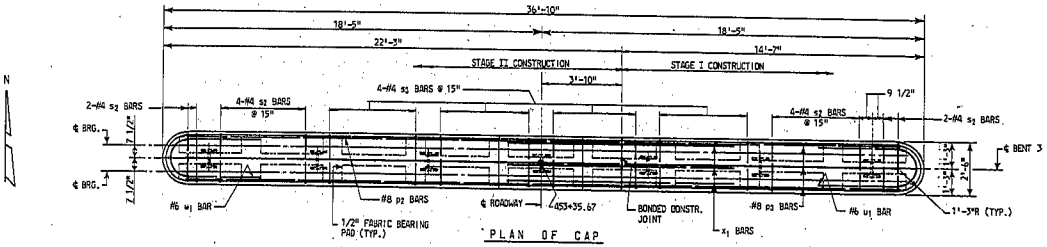
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 828	12BR-1	CUMBERLAND	13	11
FED. ROAD & ST. NO. 7	ILLINOIS	FED. AID PROJECT		

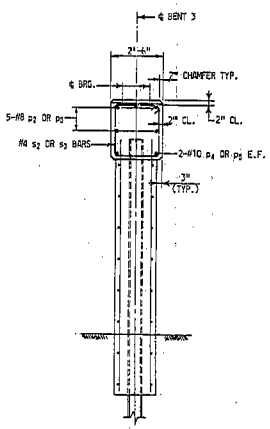
SHEET NO. 7
8 SHEETS

PILE DATA

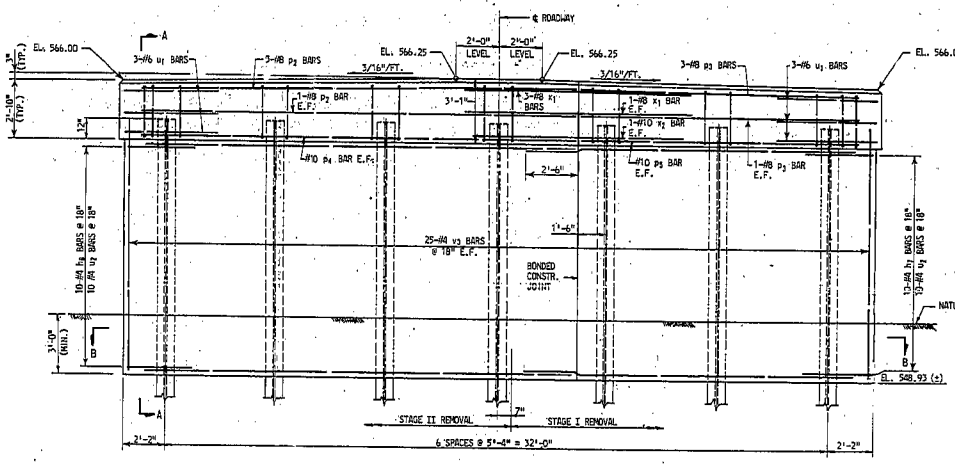
TYPE: HP 8 x 36
CAPACITY: DRIVE TO REFUSAL
ESTIMATED LENGTH: 25 FT.
NUMBER REQ.: 7



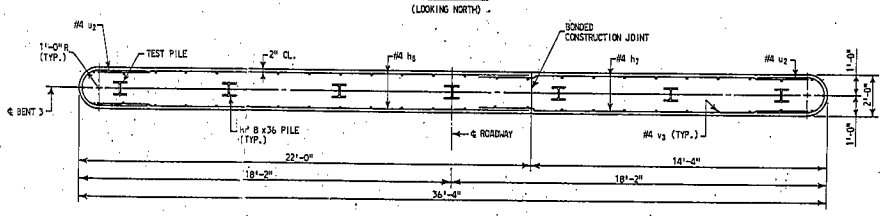
PLAN OF CAP



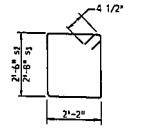
SECTION A-A



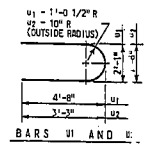
ELEVATION
(LOOKING NORTH)



SECTION B-B



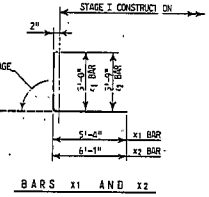
BARS s2 AND s3



BARS u1 AND u2

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
p2	5	#8	20'-11"	
p3	5	#8	13'-3"	
p4	2	#10	20'-11"	
p5	2	#10	13'-3"	
h8	20	#4	20'-11"	
h7	20	#4	15'-10"	
s2	12	#4	10'-1"	
s3	16	#4	10'-5"	
y3	50	#4	15'-0"	
u1	6	#6	10'-6"	
u2	20	#4	7'-5"	
x1	5	#8	10'-4"	
x2	2	#10	11'-10"	
REINFORCEMENT BARS			LBS.	2370
CLASS X CONCRETE			CU. YD.	47.7
STEEL PILES (HP 8 x 36)			LIN. FT.	175



BARS x1 AND x2

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFE LATERAL SUPPORT OF THE BENT DURING ALL STAGES OF CONSTRUCTION. DURING STAGE I CONSTRUCTION TEMPORARY SUPPORTS MAY BE REMOVED FROM BENT ONLY WHEN THE WHOLE SUPERSTRUCTURE STAGE I HAS BEEN COMPLETED.

DESIGNED	Y. DONNICH
DRAWN	T. GISSNER
CHECKED	M.E. ZAOLAWA

Thomas D. Jenkins 10-17-80

Greiner Engineering Sciences, Inc.
CONSULTING ENGINEERS

BENT 3
F.A. RTE. 828 SEC. 12BR-1
CUMBERLAND COUNTY
STATION 453+18

Spring Pl C-

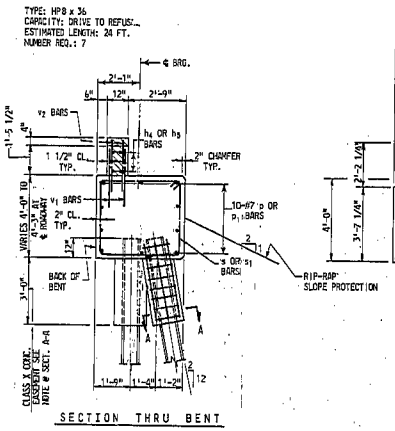
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.828	12B	CUMBERLAND	13	12
PED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

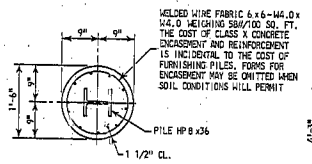
SHEET NO. 8
8 SHEETS

PILE DATA

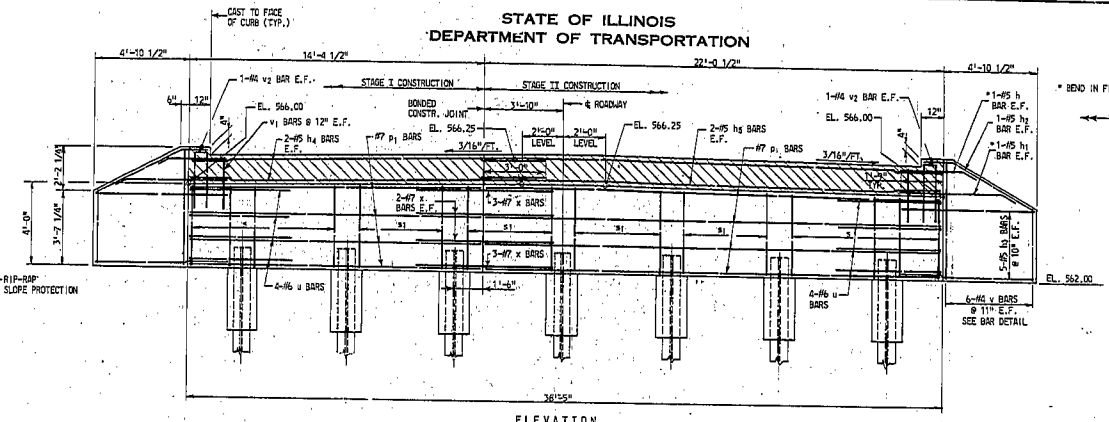
TYPE: HP8 x 36
CAPACITY: DRIVE TO REFUSAL
ESTIMATED LENGTH: 24 FT.
NUMBER REQ.: 7



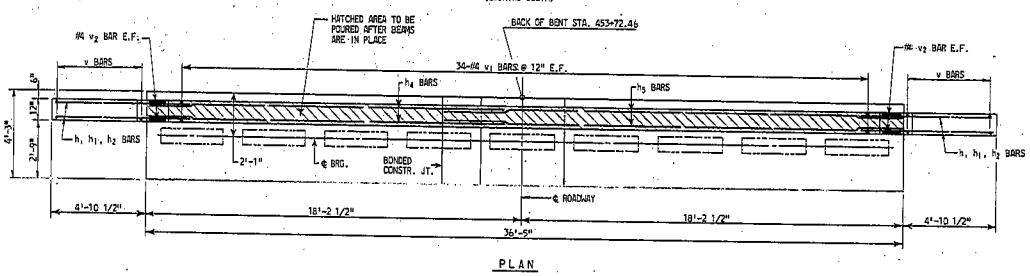
SECTION THRU BENT



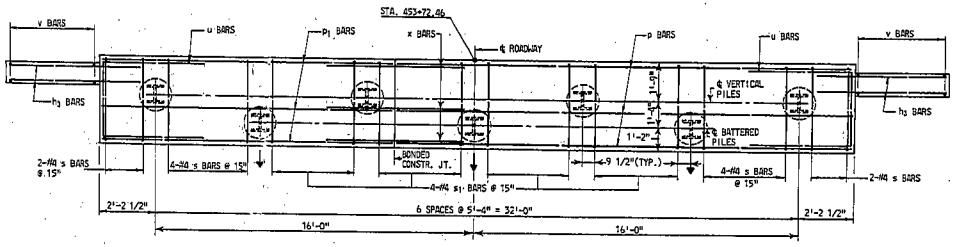
SECTION A-A
(TYPICAL ALL PILES)



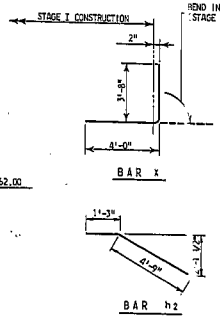
ELEVATION
(LOOKING SOUTH)



PLAN



PLAN - PILE CAP



BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	4	#5	3'-4"	
h1	4	#5	5'-11"	
h2	4	#5	6'-0"	
h3	20	#5	9'-4"	
h4	4	#5	17'-2"	
h5	4	#5	21'-10"	
p	10	#7	21'-10"	
p1	10	#7	14'-2"	
x	10	#7	7'-8"	
s	12	#4	15'-11"	
s1	16	#4	16'-3"	
u	8	#6	12'-11"	
v	12	#4	8'-9"	
v1	68	#4	2'-6"	
v2	4	#4	5'-11"	
REINFORCEMENT BARS			LBS.	1910
CLASS X CONCRETE			CU. YD.	27.4
STEEL PILES (HP 8 x 36)			LIN. FT.	168

** FIELD CUT AS SHOWN AND U REMAINING BARS IN OPPOSITE FACE.

LEGEND:

INDICATES PILE BATTERED 2:12 IN DIRECTION OF ARROW

INDICATES PLUMB PILE

DESIGNED	Y. DOMICH
DRAWN	T. GISSNER
CHECKED	M.E. ZAOUMA

Greiner Engineering Sciences, Inc.
CONSULTING ENGINEERS

BENT 4
F.A. RTE. 828 SEC. 12BR-1
CUMBERLAND COUNTY
STATION 453+18