089-00414

INDEX OF SHEETS
SEE PAGE 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

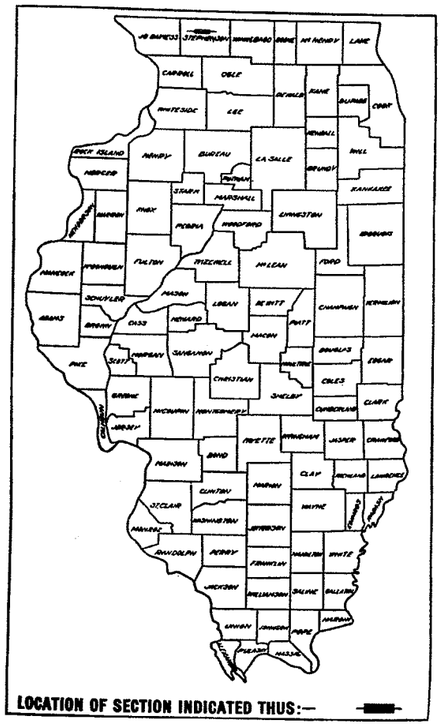
* 177-2A, 2HB-4, 2VB				
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 401	*	STEPHENSON	136	1
F.H.W.A. REG. 4	ILLINOIS	PROJECT F-401-2(20)		

P-92-014-68

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A. ROUTE 401
SECTION 177-2A, 2HB-4, 2VB
PROJECT F-401-2(20)
STEPHENSON COUNTY

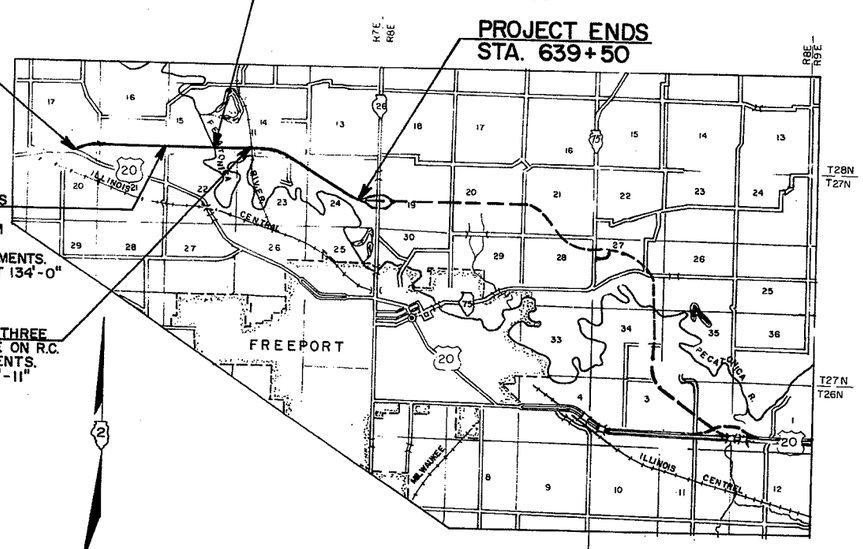
C-92-155-85



OMISSION
STA. 537+14.90 TO 544+72.90

PROJECT ENDS
STA. 639+50

PROJECT BEGINS
STA. 431+00



SECTION 2HB-4 INCLUDES A TWO SPAN STEEL WF BEAM STRUCTURE CARRYING HARLEM CENTER RD. OVER FA 401 ON R.C. PIERS AND VAULTED ABUTMENTS. TWO SPANS 1 AT 96'-4", 1 AT 134'-0" AT STA. 505+15.11

SECTION 2VB INCLUDES A THREE SPAN PRC I BEAM STRUCTURE ON R.C. PIERS AND PILE BENT ABUTMENTS. 3 SPANS 1 AT 47'-10", 2 AT 46'-11" AT STA. 569+88.93

CALL J.U.L.I.E.
BEFORE YOU DIG
800-892-0123
HARLEM TOWNSHIP
SEC. 14, 15, 16, 17, 20, 23, 24

DESIGN DESIGNATION
1130 (05) MAJOR 8.85 (CRCP-20)

GROSS LENGTH OF PROJECT = 20,850 FT. = 3.949 MILES
LENGTH OF OMISSION = 758 FT. = 0.144 MILES
LENGTH OF SECTION 2VB = 139 FT. = 0.026 MILES
NET LENGTH OF PROJECT = 20,092 FT. = 3.805 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED December 6 19 85
DISTRICT ENGINEER

EXAMINED 12-26 19 85
ENGINEER OF PLANS AND CONTRACTS

PASSED 12-26 19 85
ENGINEER OF DESIGN

APPROVED 12-26 19 85
DIRECTOR, DIVISION OF HIGHWAYS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

CONTRACT NO. 40555

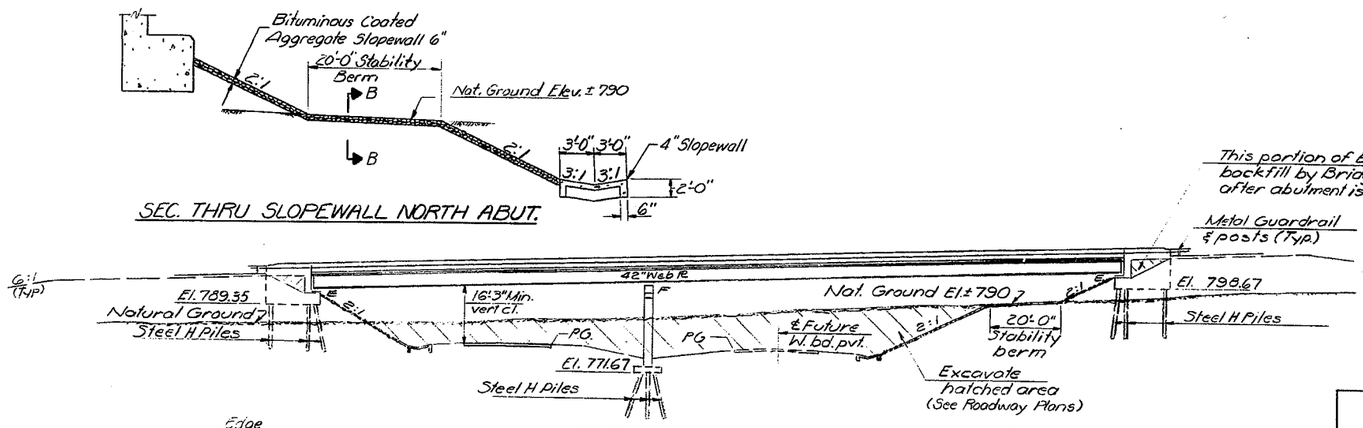
STEPHENSON COUNTY SECTION 177-2A, 2HB-4, 2VB

Bench Mark: Chiseled "□" on center of West headwall of a crossroad culvert Sta. 3+33± on Harlem Center Road.
Elevation 775.76
No existing structure.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. 401	177-2HB-4	Stephenson	135	31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

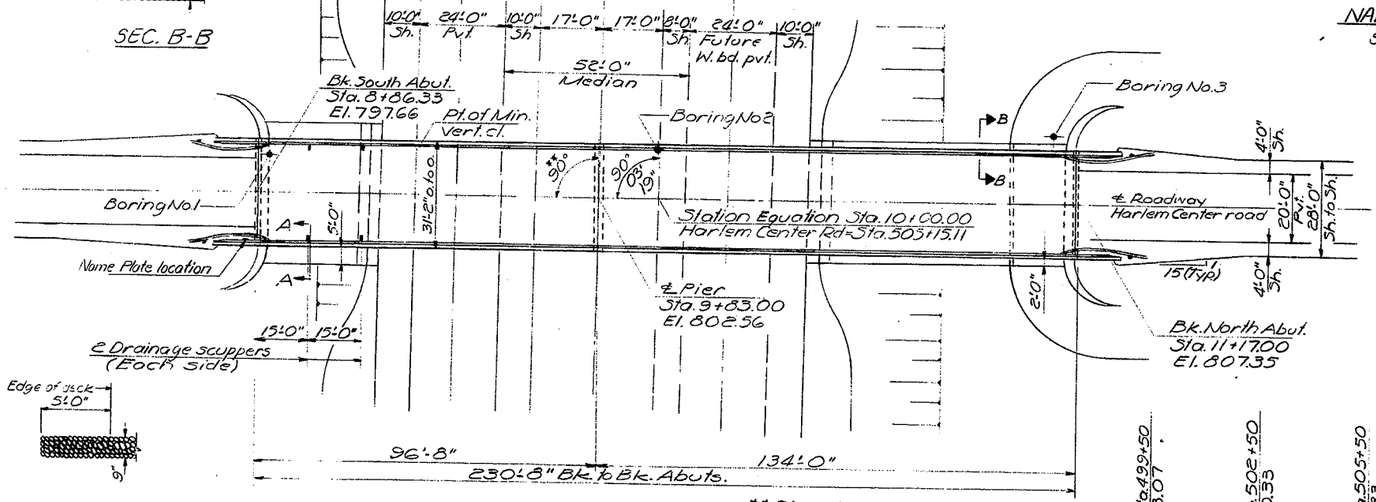
SHEET NO. 1
14 SHEETS



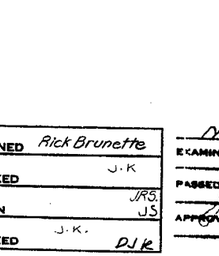
SEC. THRU SLOPEWALL NORTH ABUT.

ELEVATION

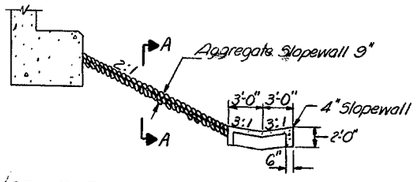
SEC. B-B



PLAN



SEC. A-A



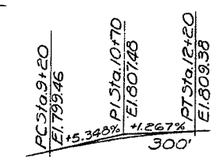
SEC. THRU SLOPEWALL SOUTH ABUT.

DESIGNED	Rick Brunette
CHECKED	J.K
DRAWN	JRS. JS
CHECKED	J.K. DJK

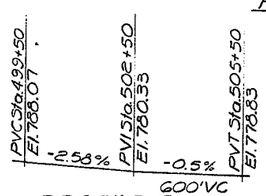
Nov. 25 19 85
EXAMINED Iraj I. Kaspar
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

STATION 505+15.11
BUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 401 SEC. 177-2HB-4
F.A. PROJ. F-401-2(20)
LOADING HS20
STR. NO. 089-0044

NAME PLATE
See Std. 2113



PROFILE GRADE
HARLEM CENTER
ROAD

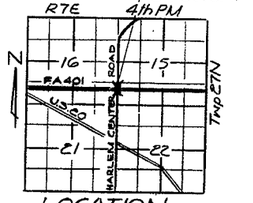


PROFILE GRADE
F.A. ROUTE 401
(Median edge of pvt.)

DESIGN STRESSES

f'c = 3500psi
fy = 60,000psi Reinf.
fy = 50,000psi Struct. (AASHTO M223 Grade 50)
fy = 36,000psi (AASHTO M183)
Allow 25 Lbs/Sq.Ft. for future wearing surface.
Design Specifications: 1983 AASHTO and 1984 Interims.

LOADING HS20-44



LOCATION SKETCH

GENERAL NOTES

See Proposal for Boring Data.

Fasteners shall be high strength bolts. Bolts ¾"ϕ, open holes 13/16"ϕ or bolts ⅞"ϕ, open holes 15/16"ϕ unless otherwise noted.

Calculated weight of Structural Steel: M183=17,630# M223=200,760#

The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted.

Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms over supports.

4" Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

The contractor shall drive 2 Steel HP10x42 test piles one each in a permanent location at each abutment as directed by the Engineer before ordering the remainder of piles.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ⅛ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two ⅛" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs and all splice plate material of the steel girders.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.

TOTAL BILL OF MATERIAL

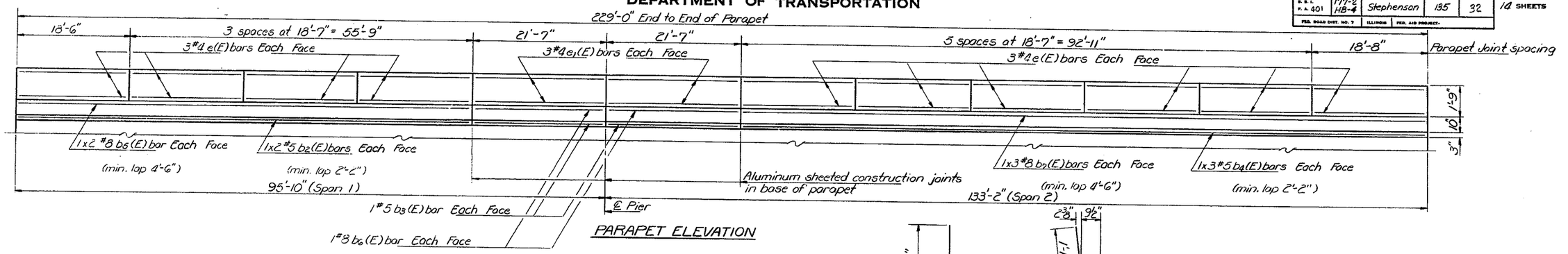
Item	Unit	Super	Sub	Total
Structure Excavation	Cu. Yd.		190	190
Drainage Scuppers	Each	4		4
Protective Coat	Sq. Yd.	921		921
Class X Concrete	Cu. Yd.	217.9	136.0	353.9
Structural Steel	Lump Sum	1		1
Stud Shear Connectors	Each	1950		1950
Reinforcement Bars	Pound		14,040	14,040
Reinforcement Bars (Epoxy Coated)	Pound	53,990		53,990
Steel Piles HP10x42	Lin. Ft.		1416	1416
Test Piles Steel HP10x42	Each		2	2
Name Plates	Each	1		1
Slope Wall 4	Sq. Yd.		85	85
Elastomeric Bearing Assembly, Type I	Each	10		10
Bituminous Coated Aggregate Slopewall 6"	Sq. Yd.		275	275
Aggregate Slopewall 9"	Sq. Yd.		132	132

GENERAL PLAN
HARLEM CENTER RD. OVER F.A. RTE. 401
F.A. ROUTE 401
SECTION 177-2HB-4
STEPHENSON COUNTY
STATION 505+15.11

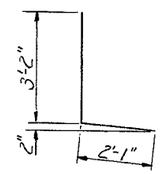
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 401	177-2 HB-4	Stephenson	135	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

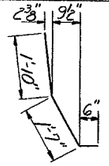
SHEET NO. 5
14 SHEETS



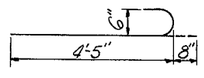
PARAPET ELEVATION



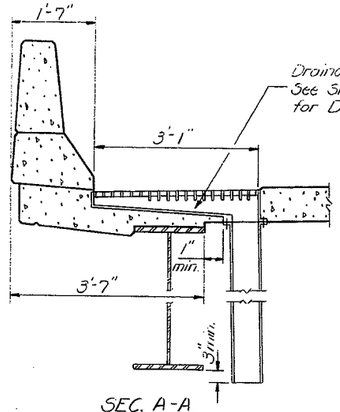
BAR d(E)



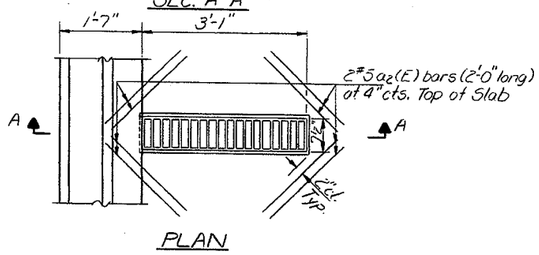
BAR d_1(E)



BAR x(E)

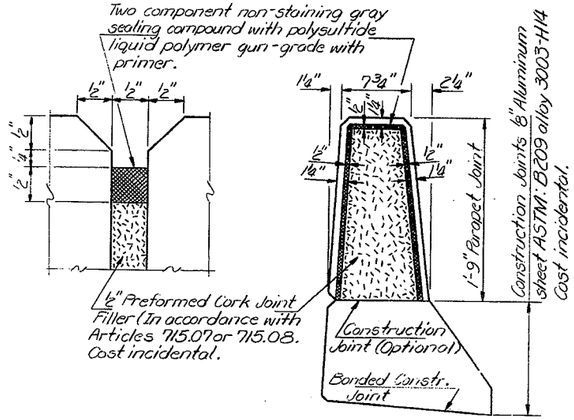


SEC. A-A

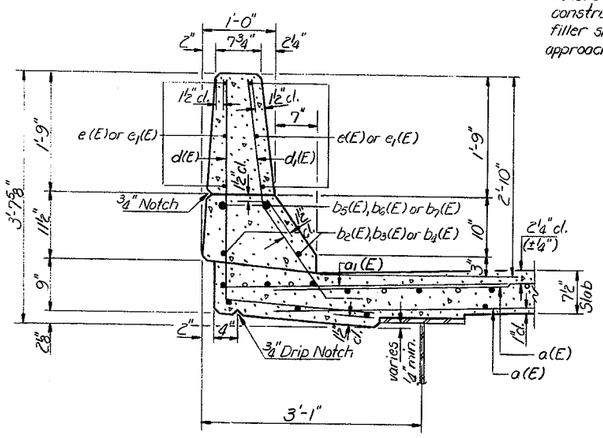


PLAN

SLAB DETAILS AT DRAINAGE SCUPPER

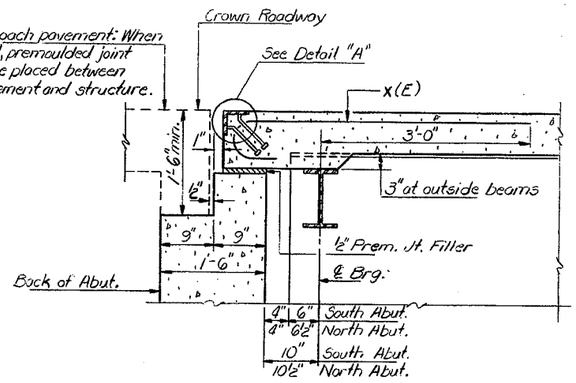


DETAILS OF PARAPET JOINT



SECTION THRU PARAPET

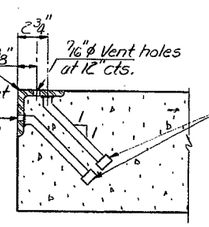
Future approach pavement: When constructed, premoulded joint filler shall be placed between approach pavement and structure.



SECTION THRU ABUTMENTS
Abutments typ. except as noted.

L - 4"x4"x½" x 27'-11½" long Fabricate to crown

⅞" ϕ Holes at 12" cts. for ⅞" ϕ bolts set on 2½" gage line. All bolts shall be burned, sawed or chipped off flush with the back of angle after forms are removed.



DETAIL "A"

¾" ϕ x 8" granular or solid flux filled headed studs conforming to Article 710.38 of the Std Specifications - automatically end welded (alternate at 12" cts.) (56 Required)

BILL OF MATERIAL

Bar	No	Size	Length	Shape
a(E)	669	#5	29'-2"	—
a_1(E)	394	#6	4'-0"	—
a_2(E)	32	#5	2'-0"	—
b(E)	544	#5	30'-6"	—
b_1(E)	62	#6	42'-11"	—
b_2(E)	8	#5	38'-3"	—
b_3(E)	8	#5	21'-4"	—
b_4(E)	12	#5	38'-7"	—
b_5(E)	8	#8	39'-6"	—
b_6(E)	8	#8	21'-4"	—
b_7(E)	12	#8	40'-2"	—
d(E)	460	#4	5'-3"	L
d_1(E)	500	#5	3'-11"	L
e(E)	120	#4	18'-4"	—
e_1(E)	24	#4	21'-4"	—
x(E)	114	#6	5'-1"	⊃
Reinforcement Bars (Epoxy Coated)		Pound	53,990	
Class X Concrete		Cu. Yd.	217.9	

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	Rick Brunette
CHECKED	Jim Kohout
DRAWN	Joe Sutherland
CHECKED	J.K.

Nov. 25 1982

EXAMINED Raj D. Kaspar — BUREAU OF BRIDGES AND STRUCTURES

PASSED James T. Rayburn — BUREAU OF ENGINEERING STRUCTURES

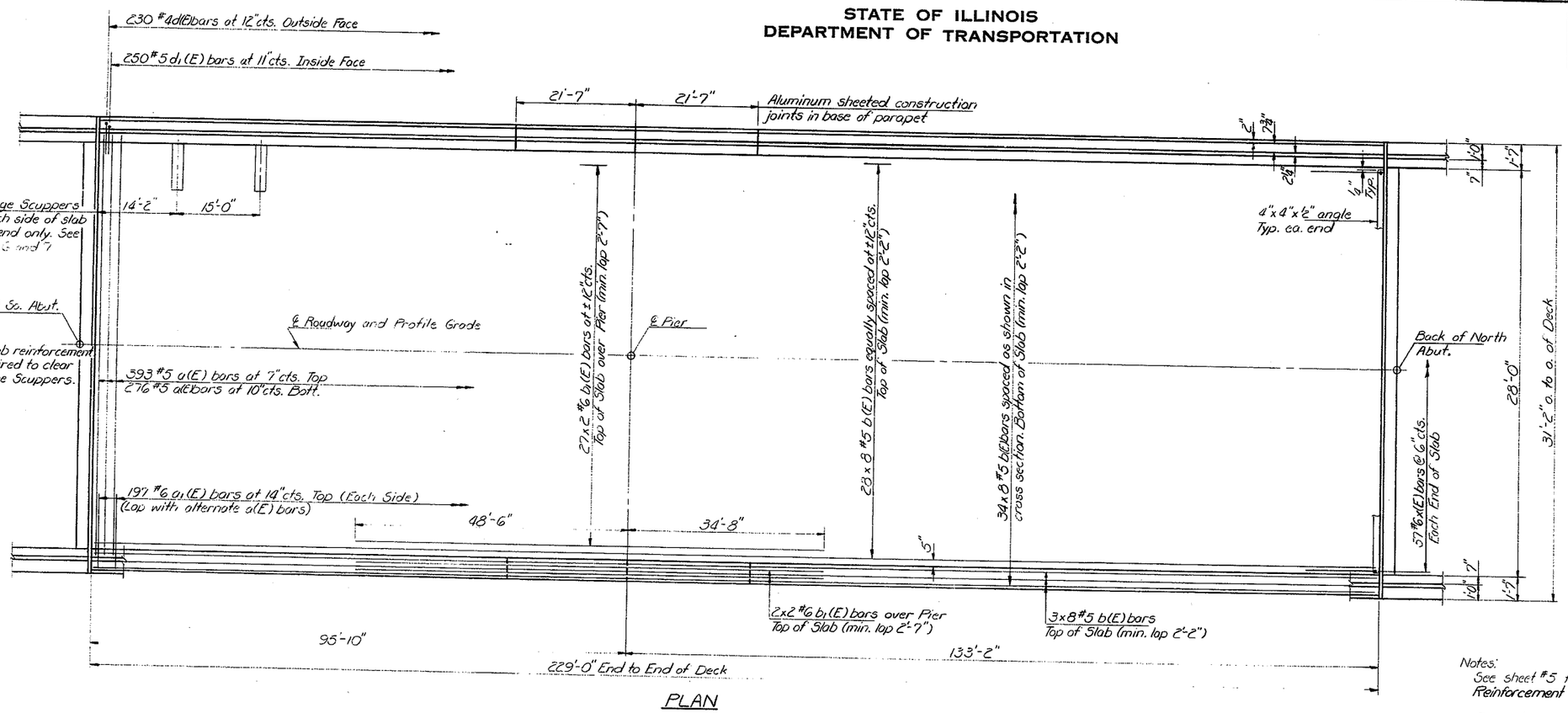
APPROVED — DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE DETAILS
F.A. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY
STATION 505+45.11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. R. I. F. A. 401	177-2 HB-4	Stephenson	135	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

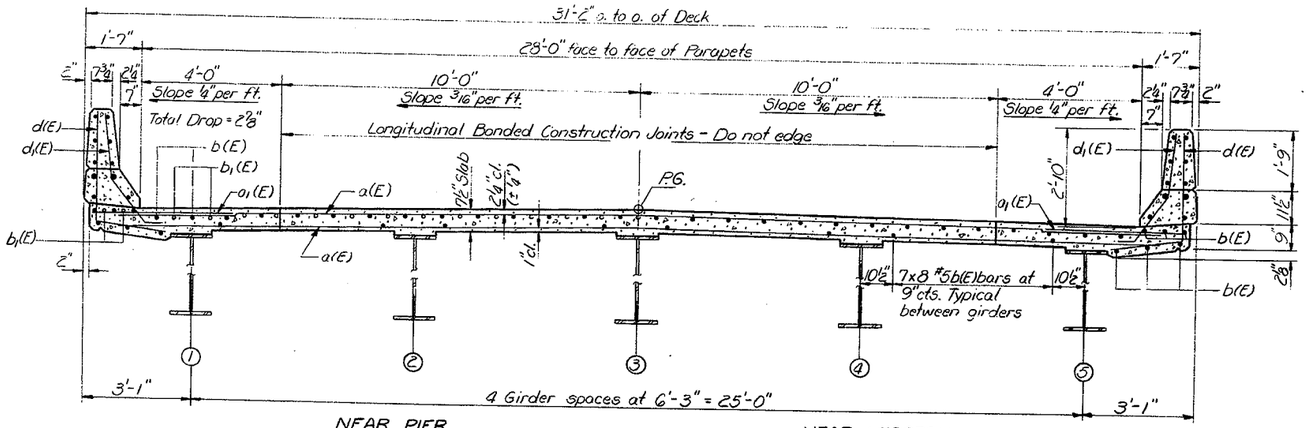
SHEET NO. 4
14 SHEETS



PLAN

Notes:
See sheet #5 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.

Bars designated thus 34 x 8 #5 etc. indicates 34 lines of bars with 8 lengths per line.



CROSS SECTION
Looking North

DESIGNED	Rick Brunette	Nov. 25 19 81
CHECKED	Jim Konout	EXAMINED
DRAWN	Joe Sutherland	PASSED
CHECKED	J.K.	APPROVED

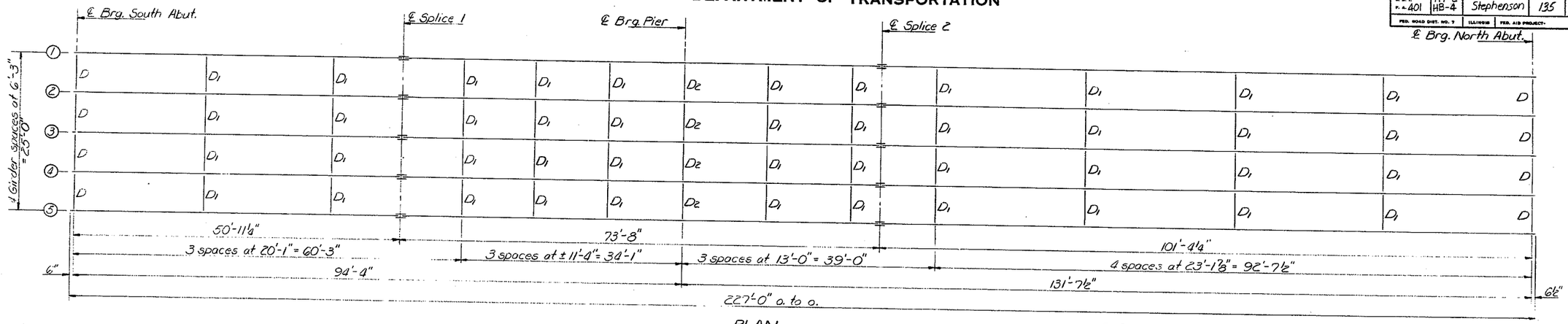
ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE
FA. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY

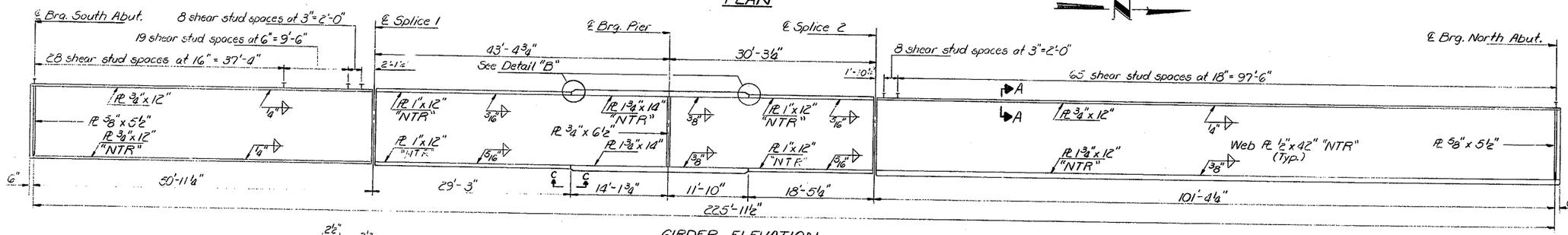
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A. 401	177-2 HB-4	Stephenson	135	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
12 SHEETS



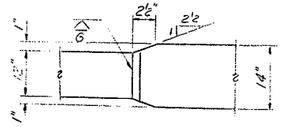
PLAN



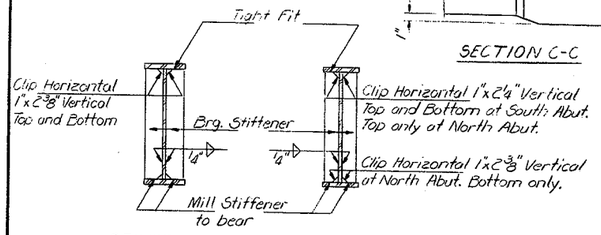
GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

Note: Girder webs, flanges, bearing stiffeners and mill splice plate material shall be AASHTO M 223 (Grade 50) Steel.
Diaphragms and connecting angles shall be AASHTO M183 Steel.

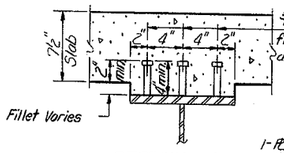


SECTION C-C

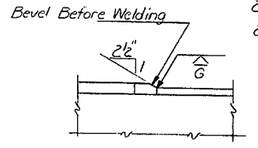


SECTION AT PIER

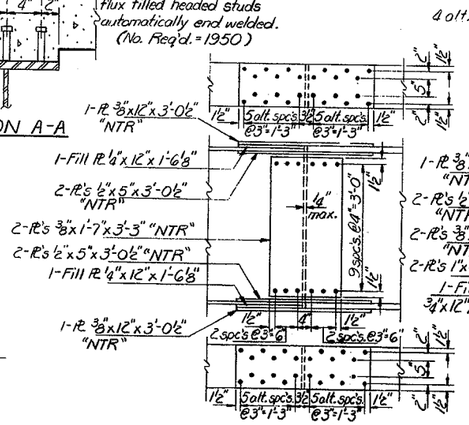
SECTION AT ABUTMENT
North and South Abut's. the same except as shown.

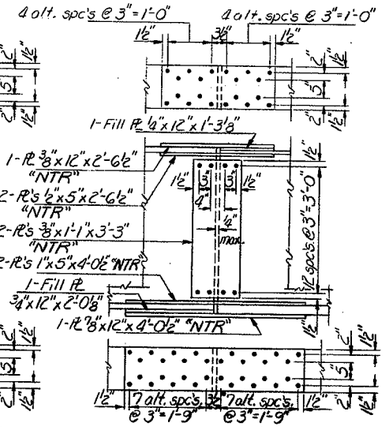


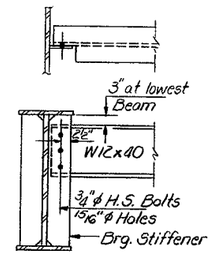
SECTION A-A



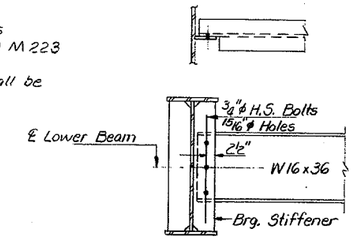
DETAIL "B"





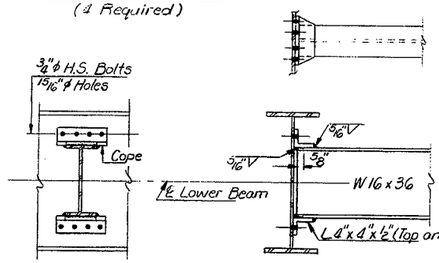


DIAPHRAGM D
(8 Required)



Note: Two hardened washers shall be required over all 15/16"ϕ holes. (diaphragms only)

DIAPHRAGM D2
(4 Required)



DIAPHRAGM D1
(44 Required)

STRUCTURAL STEEL
F.A. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY

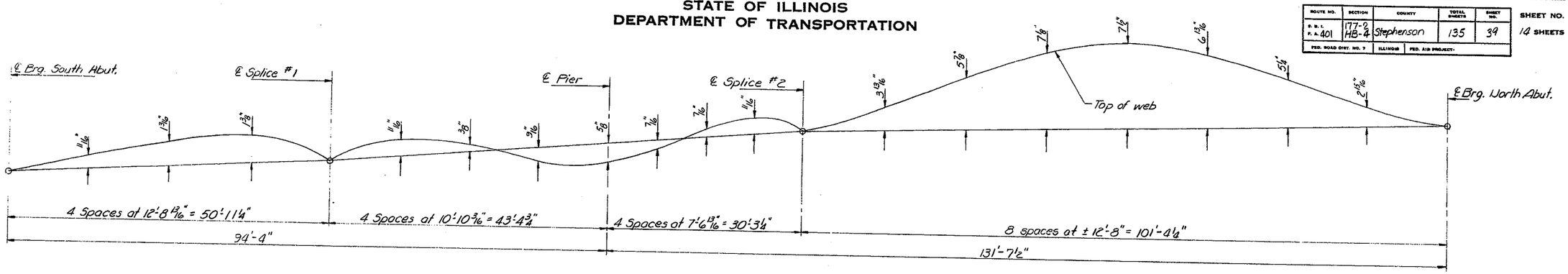
DESIGNED	Rick Brunette
CHECKED	JIM KOHOUT
DRAWN	Joe Sutherland
CHECKED	J.K.

Nov. 25 1931
EXAMINED Ralph J. Kasper ENGINEER OF BRIDGES AND STRUCTURES
PASSED James T. Kenneyne ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 401	177-2 HB-4	Stephenson	135	39
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
14 SHEETS



CAMBER DIAGRAM

INTERIOR GIRDER MOMENT TABLE

		0.4 Span 1	Pier	0.6 Span 2
Is	(in.⁴)	11,311.9	26,546.8	15,855.8
Ic	(in.⁴)	27,838.8	——	43,548.5
Ss	(in.³)	520.1	1166.9	905.3
Sc	(in.³)	737.3	——	1254.5
ℓ	(K/I)	.795	.809	.822
M ℓ	(1K)	291.4	2030.6	1410.8
fs non-comp(Ksi)		6.7	20.9	18.7
S ℓ	(K/I)	.361	.361	.361
Ms ℓ	(1K)	230.3	677.0	705.5
M ℓ	(1K)	1423.0	1573.5	2200.3
M Imp.	(1K)	327.3	330.4	418.1
Total	(1K)	1980.6	2580.9	3323.9
fs comp.(Ksi)		32.2	26.5	31.8
fs Total (Ksi)		38.9	47.4	50.5
fs overload(Ksi)		30.0	36.5	38.8
VR	(K)	49.5	——	48.1

Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs Total.
VR is the maximum ℓ + Impact shear range in span.
The load factor (1.3)[ℓ+S ℓ+⅔(ℓ + Imp.)] is used in computing moments and stresses.
fs overload is the sum of the stresses due to M ℓ + Ms ℓ + ⅔ (M ℓ + M Imp)
Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs Total.

INTERIOR GIRDER REACTION TABLE

		South Abut.	Pier	North Abut.
R ℓ	(K)	32.4	170.3	62.1
R ℓ	(K)	36.0	65.4	37.5
Imp.	(K)	8.3	13.7	7.1
R Total	(K)	76.7	249.4	106.7

* TOP OF WEB ELEVATIONS

℄ Girder Number	1 and 5	2 and 4	3
℄ Brg. So. Abut.	796.82	796.93	797.03
℄ Splice #1	799.43	799.54	799.64
℄ Brg. Pier	801.52	801.63	801.73
℄ Splice #2	803.07	803.18	803.28
℄ Brg. No. Abut.	806.33	806.44	806.54

*For fabrication only.

DESIGNED	Rick Brunette
CHECKED	Jim Kohout
DRAWN	Joe Sutherland
CHECKED	J.K.

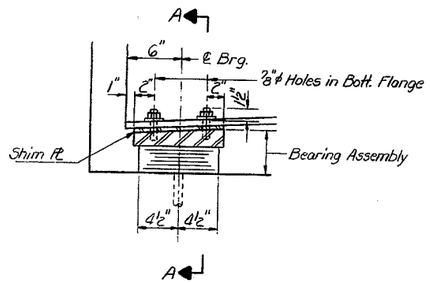
Nov. 25 19 85
EXAMINED
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

STRUCTURAL STEEL DETAILS
F.A. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY

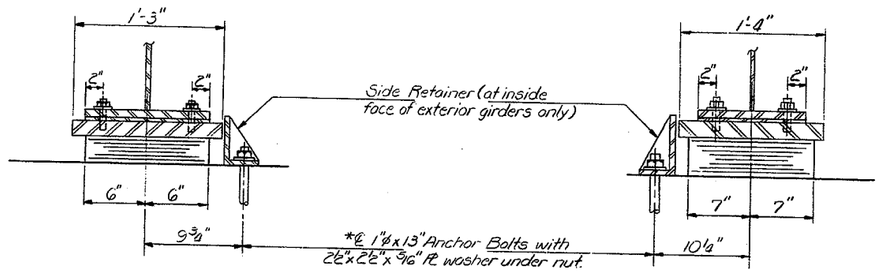
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. R. I. P. - 401	177-2 HB-4	Stephenson	135	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
14 SHEETS

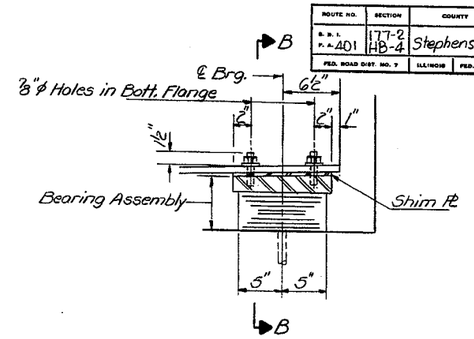


SECTION AT SOUTH ABUT.



SECTION A-A

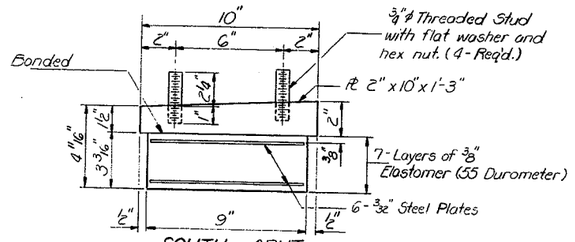
SECTION B-B



SECTION AT NORTH ABUT.

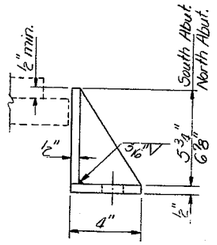
TYPE I ELASTOMERIC EXP. BRG.

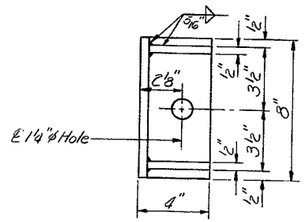
*Note: After girders have been erected, holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry. See Sht. #11 for anchor bolt details.



SOUTH ABUT.
BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly.

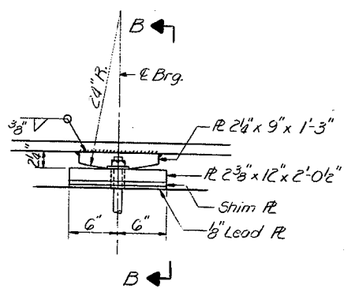




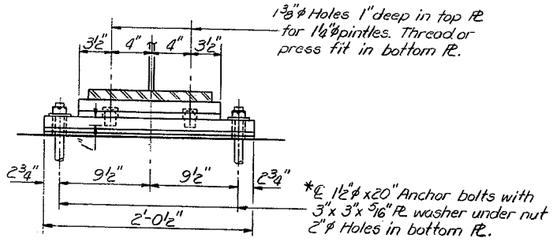
SIDE RETAINER

Typ. for both abutments except as noted.

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. (4 Req'd.)

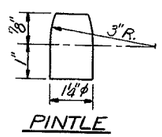


ELEVATION AT PIER

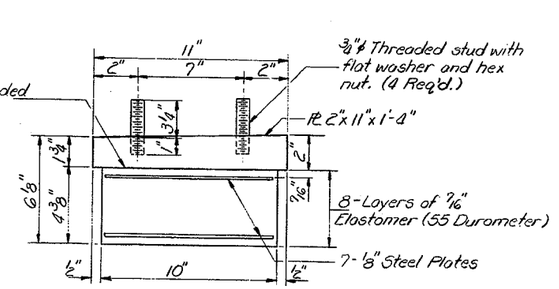


SECTION B-B

FIXED BEARING



PINTLE



NORTH ABUT.
BEARING ASSEMBLY

Note: Shim plates shall not be placed under bearing assembly.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10

DESIGNED	Rick Brunette
CHECKED	Jim Kohout
DRAWN	Joe Sutherland
CHECKED	J.K.

Nov. 25 1981

EXAMINED Craig D. Kapsar
BUREAU OF BRIDGES AND STRUCTURES

PASSED James T. Rayburn
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

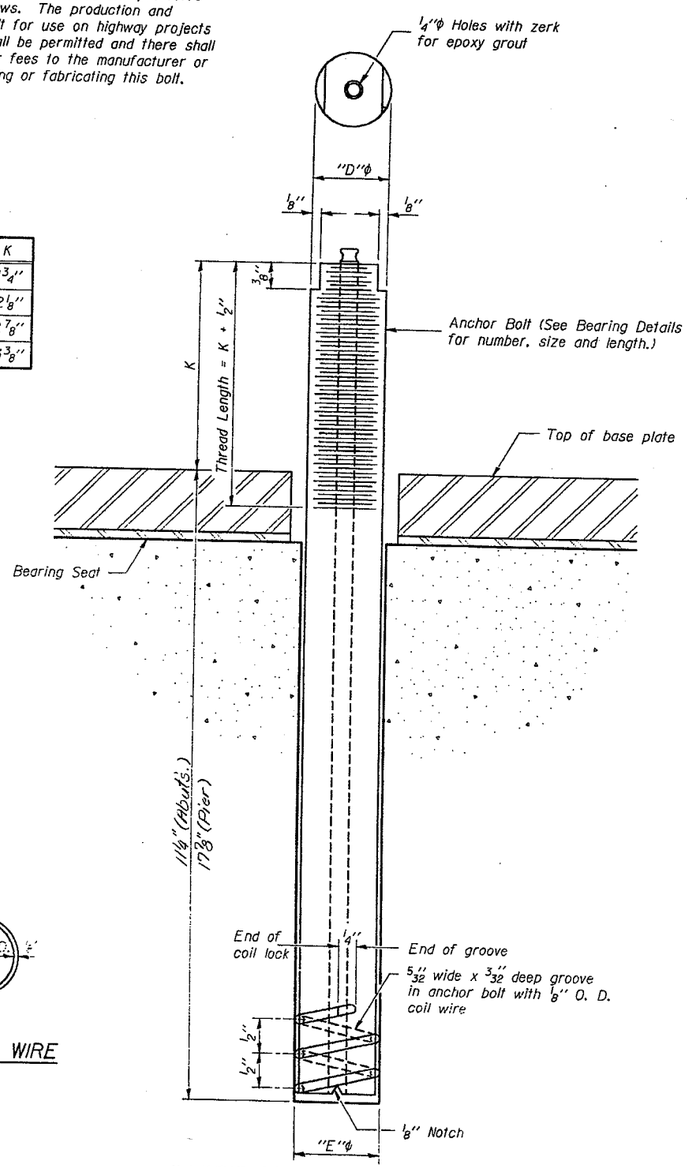
BEARING DETAILS
F.A. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY

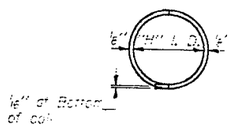
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 401	177-2 HB-4	Stephenson	135	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
14 SHEETS

D	E	H	K
1"	1 1/8"	13/16"	1 3/4"
1 1/2"	1 5/8"	1 5/16"	2 1/8"
2"	2 1/8"	1 13/16"	2 7/8"
2 1/2"	2 5/8"	2 5/16"	3 3/8"





PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system comforming to ASTM C881, Type I, Grade I and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

DESIGNED	Rick Brunette
CHECKED	R. F. Kopsky
DRAWN	Joe Sutherland
CHECKED	R F R

Nov. 25 1985

EXAMINED Greg L. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED James T. Kaylor IV
ENGINEER OF BRIDGE AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

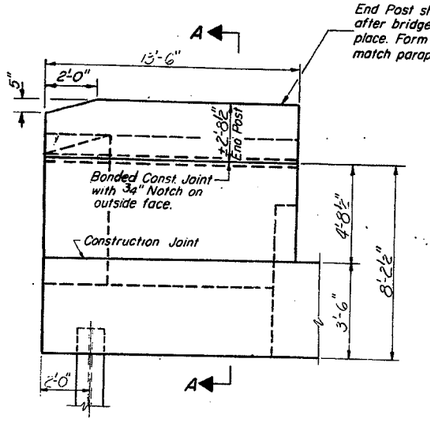
ABB-1 6-12-85

ANCHOR BOLT DETAILS
FOR BEARINGS
F.A. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY
STATION 505+15.11

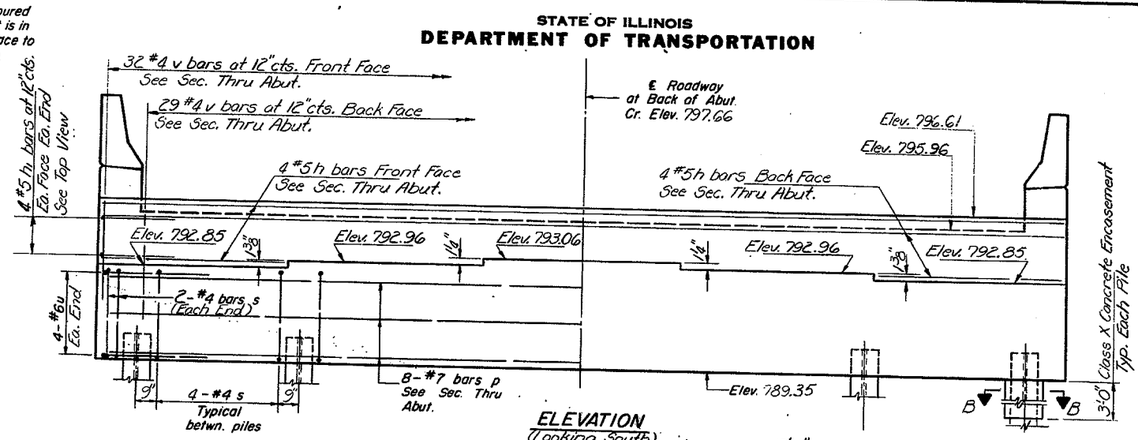
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. R. I. P. - 401	177-2 HB-4	Stephenson	135	42
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		14 SHEETS

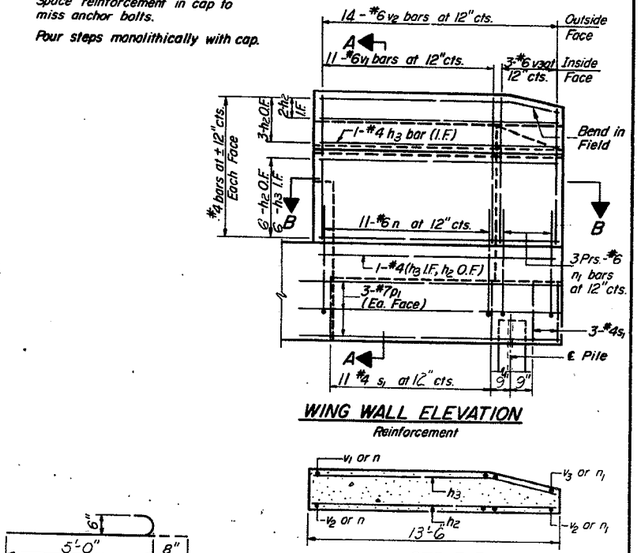
SHEET NO. 12



WING WALL ELEVATION

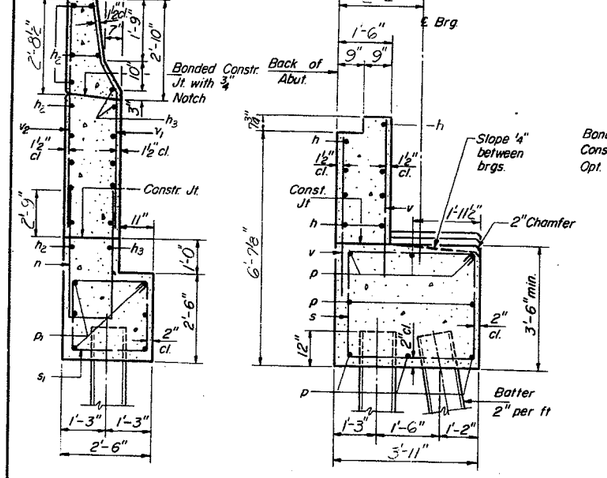


ELEVATION
(Looking South)

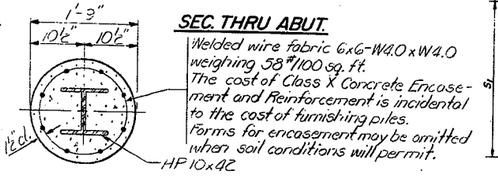


WING WALL ELEVATION
Reinforcement

SEC. B-B



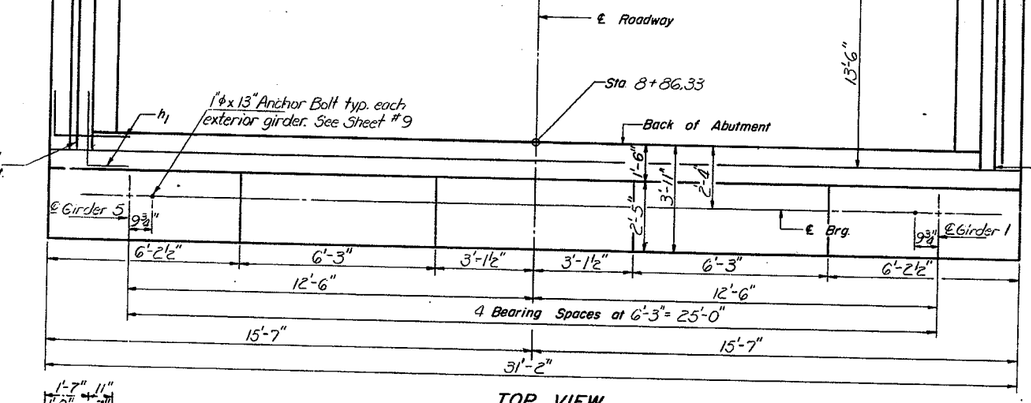
SEC. A-A



SEC. THRU ABUT.

Welded wire fabric 6x6-W4.0 x W4.0 weighing 58 #/100 sq. ft.
The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles.
Forms for encasement may be omitted when soil conditions will permit.

SEC. B-B



TOP VIEW

PILE DATA
Type: Steel HP10x42
Capacity: Drive to Refusal
Est. Length: 53'
No. Required: 10+1 Test Pile

PLAN - PILE CAP

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	8	#5	30'-11"	
h1	16	#5	6'-0"	L
h2	24	#4	13'-3"	
h3	16	#4	13'-2"	
n	22	#6	11'-4"	
n1	12	#6	5'-8"	U
p	8	#7	30'-11"	
p1	12	#7	15'-7"	
s	36	#4	14'-3"	
s1	28	#4	9'-5"	
u	8	#6	8'-7"	
v	61	#4	5'-3"	
v1	22	#6	6'-11"	
v2	28	#6	7'-1"	
v3	6	#6	6'-11"	
Class X Concrete		Cu. Yds.	39.1	
Reinforcement Bars		Lbs.	3500	
Steel Piles HP10x42		Lin. Ft.	530	
Test Piles Steel HP10x42		Ea.	1	

DESIGNED	Rick Brunette
CHECKED	Jim Kehoe
DRAWN	Joe Sutherland
CHECKED	J.K.

EXAMINED Nov. 25 1980
Chief Engineer, Division of Highways
PASSED James T. Hayburn
Engineer of Bridges and Structures
APPROVED
Director of Highways

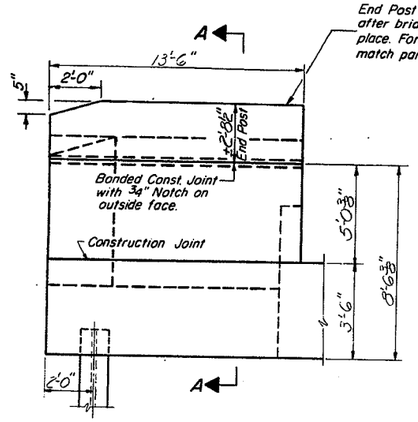
A-1 8-30-80

SOUTH ABUTMENT
F.A. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY

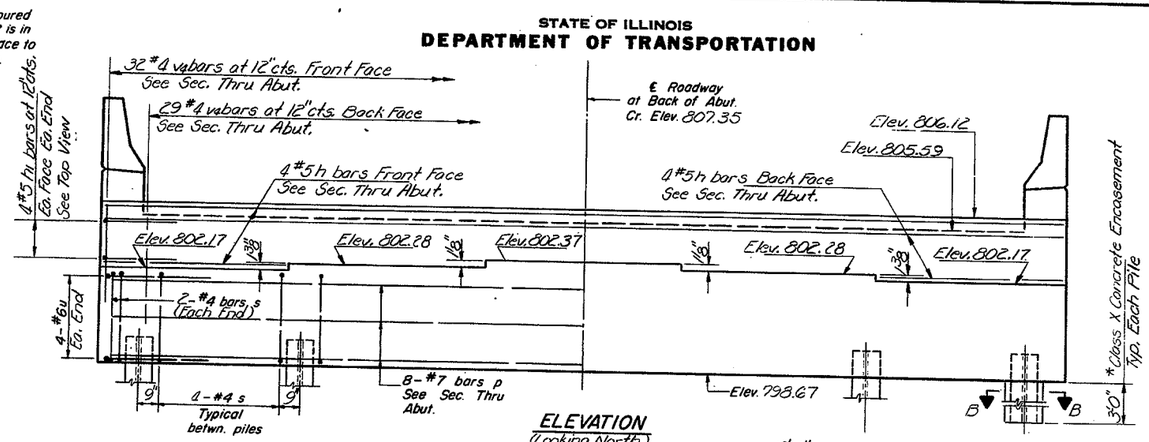
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. R. I. F. A. 401	177-2 HB-4	Stephenson	135	43
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
14 SHEETS



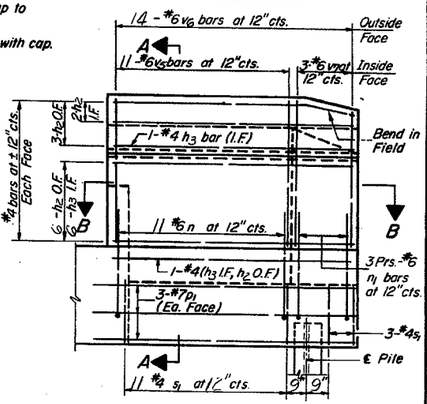
WING WALL ELEVATION



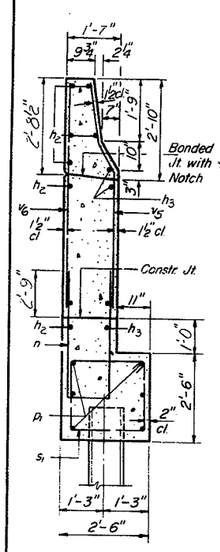
ELEVATION
(Looking North)

Space reinforcement in cap to miss anchor bolts.

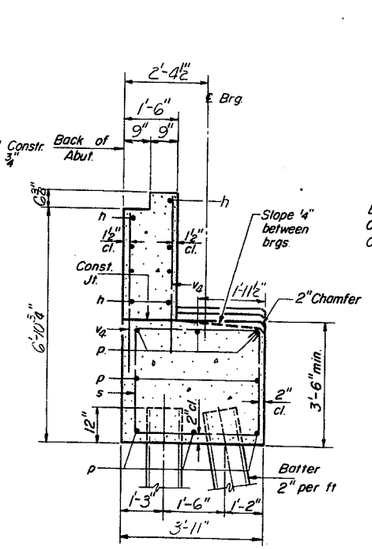
Pour steps monolithically with cap.



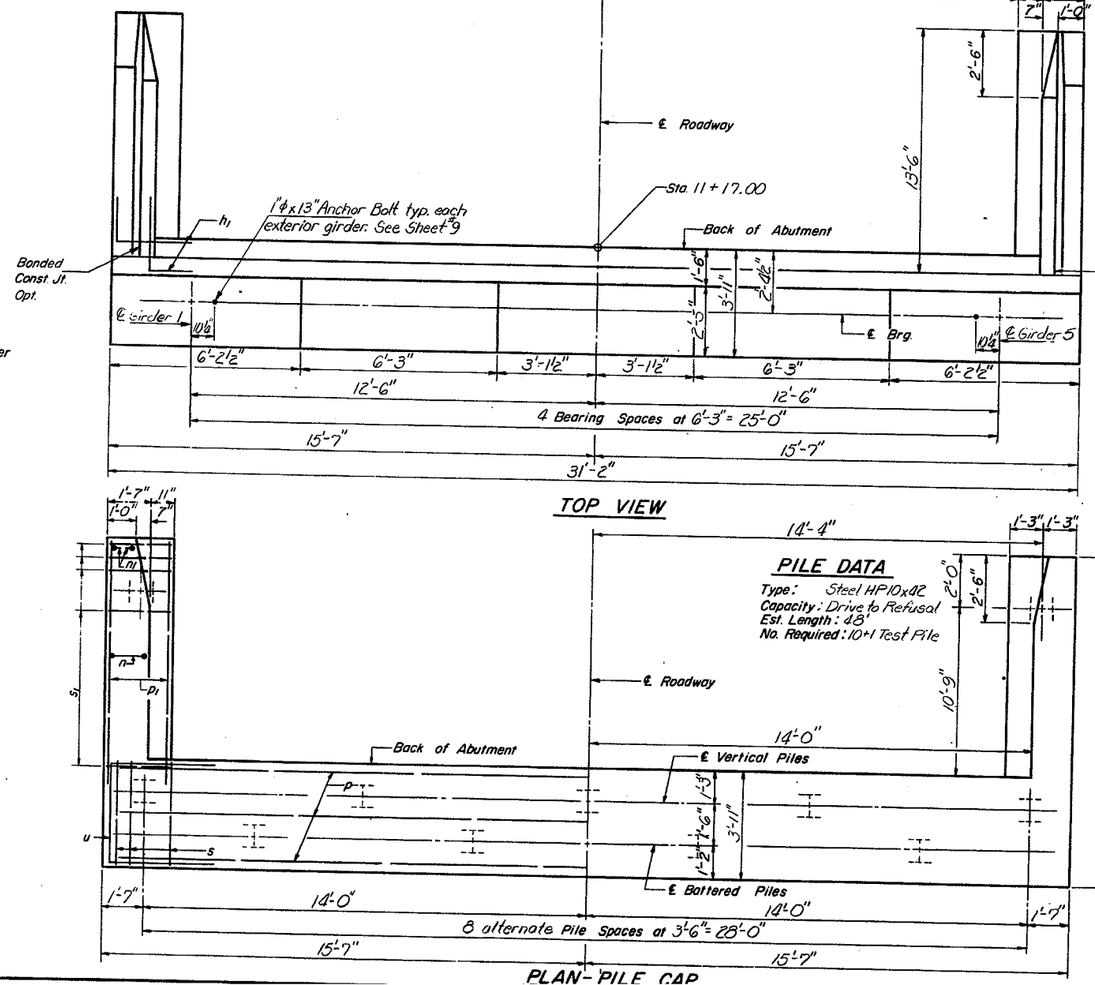
WING WALL ELEVATION
Reinforcement



SEC. A-A



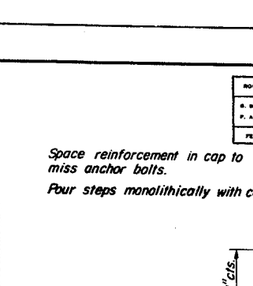
SEC. THRU ABUT.



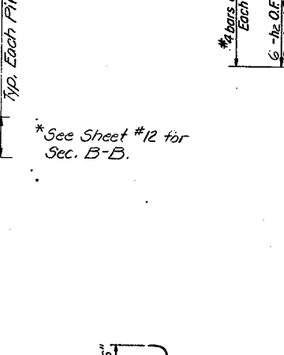
TOP VIEW

PLAN - PILE CAP

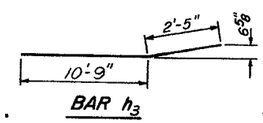
BAR n1



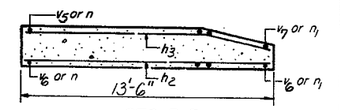
BAR v5 BAR s & s1 BAR n



BAR v7 BAR u BAR h1



BAR h3



SEC. B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	8	#5	30'-11"	
h1	16	#5	6'-0"	
h2	24	#4	13'-3"	
h3	16	#4	13'-2"	
n	22	#6	11'-4"	
n1	12	#6	5'-8"	
p	8	#7	30'-11"	
p1	12	#7	15'-7"	
s	36	#4	14'-3"	
s1	28	#4	9'-5"	
u	8	#6	8'-7"	
v2	61	#4	5'-5"	
v5	22	#6	7'-3"	
v6	28	#6	7'-5"	
v7	6	#6	7'-3"	
Class X Concrete			Cu. Yds.	39.9
Reinforcement Bars			Lbs.	3540
Steel Piles HP10x42			Lin. Ft.	480
Test Piles Steel HP10x42			Ea.	1

DESIGNED	Rick Brunette
CHECKED	Jim Kennett
DRAWN	Joe Sutherland
CHECKED	J.K.

Nov. 25 19 80
EXAMINED Craig O. Kapsner ENGINEER OF BRIDGE DESIGN
PASSED James T. Kaylor ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

A-1 8-30-80

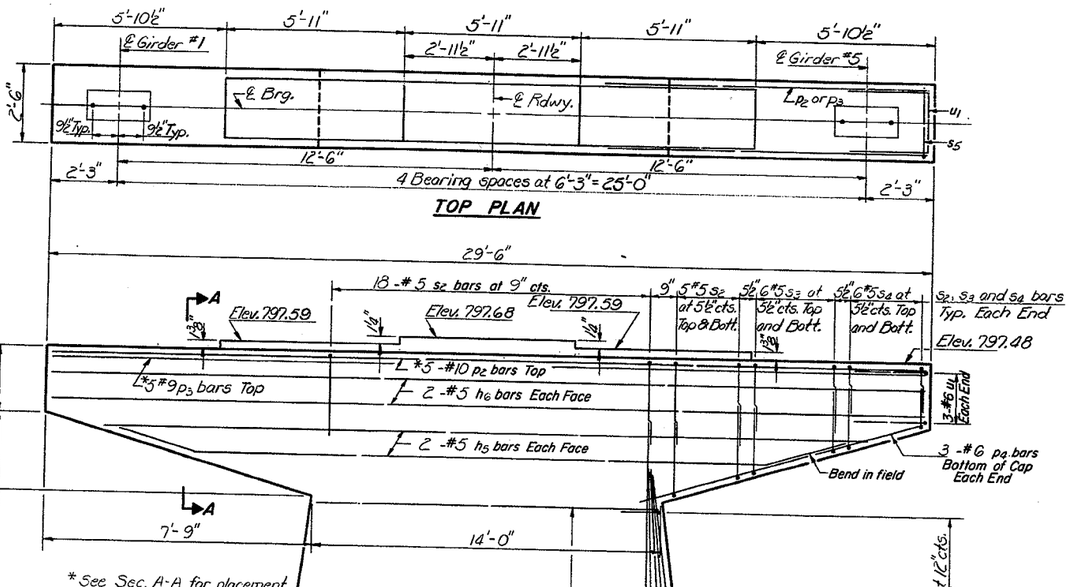
NORTH ABUTMENT
F.A. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

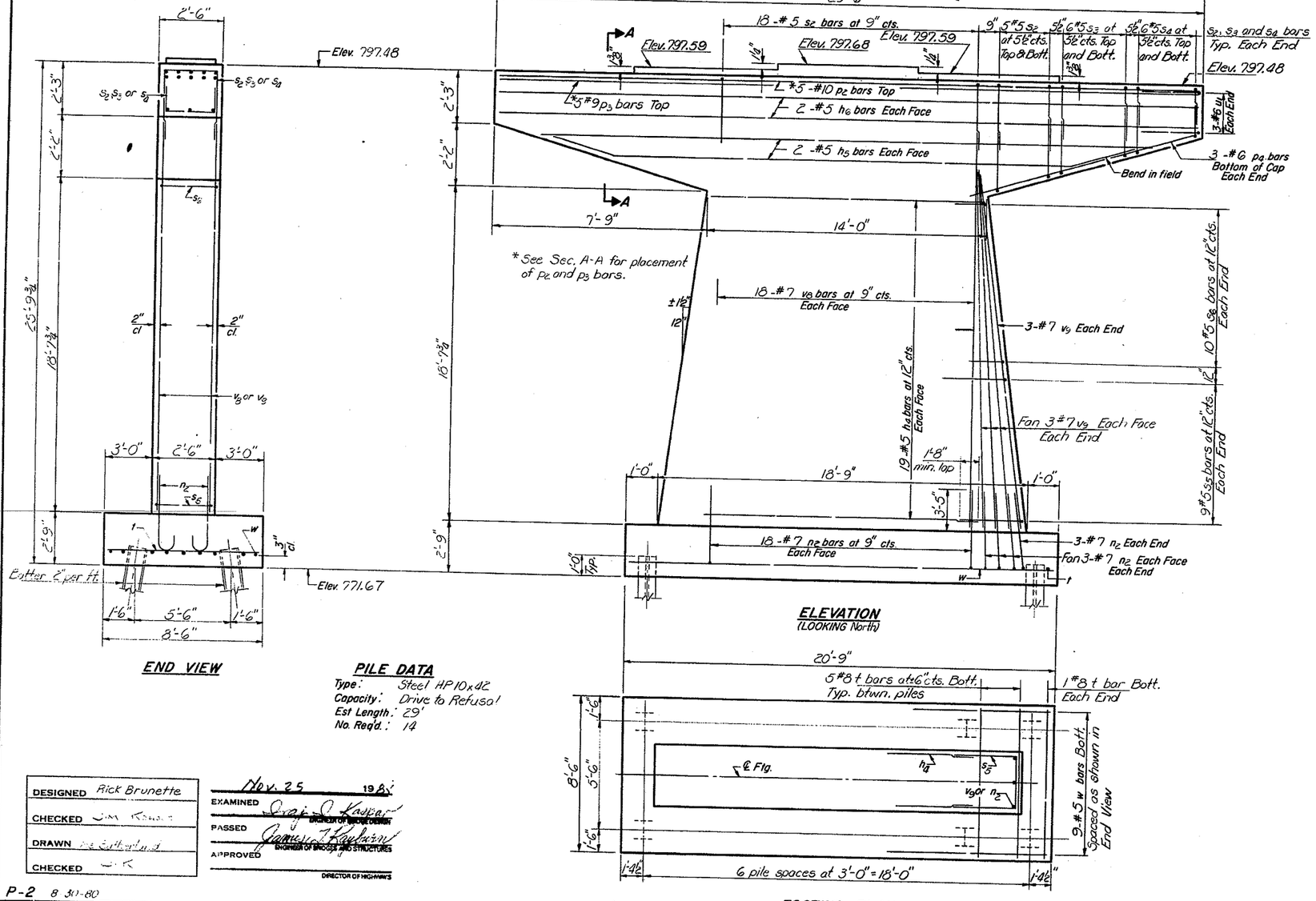
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. F. A. 401	177-2 HB-4	Stephenson	135	44
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
14 SHEETS

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
All edges shall have standard 3/4" chamfers except as noted.



TOP PLAN

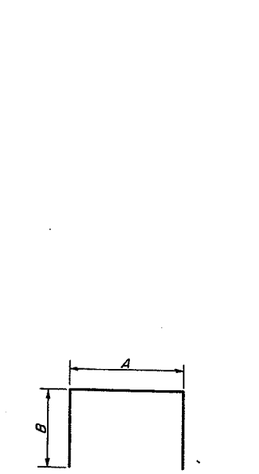


ELEVATION
(LOOKING North)

END VIEW

PILE DATA
Type: Steel HP10x42
Capacity: Drive to Refusal
Est Length: 29'
No. Req'd.: 14

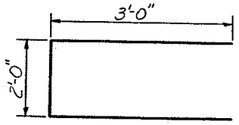
FOOTING PLAN



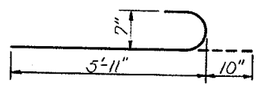
A & B DIMENSIONS

Bar	A	B
s_2	2'-2"	2'-8"
s_3	2'-2"	2'-4"
s_4	2'-2"	1'-11"
s_5	2'-2"	4'-1"
s_6	2'-2"	2'-10"

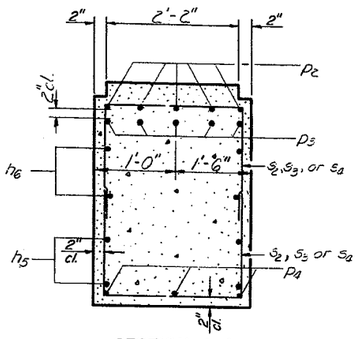
BARS s



BAR u_1



BAR n_2



SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_4	38	#5	13'-9"	—
h_5	4	#5	23'-0"	—
h_6	4	#5	29'-3"	—
n_2	54	#7	6'-9"	⊐
P_2	5	#10	29'-3"	—
P_3	5	#9	29'-3"	—
P_4	6	#6	9'-0"	—
s_2	38	#5	7'-6"	⊓
s_3	24	#5	6'-10"	⊓
s_4	24	#5	6'-0"	⊓
s_5	18	#5	10'-4"	⊓
s_6	20	#5	7'-10"	⊓
t	32	#8	8'-3"	—
u_1	6	#6	8'-0"	⊏
v_8	36	#7	21'-9"	—
v_9	18	#7	20'-0"	—
w	9	#5	20'-2"	—
Class X Concrete		Cu. Yds.	57.0	
Reinforcement Bars		Lbs.	7000	
Steel Piles HP10x42		Lin. Ft.	406	

DESIGNED	Rick Brunette
CHECKED	Jim Kovac
DRAWN	Joe Sutherland
CHECKED	J.K

Nov. 25 19 85
EXAMINED Engineer of Bridge Design
PASSED James J. Kaufman Engineer of Bridges and Structures
APPROVED Director of Highways

P-2 8 30-80

PIER
F.A. RT. 401 SEC. 177-2HB-4
STEPHENSON COUNTY
STATION 505+15.41