

DISTRICT DESIGN CONSULTANT SERVICES PROJECT MANAGER
NET 2200 (947) 705-4431

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Additional General Notes Addendum

- A. All existing wetland areas shall be protected for the entire duration of construction by using temporary fence around the wetlands perimeters.
- B. Resurfacing areas along I-290 mainline approaches shall be carried out during stage III B operations utilizing nighttime resurfacing.
- C. Areas of selective clearing and fencing (1.2 m chain link) with concrete pad will be determined at the time of construction by the Resident Engineer and the IDOT's landscape architect. (Refer to detail attached herewith).
- D. For all new steel for bridges, the intermediate and topcoat painting shall be applied in the shop.
- E. All pipe underdrains shall be placed immediately after the placement of the Granular Subbase, Type B.
- F. All references, on the plans to: Aggregate Subbase, Type C shall be replaced with: **"GRANULAR SUBBASE, TYPE B"** of the thickness specified in the Summary of Quantities.
- G. For all CRC Pavement, the following applies: Longitudinal Bars are Grade 70 through 80, at 110 mm (4.5 inches) from the surface of pavement, placed on chairs, and epoxy coated. Percentage is 0.8%, spacing determined according to pavement thickness.
- H. Temporary Concrete Barrier Terminal Sections will not be required for this contract. The barrier unit at each end of the installation shall be secured to the pavement or shoulder using all six anchoring pins for the F shape or all six dowel bars for the new jersey shape. The last barrier unit of the installation shall be protected with the appropriate sand module impact attenuator configuration.
- I. All references to Trial Batch are intended for the High Performance Concrete Superstructure.
- J. In the Extended Life Concrete Pavement (40 year) special provision, all references to: "appurtenances" are intended to include only the CRC Pavement and shoulders. The concrete curb and gutter, the concrete barrier and barrier base are NOT part of the extended life concrete pavement (40 year).

STATE STANDARDS

000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
202001	EARTH MEDIAN DITCH CHECK
280001-02	TEMPORARY EROSION CONTROL SYSTEMS
353001	PPC BASE COURSE WITH BITUMINOUS CONCRETE BINDER AND SURFACE COURSES
420001-03	PAVEMENT JOINTS
420101-01	7.2 M (24') JOINTED PCC PAVEMENT
420106-01	10.8M HINGE-JOINTED PCC PAVEMENT
420111	PCC PAVEMENT ROUNDOUTS
420206-03	TYPICAL ENTRANCE RAMP TERMINAL
420306-03	TYPICAL EXIT RAMP TERMINAL
420701	PAVEMENT FABRIC
421206-02	10.8 M (36') CRC PAVEMENT
442201-01	CLASS C AND D PATCHES
482001	BITUMINOUS SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
482006-01	BITUMINOUS SHOULDER ADJACENT TO RIGID PAVEMENT
482011-01	BIT. SHLD. STRIPS/SHLDS. WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
483001	PCC SHOULDER
601001	SUBSURFACE DRAINS
601101	CONCRETE HEADWALL FOR PIPE DRAIN
602001	CATCH BASIN TYPE A
602006	CATCH BASIN TYPE B
602011	CATCH BASIN TYPE C
602101	DRAINAGE STRUCTURES TYPES 1,2 & 3
602301	INLET TYPE A
602401	MANHOLE TYPE A
602701	CAST IRON STEPS
604001-01	FRAME & LIDS TYPE 1
604031	FRAME & GRATE TYPE 7
604036	FRAME & GRATE TYPE 8
604071-01	FRAME & GRATE TYPE 20
606001-01	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
606006	OUTLETS FOR CONCRETE CURB AND GUTTER TYPE B-15.60 (B-6.24)
606301-02	PC CONCRETE ISLANDS AND MEDIANS
606401	PAVED DITCH
609001-02	BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
630001-03	STEEL PLATE BEAM GUARDRAIL
630201-02	PCC/BIT STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-01	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-02	TRAFFIC BARRIER TERMINAL TYPE 2
631026-02	TRAFFIC BARRIER TERMINAL TYPE 5 & 5A
631031-03	TRAFFIC BARRIER TERMINAL TYPE 6
635001	DELINEATORS
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
637001-01	CONCRETE BARRIER
664001-01	CHAIN LINK FENCE
701101	OFF-ROAD OPERATIONS, MULTILANE LESS THAN 4.5 M (15') AWAY FOR SPEEDS > 45 MPH
701321-05	LANE CLOSURE 2L, 2W BRIDGE REPAIR WITH BARRIER
701326-01	LANE CLOSURE 2L, 2W PAVEMENT WIDENING FOR SPEEDS > 45 MPH
701411-02	LANE CLOSURE MULTILANE AT ENTRANCE OR EXIT RAMP FOR SPEEDS > 45 MPH
701426-01	LANE CLOSURE MULTILANE INTERMITTENT OR MOVING OPER. FOR SPEEDS > 45 MPH
702001-02	TRAFFIC CONTROL DEVICES
704001	TEMPORARY CONCRETE BARRIER
720001	SIGN PANEL MOUNTING DETAILS
720006	SIGN PANEL ERECTION DETAILS
720011	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
729001	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
805001	ELECTRICAL SERVICE INSTALLATION DETAILS
813001-01	JUNCTION BOXES
814001	CONCRETE HANDHOLES
814006	DOUBLE HANDHOLES
857001	STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
877001	STEEL MAST ARM ASSEMBLY AND POLE
877006	STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS
877011	STEEL COMBINATIONS MAST ARM ASSEMBLY AND POLE
878001	CONCRETE FOUNDATION DETAILS
880001	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
880006	TRAFFIC SIGNAL MOUNTING DETAILS
886001	DETECTOR LOOP INSTALLATIONS
886006	TYPICAL LAYOUT FOR DETECTION LOOPS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK, DuPAGE	1163	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
*(22-1-2, 0103-301, & 0305-3 ETA)				

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 290 (IL. 53)
THORNDALE AVE TO ILLINOIS 58 (GOLF RD)
INDEX OF SHEETS AND
STATE STANDARDS

DRAWN BY RMH
CHECKED BY DVS

DATE 06-07-02

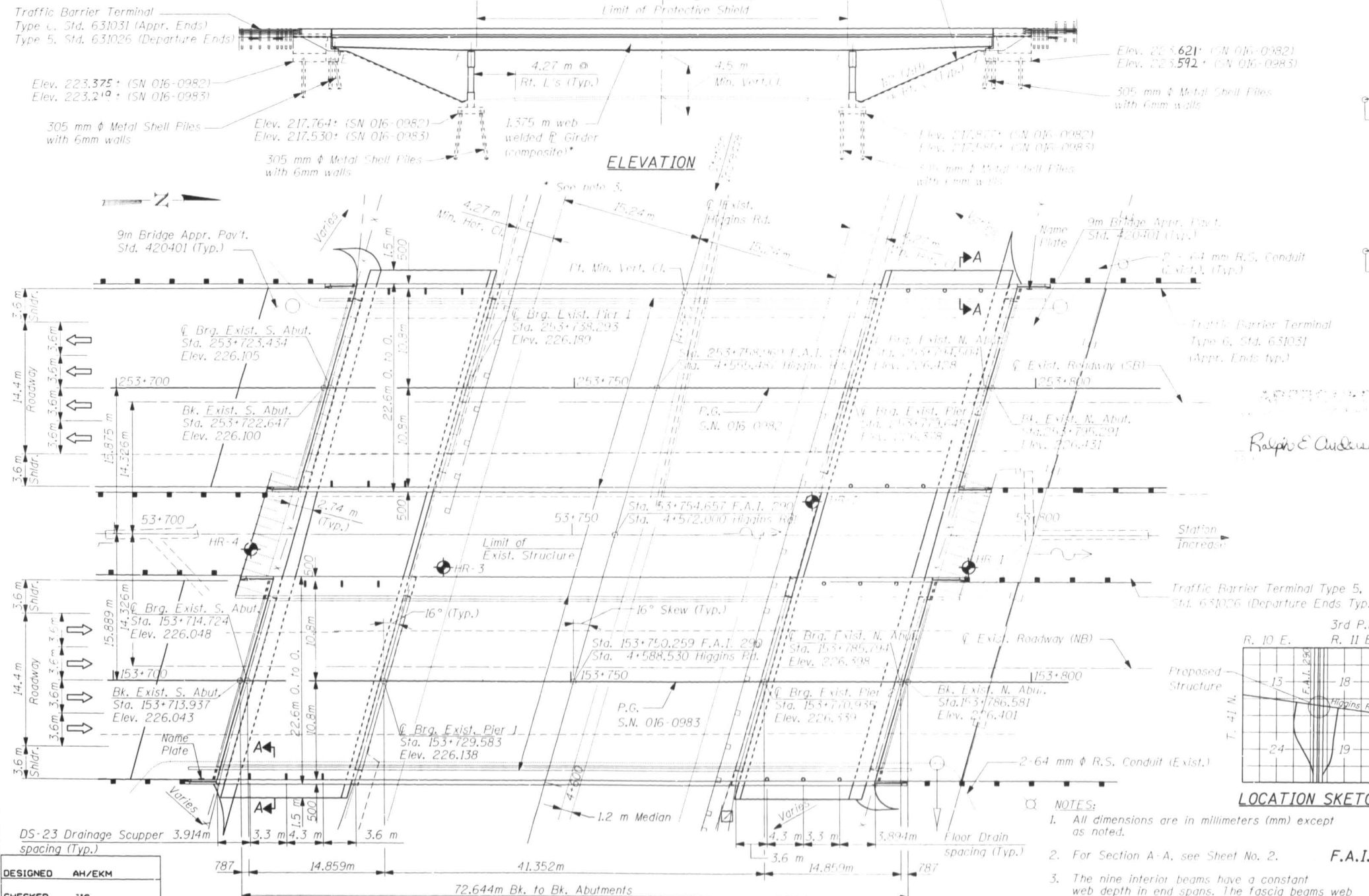
Rev. 10-24-02
INCHES
1/4" = 1'-0"

Bench Mark: IDOT BM44, Square Cut in wingwall at N.W. corner of IL53 S.B. Bridge over Higgins Rd.
Elev. 226.819, Sta. 53+801.216, Offset 25.547 m Lt.

Existing Structure: S.N. 016-0982 (S.B.) & S.N. 016-0983 (N.B.) built in 1969 as F.A.I. Route 290, Section S-0404-313-HB. Both structures consist of a R.C. deck supported on three span multi-steel welded girders in span 2 and multi-steel stringers in Span 1 and 3. Stub type abutments are supported on concrete piles and multi-column piers on creosoted piles. Bridge length is 72.644 m Bk. to Bk. abutments and width 18.90 m o. to o. of deck. The existing concrete deck and steel superstructure shall be removed and replaced with a new composite concrete deck. Three lanes of traffic in each direction will be maintained on existing S.B. Structure while constructing N.B. Structure. Three lanes of traffic in each direction will then be maintained on N.B. Structure while constructing S.B. Structure.

Salvage: The existing elastomeric bearings shall be delivered to the District Bridge Yard at 1101 Bluestield Road, Elk Grove Village. 24 hours notice of the delivery shall be given to the District Bridge Crew Technician at 847-956-1444.

Traffic Barrier Terminal
Type C, Std. 631031 (Appr. Ends)
Type 5, Std. 631026 (Departure Ends)

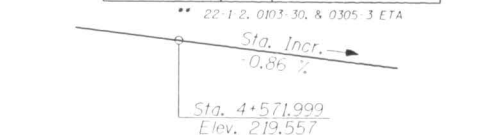


DESIGNED	AH/EKM
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

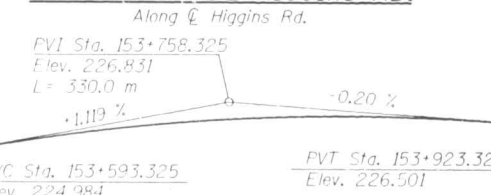
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.I. 290	22-1-2	COOK	1163	630

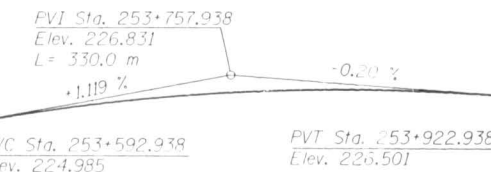
SHEET NO. 1
SHEETS 45



PROFILE GRADE HIGGINS RD.



NORTHBOUND LANES



SOUTHBOUND LANES

PROFILE GRADE F.A.I. 290

Along P.G.L.

DESIGN SPECIFICATIONS

1996 AASHTO WITH 1997 - 2000 INTERIMS.

LOADING MS18 & ALT.

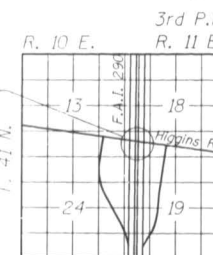
Allow 1.2 kN/m² for future wearing surface.

DESIGN STRESSES

EXISTING	PROPOSED
f _c = 9.7 MPa	f _c = 24 MPa
f _s = 138 MPa (Reinf.)	f _y = 400 MPa (Reinf.)
f _s = 138 MPa (Struct. Steel)	f _y = 345 MPa (M270M Grade 345)
	f _y = 250 MPa (M270M Grade 250)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0



LOCATION SKETCH

- NOTES:
- All dimensions are in millimeters (mm) except as noted.
 - For Section A-A, see Sheet No. 2.
 - The nine interior beams have a constant web depth in end spans. The fascia beams web varies in the end spans.

LEGEND

HR-1 - indicates Soil Boring Location



Signed: Almad M. Hamad, S.E., No. 081-005467
Expires 11-30-2002

Date: 06-07-02

GENERAL PLAN

F.A.I. RTE. 290 OVER HIGGINS ROAD

F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA

COOK COUNTY

STA. 53+754.657

STRUCTURE NO. 016-0982 (S.B.)

STRUCTURE NO. 016-0983 (N.B.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	TITLE	DATE	BY
111-1111-1111	1111	1111	1111	1111
1111	1111	1111	1111	1111
1111	1111	1111	1111	1111

SHEET NO. 2
SHEETS 45

GENERAL NOTES

1. The existing structure is to be replaced with a new structure of the same type and size.
2. The new structure is to be constructed of reinforced concrete.
3. The new structure is to be constructed of reinforced concrete.
4. The new structure is to be constructed of reinforced concrete.
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16. The existing structure is to be replaced with a new structure of the same type and size.
17. The new structure is to be constructed of reinforced concrete.
18. The new structure is to be constructed of reinforced concrete.

INDEX OF SHEETS

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SECTION 1111-1111
REPORT 1111 BY
STATE OF ILLINOIS
F.A.I. RTE. 290 SEC.
F.A.I. RTE.
LOADING MTR & ALT.
STR. NO. 016-0982

NAME PLATE

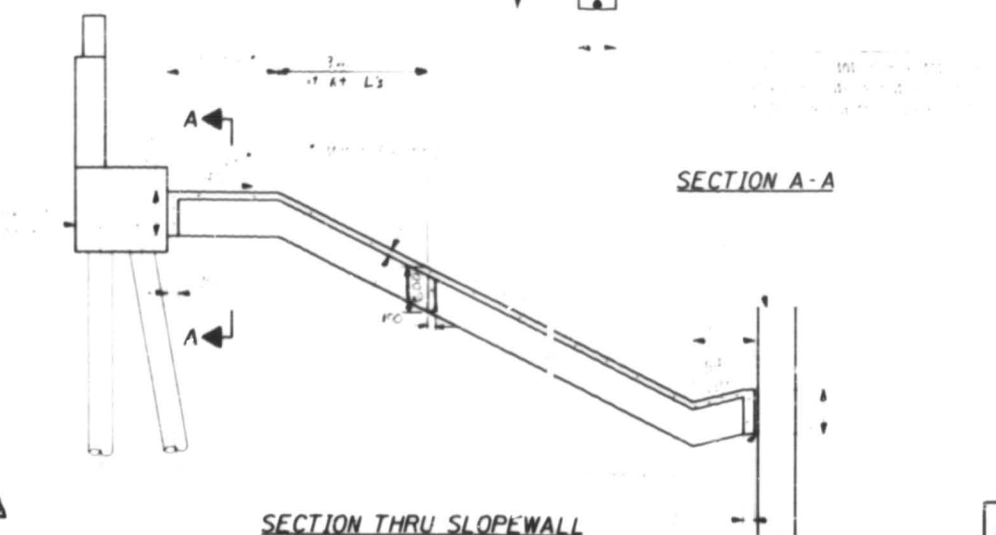
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REPORT 1111 BY
STATE OF ILLINOIS
F.A.I. RTE. 290 SEC.
F.A.I. RTE.
LOADING MTR & ALT.
STR. NO. 016-0983

NAME PLATE

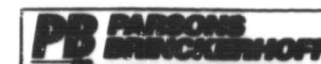
TOTAL BILL OF MATERIAL

With and without material

ITEM	UNIT	SUPER	SUB	TOTAL
1. Concrete	CU YD	1.00	1.00	1.00
2. Steel	TON	1.00	1.00	1.00
3. Formwork	SQ YD	1.00	1.00	1.00
4. Labor	HR	1.00	1.00	1.00
5. Equipment	HR	1.00	1.00	1.00
6. Material	CU YD	1.00	1.00	1.00
7. Steel	TON	1.00	1.00	1.00
8. Formwork	SQ YD	1.00	1.00	1.00
9. Labor	HR	1.00	1.00	1.00
10. Equipment	HR	1.00	1.00	1.00
11. Material	CU YD	1.00	1.00	1.00
12. Steel	TON	1.00	1.00	1.00
13. Formwork	SQ YD	1.00	1.00	1.00
14. Labor	HR	1.00	1.00	1.00
15. Equipment	HR	1.00	1.00	1.00
16. Material	CU YD	1.00	1.00	1.00
17. Steel	TON	1.00	1.00	1.00
18. Formwork	SQ YD	1.00	1.00	1.00
19. Labor	HR	1.00	1.00	1.00
20. Equipment	HR	1.00	1.00	1.00



GENERAL NOTES & BILL OF MATERIAL
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

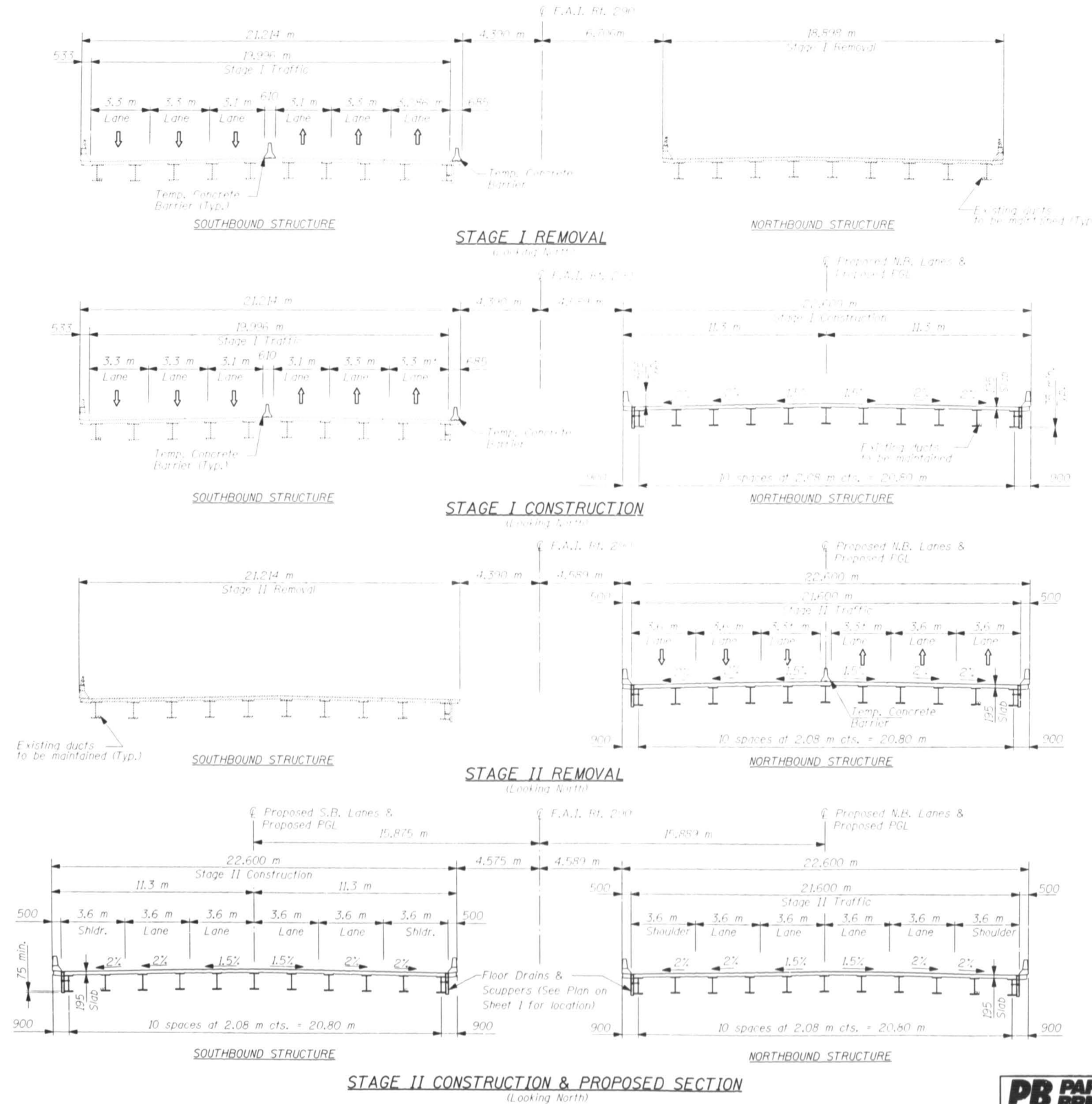


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.I. 290	**	COOK	183	632
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
SHEETS 45



NOTES:

1. For Temporary Concrete Barrier Details, see Sheet No. 4.
2. For Temporary Concrete Barrier Quantity, see Roadway Plans.
3. All dimensions are in millimeters (mm) except as noted.

DESIGNED	AH/EKM
CHECKED	JIG
DRAWN	DCP
CHECKED	AH



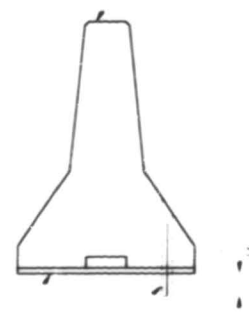
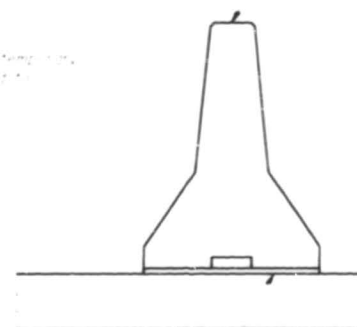
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DESIGNED BY	CHECKED BY	DRAWN BY	DATE
AM	JIG	DCP	06/04/02
PROJECT NO.	DATE	BY	DATE
016-0982	06/04/02	AM	06/04/02

SHEET NO. 4
SHEETS 45

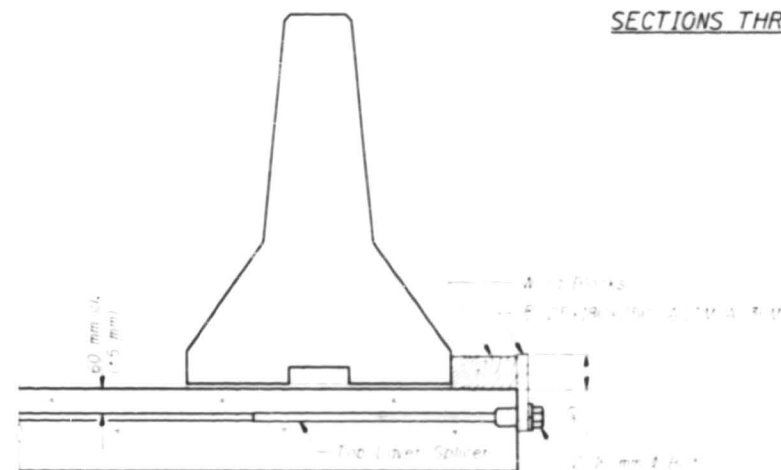
When $A \leq 150$ mm (6 in.), the temporary concrete barrier shape is shown in Detail I. No reinforcement is required when $A \leq 150$ mm (6 in.).



NEW SLAB

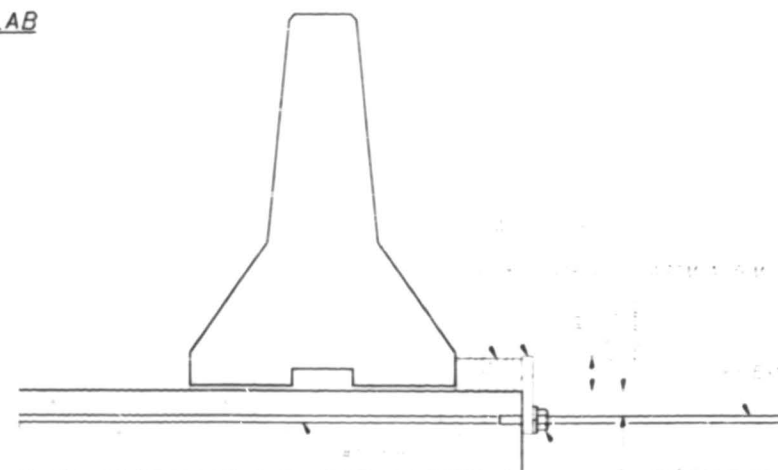
EXISTING SLAB

SECTIONS THRU SLAB



DETAIL I

The 25x180x250 Plate shall not be removed until Stage II construction forms and reinforcement bars are in place.



DETAIL II

The 25x180x250 Plate shall not be removed until Stage II construction forms and reinforcement bars are in place.

NOTES

1. The barrier shall be constructed in accordance with the details shown on this sheet. The barrier shall be constructed in accordance with the details shown on this sheet. The barrier shall be constructed in accordance with the details shown on this sheet.



P 25x180x250

Reinforced with Detail II

DESIGNED	AM
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

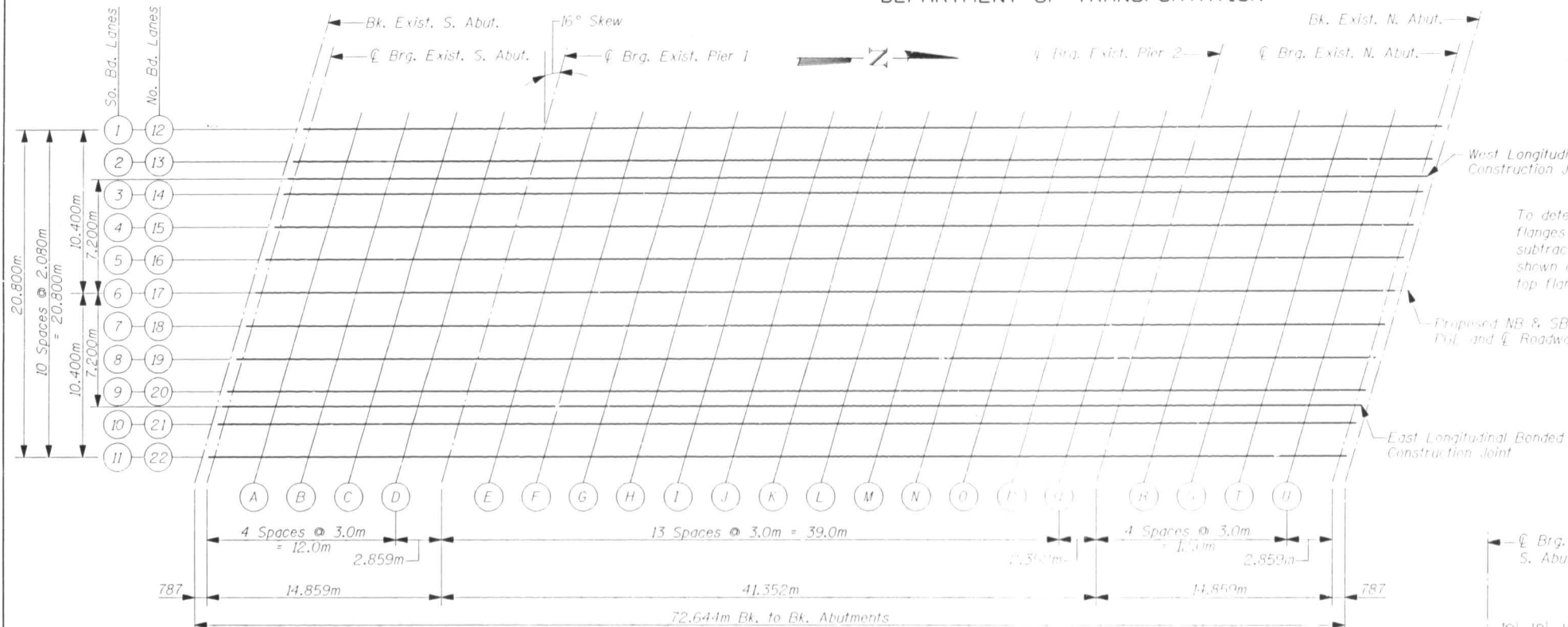
TEMPORARY CONCRETE BARRIER
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



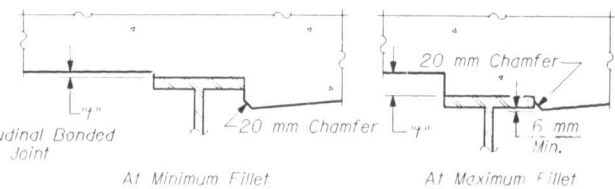
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.I. 290	**	COOK	163	634
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		
** 22-1-2, 0103-30, & 0305-3 ETA				

SHEET NO. 5
SHEETS 45

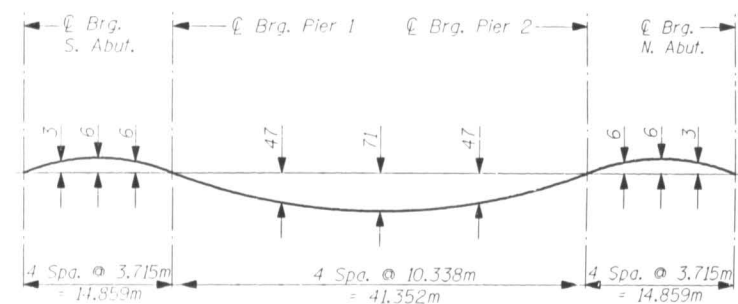


PLAN



To determine "f": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 5, 6, 7, 8 & 9 minus slab thickness, equals the fillet heights "f" above top flange of girders.

FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM

(Includes mass of concrete 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 on Sheets 5, 6, 7, 8 & 9. All dimensions are in millimeters (mm) except as noted. All offsets are in meters.

Notes:

Work this sheet with Sheets 6, 7, 8 & 9.

All dimensions are in millimeters (mm) except as noted.

TOP OF SLAB ELEVATIONS LAYOUT
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657

STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



GIRDER 1

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+725.629	-10.400	225.928	225.928
Br. S. Abut.	253+726.416	-10.400	225.932	225.932
A	253+729.416	-10.400	225.950	225.948
B	253+732.416	-10.400	225.967	225.961
C	253+735.416	-10.400	225.983	225.976
D	253+738.416	-10.400	226.000	225.994
Br. Pier 1	253+741.275	-10.400	226.015	226.015
E	253+744.275	-10.400	226.031	226.043
F	253+747.275	-10.400	226.046	226.072
G	253+750.275	-10.400	226.061	226.101
H	253+753.275	-10.400	226.075	226.128
I	253+756.275	-10.400	226.089	226.151
J	253+759.275	-10.400	226.103	226.171
K	253+762.275	-10.400	226.117	226.188
L	253+765.275	-10.400	226.130	226.198
M	253+768.275	-10.400	226.142	226.202
N	253+771.275	-10.400	226.155	226.207
O	253+774.275	-10.400	226.167	226.205
P. Opt. Trans. Jt.	253+777.275	-10.400	226.178	226.201
Q	253+780.275	-10.400	226.190	226.200
Br. Pier 2	253+782.627	-10.400	226.198	226.198
R	253+785.627	-10.400	226.209	226.203
S	253+788.627	-10.400	226.219	226.212
T	253+791.627	-10.400	226.229	226.223
U	253+794.627	-10.400	226.239	226.237
Br. N. Abut.	253+797.486	-10.400	226.247	226.247
Bk. N. Abut.	253+798.273	-10.400	226.250	226.250

GIRDER 2

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+725.033	-8.320	225.966	225.966
Br. S. Abut.	253+725.820	-8.320	225.960	225.970
A	253+728.820	-8.320	225.988	225.986
B	253+731.820	-8.320	226.005	225.999
C	253+734.820	-8.320	226.022	226.015
D	253+737.820	-8.320	226.038	226.032
Br. Pier 1	253+740.679	-8.320	226.053	226.053
E	253+743.679	-8.320	226.069	226.081
F	253+746.679	-8.320	226.084	226.110
G	253+749.679	-8.320	226.099	226.139
H	253+752.679	-8.320	226.114	226.167
I	253+755.679	-8.320	226.128	226.190
J	253+758.679	-8.320	226.142	226.210
K	253+761.679	-8.320	226.156	226.227
L	253+764.679	-8.320	226.169	226.237
M	253+767.679	-8.320	226.181	226.241
N	253+770.679	-8.320	226.194	226.246
O	253+773.679	-8.320	226.206	226.244
P. Opt. Trans. Jt.	253+776.679	-8.320	226.218	226.241
Q	253+779.679	-8.320	226.229	226.239
Br. Pier 2	253+782.031	-8.320	226.238	226.238
R	253+785.031	-8.320	226.248	226.242
S	253+788.031	-8.320	226.259	226.252
T	253+791.031	-8.320	226.269	226.263
U	253+794.031	-8.320	226.278	226.276
Br. N. Abut.	253+796.890	-8.320	226.287	226.287
Bk. N. Abut.	253+797.677	-8.320	226.290	226.290

DESIGNED	KM
CHECKED	SET
DRAWN	KM
CHECKED	AM

WATER NO.	SECTION	COUNTY	TOTAL AREA	TREES
1000000000	**	1000	1000	1000
1000000000		1000	1000	1000
1000000000		1000	1000	1000

SHEET NO. 6

SHEETS 45

GIRDER 5

Grade	Grade	Grade	Theoretical Single Deflections	Theoretical Grade Elevations Adjusted for Dead Load Deflections
Sta. 1+00.00	Sta. 1+00.00	2,000	226.072	226.072
Sta. 1+05.00	Sta. 1+05.00	4	226.071	226.071
Sta. 1+10.00	Sta. 1+10.00	4	226.069	226.069
Sta. 1+15.00	Sta. 1+15.00	4	226.067	226.066
Sta. 1+20.00	Sta. 1+20.00	4	226.064	226.062
Sta. 1+25.00	Sta. 1+25.00	4	226.061	226.058
Sta. 1+30.00	Sta. 1+30.00	4	226.057	226.054
Sta. 1+35.00	Sta. 1+35.00	4	226.053	226.049
Sta. 1+40.00	Sta. 1+40.00	4	226.049	226.045
Sta. 1+45.00	Sta. 1+45.00	4	226.044	226.039
Sta. 1+50.00	Sta. 1+50.00	4	226.039	226.034
Sta. 1+55.00	Sta. 1+55.00	4	226.034	226.029
Sta. 1+60.00	Sta. 1+60.00	4	226.029	226.024
Sta. 1+65.00	Sta. 1+65.00	4	226.024	226.019
Sta. 1+70.00	Sta. 1+70.00	4	226.019	226.014
Sta. 1+75.00	Sta. 1+75.00	4	226.014	226.009
Sta. 1+80.00	Sta. 1+80.00	4	226.009	226.004
Sta. 1+85.00	Sta. 1+85.00	4	226.004	226.000
Sta. 1+90.00	Sta. 1+90.00	4	226.000	226.000
Sta. 1+95.00	Sta. 1+95.00	4	226.000	226.000
Sta. 2+00.00	Sta. 2+00.00	4	226.000	226.000
Sta. 2+05.00	Sta. 2+05.00	4	226.000	226.000

GIRDER 8

[illegible]

PB PARSONS
BRICKENHOFF

TOP OF SLAB ELEVATIONS I
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILES	SHEET NO.
F.A.I. 290	**	COOK	116.3	636
ILLINOIS FED. AID PROJECT				

SHEET NO. 7
SHEETS 45

** 22-1-2, 0103-30, & 0305-3 ETA

GIRDER 9

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+720.858	6.240	225.982	225.982
Br. S. Abut.	253+721.645	6.240	225.987	225.987
A	253+724.645	6.240	226.005	226.003
B	253+727.645	6.240	226.023	226.017
C	253+730.645	6.240	226.040	226.033
D	253+733.645	6.240	226.057	226.051
Br. Pier 1	253+736.504	6.240	226.073	226.073
E	253+739.504	6.240	226.089	226.101
F	253+742.504	6.240	226.105	226.131
G	253+745.504	6.240	226.120	226.160
H	253+748.504	6.240	226.135	226.188
I	253+751.504	6.240	226.150	226.212
J	253+754.504	6.240	226.164	226.232
K	253+757.504	6.240	226.178	226.249
L	253+760.504	6.240	226.192	226.260
M	253+763.504	6.240	226.205	226.265
N	253+766.504	6.240	226.218	226.270
O	253+769.504	6.240	226.231	226.269
P. Opt. Trans. Jt.	253+772.504	6.240	226.243	226.266
Q	253+775.504	6.240	226.255	226.265
Br. Pier 2	253+777.856	6.240	226.264	226.264
R	253+780.856	6.240	226.275	226.269
S	253+783.856	6.240	226.286	226.279
T	253+786.856	6.240	226.296	226.290
U	253+789.856	6.240	226.306	226.304
Br. N. Abut.	253+792.715	6.240	226.316	226.316
Bk. N. Abut.	253+793.502	6.240	226.318	226.318

SB EAST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+720.582	7.200	225.962	225.962
Br. S. Abut.	253+721.369	7.200	225.966	225.966
A	253+724.369	7.200	225.984	225.987
B	253+727.369	7.200	226.002	226.004
C	253+730.369	7.200	226.019	226.017
D	253+733.369	7.200	226.036	226.039
Br. Pier 1	253+736.228	7.200	226.052	226.052
E	253+739.228	7.200	226.068	226.080
F	253+742.228	7.200	226.084	226.100
G	253+745.228	7.200	226.099	226.119
H	253+748.228	7.200	226.115	226.138
I	253+751.228	7.200	226.129	226.149
J	253+754.228	7.200	226.144	226.161
K	253+757.228	7.200	226.157	226.179
L	253+760.228	7.200	226.171	226.189
M	253+763.228	7.200	226.185	226.195
N	253+766.228	7.200	226.198	226.199
O	253+769.228	7.200	226.210	226.208
P. Opt. Trans. Jt.	253+772.228	7.200	226.223	226.206
Q	253+775.228	7.200	226.234	226.204
Br. Pier 2	253+777.580	7.200	226.244	226.204
R	253+780.580	7.200	226.255	226.209
S	253+783.580	7.200	226.266	226.219
T	253+786.580	7.200	226.276	226.230
U	253+789.580	7.200	226.286	226.234
Br. N. Abut.	253+792.439	7.200	226.296	226.236
Bk. N. Abut.	253+793.226	7.200	226.298	226.238

GIRDER 10

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+720.261	8.320	225.937	225.937
Br. S. Abut.	253+721.048	8.320	225.942	225.942
A	253+724.048	8.320	225.960	225.958
B	253+727.048	8.320	225.978	225.972
C	253+730.048	8.320	225.995	225.988
D	253+733.048	8.320	226.012	226.006
Br. Pier 1	253+735.907	8.320	226.028	226.028
E	253+738.907	8.320	226.044	226.056
F	253+741.907	8.320	226.060	226.086
G	253+744.907	8.320	226.075	226.115
H	253+747.907	8.320	226.091	226.144
I	253+750.907	8.320	226.105	226.167
J	253+753.907	8.320	226.120	226.188
K	253+756.907	8.320	226.134	226.205
L	253+759.907	8.320	226.148	226.216
M	253+762.907	8.320	226.161	226.221
N	253+765.907	8.320	226.174	226.226
O	253+768.907	8.320	226.187	226.225
P. Opt. Trans. Jt.	253+771.907	8.320	226.199	226.222
Q	253+774.907	8.320	226.211	226.221
Br. Pier 2	253+777.259	8.320	226.220	226.220
R	253+780.259	8.320	226.231	226.225
S	253+783.259	8.320	226.242	226.235
T	253+786.259	8.320	226.253	226.247
U	253+789.259	8.320	226.263	226.261
Br. N. Abut.	253+792.118	8.320	226.272	226.272
Bk. N. Abut.	253+792.905	8.320	226.275	226.275

GIRDER 11

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+719.665	10.400	225.892	225.892
Br. S. Abut.	253+720.452	10.400	225.897	225.897
A	253+723.452	10.400	225.915	225.913
B	253+726.452	10.400	225.933	225.927
C	253+729.452	10.400	225.950	225.943
D	253+732.452	10.400	225.967	225.961
Br. Pier 1	253+735.311	10.400	225.983	225.983
E	253+738.311	10.400	225.999	226.011
F	253+741.311	10.400	226.015	226.041
G	253+744.311	10.400	226.031	226.071
H	253+747.311	10.400	226.046	226.099
I	253+750.311	10.400	226.061	226.123
J	253+753.311	10.400	226.075	226.143
K	253+756.311	10.400	226.089	226.160
L	253+759.311	10.400	226.103	226.171
M	253+762.311	10.400	226.117	226.177
N	253+765.311	10.400	226.130	226.182
O	253+768.311	10.400	226.143	226.181
P. Opt. Trans. Jt.	253+771.311	10.400	226.155	226.178
Q	253+774.311	10.400	226.167	226.177
Br. Pier 2	253+776.663	10.400	226.176	226.176
R	253+779.663	10.400	226.187	226.181
S	253+782.663	10.400	226.198	226.191
T	253+785.663	10.400	226.209	226.203
U	253+788.663	10.400	226.219	226.217
Br. N. Abut.	253+791.522	10.400	226.229	226.229
Bk. N. Abut.	253+792.309	10.400	226.231	226.231

GIRDER 12

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+716.919	-10.400	225.872	225.872
Br. S. Abut.	153+717.706	-10.400	225.877	225.877
A	153+720.706	-10.400	225.896	225.894
B	153+723.706	-10.400	225.914	225.908
C	153+726.706	-10.400	225.931	225.924
D	153+729.706	-10.400	225.949	225.943
Br. Pier 1	153+732.565	-10.400	225.965	225.965
E	153+735.565	-10.400	225.982	225.994
F	153+738.565	-10.400	225.998	226.024
G	153+741.565	-10.400	226.014	226.054
H	153+744.565	-10.400	226.030	226.083
I	153+747.565	-10.400	226.045	226.107
J	153+750.565	-10.400	226.060	226.128
K	153+753.565	-10.400	226.074	226.145
L	153+756.565	-10.400	226.089	226.157
M	153+759.565	-10.400	226.102	226.162
N	153+762.565	-10.400	226.116	226.168
O	153+765.565	-10.400	226.129	226.187
P. Opt. Trans. Jt.	153+768.565	-10.400	226.142	226.165
Q	153+771.565	-10.400	226.154	226.164
Br. Pier 2	153+773.917	-10.400	226.164	226.164
R	153+776.917	-10.400	226.175	226.169
S	153+779.917	-10.400	226.187	226.180
T	153+782.917	-10.400	226.198	226.192
U	153+785.917	-10.400	226.208	226.206
Br. N. Abut.	153+788.776	-10.400	226.218	226.218
Bk. N. Abut.	153+789.563	-10.400	226.221	226.221

GIRDER 13

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+716.323	-8.320	225.910	225.910
Br. S. Abut.	153+717.110	-8.320	225.915	225.915
A	153+720.110	-8.320	225.933	225.931
B	153+723.110	-8.320	225.952	225.946
C	153+726.110	-8.320	225.970	225.963
D	153+729.110	-8.320	225.987	225.981
Br. Pier 1	153+731.969	-8.320	226.003	226.003
E	153+734.969	-8.320	226.020	226.032
F	153+737.969	-8.320	226.036	226.062
G	153+740.969	-8.320	226.053	226.093
H	153+743.969	-8.320	226.068	226.121
I	153+746.969	-8.320	226.084	226.146
J	153+749.969	-8.320	226.099	226.167
K	153+752.969	-8.320	226.113	226.184
L	153+755.969	-8.320	226.127	226.195
M	153+758.969	-8.320	226.141	226.201
N	153+761.969	-8.320	226.155	226.207
O	153+764.969	-8.320	226.168	226.206
P. Opt. Trans. Jt.	153+767.969	-8.320	226.181	226.204
Q	153+770.969	-8.320	226.193	226.203
Br. Pier 2	153+773.321	-8.320	226.203	226.203
R	153+776.321	-8.320	226.215	226.209
S	153+779.321	-8.320	226.226	226.219
T	153+782.321	-8.320	226.237	226.231
U	153+785.321	-8.320	226.248	226.246
Br. N. Abut.	153+788.180	-8.320	226.258	226.258
Bk. N. Abut.	153+788.967	-8.320	226.260	226.260

NB WEST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+716.002	-7.200	225.930	225.930
Br. S. Abut.	153+716.789	-7.200	225.935	225.935
A	153+719.789	-7.200	225.954	225.952
B	153+722.789	-7.200	225.972	225.966
C	153+725.789	-7.200	225.990	225.983
D	153+728.789	-7.200	226.008	226.002
Br. Pier 1	153+731.648	-7.200	226.024	226.024
E	153+734.648	-7.200	226.041	226.053
F	153+737.648	-7.200	226.057	226.083
G	153+740.648	-7.200	226.073	226.113
H	153+743.648	-7.200	226.089	226.142
I	153+746.648	-7.200	226.104	226.166
J	153+749.648	-7.200	226.119	226.187
K	153+752.648	-7.200	226.134	226.205
L	153+755.648	-7.200	226.148	226.216
M	153+758.648	-7.200	226.162	226.222
N	153+761.648	-7.200	226.176	226.228
O	153+764.648	-7.200	226.189	226.227
P. Opt. Trans. Jt.	153+767.648	-7.200	226.202	226.225
Q	153+770.648	-7.200	226.214	226.224
Br. Pier 2	153+773.000	-7.200	226.224	22

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO.	SECTION	COUNTY	TOWNSHIP	RANGE
677	**	COOK	JACKSON	677
TOWN		RANGE AND TOWNSHIP		
TOWN		RANGE AND TOWNSHIP		

SHEET NO. 8
SHEETS 45

GIRDER 14

Location	Station	Height (m)	Threat to Life (m)	Threat to Life (m)
			Threat to Life (m)	Threat to Life (m)
Br. N. Abut.	Br. N. Abut.	1.4	1.4	1.4
Br. N. Abut.	Br. N. Abut.	1.4	1.4	1.4
A	A	1.4	1.4	1.4
B	B	1.4	1.4	1.4
C	C	1.4	1.4	1.4
D	D	1.4	1.4	1.4
E	E	1.4	1.4	1.4
F	F	1.4	1.4	1.4
G	G	1.4	1.4	1.4
H	H	1.4	1.4	1.4
I	I	1.4	1.4	1.4
J	J	1.4	1.4	1.4
K	K	1.4	1.4	1.4
L	L	1.4	1.4	1.4
M	M	1.4	1.4	1.4
N	N	1.4	1.4	1.4
O	O	1.4	1.4	1.4
P	P	1.4	1.4	1.4
Q	Q	1.4	1.4	1.4
R	R	1.4	1.4	1.4
S	S	1.4	1.4	1.4
T	T	1.4	1.4	1.4
U	U	1.4	1.4	1.4
V	V	1.4	1.4	1.4
W	W	1.4	1.4	1.4

GIRDER 15

Item	Quantity	Unit Price	Total Price	Remarks
1. 1000	1000	1.00	1000.00	
2. 2000	2000	2.00	4000.00	
3. 3000	3000	3.00	9000.00	
4. 4000	4000	4.00	16000.00	
5. 5000	5000	5.00	25000.00	
6. 6000	6000	6.00	36000.00	
7. 7000	7000	7.00	49000.00	
8. 8000	8000	8.00	64000.00	
9. 9000	9000	9.00	81000.00	
10. 10000	10000	10.00	100000.00	
11. 11000	11000	11.00	121000.00	
12. 12000	12000	12.00	144000.00	
13. 13000	13000	13.00	169000.00	
14. 14000	14000	14.00	196000.00	
15. 15000	15000	15.00	225000.00	
16. 16000	16000	16.00	256000.00	
17. 17000	17000	17.00	289000.00	
18. 18000	18000	18.00	324000.00	
19. 19000	19000	19.00	361000.00	
20. 20000	20000	20.00	400000.00	

GIRDER 16

Symbol	Symbol	Symbol	Symbol	Symbol
α	α	α	α	α
β	β	β	β	β
γ	γ	γ	γ	γ
δ	δ	δ	δ	δ
ϵ	ϵ	ϵ	ϵ	ϵ
ζ	ζ	ζ	ζ	ζ
η	η	η	η	η
θ	θ	θ	θ	θ
ι	ι	ι	ι	ι
κ	κ	κ	κ	κ
λ	λ	λ	λ	λ
μ	μ	μ	μ	μ
ν	ν	ν	ν	ν
ξ	ξ	ξ	ξ	ξ
π	π	π	π	π
ρ	ρ	ρ	ρ	ρ
σ	σ	σ	σ	σ
τ	τ	τ	τ	τ
υ	υ	υ	υ	υ
ϕ	ϕ	ϕ	ϕ	ϕ
χ	χ	χ	χ	χ
ψ	ψ	ψ	ψ	ψ
ω	ω	ω	ω	ω
α	α	α	α	α
β	β	β	β	β
γ	γ	γ	γ	γ
δ	δ	δ	δ	δ
ϵ	ϵ	ϵ	ϵ	ϵ
ζ	ζ	ζ	ζ	ζ
η	η	η	η	η
θ	θ	θ	θ	θ
ι	ι	ι	ι	ι
κ	κ	κ	κ	κ
λ	λ	λ	λ	λ
μ	μ	μ	μ	μ
ν	ν	ν	ν	ν
ξ	ξ	ξ	ξ	ξ
π	π	π	π	π
ρ	ρ	ρ	ρ	ρ
σ	σ	σ	σ	σ
τ	τ	τ	τ	τ
υ	υ	υ	υ	υ
ϕ	ϕ	ϕ	ϕ	ϕ
χ	χ	χ	χ	χ
ψ	ψ	ψ	ψ	ψ
ω	ω	ω	ω	ω

GIRDER 17 & PROPOSED NB PG

Section	Location	Span (ft)	Theoretical Group Flexibility	Theoretical Grade Flexions Adjusted For Dead Load Deflections
14	14+00.00	25.00	226.047	226.043
15	15+00.00	25.00	226.149	226.149
16	16+00.00	25.00	226.367	226.365
17	17+00.00	25.00	226.399	226.380
18	18+00.00	25.00	226.374	226.397
19	19+00.00	25.00	226.302	226.326
20	20+00.00	25.00	226.239	226.259
21	21+00.00	25.00	226.269	226.307
22	22+00.00	25.00	226.272	226.299
23	23+00.00	25.00	226.289	226.228
24	24+00.00	25.00	226.277	226.257
25	25+00.00	25.00	226.220	226.282
26	26+00.00	25.00	226.256	226.303
27	27+00.00	25.00	226.250	226.321
28	28+00.00	25.00	226.265	226.333
29	29+00.00	25.00	226.279	226.339
30	30+00.00	25.00	226.294	226.345
31	31+00.00	25.00	226.306	226.344
32	32+00.00	25.00	226.379	226.342
33	33+00.00	25.00	226.352	226.342
34	34+00.00	25.00	226.347	226.348
35	35+00.00	25.00	226.365	226.358
36	36+00.00	25.00	226.377	226.371
37	37+00.00	25.00	226.389	226.386
38	38+00.00	25.00	226.399	226.399
39	39+00.00	25.00	226.471	226.401

GIRDER 18

Case Name	Case No.	Trans. No.	Trans. Date	Trans. Amount
Reg. A. Abut.	15-772,747	2,080	2/26/98	226,838
Reg. B. Abut.	15-774,274	2,080	2/26/98	226,842
A	15-777,118	2,080	2/26/98	226,846
B	15-779,179	2,080	2/26/98	226,849
C	15-778,178	2,080	2/26/98	226,850
D	15-776,176	2,080	2/26/98	226,851
Reg. Pier 2	15-779,987	2,080	2/26/98	226,855
E	15-771,987	2,080	2/26/98	226,858
F	15-774,987	2,080	2/26/98	226,861
G	15-771,987	2,080	2/26/98	226,864
H	15-740,987	2,080	2/26/98	226,867
I	15-743,987	2,080	2/26/98	226,868
J	15-746,987	2,080	2/26/98	226,869
K	15-749,987	2,080	2/26/98	226,870
L	15-752,987	2,080	2/26/98	226,871
M	15-755,987	2,080	2/26/98	226,872
N	15-758,987	2,080	2/26/98	226,873
O	15-761,987	2,080	2/26/98	226,874
P. Opt. Trans. II.	15-764,987	2,080	2/26/98	226,875
Q	15-767,987	2,080	2/26/98	226,876
Reg. Pier 2	15-771,890	2,080	2/26/98	226,878
R	15-773,890	2,080	2/26/98	226,879
S	15-776,890	2,080	2/26/98	226,880
T	15-779,890	2,080	2/26/98	226,881
U	15-782,890	2,080	2/26/98	226,882
Reg. B. Abut.	15-785,998	2,080	2/26/98	226,885
Reg. A. Abut.	15-785,998	2,080	2/26/98	226,887

GIRDER 19

Year	Age	Sex	Weight (kg)	Length (cm)	Wing (cm)	Tail (cm)	Bill (cm)	Foot (cm)	Claw (cm)
1961	1	♂	1.20	110	100	100	100	100	100
1962	1	♀	1.15	105	95	95	95	95	95
1963	1	♂	1.25	115	105	105	105	105	105
1964	1	♀	1.10	100	90	90	90	90	90
1965	1	♂	1.30	120	110	110	110	110	110
1966	1	♀	1.18	108	98	98	98	98	98
1967	1	♂	1.22	112	102	102	102	102	102
1968	1	♀	1.12	102	92	92	92	92	92
1969	1	♂	1.28	118	108	108	108	108	108
1970	1	♀	1.14	104	94	94	94	94	94
1971	1	♂	1.24	114	104	104	104	104	104
1972	1	♀	1.16	106	96	96	96	96	96
1973	1	♂	1.26	116	106	106	106	106	106
1974	1	♀	1.17	107	97	97	97	97	97
1975	1	♂	1.21	111	101	101	101	101	101
1976	1	♀	1.13	103	93	93	93	93	93
1977	1	♂	1.23	113	103	103	103	103	103
1978	1	♀	1.15	105	95	95	95	95	95
1979	1	♂	1.27	117	107	107	107	107	107
1980	1	♀	1.19	109	99	99	99	99	99
1981	1	♂	1.25	115	105	105	105	105	105
1982	1	♀	1.17	107	97	97	97	97	97
1983	1	♂	1.29	119	109	109	109	109	109
1984	1	♀	1.20	110	100	100	100	100	100
1985	1	♂	1.23	113	103	103	103	103	103
1986	1	♀	1.16	106	96	96	96	96	96
1987	1	♂	1.26	116	106	106	106	106	106
1988	1	♀	1.18	108	98	98	98	98	98
1989	1	♂	1.22	112	102	102	102	102	102
1990	1	♀	1.14	104	94	94	94	94	94
1991	1	♂	1.24	114	104	104	104	104	104
1992	1	♀	1.16	106	96	96	96	96	96
1993	1	♂	1.28	118	108	108	108	108	108
1994	1	♀	1.20	110	100	100	100	100	100
1995	1	♂	1.23	113	103	103	103	103	103
1996	1	♀	1.17	107	97	97	97	97	97
1997	1	♂	1.25	115	105	105	105	105	105
1998	1	♀	1.19	109	99	99	99	99	99
1999	1	♂	1.21	111	101				
2000	1	♀	1.15	105	95				
2001	1	♂	1.27	117	107				
2002	1	♀	1.18	108	98				
2003	1	♂	1.22	112	102				
2004	1	♀	1.16	106	96				
2005	1	♂	1.24	114	104				
2006	1	♀	1.17	107	97				
2007	1	♂	1.26	116	106				
2008	1	♀	1.19	109	99				
2009	1	♂	1.21	111	101				
2010	1	♀	1.15	105	95				
2011	1	♂	1.27	117	107				
2012	1	♀	1.18	108	98				
2013	1	♂	1.22	112	102				
2014	1	♀	1.16	106	96				
2015	1	♂	1.24	114	104				
2016	1	♀	1.17	107	97				
2017	1	♂	1.26	116	106				
2018	1	♀	1.19	109	99				
2019	1	♂	1.21	111	101				
2020	1	♀	1.15	105	95				

GIRDER 20[illegible]

TOP OF SLAB ELEVATIONS III
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

DESIGNED	KM
CHECKED	SET
DRAWN	KM
CHECKED	AM

**PB PARSONS
BRINCKERHOFF**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
F.A.I. 290	**	COOK	1153	638
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9
SHEETS 45

** 22-1-2, 0103-30, & 0305-3 ETA

NB EAST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+711.872	7.200	225.904	225.904
Q Brg. S. Abut.	153+712.659	7.200	225.909	225.909
A	153+715.659	7.200	225.928	225.928
B	153+718.659	7.200	225.947	225.941
C	153+721.659	7.200	225.965	225.958
D	153+724.659	7.200	225.983	225.977
Q Br. Pier 1	153+727.518	7.200	226.000	226.000
E	153+730.518	7.200	226.017	226.029
F	153+733.518	7.200	226.034	226.060
G	153+736.518	7.200	226.051	226.091
H	153+739.518	7.200	226.067	226.120
I	153+742.518	7.200	226.083	226.145
J	153+745.518	7.200	226.099	226.167
K	153+748.518	7.200	226.114	226.185
L	153+751.518	7.200	226.129	226.197
M	153+754.518	7.200	226.143	226.203
N	153+757.518	7.200	226.157	226.209
O	153+760.518	7.200	226.171	226.209
P Opt. Trans. Jt.	153+763.518	7.200	226.184	226.207
Q	153+766.518	7.200	226.197	226.207
Q Brg. Pier 2	153+768.870	7.200	226.207	226.207
R	153+771.870	7.200	226.219	226.213
S	153+774.870	7.200	226.231	226.224
T	153+777.870	7.200	226.243	226.237
U	153+780.870	7.200	226.254	226.252
Q Brg. N. Abut.	153+783.729	7.200	226.265	226.265
Bk. N. Abut.	153+784.516	7.200	226.267	226.267

GIRDER 21

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+711.551	8.500	225.880	225.880
Q Brg. S. Abut.	153+712.338	8.500	225.885	225.885
A	153+715.338	8.500	225.904	225.897
B	153+718.338	8.500	225.923	225.907
C	153+721.338	8.500	225.941	225.924
D	153+724.338	8.500	225.959	225.942
Q Brg. Pier 1	153+727.197	8.500	225.976	225.959
E	153+730.197	8.500	225.993	225.976
F	153+733.197	8.500	226.010	226.000
G	153+736.197	8.500	226.027	226.027
H	153+739.197	8.500	226.043	226.059
I	153+742.197	8.500	226.059	226.077
J	153+745.197	8.500	226.075	226.095
K	153+748.197	8.500	226.090	226.111
L	153+751.197	8.500	226.105	226.123
M	153+754.197	8.500	226.119	226.139
N	153+757.197	8.500	226.133	226.155
O	153+760.197	8.500	226.147	226.169
P Opt. Trans. Jt.	153+763.197	8.500	226.160	226.183
Q	153+766.197	8.500	226.173	226.193
Q Brg. Pier 2	153+768.549	8.500	226.183	226.193
R	153+771.549	8.500	226.196	226.209
S	153+774.549	8.500	226.208	226.221
T	153+777.549	8.500	226.219	226.233
U	153+780.549	8.500	226.231	226.249
Q Brg. N. Abut.	153+783.408	8.500	226.241	226.241
Bk. N. Abut.	153+784.195	8.500	226.244	226.244

GIRDER 22

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+710.955	10.400	225.834	225.834
Q Brg. S. Abut.	153+711.742	10.400	225.839	225.839
A	153+714.742	10.400	225.858	225.856
B	153+717.742	10.400	225.877	225.871
C	153+720.742	10.400	225.896	225.889
D	153+723.742	10.400	225.914	225.908
Q Brg. Pier 1	153+726.601	10.400	225.931	225.931
E	153+729.601	10.400	225.948	225.960
F	153+732.601	10.400	225.965	225.991
G	153+735.601	10.400	225.982	226.022
H	153+738.601	10.400	225.998	226.051
I	153+741.601	10.400	226.014	226.076
J	153+744.601	10.400	226.030	226.098
K	153+747.601	10.400	226.045	226.116
L	153+750.601	10.400	226.060	226.128
M	153+753.601	10.400	226.075	226.135
N	153+756.601	10.400	226.089	226.141
O	153+759.601	10.400	226.103	226.141
P Opt. Trans. Jt.	153+762.601	10.400	226.116	226.139
Q	153+765.601	10.400	226.129	226.139
Q Brg. Pier 2	153+767.953	10.400	226.139	226.139
R	153+770.953	10.400	226.152	226.146
S	153+773.953	10.400	226.164	226.157
T	153+776.953	10.400	226.175	226.169
U	153+779.953	10.400	226.187	226.185
Q Brg. N. Abut.	153+782.812	10.400	226.197	226.197
Bk. N. Abut.	153+783.599	10.400	226.200	226.200

DESIGNED	KM
CHECKED	SET
DRAWN	KM
CHECKED	AH

TOP OF SLAB ELEVATIONS IV
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



[illegible]

MIN. BAR LAPS

#15 E Bar	510
#20 E Bar	640
#25 E Bar	1060m

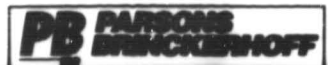
PLAN



1. $\frac{1}{2} \log \frac{1}{2} = -0.5$ (base 2)
2. $\frac{1}{4} \log \frac{1}{4} = -0.5$ (base 2)
3. $\frac{1}{8} \log \frac{1}{8} = -0.5$ (base 2)
4. $\frac{1}{16} \log \frac{1}{16} = -0.5$ (base 2)
5. $\frac{1}{32} \log \frac{1}{32} = -0.5$ (base 2)
6. $\frac{1}{64} \log \frac{1}{64} = -0.5$ (base 2)
7. $\frac{1}{128} \log \frac{1}{128} = -0.5$ (base 2)
8. $\frac{1}{256} \log \frac{1}{256} = -0.5$ (base 2)
9. $\frac{1}{512} \log \frac{1}{512} = -0.5$ (base 2)
10. $\frac{1}{1024} \log \frac{1}{1024} = -0.5$ (base 2)
11. $\frac{1}{2048} \log \frac{1}{2048} = -0.5$ (base 2)
12. $\frac{1}{4096} \log \frac{1}{4096} = -0.5$ (base 2)
13. $\frac{1}{8192} \log \frac{1}{8192} = -0.5$ (base 2)
14. $\frac{1}{16384} \log \frac{1}{16384} = -0.5$ (base 2)
15. $\frac{1}{32768} \log \frac{1}{32768} = -0.5$ (base 2)
16. $\frac{1}{65536} \log \frac{1}{65536} = -0.5$ (base 2)
17. $\frac{1}{131072} \log \frac{1}{131072} = -0.5$ (base 2)
18. $\frac{1}{262144} \log \frac{1}{262144} = -0.5$ (base 2)
19. $\frac{1}{524288} \log \frac{1}{524288} = -0.5$ (base 2)
20. $\frac{1}{1048576} \log \frac{1}{1048576} = -0.5$ (base 2)
21. $\frac{1}{2097152} \log \frac{1}{2097152} = -0.5$ (base 2)
22. $\frac{1}{4194304} \log \frac{1}{4194304} = -0.5$ (base 2)
23. $\frac{1}{8388608} \log \frac{1}{8388608} = -0.5$ (base 2)
24. $\frac{1}{16777216} \log \frac{1}{16777216} = -0.5$ (base 2)
25. $\frac{1}{33554432} \log \frac{1}{33554432} = -0.5$ (base 2)
26. $\frac{1}{67108864} \log \frac{1}{67108864} = -0.5$ (base 2)
27. $\frac{1}{134217728} \log \frac{1}{134217728} = -0.5$ (base 2)
28. $\frac{1}{268435456} \log \frac{1}{268435456} = -0.5$ (base 2)
29. $\frac{1}{536870912} \log \frac{1}{536870912} = -0.5$ (base 2)
30. $\frac{1}{1073741824} \log \frac{1}{1073741824} = -0.5$ (base 2)
31. $\frac{1}{2147483648} \log \frac{1}{2147483648} = -0.5$ (base 2)
32. $\frac{1}{4294967296} \log \frac{1}{4294967296} = -0.5$ (base 2)
33. $\frac{1}{8589934592} \log \frac{1}{8589934592} = -0.5$ (base 2)
34. $\frac{1}{17179869184} \log \frac{1}{17179869184} = -0.5$ (base 2)
35. $\frac{1}{34359738368} \log \frac{1}{34359738368} = -0.5$ (base 2)
36. $\frac{1}{68719476736} \log \frac{1}{68719476736} = -0.5$ (base 2)
37. $\frac{1}{137438953472} \log \frac{1}{137438953472} = -0.5$ (base 2)
38. $\frac{1}{274877906944} \log \frac{1}{274877906944} = -0.5$ (base 2)
39. $\frac{1}{549755813888} \log \frac{1}{549755813888} = -0.5$ (base 2)
40. $\frac{1}{1099511627776} \log \frac{1}{1099511627776} = -0.5$ (base 2)
41. $\frac{1}{2199023255552} \log \frac{1}{2199023255552} = -0.5$ (base 2)
42. $\frac{1}{4398046511104} \log \frac{1}{4398046511104} = -0.5$ (base 2)
43. $\frac{1}{8796093022208} \log \frac{1}{8796093022208} = -0.5$ (base 2)
44. $\frac{1}{17592186044416} \log \frac{1}{17592186044416} = -0.5$ (base 2)
45. $\frac{1}{35184372088832} \log \frac{1}{35184372088832} = -0.5$ (base 2)
46. $\frac{1}{70368744177664} \log \frac{1}{70368744177664} = -0.5$ (base 2)
47. $\frac{1}{140737488355328} \log \frac{1}{140737488355328} = -0.5$ (base 2)
48. $\frac{1}{281474976710656} \log \frac{1}{281474976710656} = -0.5$ (base 2)
49. $\frac{1}{562949953421312} \log \frac{1}{562949953421312} = -0.5$ (base 2)
50. $\frac{1}{1125899906842624} \log \frac{1}{1125899906842624} = -0.5$ (base 2)
51. $\frac{1}{2251799813685248} \log \frac{1}{2251799813685248} = -0.5$ (base 2)
52. $\frac{1}{4503599627370496} \log \frac{1}{4503599627370496} = -0.5$ (base 2)
53. $\frac{1}{9007199254740992} \log \frac{1}{9007199254740992} = -0.5$ (base 2)
54. $\frac{1}{18014398509481984} \log \frac{1}{18014398509481984} = -0.5$ (base 2)
55. $\frac{1}{36028797018963968} \log \frac{1}{36028797018963968} = -0.5$ (base 2)
56. $\frac{1}{72057594037927936} \log \frac{1}{72057594037927936} = -0.5$ (base 2)
57. $\frac{1}{144115188075855872} \log \frac{1}{144115188075855872} = -0.5$ (base 2)
58. $\frac{1}{288230376151711744} \log \frac{1}{288230376151711744} = -0.5$ (base 2)
59. $\frac{1}{576460752303423488} \log \frac{1}{576460752303423488} = -0.5$ (base 2)
60. $\frac{1}{1152921504606846976} \log \frac{1}{1152921504606846976} = -0.5$ (base 2)
61. $\frac{1}{2305843009213693952} \log \frac{1}{2305843009213693952} = -0.5$ (base 2)
62. $\frac{1}{4611686018427387904} \log \frac{1}{4611686018427387904} = -0.5$ (base 2)
63. $\frac{1}{9223372036854775808} \log \frac{1}{9223372036854775808} = -0.5$ (base 2)
64. $\frac{1}{18446744073709551616} \log \frac{1}{18446744073709551616} = -0.5$ (base 2)
65. $\frac{1}{36893488147419103232} \log \frac{1}{36893488147419103232} = -0.5$ (base 2)
66. $\frac{1}{73786976294838206464} \log \frac{1}{73786976294838206464} = -0.5$ (base 2)
67. $\frac{1}{147573952589676412928} \log \frac{1}{147573952589676412928} = -0.5$ (base 2)
68. $\frac{1}{295147905179352825856} \log \frac{1}{295147905179352825856} = -0.5$ (base 2)
69. $\frac{1}{590295810358705651712} \log \frac{1}{590295810358705651712} = -0.5$ (base 2)
70. $\frac{1}{1180591620717411303424} \log \frac{1}{1180591620717411303424} = -0.5$ (base 2)
71. $\frac{1}{2361183241434822606848} \log \frac{1}{2361183241434822606848} = -0.5$ (base 2)
72. $\frac{1}{4722366482869645213696} \log \frac{1}{4722366482869645213696} = -0.5$ (base 2)

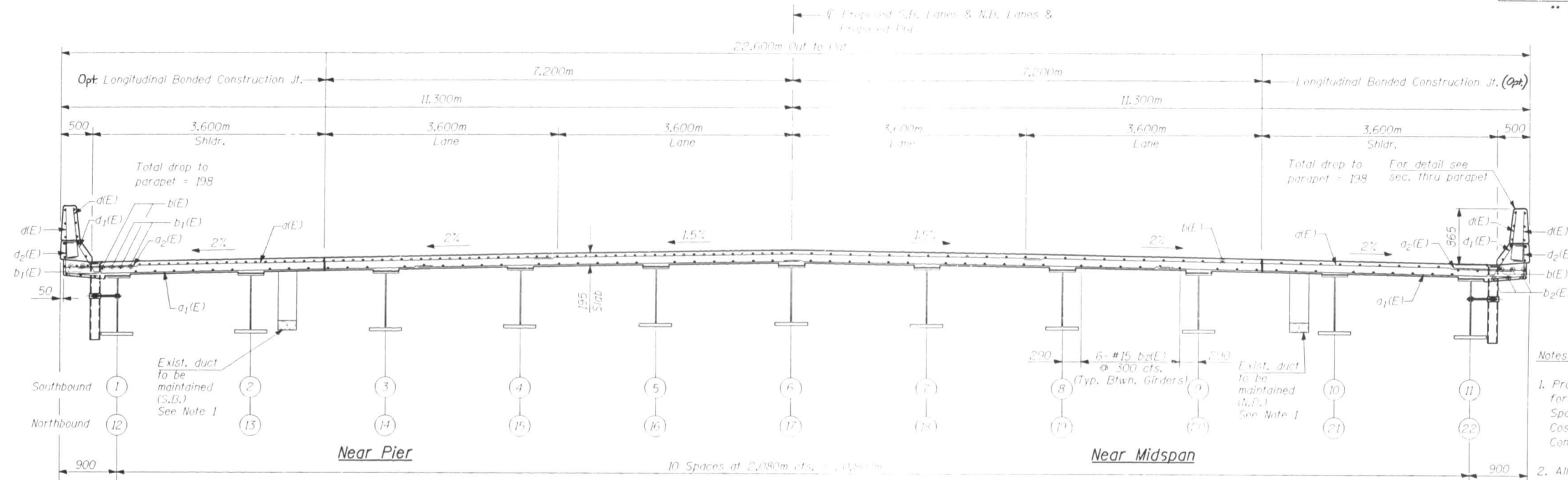
$$T_{\text{eff}} = \frac{1}{2} \left(\frac{1}{T_1} + \frac{1}{T_2} \right) \quad (1)$$

SUPERSTRUCTURE
 F.A.I. RTE. 290 OVER HIGGINS ROAD
 F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
 COOK COUNTY
 STA. 53+754.657
 STRUCTURE NO. 016-0982 (S.B.)
 STRUCTURE NO. 016-0983 (N.B.)

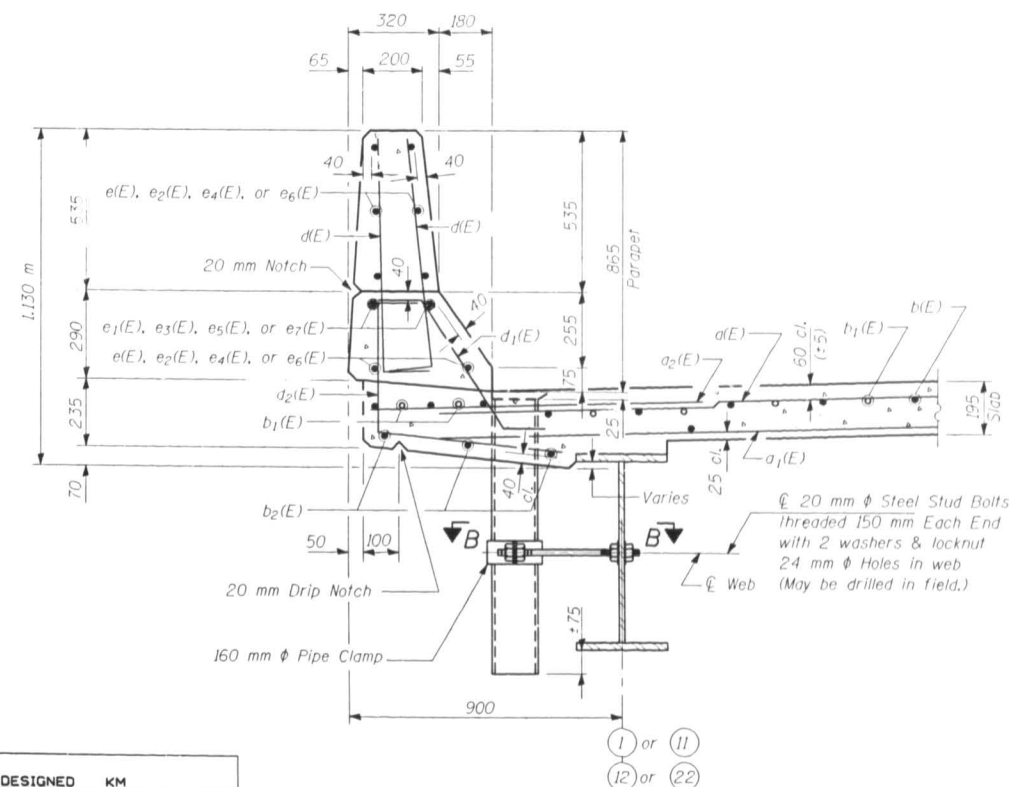


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

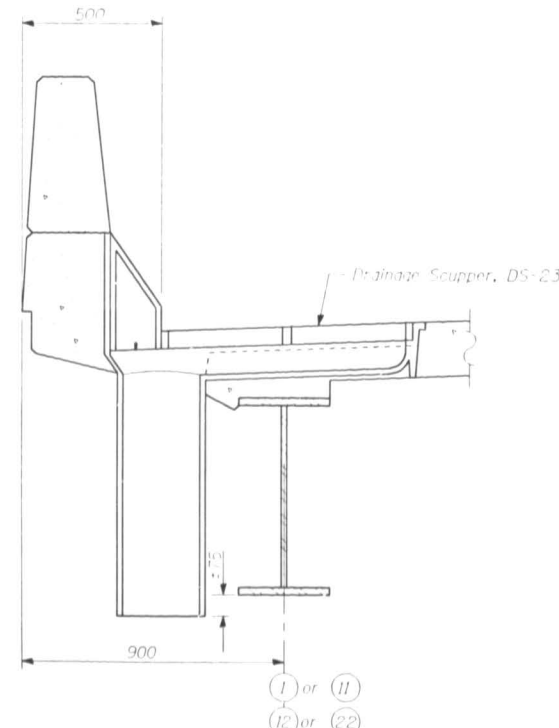
ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
F.A.I. 290	**	COOK	1163	640
SHEETS 45				



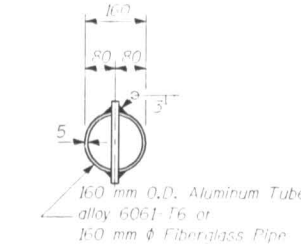
CROSS SECTION
(Looking North)



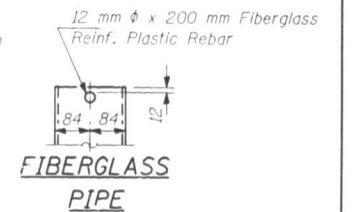
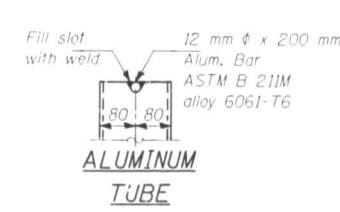
SECTION THRU PARAPET AT FLOOR DRAIN



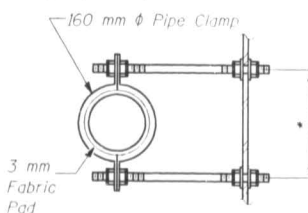
SECTION THRU PARAPET AT DRAINAGE SCUPPER
(Reinforcement not shown for clarity)



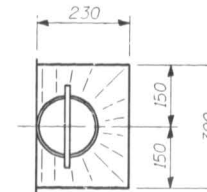
TOP PLAN
(Showing Aluminum Tube)



* Dimension as required by Pipe Clamp



SECTION B-B



TOP PLAN

FLOOR DRAIN DETAILS

SUPERSTRUCTURE DETAILS I

F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

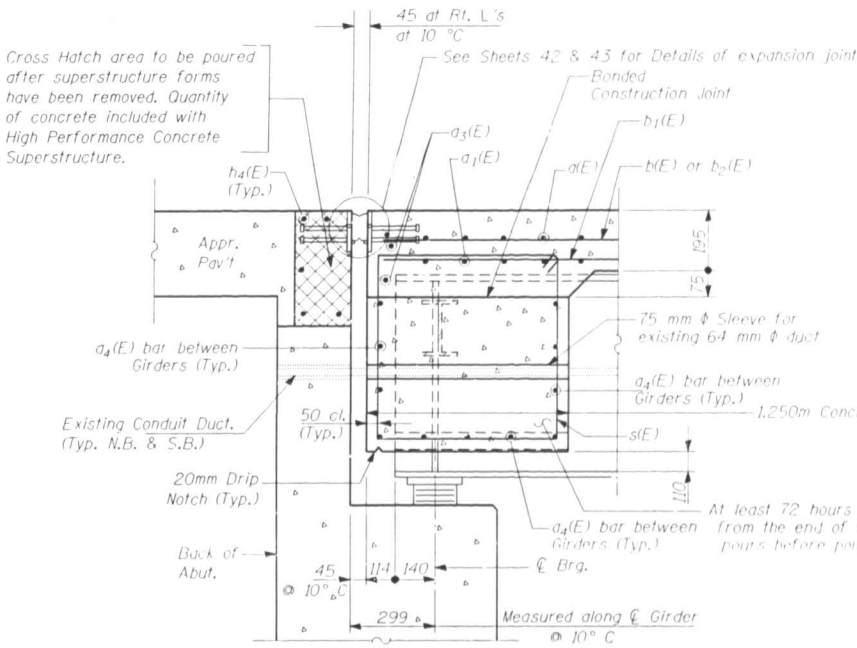
PB PARSONS
BRINCKERHOFF

FILENAME: G:\6772A\STRUCT\ACAD\HIGGINS NB\5-FINAL\HIG_DECK02.DGN; 6/4/02:12:58:57

DESIGNED	KM
CHECKED	SET
DRAWN	DCP
CHECKED	AH

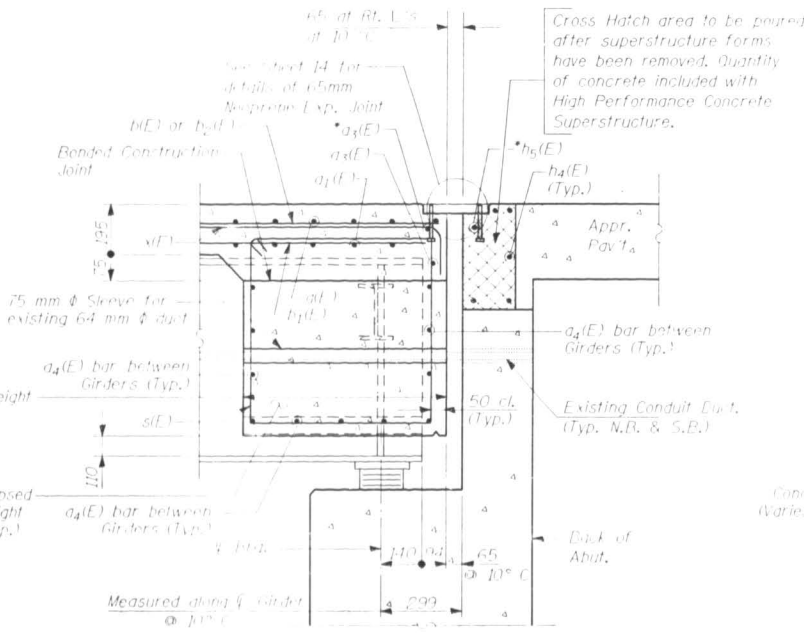
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.I. 290	**	COOK	1163	642
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT NO. 1		
** 22-1-2, 0103-30, & 0305-3 ETA				

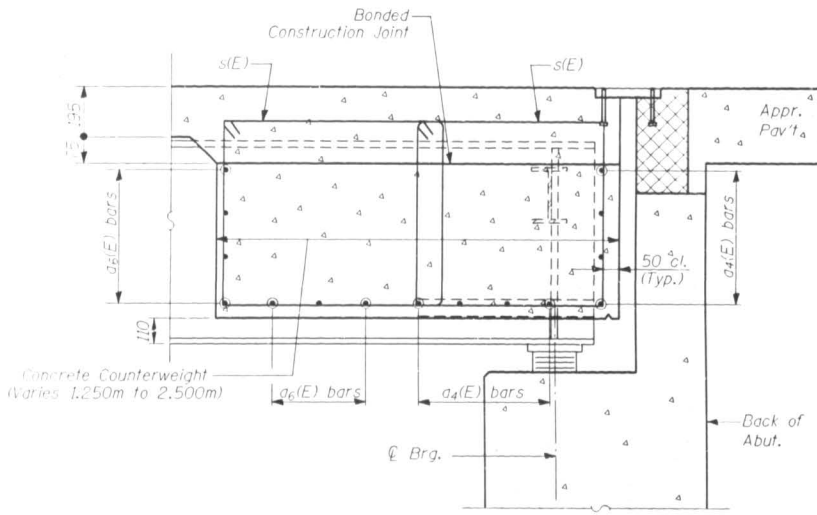


SECTION A-A
(Interior Bay at S. Abut.)

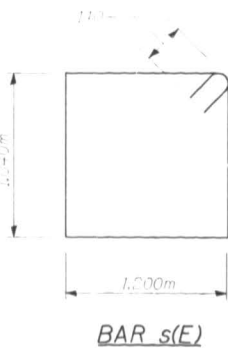
*Place a3(E) and b5(E) bars in back of anchor bolt as shown if required to maintain 25 mm cl. (+0-3 mm). Anchor bolts should be tied to a3(E) and b(E) bars.



SECTION B-B
(Interior Bay at N. Abut.)



SECTION C-C
(Exterior Bay at N. Abut.)
(South Abutment Similar)
(Details and Reinforcement not shown are same as Section B-B.)



Notes:
1. All dimensions are in millimeters (mm) except as noted.

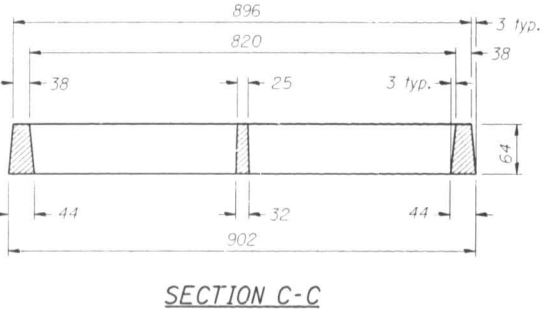
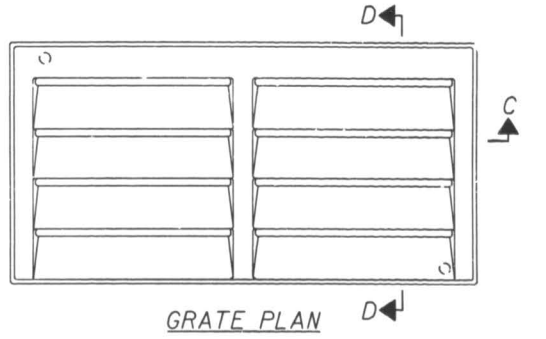
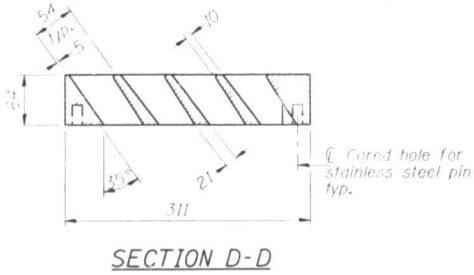
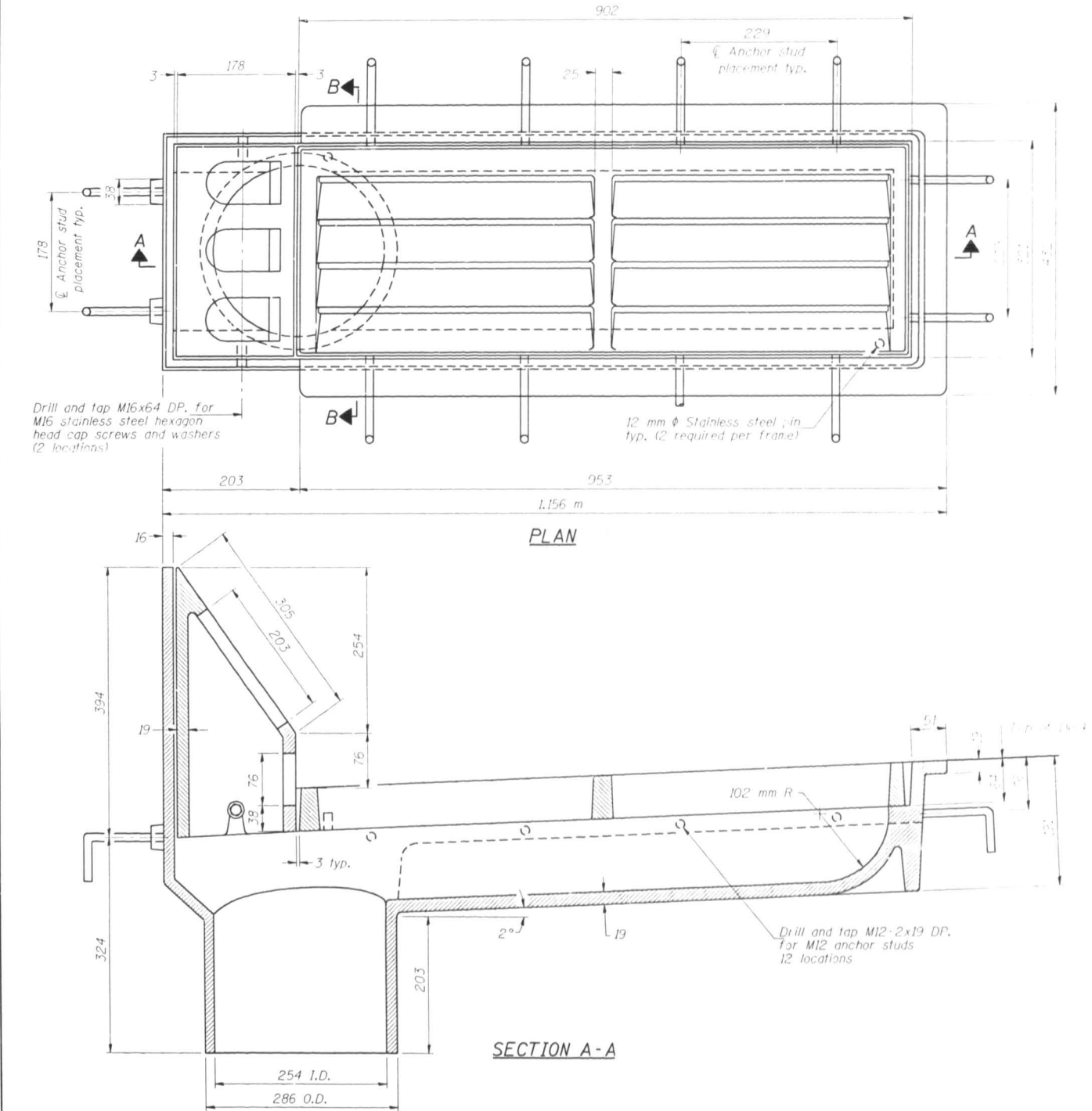
SUPERSTRUCTURE DETAILS III
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



DESIGNED	KM
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

FILENAME: G:\6772A\STRUCT\CA\HIGGINS NB\5-FINAL\HIG-DECK04.DGN; 6/4/02; 13:00:10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Notes: All cast iron parts shall be ductile iron conforming to the requirements of ASTM A-536, Grade 80-55-06.
Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232M.
The grate, frame and downspout shall be galvanized according to AASHTO M III and ASTM A 385. Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.
Structural steel weldments of equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
The downspout connection may be accomplished by either a bolted flange or by casting the scupper with exterior threads to receive a threaded flange. Fiberglass or aluminum downspouts shall be connected to the adjacent beam with 2-M20 steel stud bolts and a pipe clamp.
The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-23.
All dimensions are in millimeters (mm) except as noted.

BILL OF MATERIAL

Item	Unit	Total
Drainage Scupper, DS-23	Each	12

DRAINAGE SCUPPER, DS-23
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



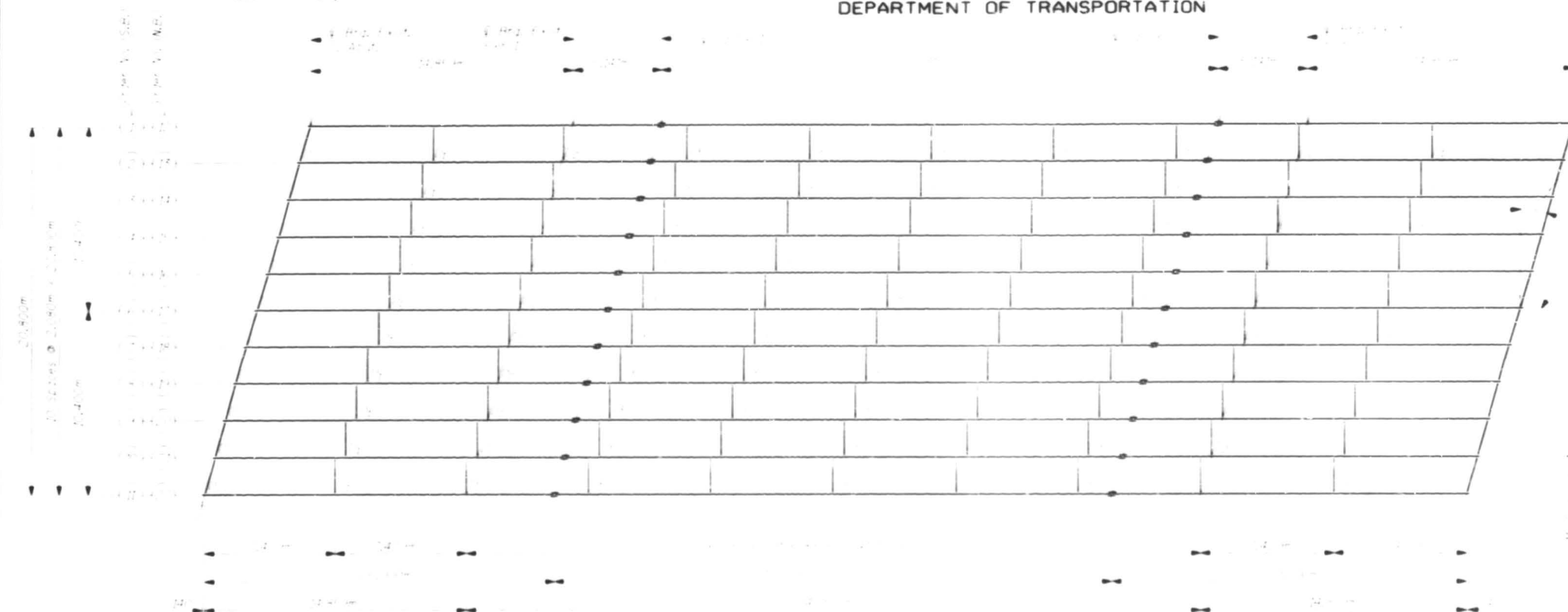
DESIGNED	KM
CHECKED	AH
DRAWN	DCP
CHECKED	AH

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTION	DATE	BY	CHKD	APPD
1. A.I. RTE. 290	01/03/00	JTG	JTG	JTG
2. SEC. 22-1-2, 0103-30, & 0305-3	01/03/00	JTG	JTG	JTG
3. STA. 53+754.657	01/03/00	JTG	JTG	JTG

SHEET NO. 16
SHEETS 45



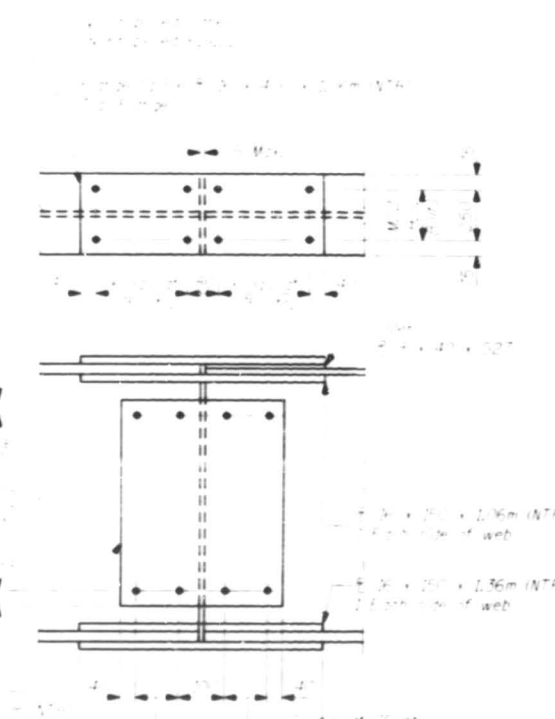
FRAMING PLAN

TOP OF WEB ELEVATIONS (S.B.)
(FOR FABRICATION ONLY)

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11
€ Brg. S. Abut.	225.667	225.719	225.744	225.781	225.827	225.841	225.857	225.871	225.885	225.899	225.913
€ Brg. Pier 1	225.719	225.818	225.844	225.881	225.927	225.941	225.957	225.971	225.985	225.999	226.013
€ Splice 1	225.818	225.944	225.981	226.018	226.064	226.078	226.094	226.108	226.122	226.136	226.150
€ Splice 2	225.944	226.070	226.107	226.144	226.190	226.204	226.220	226.234	226.248	226.262	226.276
€ Brg. Pier 2	225.999	226.098	226.124	226.161	226.207	226.221	226.237	226.251	226.265	226.279	226.293
€ Brg. N. Abut.	226.098	226.197	226.223	226.260	226.306	226.320	226.336	226.350	226.364	226.378	226.392

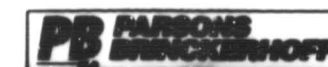
TOP OF WEB ELEVATIONS (N.B.)
(FOR FABRICATION ONLY)

Location	Girder 12	Girder 13	Girder 14	Girder 15	Girder 16	Girder 17	Girder 18	Girder 19	Girder 20	Girder 21	Girder 22
€ Brg. S. Abut.	225.611	225.660	225.688	225.726	225.766	225.781	225.798	225.812	225.826	225.840	225.854
€ Brg. Pier 1	225.720	225.758	225.797	225.835	225.885	225.899	225.918	225.932	225.946	225.960	225.974
€ Splice 1	225.757	225.796	225.834	225.873	225.923	225.937	225.956	225.970	225.984	225.998	226.012
€ Splice 2	225.907	225.946	225.985	226.024	226.074	226.088	226.107	226.121	226.135	226.149	226.163
€ Brg. Pier 2	225.979	225.958	225.997	226.036	226.086	226.097	226.116	226.130	226.144	226.158	226.172
€ Brg. N. Abut.	225.953	225.993	226.032	226.072	226.124	226.133	226.152	226.166	226.180	226.194	226.208



FIELD SPLICE 1 DETAIL
(FIELD SPLICE 2 DETAIL Opposite)
(1/16" SCALE)

FRAMING PLAN
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



DESIGNED	AM
CHECKED	JTG
DRAWN	DCP
CHECKED	AM

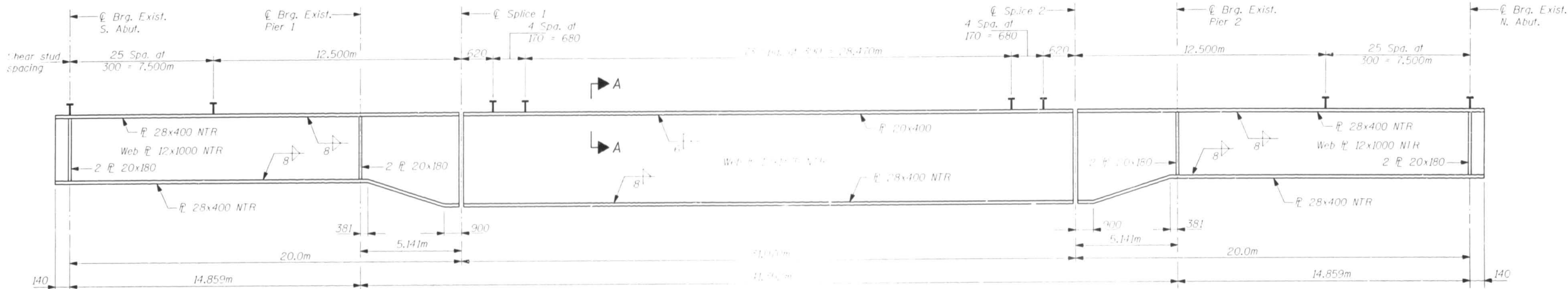
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 290	**	COOK	1863	646
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

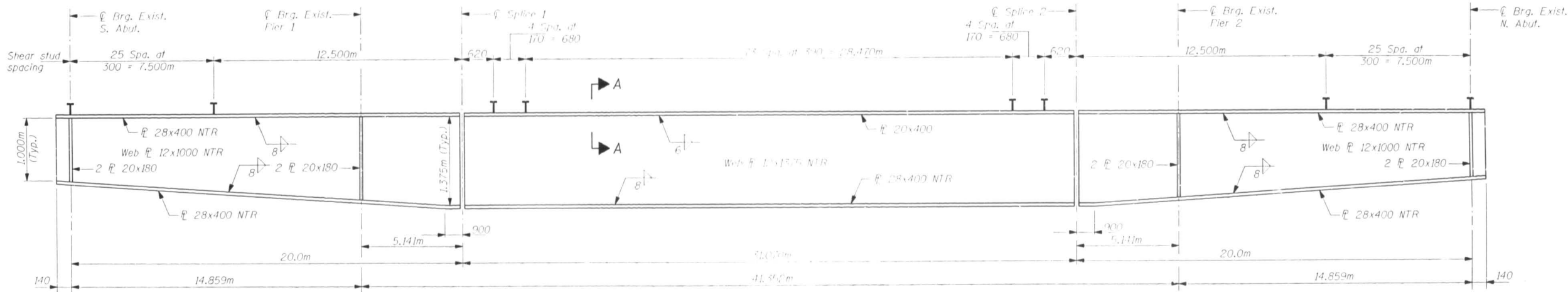
SHEET NO. 17
SHEETS 45

** 22-1-2, 0103-30, & 0305-3 ETA



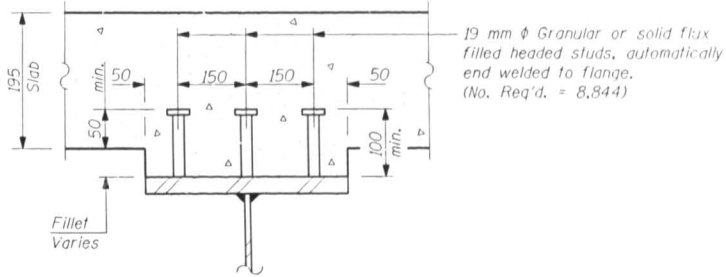
INTERIOR GIRDER ELEVATION

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

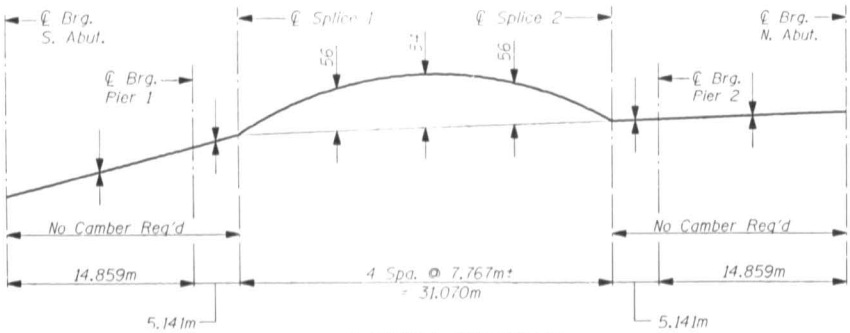


EXTERIOR GIRDER ELEVATION

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



SECTION A-A



CAMBER DIAGRAM

N.T.S. - (N.B. & S.B. Structures)

Note:

1. Structural steel for girders and splice plates shall conform to the requirements of AASHTO M270M, Grade 345.
2. All dimensions are in millimeters (mm) except as noted.

STRUCTURAL STEEL DETAILS I
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

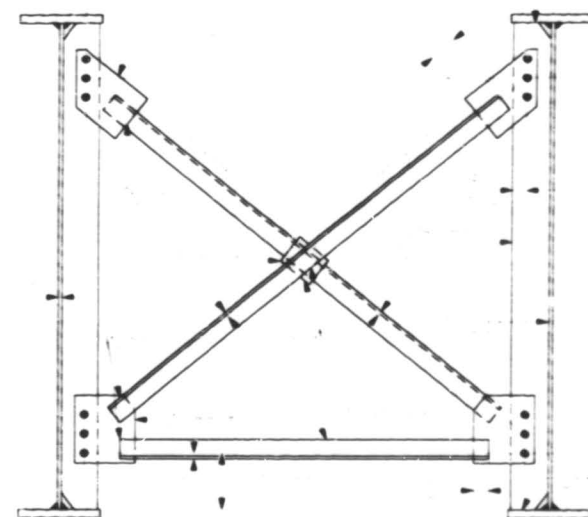


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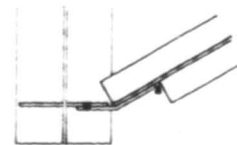
DESIGNED	AH
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

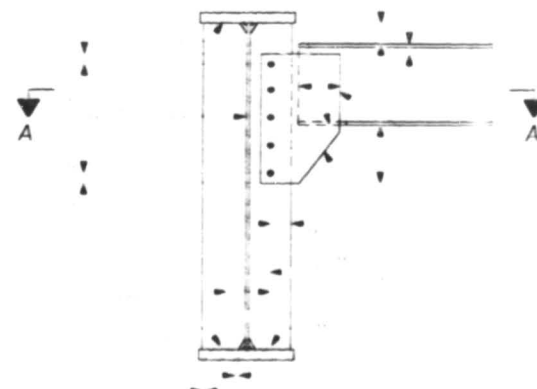
SHEET NO. 18			
SHEETS 45			



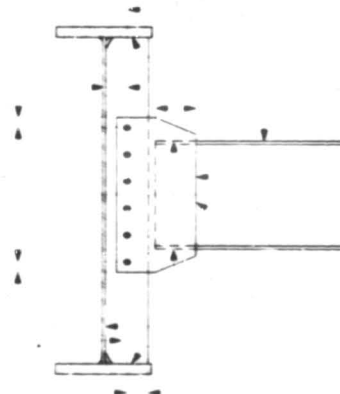
CROSS FRAME CF



SECTION A-A



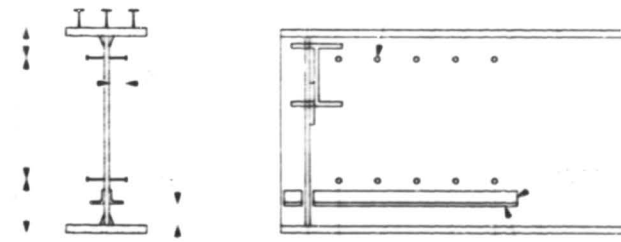
END DIAPHRAGM D



DIAPHRAGM D1 & D2

INTERIOR GIRDER MOMENT TABLE			
	1	2	3
M ₁	10.0	10.0	10.0
M ₂	10.0	10.0	10.0
M ₃	10.0	10.0	10.0
M ₄	10.0	10.0	10.0
M ₅	10.0	10.0	10.0
M ₆	10.0	10.0	10.0
M ₇	10.0	10.0	10.0
M ₈	10.0	10.0	10.0
M ₉	10.0	10.0	10.0
M ₁₀	10.0	10.0	10.0
M ₁₁	10.0	10.0	10.0
M ₁₂	10.0	10.0	10.0
M ₁₃	10.0	10.0	10.0
M ₁₄	10.0	10.0	10.0
M ₁₅	10.0	10.0	10.0
M ₁₆	10.0	10.0	10.0
M ₁₇	10.0	10.0	10.0
M ₁₈	10.0	10.0	10.0
M ₁₉	10.0	10.0	10.0
M ₂₀	10.0	10.0	10.0

INTERIOR GIRDER REACTION TABLE		
	ADJ. S.	PIERS
R ₁	10.0	10.0
R ₂	10.0	10.0
R ₃	10.0	10.0
R ₄	10.0	10.0
R ₅	10.0	10.0
R ₆	10.0	10.0
R ₇	10.0	10.0
R ₈	10.0	10.0
R ₉	10.0	10.0
R ₁₀	10.0	10.0
R ₁₁	10.0	10.0
R ₁₂	10.0	10.0
R ₁₃	10.0	10.0
R ₁₄	10.0	10.0
R ₁₅	10.0	10.0
R ₁₆	10.0	10.0
R ₁₇	10.0	10.0
R ₁₈	10.0	10.0
R ₁₉	10.0	10.0
R ₂₀	10.0	10.0



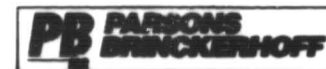
END OF GIRDER DETAILS AT SOUTH & NORTH ABUT.



BEARING STIFFENERS
AT ABUTMENT & PIERS

Notes:
1. All dimensions are in feet and inches.
2. All dimensions are to the center of the member unless otherwise noted.
3. All dimensions are to the center of the member unless otherwise noted.
4. All dimensions are to the center of the member unless otherwise noted.
5. All dimensions are to the center of the member unless otherwise noted.
6. All dimensions are to the center of the member unless otherwise noted.
7. All dimensions are to the center of the member unless otherwise noted.
8. All dimensions are to the center of the member unless otherwise noted.
9. All dimensions are to the center of the member unless otherwise noted.
10. All dimensions are to the center of the member unless otherwise noted.
11. All dimensions are to the center of the member unless otherwise noted.
12. All dimensions are to the center of the member unless otherwise noted.
13. All dimensions are to the center of the member unless otherwise noted.
14. All dimensions are to the center of the member unless otherwise noted.
15. All dimensions are to the center of the member unless otherwise noted.
16. All dimensions are to the center of the member unless otherwise noted.
17. All dimensions are to the center of the member unless otherwise noted.
18. All dimensions are to the center of the member unless otherwise noted.
19. All dimensions are to the center of the member unless otherwise noted.
20. All dimensions are to the center of the member unless otherwise noted.

DESIGNED	AM
CHECKED	JIG
DRAWN	DCP
CHECKED	AM



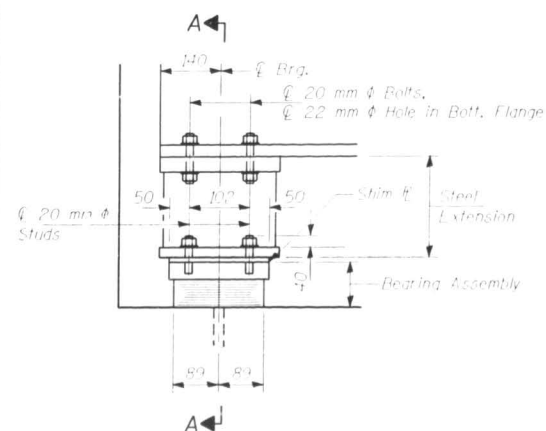
STRUCTURAL STEEL DETAILS II
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.I. 290	**	COOK	1953	648
EXT. ROAD DIST. NO.	ELIMINATED	REPLACED PROJECT		

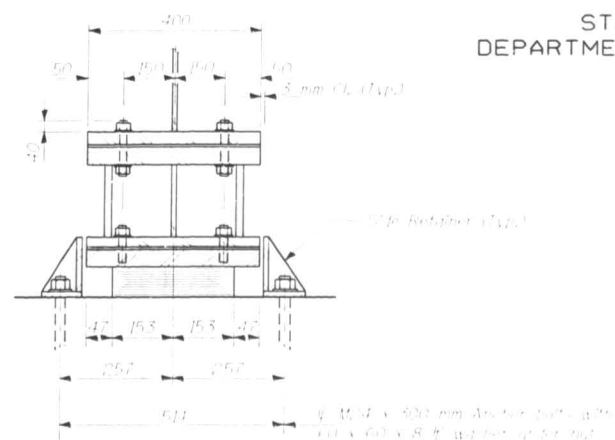
SHEET NO. 19
SHEETS 45

** 22-1-2, 0103-30, & 0305-3 ETA

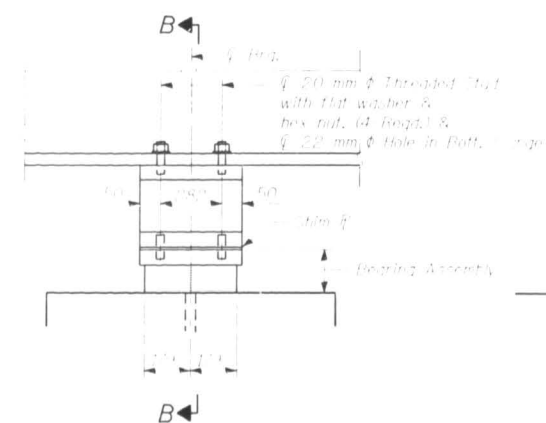


ELEVATION AT S. ABUT.

TYPE I ELASTOMERIC EXP. BRG.
(22 Required)

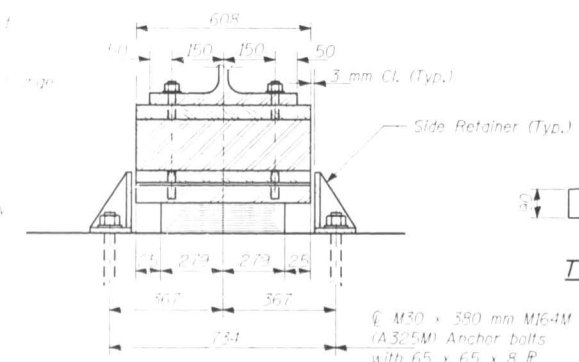


SECTION A-A

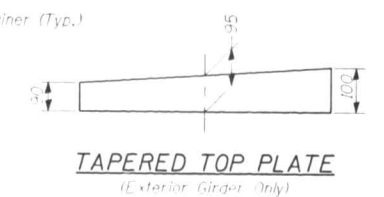


ELEVATION AT PIER 2

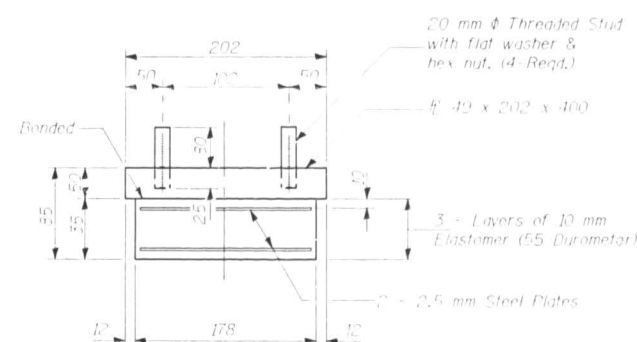
TYPE I ELASTOMERIC EXP. BRG.
(22 Required)



SECTION B-B

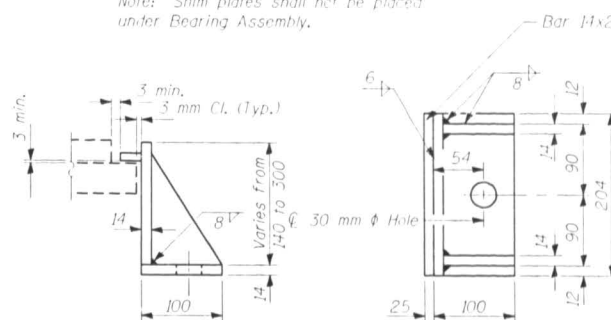


TAPERED TOP PLATE
(Exterior Girder Only)



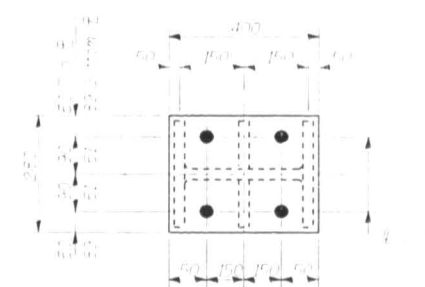
BEARING ASSEMBLY

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

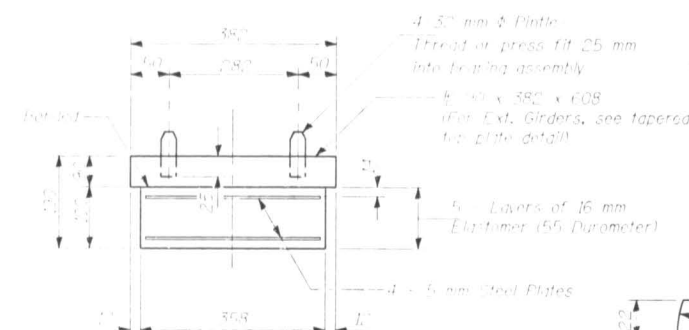


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

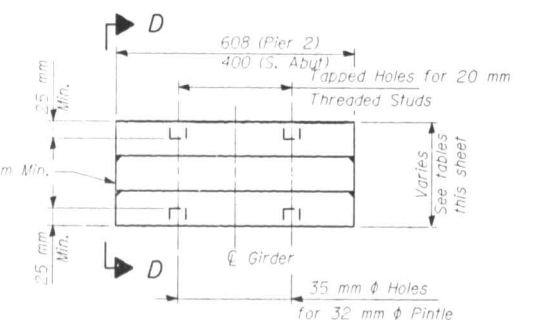


PLAN TOP AND BOTTOM PLATE

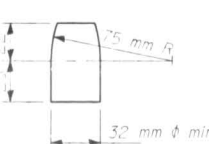


BEARING ASSEMBLY

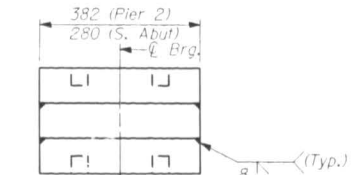
Note: Shim plates shall not be placed under Bearing Assembly.



STEEL EXTENSION DETAIL
(AT PIER 2 & S. ABUT.)



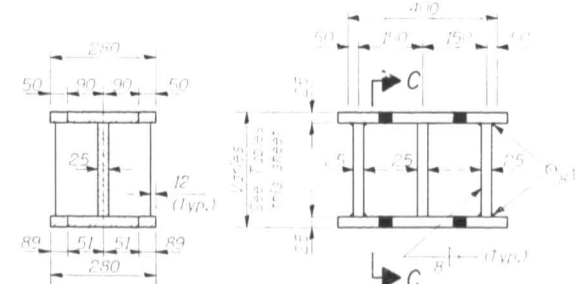
PINTLE



SECTION D-D

NOTES:

1. Weight of all new Shim Plates, Steel Extensions and Side Retainers is included with the cost of Furnishing and Erecting Structural Steel.
2. Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
3. Anchor bolts at fixed bearings may be built into the masonry. See Sheet No. 21 for Anchor Bolt installation.
4. All dimensions are in millimeters (mm) except as noted.



SECTION C-C

STEEL EXTENSION DETAIL
(AT S. ABUTMENT)

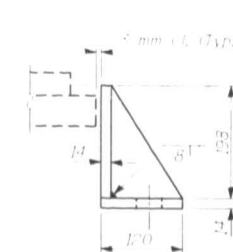
STEEL EXTENSION HEIGHT (S.B.)

Girder #	1	2	3	4	5	6	7	8	9	10	11
Location											
S. Abut.	0.0	206	194	195	182	182	122	128	115	135	106
Pier 2	0.0	0.0	155	154	142	142	89	95	89	159	21

** Provide shim plates below bottom bearing plate (No steel extension)
* Provide stacked plates bearing elevations as shown on this sheet, Section D-D.

STEEL EXTENSION HEIGHT (N.B.)

Girder #	12	13	14	15	16	17	18	19	20	21	22
Location											
S. Abut.	0.0	152	140	142	133	190	180	210	194	215	0.0
Pier 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

BILL OF MATERIAL

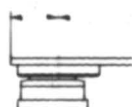
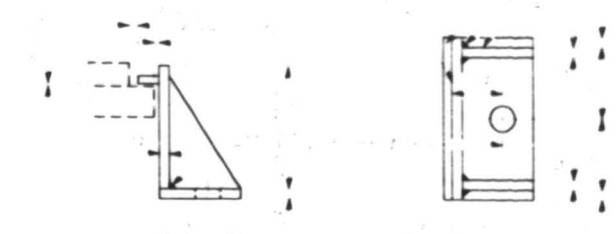
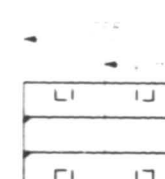
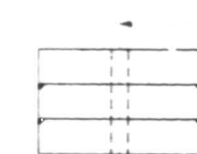
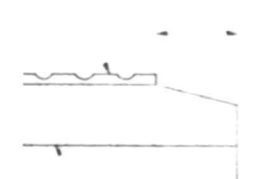
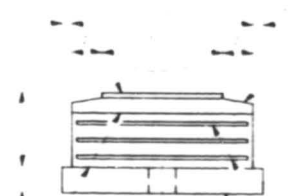
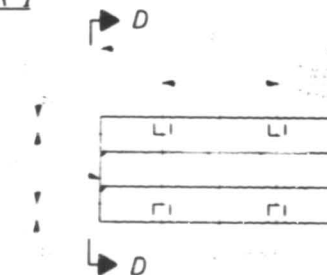
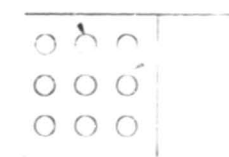
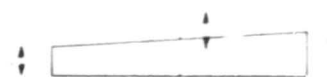
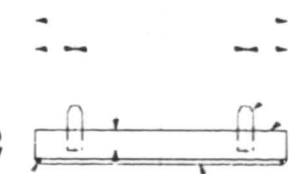
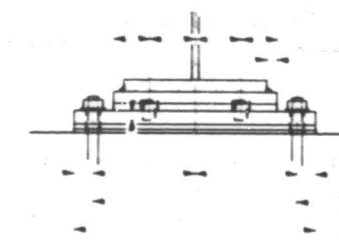
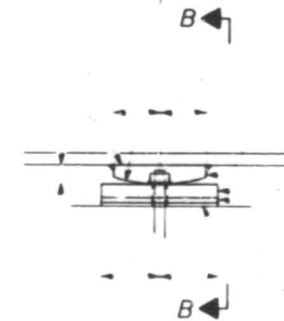
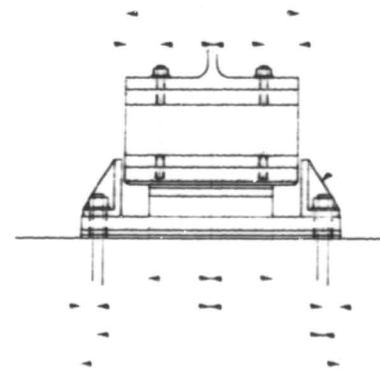
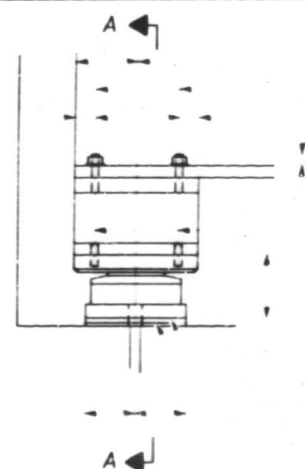
Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	44

PB PARSONS BRINCKERHOFF

ELASTOMERIC BEARING ASSEMBLY TYPE I
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

DESIGNED	JIG
CHECKED	AH
DRAWN	DCP
CHECKED	AH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Order # Location	1	2	3	4	5	6	7	8	9	10	11
N. Abut.	1	2	3	4	5	6	7	8	9	10	11

[illegible]

ELASTOMERIC BEARING ASSEMBLY TYPE II
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY

STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

**PB PARSONS
BRINCKERHOFF**

DESIGNED	JIG
CHECKED	AM
DRAWN	DCP
CHECKED	AM

<u>BILL OF MATERIAL</u>		
Item	Unit	Total
1. 1/2" x 1/2" x 1/2" x 1/2"	1/2"	20

SETTING ANCHOR BOLTS AT EXP. BRG.

SHEET NO. 20
SHEETS 45

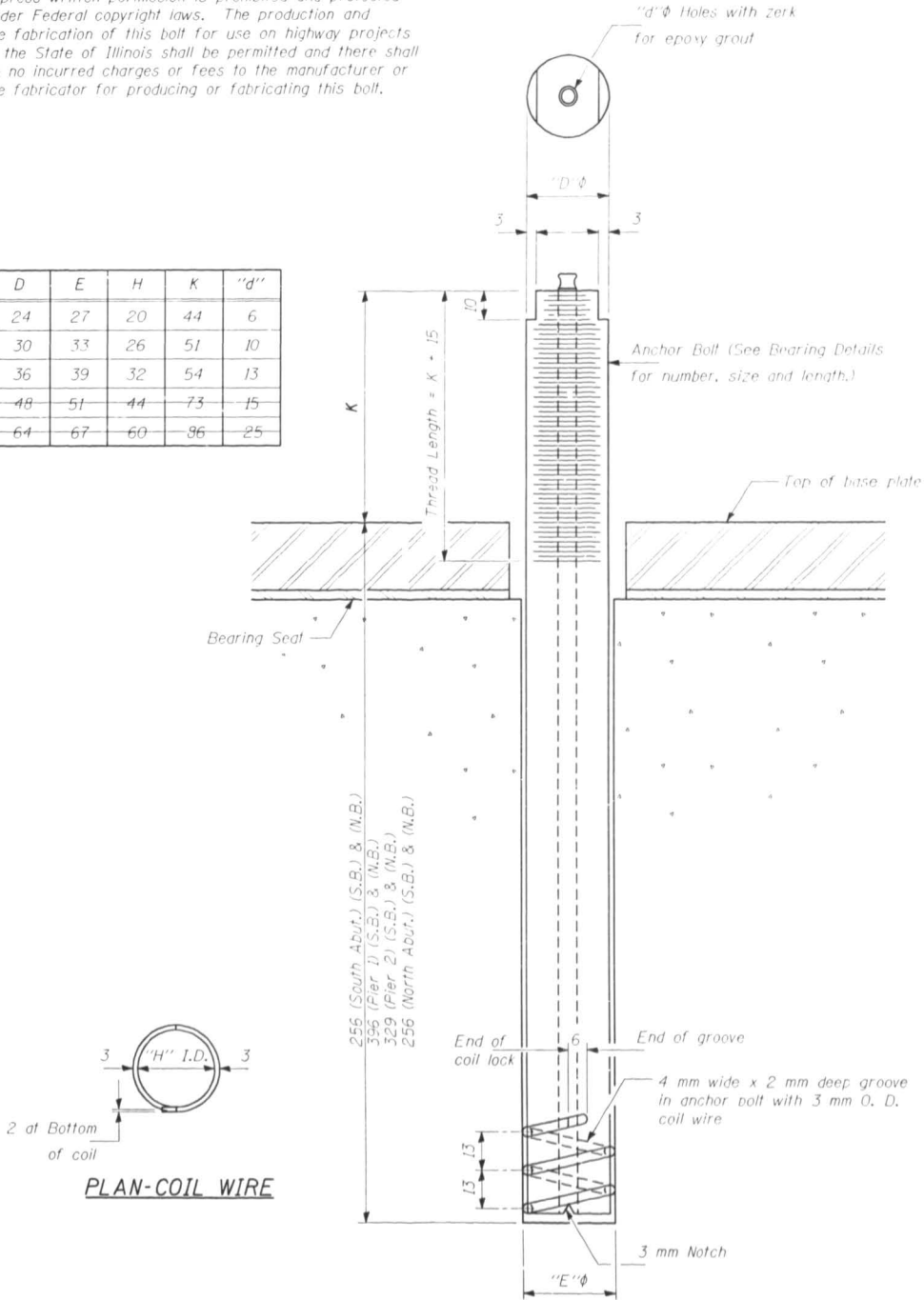
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET
F.A.I. 290	**	COOK	1163	650
FED. AID DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
** 22-1-2, 0103-30, & 0305-3 ETA				

SHEET NO. 21
SHEETS 45

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
24	27	20	44	6
30	33	26	51	10
36	39	32	54	13
48	51	44	73	15
64	67	60	96	25



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 meeting all requirements of ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and flat 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 conforming to ASTM C 881, 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 according to 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 of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Bolt ϕ (mm)	Bolt Material	Total Bolts
S. Abut. (S.B.)	M24	A307	22
S. Abut. (N.B.)	M24	A307	22
Pier 1 (S.B.)	M36	MJ64M	22
Pier 1 (N.B.)	M36	MJ64M	22
Pier 2 (S.B.)	M30	MJ64M	22
Pier 2 (N.B.)	M30	MJ64M	22
N. Abut. (S.B.)	M24	A307	22
N. Abut. (N.B.)	M24	A307	22

ASTM F 1554 (Fy = 724 MPa), ASTM A 449 and AASHTO M 314 (Fy = 724 MPa) anchor bolts may be substituted for the anchor bolts shown above.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to 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 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".
All dimensions are in millimeters (mm) except as noted.

ANCHOR BOLT DETAILS FOR BEARINGS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

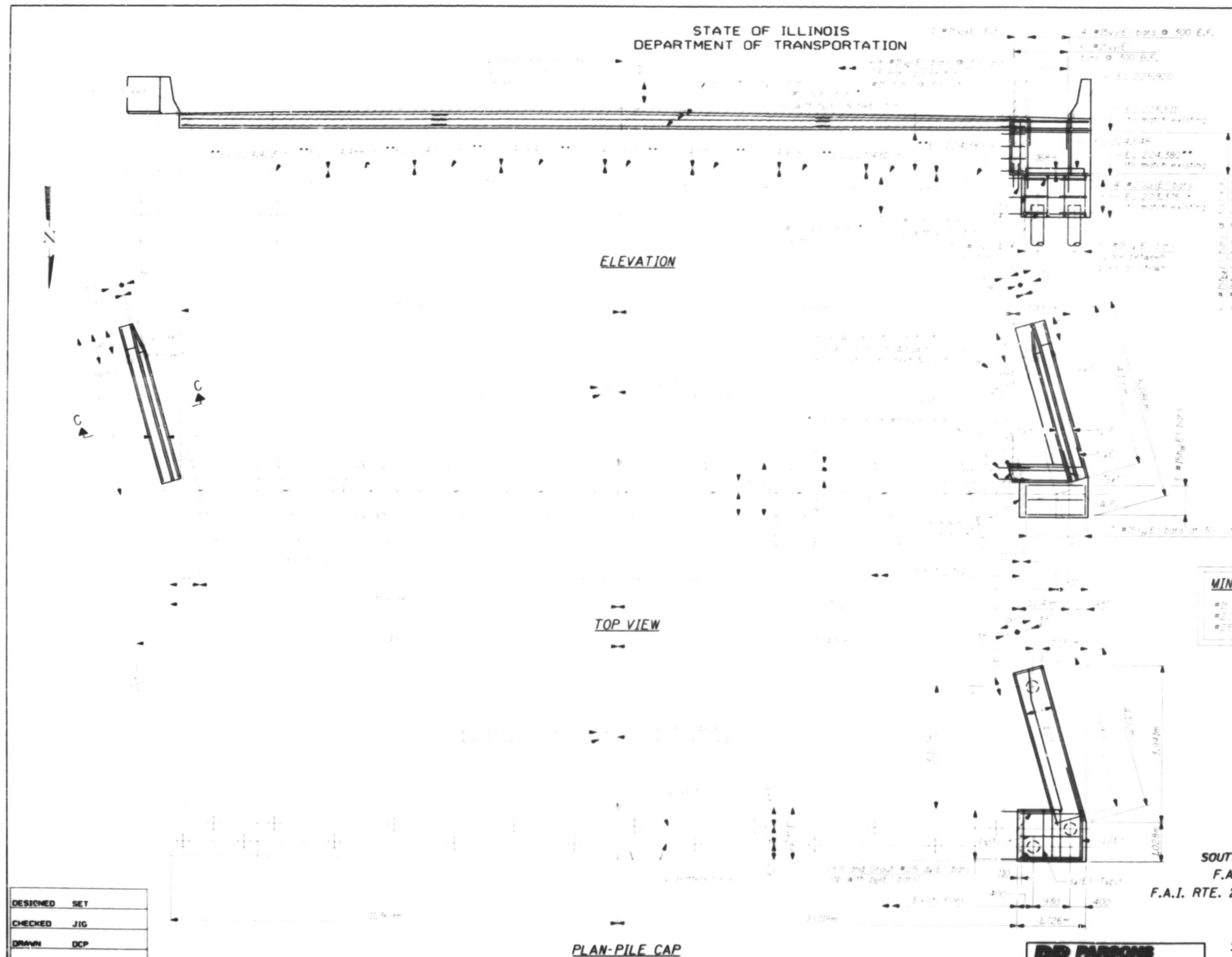


DESIGNED	JIG
CHECKED	AH
DRAWN	DCP
CHECKED	AH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	DATE	BY	CHECKED	SHEET NO.
F.A.I. 290	**	COOK	DBJ	651	22
SHEETS 45					

** 22-1-2, 0103-30, & 0305-3 ETA

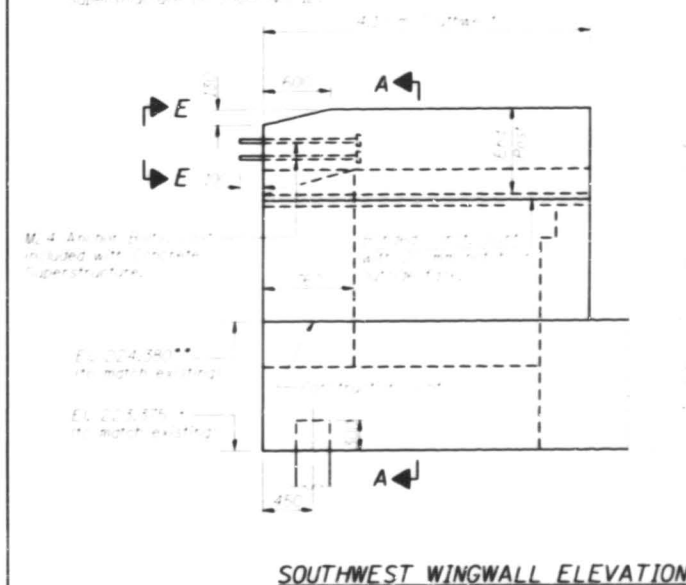


- Notes:
1. All edges have standard 20mm chamfers except as noted.
 2. All dimensions are in millimeters (mm) except as noted.
 3. Space reinforcement in top to miss anchor bolts.
 4. For wingwall details & Section C-C, See Sheet No. 23.
 5. Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
 6. Elevations shown on existing structure were taken from existing plans, unless noted otherwise.
 7. Hatched areas indicate Concrete Removal, unless noted otherwise. See Sheet No. 31 For Concrete Removal Quantity.
 8. For Legend See Sheet No. 23.
 9. Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.
- * Drill and grout #15d(E) in 230mm min. drilled holes and #25 d(E) in 300mm min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the engineer. Cost included with Reinf. Bars, Epoxy Coated.
- ** Seat Elevations were taken from survey.

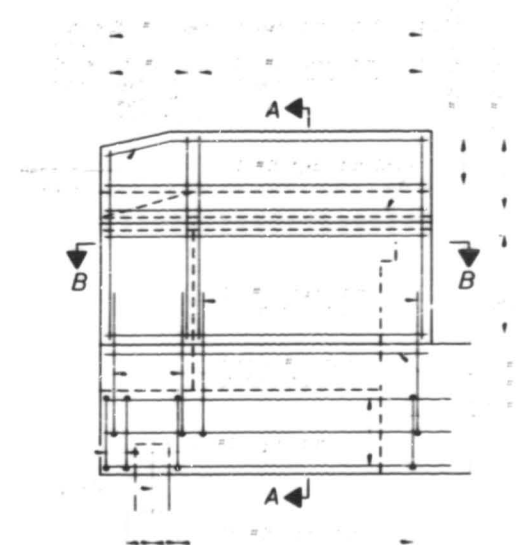
DESIGNED	SET
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

PB PARSONS BRINCKERHOFF

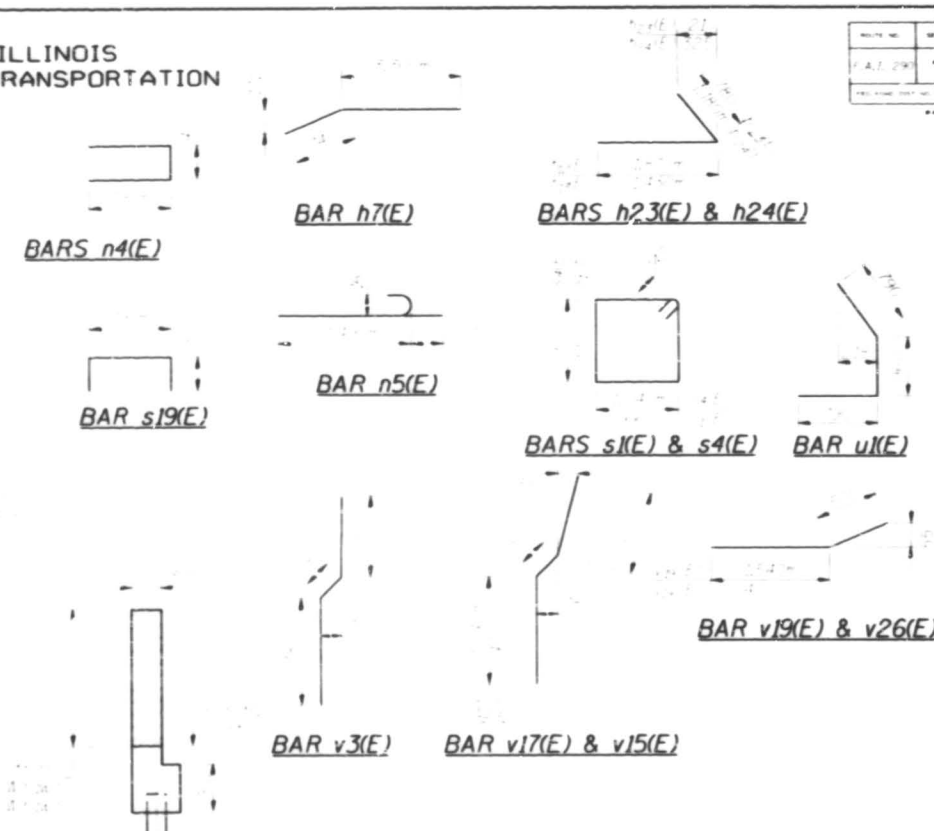
Note: End post shall be poured after bridge is in place. Form top surface to match parapet grade. Quantity of concrete is included with High Performance Concrete Superstructure on Sheet No. 11.



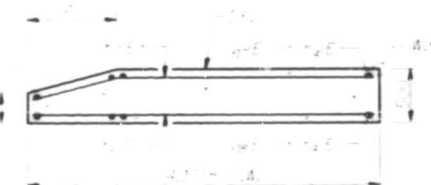
SOUTHWEST WINGWALL ELEVATION



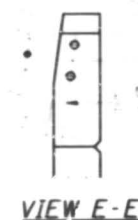
SOUTHWEST WINGWALL ELEVATION



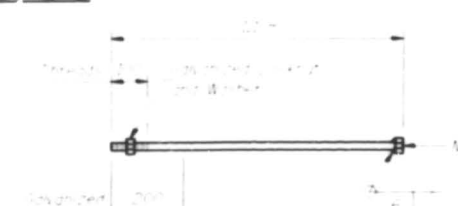
EXISTING WINGWALL
REMOVAL DETAIL



SECTION B-B



VIEW E-E



M24 ANCHOR BOLT

BILL OF MATERIAL				
Size	No	Size	Length (m)	Shq. (kg)
1/2" E	8	#24	1,620	=
1/2" E	10	#18	0,940	
1/2" E	18	#20	7,360	
1/2" E	18	#18	4,020	=
1/2" E	17	#18	4,040	
1/2" E	1	#8	1,650	
1/2" E	1	#8	1,670	=
1/2" E	1	#8	1,620	
1/2" E	1	#20	7,400	
1/2" E	1	#20	1,700	=
1/2" E	1	#20	4,050	
1/2" E	10	#24	1,620	
1/2" E	15	#18	2,920	=
1/2" E	5	#18	4,560	
1/2" E	7	#18	1,910	
1/2" E	4	#20	2,540	=
1/2" E	8	#18	1,840	
1/2" E	60	#18	6,600	
1/2" E	5	#18	6,300	=
1/2" E	10	#20	2,450	
1/2" E	15	#20	2,310	
1/2" E	3	#20	2,040	=
1/2" E	3	#18	1,420	
1/2" E	15	#20	0,780	
1/2" E	12	#20	0,850	=
1/2" E	3	#20	7,540	
Concrete Structures		m ³	8.6	
Reinforcement Bars, Epoxy Coated		kg	1,380	
Furnishing Metal Plate chells, 305 mm		m	24.5	
Drilling and Filling Holes		m	25.5	
Structure Excavated for the First Section		m ³	22	
		m ²	1.6	

Wiley

1. Reinforcement bars designated "E" shall be epoxy coated.
2. All dimensions are in millimeters (mm) except as noted.
3. Existing reinforcement extending into the removal area shall be deigned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
4. See Sheet No. 38 For Concrete Removal Quantity.

** Elevation as taken from survey

SOUTHBOUND SOUTH ABUTMENT DETAILS

F.A.I. RTE. 290 OVER HIGGINS ROAD

F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA

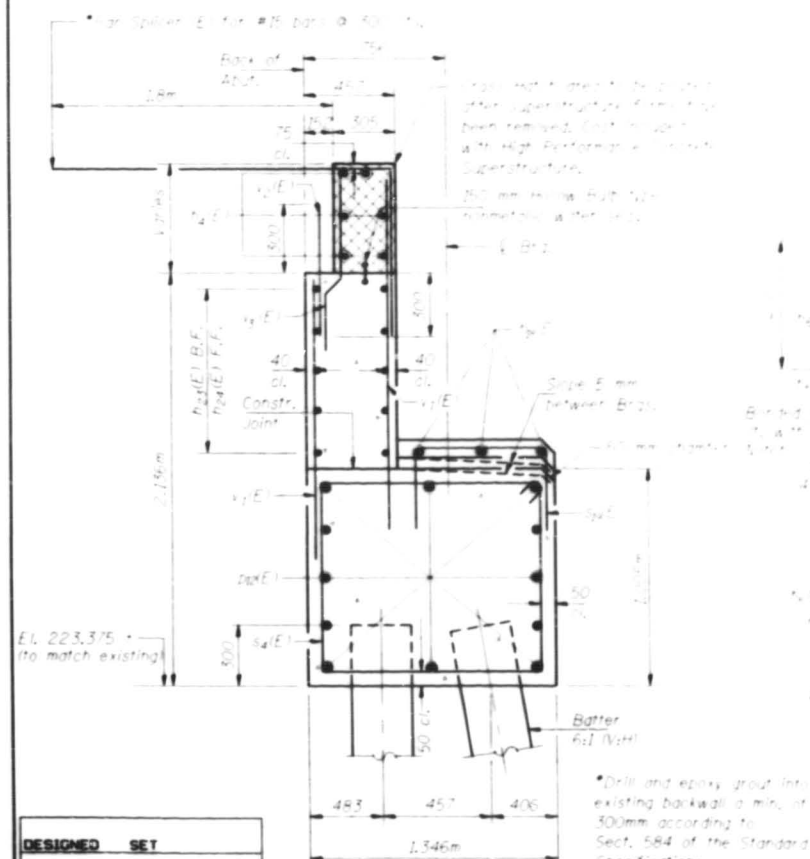
COOK COUNTY

STA. 53+754.657

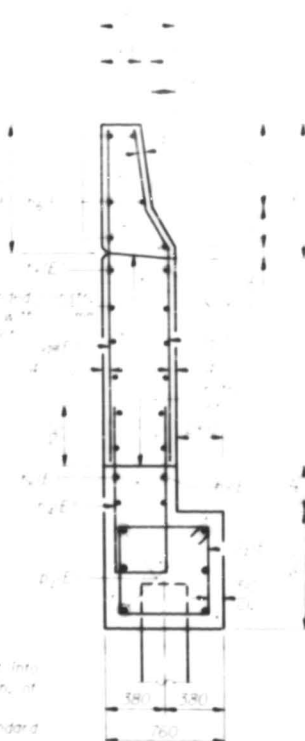
STRUCTURE NO. 016-0982 (S.B.)

STRUCTURE NO. 016-0983 (N.B.)

DESIGNED	SET
CHECKED	JIG
DRAWN	DCP
CHECKED	AM



SEC. THRU ABUT.
(Dimension at Rt. L's)



SECTION A-A
(At W. Wingall)

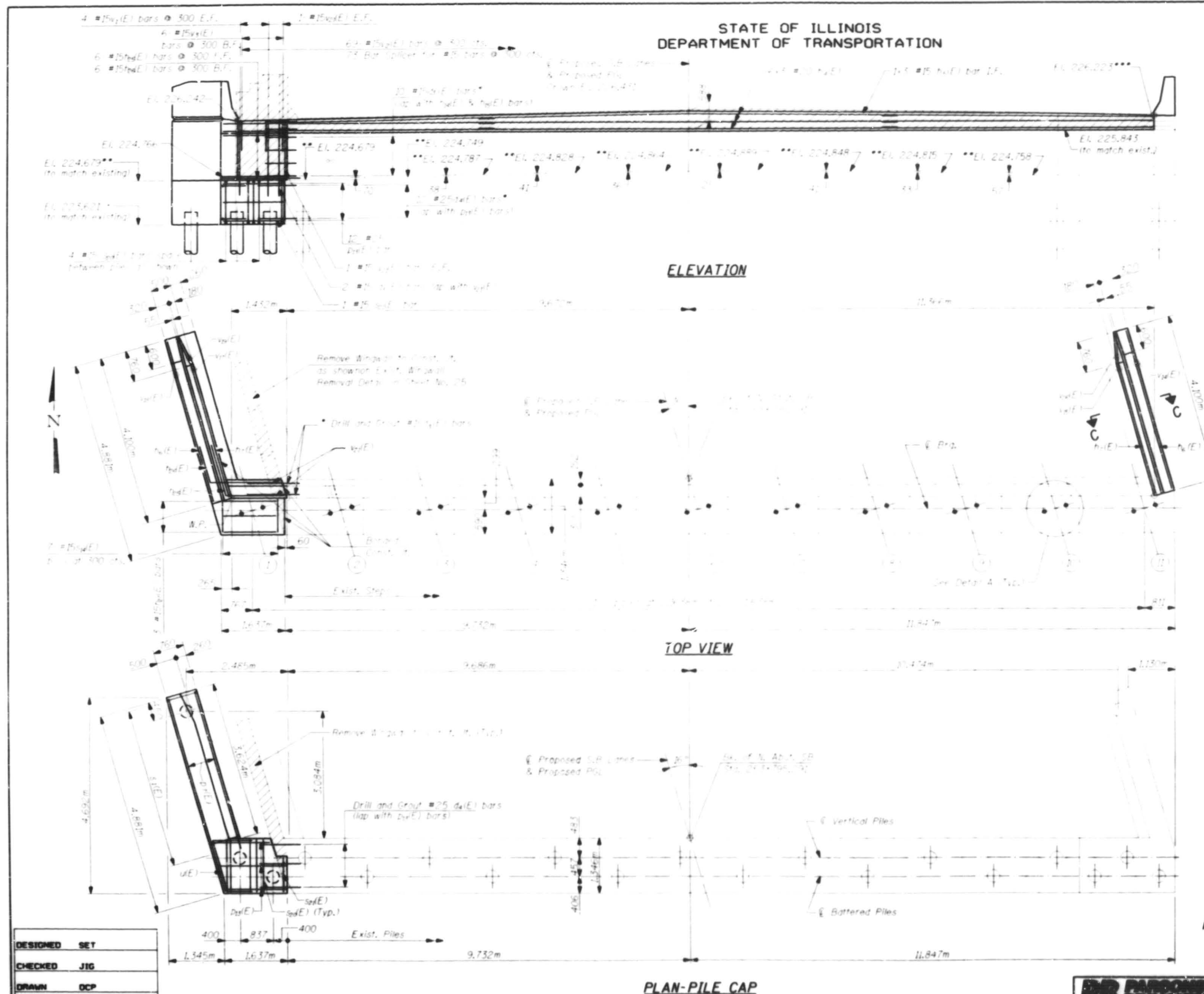


SECTION C-C
(At E. Window)

LEGEND

I.F. Inside Face
O.F. Outside Face
F.F. Front Face
B.F. Back Face
E.F. Each Face
S.E. Southeast
S.W. Southwest

NAME: C:\6772\AS\STRICT\CADD\HIGGINS NR 5-FINAL\HIG02 SARTSB DET.DCN 6/4/02 15:13:17



PROJECT NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.I. 290	**	COOK	1953	553
SHEETS 45				

** 22-1-2, 0103-30, & 0305-3 ETA

- Notes:
- All edges have standard 20mm chamfers except as noted.
 - All dimensions are in millimeters (mm) except as noted.
 - Space reinforcement in cap to miss anchor bolts.
 - For wingwall details, see sheet No. 25.
 - Existing reinforcement extending into the removal area shall be cleared, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
 - Elevations shown on existing structure were taken from existing plans, unless noted otherwise.
 - Hatched areas indicate Concrete Removal, unless noted otherwise. See Sheet No. 38 For Concrete Removal Quantity.
 - For Legend See Sheet No. 25.
 - Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.

* Drill and grout #15d(E) in 230mm min. drilled holes and #25 d4(E) in 300mm min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the engineer. Cost included with Reinf. Bars, Epoxy Coated.

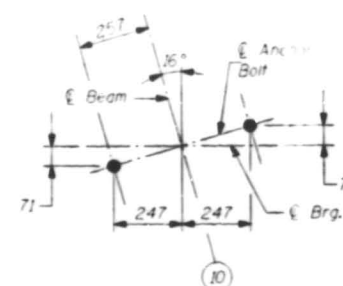
** Seat elevations were taken from survey

MIN. BAR LAPS

#15 (E) bar - 640 mm
#20 (E) bar - 790 mm
#25 (E) bar - 1320 mm

PILE DATA

Type: Metal Shell Pile
Capacity: 400 kN Design
Est. Length: 14.0m
No. Req'd. 3



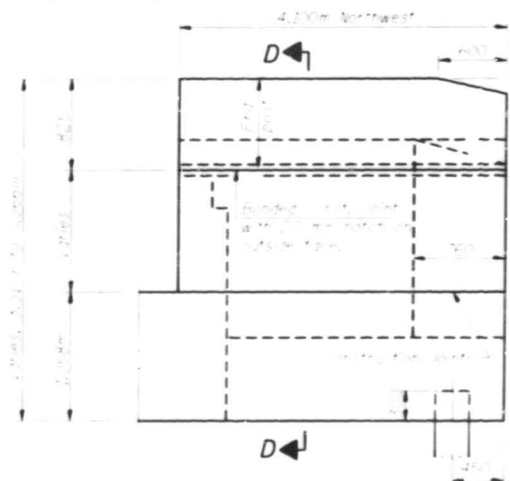
DETAIL A

**SOUTHBOUND NORTH ABUTMENT WIDENING
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)**

DESIGNED	SET
CHECKED	JIG
DRAWN	OCF
CHECKED	AM

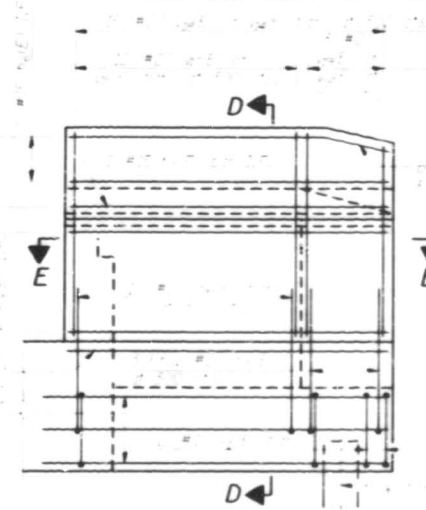
PB CARROLL

Notes: End post shall be poured after bridge is in place. Form top surface to match parapet grade. Quantity of concrete is included with High Performance Concrete Superstructure on Sheet No. 12.

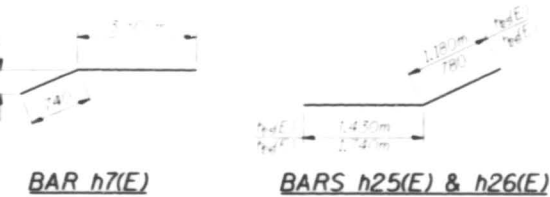


NORTHWEST WINGWALL ELEVATION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NORTHWEST WINGWALL ELEVATION



BAR n7(E)

BARS n25(E) & n26(E)

BAR n7(E)

BAR n6(E)

BARS s1(E), s2(E) & s2(E)

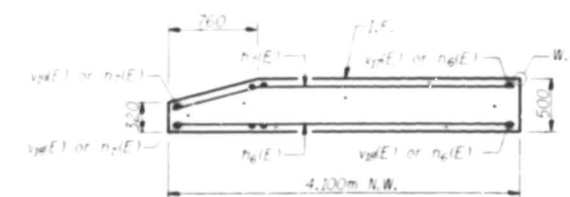
BAR v19(E) & v26(E)

BAR v3(E)

BARS v17(E) & v15(E)

BAR s14(E)

EXISTING WINGWALL
REMOVAL DETAIL



SECTION B-B

LEGEND

I.F. Inside Face
O.F. Outside Face
F.F. Front Face
B.F. Back Face
E.F. Each Face
N.E. Northeast
N.W. Northwest

DESIGNED	SET
CHECKED	JIG
DRAWN	DCP
DATE	AM

SEC. THRU ABUT.
(Dimension at Rt. L's)

*Drill and epoxy grout into existing backwall a min. of 300mm according to Sect. 584 of the Standard Specifications.

SECTION D-D
(At W. Wingwall)

SECTION C-C
(At E. Wingwall)

PROJECT NO.	SECTION	COUNTY	DATE	SHEET NO. 25
F.A.I. 290	**	COOK	1983	SHEETS 45

BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
n7(E)	12	#25	16.20	
n7(E)	14	#25	3.940	
n6(E)	2	#25	7.360	
n6(E)	2	#25	7.360	
n6(E)	15	#25	4.020	
n6(E)	30	#25	4.040	
n6(E)	6	#25	2.650	
n6(E)	6	#25	2.520	
n6(E)	2	#25	1.530	
n6(E)	12	#25	3.460	
n6(E)	6	#25	1.750	
s1(E)	6	#25	4.050	
s2(E)	12	#25	1.580	
s1(E)	15	#25	2.920	
s2(E)	4	#25	4.660	
s2(E)	1	#25	3.740	
s2(E)	1	#25	1.670	
v3(E)	4	#25	2.880	
v17(E)	8	#25	1.840	
v17(E)	69	#25	0.600	
v17(E)	2	#25	0.900	
v17(E)	10	#25	0.350	
v17(E)	15	#25	2.300	
v17(E)	2	#25	2.040	
v17(E)	2	#25	1.420	
v17(E)	15	#25	0.780	
v17(E)	12	#25	0.490	
v17(E)	3	#25	0.540	
Concrete Structure		m ³	8.4	
Reinforcement Bars		kg	1430	
Epoxy Coated				
Furnishing Metal Pipe		m	42.0	
Shells, 305 mm				
Driving and Filling		m	42.0	
Shells				
Structure Excavation		m ³	20	
Bridge Seat Coffer		m ²	1.6	

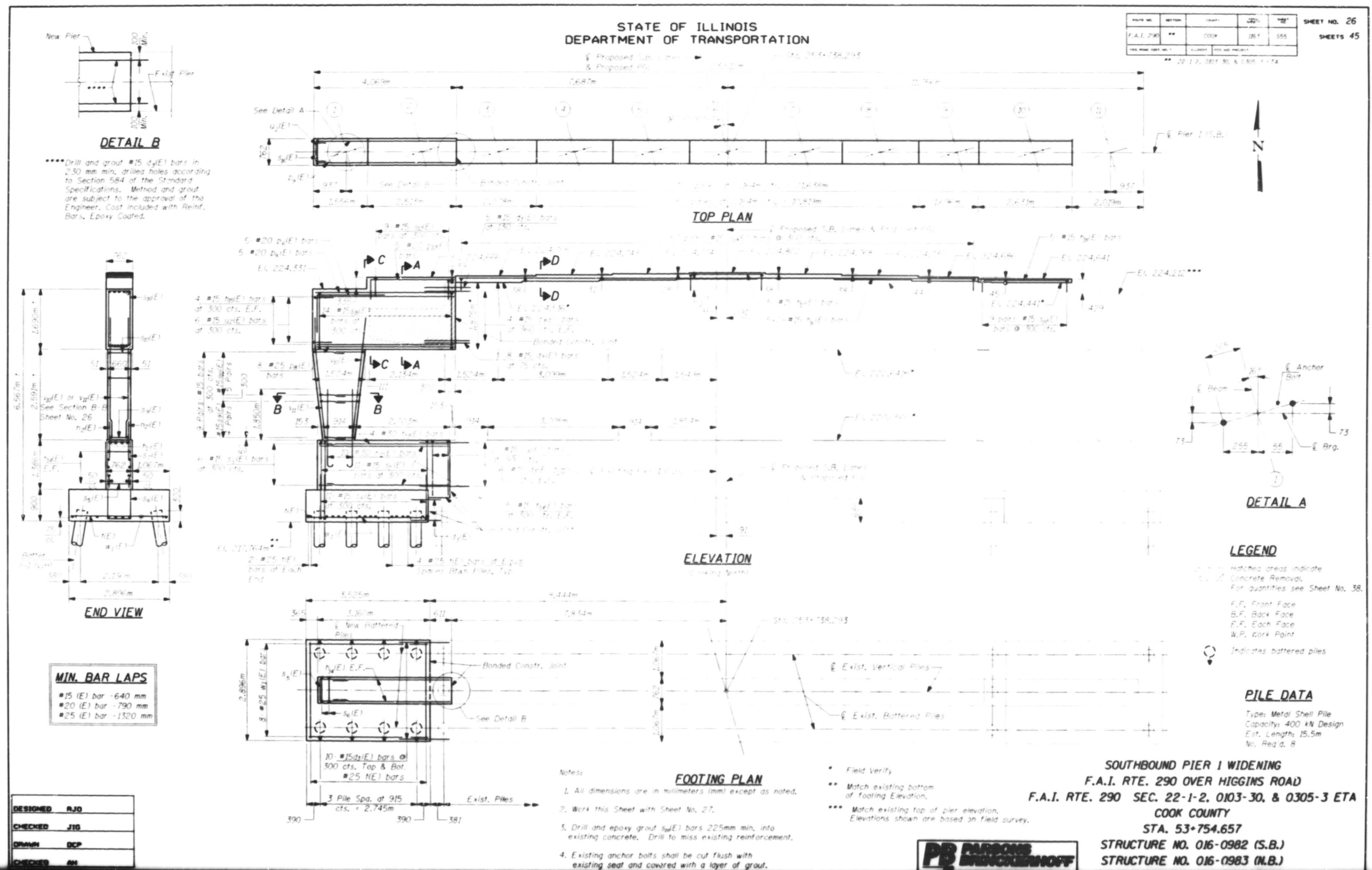
Notes:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. All dimensions are in millimeters (mm) except as noted.
3. Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
4. See Sheet No. 38, For Concrete Removal Quantity.

** Elevations taken from survey.

SOUTHBOUND NORTH ABUTMENT DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

PARSONS
BRINCKERHOFF



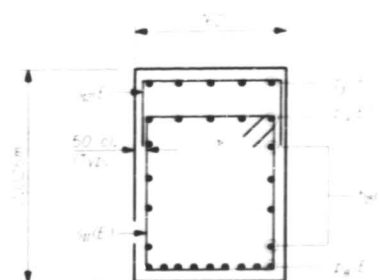
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SHEET NO.	COUNTY	SECTION	DATE
F.A.I. 290	**	COOK	181	656
FILE NAME: DET1.DWG	FILE NO.: 016-0982	FILE NO.: 016-0983	FILE NO.: 016-0984	FILE NO.: 016-0985

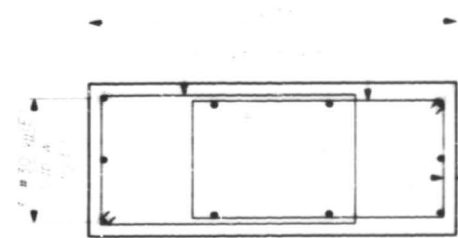
BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
$n_2(E)$	53	#15	0.940	
$n_2(E)$	4	#30	3.670	
$n_2(E)$	10	#25	3.670	
$n_2(E)$	8	#25	3.970	
$n_2(E)$	10	#25	3.680	
$n_2(E)$	5	#25	2.080	
$n_2(E)$	5	#25	2.550	
$n_2(E)$	10	#30	3.400	
$n_2(E)$	8	#25	3.970	
$n_2(E)$	5	#20	3.970	
$n_2(E)$	5	#20	2.060	
$n_2(E)$	5	#20	3.270	
$s_2(E)$	8	#25	1.390	
$s_2(E)$	11	#25	3.780	
$s_2(E)$	11	#25	3.360	
$s_2(E)$	2	#25	3.760	
$s_2(E)$	8	#25	2.940	
$s_2(E)$	10	#25	3.280	
$s_2(E)$	9	#25	2.060	
$s_2(E)$	14	#25	4.780	
$s_2(E)$	132	#25	0.930	
$n_2(E)$	10	#25	3.790	
$n_2(E)$	6	#25	1.520	
$n_2(E)$	7	#30	3.700	
$n_2(E)$	3	#30	3.700	
$n_2(E)$	8	#25	3.425	
Structure Excavation	cu. m.		31	
Concrete Structures	cu. m.		24.2	
Reinforcement Bars, Epoxy Coated	kg		1910	
Furnishing Metal Pile Shells, 305 mm	m		124.0	
Driving and Filling Shells	m		124.0	

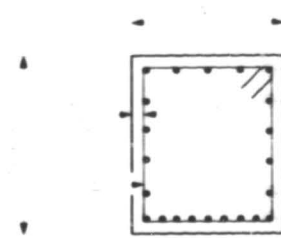
Reinforcement Bars designated (E) shall be epoxy coated.



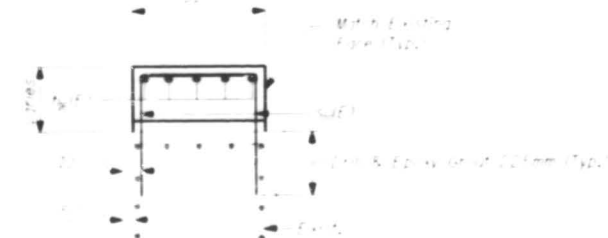
SECTION A-A



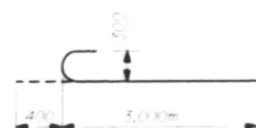
SECTION B-B



SECTION C-C



SECTION D-D



BAR $n_2(E)$

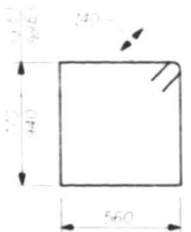


BARS $s_2(E)$ thru $s_8(E)$

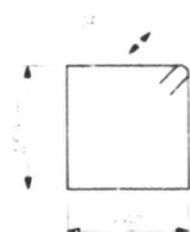
A & B DIMENSIONS

Bar	A	B
$n_2(E)$	10	10
$s_2(E)$	10	10
$s_3(E)$	10	10
$s_4(E)$	10	10
$s_5(E)$	10	10
$s_6(E)$	10	10
$s_7(E)$	10	10
$s_8(E)$	10	10
$s_9(E)$	10	10
$s_{10}(E)$	10	10
$s_{11}(E)$	10	10
$s_{12}(E)$	10	10
$s_{13}(E)$	10	10
$s_{14}(E)$	10	10
$s_{15}(E)$	10	10
$s_{16}(E)$	10	10
$s_{17}(E)$	10	10
$s_{18}(E)$	10	10
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$s_{20}(E)$	10	10
$s_{21}(E)$	10	10
$s_{22}(E)$	10	10
$s_{23}(E)$	10	10
$s_{24}(E)$	10	10
$s_{25}(E)$	10	10
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$s_{29}(E)$	10	10
$s_{30}(E)$	10	10
$s_{31}(E)$	10	10
$s_{32}(E)$	10	10
$s_{33}(E)$	10	10
$s_{34}(E)$	10	10
$s_{35}(E)$	10	10
$s_{36}(E)$	10	10
$s_{37}(E)$	10	10
$s_{38}(E)$	10	10
$s_{39}(E)$	10	10
$s_{40}(E)$	10	10
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$s_{42}(E)$	10	10
$s_{43}(E)$	10	10
$s_{44}(E)$	10	10
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$s_{90}(E)$	10	10
$s_{91}(E)$	10	10
$s_{92}(E)$	10	10
$s_{93}(E)$	10	10
$s_{94}(E)$	10	10
$s_{95}(E)$	10	10
$s_{96}(E)$	10	10
$s_{97}(E)$	10	10
$s_{98}(E)$	10	10
$s_{99}(E)$	10	10
$s_{100}(E)$	10	10

BARS $s_2(E)$ thru $s_8(E)$ $s_9(E)$ $s_{10}(E)$



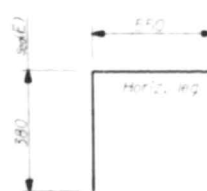
BARS $s_2(E)$ thru $s_8(E)$



BAR $s_9(E)$

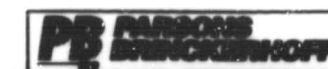


BAR $v_2(E)$



BARS $s_2(E)$ thru $s_8(E)$

DESIGNED	RJO
CHECKED	JHG
DRAWN	BCP
CHECKED	AM

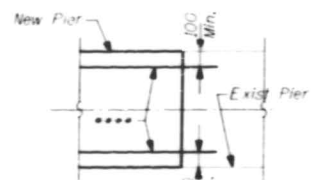


SOUTHBOUND PIER 1 DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

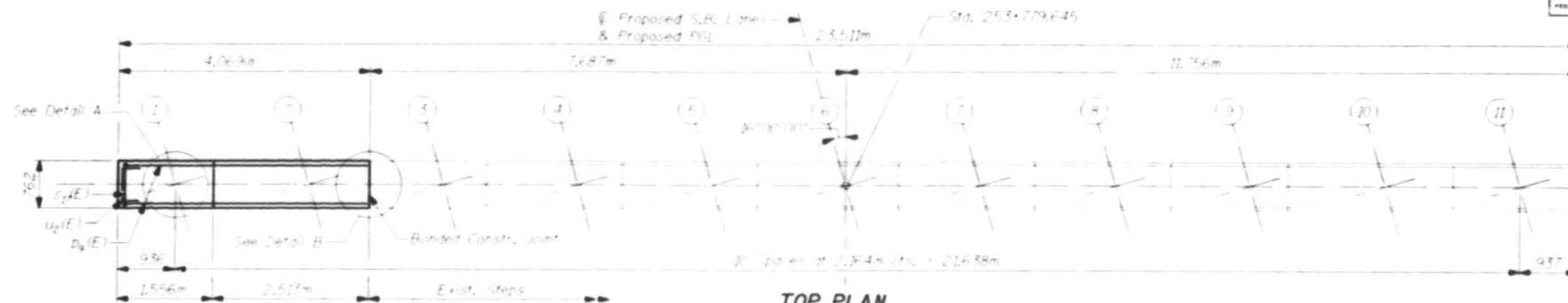
ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
F.A.I. 290	**	COOK	16.1	657
FILE NO. 001-2-0103-30 & 0305-3	ETA			

SHEETS 45

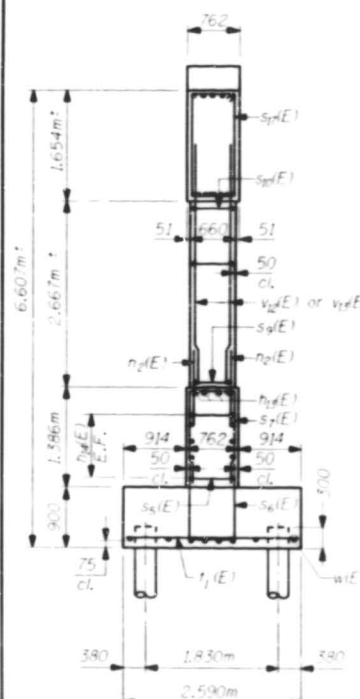


DETAIL B

**** Drill and grout #15 d₄(E) bars in 230 mm min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the Engineer. Cost included with Reinf. Bars, Epoxy Coated.

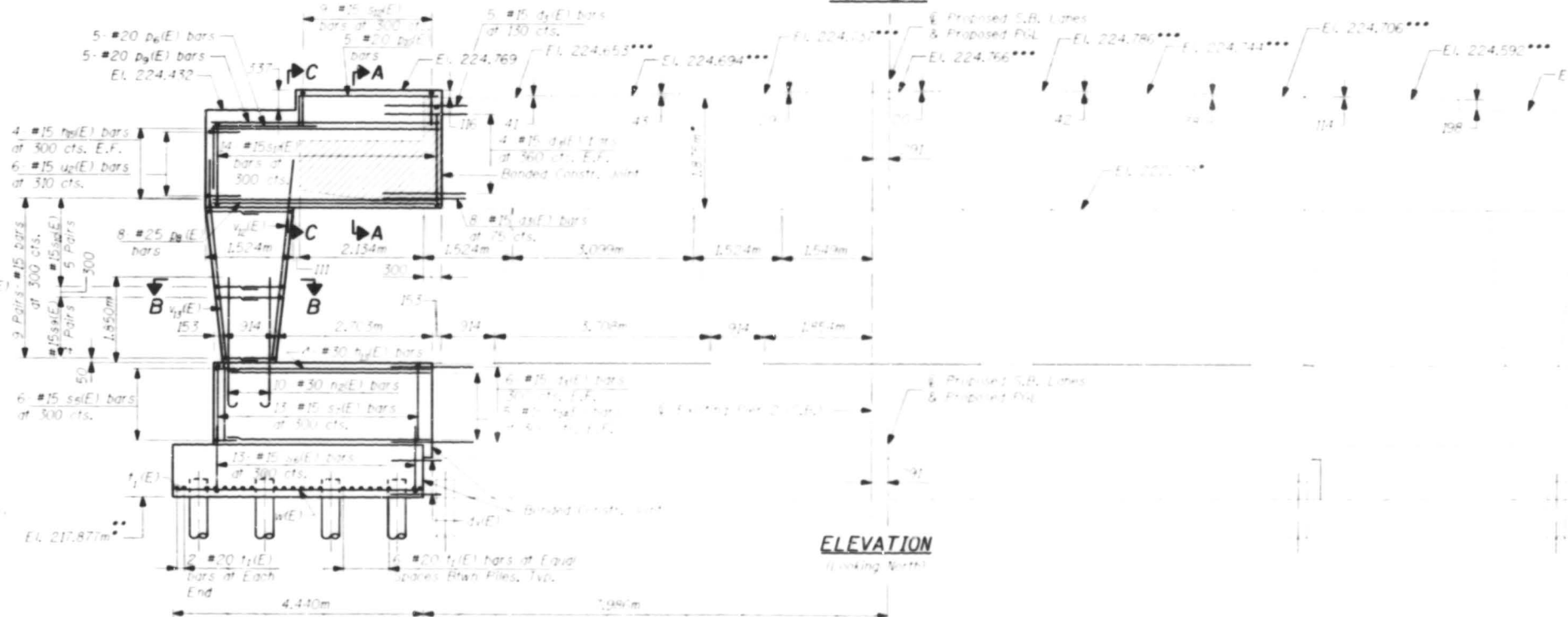


TOP PLAN

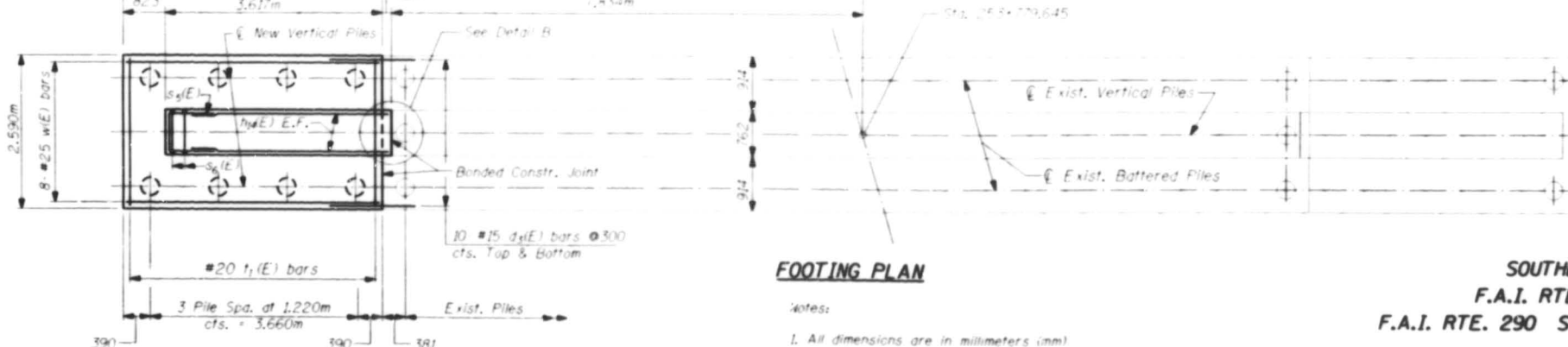


END VIEW

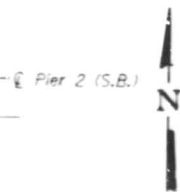
MIN. BAR LAPS	
#15 (E) bar	- 640 mm
#20 (E) bar	- 790 mm
#25 (E) bar	- 1320 mm



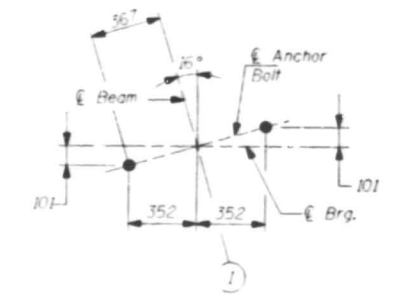
ELEVATION



FOOTING PLAN



- Field Verify
- Match existing bottom of footing Elevation.
- Match existing top of pier elevation. Elevations shown are based on field survey.



DETAIL A

LEGEND

- Hatched areas indicate Concrete Removal. For quantities see Sheet No. 38.
- F.F. Front Face
- B.F. Back Face
- E.F. Each Face
- W.P. Work Point

PILE DATA

Type: Metal Shell Pile
Capacity: 400 kN Design
Est. Length: 13.0m
No. Req'd. 8

SOUTHBOUND PIER 2 WIDENING
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2. 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



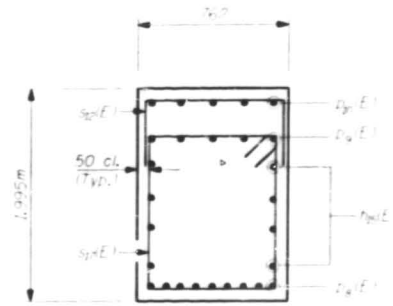
DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
IN CHARGE	AM

- Notes:
- 1. All dimensions are in millimeters (mm) except as noted.
- 2. Work this Sheet with Sheet No. 29.
- 3. Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.

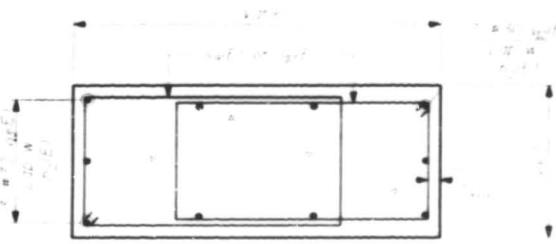
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DATE	BY
F.A.I. 290	**	0904	DBS
FILE NAME: DET.DTA	CLIMATE	FILE NO: PROJECT	

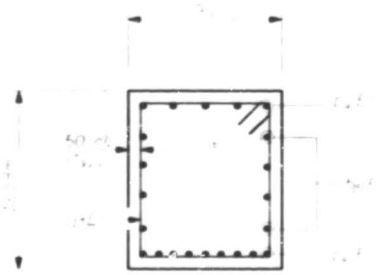
SHEET NO. 29
SHEETS 45



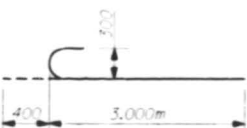
SECTION A-A



SECTION B-B



SECTION C-C



BAR n2(E)

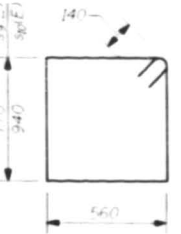


BARS p2(E) p3(E)

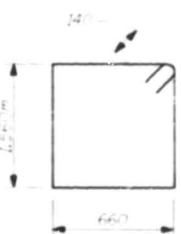
A & B DIMENSIONS

Bar	A	B
n2(E)	1,190	1,190
p2(E)	1,190	1,190
p3(E)	1,190	1,190
p4(E)	1,190	1,190
p5(E)	1,190	1,190
p6(E)	1,190	1,190
p7(E)	1,190	1,190
p8(E)	1,190	1,190
p9(E)	1,190	1,190
p10(E)	1,190	1,190
p11(E)	1,190	1,190
p12(E)	1,190	1,190
p13(E)	1,190	1,190
p14(E)	1,190	1,190
p15(E)	1,190	1,190
p16(E)	1,190	1,190
p17(E)	1,190	1,190
p18(E)	1,190	1,190
p19(E)	1,190	1,190
p20(E)	1,190	1,190
p21(E)	1,190	1,190
p22(E)	1,190	1,190
p23(E)	1,190	1,190
p24(E)	1,190	1,190
p25(E)	1,190	1,190
p26(E)	1,190	1,190
p27(E)	1,190	1,190
p28(E)	1,190	1,190
p29(E)	1,190	1,190
p30(E)	1,190	1,190
p31(E)	1,190	1,190
p32(E)	1,190	1,190
p33(E)	1,190	1,190
p34(E)	1,190	1,190
p35(E)	1,190	1,190
p36(E)	1,190	1,190
p37(E)	1,190	1,190
p38(E)	1,190	1,190
p39(E)	1,190	1,190
p40(E)	1,190	1,190
p41(E)	1,190	1,190
p42(E)	1,190	1,190
p43(E)	1,190	1,190
p44(E)	1,190	1,190
p45(E)	1,190	1,190
p46(E)	1,190	1,190
p47(E)	1,190	1,190
p48(E)	1,190	1,190
p49(E)	1,190	1,190
p50(E)	1,190	1,190
p51(E)	1,190	1,190
p52(E)	1,190	1,190
p53(E)	1,190	1,190
p54(E)	1,190	1,190
p55(E)	1,190	1,190
p56(E)	1,190	1,190
p57(E)	1,190	1,190
p58(E)	1,190	1,190
p59(E)	1,190	1,190
p60(E)	1,190	1,190
p61(E)	1,190	1,190
p62(E)	1,190	1,190
p63(E)	1,190	1,190
p64(E)	1,190	1,190
p65(E)	1,190	1,190
p66(E)	1,190	1,190
p67(E)	1,190	1,190
p68(E)	1,190	1,190
p69(E)	1,190	1,190
p70(E)	1,190	1,190
p71(E)	1,190	1,190
p72(E)	1,190	1,190
p73(E)	1,190	1,190
p74(E)	1,190	1,190
p75(E)	1,190	1,190
p76(E)	1,190	1,190
p77(E)	1,190	1,190
p78(E)	1,190	1,190
p79(E)	1,190	1,190
p80(E)	1,190	1,190
p81(E)	1,190	1,190
p82(E)	1,190	1,190
p83(E)	1,190	1,190
p84(E)	1,190	1,190
p85(E)	1,190	1,190
p86(E)	1,190	1,190
p87(E)	1,190	1,190
p88(E)	1,190	1,190
p89(E)	1,190	1,190
p90(E)	1,190	1,190
p91(E)	1,190	1,190
p92(E)	1,190	1,190
p93(E)	1,190	1,190
p94(E)	1,190	1,190
p95(E)	1,190	1,190
p96(E)	1,190	1,190
p97(E)	1,190	1,190
p98(E)	1,190	1,190
p99(E)	1,190	1,190
p100(E)	1,190	1,190

BARS s2(E) thru s7(E) s8(E) u2(E)



BARS s2(E) s3(E)



BAR s4(E)



BAR v2(E)

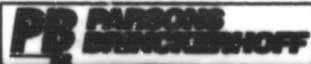
- Notes:
1. Splice reinforcement shall be lap spliced and/or bolted.
 2. All edges shall have standard 20 mm chamfers except as noted.
 3. Edge steps must comply with code.
 4. All dimensions are in millimeters, except as noted.
 5. Existing reinforcement extending into the removal area shall be retained, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. This shall be subject to Concrete Removal.

BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
n2(E)	1	#15	1,940	—
p2(E)	4	#20	3,670	—
p3(E)	2	#20	3,670	—
p4(E)	4	#20	3,670	—
p5(E)	2	#20	3,400	—
p6(E)	4	#25	3,970	—
p7(E)	2	#20	3,970	—
p8(E)	4	#20	2,060	—
p9(E)	2	#20	3,270	—
p10(E)	4	#15	1,390	—
p11(E)	2	#15	1,390	—
p12(E)	2	#15	3,360	—
p13(E)	4	#15	2,940	—
p14(E)	2	#15	3,280	—
p15(E)	2	#15	2,060	—
p16(E)	2	#15	4,720	—
p17(E)	2	#20	2,490	—
p18(E)	4	#15	1,520	—
p19(E)	2	#30	3,780	—
p20(E)	3	#30	3,770	—
p21(E)	4	#25	4,340	—
Structure Excavation	Cu. m.		35	
Concrete Structures	Cu. m.		22.3	
Reinforcement Bars	kg		1,550	
Epoxy Coated				
Furnishing Metal File	m		104.0	
Shells, 305 mm				
Driving and Filling	m		104.0	
Shells				

Reinforcement Bars designated (E) shall be epoxy coated.

SOUTHBOUND PIER 2 DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



FILENAME: G:\6772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIG06_PIER02SB_DET.DGN; 6/4/02 13:24:42

DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
CHECKED	SH

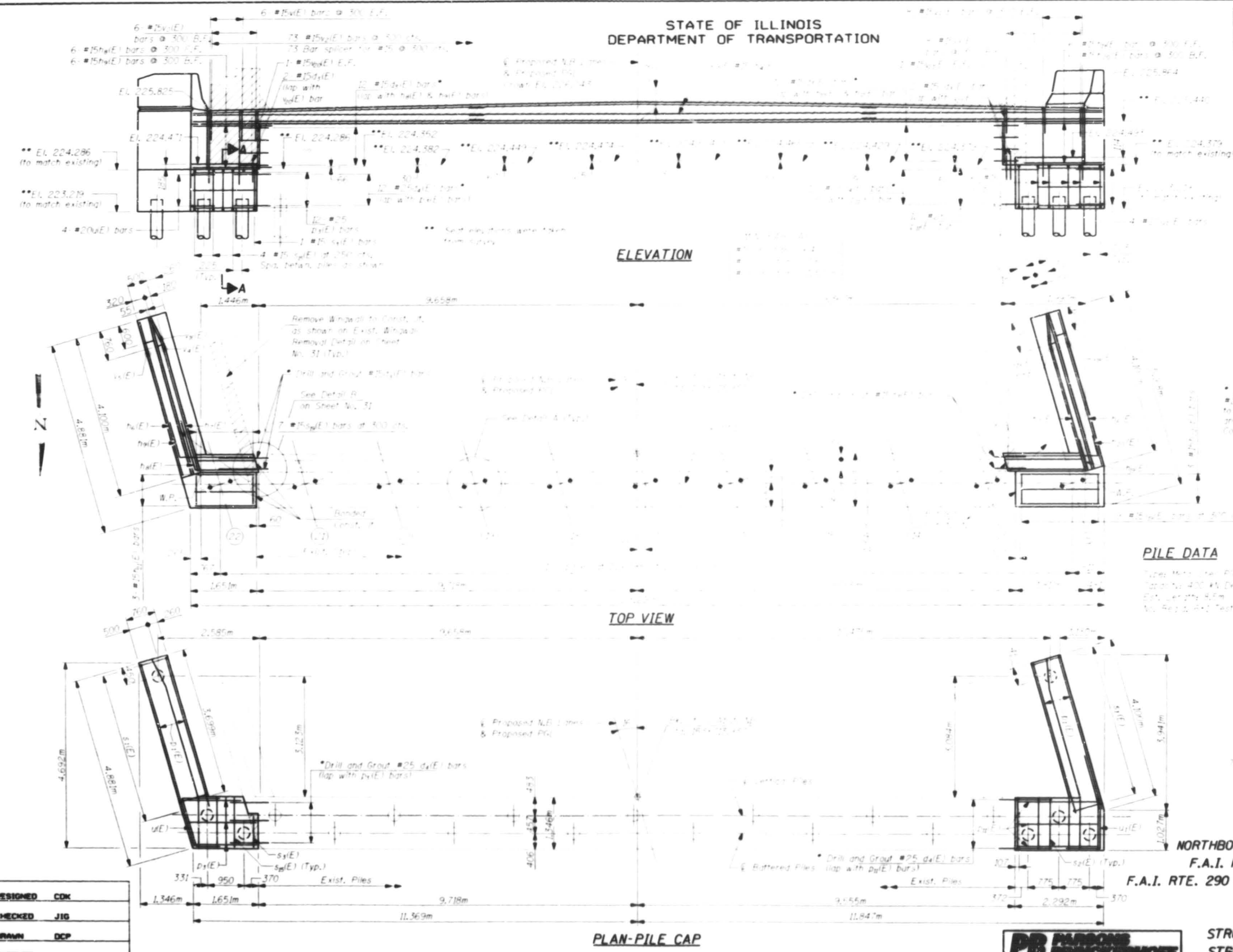
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SHEET NO.	DATE	BY	CHKD	APPD
F.A.I. 290	30	COOK	15	659	

SHEET NO. 30
SHEETS 45

- Notes:
- All edges have standard 10mm chamfers except as noted.
 - All dimensions are in millimeters (mm) except as noted.
 - Place reinforcement in pile to miss anchor bolts.
 - For wing wall details, See Sheet No. 31.
 - Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
 - Elevations shown on existing structure were taken from existing plans, unless noted otherwise.
 - Hatched areas indicate Concrete Removal, unless noted otherwise. See Sheet No. 39 For Concrete Removal Quantity.
 - For Legend See Sheet No. 31.
 - Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.

• Drill and grout #15dyl(E) in 250mm min. drilled holes and #25 dyl(E) in 300mm min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the engineer. Cost included with Reinf. Bars, Epoxy Coated.



PILE DATA

Types: Min. 1000 Pile
Capacity: 400 kN Design
Pile Length: 8.6m
No. Reinf. Bars: 10

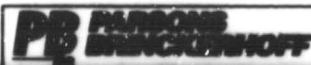
SECTION A-A

(For Reinf. and Dimensions not shown, See Section A-A on Thru Abut. Sheet 31.)

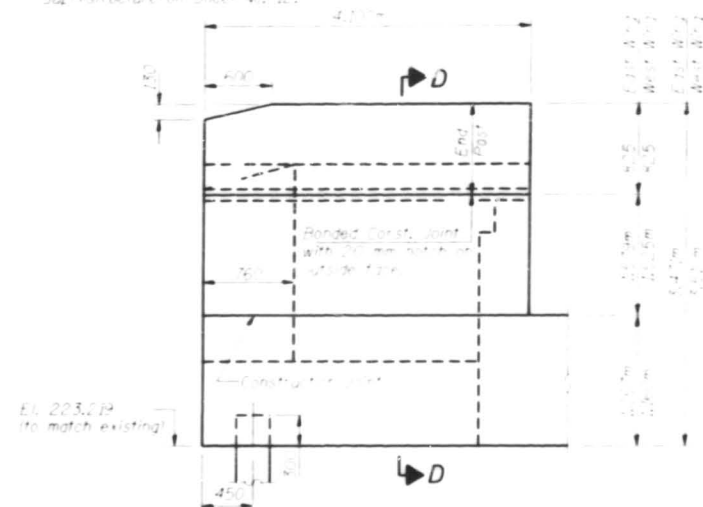
DETAIL A

NORTHBOUND SOUTH ABUTMENT WIDENING
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

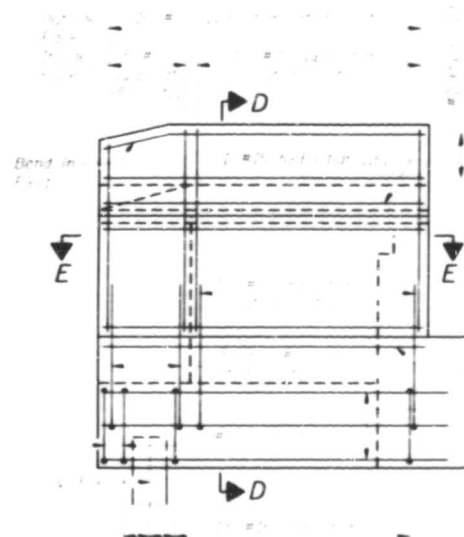
DESIGNED	CDK
CHECKED	JIG
DRAWN	DCP
CHECKED	AM



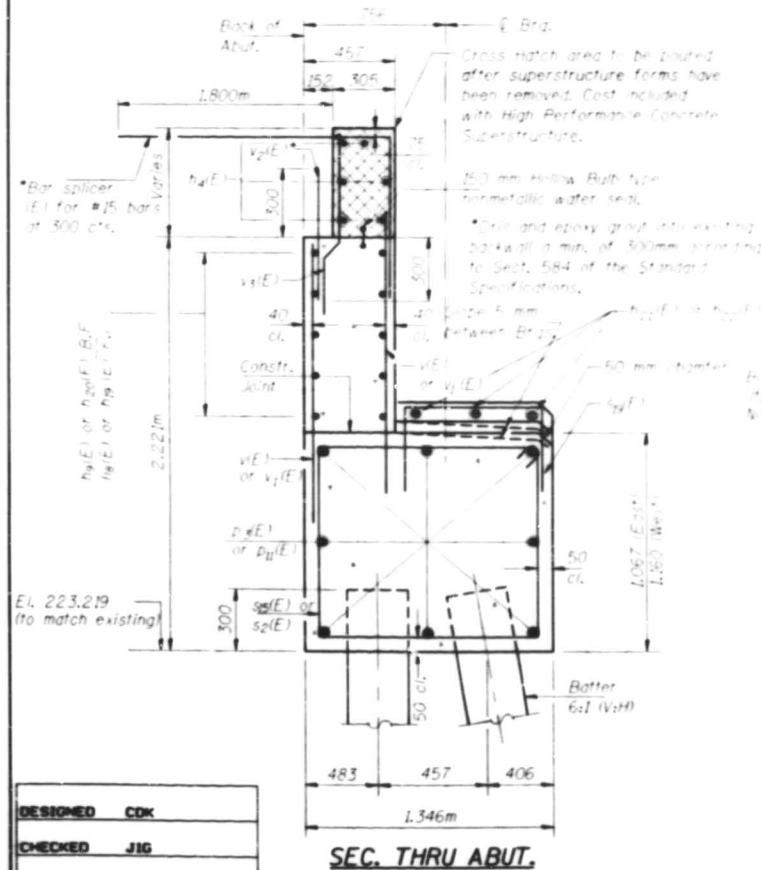
Note: End post shall be poured after bridge is in place. Form top surface to match parapet grade. Quantity of concrete to be included with High Performance Concrete Superstructure on Sheet No. 12.



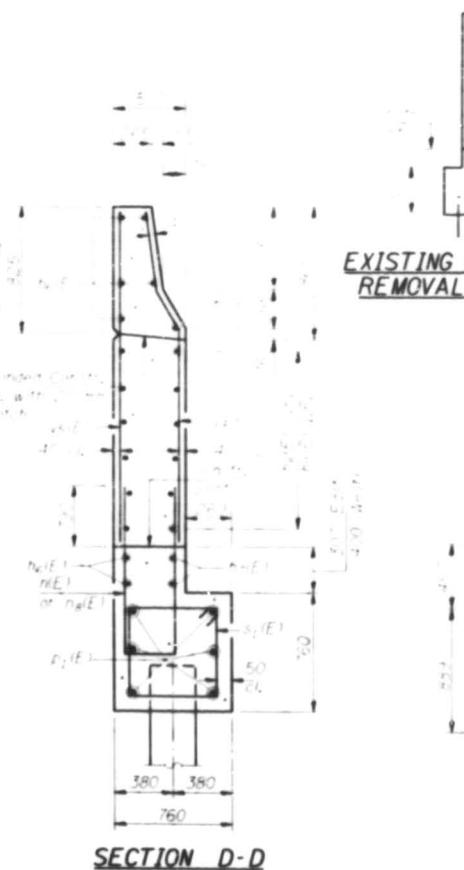
WINGWALL ELEVATION



WINGWALL ELEVATION

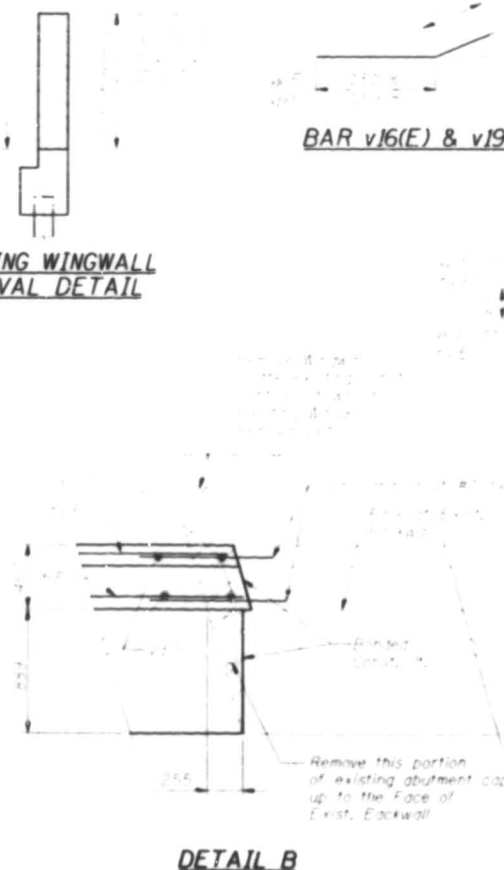


SEC. THRU ABUT.
(Dimension at Rt. L's)



SECTION D-D

EXISTING WINGWALL
REMOVAL DETAIL



DETAIL B

BAR h7(E)
BAR h8(E) & h9(E)
BARS h19(E) & h20(E)

BAR n(E) & n8(E)
BAR n(E) & n3(E)
BARS s(E), s2(E), s3(E) & s15(E)

BAR u(E)
BAR u(E)

BAR v3(E)

BAR v4(E) & v17(E)

BAR v16(E) & v19(E)

BAR s19(E)

SECTION E-E

LEGEND

I.F. Inside Face
O.F. Outside Face
F.F. Front Face
B.F. Back Face
E.F. Each Face
S.E. Southeast
S.W. South west

1. Reinforcement bars designated "E" shall be epoxy coated.
2. All dimensions are in millimeters (mm) except as noted.
3. Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
4. See Sheet No. 39, For Concrete Removal Quantity.

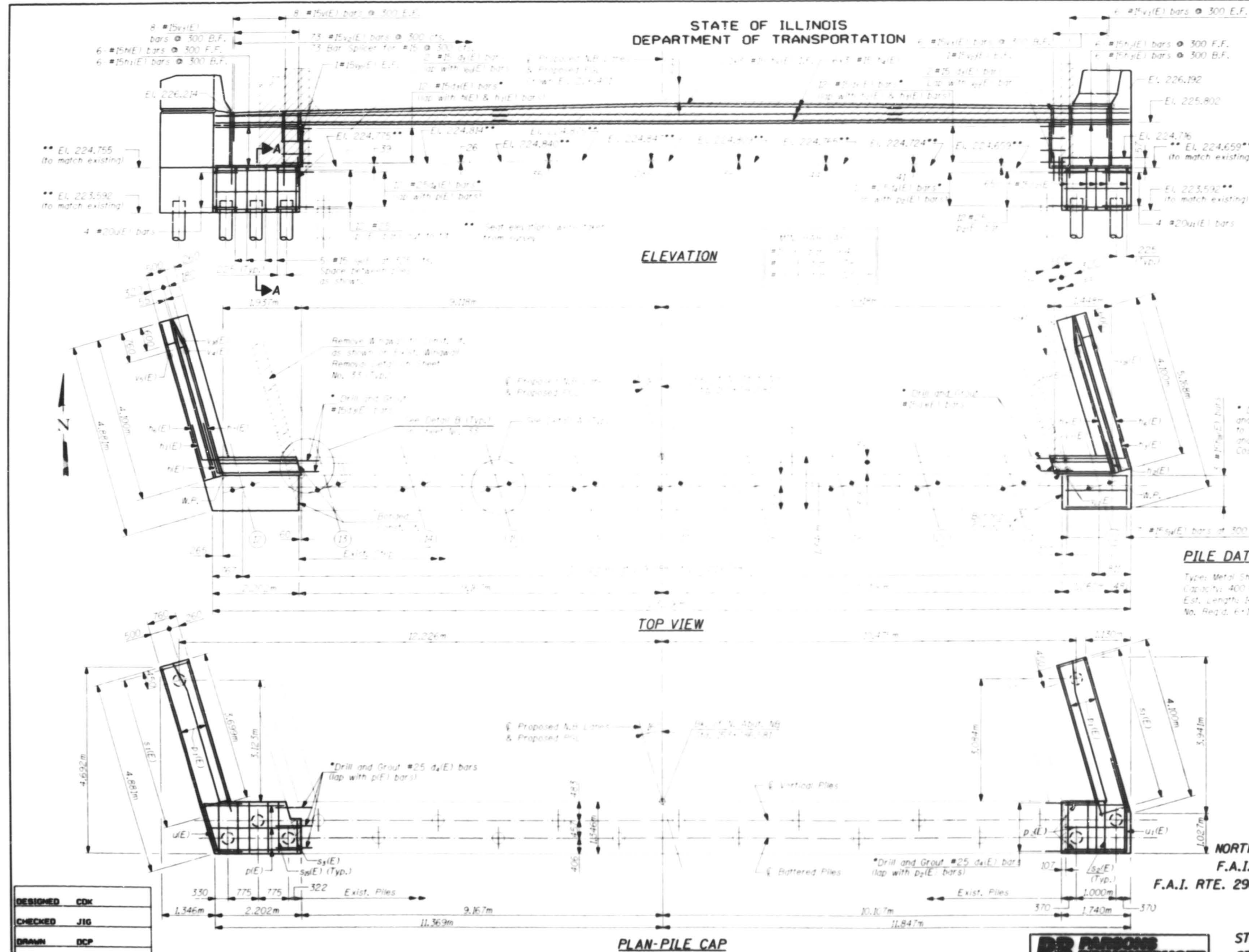
NORTHBOUND SOUTH ABUTMENT DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

PP HARRIS
HARRIS

DATE	BY	CHKD	APPD	REV
6/4/02	JIG	JIG	JIG	1

BILL OF MATERIAL

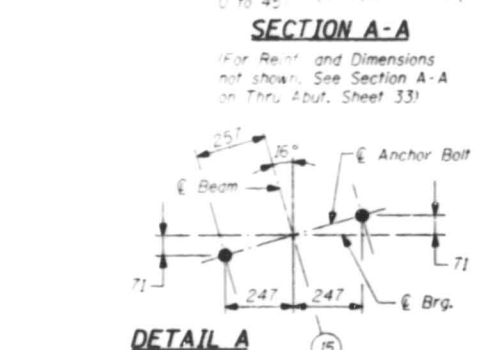
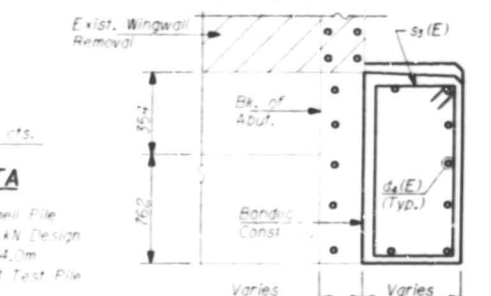
ITEM	QTY	UNIT	LENGTH (m)	SHAPE
h7(E)	28	#16	3.940	
h8(E)	24	#25	1.620	
h9(E)	18	#25	1.560	
h10(E)	26	#15	4.020	
h11(E)	18	#15	4.040	
h12(E)	6	#25	2.890	
h13(E)	6	#25	2.930	
h14(E)	6	#25	1.180	
h15(E)	6	#15	1.220	
h16(E)	6	#15	1.550	
h17(E)	6	#15	2.220	
h18(E)	12	#20	3.600	
h19(E)	6	#20	1.800	
h20(E)	6	#20	1.720	
h21(E)	12	#20	3.440	
h22(E)	12	#25	4.050	
h23(E)	12	#25	1.740	
h24(E)	12	#25	2.190	
h25(E)	12	#25	2.920	
h26(E)	6	#15	4.680	
h27(E)	4	#15	3.880	
h28(E)	4	#15	4.840	
h29(E)	6	#15	1.930	
h30(E)	4	#20	2.880	
h31(E)	4	#20	2.540	
h32(E)	12	#15	1.780	
h33(E)	6	#15	1.840	
h34(E)	12	#15	0.600	
h35(E)	14	#15	0.900	
h36(E)	12	#20	2.320	
h37(E)	15	#20	2.260	
h38(E)	3	#20	2.010	
h39(E)	12	#20	2.350	
h40(E)	15	#20	2.310	
h41(E)	3	#20	2.040	
h42(E)	2	#15	1.360	
h43(E)	2	#15	1.420	
Concrete Structures		m ³	19.4	
Reinforcement Bars, Epoxy Coated		kg	2360	
Furnishing Metal Pipe Shells, 305 mm		m	51.0	
Grinding and Filling Shells		m	51.0	
Test Pipe		Each	1	
Structure Excavation		m ³	48	
Bridge Sept. Sealer		m ²	3.6	



SHEET NO. 32	
SHEETS 45	
DATE	6/4/02
DESIGNER	CDK
CHECKED	JIG
DRAWN	DCP
DATE	6/4/02

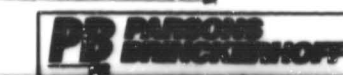
- Notes:
1. All edges have standard 1 mm chamfers except as noted.
 2. All dimensions are in millimeters (mm) except as noted.
 3. Space reinforcement in air to miss anchor bolts.
 4. For wingwall details. See Sheet No. 33.
 5. Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
 6. Elevations shown on existing structure were taken from existing plans, unless noted otherwise.
 7. Hatched areas indicate Concrete Removal, unless noted otherwise. See Sheet No. 39 For Concrete Removal Quantity.
 8. For Legend See Sheet No. 33.
 9. Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.

* Drill and grout #15d(E) in 230mm min. drilled holes and #25 d4(E) in 300mm min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the engineer. Cost included with Reinf. Bars, Epoxy Grout.

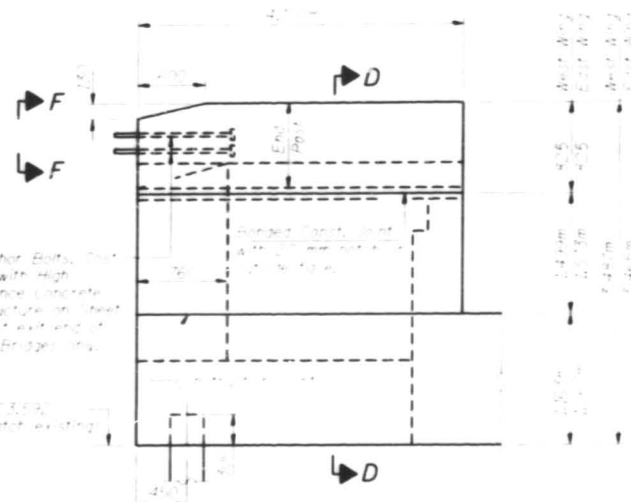


NORTHBOUND NORTH ABUTMENT WIDENING
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

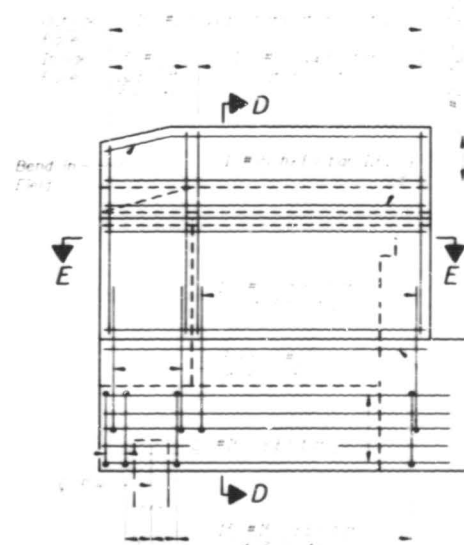
DESIGNED	CDK
CHECKED	JIG
DRAWN	DCP
DATE	6/4/02



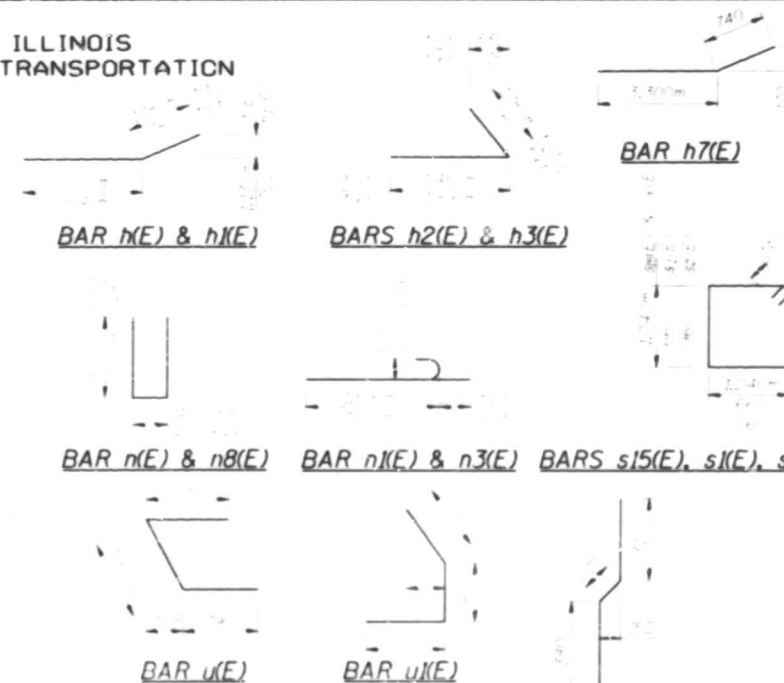
M24 Anchor Bolts. Cost included with High Performance Concrete Superstructure on Street No. 12. At exit end of one way bridges only.



WINGWALL ELEVATION



WINGWALL ELEVATION



BAR $h(E)$ & $h(E)$

BARS $h_2(E)$ & $h_3(E)$

BAR h7(E)

BAR $n(E)$ & $n_8(E)$

BAR $n_1(E)$ & $n_3(E)$

4) BARS $s15(E)$, $s1(E)$, $s2(E)$ & $s3(E)$

BAR $u(E)$

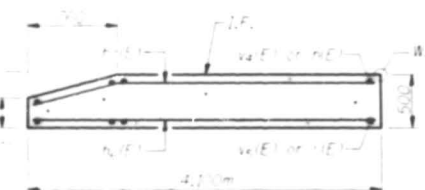
$$\overline{BAR} \cup I(E)$$


BAR s14(E)

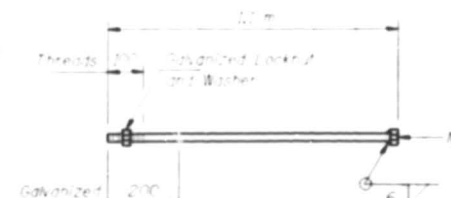
BAR v4(E) & v17(E)

BAR v16(E) & v19(E)

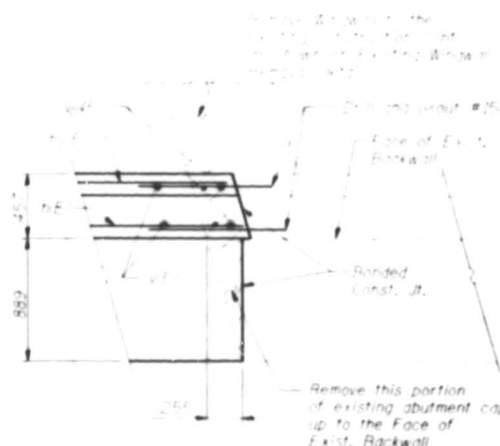
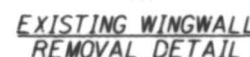
SECTION E-E



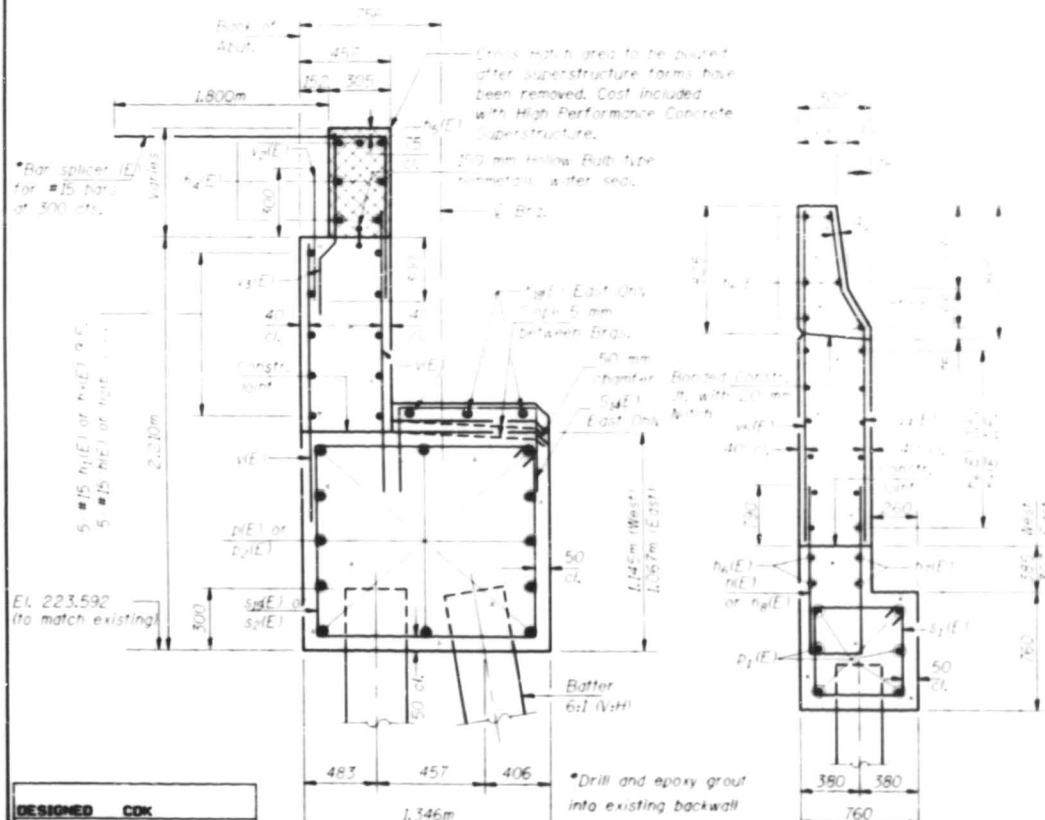
VIEW F-F



M24 ANCHOR BOLT



DETAIL B



SEC. THRU ABUT.
(Dimension at Rt. L s)

SECTION D-D

*Drill and epoxy grout into existing backwall a min. of 300mm according to Sect. 584 of the Standard Specifications.

DESIGNED	CDK
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

1000776 460	500 1 1000	1000000	1000000	1000000
1.1.1. 290	00	000	100	662
1000776 460	500 1 1000	1000000	1000000	1000000

SHEET NO. 33
SHEETS 45

BILL OF MATERIAL

Qty	Size	Length (m)	Shape
24	#15	1.625	
24	#15	3.340	
6	#15	3.360	
6	#15	3.420	
6	#15	2.670	
6	#15	2.670	
18	#15	1.760	
3	#15	1.760	
26	#15	4.720	
6	#15	4.740	
3	#15	1.620	
10	#15	3.470	
4	#15	1.620	
16	#15	3.440	
4	#15	1.720	
10	#15	2.290	
10	#15	4.750	
10	#15	1.640	
1	#15	4.840	
40	#15	2.920	
5	#15	4.680	
1	#15	3.880	
7	#15	1.670	
4	#20	2.880	
4	#20	2.540	
16	#15	1.780	
16	#15	1.840	
73	#15	0.600	
14	#15	0.900	
12	#20	2.320	
15	#20	2.260	
3	#20	2.070	
12	#20	2.360	
15	#20	2.310	
3	#20	2.040	
2	#15	1.360	
2	#15	1.420	
Concrete Structures			m ³
Reinforcement Bars, Epoxy Coated			kg
Furnishing Metal Pile Shells, 305 mm			m
Driving and Filling Shells			m
Test Pile			
Metal Shells			Each
Structure Excavation			m ³
Piling Silt Squeezer			m ²

Notes:

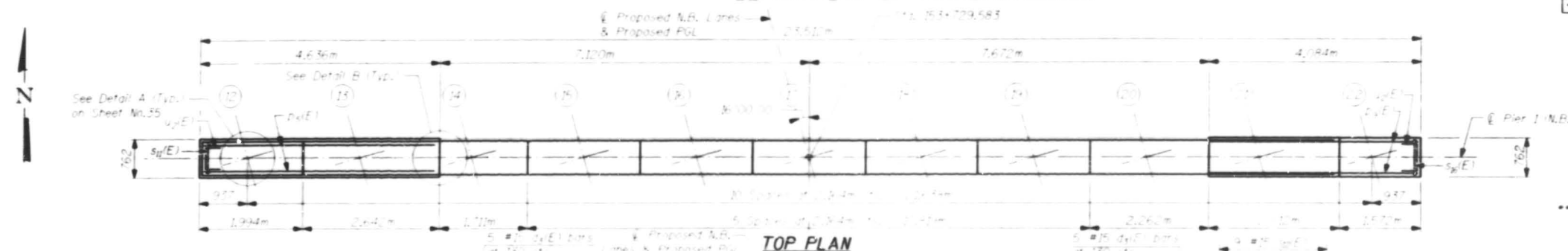
1. Reinforcement bars designated [E] shall be epoxy coated.
2. All dimensions are in millimeters (mm) except as noted.
3. Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
4. See Sheet No. 39, For Concrete Removal Quantity.

NORTHBOUND NORTH ABUTMENT DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

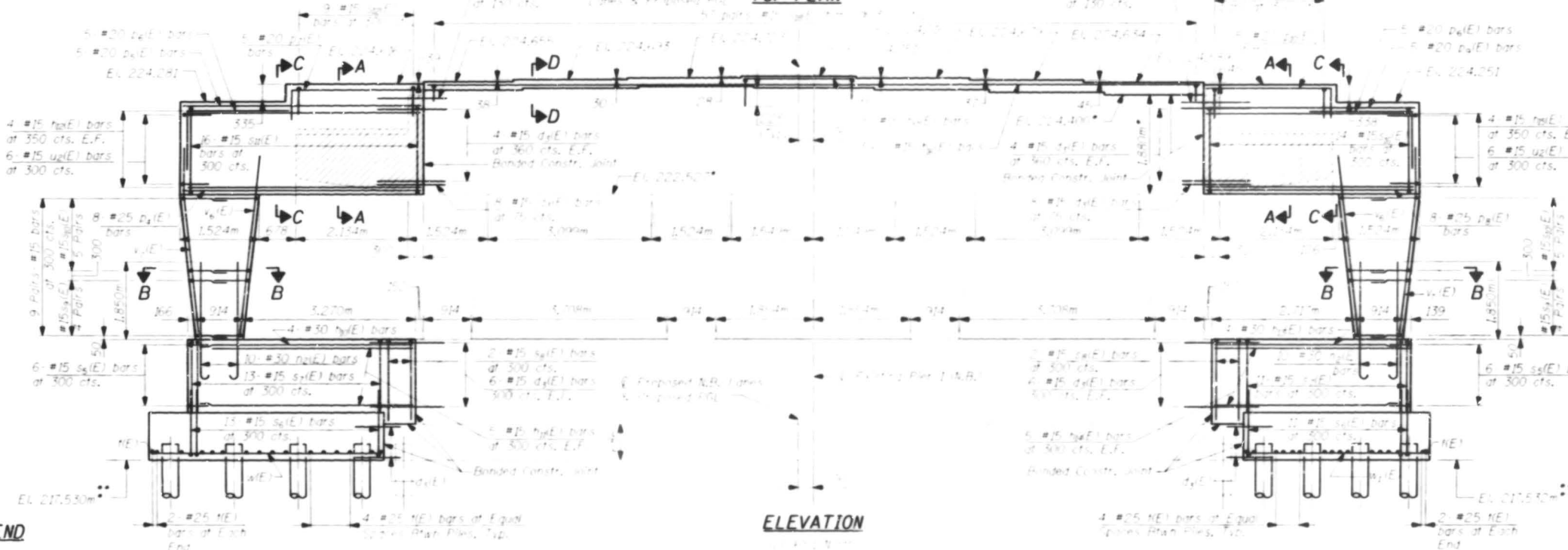
**PD PARSONS
BRINCKERHOFF**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DATE	BY	CHECKED
F.A.I. 290	**	COOK	10/3	6/3

SHEET NO. 34
SHEETS 45

TOP PLAN



ELEVATION

LEGEND

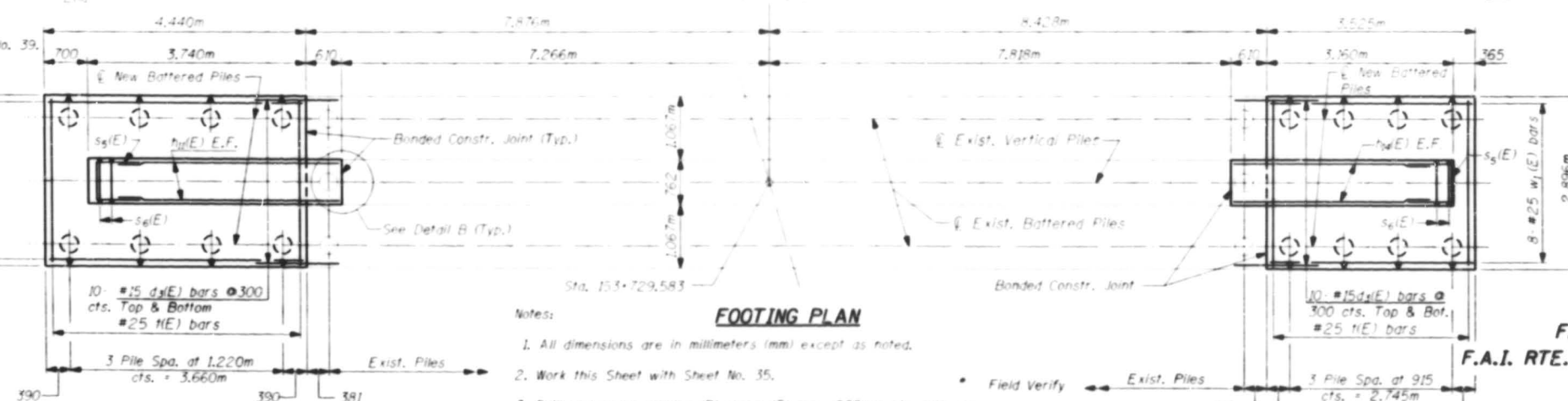
Hatched areas indicate
Concrete Removal.
For quantities see Sheet No. 39.
F.F. Front Face
B.F. Back Face
E.F. Each Face
W.P. Work Point

Indicates
battered piles

MIN. BAR LAPS

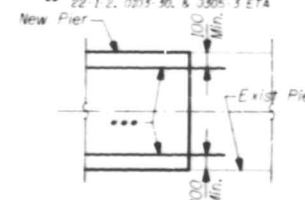
#15 (E) bar - 640 mm
#20 (E) bar - 790 mm
#25 (E) bar - 1320 mm

DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
ENGINEER	AM



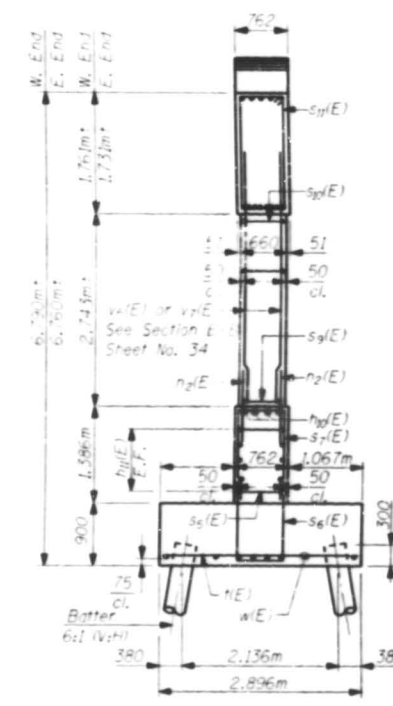
FOOTING PLAN

- Notes:
- All dimensions are in millimeters (mm) except as noted.
 - Work this Sheet with Sheet No. 35.
 - Drill and epoxy grout $s_d(E)$ and $s_g(E)$ bars 225mm min. into existing concrete. Drill to miss existing reinforcement.
 - Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.



DETAIL B

*** Drill and grout #15 $s_d(E)$ bars in 230 mm min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the Engineer. Cost included with Reinf. Bars, Epoxy Coated.



WEST END VIEW

PILE DATA

Type: Metal Shell Pile
Capacity: 400 kN Design
Est. Length: 15.5m
No. Req'd. 15+1 Test Pile

NORTHBOUND PIER 1 WIDENING
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

PP
MARCHIONNI

\\NAME: G:\16772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIGL\PIER01NB.DGN; 6/4/02 1:30:03

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

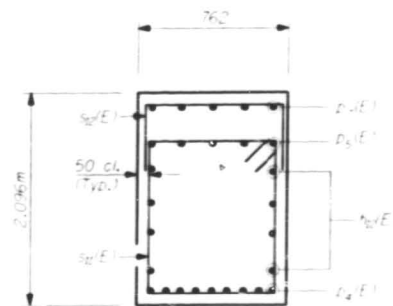
PROJECT NO.	SECTION	DATE	BY	CHECKED	DATE
F.A.I. 290	**	COOK	10/1	6/4	
NO. 22-1-2, 0103-30, & 0305-3					

SHEET NO. 35
SHEETS 45

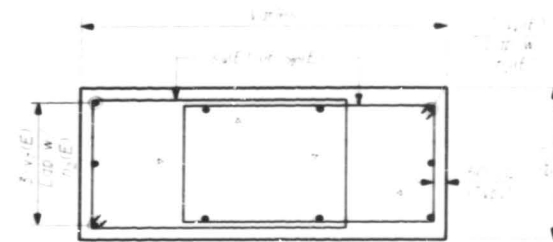
BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
12E	106	#15	1,940	
12E	4	#30	4,250	
12E	30	#15	4,250	
12E	8	#15	4,550	
12E	4	#30	3,670	
12E	30	#15	3,670	
12E	8	#15	3,970	
12E	30	#15	3,680	
12E	4	#15	2,080	
12E	30	#15	3,400	
12E	8	#15	4,550	
12E	5	#20	4,550	
12E	5	#20	2,060	
12E	5	#20	3,270	
12E	8	#25	3,970	
12E	5	#20	3,970	
12E	5	#20	3,140	
12E	12	#15	1,590	
12E	24	#15	3,780	
12E	24	#15	3,160	
12E	4	#15	3,760	
12E	25	#15	2,940	
12E	20	#15	3,280	
12E	25	#15	4,920	
12E	28	#15	2,060	
12E	14	#15	4,860	
12E	114	#15	0,960	
12E	32	#25	2,790	
12E	32	#15	1,520	
12E	14	#30	1,860	
12E	11	#30	1,850	
12E	8	#25	1,340	
12E	8	#25	1,425	
Structure Excavation	cu. m.	69		
Concrete Structures	cu. m.	50.2		
Reinforcement Bars, Epoxy Coated	kg	3,560		
Furnishing Metal Pipe Shells, 305 mm	m	232.5		
Driving and Filling Shells	m	232.5		
Test Piles				
Metal Shells	Each	1		

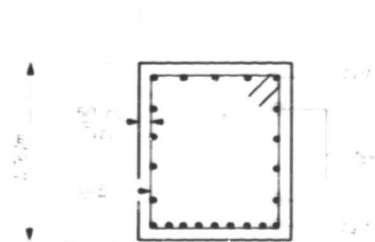
Reinforcement Bars designated (E) shall be epoxy coated.



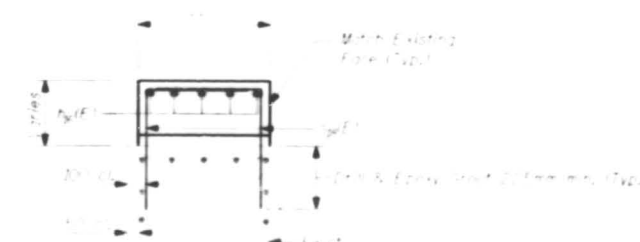
SECTION A-A
W. End Shown
E. End Similar



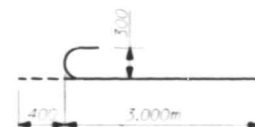
SECTION B-B
W. End Shown
E. End Similar



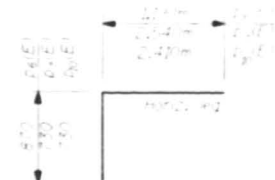
SECTION C-C
W. End Shown
E. End Similar



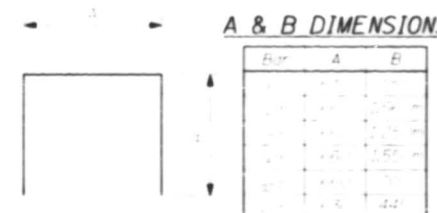
SECTION D-D
W. End Shown
E. End Similar



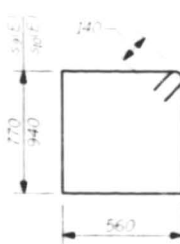
BAR 12(E)



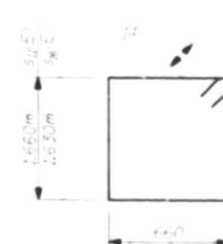
BARS 12(E) thru 12(E)



A & B DIMENSIONS



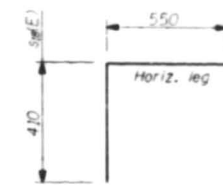
BARS 12(E) thru 12(E)



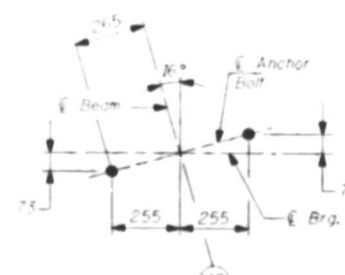
BAR 12(E)



BAR 12(E)

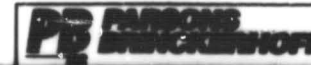


BARS 12(E) thru 12(E)



DETAIL A

NORTHBOUND PIER 1 DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

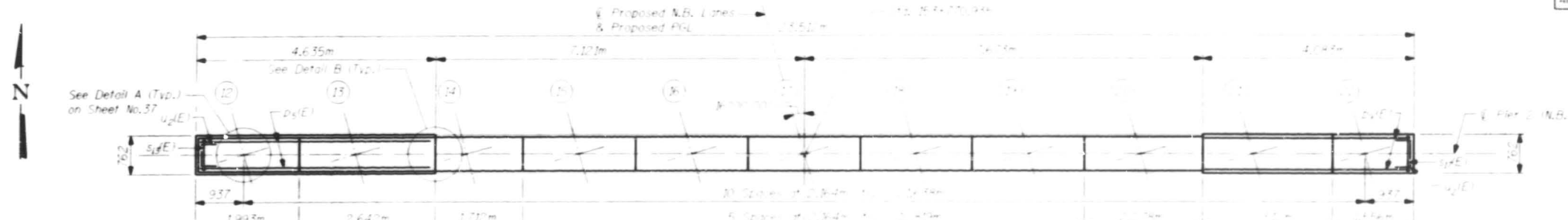


FILENAME: G:\6772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIG2_PIER01NB_DET.DGN: 6/4/02:13:30:39

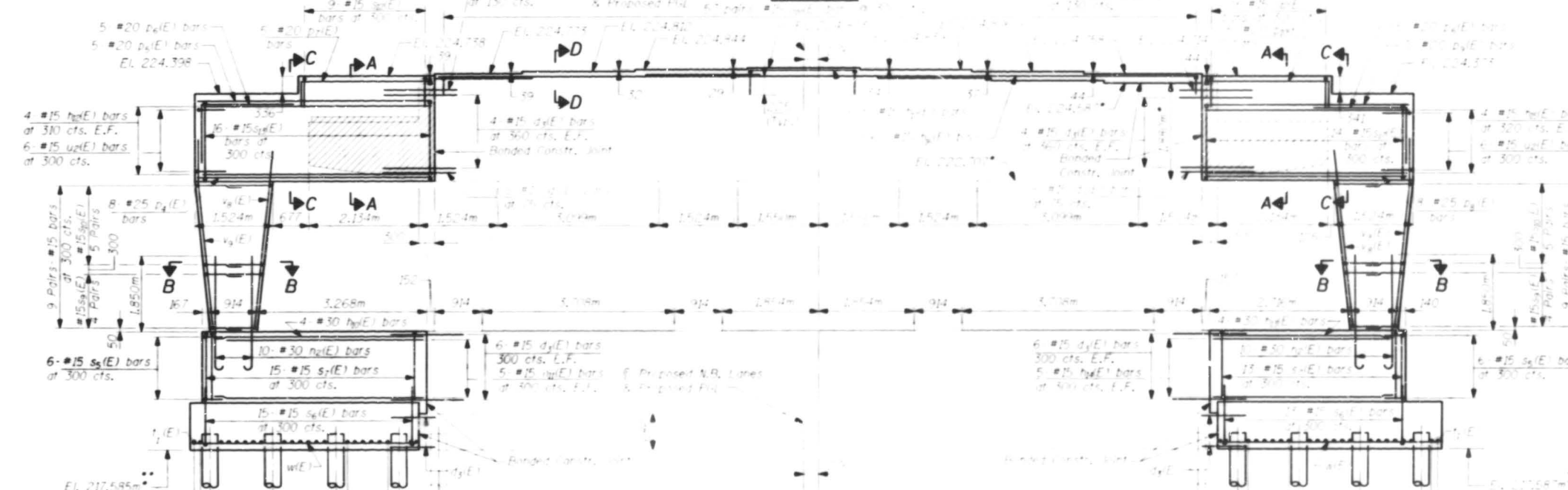
DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.I. 290	**	COOK	06.3	665
SHEETS 45				



TOP PLAN



ELEVATION

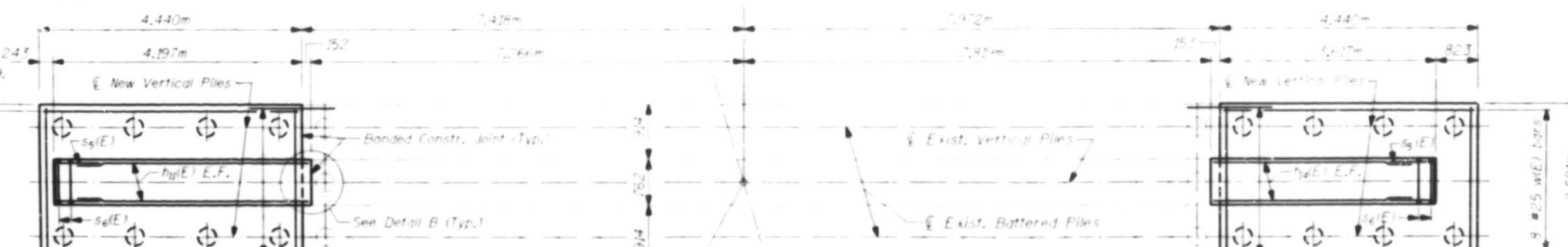
LEGEND

Hatched areas indicate
Concrete Removal.
For quantities see Sheet No. 39.
F.F. Front Face
B.F. Back Face
E.F. Each Face
W.P. Work Point

MIN. BAR LAPS

#15 (E) bar - 640 mm
#20 (E) bar - 790 mm
#25 (E) bar - 1320 mm

DESIGNED	RJD
CHECKED	JIS
DRAWN	DCP
CHECKED	AM



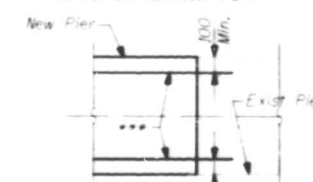
FOOTING PLAN

Notes:

1. All dimensions are in millimeters (mm) except as noted.
2. Work this Sheet with Sheet No. 37.
3. Drill and epoxy grout $s_d(E)$ and $s_b(E)$ bars 225mm min. into existing concrete. Drill to miss existing reinforcement.
4. Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.

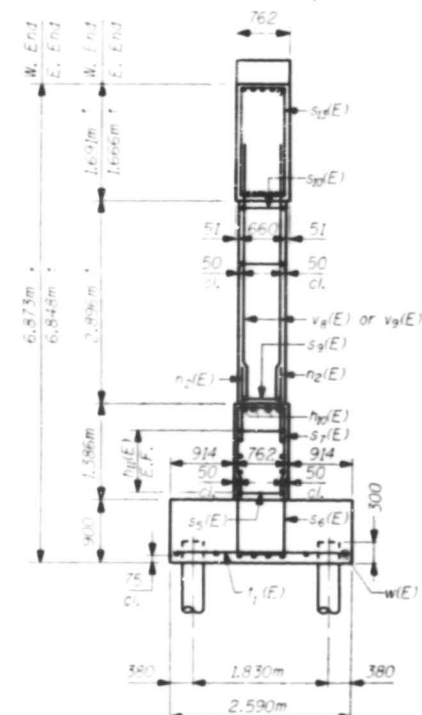
* Field Verify
** Match existing bottom of footing Elevation.

PR ENGINEERING



DETAIL B

*** Drill and grout #15 $s_d(E)$ bars in 230 mm min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the Engineer. Cost included with Reinf. Bars, Epoxy Coated.



WEST END VIEW

PILE DATA

Type: Metal Shell Pile
Capacity: 400 kN Design
Est. Length: 13.0m
No. Piles: 15+1 Test Pile

NORTHBOUND PIER 2 WIDENING
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SHEET NO.	DATE	BY	CHECKED
016-0982	37	08-1	466	

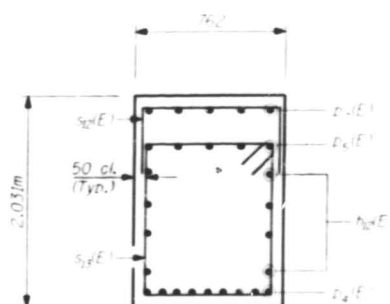
SHEET NO. 37
SHEETS 45

BILL OF MATERIAL

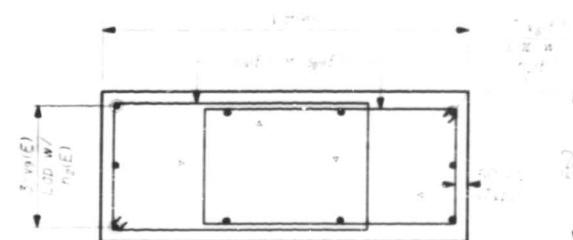
Bar	No.	Size	Length (m)	Shape
1x1	102	#15	0.940	
1x1	4	#30	4.250	
1x1	10	#15	4.250	
1x1	8	#15	4.550	
1x1	4	#30	3.670	
1x1	10	#15	3.670	
1x1	8	#15	3.970	
1x1	20	#15	2.680	
1x1	5	#15	2.980	
1x1	10	#15	3.400	
1x1	4	#15	4.550	
1x1	4	#20	4.550	
1x1	10	#20	2.060	
1x1	5	#20	3.270	
1x1	8	#25	3.970	
1x1	5	#20	3.970	
1x1	5	#20	3.270	
1x1	12	#15	1.540	
1x1	18	#15	1.780	
1x1	18	#15	1.960	
1x1	8	#15	1.940	
1x1	20	#15	3.280	
1x1	18	#15	2.060	
1x1	16	#15	1.790	
1x1	14	#15	1.740	
1x1	104	#15	2.930	
1x1	44	#20	2.490	
1x1	12	#15	1.520	
1x1	14	#30	4.010	
1x1	5	#30	4.000	
1x1	25	#25	4.340	
Structure Excavation	Cu. m.		70	
Concrete Structures	Cu. m.		49.1	
Reinforcement Bars, Epoxy Coated	kg		3520	
Furnishing Metal File Shells, 305 mm	m		195.0	
Drilling and Filling Shells	m		195.0	
Test Files				
Metal Shells	Each		1	

Reinforcement Bars designated (E) shall be epoxy coated.

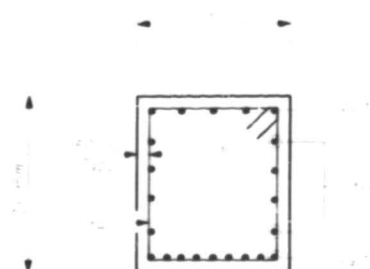
NORTHBOUND PIER 2 DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



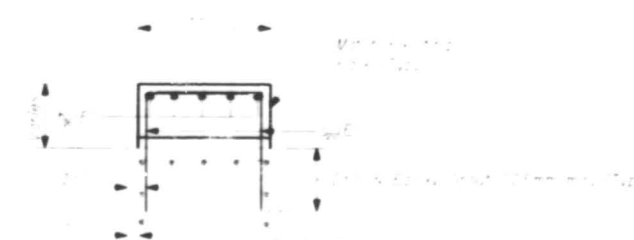
SECTION A-A
W. End Shown
E. End Similar



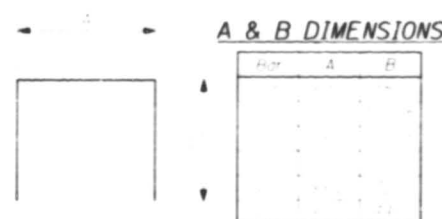
SECTION B-B
W. End Shown
E. End Similar



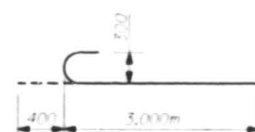
SECTION C-C
W. End Shown
E. End Similar



SECTION D-D
W. End Shown
E. End Similar



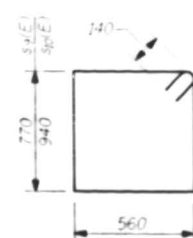
BARS s1(E) thru s7(E) s8(E) u2(E)



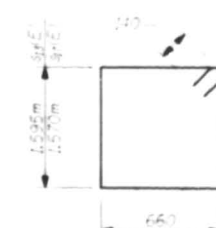
BAR n2(E)



BARS p6(E) p7(E) p8(E)



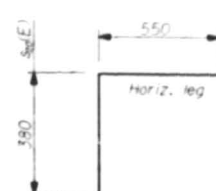
BARS s2(E) s3(E)



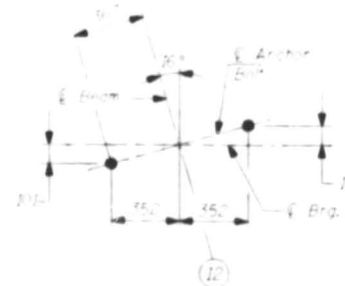
BARS s4(E) s5(E)



BAR v2(E)



BARS s6(E) s7(E)

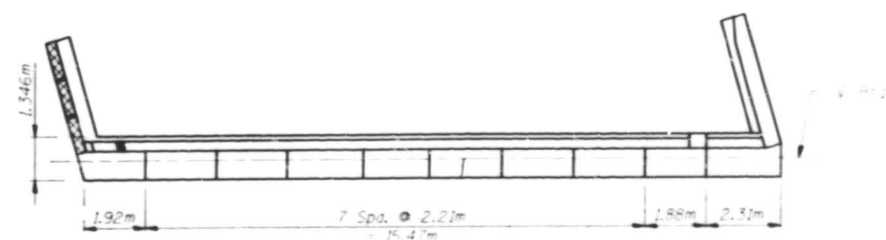


DETAIL A

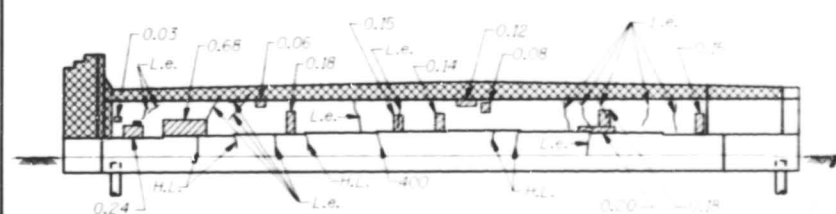
DESIGNED	RJO
CHECKED	JIG
DRWN	DCP
CHECKED	AM

PP HARRIS HENNINGHOFF

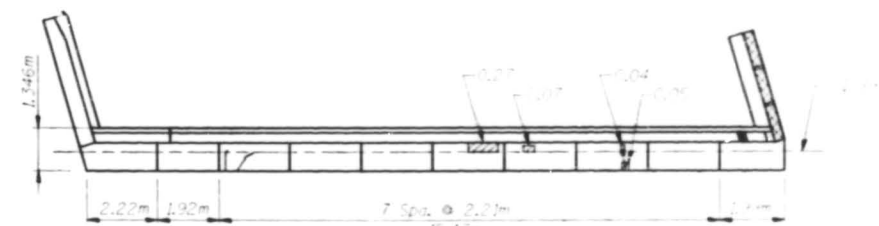
ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.I. 290	**	COOK	18.3	45
FILE NAME	PROJECT	DATE	BY	CHECKED
22-1-2, 0103-30, & 0305-3 ETA				



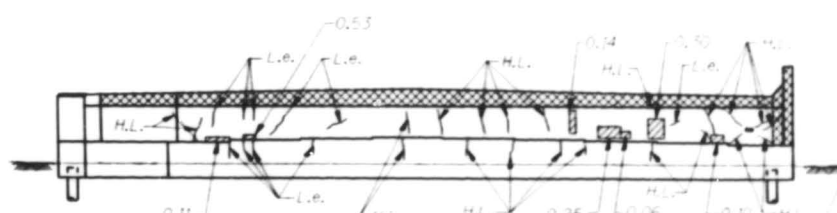
NORTH ABUTMENT PLAN (S.B.)



NORTH ABUTMENT ELEVATION (S.B.)

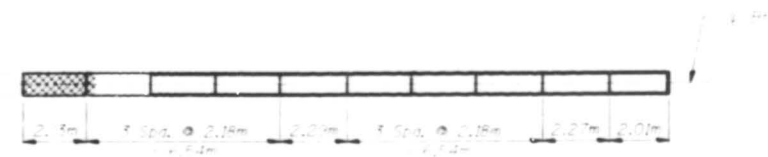


SOUTH ABUTMENT PLAN (S.B.)

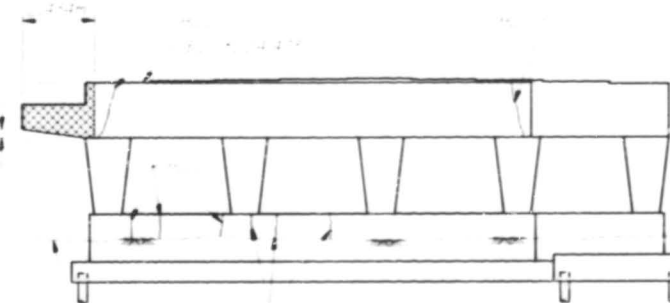


SOUTH ABUTMENT ELEVATION (S.B.)

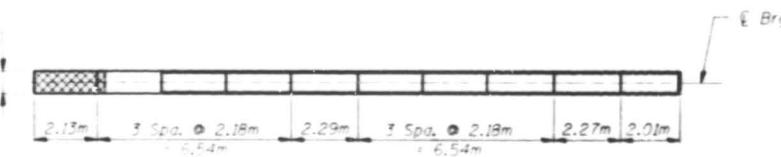
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



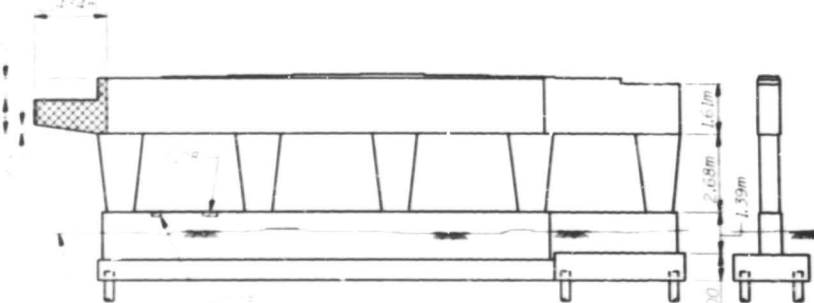
PIER 1 PLAN (S.B.)



PIER 1 ELEVATION (S.B.)



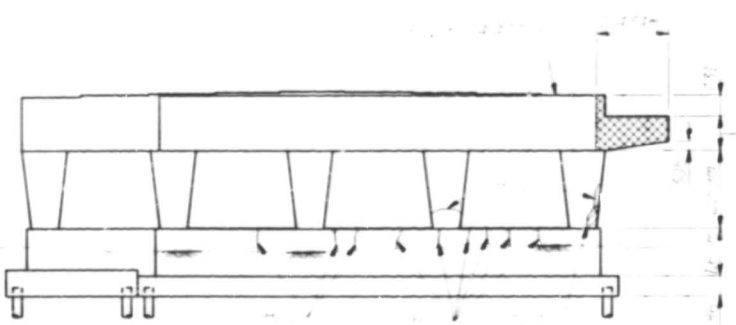
PIER 2 PLAN (S.B.)



PIER 2 ELEVATION (S.B.)

END VIEW

END VIEW



PIER 1 ELEVATION (S.B.)

END VIEW

PIER 2 ELEVATION (S.B.)

END VIEW

LEGEND

- Formed Concrete Repair
- Concrete Removal
- Crack Length to be Repaired
- H.L. Hairline Crack
- L.e. Leaching Hairline Crack

Notes:

- Existing reinforcement bars extending into the removal area, shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be repaired with an approved bar splicer or anchorage system. Cost shall be included in the cost of Concrete Removal.
- All dimensions are in millimeters (mm) except as noted.
- Areas are in square meters (m²).
- Cracks widths shown to be repaired are 3mm, 2mm unless otherwise noted.

DESIGNED	EKM
CHECKED	JIG
GRAB	DCP
CHECKED	AM

BILL OF MATERIAL

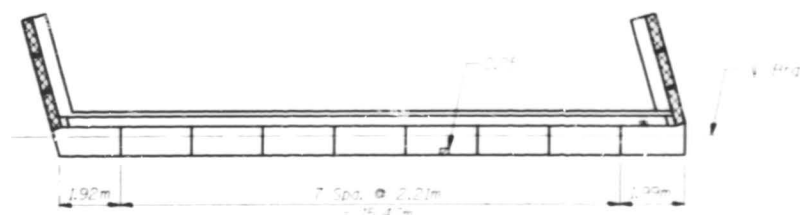
Item	Unit	Total
Formed Concrete Repair < 125 mm	Sq. m	4.5
Concrete Removal	Cu. m	15.9
Epoxy Crack Sealing	m	0.4

SUBSTRUCTURE REPAIRS I (SOUTHBOUND)
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

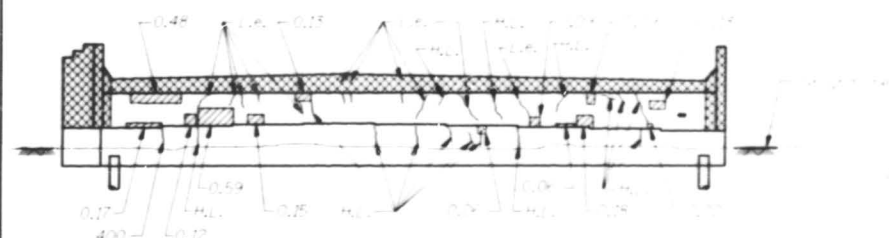
PB PARSONS
BRINCKERHOFF

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

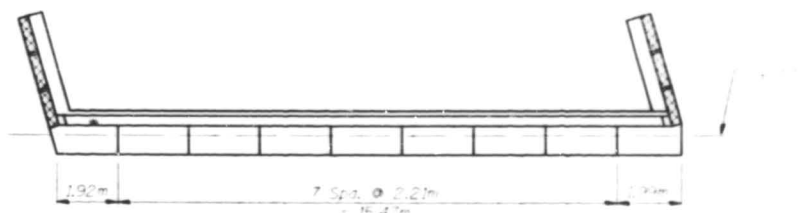
PROJECT NO.	SECTION	DATE	BY	CHKD	APP'D	SHEET NO. 39
F.A.I. 290	**	COOK	10-1	668		SHEETS 45
** 22-1-2, 0103-30, & 0305-3 E.T.A.						



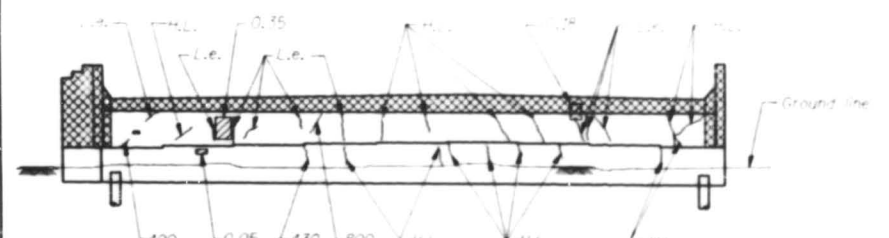
NORTH ABUTMENT PLAN (N.B.)



NORTH ABUTMENT ELEVATION (N.B.)



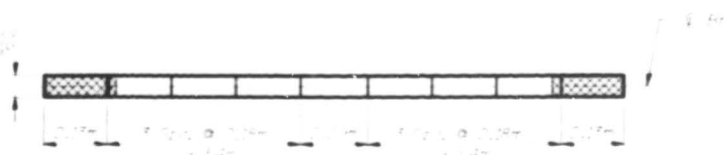
SOUTH ABUTMENT PLAN (N.B.)



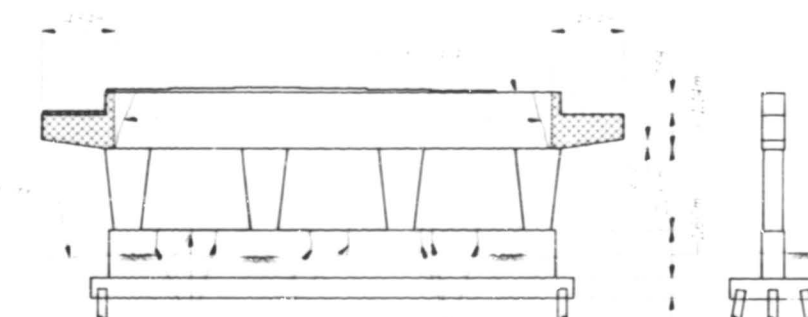
SOUTH ABUTMENT ELEVATION (N.B.)
(Looking South)

BILL OF MATERIAL

Item	Unit	Total
Formed Concrete Repair < 125 mm	Sq. m	3.3
Concrete Removal	Cu. m	24.9
Epoxy Crack Sealing	m	2.8

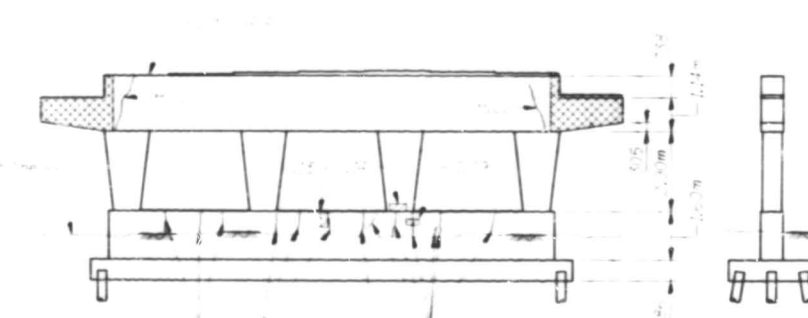


PIER 1 PLAN (N.B.)



PIER 1 ELEVATION (N.B.)

END VIEW
(Looking North)

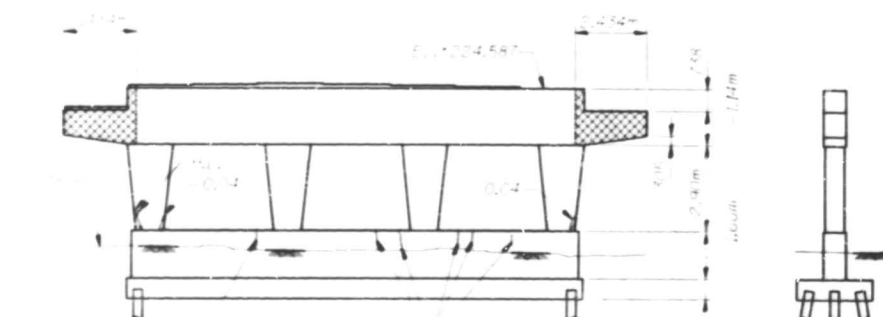


PIER 1 ELEVATION (N.B.)
(Looking South)

END VIEW
(Looking East)

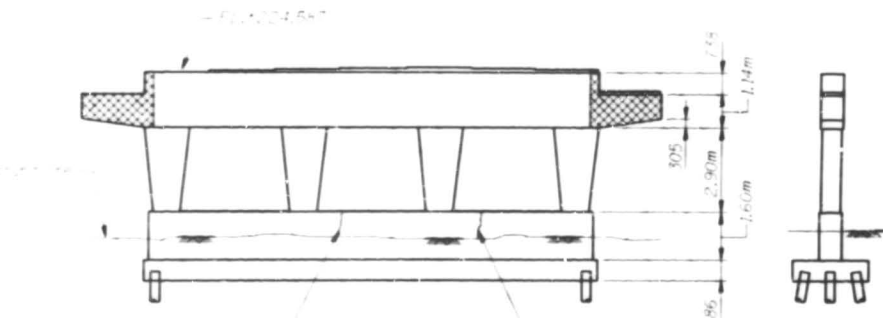


PIER 2 PLAN (N.B.)



PIER 2 ELEVATION (N.B.)
(Looking North)

END VIEW
(Looking West)



PIER 2 ELEVATION (N.B.)
(Looking South)

END VIEW
(Looking East)

LEGEND

- Formed Concrete Repair
- Concrete Removal
- Crack Length to be Repaired
- H.L. Hairline Crack
- L.e. Leaching Hairline Crack

NOTES

- Existing reinforcement bars extending into the removal area, shall be cleaned by straightend and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included in the cost of Concrete Removal.
- All dimensions are in millimeters (mm) except as noted.
- Areas are in square meters (m²).
- Cracks widths shown to be repaired are 3mm - 2mm unless otherwise noted.

SUBSTRUCTURE REPAIRS II (NORTHBOUND)
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

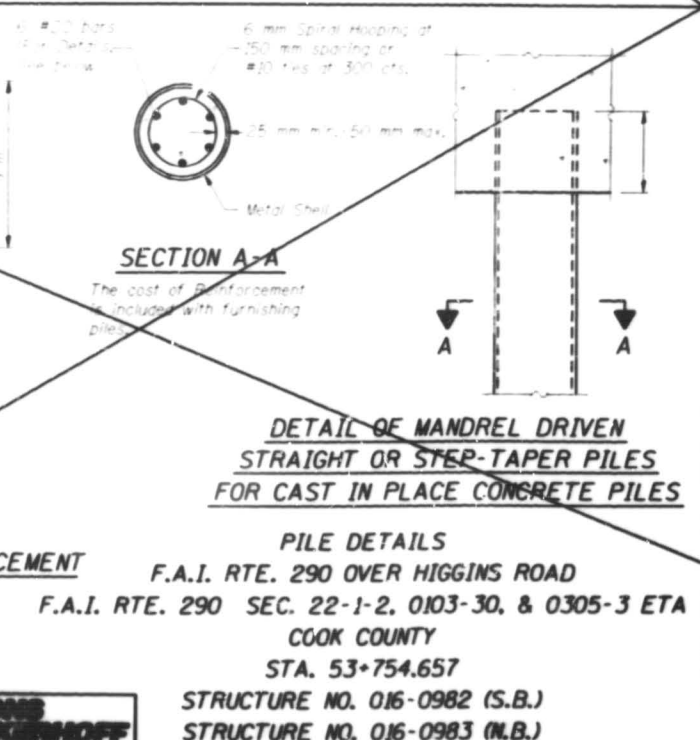
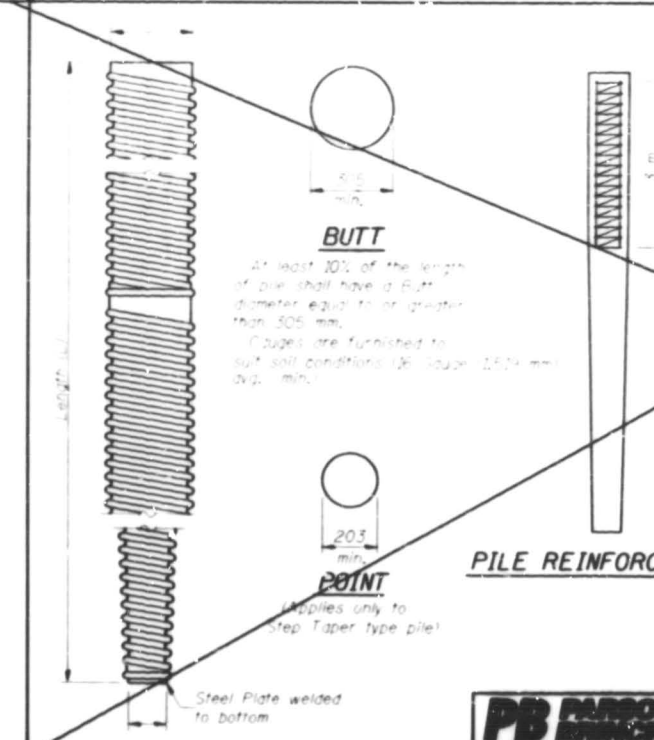
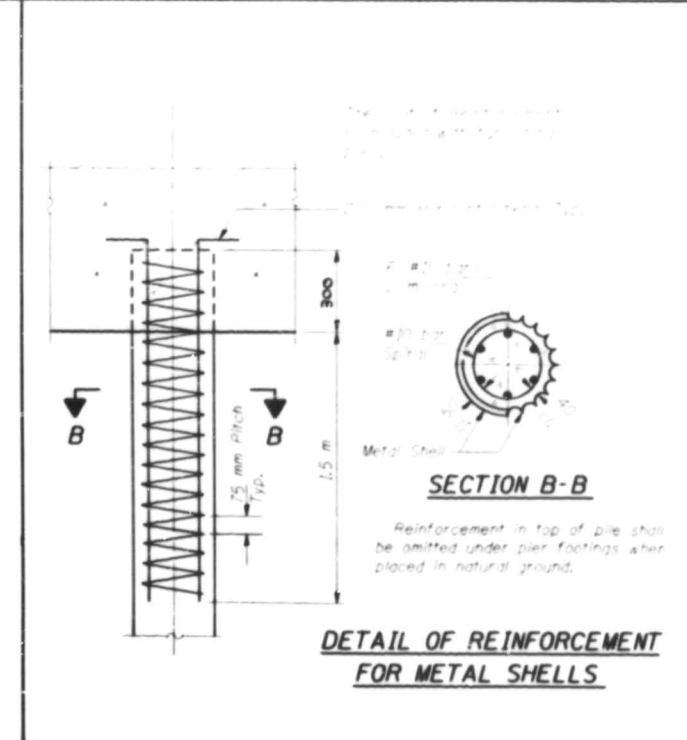
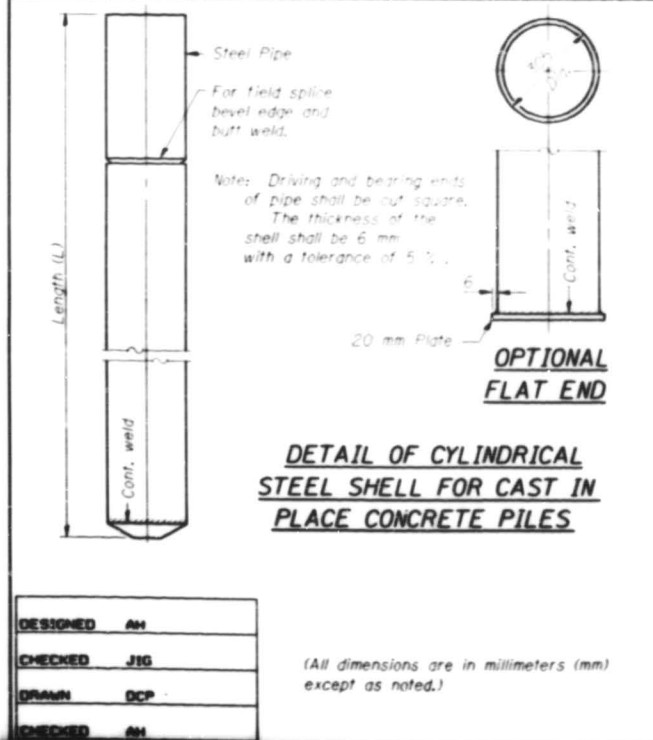
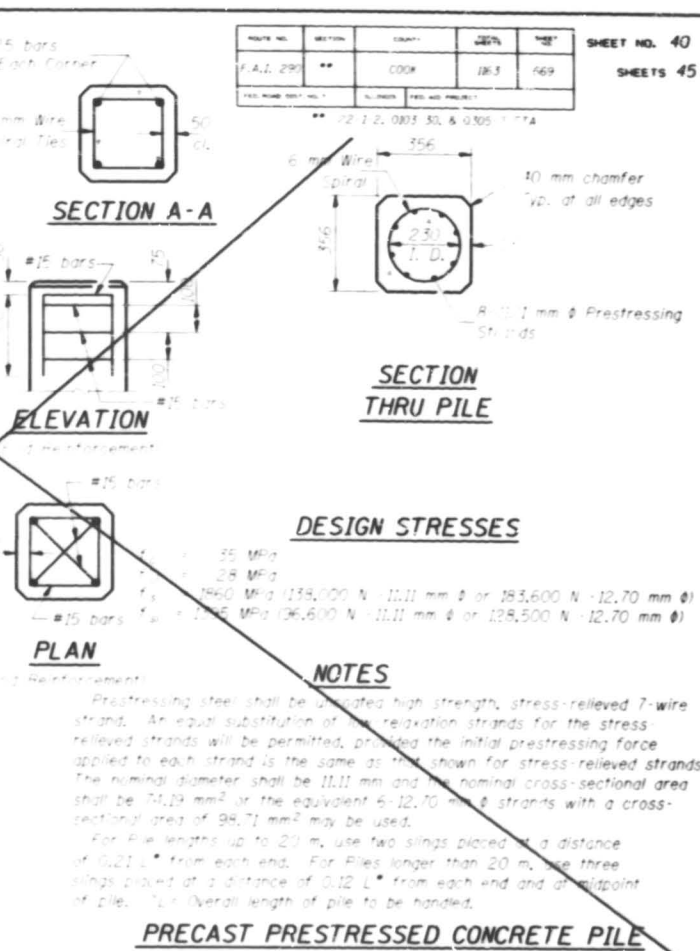
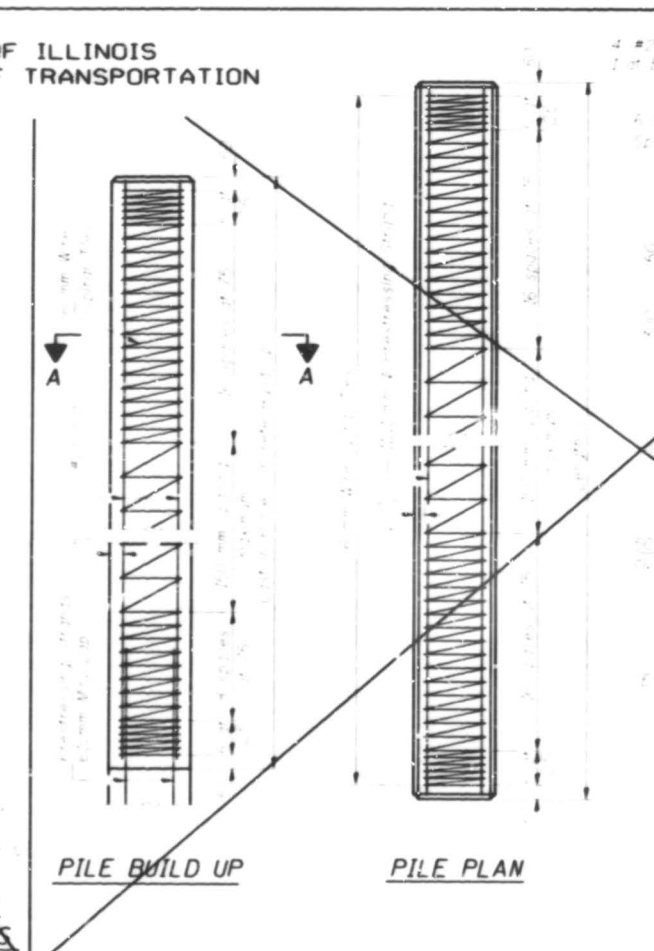
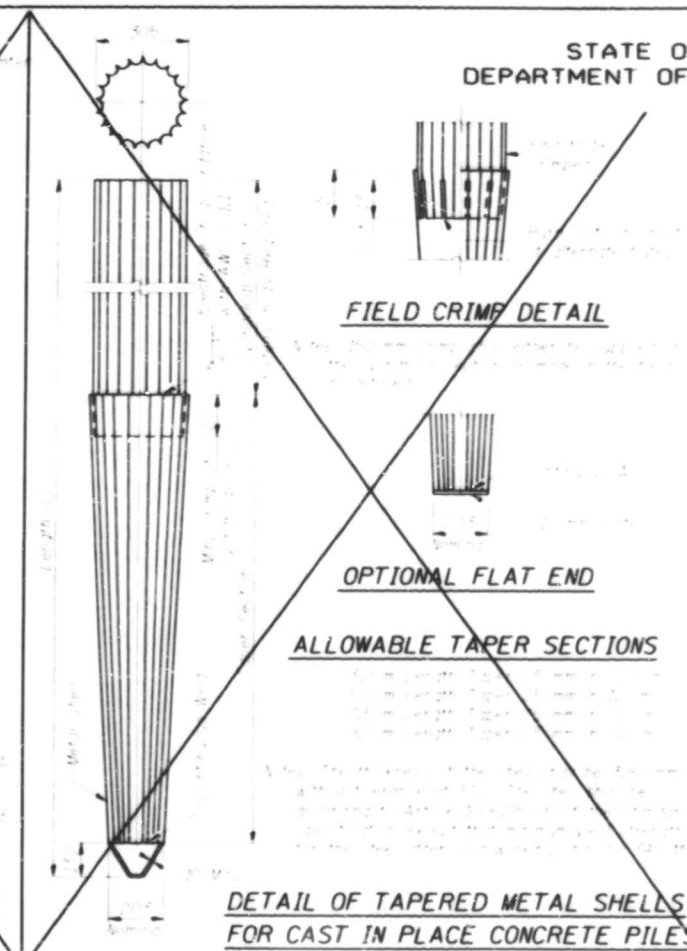
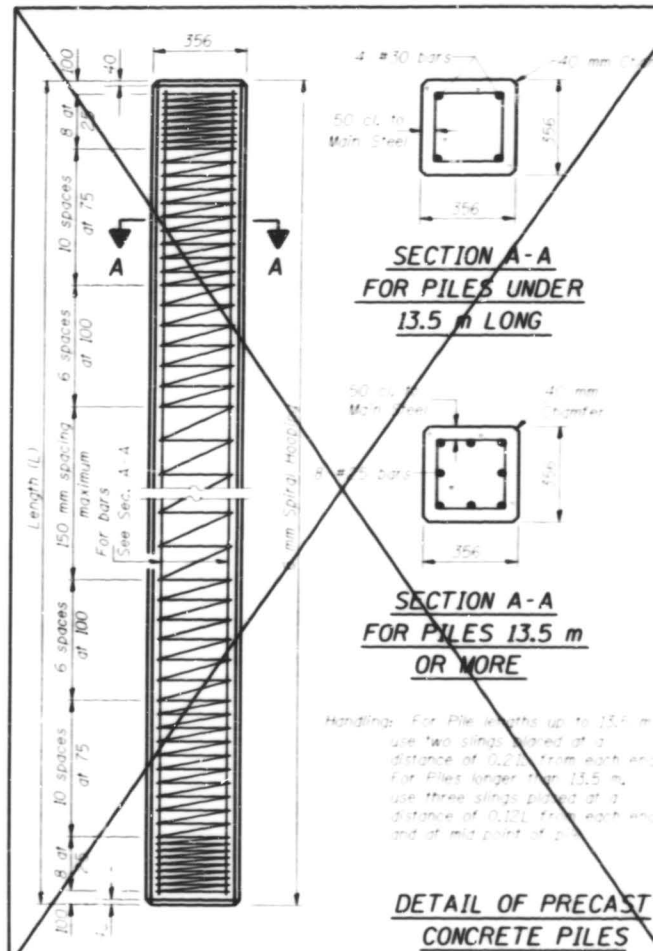
PP PARTNER
BIRCHENHOFF

FILENAME: G:\16772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIG. SBREPAIR02.DGN 6/4/02:13:34:16

DESIGNED	EXH
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 40
SHEETS 45



DESIGNED	AM
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

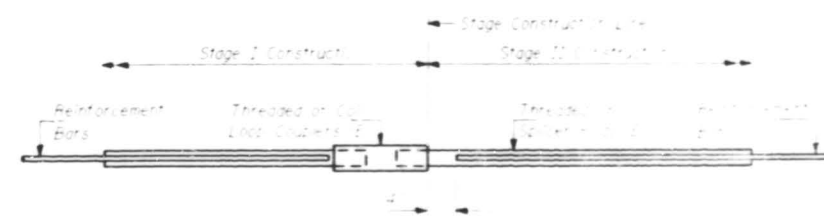
(All dimensions are in millimeters (mm) except as noted.)

PILE DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

PB CARROLL ENGINEERING

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	SPAN	DATE	SHEET NO.
F.A.I. 290	**	COOK	10/3	670
SHEETS 45				



BAR SPLICER ASSEMBLY DETAIL

The diameter of the splicer shall be equal or larger than the diameter of the bars.

ROLLED THREAD DOWEL BAR



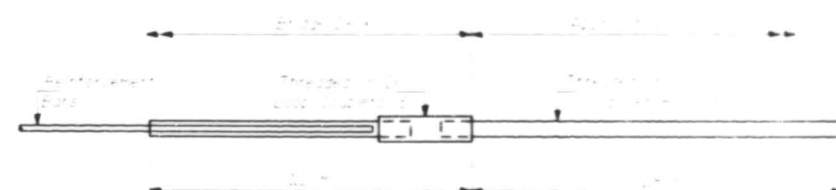
** ONE PIECE



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

** See Appendix A for details of alternative methods.



INTEGRAL ABUTMENT
BAR SPLICER ASSEMBLY DETAIL
FOR #15 BAR

Min. Capacity = 200 kN (tension)
Min. Full-out Strength = 400 kN (tension)
N. Required = 1

INSTALLATION AND SETTING METHODS

See Appendix B for details of installation and setting methods.

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 400 MPa yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on verified test results from an approved testing laboratory that the proposed system satisfies the following requirements:

- Minimum Capacity = $1.25 \times A_s \times f_y \times A_r$
- Minimum Full-out Strength = $2.5 \times A_s \times f_y \times A_r$
- Capacity = $A_s \times f_y \times A_r$

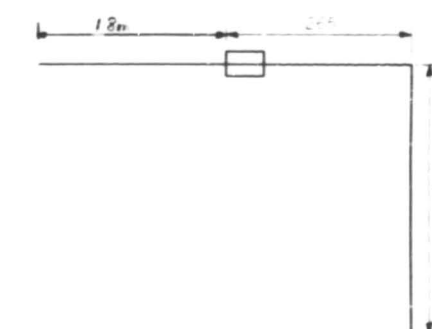
Where f_y = yield strength of lapped reinforcement bars in MPa.
 f_{allow} = Allowable tensile stress in lapped reinforcement bars in MPa (Service Load)
 A_r = Tensile stress area of lapped reinforcement bars (mm²).
 A_s = Bar area (mm²).

BAR SPLICER ASSEMBLY			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kN (tension)	Min. Full-out Strength kN (tension)
#3	640 mm	200	400
#4	760 mm	250	500
#5	1.30 m	300	600
#6	1.60 m	350	700

Splicer assemblies shall be installed according to Section 506 of the Standard Specifications.

Capacity and full-out strength of bar splicer assemblies will be measured and reported on the contract unit price book for BAR SPLICERS.

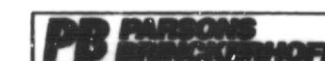
Splicer assemblies shall be tested and approved before use.



BENT BAR SPLICER ASSEMBLY

Bar Size	N. Required	Location
#3	75	N.ABUT. (S.B.)
#4	75	N.ABUT. (S.B.)
#5	75	S.ABUT. (N.B.)
#6	75	N.ABUT. (N.B.)

BAR SPLICER ASSEMBLY DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



DESIGNED	AH
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

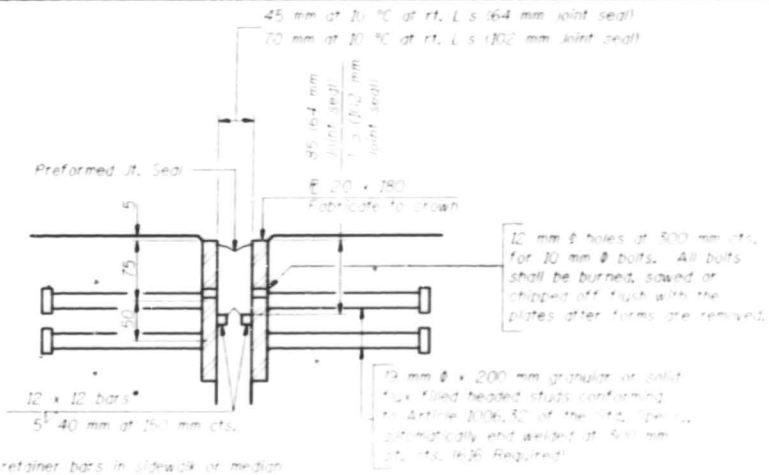
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	LOCATION	DATE	SHEET NO.
F.A.I. RTE. 290	**	COOK	08/01	42
DATE PREPARED	BY	DATE CHECKED	BY	
08/01/02	PP	08/01/02	PP	

SHEET NO. 42
SHEETS 45

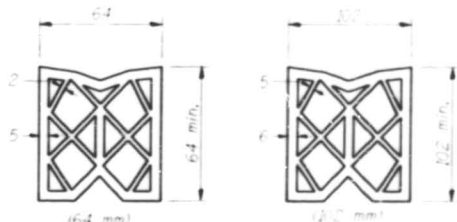
GENERAL NOTES

Supply steel plates in segments of 6 m maximum length. Maximum space between installed segments shall be 5 mm. Seal space with silicone sealant suitable for structural steel.
All dimensions are in millimeters (mm) except as noted.

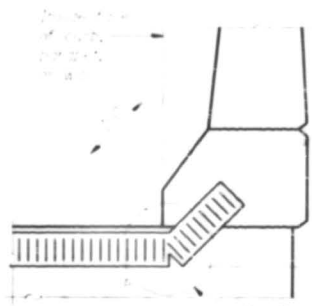


*Cut retainer bars in sidewalk or median 150 mm short of the sidewalk or median face.

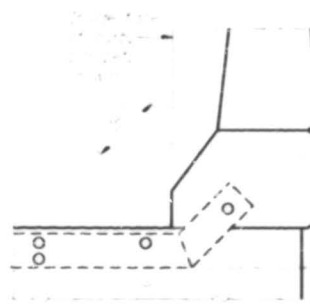
SECTION THRU EXPANSION JOINT
(64 mm and 102 mm joint seals)



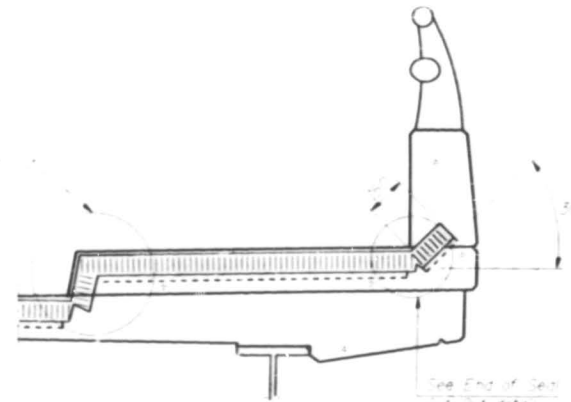
PREFORMED JOINT SEAL



AT CURB, PARAPET, OR WALL

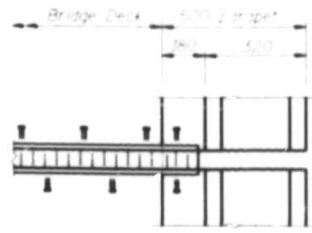


AT CURB, PARAPET, OR WALL

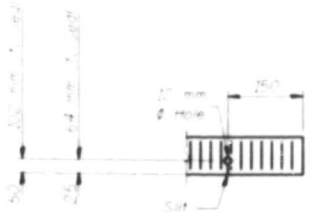


AT SIDEWALK OR MEDIAN

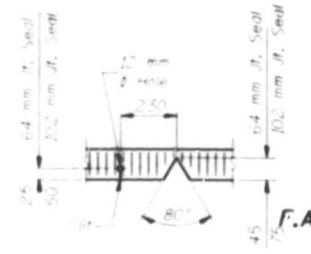
TYPICAL END TREATMENTS



PLAN AT PARAPET



END OF SEAL CUT-OUT

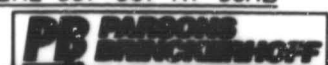


SEAL CUT-OUT AT CURB

BILL OF MATERIAL

Item	Unit	Total
Bridge Joint System (Expansion), 25mm	m	46.0

BRIDGE JOINT SYSTEM - EXPANSION
(PREFORMED JOINT SEAL) (Sheet 1 of 2)
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

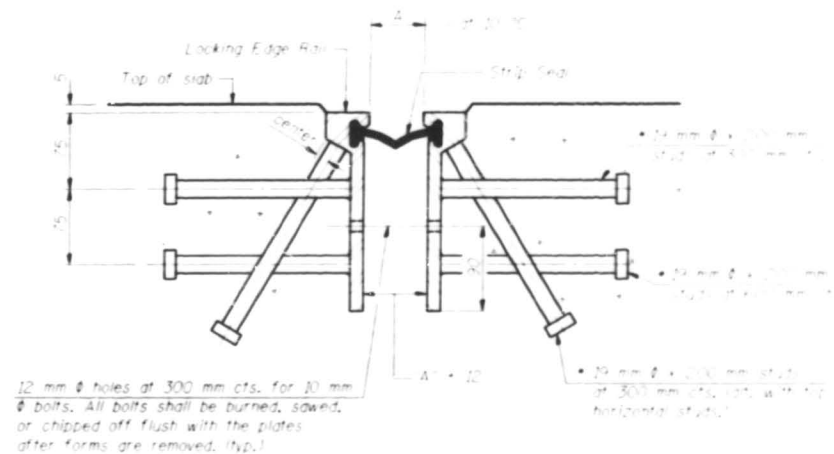


FILENAME: G:\67722\STRUCT\ADD\HIGGINS NB\5-FINAL\HIG.BUSYS.PRE.DGN; 6/4/02 1:37:45

DESIGNED	AM
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

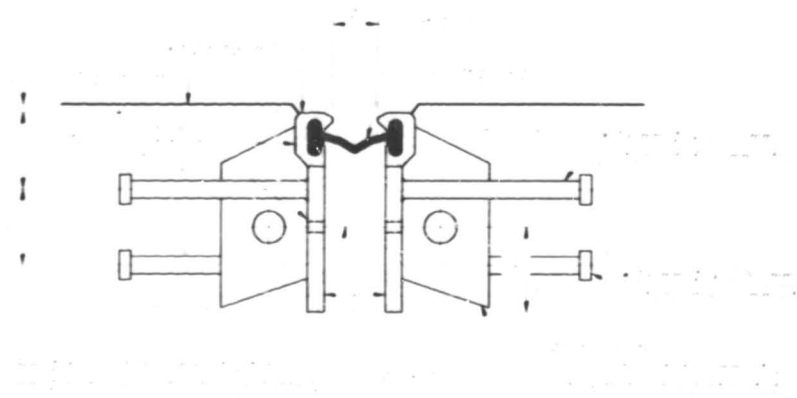
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	DATE	BY	SHEET NO. 43
F.A.I. RTE. 290	**	COOK	08.9	472	SHEETS 45
FILE NAME: G:\16772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIG.BUSYS.AL.T.DGN	FILE NO. 016-0982	FILE NO. 016-0983	** 22-1-2, 0103-30, & 0305-3		



SECTION THRU ROLLED RAIL EXP. JOINT
(Note: Study Required)

Required Strip Seal Dimensions	Typical
14 mm x 100 mm	1
20 mm x 100 mm	2



SECTION THRU WELDED RAIL EXP. JOINT

GENERAL NOTES

The strip seal shall be made continuous and shall have a minimum thickness of 6 mm. The configuration of the strip seal shall match the configuration of the Locking Edge Rail.

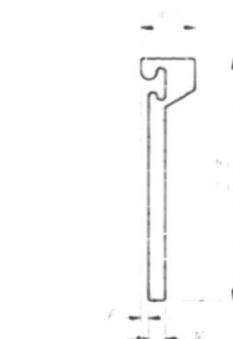
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The strip seal portion of the Locking Edge Rail and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not fit well.

Locking Edge Rails may be drilled at slope discontinuities and stage construction joints.

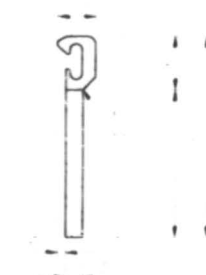
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor wants to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed in this sheet. Required modifications shall be made at the planning post to the State.

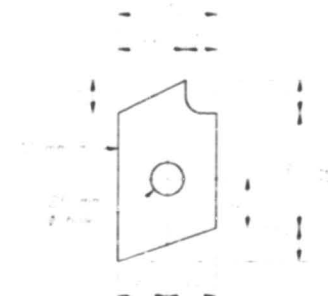
Dimensions are in millimeters, except as noted.



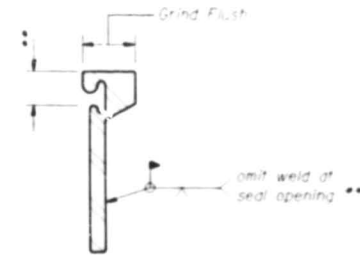
ROLLED (EXTRUDED) RAIL



WELDED RAIL



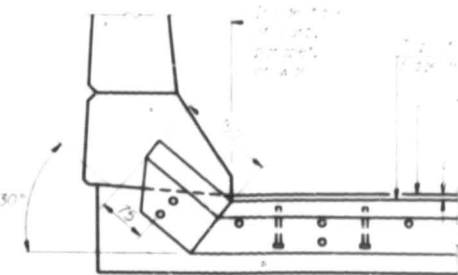
ANCHOR PLATE



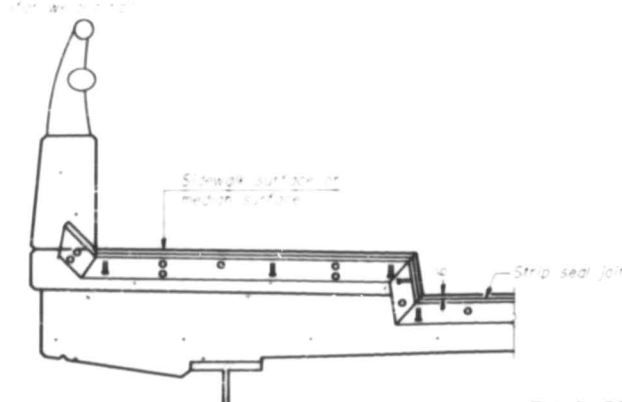
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

LOCKING EDGE RAILS



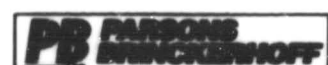
AT CURB, PARAPET, OR WALL



AT SIDEWALK OR MEDIAN

TYPICAL END TREATMENTS

BRIDGE JOINT SYSTEM - EXPANSION
(ALTERNATE-STRIP SEAL) (Sheet 2 of 2)
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



DESIGNED	AM
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

BORING HR-1

BORING HR-2

Everett Engineering Company STRUCTURE BORING LOG									
ROUTE <u>FM 288</u>		DESCRIPTION <u>SOIL BORING FOR FOUNDATION ROAD BRIDGE</u>		Page <u>1</u>					
SECT <u>288-000-100</u>		STRUCT NO <u>288-000-100</u>		DRAWD BY <u>K.A. BISHOP, INC.</u>					
COUNTY <u>CODE</u>	LOCATION <u>288-000-100</u>	S <u>W</u> TWP <u>32N</u> R <u>10E</u> T <u>12E</u>							
Boring No <u>288-2</u>	D <u>2</u>	S <u>1</u>	W <u>1</u>	Surface Water Elev <u>210.2</u>	D <u>2</u>				
Station <u>328+1.1</u>	E <u>1</u>	L <u>0</u>	W <u>1</u>	Groundwater Elev <u>210.1</u>	E <u>1</u>				
Offset <u>328+1.1</u>	T <u>1</u>	H <u>0</u>	S <u>1</u>	when drilling <u>210.1</u>	T <u>1</u>				
Surface Elev <u>210.2</u> m	Cu <u>0</u>		W <u>1</u>	at Completion <u>210.1</u>	Cu <u>0</u>				
	SPs <u>0</u>		% <u>0</u>	Yes <u>0</u>	W <u>1</u>				
CONCRETE PRESENT 210.14									
CRUSHED AGGREGATE 210.01									
fine sand and gravel									
PSL									
Very Wet Brown and Gray SILTY CLAY									
fines sand and gravel									
10 207 10									
11 7 0									
12 300 10									
13 7 0									
14 10 0									
15 300 10									
16 7 0									
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SHEET NO. 44
SHEETS 45

**PB PARSONS
BRINCKERHOFF**

BORING HR-3

BORING HR-4

WATER NO.	SALT TON	COUNT	WATER NO.	SHEET NO.
1.1.1.1.1.1	**	1000	1.1.1.1.1.1	474
1.1.1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1.1

PB PARSONS
BRUCKENHOFF