

Review ONLY
F.A.I. 290 COOK (22-1-2, 0103-301, & 0305-3) I & R
11-8-2002

INDEX OF SHEETS, SEE SHEET NO. 2

IMPROVEMENT LOCATED IN THE VILLAGE OF SCHAUMBURG,
VILLAGE OF ELK GROVE VILLAGE AND THE VILLAGE OF ITASCA

FIG. DATA - ADT 2020

107,025 - SB I-290 (IL 53) BETWEEN THORNDALE AVE
AND HIGGINS RD.
105,975 - NB I-290 (IL 53) BETWEEN THORNDALE AVE
AND HIGGINS RD.

DESIGN SPEED = 100 Km/h (60 mph)
POSTED SPEED = 90 Km/h (55 mph)

DESCRIPTION OF IMPROVEMENT:

PROPOSED IMPROVEMENT CONSISTS OF PAVEMENT RESURFACING,
RECONSTRUCTION, PROVIDING A WIDENED PAVEMENT SECTION WITHIN
CONTRACT LIMITS. ADDITIONAL WORK INCLUDES: RAMP IMPROVEMENTS,
M. SEWER AND DITCH DRAINAGE IMPROVEMENTS, CURB AND GUTTER
INSTALLATION, HIGGINS ROAD AND NB WOODFIELD ROAD BRIDGE WIDENING,
N AVENUE BRIDGE PIER AND SLOPE WALL REHABILITATION, UNDER-BRIDGE
PAINTING, ROADWAY LIGHTING, PAVEMENT MARKING, SIGNING AND OTHER RELATED
ROADWAY IMPROVEMENTS

METRIC RATIOS

0 2 m
1:50

0 5 m 10 m
1:100

0 20 m
1:250

0 20 m
1:500

0 50 m 100 m
1:1000

ALL SIZE PLANS HAVE BEEN PREPARED USING STANDARD

95%
1-15-2004

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY

F.A.I. 290/F.A.P. 870 (I-290/IL 53)

THORNDALE AVENUE TO ILLINOIS 58 (GOLF ROAD)

SECTION: (22-1-2, 0103-301, & 0305-3 ETA)

RECONSTRUCTION, BRIDGE REHABILITATION,

LIGHTING & RESURFACING

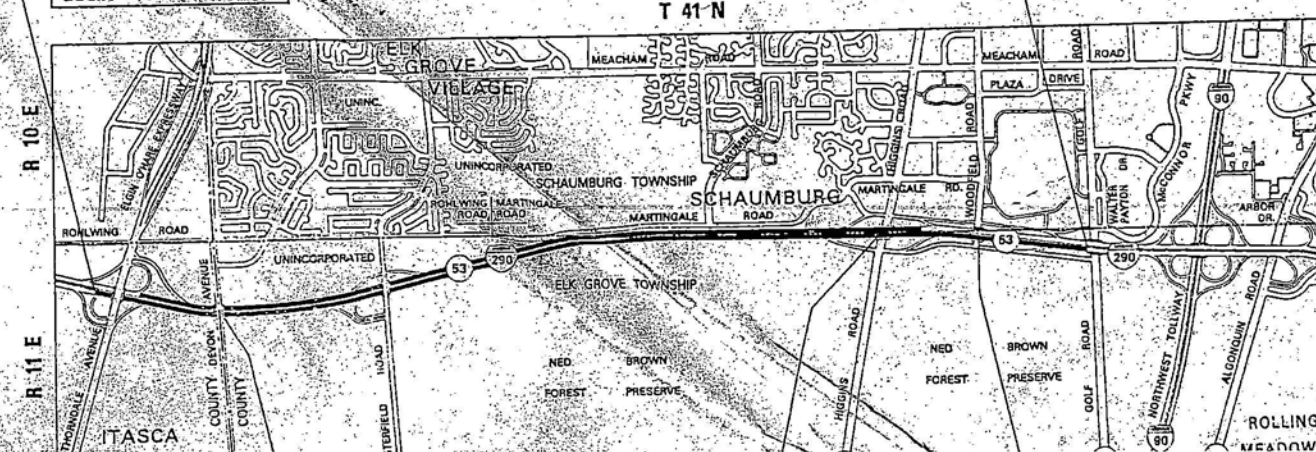
COOK & DUPAGE COUNTIES

C-91-316-97

VOLUME 1

F.A.I. 290 (IL 53)
IMPROVEMENT LIMIT
BEGIN STA. 147+924.633

F.A.I. 290 (IL 53)
IMPROVEMENT LIMIT
END STA. 155+274.441



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
290	#	COOK, DUPAGE	1163
D-81-316-97 * (22-1-2, 0103-301, & 0305-3 ETA)			



LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED May 20, 2002
A. J. R. K. DISTRICT ENGINEER

August 16, 2002
Michael R. K.
ENGINEER OF DESIGN AND ENVIRONMENT

August 16, 2002
James R. S. P.
DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SHEET NO.	DATE	BY	CHECKED	APPROVED
F.A.I. 290	2	000	000	000	000
22-1-2, 0103-30, & 0305-3 ETA					

SHEET NO. 2
SHEETS 45

GENERAL NOTES

- Fasteners shall be high strength bolts. Bolts M 20, open holes 22 mm ϕ , unless otherwise noted.
- Calculated mass of Structural Steel = 461,670 kg. (M270 M Grade 345).
- Calculated mass of Structural Steel = 43,440 kg. (M270 M Grade 250).
- Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange of spans 1 and 3 and for a distance equal to one-fourth the span length from the pier supports in span 2. Field welding in other areas will be permitted only when approved by the Engineer.
- Anchor bolts shall be set before bolting diaphragms over supports.
- The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the web and tension flange of the plate girder and all splice plate material except fill plates.
- Reinforcement bars shall conform to the requirements of AASHTO, M 31M, M 42M or M 53M Grade 400.
- Slope wall shall be reinforced with welded wire fabric, 152x152 - MW25.8xMW25.8 with a mass of 2.91 kg/m².
- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 3 mm. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 3 mm adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, two 3 mm adjusting shims shall be provided for each bearing and placed as detailed.
- The contractor shall drive one 305 mm ϕ metal shell test pile with 6 mm wall in a permanent location at both abutments and piers of NB Structure, 4 locations, as directed by the Engineer before ordering the remainder of the piles.
- Bridge Seat Sealer shall be applied to the seat area of the new portions of South and North abutments.
- When the deck pour is stopped for the day at one or more of the Transverse Bonded Construction joints in the deck Pouring Sequence as shown, the next pour shall not be made until both of the following requirements are met:
 - At least 72 hours shall have elapsed from the end of the previous pour.
 - The concrete strength shall have attained a minimum modulus of rupture of 4.5 MPa or a minimum compressive strength of 24 MPa.
- All dimensions are in millimeters (mm) except as noted.
- The Inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be Light Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, 2.5 YR 3/4. See Special Provision for "Cleaning and Painting New Metal Structures."
- The existing structural steel coating contains lead. the Contractor should take appropriate precautions to deal with the presence of lead on this project.

DESIGNED	AM/EKM
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

- The SS PC-QP 1. Existing Contractor Certification will not be required for this bridge.
- The intermediate and final coats of paint shall be applied in the shop.

INDEX OF SHEETS

- General Plan & Elevation
- General Notes & Bill of Material
- Stage Construction
- Temporary Concrete Barrier
- Top of Slab Elevations Layout
- Top of Slab Elevations I
- Top of Slab Elevations II
- Top of Slab Elevations III
- Top of Slab Elevations IV
- Superstructure
- Superstructure Details I
- Superstructure Details II
- Superstructure Details III
- Neoprene Expansion Joint Detail
- Drainage Scupper, DS-23
- Framing Plan
- Structural Steel Details I
- Structural Steel Details II
- Elastomeric Bearing Assembly Type I
- Elastomeric Bearing Assembly Type II
- Anchor Bolt Details for Bearings
- Southbound South Abutment Widening
- Southbound South Abutment Details
- Southbound North Abutment Widening
- Southbound North Abutment Details
- Southbound Pier 1 Widening
- Southbound Pier 1 Details
- Southbound Pier 2 Widening
- Southbound Pier 2 Details
- Northbound South Abutment Widening
- Northbound South Abutment Details
- Northbound North Abutment Widening
- Northbound North Abutment Details
- Northbound Pier 1 Widening
- Northbound Pier 1 Details
- Northbound Pier 2 Widening
- Northbound Pier 2 Details
- Substructure Repairs I (Southbound)
- Substructure Repairs II (Northbound)
- Pile Details
- Bar Splicer Assembly Details
- Bridge Joint System-Expansion (Preformed Joint Seal)
- Bridge Joint System-Expansion (Alternate-Strip Seal)
- Boring Logs I
- Boring Logs II

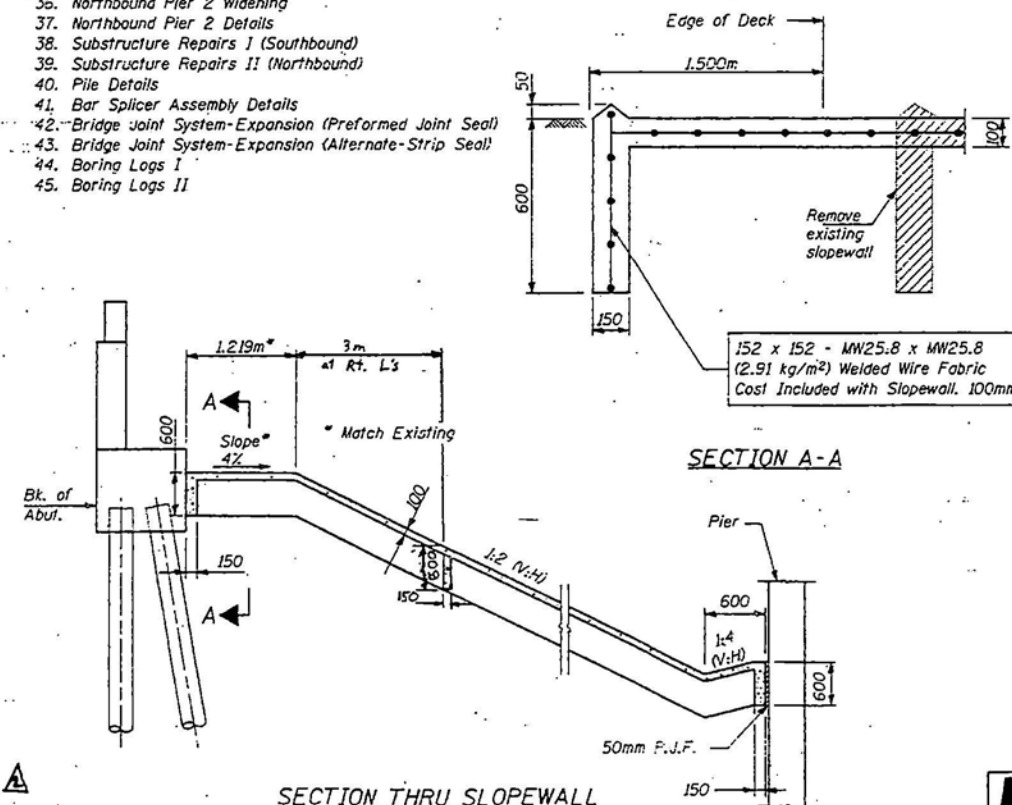
STATION 53+754.657
REBUILT 200 BY
STATE OF ILLINOIS
F.A.I. RTE. 290 SEC.
F.A. PROJ.
LOADING MS18 & ALT.
STR. NO. 016-0982

NAME PLATE
See Std. 515001

STATION 53+754.657
REBUILT 200 BY
STATE OF ILLINOIS
F.A.I. RTE. 290 SEC.
F.A. PROJ.
LOADING MS18 & ALT.
STR. NO. 016-0983

NAME PLATE
See Std. 515001

Note: Existing name plates shall be cleaned and relocated next to the name plate. Cost included in name plates.



TOTAL BILL OF MATERIAL
(Northbound and Southbound Structures)

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	2	—	2
Drainage Scuppers, DS-23	Each	12	—	12
Protective Shield	Sq. m	1,870	—	1,870
Slope Wall Removal	Sq. m	—	1,673	1,673
Concrete Removal	Cu. m	—	40.8	40.8
Structure Excavation	Cu. m	—	341	341
Bridge Joint System (Expansion) (25mm)	m	46.0	—	46.0
Floor Drains	Each	12	—	12
Elastomeric Bearing Assembly, Type I	Each	44	—	44
Elastomeric Bearing Assembly, Type II	Each	22	—	22
Neoprene Expansion Joint, 65mm	m	46.0	—	46.0
Concrete Structures	Cu. m	—	202.1	202.1
High Performance Concrete Superstructure	Cu. m	947.6	—	947.6
Trail Batch	Each	2	—	2
Bridge Deck Grooving	Sq. m	3002	—	3002
Protective Coat	Sq. m	3413	—	3413
Formed Concrete Repair <125mm	Sq. m	—	7.8	7.8
Stud Shear Connectors	Each	9644	—	9644
Furnishing & Erecting Structural Steel	L. Sum	1	—	1
Reinforcement Bars, Epoxy Coated	kg	114,560	18,070	132,630
Slope Wall, 100 mm	Sq. m	—	1767	1767
Furnishing Metal Pile Shells, 305mm	m	—	858.0	858.0
Driving and Filling Shells	m	—	858.0	858.0
Test Pile Metal Shells	Each	—	4	4
Name Plate	Each	2	—	2
Bridge Seat Sealer	Sq. m	—	10.3	10.3
Epoxy Crack Sealing	m	—	3.2	3.2
Bar Splicers	Each	—	292	292

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.)

PB PARSONS
BRINCKERHOFF

REVISED 10/15/02, BAN

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06-04-02

SHEET NO. 3
SHEETS 45



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.

LEGEND

 Hatched areas indicates Removal of Existing Superstructure

STAGE CONSTRUCTION
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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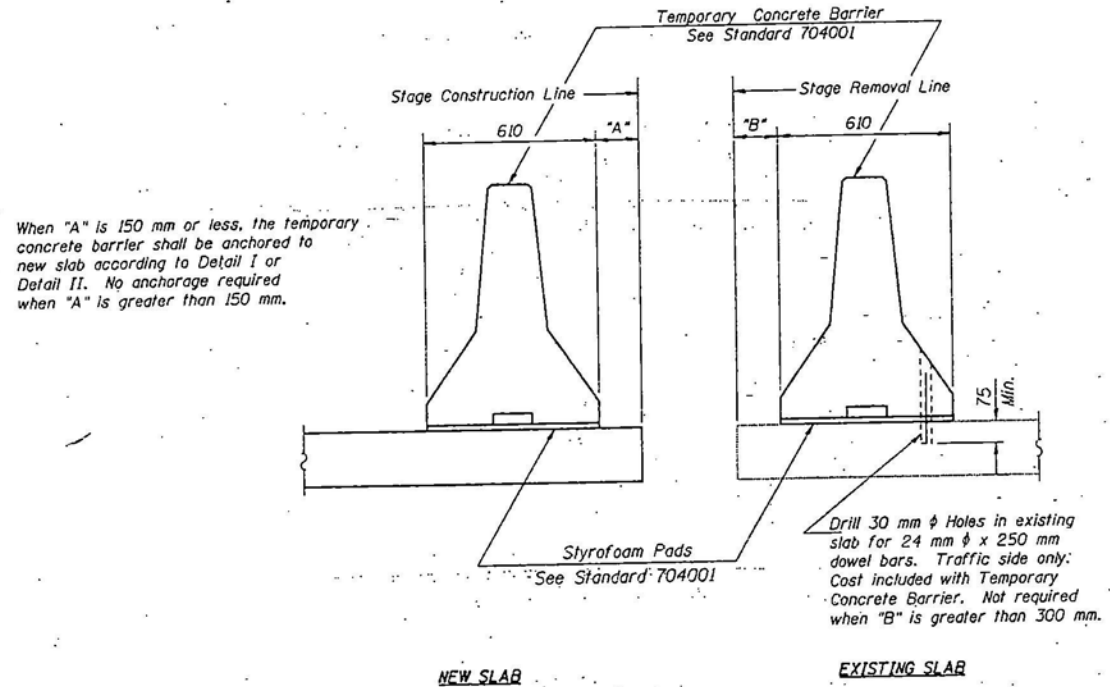
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CHECKED	JIG
DRAWN	DCP
CHECKED	AH

06-04-02

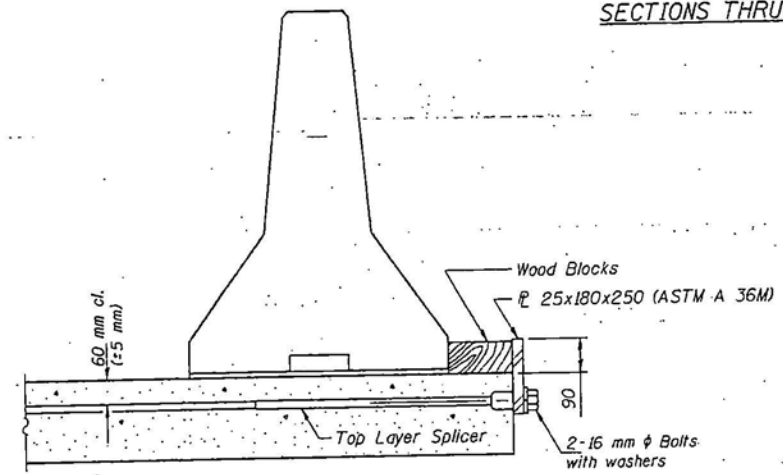
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SECTION	SHEET
F.A.I. 290	**	COOK	1153	633
FED. ROAD DIST. NO. 1				
** 22-1-2, 0103-30, & 0305-3 ETA				

SHEET NO. 4
SHEETS 45

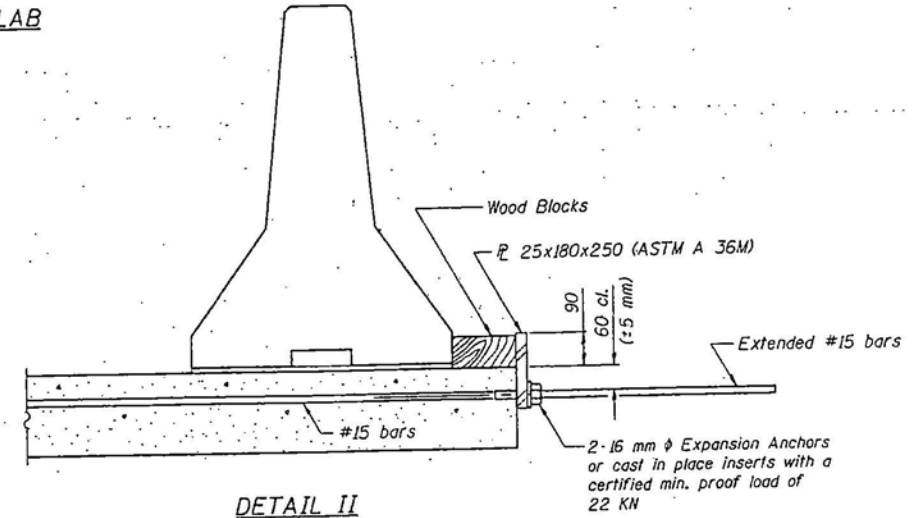


SECTIONS THRU SLAB



DETAIL I

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

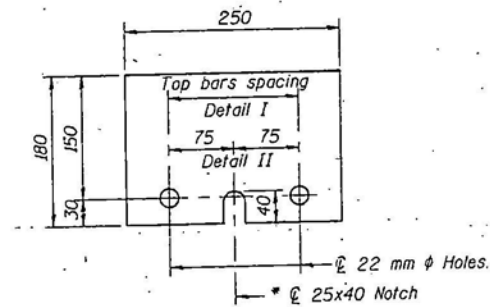


DETAIL II

The 25x180x250 Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

NOTES

- Detail I - With Bar Splicer or Couplers:
Connect one (1) 25x180x250 steel $\bar{P}$ to the top layer of couplers with 2-16 mm ϕ bolts screwed to coupler at approximate $\bar{C}$ of each 3 m barrier panel.
 - Detail II - With Extended Reinforcement Bars:
Connect one (1) 25x180x250 steel $\bar{P}$ to the concrete slab with 2-16 mm ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate $\bar{C}$ of each 3 m barrier panel.
- Cost of anchorage included with Temporary Concrete Barrier.
All dimensions are in millimeters (mm) except as noted.



$\bar{P}$ 25x180x250

* Required only with Detail II

DESIGNED	... AH
CHECKED	... JIC
DRAWN	... DCP
CHECKED	... AH

06-04-02



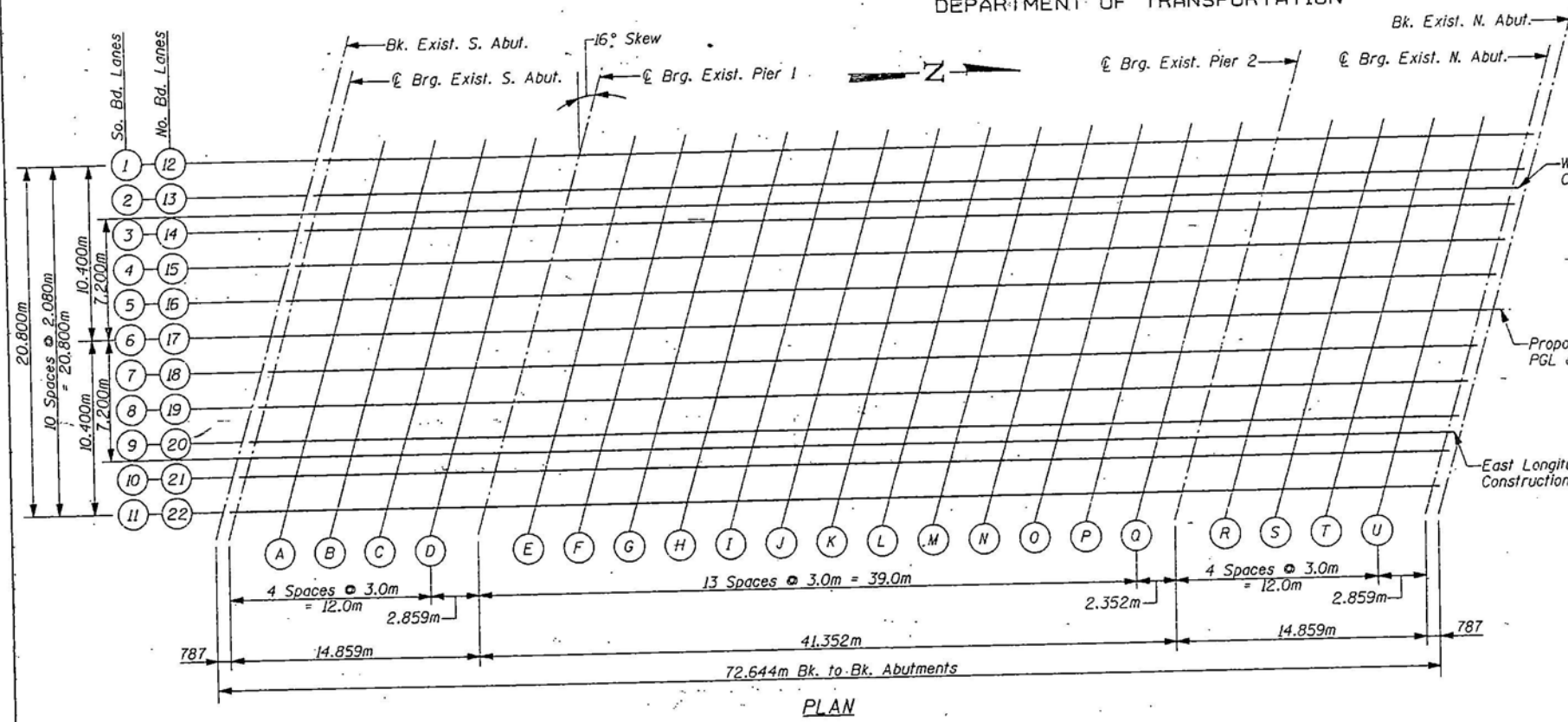
TEMPORARY CONCRETE BARRIER
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

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DESIGNED	KM
CHECKED	SET
DRAWN	KM
CHECKED	AH

06-04-02

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

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
€ Brg. 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
€ Brg. 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
€ Brg. 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
€ Brg. 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
€ Brg. S. Abut.	253+725.820	-8.320	225.970	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
€ Brg. 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
€ Brg. 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
€ Brg. N. Abut.	253+796.990	-8.320	226.287	226.287
Bk. N. Abut.	253+797.677	-8.320	226.290	226.290

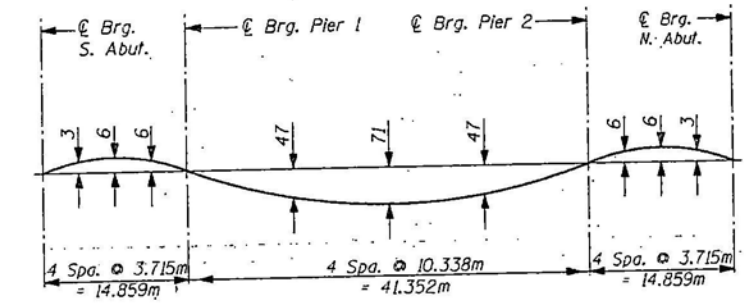
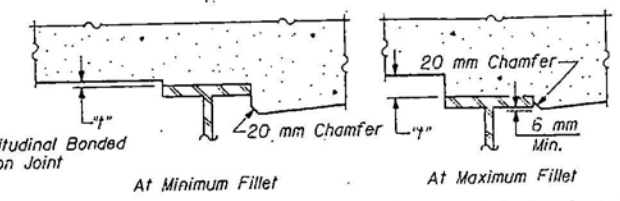
Notes:

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

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

To determine "t": 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 "t" 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.

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.)



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	POST
F.A.I. 290	**	COOK	11/03	635
PRELIMINARY SHEET NO. 1				
** 22-1-2, 0103-30, & 0305-3 ETA				

SHEET NO. 6
SHEETS 45

SB WEST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+724.712	-7.200	225.986	225.986
Br. S. Abut.	253+725.499	-7.200	225.991	225.991
A	253+728.499	-7.200	226.008	226.006
B	253+731.499	-7.200	226.026	226.020
C	253+734.499	-7.200	226.042	226.035
D	253+737.499	-7.200	226.059	226.053
E	253+740.358	-7.200	226.074	226.074
F	253+743.358	-7.200	226.090	226.102
G	253+746.358	-7.200	226.105	226.131
H	253+749.358	-7.200	226.120	226.160
I	253+752.358	-7.200	226.135	226.188
J	253+755.358	-7.200	226.149	226.211
K	253+758.358	-7.200	226.163	226.231
L	253+761.358	-7.200	226.176	226.247
M	253+764.358	-7.200	226.190	226.253
N	253+767.358	-7.200	226.202	226.262
O	253+770.358	-7.200	226.215	226.267
P	253+773.358	-7.200	226.227	226.265
Opt. Trans. Jt.	253+776.358	-7.200	226.239	226.262
Q	253+779.358	-7.200	226.250	226.260
Br. Pier 2	253+781.710	-7.200	226.259	226.259
R	253+784.710	-7.200	226.270	226.264
S	253+787.710	-7.200	226.280	226.273
T	253+790.710	-7.200	226.290	226.284
U	253+793.710	-7.200	226.300	226.298
Br. N. Abut.	253+796.569	-7.200	226.309	226.309
Bk. N. Abut.	253+797.356	-7.200	226.311	226.311

GIRDER 3

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+724.436	-6.240	226.004	226.004
Br. S. Abut.	253+725.223	-6.240	226.009	226.009
A	253+728.223	-6.240	226.026	226.024
B	253+731.223	-6.240	226.043	226.037
C	253+734.223	-6.240	226.060	226.053
D	253+737.223	-6.240	226.076	226.070
E	253+740.082	-6.240	226.092	226.092
Br. Pier 1	253+743.082	-6.240	226.108	226.120
F	253+746.082	-6.240	226.123	226.149
G	253+749.082	-6.240	226.138	226.178
H	253+752.082	-6.240	226.153	226.206
I	253+755.082	-6.240	226.167	226.229
J	253+758.082	-6.240	226.181	226.249
K	253+761.082	-6.240	226.194	226.265
L	253+764.082	-6.240	226.208	226.276
M	253+767.082	-6.240	226.221	226.281
N	253+770.082	-6.240	226.233	226.285
O	253+773.082	-6.240	226.245	226.283
P	253+776.082	-6.240	226.257	226.280
Opt. Trans. Jt.	253+779.082	-6.240	226.268	226.278
Q	253+781.434	-6.240	226.277	226.277
Br. Pier 2	253+784.434	-6.240	226.288	226.282
R	253+787.434	-6.240	226.298	226.291
S	253+790.434	-6.240	226.308	226.302
T	253+793.434	-6.240	226.318	226.316
U	253+796.293	-6.240	226.327	226.327
Br. N. Abut.	253+797.080	-6.240	226.329	226.329

GIRDER 4

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+723.840	-4.160	226.042	226.042
Br. S. Abut.	253+724.627	-4.160	226.047	226.047
A	253+727.627	-4.160	226.064	226.062
B	253+730.627	-4.160	226.081	226.075
C	253+733.627	-4.160	226.098	226.091
D	253+736.627	-4.160	226.115	226.109
E	253+739.486	-4.160	226.130	226.130
Br. Pier 1	253+742.486	-4.160	226.146	226.158
F	253+745.486	-4.160	226.161	226.187
G	253+748.486	-4.160	226.177	226.217
H	253+751.486	-4.160	226.191	226.244
I	253+754.486	-4.160	226.206	226.268
J	253+757.486	-4.160	226.220	226.288
K	253+760.486	-4.160	226.233	226.304
L	253+763.486	-4.160	226.247	226.315
M	253+766.486	-4.160	226.260	226.320
N	253+769.486	-4.160	226.272	226.324
O	253+772.486	-4.160	226.284	226.322
P	253+775.486	-4.160	226.296	226.319
Opt. Trans. Jt.	253+778.486	-4.160	226.308	226.318
Q	253+781.838	-4.160	226.317	226.317
Br. Pier 2	253+784.838	-4.160	226.327	226.321
R	253+787.838	-4.160	226.338	226.331
S	253+789.838	-4.160	226.348	226.342
T	253+792.838	-4.160	226.358	226.356
U	253+795.697	-4.160	226.367	226.367
Br. N. Abut.	253+796.484	-4.160	226.369	226.369

GIRDER 5

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+723.243	-2.080	226.072	226.072
Br. S. Abut.	253+724.030	-2.080	226.077	226.077
A	253+727.030	-2.080	226.095	226.093
B	253+730.030	-2.080	226.112	226.106
C	253+733.030	-2.080	226.129	226.122
D	253+736.030	-2.080	226.146	226.140
E	253+738.889	-2.080	226.161	226.161
Br. Pier 1	253+741.889	-2.080	226.177	226.189
F	253+744.889	-2.080	226.192	226.218
G	253+747.889	-2.080	226.208	226.248
H	253+750.889	-2.080	226.222	226.275
I	253+753.889	-2.080	226.237	226.299
J	253+756.889	-2.080	226.251	226.319
K	253+759.889	-2.080	226.265	226.336
L	253+762.889	-2.080	226.278	226.346
M	253+765.889	-2.080	226.291	226.351
N	253+768.889	-2.080	226.304	226.356
O	253+771.889	-2.080	226.316	226.354
P	253+774.889	-2.080	226.328	226.351
Opt. Trans. Jt.	253+777.889	-2.080	226.340	226.350
Q	253+780.241	-2.080	226.348	226.348
Br. Pier 2	253+783.241	-2.080	226.359	226.353
R	253+786.241	-2.080	226.370	226.363
S	253+789.241	-2.080	226.380	226.374
T	253+792.241	-2.080	226.390	226.388
U	253+795.100	-2.080	226.399	226.399
Br. N. Abut.	253+795.887	-2.080	226.401	226.401

GIRDER 6 & PROPOSED SB PGL

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+722.647	0.000	226.100	226.100
Br. S. Abut.	253+723.434	0.000	226.105	226.105
A	253+726.434	0.000	226.122	226.120
B	253+729.434	0.000	226.140	226.134
C	253+732.434	0.000	226.157	226.150
D	253+735.434	0.000	226.173	226.167
Br. Pier 1	253+738.293	0.000	226.189	226.189
E	253+741.293	0.000	226.205	226.217
F	253+744.293	0.000	226.221	226.247
G	253+747.293	0.000	226.236	226.276
H	253+750.293	0.000	226.251	226.304
I	253+753.293	0.000	226.265	226.327
J	253+756.293	0.000	226.279	226.347
K	253+759.293	0.000	226.293	226.364
L	253+762.293	0.000	226.307	226.375
M	253+765.293	0.000	226.320	226.380
N	253+768.293	0.000	226.332	226.384
O	253+771.293	0.000	226.345	226.383
P	253+774.293	0.000	226.357	226.380
Opt. Trans. Jt.	253+777.293	0.000	226.368	226.378
Q	253+779.645	0.000	226.377	226.377
Br. Pier 2	253+782.645	0.000	226.388	226.382
R	253+785.645	0.000	226.399	226.392
S	253+788.645	0.000	226.409	226.403
T	253+791.645	0.000	226.419	226.417
U	253+794.504	0.000	226.428	226.428
Br. N. Abut.	253+795.291	0.000	226.431	226.431

GIRDER 7

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+722.051	2.080	226.065	226.065
Br. S. Abut.	253+722.838	2.080	226.070	226.070
A	253+725.838	2.080	226.088	226.086
B	253+728.838	2.080	226.105	226.099
C	253+731.838	2.080	226.122	226.115
D	253+734.838	2.080	226.139	226.133
E	253+737.697	2.080	226.155	226.155
Br. Pier 1	253+740.697	2.080	226.171	226.183
F	253+743.697	2.080	226.186	226.212
G	253+746.697	2.080	226.202	226.242
H	253+749.697	2.080	226.217	226.270
I	253+752.697	2.080	226.231	226.293
J	253+755.697	2.080	226.245	226.313
K	253+758.697	2.080	226.259	226.330
L	253+761.697	2.080	226.273	226.341
M	253+764.697	2.080	226.286	226.346
N	253+767.697	2.080	226.299	226.351
O	253+770.697	2.080	226.311	226.349
P	253+773.697	2.080	226.323	226.346
Opt. Trans. Jt.	253+776.697	2.080	226.335	226.345
Q	253+779.049	2.080	226.344	226.344
Br. Pier 2	253+782.049	2.080	226.355	226.349
R	253+785.049	2.080	226.366	226.359
S	253+788.049	2.080	226.376	226.370
T	253+791.049	2.080	226.386	226.384
U	253+793.908	2.080	226.395	226.395
Br. N. Abut.	253+794.695	2.080	226.398	226.398

GIRDER 8

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	253+721.454	4.160	226.028	226.028
Br. S. Abut.	253+722.241	4.160	226.032	226.032
A	253+725.241	4.160	226.050	226.048
B	253+728.241	4.160	226.068	226.062
C	253+731.241	4.160	226.085	226.078
D	253+734.241	4.160	226.102	226.096
E. Br. Pier 1	253+737.100	4.160	226.117	226.117
F	253+740.100	4.160	226.133	226.145
G	253+743.100	4.160	226.149	226.175
H	253+746.100	4.160	226.165	226.205
I	253+749.100	4.160	226.180	226.233
J	253+752.100	4.160	226.194	226.256
K	253+755.100	4.160	226.209	226.277
L	253+758.100	4.160	226.223	226.294
M	253+761.100	4.160	226.236	226.304
N	253+764.100	4.160	226.249	226.309
O	253+767.100	4.160	226.262	226.314
P	253+770.100	4.160	226.275	226.313
P. Opt. Trans. Jt.	253+773.100	4.160	226.287	226.310
Q	253+776.100	4.160	226.299	226.309
R. Br. Pier 2	253+778.452	4.160	226.308	226.308
S	253+781.452	4.160	226.319	226.313
T	253+784.452	4.160	226.330	226.323
U	253+787.452	4.160	226.340	226.334
V	253+790.452	4.160	226.350	226.348
Br. N. Abut.	253+793.311	4.160	226.359	226.359
Bk. N. Abut.	253+794.098	4.160	226.362	226.362

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DATE	BY	CHECKED	DATE	SHEET NO.
F.A.I. 290	22-1-2, 0103-30, & 0305-3 ETA	11/83	636			45

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	225.982
B	253+727.369	7.200	226.002	225.996
C	253+730.369	7.200	226.019	226.012
D	253+733.369	7.200	226.036	226.030
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	226.110
G	253+745.228	7.200	226.099	226.139
H	253+748.228	7.200	226.115	226.168
I	253+751.228	7.200	226.129	226.191
J	253+754.228	7.200	226.144	226.212
K	253+757.228	7.200	226.158	226.229
L	253+760.228	7.200	226.171	226.239
M	253+763.228	7.200	226.185	226.245
N	253+766.228	7.200	226.198	226.250
O	253+769.228	7.200	226.210	226.248
P. Opt. Trans. Jt.	253+772.228	7.200	226.223	226.246
Q	253+775.228	7.200	226.234	226.244
Br. Pier 2	253+777.580	7.200	226.244	226.244
R	253+780.580	7.200	226.255	226.249
S	253+783.580	7.200	226.266	226.259
T	253+786.580	7.200	226.276	226.270
U	253+789.580	7.200	226.286	226.284
Br. N. Abut.	253+792.439	7.200	226.296	226.296
Bk. N. Abut.	253+793.226	7.200	226.298	226.298

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	226.167
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	226.224
R	153+776.000	-7.200	226.236	226.230
S	153+779.000	-7.200	226.247	226.240
T	153+782.000	-7.200	226.258	226.252
U	153+785.000	-7.200	226.269	226.267
Br. N. Abut.	153+787.859	-7.200	226.279	226.279
Bk. N. Abut.	153+788.646	-7.200	226.282	226.282

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	DATE
F.A.I. 290	**	COOK	153	637
22-1-2, 0103-30, & 0305-3 ETA				

SHEET NO. 8
SHEETS 45

GIRDER 17 & PROPOSED NB PG

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+713.937	0.000	226.043	226.043
Br. S. Abut.	153+714.724	0.000	226.048	226.048
A	153+717.724	0.000	226.067	226.065
B	153+720.724	0.000	226.086	226.080
C	153+723.724	0.000	226.104	226.097
D	153+726.724	0.000	226.122	226.116
E	153+729.583	0.000	226.138	226.138
Br. Pier 1	153+732.583	0.000	226.155	226.167
F	153+735.583	0.000	226.172	226.198
G	153+738.583	0.000	226.188	226.228
H	153+741.583	0.000	226.204	226.257
I	153+744.583	0.000	226.220	226.282
J	153+747.583	0.000	226.235	226.303
K	153+750.583	0.000	226.250	226.321
L	153+753.583	0.000	226.265	226.333
M	153+756.583	0.000	226.279	226.339
N	153+759.583	0.000	226.293	226.345
O	153+762.583	0.000	226.306	226.344
P. Opt. Trans. Jt.	153+765.583	0.000	226.319	226.342
Br. Pier 2	153+768.583	0.000	226.332	226.342
Q	153+770.935	0.000	226.342	226.342
R	153+773.935	0.000	226.354	226.348
S	153+776.935	0.000	226.365	226.358
T	153+779.935	0.000	226.377	226.371
U	153+782.935	0.000	226.388	226.386
Br. N. Abut.	153+785.794	0.000	226.398	226.398
Bk. N. Abut.	153+786.581	0.000	226.401	226.401

GIRDER 16

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+714.533	-2.080	226.016	226.016
Br. S. Abut.	153+715.320	-2.080	226.021	226.021
A	153+718.320	-2.080	226.040	226.038
B	153+721.320	-2.080	226.058	226.052
C	153+724.320	-2.080	226.076	226.069
D	153+727.320	-2.080	226.094	226.088
Br. Pier 1	153+730.179	-2.080	226.110	226.110
E	153+733.179	-2.080	226.127	226.139
F	153+736.179	-2.080	226.144	226.170
G	153+739.179	-2.080	226.160	226.200
H	153+742.179	-2.080	226.176	226.229
I	153+745.179	-2.080	226.192	226.254
J	153+748.179	-2.080	226.207	226.275
K	153+751.179	-2.080	226.222	226.293
L	153+754.179	-2.080	226.236	226.304
M	153+757.179	-2.080	226.250	226.310
N	153+760.179	-2.080	226.264	226.316
O	153+763.179	-2.080	226.277	226.315
P. Opt. Trans. Jt.	153+766.179	-2.080	226.290	226.313
Q	153+769.179	-2.080	226.303	226.313
Br. Pier 2	153+771.531	-2.080	226.313	226.313
R	153+774.531	-2.080	226.325	226.319
S	153+777.531	-2.080	226.336	226.329
T	153+780.531	-2.080	226.348	226.342
U	153+783.531	-2.080	226.359	226.357
Br. N. Abut.	153+786.390	-2.080	226.369	226.369
Bk. N. Abut.	153+787.177	-2.080	226.372	226.372

GIRDER 20

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+712.148	6.240	225.925	225.925
Br. S. Abut.	153+712.935	6.240	225.930	225.930
A	153+715.935	6.240	225.949	225.947
B	153+718.935	6.240	225.968	225.962
C	153+721.935	6.240	225.986	225.979
D	153+724.935	6.240	226.004	225.998
Br. Pier 1	153+727.794	6.240	226.021	226.021
E	153+730.794	6.240	226.038	226.050
F	153+733.794	6.240	226.055	226.081
G	153+736.794	6.240	226.072	226.112
H	153+739.794	6.240	226.088	226.141
I	153+742.794	6.240	226.104	226.166
J	153+745.794	6.240	226.119	226.187
K	153+748.794	6.240	226.134	226.205
L	153+751.794	6.240	226.149	226.217
M	153+754.794	6.240	226.163	226.223
N	153+757.794	6.240	226.178	226.230
O	153+760.794	6.240	226.191	226.229
P. Opt. Trans. Jt.	153+763.794	6.240	226.204	226.227
Q	153+766.794	6.240	226.217	226.227
Br. Pier 2	153+769.146	6.240	226.227	226.227
R	153+772.146	6.240	226.240	226.234
S	153+775.146	6.240	226.252	226.245
T	153+778.146	6.240	226.263	226.257
U	153+781.146	6.240	226.274	226.272
Br. N. Abut.	153+784.005	6.240	226.285	226.285
Bk. N. Abut.	153+784.792	6.240	226.288	226.288

GIRDER 15

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+715.130	-4.160	225.986	225.986
Br. S. Abut.	153+715.917	-4.160	225.991	225.991
A	153+718.917	-4.160	226.009	226.007
B	153+721.917	-4.160	226.028	226.022
C	153+724.917	-4.160	226.046	226.039
D	153+727.917	-4.160	226.063	226.057
Br. Pier 1	153+730.776	-4.160	226.080	226.080
E	153+733.776	-4.160	226.097	226.109
F	153+736.776	-4.160	226.113	226.139
G	153+739.776	-4.160	226.129	226.169
H	153+742.776	-4.160	226.145	226.198
I	153+745.776	-4.160	226.161	226.223
J	153+748.776	-4.160	226.176	226.244
K	153+751.776	-4.160	226.191	226.262
L	153+754.776	-4.160	226.205	226.273
M	153+757.776	-4.160	226.219	226.279
N	153+760.776	-4.160	226.233	226.285
O	153+763.776	-4.160	226.246	226.284
P. Opt. Trans. Jt.	153+766.776	-4.160	226.259	226.282
Q	153+769.776	-4.160	226.272	226.282
Br. Pier 2	153+772.128	-4.160	226.281	226.281
R	153+775.128	-4.160	226.293	226.287
S	153+778.128	-4.160	226.305	226.298
T	153+781.128	-4.160	226.316	226.310
U	153+784.128	-4.160	226.327	226.325
Br. N. Abut.	153+786.987	-4.160	226.337	226.337
Bk. N. Abut.	153+787.774	-4.160	226.340	226.340

GIRDER 19

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+712.744	4.160	225.970	225.970
Br. S. Abut.	153+713.531	4.160	225.976	225.976
A	153+716.531	4.160	225.995	225.993
B	153+719.531	4.160	226.013	226.007
C	153+722.531	4.160	226.031	226.024
D	153+725.531	4.160	226.049	226.043
Br. Pier 1	153+728.390	4.160	226.066	226.066
E	153+731.390	4.160	226.083	226.095
F	153+734.390	4.160	226.100	226.126
G	153+737.390	4.160	226.117	226.157
H	153+740.390	4.160	226.133	226.186
I	153+743.390	4.160	226.148	226.210
J	153+746.390	4.160	226.164	226.232
K	153+749.390	4.160	226.179	226.250
L	153+752.390	4.160	226.194	226.262
M	153+755.390	4.160	226.208	226.268
N	153+758.390	4.160	226.222	226.274
O	153+761.390	4.160	226.235	226.273
P. Opt. Trans. Jt.	153+764.390	4.160	226.249	226.272
Q	153+767.390	4.160	226.262	226.272
Br. Pier 2	153+769.742	4.160	226.271	226.271
R	153+772.742	4.160	226.284	226.278
S	153+775.742	4.160	226.296	226.289
T	153+778.742	4.160	226.307	226.301
U	153+781.742	4.160	226.318	226.316
Br. N. Abut.	153+784.601	4.160	226.329	226.329
Bk. N. Abut.	153+785.388	4.160	226.331	226.331

GIRDER 14

Location	Station	Offset (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+715.726	-6.240	225.948	225.948
Br. S. Abut.	153+716.513	-6.240	225.953	225.953
A	153+719.513	-6.240	225.971	225.969
B	153+722.513	-6.240	225.990	225.984
C	153+725.513	-6.240	226.008	226.001
D	153+728.513	-6.240	226.025	226.019
Br. Pier 1	153+731.372	-6.240	226.042	226.042
E	153+734.372	-6.240	226.058	226.070
F	153+737.372	-6.240	226.075	226.101
G	153+740.372	-6.240	226.091	226.131
H	153+743.372	-6.240	226.107	226.160
I	153+746.372	-6.240	226.122	226.184
J	153+749.372	-6.240	226.137	226.205
K	153+752.372	-6.240	226.152	226.223
L	153+755.372	-6.240	226.166	226.234
M	153+758.372	-6.240	226.180	226.240
N	153+761.372	-6.240	226.194	226.246
O	153+764.372	-6.240	226.207	226.245
P. Opt. Trans. Jt.	153+767.372	-6.240	226.220	226.243
Q	153+770.372	-6.240	226.232	226.242
Br. Pier 2	153+772.724	-6.240	226.242	226.242
R	153+775.724	-6.240	226.254	226.248
S	153+778.724	-6.240	226.265	226.258
T	153+781.724	-6.240	226.277	226.271
U	153+784.724	-6.240	226.287	226.285
Br. N. Abut.	153+787.583	-6.240	226.297	226.297
Bk. N. Abut.	153+788.370	-6.240	226.300	226.300

GIRDER 18

Location	Station	Off.set (m)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk. S. Abut.	153+713.341	2.080	226.008	226.008
Br. S. Abut.	153+714.128	2.080	226.013	226.013
A	153+717.128	2.080	226.032	226.030
B	153+720.128	2.080	226.051	226.045
C	153+723.128	2.080	226.069	226.062
D	153+726.128	2.080	226.087	226.081
Br. Pier 1	153+728.987	2.080	226.103	226.103
E	153+731.987	2.080	226.121	226.133
F	153+734.987	2.080	226.137	226.163
G	153+737.987	2.080	226.154	226.194
H	153+740.987	2.080	226.170	226.223
I	153+743.987	2.080	226.186	226.248
J	153+746.987	2.080	226.201	226.269
K	153+749.987	2.080	226.216	226.287
L	153+752.987	2.080	226.230	226.298
M	153+755.987	2.080	226.245	226.305
N	153+758.987	2.080	226.259	226.311
O	153+761.987	2.080	226.272	226.310
P. Opt. Trans. Jt.	153+764.987	2.080	226.285	226.308
Q	153+767.987	2.080	226.298	226.308
Br. Pier 2	153+770.339	2.080	226.308	226.308
R	153+773.339	2.080	226.320	226.314
S	153+776.339	2.080	226.332	226.325
T	153+779.339	2.080	226.343	226.337
U	153+782.339	2.080	226.354	226.352
Br. N. Abut.	153+785.198	2.080	226.365	226.365
Bk. N. Abut.	153+785.985	2.080	226.367	226.367

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	LEGAL SECT.	SHEET NO.
F.A.I. 290	**	COOK	1163	638
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
Br. S. Abut.	153+712.659	7.200	225.909	225.909
A	153+715.659	7.200	225.928	225.926
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
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
Br. Pier 2	153+768.870	7.200	226.207	226.213
R	153+771.870	7.200	226.219	226.224
S	153+774.870	7.200	226.231	226.237
T	153+777.870	7.200	226.243	226.252
U	153+780.870	7.200	226.254	226.265
Br. 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	8.320	225.880	225.880
Br. S. Abut.	153+712.338	8.320	225.885	225.885
A	153+715.338	8.320	225.904	225.902
B	153+718.338	8.320	225.923	225.917
C	153+721.338	8.320	225.941	225.934
D	153+724.338	8.320	225.959	225.953
Br. Pier 1	153+727.197	8.320	225.976	225.976
E	153+730.197	8.320	225.993	226.005
F	153+733.197	8.320	226.010	226.036
G	153+736.197	8.320	226.027	226.067
H	153+739.197	8.320	226.043	226.096
I	153+742.197	8.320	226.059	226.121
J	153+745.197	8.320	226.075	226.143
K	153+748.197	8.320	226.090	226.161
L	153+751.197	8.320	226.105	226.173
M	153+754.197	8.320	226.119	226.179
N	153+757.197	8.320	226.133	226.185
O	153+760.197	8.320	226.147	226.185
P. Opt. Trans. Jt.	153+763.197	8.320	226.160	226.183
Q	153+766.197	8.320	226.173	226.183
Br. Pier 2	153+768.549	8.320	226.183	226.183
R	153+771.549	8.320	226.196	226.190
S	153+774.549	8.320	226.208	226.201
T	153+777.549	8.320	226.219	226.213
U	153+780.549	8.320	226.231	226.229
Br. N. Abut.	153+783.408	8.320	226.241	226.241
Bk. N. Abut.	153+784.195	8.320	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
Br. 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
Br. 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
Br. 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
Br. N. Abut.	153+782.912	10.400	226.197	226.197
Bk. N. Abut.	153+783.599	10.400	226.200	226.200

FILENAME: G:\16772A\STRUCT\CADD\HIGGINS-NB\5-FINAL\HIG-TOP5.DGN; 6/4/02; 13:13:56

DESIGNED	KM
CHECKED	SET
DRAWN	KM
CHECKED	AH

06-04-02

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



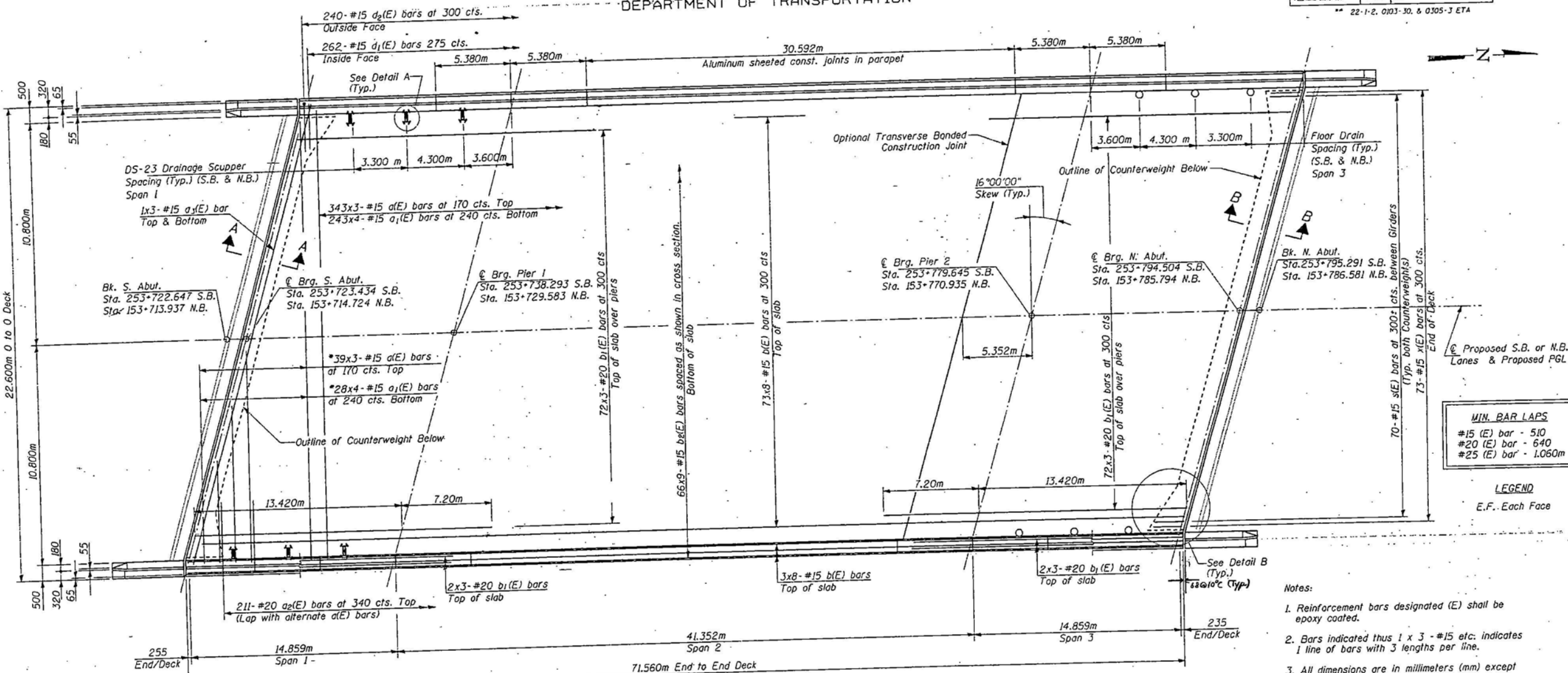
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL MILES	SHEET NO.
F.A.I. 290	##	COOK	1163	639
FED. ROAD DIST. NO. 9		ALLIANCE	FED. AID PROJECT.	

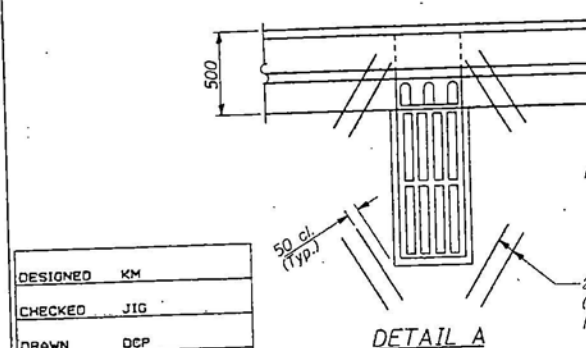
22-1-2. 0103-30. & 0305-3 ETA

SHEET NO. 10
SHEETS 45



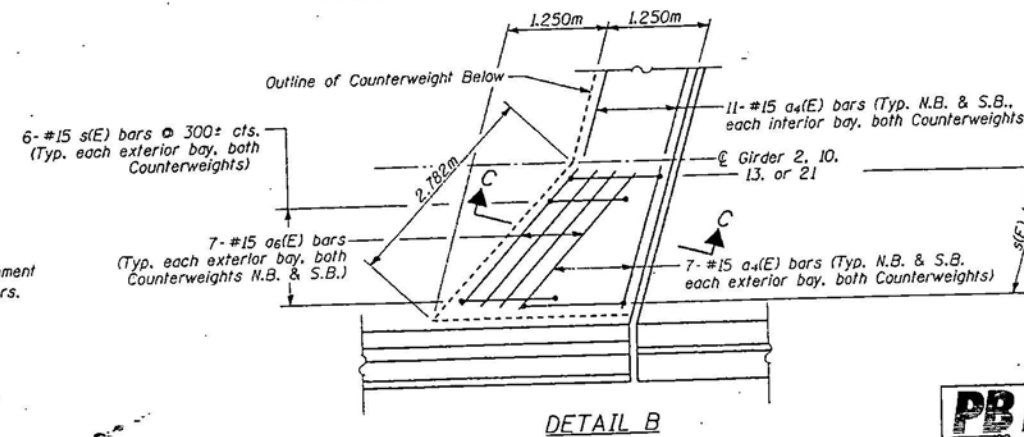
* Order $a(E)$ & $a_1(E)$ bars full length.
Cut to fit skew and use remainder
of bars in opposite end.

PLAN



Note: Cut longitudinal reinforcement to clear drainage scuppers.

2- #15 $a_5(E)$ bars at 100 cts.
(600 mm lg.) tied to bottom of
top reinforcement mat. (Typ.)



- Notes:
1. Reinforcement bars designated (E) shall be epoxy coated.
 2. Bars indicated thus 1 x 3 - #15 etc. indicates 1 line of bars with 3 lengths per line.
 3. All dimensions are in millimeters (mm) except as noted.
 4. For Sections A-A, B-B & C-C see Sheet No. 13.
 5. For Floor Drain Details and Deck Cross Section, See Sheet No. 11.
 6. For Bill of Material. and Parapet reinforcement, See Sheet No. 12.
 7. See Sheet No. 13 for location of a4(E), a6(E), and s(E) bars.
 8. Drains shall be located to clear all diaphragms.

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.)

DESIGNED	KM
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

06-04-02

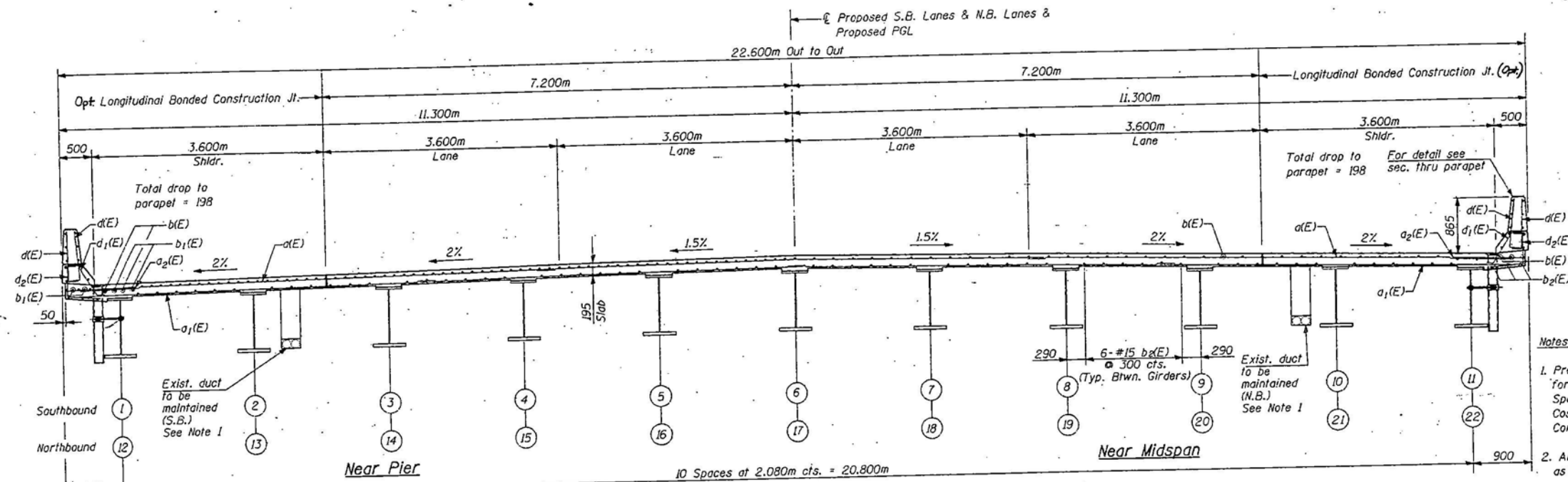
**PB PARSONS
BRINCKERHOFF**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
F.A.I. 290	**	COOK	116.3	640

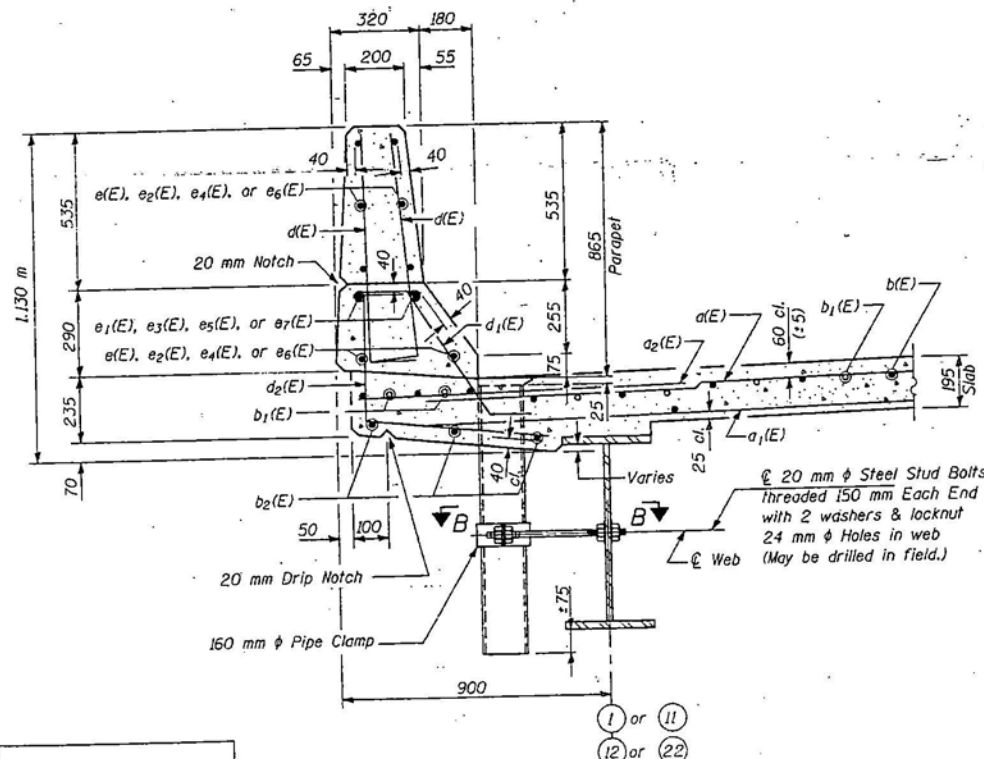
SHEETS 45

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

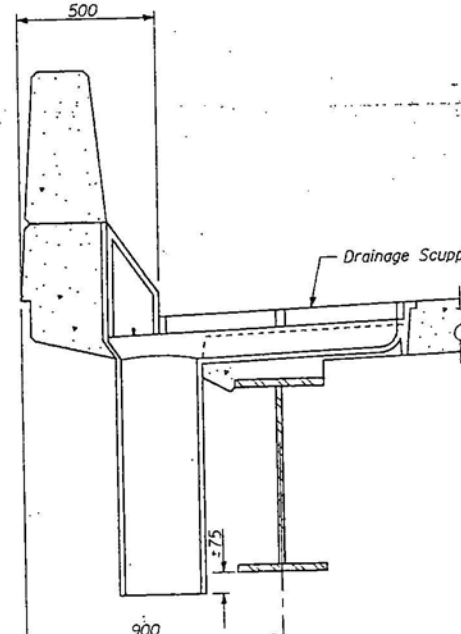


- Notes:
1. Provide concrete insets and conduit hangers for existing galvanized 2-54mm ϕ R.S. conduits. Spacing of hangers shall not exceed 2.2m. Cost included with cost of High Performance Concrete Superstructure.
 2. All dimensions are in millimeters (mm) except as noted.

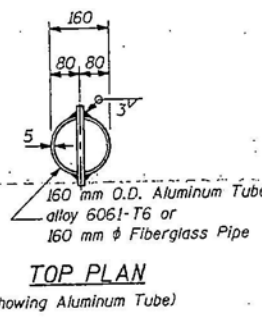
CROSS SECTION
(Looking North)



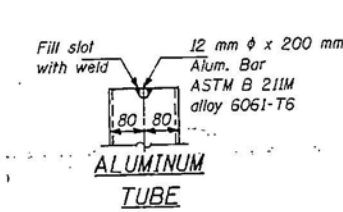
SECTION THRU PARAPET AT FLOOR DRAIN



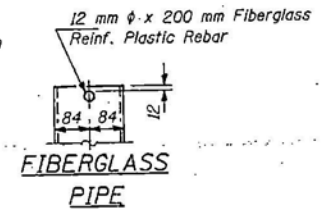
SECTION THRU PARAPET AT DRAINAGE SCUPPER
(Reinforcement not shown for clarity)



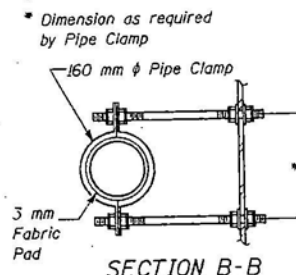
TOP PLAN
(Showing Aluminum Tube)



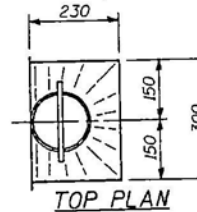
ALUMINUM TUBE



FIBERGLASS PIPE



SECTION B-B



TOP PLAN

FLOOR DRAIN DETAILS

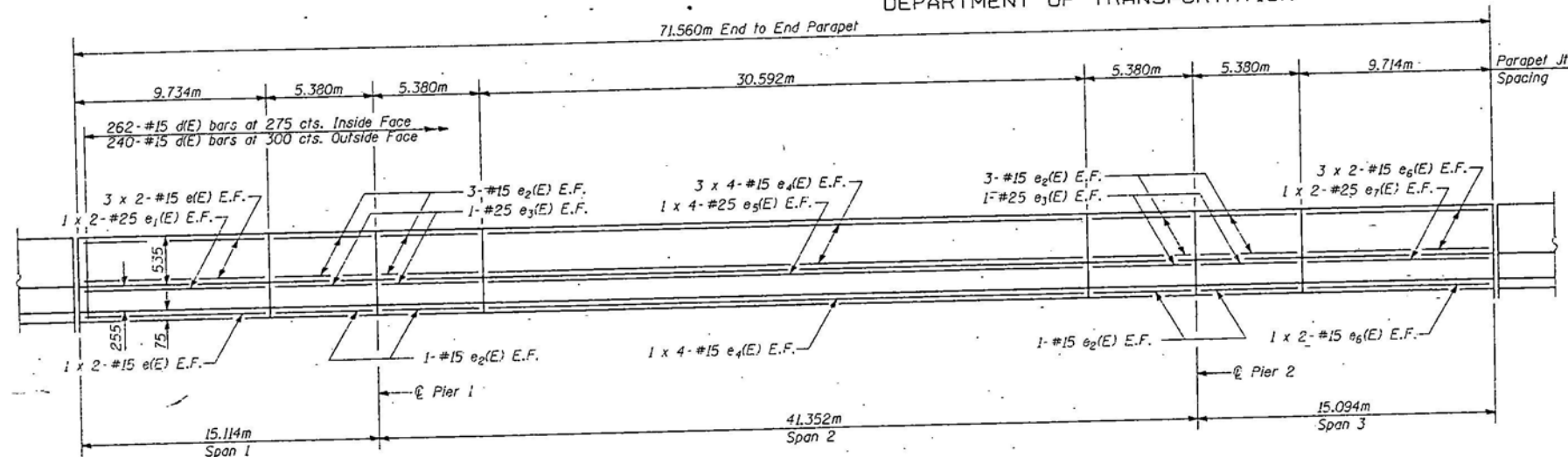
SUPERSTRUCTURE DETAILS I
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



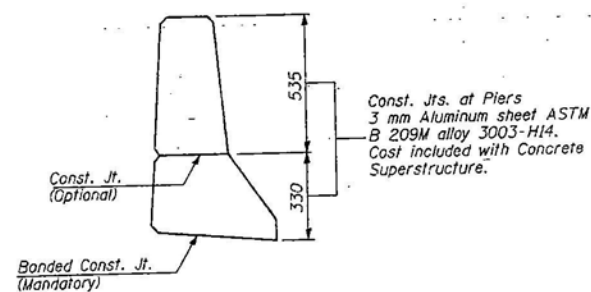
DESIGNED	KM
CHECKED	SET
DRAWN	DCP
CHECKED	AH

06-04-02

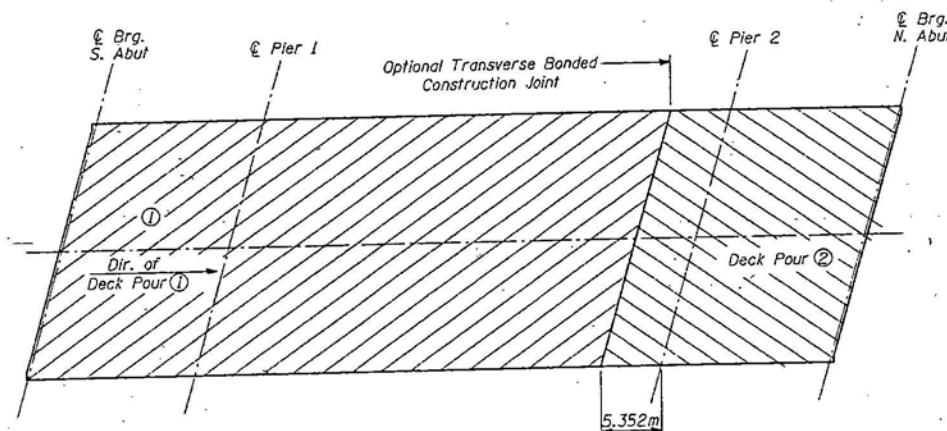
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



INSIDE ELEVATION OF PARAPET



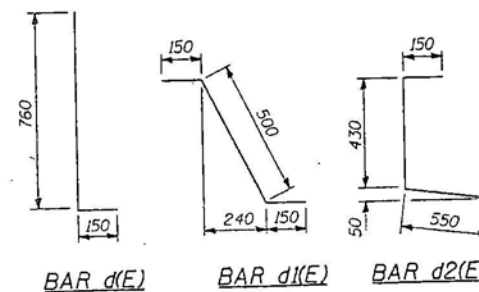
PARAPET JOINT DETAILS



DECK POUR SEQUENCE PLAN

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

Note: Pour concrete counterweight at both abutments prior to pouring deck.



ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 290	**	COOK	1153	641

SHEET NO. 12
SHEETS 45

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

TWO SUPERSTRUCTURES
BILL OF MATERIAL
(Northbound & Southbound Structures)

Bar	No.	Size	Length (m)	Shape
d(E)	2526	#15	7.880	—
a1(E)	2392	#15	6.040	—
a2(E)	844	#20	1.200	—
a3(E)	24	#15	8.180	—
a4(E)	408	#15	2.050	—
a5(E)	96	#15	0.600	—
a6(E)	56	#15	2.670	—
b(E)	1264	#15	9.400	—
b1(E)	480	#20	7.300	—
b2(E)	1188	#15	8.410	—
d(E)	2008	#15	0.910	—
d1(E)	1048	#15	0.800	—
d2(E)	960	#15	1.130	—
e(E)	64	#15	5.130	—
e1(E)	16	#25	5.190	—
e2(E)	64	#15	5.300	—
e3(E)	16	#25	5.300	—
e4(E)	128	#15	8.030	—
e5(E)	32	#25	8.130	—
e6(E)	64	#15	5.120	—
e7(E)	16	#25	5.180	—
s(E)	328	#15	4.760	□
x(E)	146	#15	1.280	—
Reinforcement Bors.		kg	114,240	
Epoxy Coated				
High Performance Concrete Superstructure		Cu. m.	947.6	
Neoprene Expansion Joint 65mm		m	46	
Protective Coat		Sq. m.	3413	

Notes:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Bars indicated thus 1 x 3 - #15 etc. indicates 1 line of bars with 3 lengths per line.
3. All dimensions are in millimeters (mm) except as noted.

SUPERSTRUCTURE 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.)

PARSONS
BRINCKERHOFF

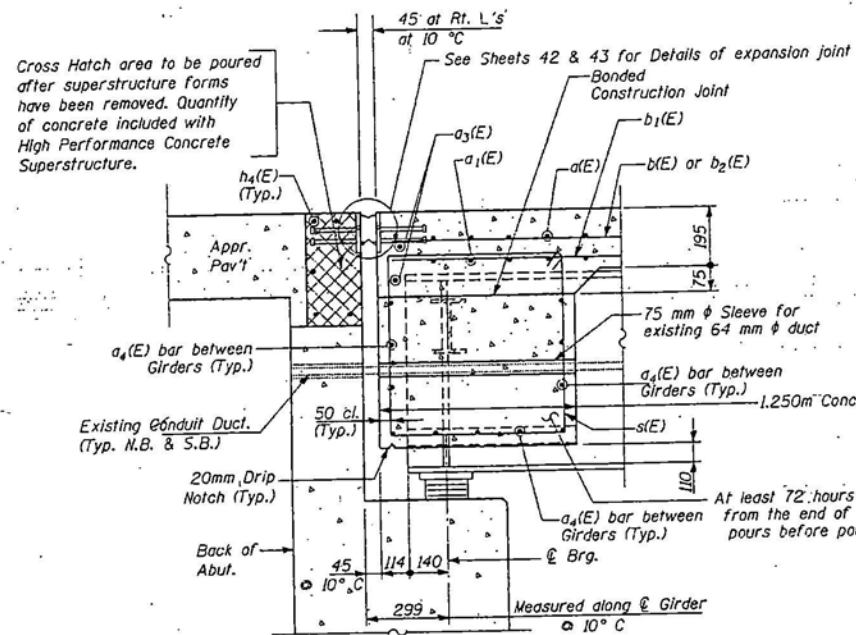
DESIGNED	KM
CHECKED	SET
DRAWN	DCP
CHECKED	AH

06-04-02

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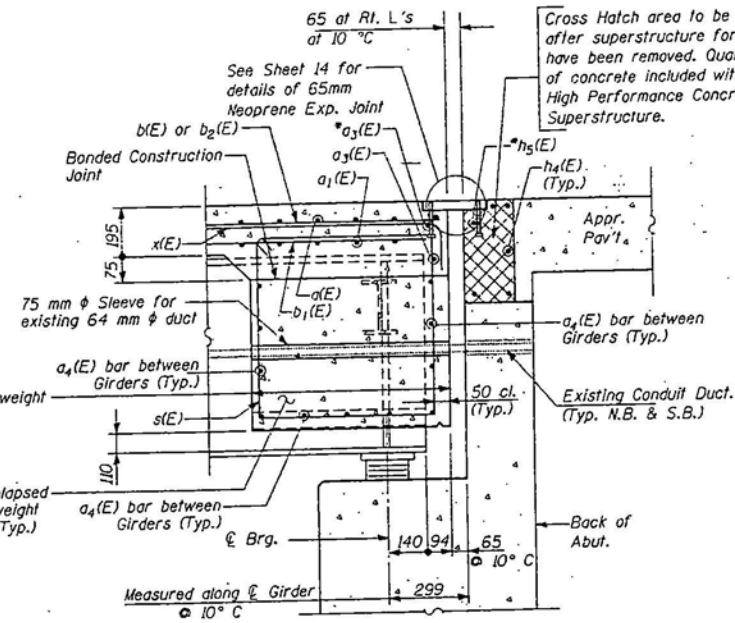
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
F.A.I. 290	**	COOK	1163	642
SHEET NO. 13				
SHEETS 45				
22-1-2, 0103-30, & 0305-3 ETA				

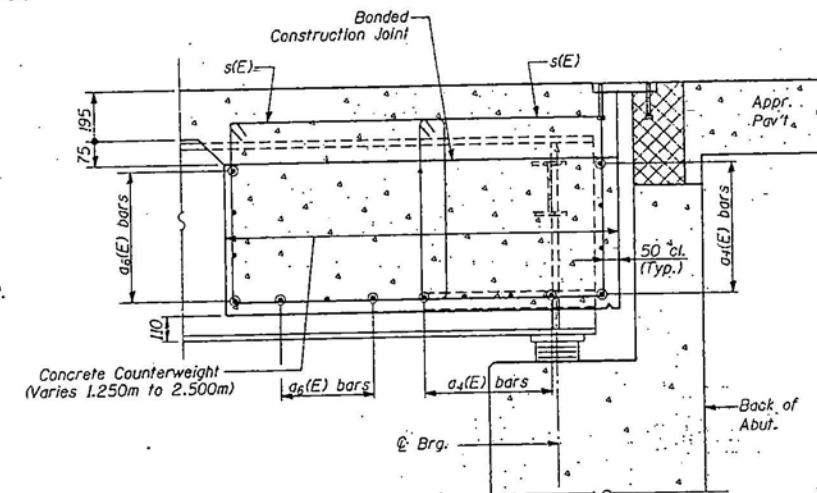


SECTION A-A
(Interior Bay at S. Abut.)

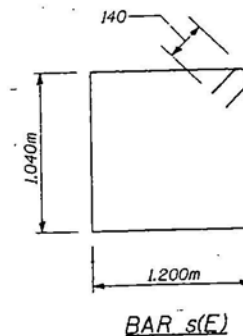
*Place a3(E) and h5(E) bars in back of anchor bolt as shown if required to maintain 25 mm cl. (+0-3 mm). Anchor bolts should be tied to a3(E) and h5(E) bars.



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.)



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DESIGNED	KM
CHECKED	JTG
DRAWN	DCP
CHECKED	AH

06-04-02

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 290	**	COOK	163	643
SHEET NO. 14				
SHEETS 45				
** 22-1-2, 0103-30, & 0305-3 ETA				

Joint Size	"C" at 10 °C	"D" at 10 °C
50	50	40 Min.
65	65	45 Min.
100	75	65 Min.

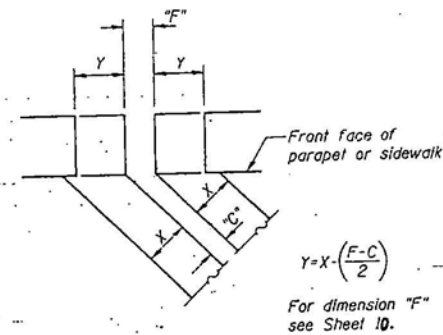
INSTALLATION NOTES

- Install continuous seal in roadway, parapet, curb, and sidewalk.
- Install anchor blocks as indicated.

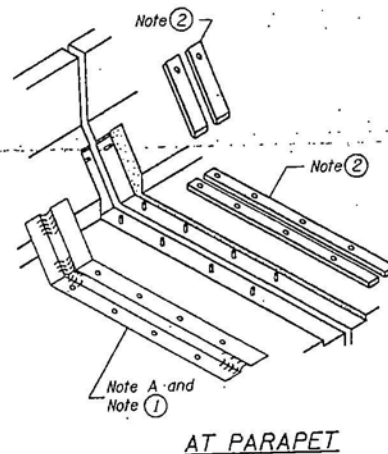
NOTE A: Maximum spacing of anchor bolts shall be 300 centers.

SKEW LIMITATIONS

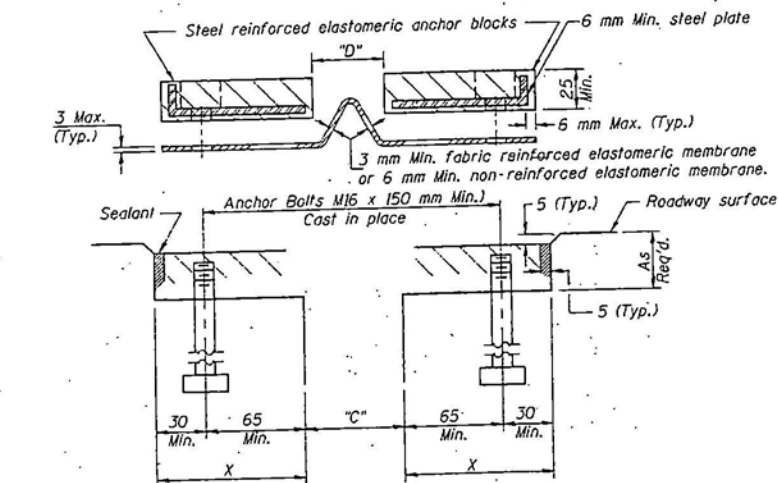
The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed according to dimension "D", might require modifications to insure a minimum clearance of 40 mm from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±300 cts.



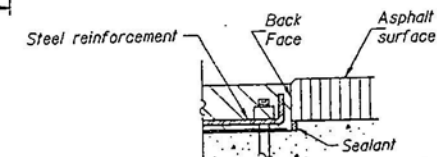
FORMING BLOCKOUT SKETCH



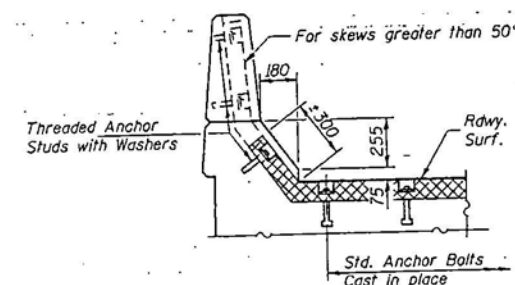
AT PARAPET



CROSS SECTION



ANCHOR BLOCK WITH ASPHALT SURFACE



AT PARAPET

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.

The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 10 °C.

The parapet and roadway membrane shall be made continuous, by an approved vulcanizing process. Lapping will not be permitted. All dimensions are in millimeters (mm) except as noted.

DESIGNED	KM
CHECKED	AH
DRAWN	DCP
CHECKED	AH

06-04-02

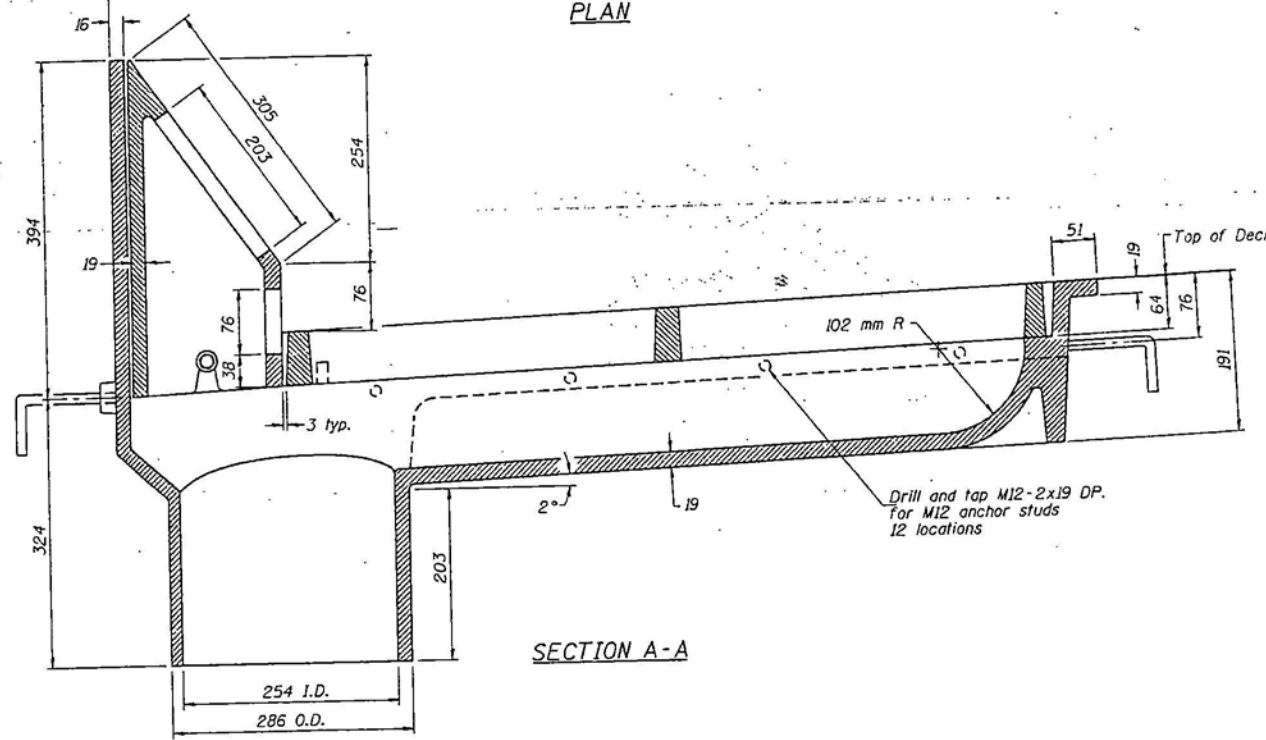
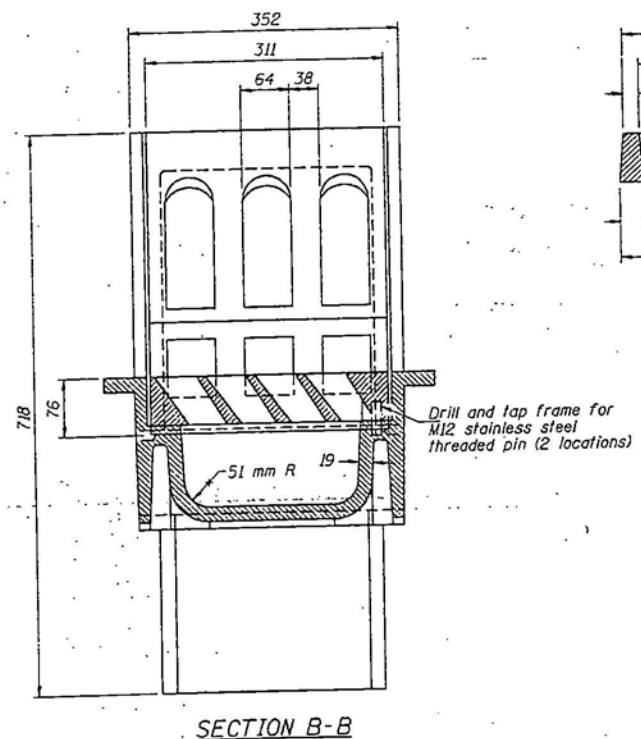
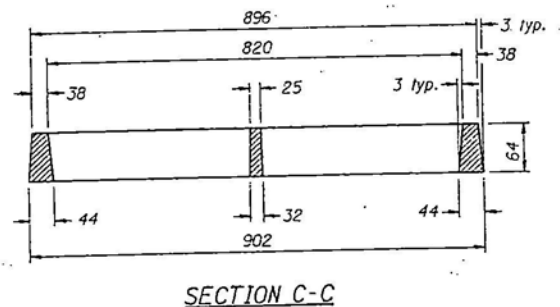
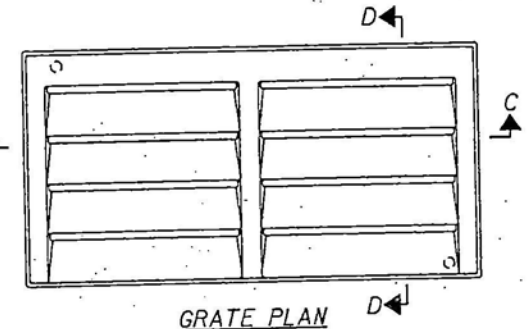
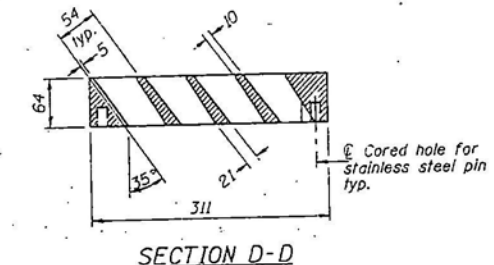
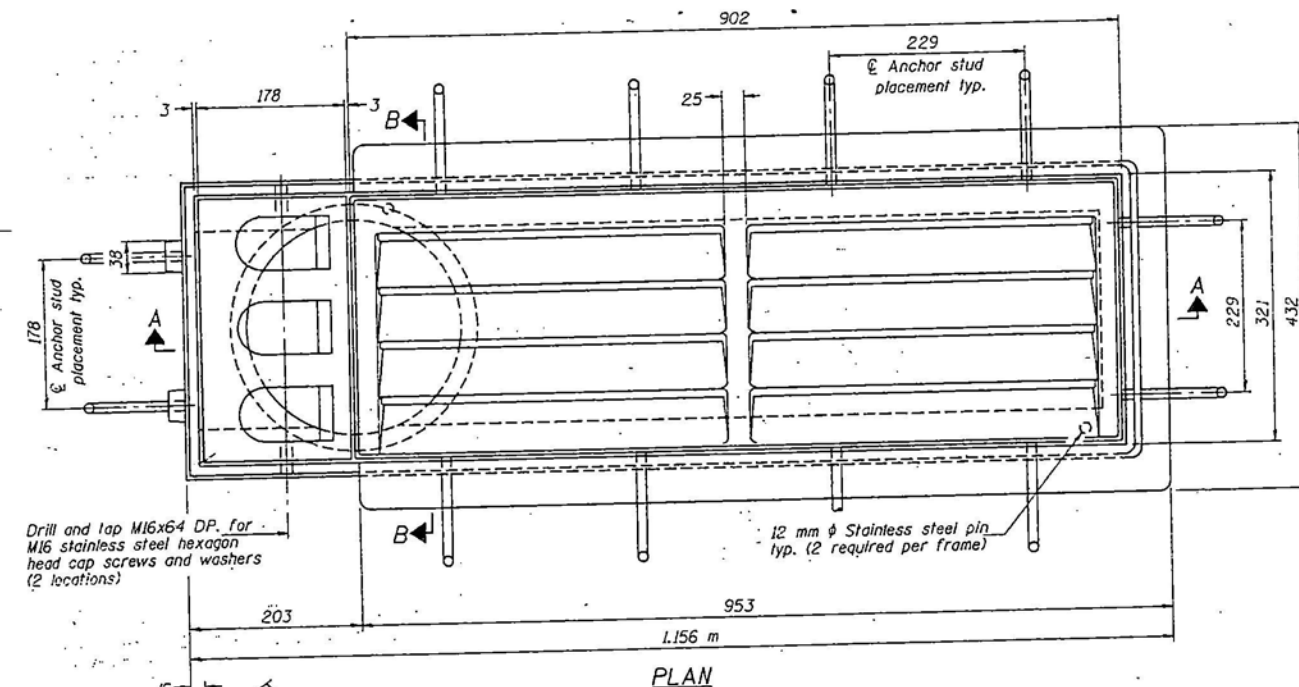
NEOPRENE EXPANSION JOINT DETAIL
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657

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

PARSONS
BRINCKERHOFF

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	DRAWN	CHECKED	DATE	SHEET
F.A.I. 290		COOK	1183	644	
22-1-2, 0103-30, & 0305-3 ETA					

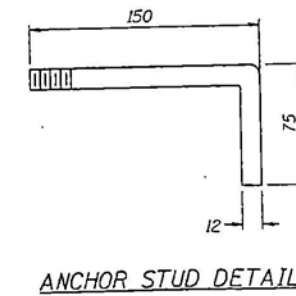


Notes: All cast iron parts shall be ductile iron conforming to the requirements of ASTM A-536, Grade 80-55-06. Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232M. The grate, frame and downspout shall be galvanized according to AASHTO M 111 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

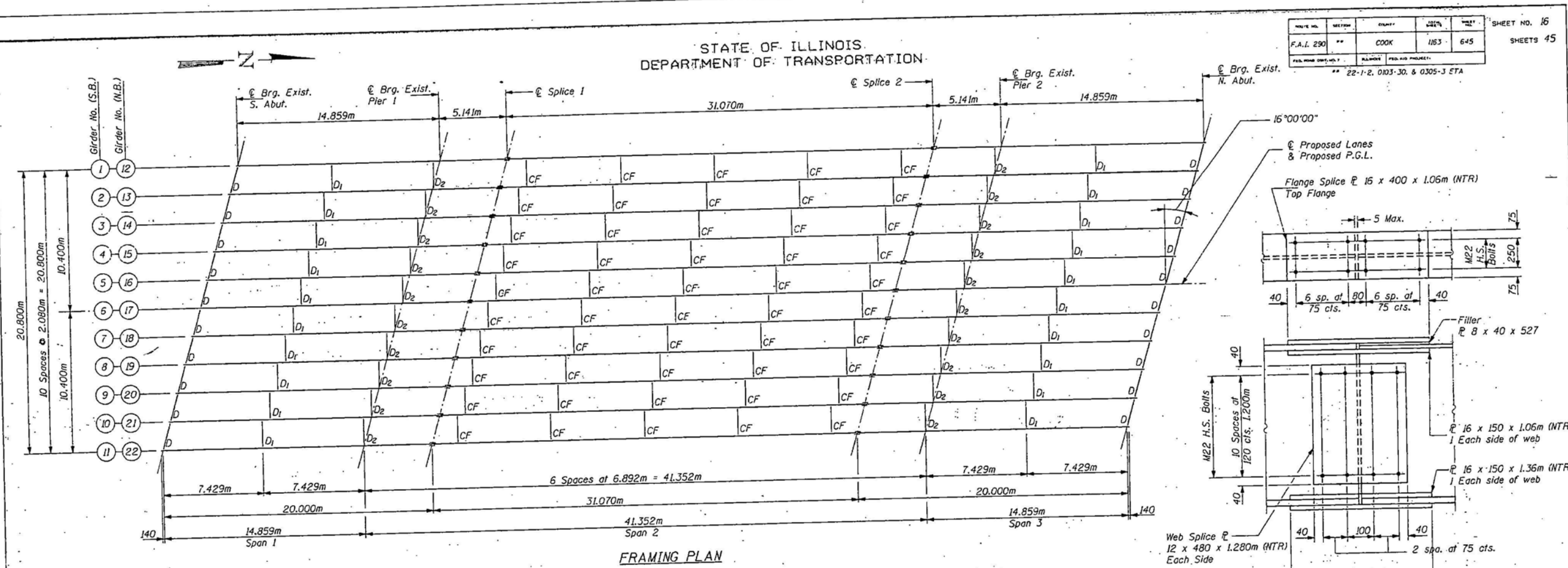
Item	Unit	Total
Drainage Scupper, DS-23	Each	12

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	QCP
CHECKED	AH

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SHEET NO. 16	SHEETS 45
F.A.I. 290	COOK
1153	645
22-1-2, 0103-30, & 0305-3 ETA	

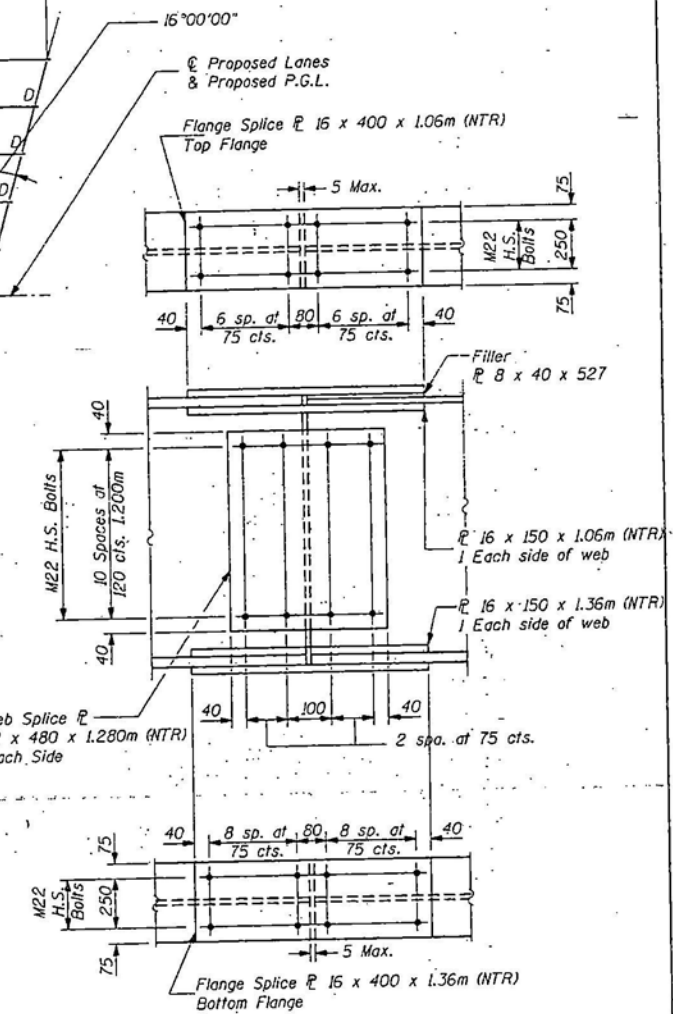
**TOP OF WEB ELEVATIONS (S.B.)
(FOR FABRICATION ONLY)**

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	225.705	225.744	225.782	225.812	225.840	225.805	225.767	225.722	225.677	225.648
€ Brg. Pier 1	225.770	225.808	225.847	225.885	225.916	225.944	225.910	225.872	225.828	225.783	225.742
€ Splice 1	225.805	225.844	225.883	225.921	225.952	225.980	225.946	225.909	225.864	225.819	225.775
€ Splice 2	225.943	225.982	226.022	226.061	226.093	226.122	226.088	226.052	226.008	225.964	225.920
€ Brg. Pier 2	225.953	225.993	226.032	226.072	226.103	226.132	226.099	226.063	226.019	225.975	225.931
€ Brg. N. Abut.	225.982	226.022	226.062	226.102	226.134	226.163	226.130	226.094	226.051	226.007	225.964

**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.	225.612	225.650	225.688	225.726	225.756	225.783	225.748	225.711	225.665	225.620	225.590
€ Brg. Pier 1	225.720	225.758	225.797	225.835	225.865	225.893	225.858	225.821	225.776	225.731	225.690
€ Splice 1	225.757	225.796	225.834	225.873	225.903	225.931	225.897	225.859	225.814	225.769	225.724
€ Splice 2	225.907	225.946	225.985	226.024	226.055	226.084	226.050	226.014	225.969	225.925	225.881
€ Brg. Pier 2	225.919	225.958	225.997	226.036	226.068	226.097	226.063	226.026	225.982	225.938	225.894
€ Brg. N. Abut.	225.953	225.993	226.032	226.072	226.104	226.133	226.100	226.064	226.020	225.976	225.932

- NOTES:**
- All dimensions are in millimeters (mm) except as noted.
 - NTR denotes plate to which notch toughness requirements are applicable.



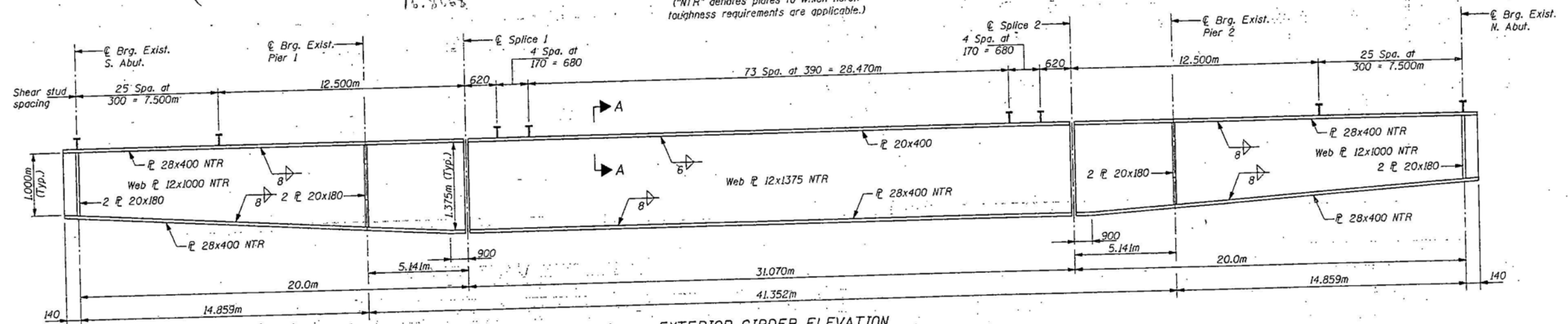
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DRAWN:	DCP
CHECKED:	AH

06-04-02

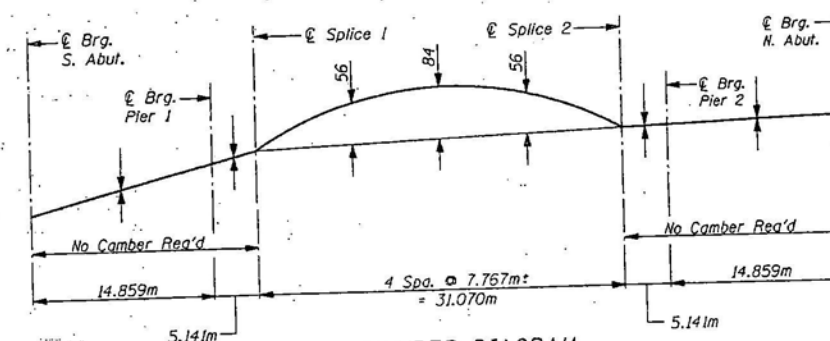


FRAMING PLAN
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

PLATE NO.	SECTION	COUNTY	TWP. CORNERS	WATER	SHEET NO. 17
F.A.I. 290	22	COOK	1183	646	SHEETS 45
FIELD AND DIST. NO. 1		ELECTRIC FIELD AND PROJECT.			
22-1-2, 0103-30, & 0305-J ET					



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



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

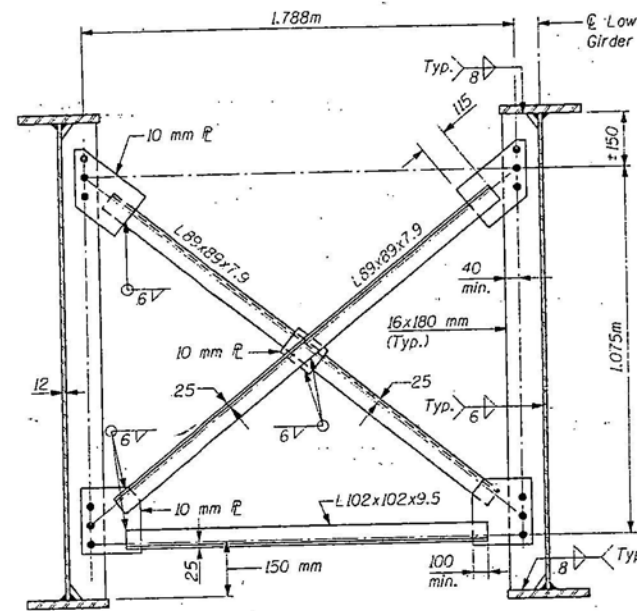
- Note:**
1. Structural steel for girders and splice plates shall conform to the requirements of AASHTO M270M, Grade 345.
 2. All dimensions are in millimeters (mm) except as noted.

**PB PARSONS
BRINCKERHOFF**

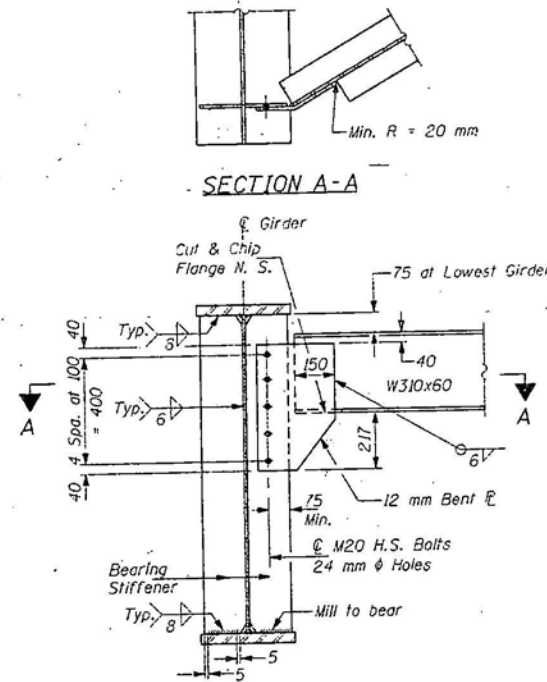
DESIGNED	AH
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

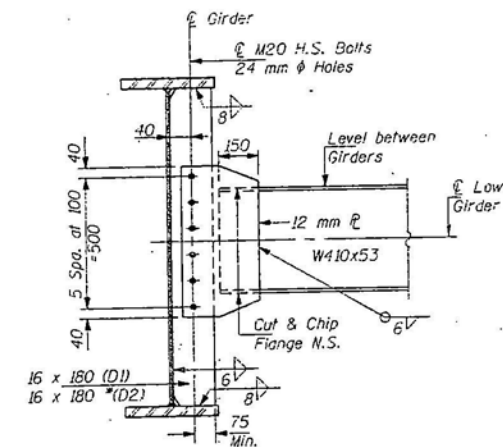
DATE	SECTION	DESIGN	DATE	SHEET
F.A.I. 290	**	COOK	1153	647
SHEET NO. 18				
SHEETS 45				
22-1-2, 0103-30, & 0305-3 E.T.A.				



CROSS FRAME CF
(No Required = 100)

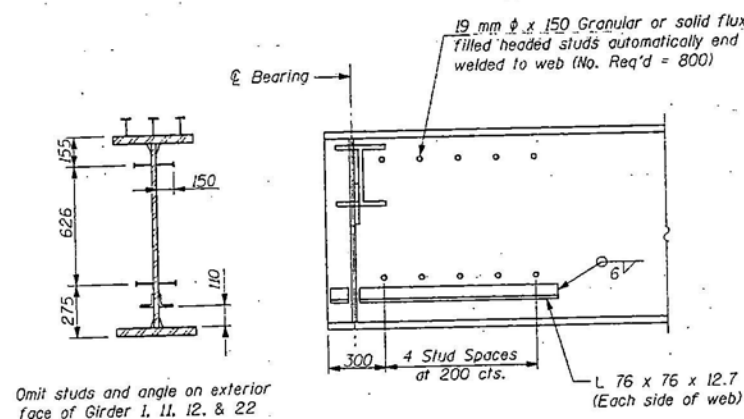


END DIAPHRAGM D
(No Required = 40)

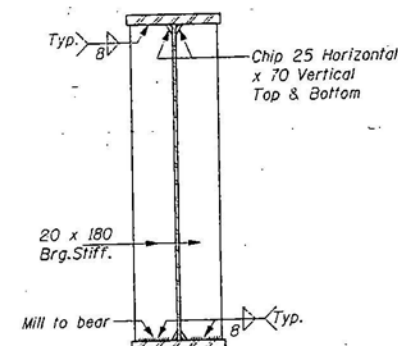


DIAPHRAGM D1 & D2*
(40 of Each Required)

* Intermediate Diaphragm D2 shall be connected to 16 x 180 flange at one end and the Bearing Stiffener at the other end.



END OF GIRDER DETAILS AT SOUTH & NORTH ABUT.



BEARING STIFFENERS
AT ABUTMENT & PIERS

NOTES:

- All bearing stiffeners shall conform to the requirement of AASHTO M270M Grade 345.
- Two hardened washers shall be required over all oversized holes.
- Detail 24 mm holes for all M20 H.S. Bolts.
- All dimensions are in millimeters (mm) except as noted.

INTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. #1 or 0.4 Sp. #3	Pier 1 or 2	0.5 Sp. #2
I_s (10^6 mm^4)	6919	6919	11858
I_c (n) (10^6 mm^4)			28817
I_c (3n) (10^6 mm^4)			20831
S_s (10^3 mm^3)	13104	13104	18187
S_c (n) (10^3 mm^3)			24757
S_c (3n) (10^3 mm^3)			22544
ψ (kN/m)	16.6	16.6	13.18
M_D (kN-m)	-218	1686	1436
S_D (kN-m)			3.52
M_{sD} (kN-m)			447
M_L (kN-m)	409	643	1371
M (Imp) (kN-m)	118	148	263
$S_1(M_L + M(\text{Imp}))$ (kN-m)	879	1318	2722
M_a (kN-m)	859	3905	5987
M_u (kN-m)			8409
$f_s \psi$ (non-comp) (MPa)	17	129	79
$f_s \psi$ (comp) (MPa)			20
$f_s \psi$ (t + Imp) (MPa)	67	101	110
f_s (Overload) (MPa)	50	229	209
f_s (Total) (MPa)	66	298	
V_R (kN)	246		259

INTERIOR GIRDER REACTION TABLE		
	Abuts.	Piers
R_D (kN)	58	585
R_L (kN)	174	269
M_{imp} (kN)	50	43
R (Total) (kN)	282	897

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total and Overload).
 I_c (n) and S_c (n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 I_c (3n) and S_c (3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (See AASHTO 10.38).
 V_R is the maximum Live Load + impact shear range in span.
The Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1 & 10.50.1.1.
 f_s (Total) is the sum of the stresses due to 1.3 $[M D L + M_s D L + 5/3 (M L L + M (\text{Imp}))]$
 f_s (Overload) is the sum of the stresses due to $M D L + M_s D L + 5/3 (M L L + M (\text{Imp}))]$
 $M D L$ - Moment due to dead loads on non-composite section.
 $M_s D L$ - Moment due to dead loads on composite section.
 $M L L$ - Moment due to live load on non-composite or composite section.
 $M (\text{Imp})$ - Moment due to live load impact on non-composite or composite section.
 M_a (Applied Moment) = 1.3 $[M D L + M_s D L + 5/3 (M L L + M (\text{Imp}))]$

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 E.T.A.
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

PARSONS
BRINCKERHOFF

DESIGNED	AH
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

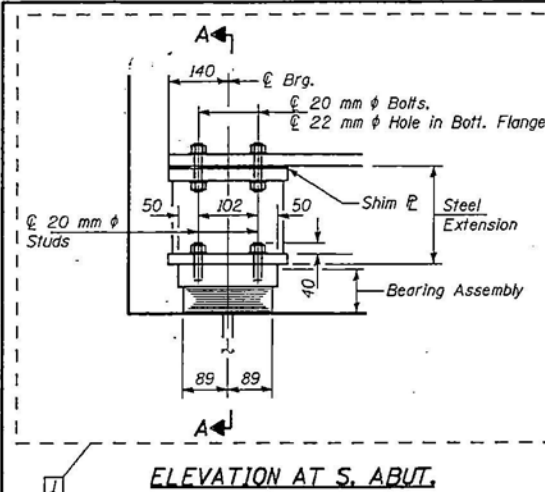
06-04-02

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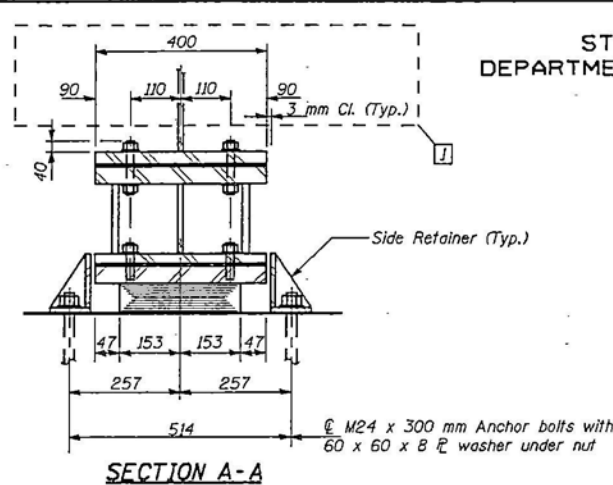
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	DRAWN	CHECKED	DATE	SHEET NO. 19
F.A.I. 290	22	COOK	HIS	648	SHEETS 45
FED. ROAD DIST. NO. 7	ILLINOIS	FED. RES. PROJECT			
22-1-2, 0103-30, & 0305-3 ETA					

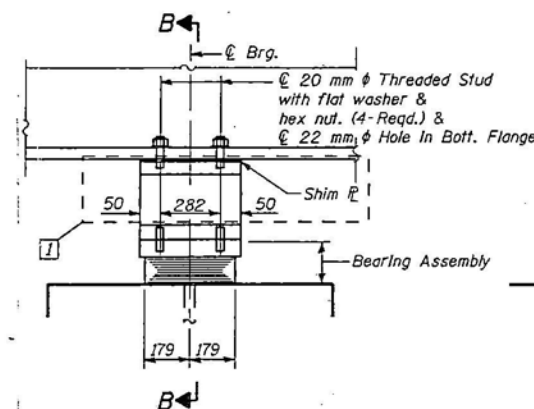


ELEVATION AT S. ABUT.

TYPE I ELASTOMERIC EXP. BRG.
(22 Required)

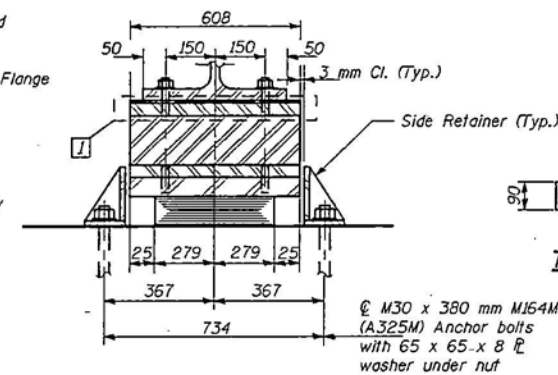


SECTION A-A



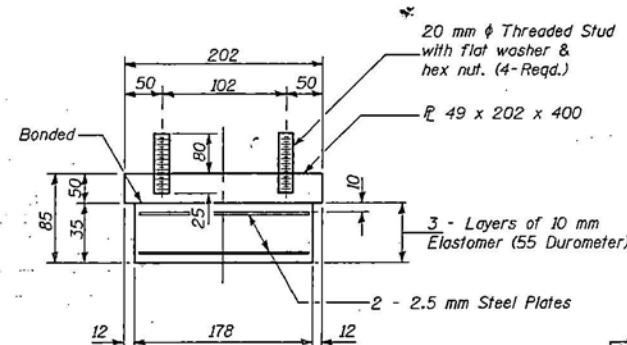
ELEVATION AT PIER 2

TYPE I ELASTOMERIC EXP. BRG.
(22 Required)



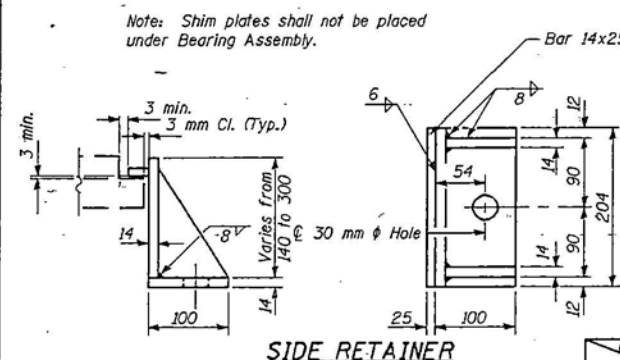
SECTION B-B

TAPERED TOP PLATE
(Exterior Girder Only)



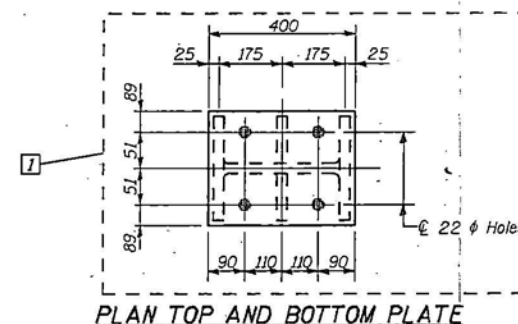
BEARING ASSEMBLY

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

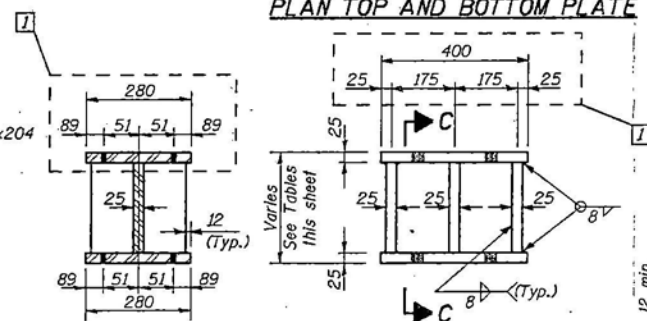


SIDE RETAINER

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



PLAN TOP AND BOTTOM PLATE



SECTION C-C

STEEL EXTENSION DETAIL
(AT S. ABUTMENT)

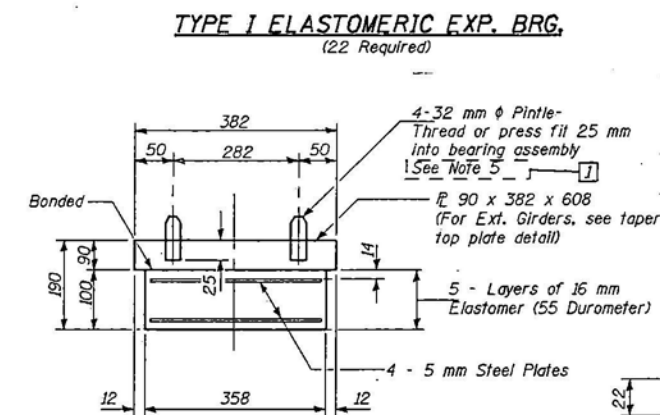
STEEL EXTENSION HEIGHT (S.B.) [SEE NOTE 5]

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	22

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

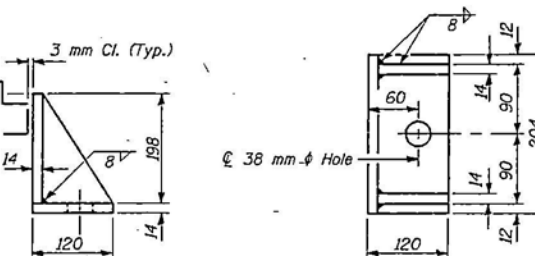
STEEL EXTENSION HEIGHT (N.B.) [SEE NOTE 5]

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



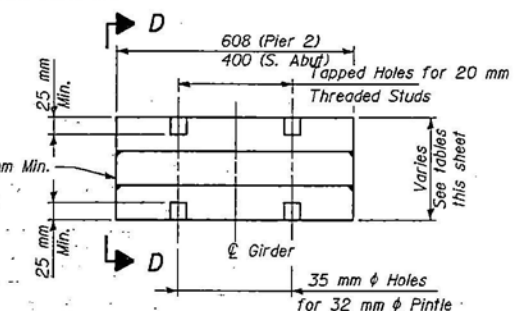
BEARING ASSEMBLY

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

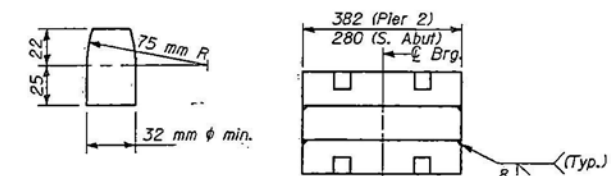


SIDE RETAINER

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



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



SECTION D-D

PINTLE

NOTES:

- Weight of all new Shim Plates, Steel Extensions and Side Retainers is included with the cost of Furnishing and Erecting Structural Steel.
- Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
- Anchor bolts at fixed bearings may be built into the masonry. See Sheet No. 21 for Anchor Bolt Installation.
- All dimensions are in millimeters (mm) except as noted.
- Use 20mm Threaded studs with flat washer & hex nut for steel extension heights of 50mm or less.

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.)

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	44

PARSONS
BRINCKERHOFF

DESIGNED	JIG
CHECKED	AH
DRAWN	DCP
CHECKED	AH

06-04-02

AH 01-06-03

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

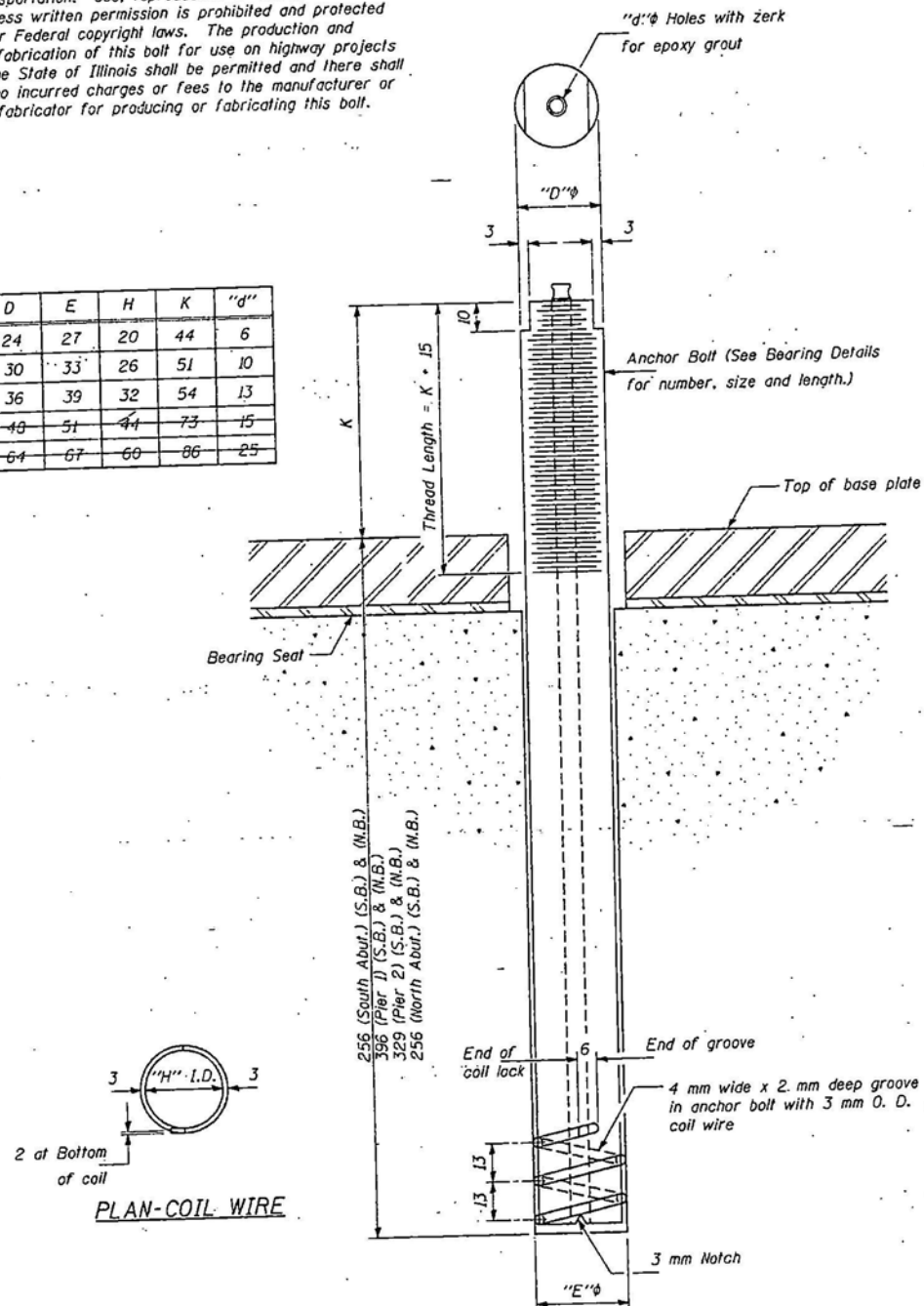
ROUTE NO.	SECTION	COUNTY	TOTAL SPOTS	SPOTS ON
F.A.I. 290	**	COOK	1163	650
FED. ROAD DIST. NO.	ALLIANCE	FED. AID PROJECT		

** 22-1-2, 0103-30, & 0305-J 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
40	51	44	73	15
64	67	60	86	25



MATERIALS FOR ILLINOIS COIL-LOCK
ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1025, CW and supplied with hexagonal nuts and cut washers.

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

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

The epoxy grout shall be a two-component, epoxy resin bonding system 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	M164N	22
Pier 1 (N.B.)	M36	M164N	22
Pier 2 (S.B.)	M30	M164N	22
Pier 2 (N.B.)	M30	M164N	22
N. Abut. (S.B.)	M24	A307	22
N. Abut. (N.B.)	M24	A307	22

ASTM F 1554 ($F_y = 724 \text{ MPa}$), ASTM A 449 and AASHTO M 314 ($F_y = 724 \text{ MPa}$) 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 and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

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

06-04-02

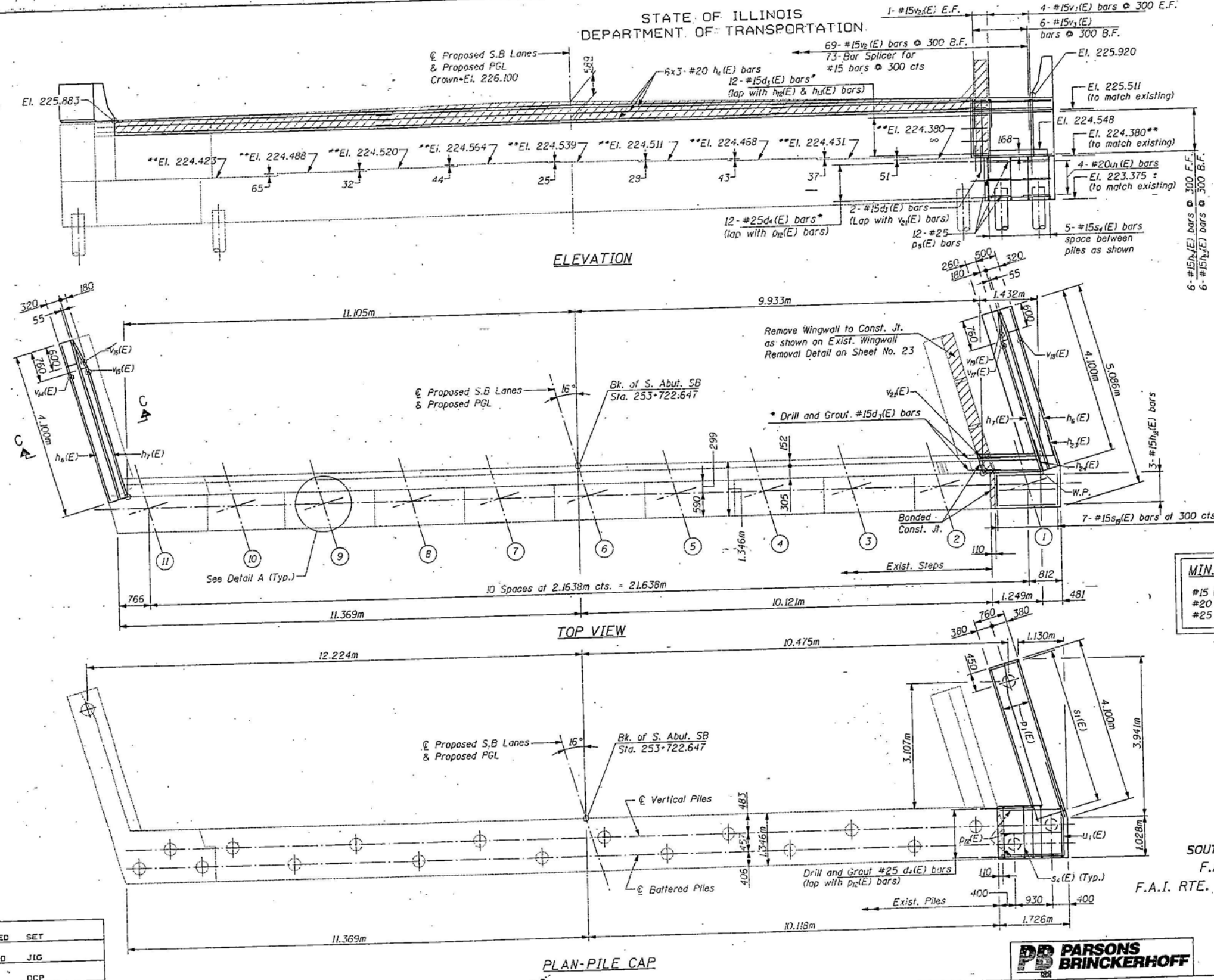
**PARSONS
BRINCKERHOFF**

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DESIGNED	SET
CHECKED	JIG
DRAWN	OCP
CHECKED	AH

06-04-02

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

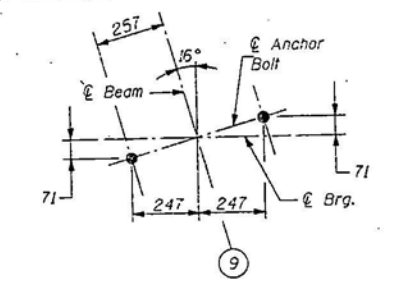


ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.I. 290	**	COOK	1953	651
SHEETS 45				

- 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 & Section C-C. See Sheet No. 23.
 - 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. 37 For Concrete Removal Quantity.
 - For Legend See Sheet No. 23.
 - Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.
- * Drill and grout #15d_s(E) in 230mm min. drilled holes and #25 d_s(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

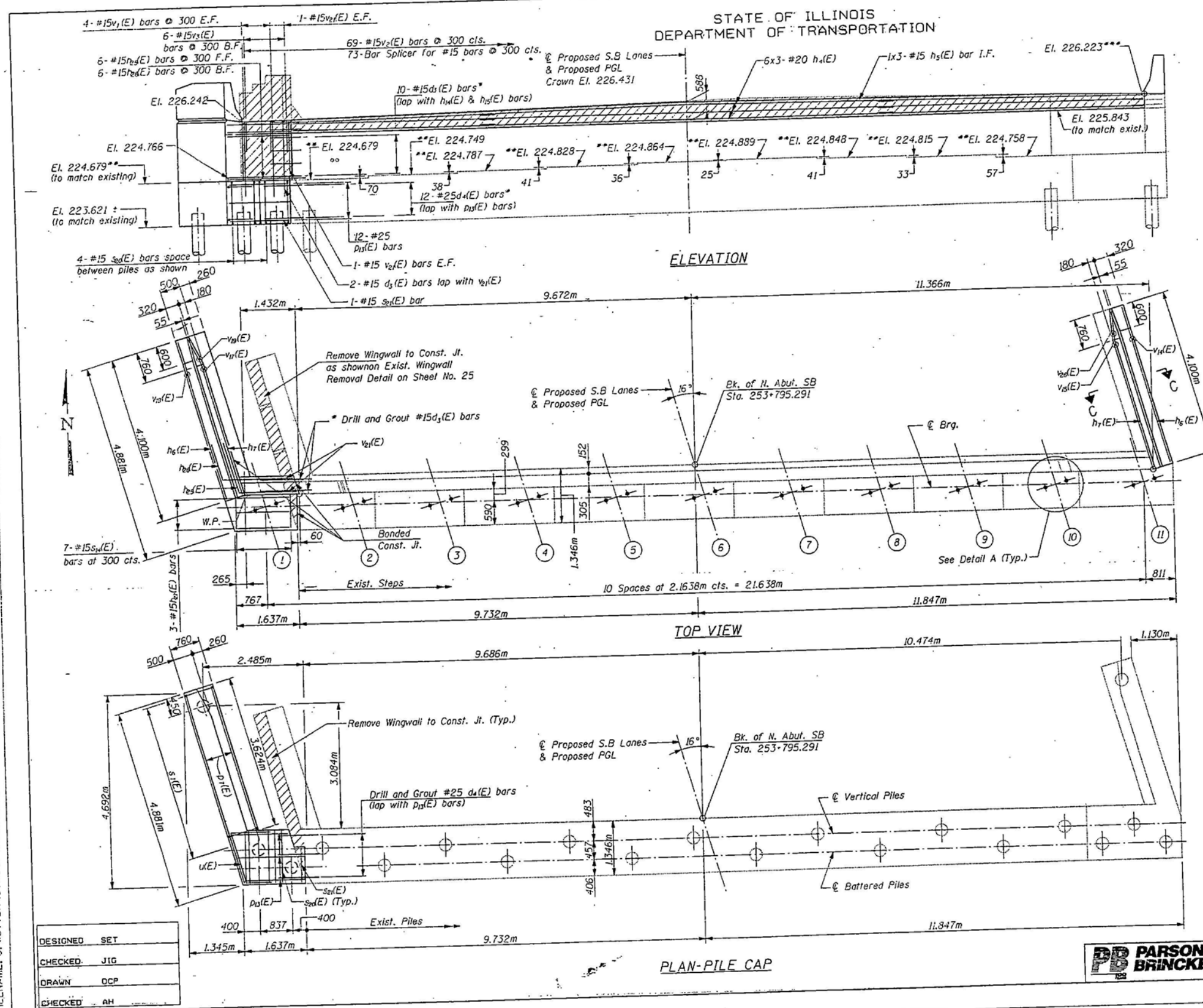
PILE DATA	
Type:	Metal Shell Pile
Capacity:	400 kN Design
Est. Length:	8.5m
No. Req'd.	3



SOUTHBOUND 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.)



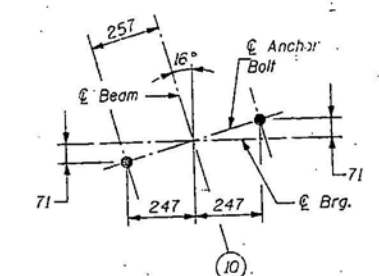
ROUTE NO.	SECTION	DATE	BY	CHKD.	APP'D.	SHEET NO.
F.A.I. 290	SEC. 22-1-2, 0103-30, & 0305-3 ETA	06/04/02	JTG	DCP	AH	24
						SHEETS 45



- 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 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. 38 For Concrete Removal Quantity.
 - For Legend See Sheet No. 25.
 - Existing anchor bolts shall be cut flush with existing seal and covered with a layer of grout.
- * Drill and grout #15d_s(E) in 230mm min. drilled holes and #25 d_s(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

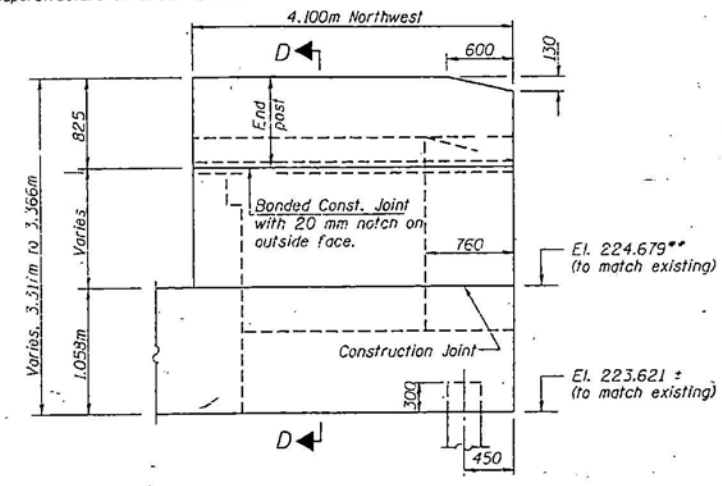
PILE DATA	
Type:	Metall Shell Pile
Capacity:	400 kN Design
Est. Length:	14.0m
No. Req'd:	3



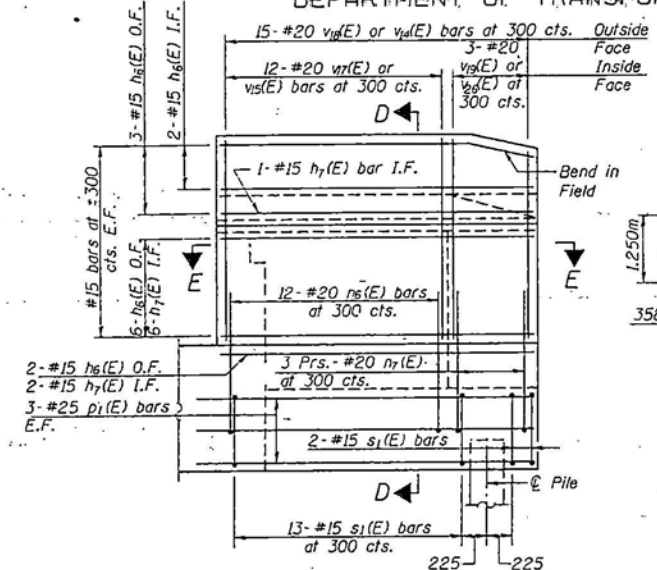
SOUTHBOUND NORTH ABUTMENT WIDENING
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)



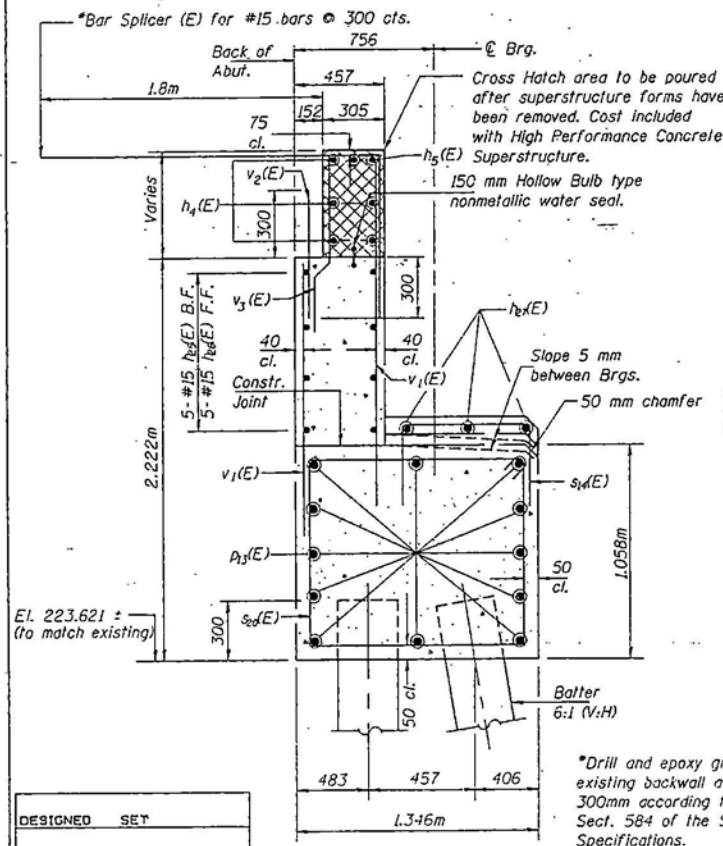
Note: End post shall be poured after bridge is in place. Form top surface to match parapet grade. Quantity of concrete is included with High Performance Concrete Superstructure on Sheet No. 12.



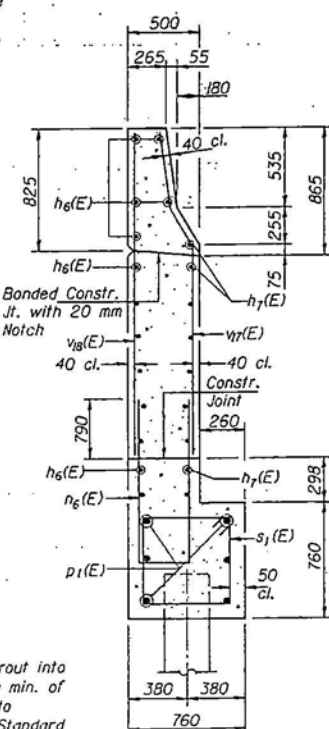
NORTHWEST WINGWALL ELEVATION
Showing Dimensions



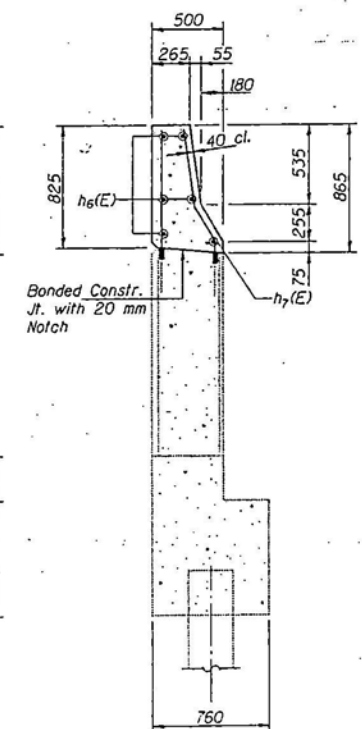
NORTHWEST WINGWALL ELEVATION
Showing Reinforcement



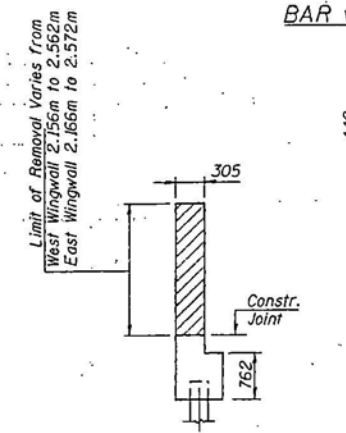
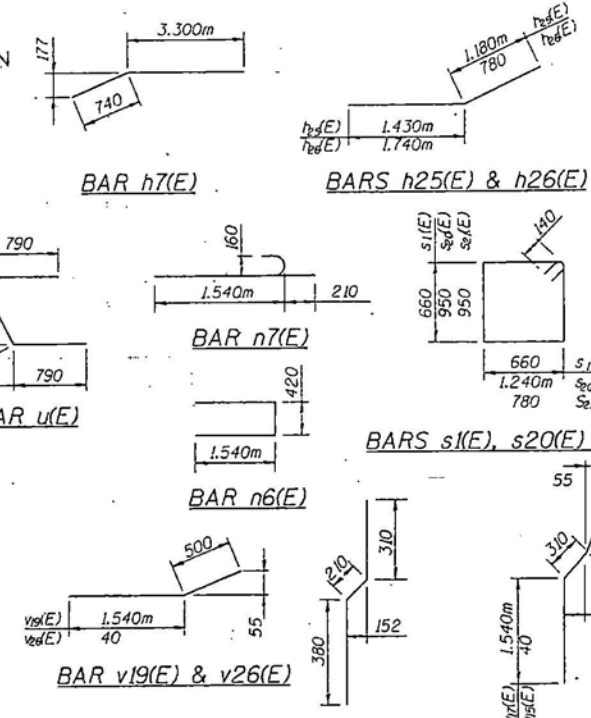
SEC. THRU ABUT.
(Dimension at Rt. L's)



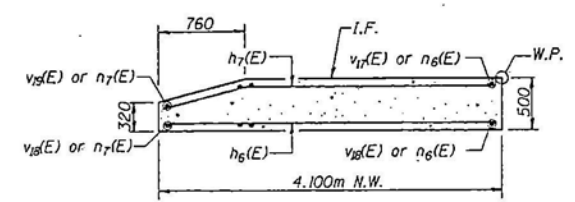
SECTION D-D
(At W. Wingwall)



SECTION C-C
(At E. Wingwall)



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

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
F.A.I. 290	**	COOK	116.3	654
SHEETS 45				

BILL OF MATERIAL				
Bar	No.	Size	Length (m)	Shape
d1(E)	12	#25	1.620	
d2(E)	14	#15	0.940	
h1(E)	18	#20	7.360	
h2(E)	3	#15	7.360	
h3(E)	18	#15	4.020	
h4(E)	10	#15	4.040	
h5(E)	6	#15	2.630	
h6(E)	6	#15	2.520	
h7(E)	3	#15	1.530	
n1(E)	12	#20	3.460	
n2(E)	6	#20	1.750	
p1(E)	6	#25	4.050	
p2(E)	12	#25	1.580	
s1(E)	15	#15	2.920	
s2(E)	4	#15	4.660	
s3(E)	1	#15	3.740	
s4(E)	7	#15	1.670	
u(E)	4	#20	2.880	
v1(E)	8	#15	1.840	
v2(E)	69	#15	0.600	
v3(E)	6	#15	0.900	
v4(E)	12	#20	2.350	
v5(E)	15	#20	2.310	
v6(E)	3	#20	2.040	
v7(E)	2	#15	1.420	
v8(E)	15	#20	0.780	
v9(E)	12	#20	0.400	
v10(E)	3	#20	0.540	
Concrete Structures			m ³	8.4
Reinforcement Bars, Epoxy Coated			kg	1430
Furnishing Metal Pile Shells, 305 mm			m	42.0
Driving and Filling Shells			m	42.0
Structure Excavation			m ³	20
Bridge Seat Sealer			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 E.T.A.
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

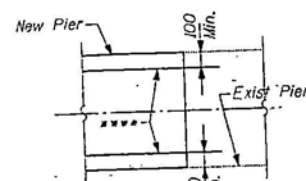


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DESIGNED	SET
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

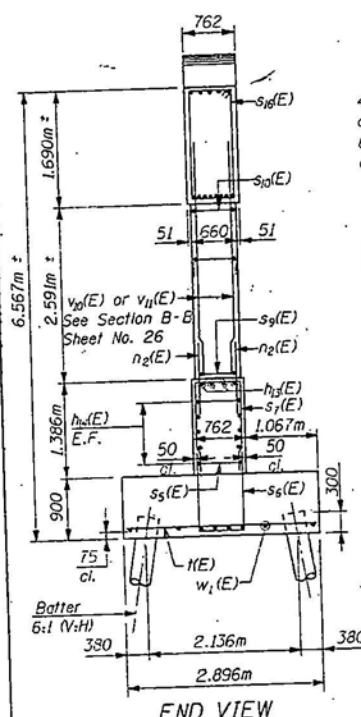
06-04-02

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.I. 290	**	COOK	1/5/3	655
PROJ. NO.	EST. NO.	DATE	BY	CHECKED
22-1-2-0103-30, & 0305-3	ETA			



DETAIL B

****Drill and grout #15 d₃(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.



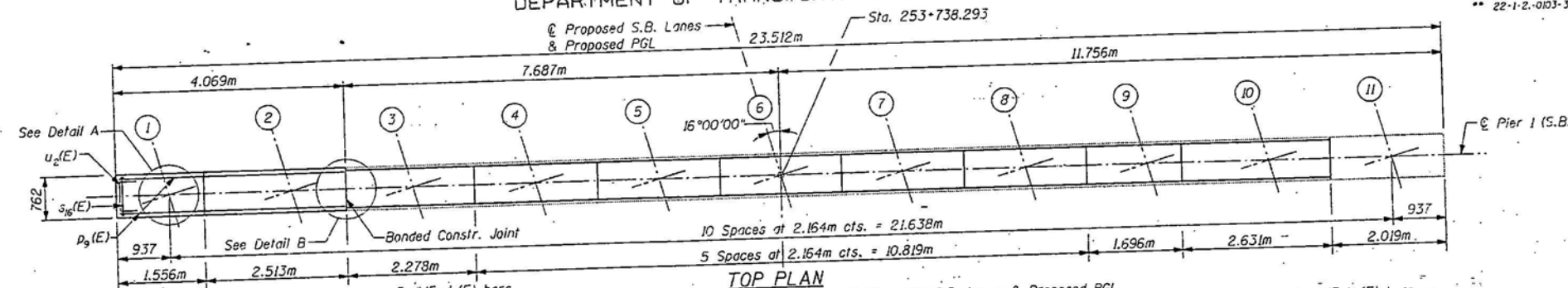
END VIEW

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

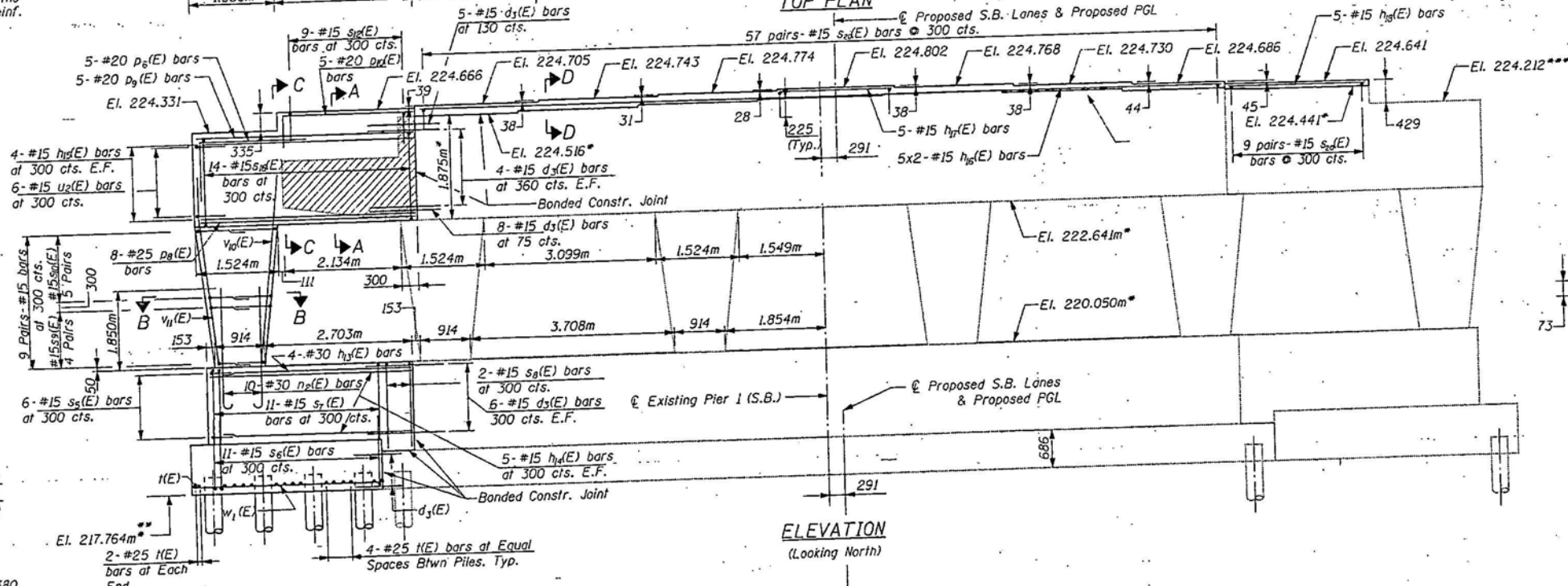
DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

06-04-02

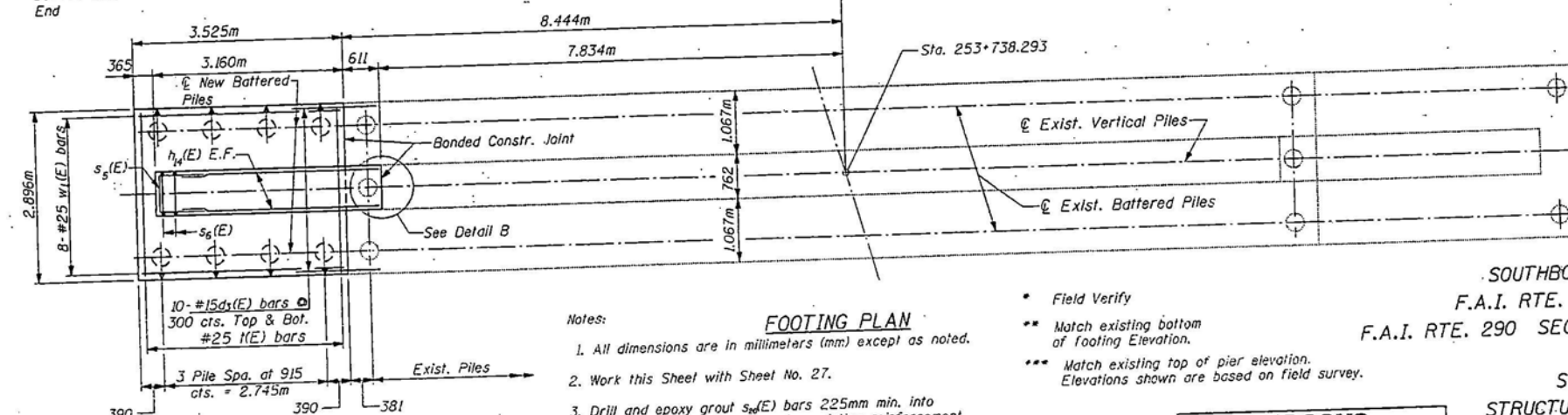
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



TOP PLAN



ELEVATION
(Looking North)

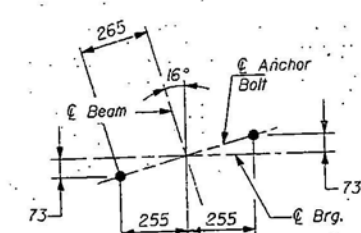


FOOTING PLAN

- Notes:
- All dimensions are in millimeters (mm) except as noted.
 - Work this Sheet with Sheet No. 27.
 - Drill and epoxy grout s₁₆(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.

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

PARSONS BRINCKERHOFF



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
- Indicates battered piles

PILE DATA

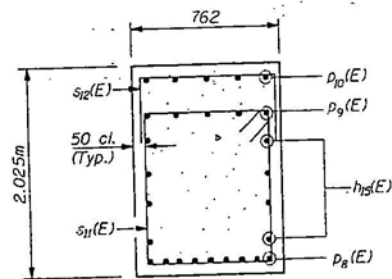
Type: Metal Shell Pile
Capacity: 400 kN Design
Est. Length: 15.5m
No. Req'd: 8

SOUTHBOUND 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.)

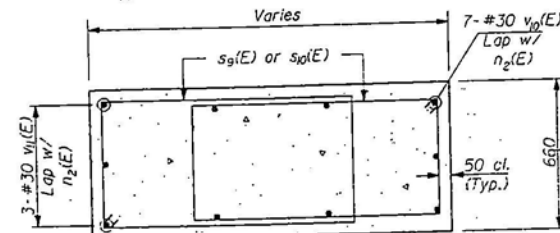
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
F.A.I. 290	SEC. 22-1-2	COOK	0103-30, & 0305-3	ETA

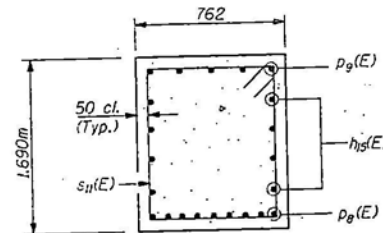
SHEET NO. 27
SHEETS 45



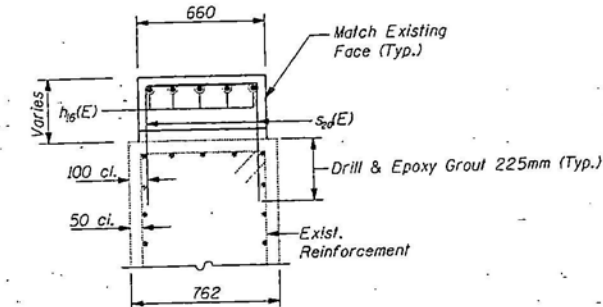
SECTION A-A



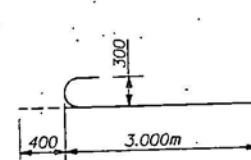
SECTION B-B



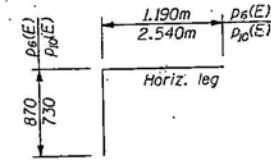
SECTION C-C



SECTION D-D



BAR n2(E)

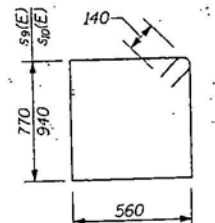


BARS p6(E) p10(E)

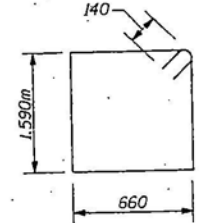
A & B DIMENSIONS

Bar	A	B
s5(E)	630	380
s6(E)	660	1,560m
s7(E)	660	1,250m
s8(E)	660	1,550m
s9(E)	660	700
s10(E)	630	445

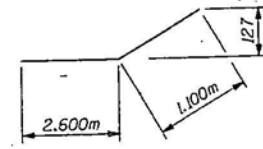
BARS s5(E) thru s8(E) s9(E) u2(E)



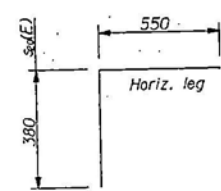
BARS s9(E) s10(E)



BAR s6(E)



BAR v11(E)



BARS s20(E) s21(E)

Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. All edges shall have standard 20 mm chamfers except as noted.
3. Pour steps monolithically with cap.
4. All dimensions are in millimeters (mm) except as noted.
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.

BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
d3(E)	53	#15	0.940	
h12(E)	4	#30	3.670	
h14(E)	10	#15	3.670	
h15(E)	8	#15	3.970	
h16(E)	10	#15	7.680	
h17(E)	5	#15	2.080	
h18(E)	5	#15	2.550	
n2(E)	10	#30	3.400	
p8(E)	8	#25	3.970	
p9(E)	5	#20	3.970	
p10(E)	5	#20	2.060	
p11(E)	5	#20	3.270	
s5(E)	6	#15	1.390	
s6(E)	11	#15	3.780	
s7(E)	11	#15	3.160	
s8(E)	2	#15	3.760	
s9(E)	8	#15	2.940	
s10(E)	10	#15	3.280	
s12(E)	9	#15	2.060	
s16(E)	14	#15	4.780	
s20(E)	132	#15	0.930	
u2(E)	6	#15	1.520	
v10(E)	7	#30	3.700	
v11(E)	3	#30	3.700	
w1(E)	8	#25	3.425	
Structure Excavation		Cu. m.	31	
Concrete Structures		Cu. m.	24.2	
Reinforcement Bars		kg	1910	
Epoxy Coated				
Furnishing Metal Pile Shells, 305 mm		m	124.0	
Driving and Filling Shells		m	124.0	

Reinforcement Bars designated (E) shall be epoxy coated.

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.)

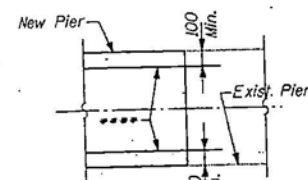
PARSONS
BRINCKERHOFF

DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

06-04-02

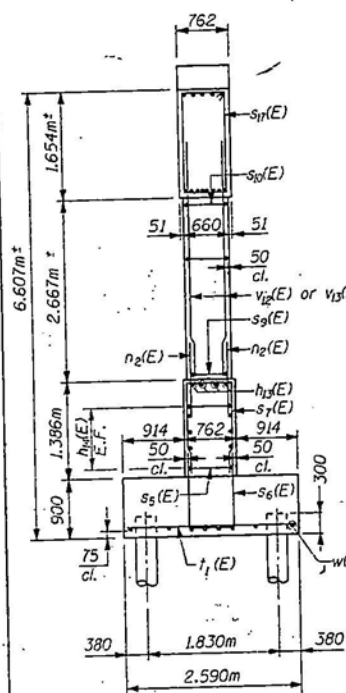
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.I. 290	SEC. 22-1-2	COOK	1153	657
22-1-2, 0103-30, & 0305-3 ETA				

SHEET NO. 28
SHEETS 45



DETAIL B

**** Drill and grout #15 d₃(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.



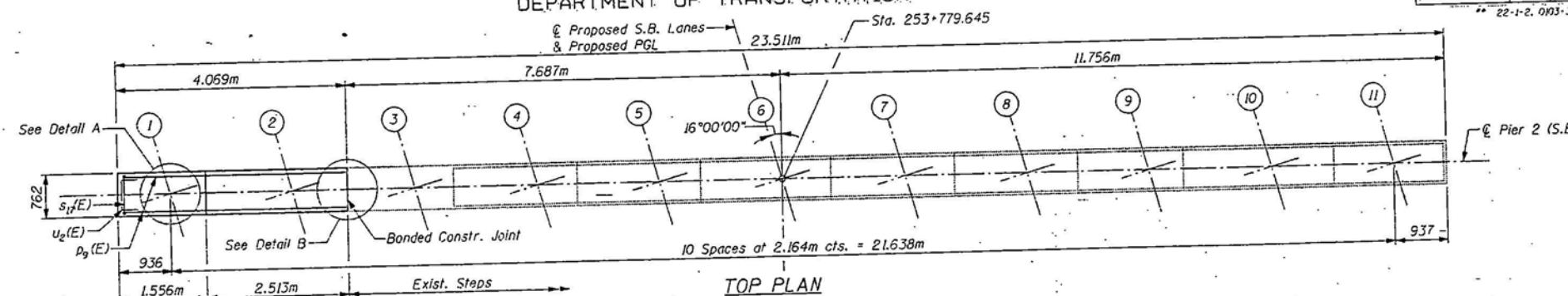
END VIEW

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

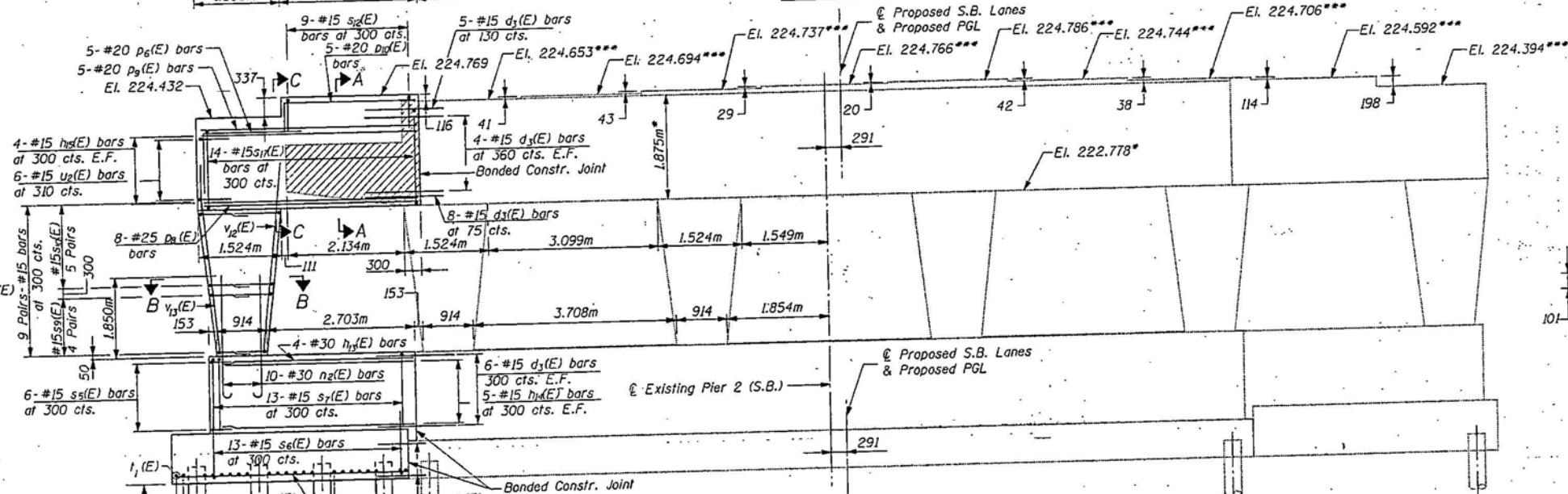
DESIGNED	RJO
CHECKED	JIG
DRAWN	OCP
CHECKED	AM

06-04-02

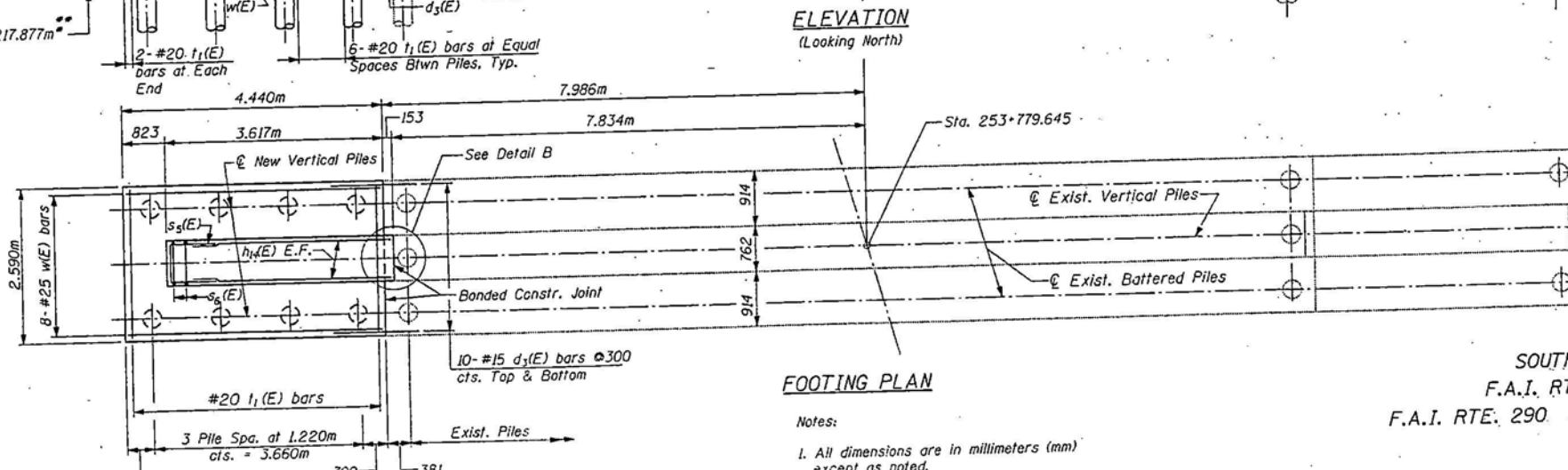
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



TOP PLAN



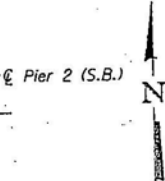
ELEVATION
(Looking North)



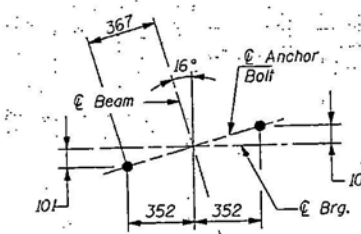
FOOTING PLAN

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

PARSONS BRINCKERHOFF



- 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

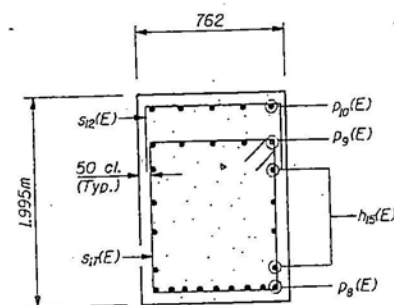
Type: Metal Shell Pile
Capacity: 400 kN Design
Est. Length: 13.0m
No. Req'd. 8

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.)

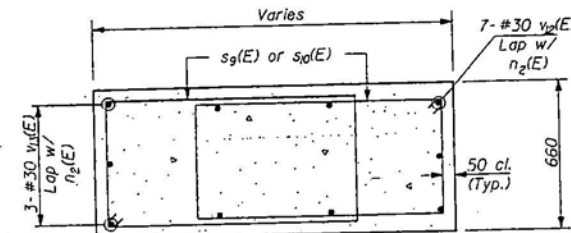
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	QUANTITY	UNIT	AMOUNT
F.A.I. 290	**	COOK	1153	658
F.A.I. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA				

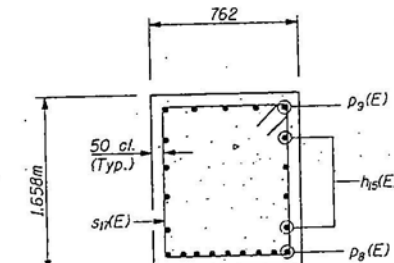
SHEET NO. 29
SHEETS 45



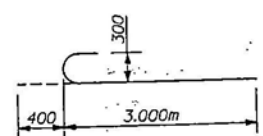
SECTION A-A



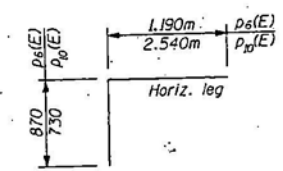
SECTION B-B



SECTION C-C



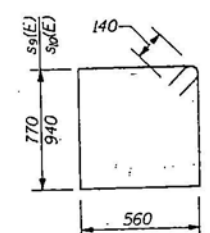
BAR n2(E)



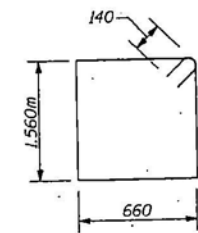
BARS p6(E) p10(E)

A & B DIMENSIONS		
Bar	A	B
s5(E)	630	380
s6(E)	660	1.560m
s7(E)	660	1.250m
s12(E)	660	700
u2(E)	630	445

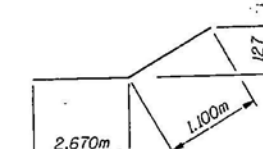
BARS s5(E) thru s7(E) s12(E) u2(E)



BARS s9(E) s10(E)



BAR s11(E)



BAR v12(E)

- Notes:
1. Space reinforcement in cap to miss anchor bolts.
 2. All edges shall have standard 20 mm chamfers except as noted.
 3. Pour steps monolithically with cap.
 4. All dimensions are in millimeters (mm) except as noted.
 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.

BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
s5(E)	53	#15	0.940	
h12(E)	4	#30	3.670	
h14(E)	10	#15	3.670	
h15(E)	8	#15	3.970	
n2(E)	10	#30	3.400	
p8(E)	8	#25	3.970	
p9(E)	5	#20	3.970	
p10(E)	5	#20	2.060	
p11(E)	5	#20	3.270	
s9(E)	6	#15	1.390	
s10(E)	13	#15	3.780	
s11(E)	13	#15	3.160	
s12(E)	8	#15	2.940	
s13(E)	10	#15	3.280	
s14(E)	9	#15	2.060	
s15(E)	14	#15	4.720	
t1(E)	22	#20	2.490	
u2(E)	6	#15	1.520	
v12(E)	7	#30	3.780	
v13(E)	3	#30	3.770	
w(E)	8	#25	4.340	
Structure Excavation			Cu. m.	35
Concrete Structures			Cu. m.	22.3
Reinforcement Bars, Epoxy Coated			kg	1550
Furnishing Metal Pile Shells, 305 mm			m	104.0
Driving and Filling Shells			m	104.0

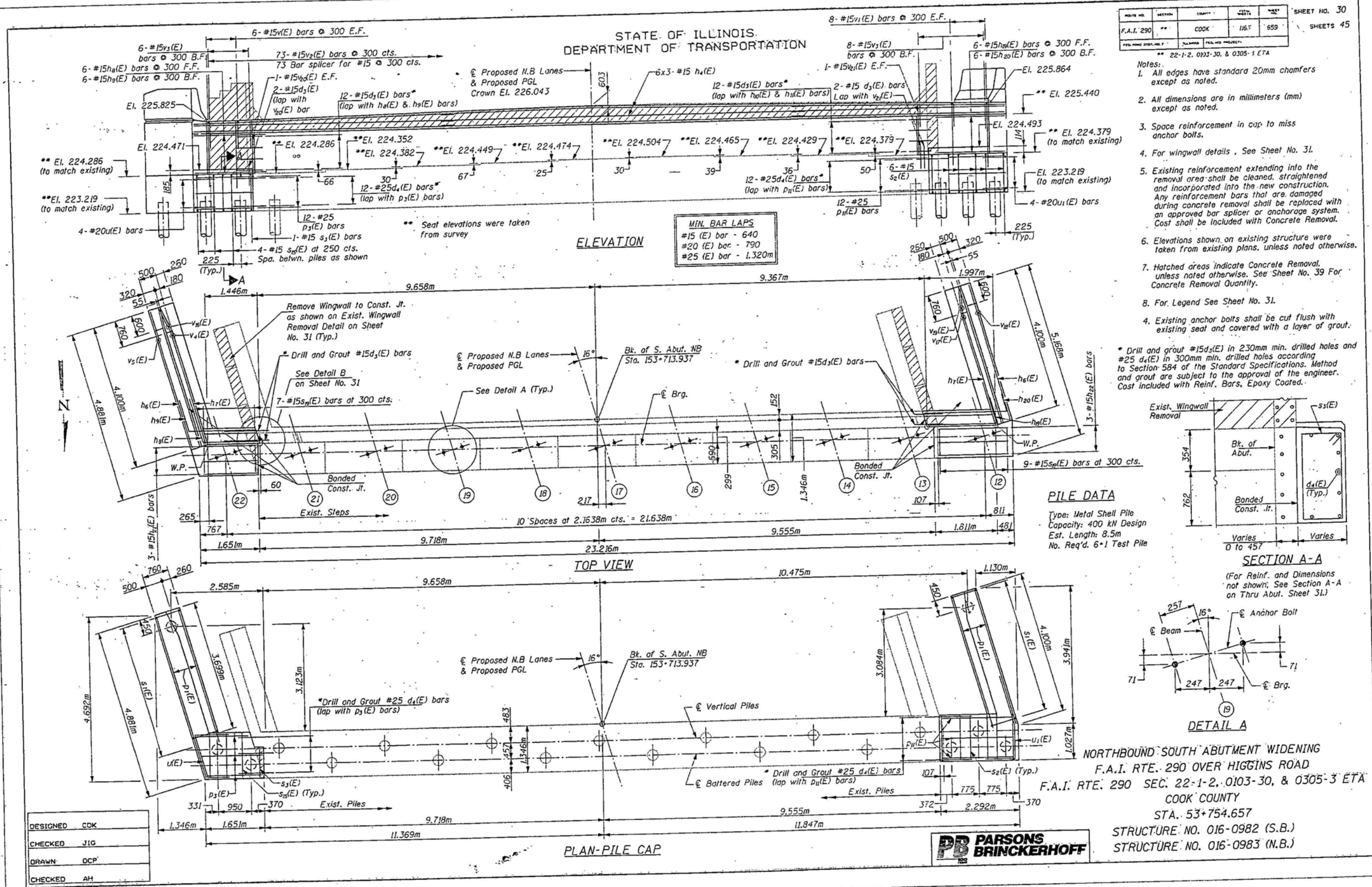
Reinforcement Bars designated (E) shall be epoxy coated.

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.)

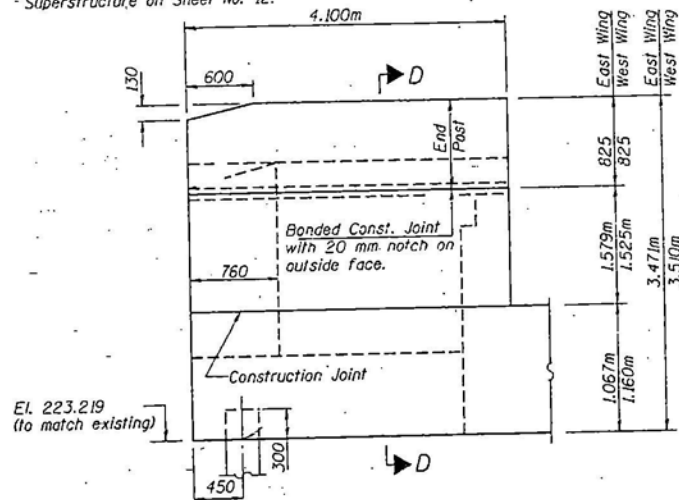


DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

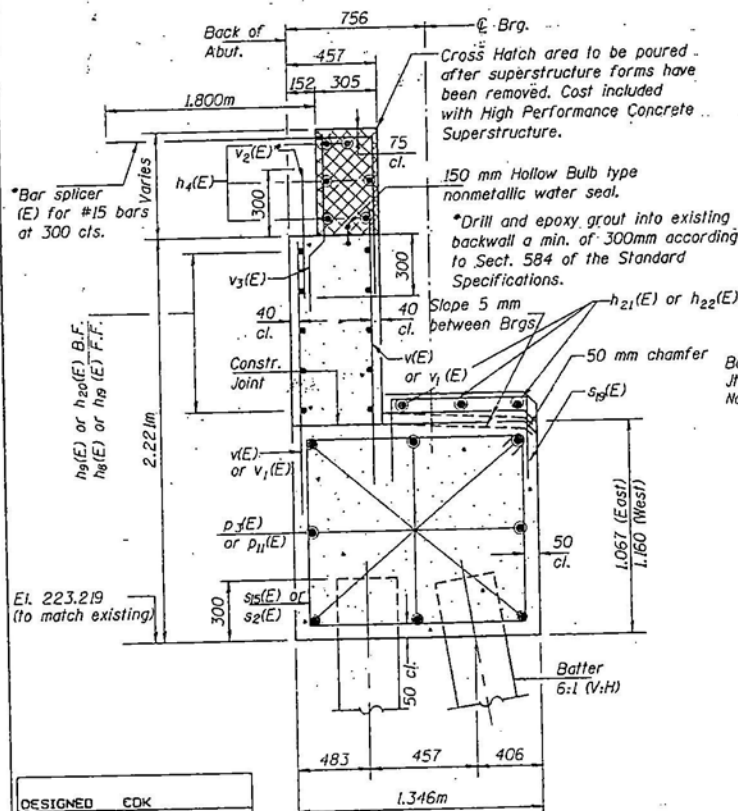
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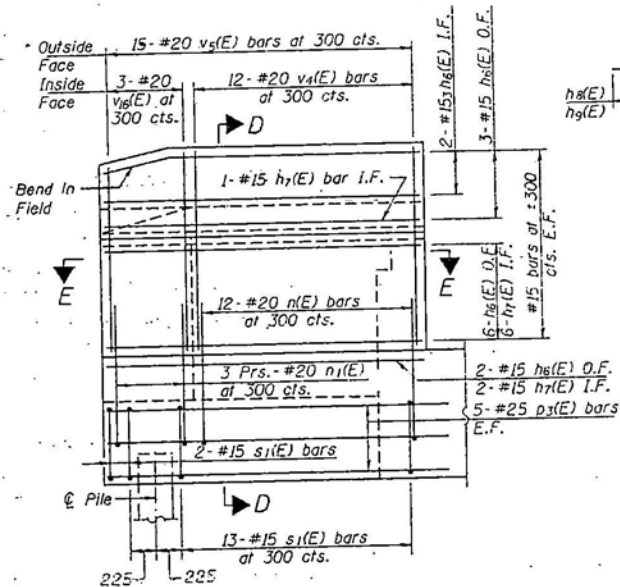
Note: End post shall be poured after bridge is in place. Form top surface to match parapet grade. Quantity of concrete is included with High Performance Concrete Superstructure on Sheet No. 12.



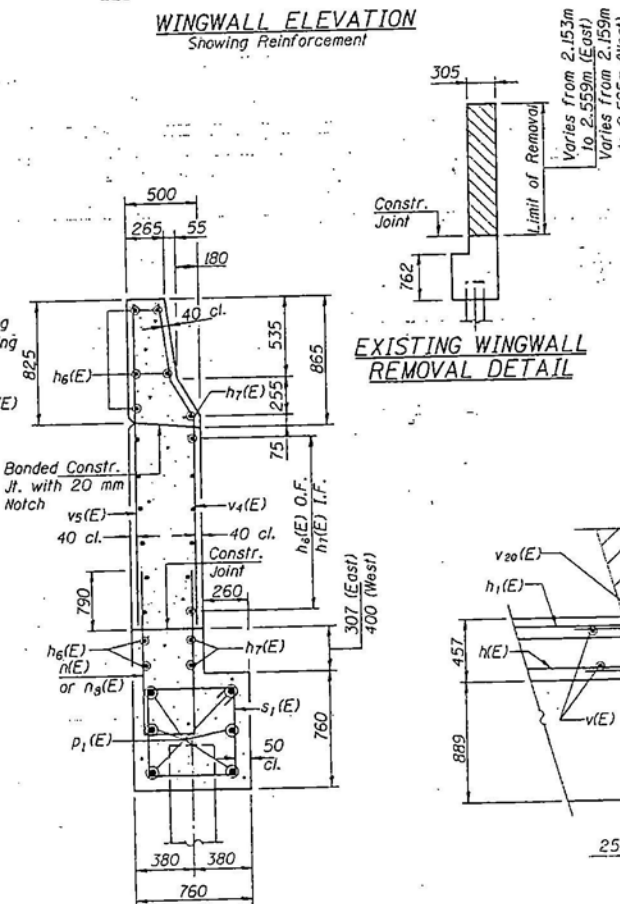
WINGWALL ELEVATION
Showing Dimensions



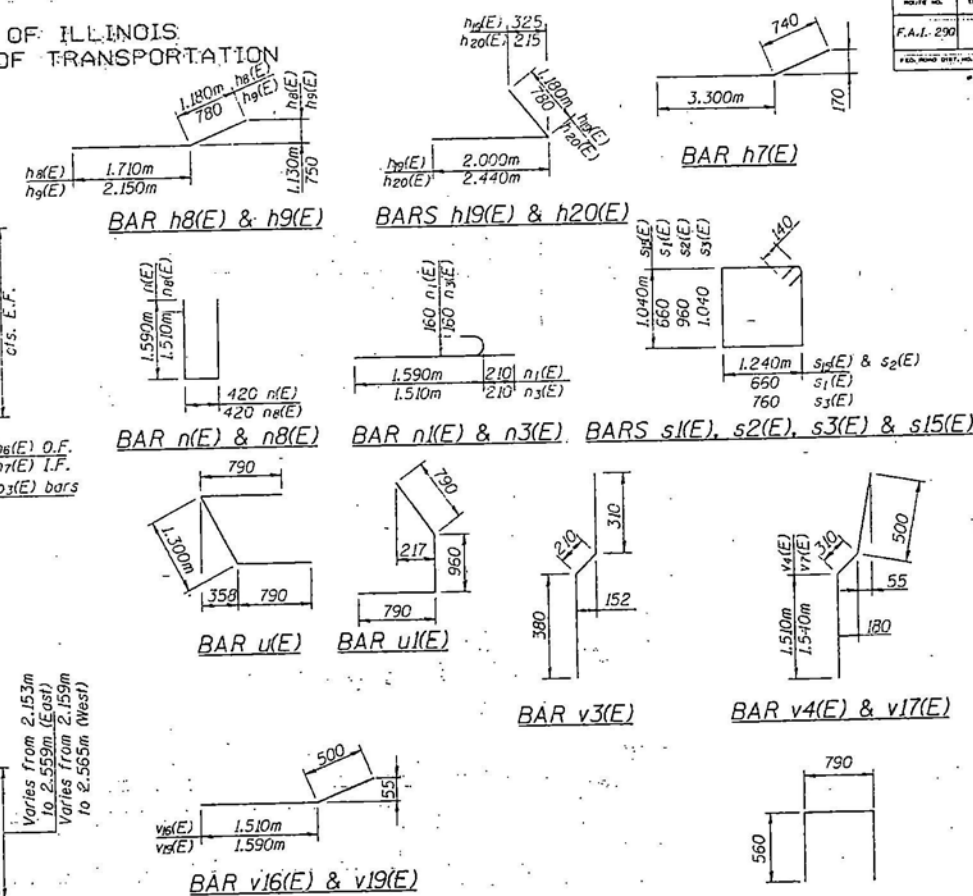
SEC. THRU ABUT
(Dimension at Rt. L's)



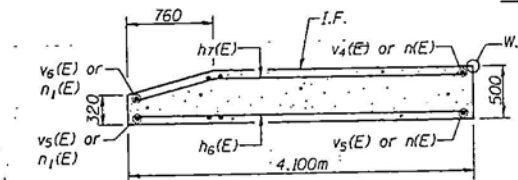
WINGWALL ELEVATION
Showing Reinforcement



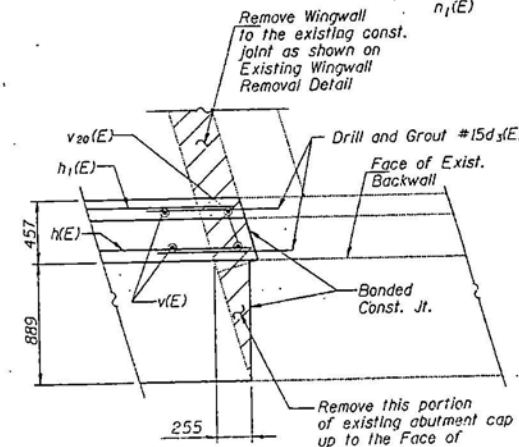
SECTION D-D



DETAIL B



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

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 SOUTH ABUTMENT DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
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.)

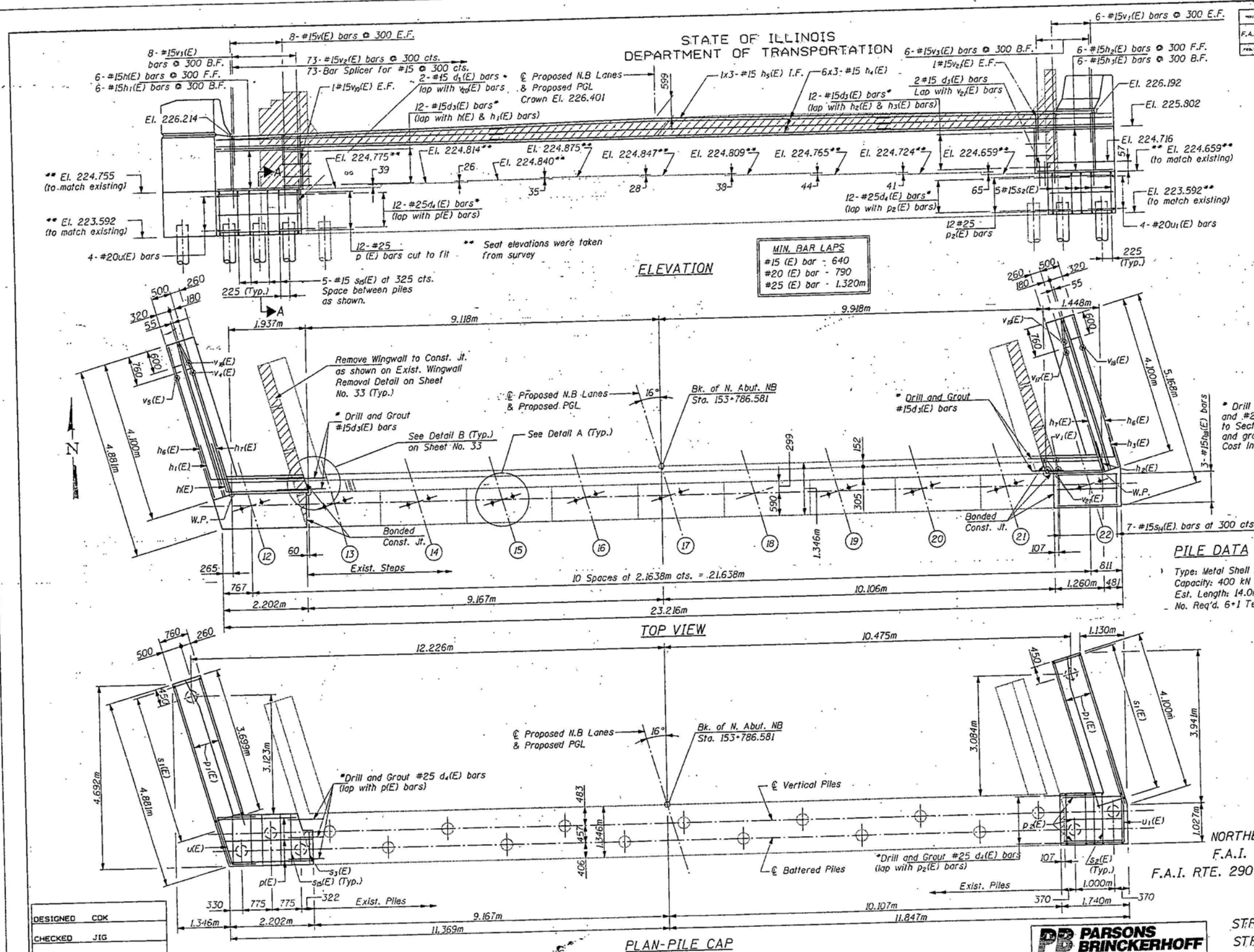
BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
$d_7(E)$	28	#15	0.940	
$d_6(E)$	24	#25	1.620	
$h_4(E)$	18	#20	1.350	
$h_5(E)$	26	#15	4.020	
$h_7(E)$	18	#15	4.040	
$h_9(E)$	6	#15	2.890	
$h_9(E)$	6	#15	2.930	
$h_{20}(E)$	6	#15	3.180	
$h_{20}(E)$	6	#15	3.220	
$h_{21}(E)$	3	#15	1.550	
$h_{22}(E)$	3	#15	2.200	
$n(E)$	12	#20	3.650	
$n_1(E)$	6	#20	1.800	
$n_3(E)$	6	#20	1.720	
$n_8(E)$	12	#20	3.440	
$p_1(E)$	12	#25	4.050	
$p_2(E)$	12	#25	1.740	
$p_1(E)$	12	#25	2.190	
$s_1(E)$	30	#15	2.920	
$s_2(E)$	6	#15	4.680	
$s_3(E)$	1	#15	3.980	
$s_3(E)$	4	#15	4.840	
$s_9(E)$	16	#15	1.910	
$u(E)$	4	#20	2.880	
$u_1(E)$	4	#20	2.540	
$v(E)$	12	#15	1.780	
$v_1(E)$	16	#15	1.840	
$v_2(E)$	73	#15	0.600	
$v_3(E)$	14	#15	0.900	
$v_4(E)$	12	#20	2.320	
$v_5(E)$	15	#20	2.260	
$v_6(E)$	3	#20	2.010	
$v_{17}(E)$	12	#20	2.350	
$v_6(E)$	15	#20	2.310	
$v_{25}(E)$	3	#20	2.040	
$v_{20}(E)$	2	#15	1.360	
$v_{21}(E)$	2	#15	1.420	

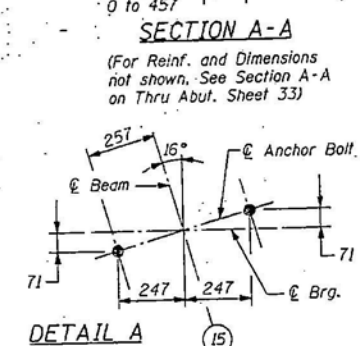
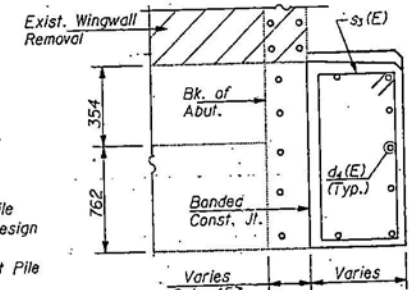
Concrete Structures	m ³	19.4
Reinforcement Bars, Epoxy Coated	kg	2360
Furnishing Metal Pile Shells, 305 mm	m	51.0
Driving and Filling Shells	m	51.0
Test Pile Metal Shells	Each	1
Structure Excavation	m ³	48
Bridge Seat Sealer	m ²	3.6

DESIGNED	CDK
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

FILENAME: C:\N6772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIG15.NB.DGN; 6/4/02; 13:28:40



- SHEET NO. 32
SHEETS 45
- 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. 33.
 - 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. 33.
 - Existing anchor bolts shall be cut flush with existing seat and covered with a layer of grout.
- * Drill and grout #15d₁(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.



BILL OF MATERIAL

Technical drawing of a bridge deck cross-section. The drawing shows a rectangular cross-section with various dimensions and construction details. The total width is 4.100m. The top width is 600. The bottom width is 450. The height is 300. The drawing includes a 'Banded Const. Joint with 20 mm notch on outside face.' and a 'Construction Joint'. The drawing is labeled 'El. 223.592 (to match existing)'.

Dimensions and Labels:

- Top Width: 4.100m
- Top Flange Width: 600
- Bottom Width: 450
- Bottom Flange Height: 300
- Web Height: 760
- End Post: Indicated by a dashed line and label.
- Banded Const. Joint with 20 mm notch on outside face.
- Construction Joint: Indicated by a dashed line and label.
- El. 223.592 (to match existing)

Outside Face 15-#20 v(E) bars at 300 cts.

Inside Face 3-#20 v(E) bars at 300 cts.

12-#20 v(E) bars at 300 cts.

1-#15 h(E) bar I.F.

12-#20 n(E) bars at 300 cts.

3 Prs. #20 n(E) at 300 cts.

2-#15 s(E) bars

13-#15 s(E) bars at 300 cts.

2-#15 h(E) I.F.

3-#15 h(E) O.F.

6-#15 h(E) I.F.

6-#15 h(E) O.F.

15 bars at ± 300 cts. E.F.

2-#15 h(E) O.F.

2-#15 h(E) I.F.

3-#25 v(E) bar E.F.

2-#15 s(E) bars

225 225

559m (West) 563m (East)

OF ILLINOIS
OF TRANSPORTATION

1.180m (NE)
780

2.200m
2.640m

1.130m (NE)
750

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

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

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

BAR h7(E

BAR $n1(E)$ & $n3(E)$ BARS $s15(E)$, $s1(E)$, $s2(E)$ & $s3(E)$

BAR $n(F)$ & $n8(E)$

BAR $n1(E)$ & $n3(E)$

2) BARS $s_{15}(E)$, $s_1(E)$, $s_2(E)$ & $s_3(E)$

BAR U(E

BAR LIKE

BAR v3(E

RAR v4(E) & v17(E)

BAR v16(E) & v19(E)

SECTION E-E

VIEW F-F

M24 ANCHOR BOLT

STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)
STRUCTURE NO. 016-0983 (N.B.)

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.

Bar	No.	Size	Length (m)	Shape
d ₄ (E)	24	#25	1.620	J
d ₅ (E)	28	#15	0.940	
h(E)	6	#15	3.380	
h ₁ (E)	6	#15	3.420	
h ₂ (E)	6	#15	2.630	J
h ₃ (E)	6	#15	2.670	
h ₄ (E)	18	#20	7.360	J
h ₅ (E)	3	#15	7.360	
h ₆ (E)	26	#15	4.020	
h ₇ (E)	18	#15	4.040	
h ₈ (E)	3	#15	1.620	J
n(E)	12	#20	3.600	
n ₁ (E)	6	#20	1.800	
n ₂ (E)	12	#20	3.440	
n ₃ (E)	6	#20	1.720	J
p(E)	12	#25	2.290	
p ₁ (E)	12	#25	4.050	
p ₂ (E)	12	#25	1.640	
s ₁ (E)	5	#15	4.840	□
s ₂ (E)	30	#15	2.920	
s ₃ (E)	5	#15	4.680	
s ₄ (E)	1	#15	3.880	
s ₅ (E)	7	#15	1.670	□
u(E)	4	#20	2.880	
u ₁ (E)	4	#20	2.540	
v(E)	16	#15	1.780	
v ₁ (E)	12	#15	1.840	□
v ₂ (E)	73	#15	0.600	
v ₃ (E)	14	#15	0.900	
v ₄ (E)	12	#20	2.320	
v ₅ (E)	15	#20	2.260	□
v ₆ (E)	3	#20	2.010	
v ₇ (E)	12	#20	2.350	
v ₈ (E)	15	#20	2.310	
v ₉ (E)	3	#20	2.040	□
w(E)	2	#15	1.360	
w ₁ (E)	2	#15	1.420	
Concrete Structures			m ³	
Reinforcement Bars, Epoxy Coated			kg	2.360
Furnishing Metal Pile Shells, 305 mm			m	84.0
Driving and Filling Shells			m	84.0
Test Pile Metal Shells			Each	1
Structure Excavation			m ³	46
Bridge Seat Sealer			m ²	3.6

SEC. THRU ABUT.
(Dimension of 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

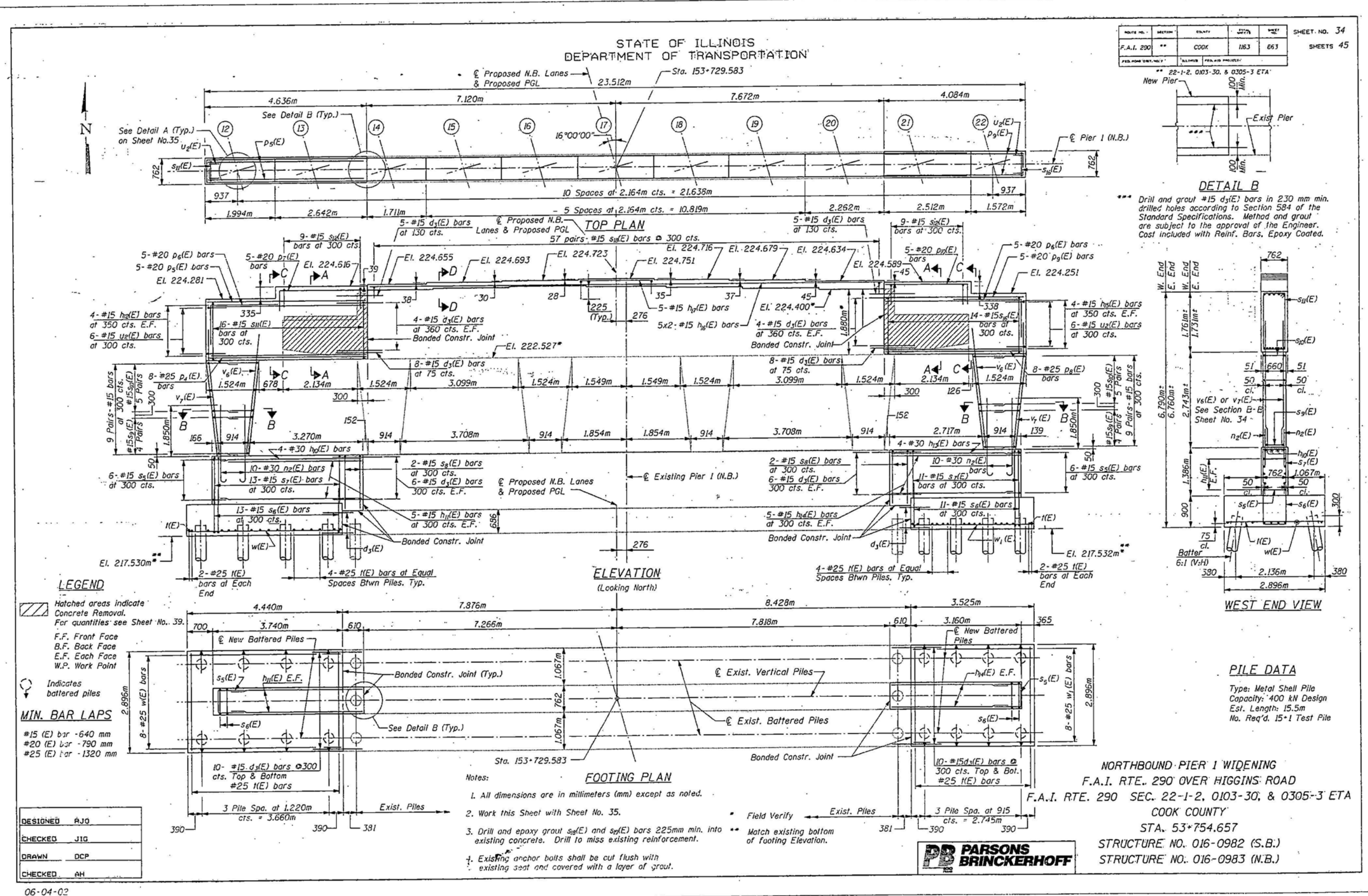
DETAIL E

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



**PARSONS
BRINCKERHOFF**

FILENAME: G:\16772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIGH_PIER\INB.DGN; 6/4/02; 13:30:03.



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DRAWN	CHECKED	SHEET NO.
F.A.I. 290	**	COOK	1163	664
SHEET NO. 35				
SHEETS 45				

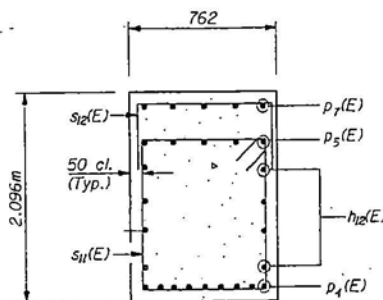
BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
$d_3(E)$	106	#15	0.940	
$h_2(E)$	4	#30	4.250	
$h_1(E)$	10	#15	4.250	
$h_2(E)$	8	#15	4.550	
$h_2(E)$	4	#30	3.670	
$h_2(E)$	10	#15	3.670	
$h_2(E)$	8	#15	3.970	
$h_2(E)$	10	#15	7.680	
$h_2(E)$	5	#15	2.090	
$n_2(E)$	20	#30	3.400	
$p_4(E)$	8	#25	4.550	
$p_5(E)$	5	#20	4.550	
$p_6(E)$	10	#20	2.060	
$p_7(E)$	5	#20	3.270	
$p_8(E)$	8	#25	3.970	
$p_9(E)$	5	#20	3.970	
$p_{10}(E)$	5	#20	3.140	
$s_5(E)$	12	#15	1.390	
$s_6(E)$	24	#15	3.780	
$s_7(E)$	24	#15	3.160	
$s_8(E)$	4	#15	3.760	
$s_9(E)$	16	#15	2.940	
$s_{10}(E)$	20	#15	3.280	
$s_{11}(E)$	16	#15	4.920	
$s_{12}(E)$	18	#15	2.060	
$s_{13}(E)$	14	#15	4.860	
$s_{14}(E)$	114	#15	0.960	
HE	32	#25	2.790	
$u_2(E)$	12	#15	1.520	
$v_5(E)$	14	#30	3.860	
$v_7(E)$	6	#30	3.850	
$w(E)$	8	#25	4.340	
$w_1(E)$	8	#25	3.425	
Structure Excavation	Cu. m.		69	
Concrete Structures	Cu. m.		50.2	
Reinforcement Bars, Epoxy Coated	kg		3,560	
Furnishing Metal Pile Shells, 305 mm	m		232.5	
Driving and Filling Shells	m		232.5	
Test Piles	Each		1	
Metal Shells				

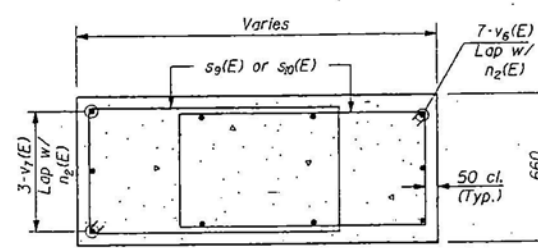
Reinforcement Bars designated (E) shall be epoxy coated.

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.)

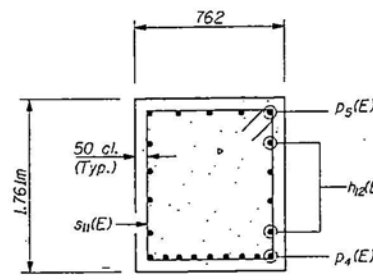
PARSONS
BRINCKERHOFF



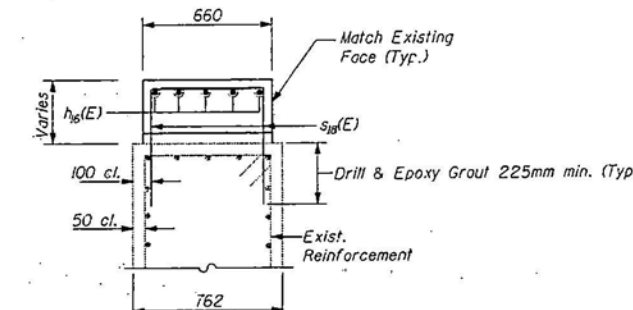
SECTION A-A
W. End Shown
E. End Similar



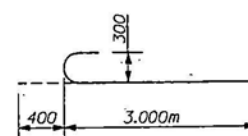
SECTION B-B
W. End Shown
E. End Similar



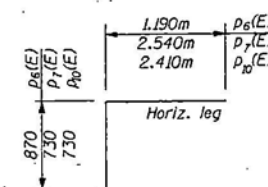
SECTION C-C
W. End Shown
E. End Similar



SECTION D-D



BAR $n_2(E)$

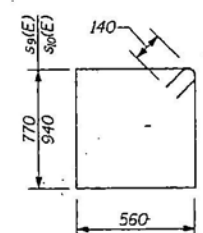


BARS $p_6(E)$, $p_7(E)$, $p_8(E)$

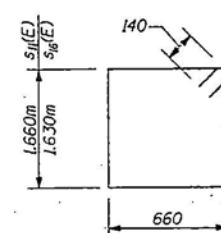
A & B DIMENSIONS

Bar	A	B
$s_5(E)$	630	380
$s_6(E)$	660	1,560m
$s_7(E)$	660	1,250m
$s_8(E)$	660	1,550m
$s_{10}(E)$	660	700
$u_2(E)$	630	445

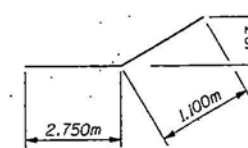
BARS $s_5(E)$ thru $s_8(E)$, $s_{10}(E)$, $u_2(E)$



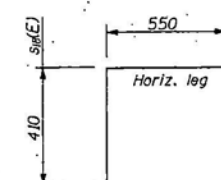
BARS $s_9(E)$, $s_{10}(E)$



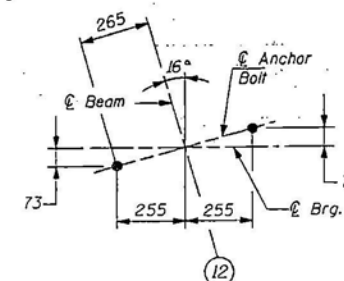
BAR $s_{11}(E)$, $s_{12}(E)$



BAR $v_7(E)$



BARS $s_{13}(E)$, $s_{14}(E)$



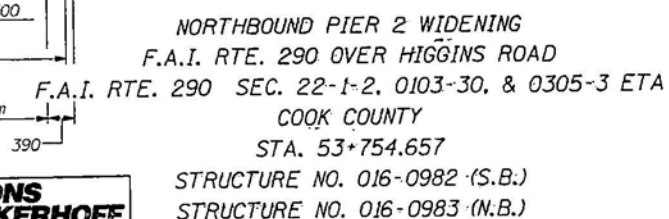
DETAIL A

DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

06-04-02

FILENAME: G:\6772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIG12_PIER01NB_DET.DGN; 6/4/02 13:30:39

*** Drill and grout #15 d₃(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.



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
F.A.I. 290	**	COOK	115.3	666
SHEET NO. 37 SHEETS 45				

BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
d ₃ (E)	102	#15	0.940	
h ₁ (E)	4	#30	4.250	
h ₁ (E)	10	#15	4.250	
h ₂ (E)	8	#15	4.550	
h ₃ (E)	4	#30	3.670	
h ₄ (E)	10	#15	3.670	
h ₅ (E)	8	#15	3.970	
h ₆ (E)	10	#15	7.680	
h ₇ (E)	5	#15	2.080	
n ₂ (E)	20	#30	3.400	
p ₄ (E)	8	#25	4.550	
p ₅ (E)	5	#20	4.550	
p ₆ (E)	10	#20	2.060	
p ₇ (E)	5	#20	3.270	
p ₈ (E)	8	#25	3.970	
p ₉ (E)	5	#20	3.970	
p ₁₀ (E)	5	#20	3.270	
s ₅ (E)	12	#15	1.390	
s ₆ (E)	28	#15	3.780	
s ₇ (E)	28	#15	3.160	
s ₉ (E)	16	#15	2.940	
s ₁₀ (E)	20	#15	3.280	
s ₁₂ (E)	18	#15	2.060	
s ₁₃ (E)	16	#15	4.790	
s ₁₇ (E)	14	#15	4.740	
s ₂₀ (E)	114	#15	0.930	
t ₁ (E)	44	#20	2.490	
u ₂ (E)	12	#15	1.520	
v ₉ (E)	14	#30	4.010	
v ₉ (E)	6	#30	4.000	
w(E)	16	#25	4.340	
Structure Excavation		Cu. m.	70	
Concrete Structures		Cu. m.	49.1	
Reinforcement Bars, Epoxy Coated		kg	3520	
Furnishing Metal Pile Shells, 305 mm		m	195.0	
Driving and Filling Shells		m	195.0	
Test Piles Metal Shells		Each	1	

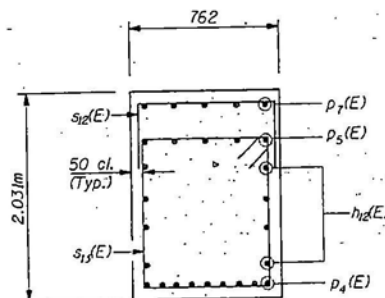
Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. All edges shall have standard 20 mm chamfers except as noted.
3. Pour steps monolithically with cap.
4. All dimensions are in millimeters (mm) except as noted.
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.

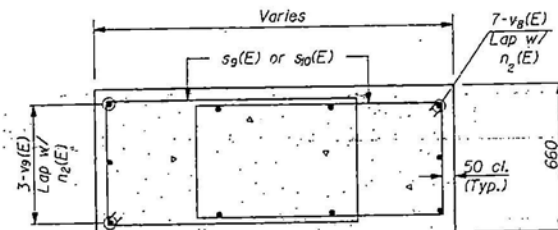
Reinforcement Bars designated (E) shall be epoxy coated.

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.)

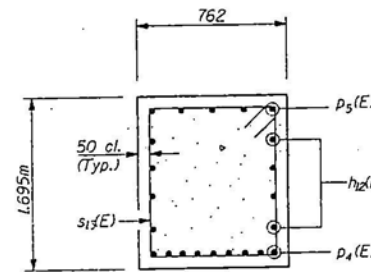
PARSONS
BRINCKERHOFF



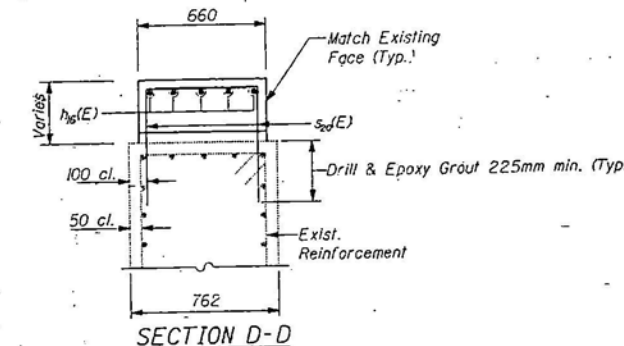
SECTION A-A
W. End Shown
E. End Similar



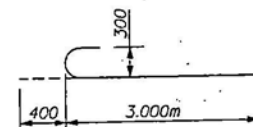
SECTION B-B
W. End Shown
E. End Similar



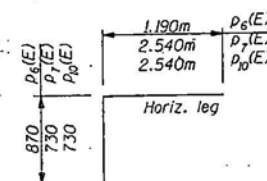
SECTION C-C
W. End Shown
E. End Similar



SECTION D-D



BAR n₂(E)

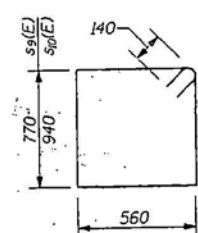


BARS p₆(E) p₇(E) p₈(E)

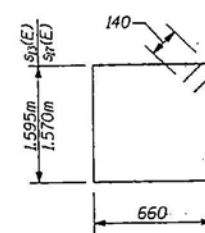
A & B DIMENSIONS

Bar	A	B
s ₅ (E)	630	380
s ₆ (E)	660	1.560m
s ₇ (E)	660	1.250m
s ₉ (E)	660	700
u ₂ (E)	630	445

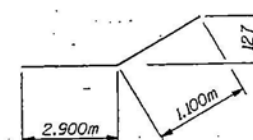
BARS s₅(E) thru s₇(E) s₉(E) u₂(E)



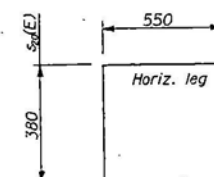
BARS s₉(E) s₁₀(E)



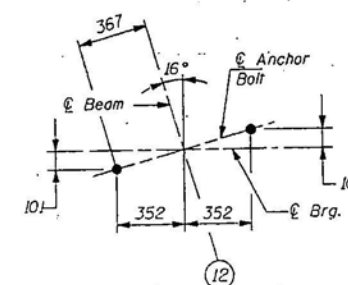
BARS s₁₁(E) s₁₂(E)



BAR v₉(E)



BARS s₂₀(E) s₂₁(E)



DETAIL A

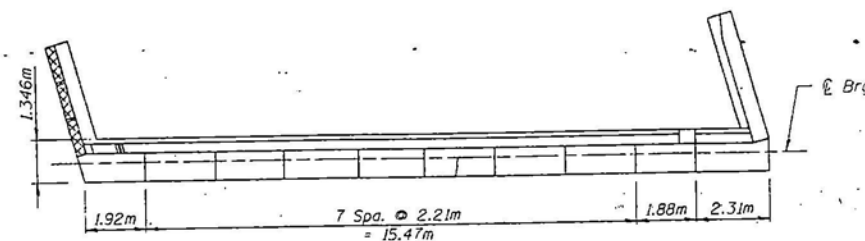
DESIGNED	RJO
CHECKED	JIG
DRAWN	DCP
CHECKED	AM

06-04-02

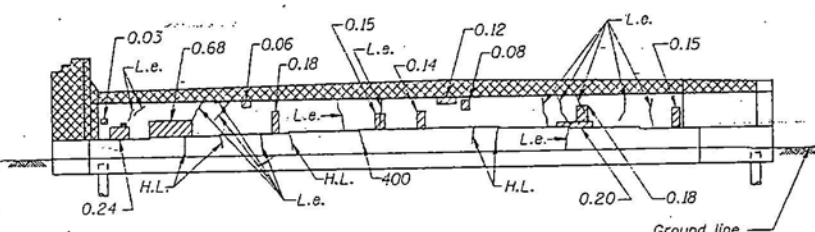
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

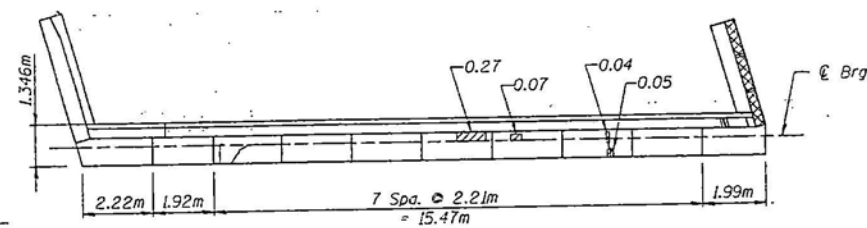
ROUTE NO.	SECTION	COUNTY	LETS	DATE	SHEET NO. 38
F.A.I. 290	CCOK	1163	667		SHEETS 45
22-1-2, 0103-30, & 0305-3 ETA					



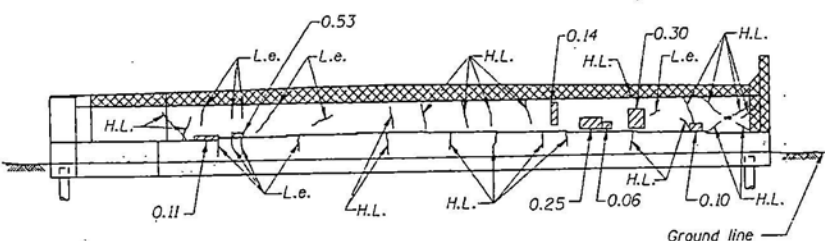
NORTH ABUTMENT PLAN (S.B.)



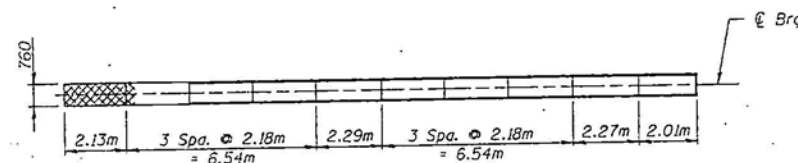
NORTH ABUTMENT ELEVATION (S.B.)
(Looking North)



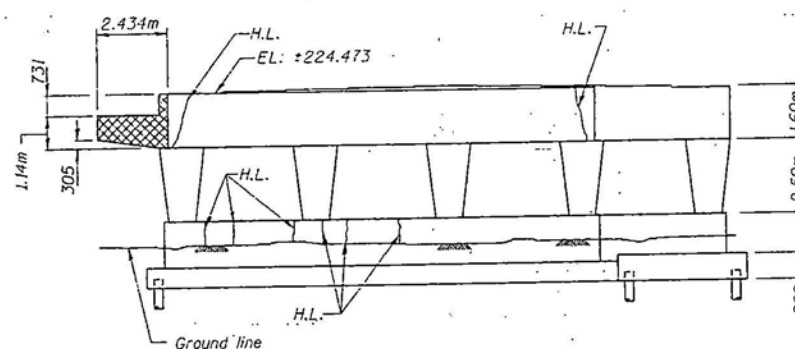
SOUTH ABUTMENT PLAN (S.B.)



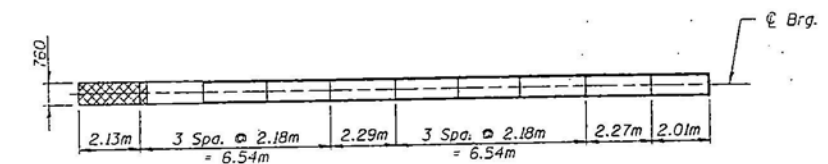
SOUTH ABUTMENT ELEVATION (S.B.)
(Looking South)



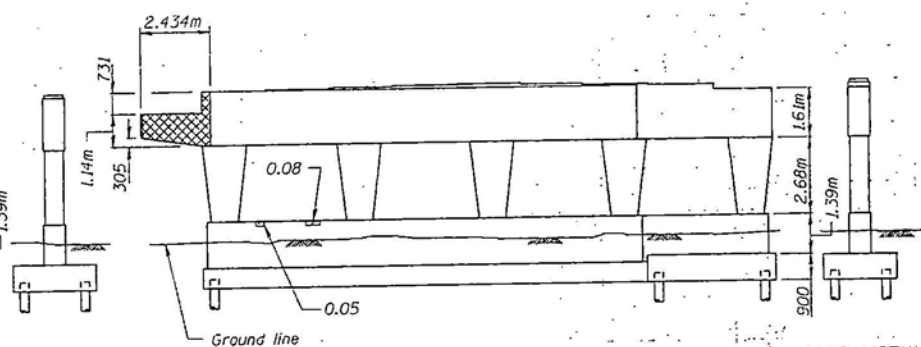
PIER 1 PLAN (S.B.)



PIER 1 ELEVATION (S.B.)
(Looking North)



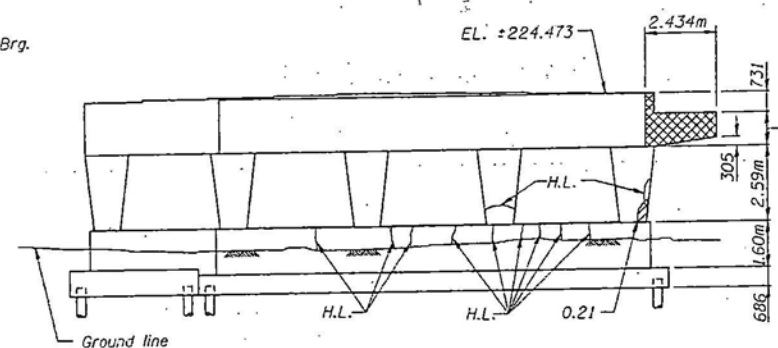
PIER 2 PLAN (S.B.)



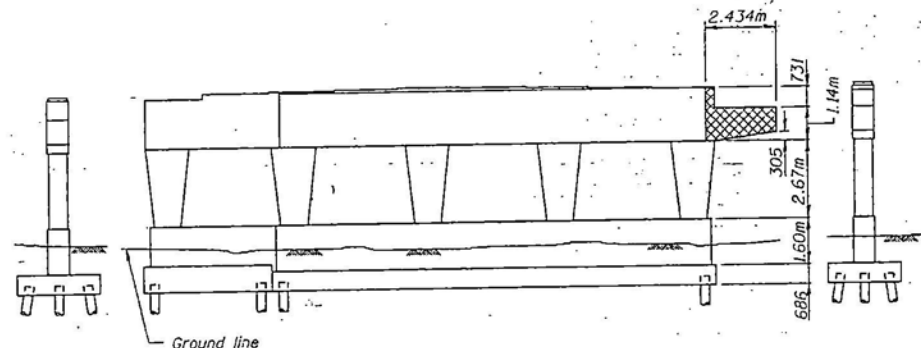
PIER 2 ELEVATION (S.B.)
(Looking North)

END VIEW
(Looking West)

END VIEW
(Looking West)



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



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

END VIEW
(Looking East)

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.

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

DESIGNED	EKM
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

06-04-02

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.)

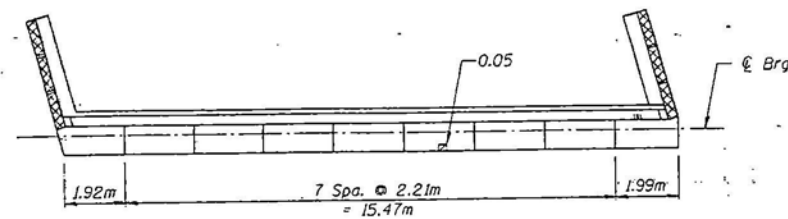
STRUCTURE NO. 016-0983 (N.B.)

**PARSONS
BRINCKERHOFF**

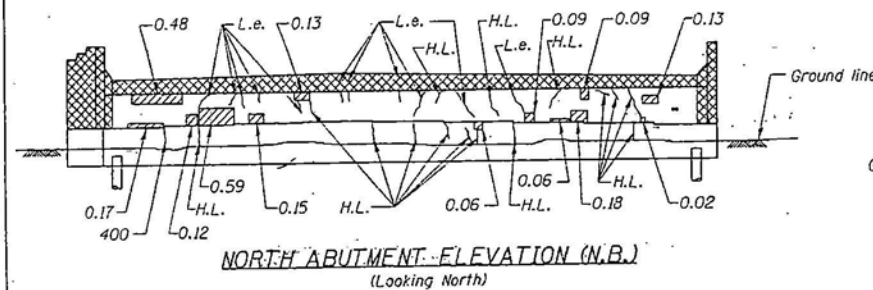
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

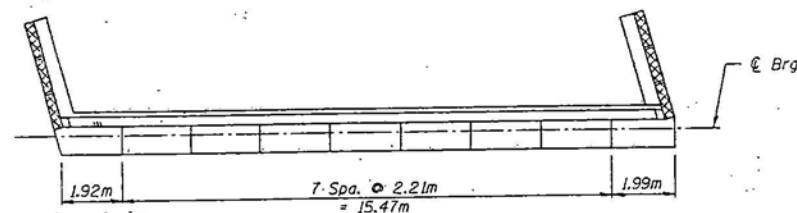
ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
F.A.I. 290	PP	COOK	1163	668
FILE NO.	DATE	PROJECT		
22-1-2, 0103-30, & 0305-3 ETA				



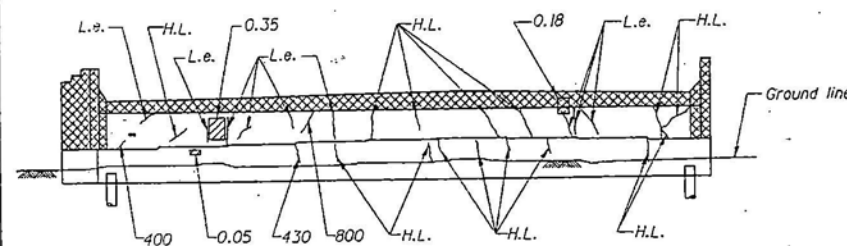
NORTH ABUTMENT PLAN (N.B.)



NORTH ABUTMENT ELEVATION (N.B.)
(Looking North)



SOUTH ABUTMENT PLAN (N.B.)

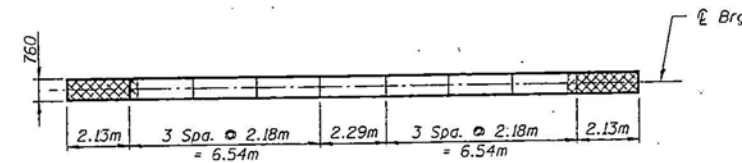


SOUTH ABUTMENT ELEVATION (N.B.)
(Looking South)

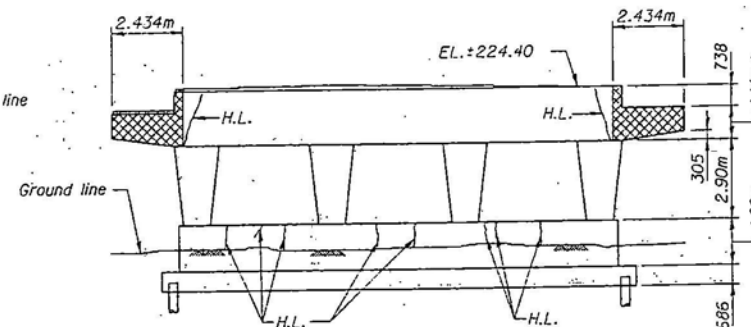
BILL OF MATERIAL

DESIGNED	EKM
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

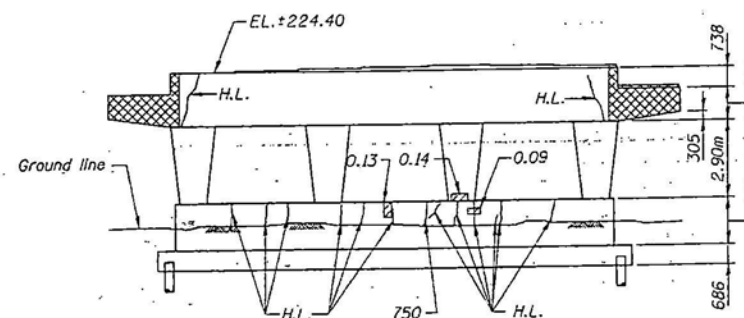
Item	Unit	Total
Formed Concrete Repair < 125 mm	Sq. m	3.3
Concrete Removal	Cu. m	24.9
Epoxy Crack Sealing	m	2.8



PIER 1 PLAN (N.B.)



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



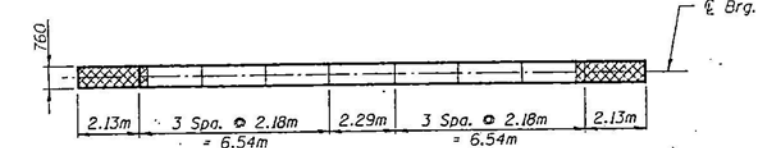
PIER 1 ELEVATION (N.B.)
(Looking South)

LEGEND

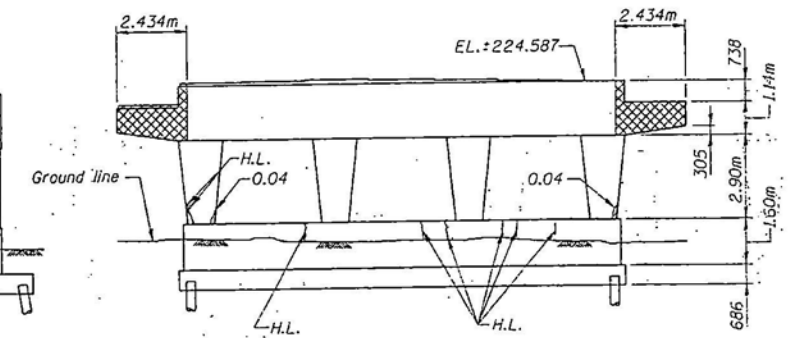
- Formed Concrete Repair
- Concrete Removal
- Crack Length to be Repaired
- H.L. Hairline Crack
- L.e. Leaching Hairline Crack

Notes:

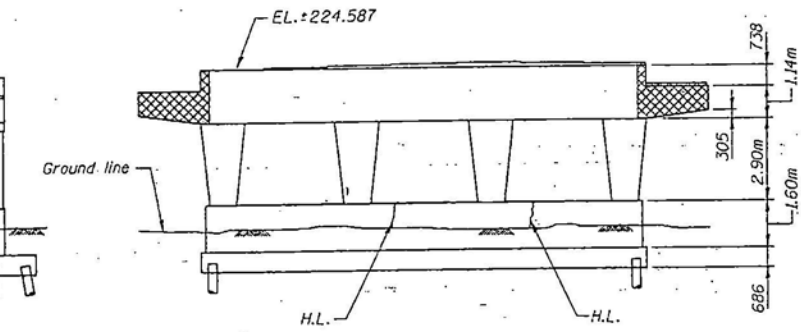
- Existing reinforcement bars extending into the removal area, shall be cleaned by, straightend and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included in the 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.



PIER 2 PLAN (N.B.)



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



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

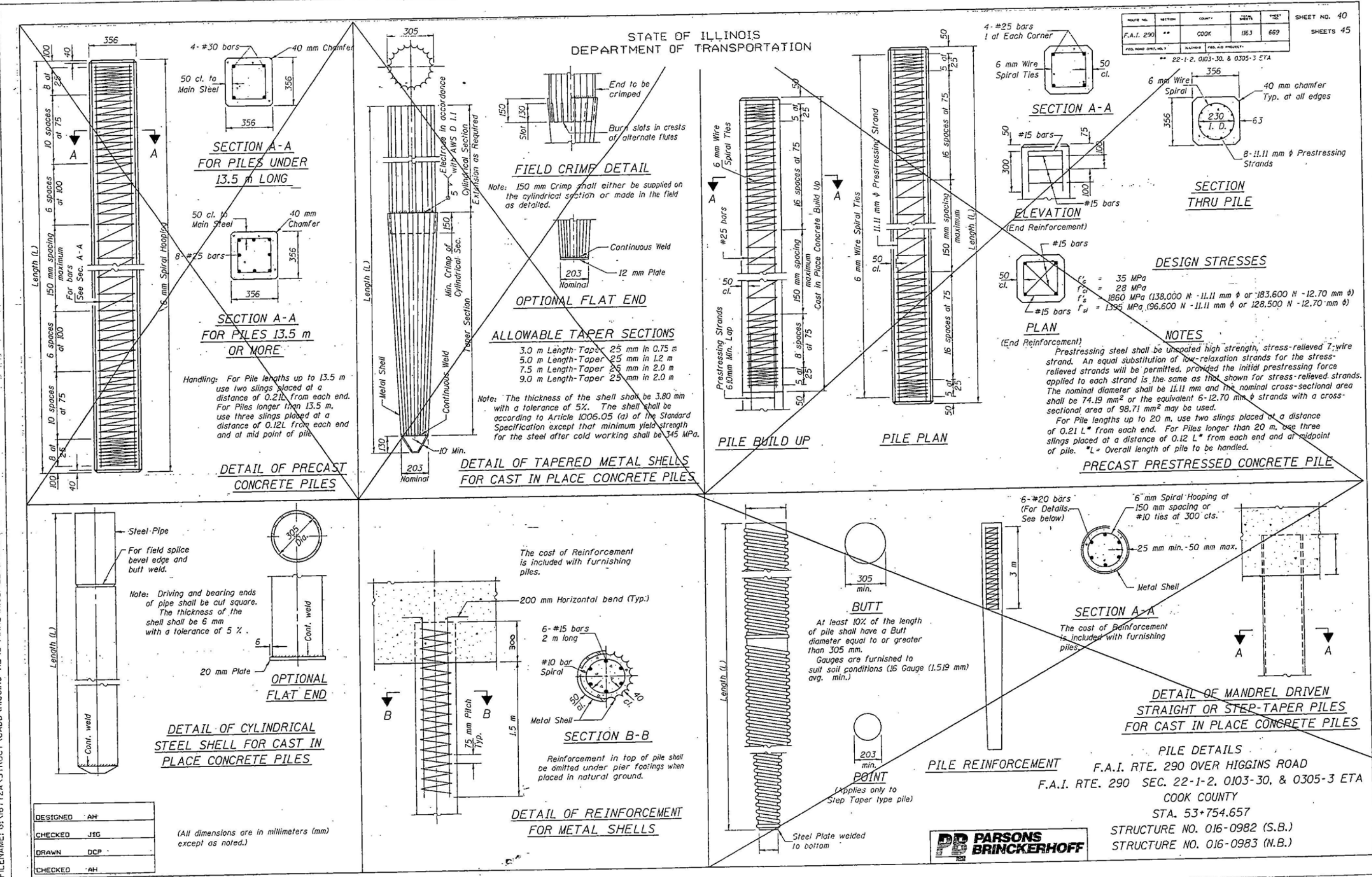
SUBSTRUCTURE REPAIRS II (NORTHBOUND)

F.A.I. RTE. 290 OVER HIGGINS ROAD
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\CA\HIGGINS NB\5-FINAL\HIG.PILEALT.DGN; 6/4/02; 13:32:24



DESIGNED	AH
CHECKED	JTG
DRAWN	DCP
CHECKED	AH

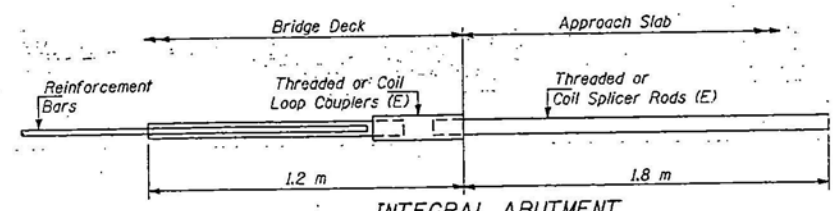
06-04-02

6/4/02 1:33:31 PM \\CHGC\RESOURCES\PREPLOT\CON\3\QUEUE\YES8825MYLARD000.dcf \\CHGC\RESOURCES\PREPLOT\CON\YES8825-MYLAE.hug-bar-sp.pl

FILENAME: C:\G772A\STRUCT\CADD\HIGGINS NB\5-FINAL\HIG-BARSP.DGN: 6/4/02:13:33:38

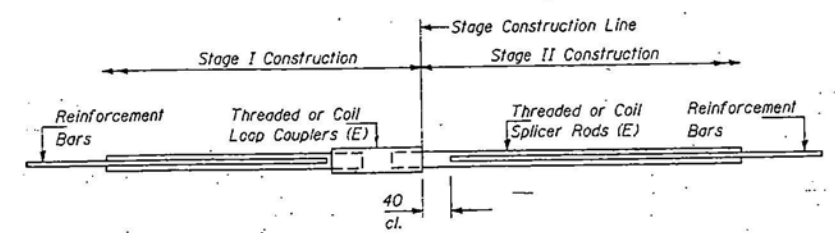
DESIGNED	AH
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

06-04:02



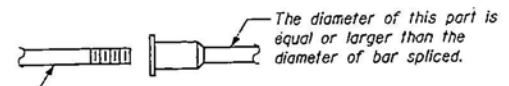
INTEGRAL ABUTMENT
BAR SPLICER ASSEMBLY DETAIL
FOR #15 BAR

Min. Capacity =	100 kN - tension
Min. Pull-out Strength =	40 kN - tension
No. Required =	



BAR SPLICER ASSEMBLY DETAIL

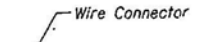
The diameter of this part is the same as the diameter of the bar spliced.



ROLLED THREAD DOWEL BAR



ONE PIECE

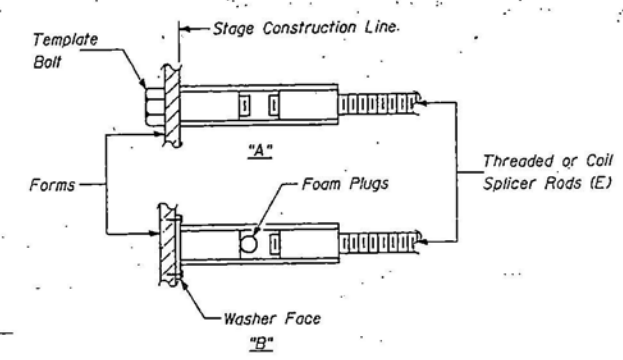


WIRE CONNECTOR

WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563M, Grade C, D or DH may be used.

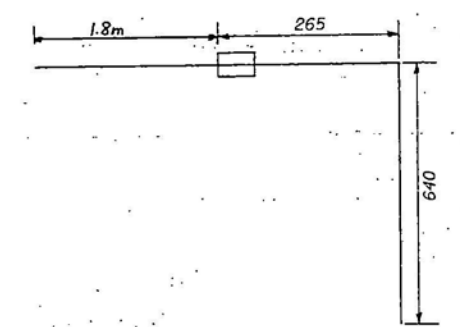


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

Bar Size	No. Assemblies Required	Location
#15	73	S.Abut. (S.B.)
#15	73	N.Abut. (S.B.)
#15	73	S.Abut. (N.B.)
#15	73	N.Abut. (N.B.)

BENT BAR SPLICER ASSEMBLY



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.)



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 certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity = $1.25 \times 10^3 \times f_y \times A_1$
(Tension in kN)
Minimum *Pull-out Strength = $1.25 \times 10^3 \times f_{s_{allow}} \times A_1$
(Tension in kN)

Where f_y = Yield strength of lapped reinforcement bars in MPa.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in MPa (Service Load)
 A_1 = Tensile stress area of lapped reinforcement bars (mm²).
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kN - tension	Min. Pull-Out Strength kN - tension
#15	640 mm	100	40
#20	790 mm	150	60
#25	1.32 m	250	100
#30	1.85 m	350	140

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS." All dimensions are in millimeters (mm) except as noted.

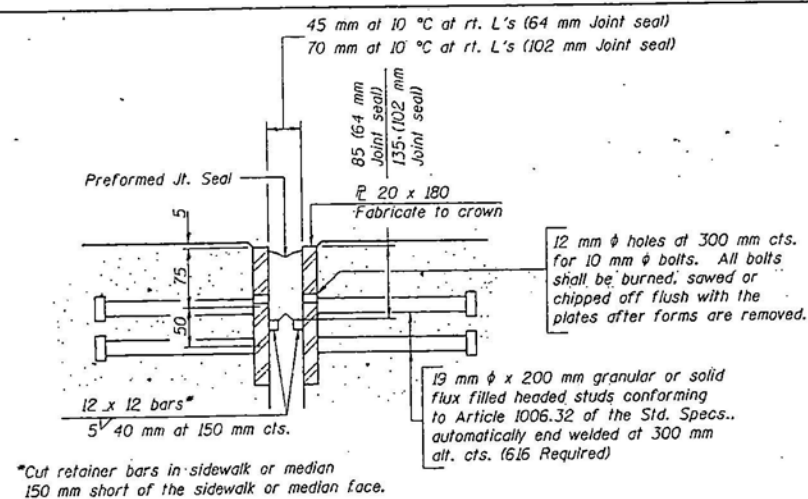
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	DISTRICT	SHEET	SHEET NO. 42
F.A.I. 290	**	COOK	1153	671	SHEETS 45
FUNDING DIST. NO. 1					
22-1-2, 0103-30, & 0305-3 ETA					

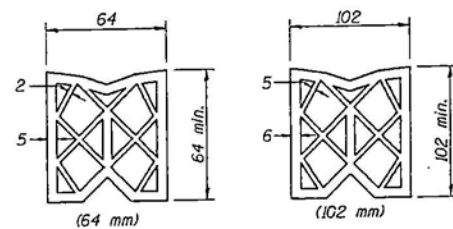
GENERAL NOTES

Furnish 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.

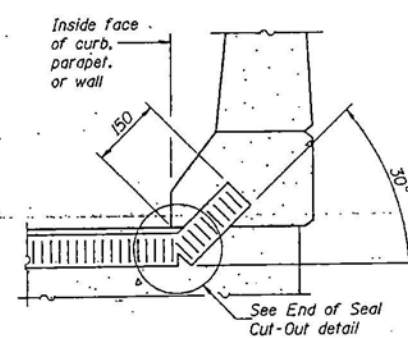
Bridge Joint System (Expansion) Design Movement	Required Preformed Joint Seal Size	Required Strip Seal rated movement
25 mm	64 mm	25 mm
40 mm	102 mm	50 mm



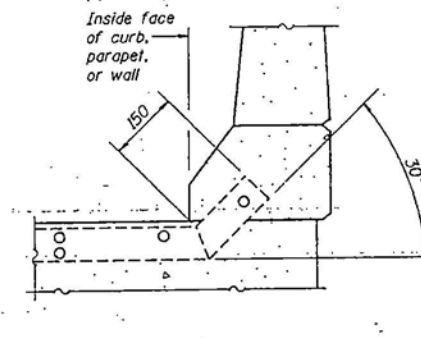
SECTION THRU EXPANSION JOINT
(64 mm and 102 mm joint seals)



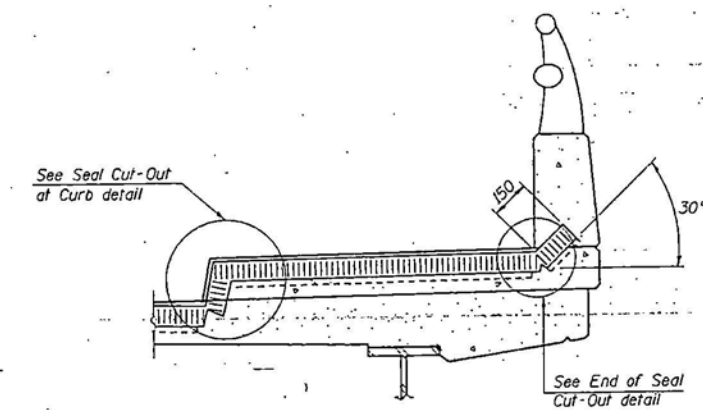
PREFORMED JOINT SEAL



AT CURB, PARAPET, OR WALL
(Showing seal)

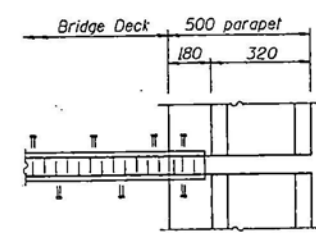


AT CURB, PARAPET, OR WALL
(Showing plate)

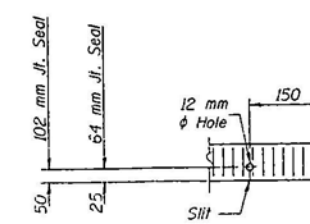


AT SIDEWALK OR MEDIAN
(Showing plate and seal)

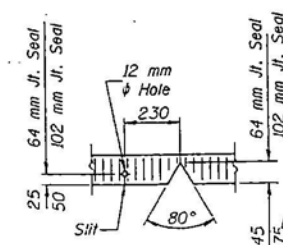
TYPICAL END TREATMENTS



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.)



DESIGNED	AH
CHECKED	JTG
DRAWN	DCP
CHECKED	AH

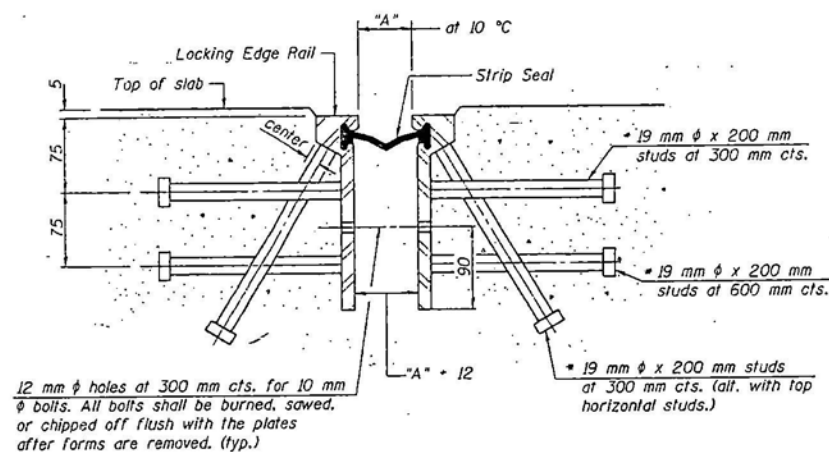
06-04-02 EJ-BJS (M)

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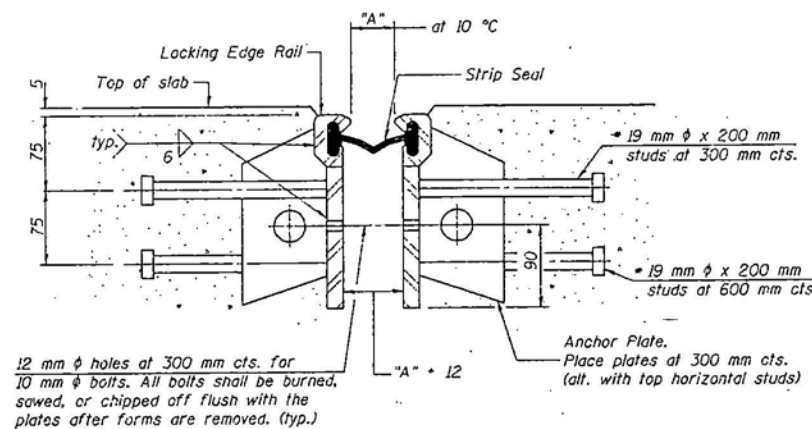
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
F.A.I. 290	**	COOK	1163	672
FED. AID DIST. NO.	ALPINE	FED. AID PROJECT		

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



Required Strip Seal rated movement	"A"
25 mm	28
50 mm	42



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 Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

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

The manufacturer's recommended installation methods shall be followed.

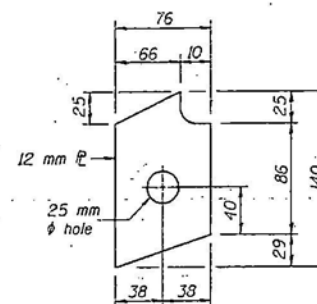
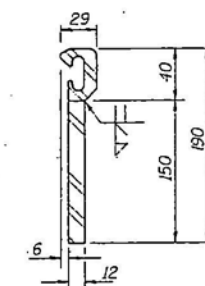
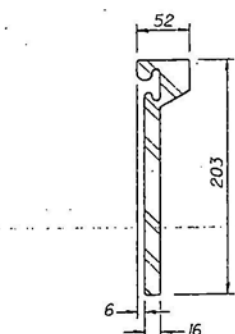
The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

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

SECTION THRU ROLLED RAIL EXP. JOINT
(762 Studs Required)

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

SECTION THRU WELDED RAIL EXP. JOINT
(760 Studs Required)
(302 Anchor Plates Required)

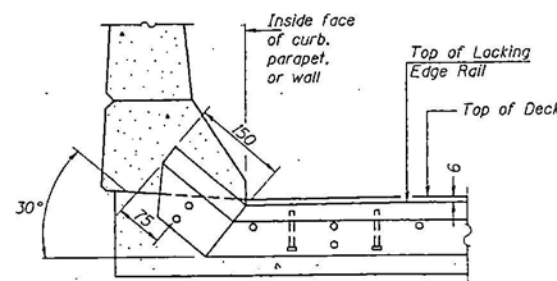


ROLLED (EXTRUDED) RAIL

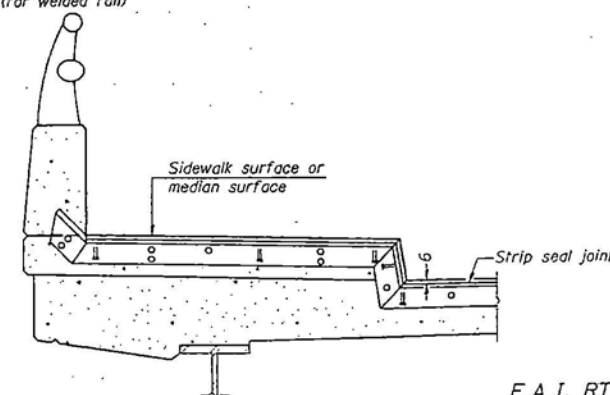
WELDED RAIL

ANCHOR PLATE
(for welded rail)

LOCKING EDGE RAILS



AT CURB, PARAPET, OR WALL



AT SIDEWALK OR MEDIAN

LOCKING EDGE RAIL SPLICE

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

DESIGNED	AH
CHECKED	JIG
DRAWN	DCP
CHECKED	AH

06-04-02 EJ-BJS (M)

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.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
F.A.I. 290	**	COOK	115.3	673
FED. ROAD DIST. NO. 1				
FED. ROAD PROJECT: ** 22-1-2, 0103-30, & 0305-3 ETA				

SHEET NO. 44
SHEETS 45

BORING HR-1

Everest Engineering Company
STRUCTURE BORING LOG

Page 1/0001
Date 1/0001

ROUTE FAI 290 DESCRIPTION SOUTHBOUND/NORTHBOUND HIGGINS ROAD BRIDGE
SECT 8-0404-303 HR STRUCT NO 016-0982/016-0983 DRILLED BY K.A.S. ENGINEERS, INC.
COUNTY COOK LOCATION FAI 290 MEDIAN S TWP 41N RANG 11E

Boring No HR-1
Station 53+75.6
Offset 3.25m (10')

Surface Elev 225.33 m

DEPTH (m)	DEPTH (ft)	SOIL DESCRIPTION	WATER ELEV (m)	WATER ELEV (ft)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	UNIFORMITY COEFFICIENT	COEFFICIENT OF CURVATURE	STRENGTH (kPa)	STRENGTH (psi)
0.0	0.0	Dark Brown and Black TOPSOIL, silty clay	204.8	672							
0.5	1.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
1.0	3.3	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
1.5	4.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
2.0	6.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
2.5	8.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
3.0	9.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
3.5	11.5	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
4.0	13.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
4.5	14.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
5.0	16.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
5.5	18.0	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
6.0	19.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
6.5	21.3	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
7.0	23.0	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
7.5	24.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
8.0	26.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
8.5	27.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
9.0	29.5	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
9.5	31.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
10.0	32.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
10.5	34.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
11.0	36.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
11.5	37.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
12.0	39.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
12.5	41.0	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
13.0	42.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
13.5	44.3	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
14.0	45.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
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15.0	49.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
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17.5	57.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
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22.5	73.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
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24.0	78.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
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25.5	83.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
26.0	85.3	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
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27.0	88.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
27.5	90.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
28.0	91.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
28.5	93.5	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
29.0	95.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
29.5	96.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
30.0	98.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
30.5	100.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
31.0	101.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
31.5	103.3	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
32.0	105.0	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
32.5	106.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
33.0	108.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
33.5	109.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
34.0	111.5	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
34.5	113.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
35.0	114.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
35.5	116.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
36.0	118.0	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
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38.0	124.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
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39.0	127.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
39.5	129.5	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
40.0	131.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
40.5	132.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
41.0	134.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
41.5	136.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
42.0	137.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
42.5	139.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
43.0	141.0	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
43.5	142.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
44.0	144.3	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
44.5	145.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
45.0	147.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
45.5	149.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
46.0	150.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
46.5	152.5	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
47.0	154.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
47.5	155.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
48.0	157.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
48.5	159.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
49.0	160.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
49.5	162.3	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
50.0	164.0	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
50.5	165.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
51.0	167.2	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
51.5	168.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
52.0	170.5	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
52.5	172.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
53.0	173.8	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
53.5	175.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
54.0	177.1	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
54.5	178.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
55.0	180.4	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
55.5	182.0	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
56.0	183.7	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
56.5	185.3	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
57.0	186.9	Very Silty Dark Brown and Black SILTY CLAY	204.8	672							
57.5	188.6	Very Silty Dark Brown and Black SILTY CLAY	204.8	672	</						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING HR-4

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.I. 290	**	COOK	1953	674
FILE NAME: 016-0982-0983	ALIGNED	FILE NO. PROJECT		

SHEET NO. 45
SHEETS 45

** 22-1-2, 0103-30, & 0305-3 E.T.A.

BORING HR-3

Everest Engineering Company
STRUCTURE BORING LOG

Page 171591
Date 1/15/01

ROUTE FAL 290 DESCRIPTION SOUTHBOUND/NORTHBOUND HIGGINS ROAD BRIDGE
SECT 016-0982-0983 STRUCT NO 016-0982-0983 DRILLED BY K.A.B. ENGINEERS, INC.
COUNTY COOK LOCATION EB HIGGINS ROAD SHOULDER S 8 TWP 41N RNG 11E

Boring No HR-3
Station 53+75.6
Offset 3.50m RT

Surface Elev 219.21 m

DEPTH (m)	DEPTH (ft)	SOIL DESCRIPTION	WATER ELEV (m)	WATER ELEV (ft)	WATER TEMP (°C)	WATER TEMP (°F)	WATER PRESS (kPa)	WATER PRESS (psi)
0.0	0.0	ASPHALT PAVEMENT						
0.1	0.3	CRUSHED AGGREGATE						
0.2	0.6	Medium Dense Brown SANDY LOAM						
0.3	0.9	Very Soft Brown and Gray SILTY CLAY						
0.4	1.2	Medium Soft to Very Soft Gray SILTY CLAY LOAM						
0.5	1.5	Medium Dense Gray SANDY LOAM						
0.6	1.8	Very Soft Gray SILTY CLAY LOAM						
0.7	2.1	Medium Dense to Dense Gray SILTY LOAM						
0.8	2.4	Very Soft Gray SILTY CLAY LOAM						
0.9	2.7	Medium Dense Gray SANDY LOAM						
1.0	3.0	Very Soft Gray SILTY CLAY LOAM						
1.1	3.3	Medium Dense Gray SANDY LOAM						
1.2	3.6	Very Soft Gray SILTY CLAY LOAM						
1.3	3.9	Medium Dense Gray SANDY LOAM						
1.4	4.2	Very Soft Gray SILTY CLAY LOAM						
1.5	4.5	Medium Dense Gray SANDY LOAM						
1.6	4.8	Very Soft Gray SILTY CLAY LOAM						
1.7	5.1	Medium Dense Gray SANDY LOAM						
1.8	5.4	Very Soft Gray SILTY CLAY LOAM						
1.9	5.7	Medium Dense Gray SANDY LOAM						
2.0	6.0	Very Soft Gray SILTY CLAY LOAM						
2.1	6.3	Medium Dense Gray SANDY LOAM						
2.2	6.6	Very Soft Gray SILTY CLAY LOAM						
2.3	6.9	Medium Dense Gray SANDY LOAM						
2.4	7.2	Very Soft Gray SILTY CLAY LOAM						
2.5	7.5	Medium Dense Gray SANDY LOAM						
2.6	7.8	Very Soft Gray SILTY CLAY LOAM						
2.7	8.1	Medium Dense Gray SANDY LOAM						
2.8	8.4	Very Soft Gray SILTY CLAY LOAM						
2.9	8.7	Medium Dense Gray SANDY LOAM						
3.0	9.0	Very Soft Gray SILTY CLAY LOAM						
3.1	9.3	Medium Dense Gray SANDY LOAM						
3.2	9.6	Very Soft Gray SILTY CLAY LOAM						
3.3	9.9	Medium Dense Gray SANDY LOAM						
3.4	10.2	Very Soft Gray SILTY CLAY LOAM						
3.5	10.5	Medium Dense Gray SANDY LOAM						
3.6	10.8	Very Soft Gray SILTY CLAY LOAM						
3.7	11.1	Medium Dense Gray SANDY LOAM						
3.8	11.4	Very Soft Gray SILTY CLAY LOAM						
3.9	11.7	Medium Dense Gray SANDY LOAM						
4.0	12.0	Very Soft Gray SILTY CLAY LOAM						
4.1	12.3	Medium Dense Gray SANDY LOAM						
4.2	12.6	Very Soft Gray SILTY CLAY LOAM						
4.3	12.9	Medium Dense Gray SANDY LOAM						
4.4	13.2	Very Soft Gray SILTY CLAY LOAM						
4.5	13.5	Medium Dense Gray SANDY LOAM						
4.6	13.8	Very Soft Gray SILTY CLAY LOAM						
4.7	14.1	Medium Dense Gray SANDY LOAM						
4.8	14.4	Very Soft Gray SILTY CLAY LOAM						
4.9	14.7	Medium Dense Gray SANDY LOAM						
5.0	15.0	Very Soft Gray SILTY CLAY LOAM						
5.1	15.3	Medium Dense Gray SANDY LOAM						
5.2	15.6	Very Soft Gray SILTY CLAY LOAM						
5.3	15.9	Medium Dense Gray SANDY LOAM						
5.4	16.2	Very Soft Gray SILTY CLAY LOAM						
5.5	16.5	Medium Dense Gray SANDY LOAM						
5.6	16.8	Very Soft Gray SILTY CLAY LOAM						
5.7	17.1	Medium Dense Gray SANDY LOAM						
5.8	17.4	Very Soft Gray SILTY CLAY LOAM						
5.9	17.7	Medium Dense Gray SANDY LOAM						
6.0	18.0	Very Soft Gray SILTY CLAY LOAM						
6.1	18.3	Medium Dense Gray SANDY LOAM						
6.2	18.6	Very Soft Gray SILTY CLAY LOAM						
6.3	18.9	Medium Dense Gray SANDY LOAM						
6.4	19.2	Very Soft Gray SILTY CLAY LOAM						
6.5	19.5	Medium Dense Gray SANDY LOAM						
6.6	19.8	Very Soft Gray SILTY CLAY LOAM						
6.7	20.1	Medium Dense Gray SANDY LOAM						
6.8	20.4	Very Soft Gray SILTY CLAY LOAM						
6.9	20.7	Medium Dense Gray SANDY LOAM						
7.0	21.0	Very Soft Gray SILTY CLAY LOAM						
7.1	21.3	Medium Dense Gray SANDY LOAM						
7.2	21.6	Very Soft Gray SILTY CLAY LOAM						
7.3	21.9	Medium Dense Gray SANDY LOAM						
7.4	22.2	Very Soft Gray SILTY CLAY LOAM						
7.5	22.5	Medium Dense Gray SANDY LOAM						
7.6	22.8	Very Soft Gray SILTY CLAY LOAM						
7.7	23.1	Medium Dense Gray SANDY LOAM						
7.8	23.4	Very Soft Gray SILTY CLAY LOAM						
7.9	23.7	Medium Dense Gray SANDY LOAM						
8.0	24.0	Very Soft Gray SILTY CLAY LOAM						
8.1	24.3	Medium Dense Gray SANDY LOAM						
8.2	24.6	Very Soft Gray SILTY CLAY LOAM						
8.3	24.9	Medium Dense Gray SANDY LOAM						
8.4	25.2	Very Soft Gray SILTY CLAY LOAM						
8.5	25.5	Medium Dense Gray SANDY LOAM						
8.6	25.8	Very Soft Gray SILTY CLAY LOAM						
8.7	26.1	Medium Dense Gray SANDY LOAM						
8.8	26.4	Very Soft Gray SILTY CLAY LOAM						
8.9	26.7	Medium Dense Gray SANDY LOAM						
9.0	27.0	Very Soft Gray SILTY CLAY LOAM						
9.1	27.3	Medium Dense Gray SANDY LOAM						
9.2	27.6	Very Soft Gray SILTY CLAY LOAM						
9.3	27.9	Medium Dense Gray SANDY LOAM						
9.4	28.2	Very Soft Gray SILTY CLAY LOAM						
9.5	28.5	Medium Dense Gray SANDY LOAM						
9.6	28.8	Very Soft Gray SILTY CLAY LOAM						
9.7	29.1	Medium Dense Gray SANDY LOAM						
9.8	29.4	Very Soft Gray SILTY CLAY LOAM						
9.9	29.7	Medium Dense Gray SANDY LOAM						
10.0	30.0	Very Soft Gray SILTY CLAY LOAM						
10.1	30.3	Medium Dense Gray SANDY LOAM						
10.2	30.6	Very Soft Gray SILTY CLAY LOAM						
10.3	30.9	Medium Dense Gray SANDY LOAM						
10.4	31.2	Very Soft Gray SILTY CLAY LOAM						
10.5	31.5	Medium Dense Gray SANDY LOAM						
10.6	31.8	Very Soft Gray SILTY CLAY LOAM						
10.7	32.1	Medium Dense Gray SANDY LOAM						
10.8	32.4	Very Soft Gray SILTY CLAY LOAM						
10.9	32.7	Medium Dense Gray SANDY LOAM						
11.0	33.0	Very Soft Gray SILTY CLAY LOAM						
11.1	33.3	Medium Dense Gray SANDY LOAM						
11.2	33.6	Very Soft Gray SILTY CLAY LOAM						
11.3	33.9	Medium Dense Gray SANDY LOAM						
11.4	34.2	Very Soft Gray SILTY CLAY LOAM						
11.5	34.5	Medium Dense Gray SANDY LOAM						
11.6	34.8	Very Soft Gray SILTY CLAY LOAM						
11.7	35.1	Medium Dense Gray SANDY LOAM						
11.8	35.4	Very Soft Gray SILTY CLAY LOAM						
11.9	35.7	Medium Dense Gray SANDY LOAM						
12.0	36.0	Very Soft Gray SILTY CLAY LOAM						
12.1	36.3	Medium Dense Gray SANDY LOAM						
12.2	36.6	Very Soft Gray SILTY CLAY LOAM						
12.3	36.9	Medium Dense Gray SANDY LOAM						
12.4	37.2	Very Soft Gray SILTY CLAY LOAM						
12.5	37.5	Medium Dense Gray SANDY LOAM						
12.6	37.8	Very Soft Gray SILTY CLAY LOAM						
12.7	38.1	Medium Dense Gray SANDY LOAM						
12.8	38.4	Very Soft Gray SILTY CLAY LOAM						
12.9	38.7	Medium Dense Gray SANDY LOAM						
13.0	39.0	Very Soft Gray SILTY CLAY LOAM						
13.1	39.3	Medium Dense Gray SANDY LOAM						
13.2	39.6	Very Soft Gray SILTY CLAY LOAM						
13.3	39.9	Medium Dense Gray SANDY LOAM						
13.4	40.2	Very Soft Gray SILTY CLAY LOAM						
13.5	40.5	Medium Dense Gray SANDY LOAM						
13.6	40.8	Very Soft Gray SILTY CLAY LOAM						
13.7	41.1	Medium Dense Gray SANDY LOAM						
13.8	41.4	Very Soft Gray SILTY CLAY LOAM						
13.9	41.7	Medium Dense Gray SANDY LOAM						
14.0	42.0	Very Soft Gray SILTY CLAY LOAM						
14.1	42.3	Medium Dense Gray SANDY LOAM						
14.2	42.6	Very Soft Gray SILTY CLAY LOAM						
14.3	42.9	Medium Dense Gray SANDY LOAM						
14.4	43.2	Very Soft Gray SILTY CLAY LOAM						
14.5	43.5	Medium Dense Gray SANDY LOAM						
14.6	43.8	Very Soft Gray SILTY CLAY LOAM						
14.7	44.1	Medium Dense Gray SANDY LOAM						
14.8	44.4	Very Soft Gray SILTY CLAY LOAM						
14.9	44.7	Medium Dense Gray SANDY LOAM						
15.0	45.0	Very Soft Gray SILTY CLAY LOAM						
15.1	45.3	Medium Dense Gray SANDY LOAM						
15.2	45.6	Very Soft Gray SILTY CLAY LOAM						
15.3	45.9	Medium Dense Gray SANDY LOAM						
15.4	46.2	Very Soft Gray SILTY CLAY LOAM						
15.5	46.5	Medium Dense Gray SANDY LOAM						
15.6	46.8	Very Soft Gray SILTY CLAY LOAM						
15.7	47.1	Medium Dense Gray SANDY LOAM						
15.8	47.4	Very Soft Gray SILTY CLAY LOAM						
15.9	47.7	Medium Dense Gray SANDY LOAM						
16.0	48.0	Very Soft Gray SILTY CLAY LOAM						
16.1	48.3	Medium Dense Gray SANDY LOAM						
16.2	48.6	Very Soft Gray SILTY CLAY LOAM					</	

6

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROJECT LOCATED IN THE VILLAGE OF SCHAUMBURG AND THE VILLAGE OF ELK GROVE VILLAGE

100%
2-24-2003

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY

F.A.I. 290 (ILLINOIS 53)
ILLINOIS 72 (HIGGINS ROAD) TO DEVON AVENUE
SECTION: 2001-153 I
~~(ADVANCE CONTRACT)~~

~~PROJECT NUMBER:~~
COOK & DUPAGE COUNTY
C-91-463-01

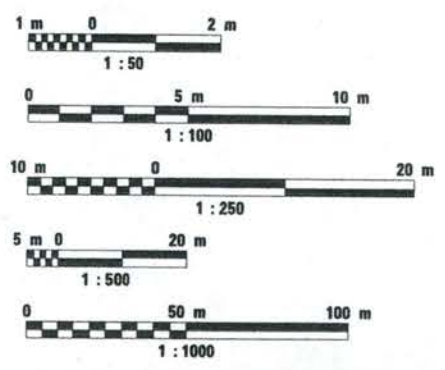
TRAFFIC DATA - ADT 2020

ADT = 107,025 - SB I-290 (IL 53) BETWEEN THORNDALE AVE. AND HIGGINS RD.
105,975 - NB I-290 (IL 53) BETWEEN THORNDALE AVE. AND HIGGINS RD.
DESIGN SPEED = 100 Km/h (60 mph)
POSTED SPEED = 92 Km/h (55 mph)

DESCRIPTION OF PROJECT:

THE PROPOSED PROJECT CONSISTS OF THE REMOVAL AND REPLACEMENT OF THE EXISTING MEDIAN WITH BITUMINOUS PAVEMENT AND THE MILLING AND RESURFACING OF THE ADJACENT SOUTHBOUND SHOULDER. ADDITIONAL WORK INCLUDES DRAINAGE IMPROVEMENTS, A TEMPORARY SOUTHBOUND HIGGINS RD. BRIDGE STRUCTURE (NO. 016-0982), SIGN TRUSS REMOVAL, TEMPORARY BARRIER PLACEMENT, AND OTHER RELATED ROADWAY IMPROVEMENTS. THIS WORK IS PART OF AN ADVANCE CONTRACT TO ACCOMMODATE THE STAGING NEEDED FOR THE I-290 (IL 53) MAINLINE RECONSTRUCTION FOUND WITHIN THE SAME PROJECT LIMITS.

METRIC RATIOS

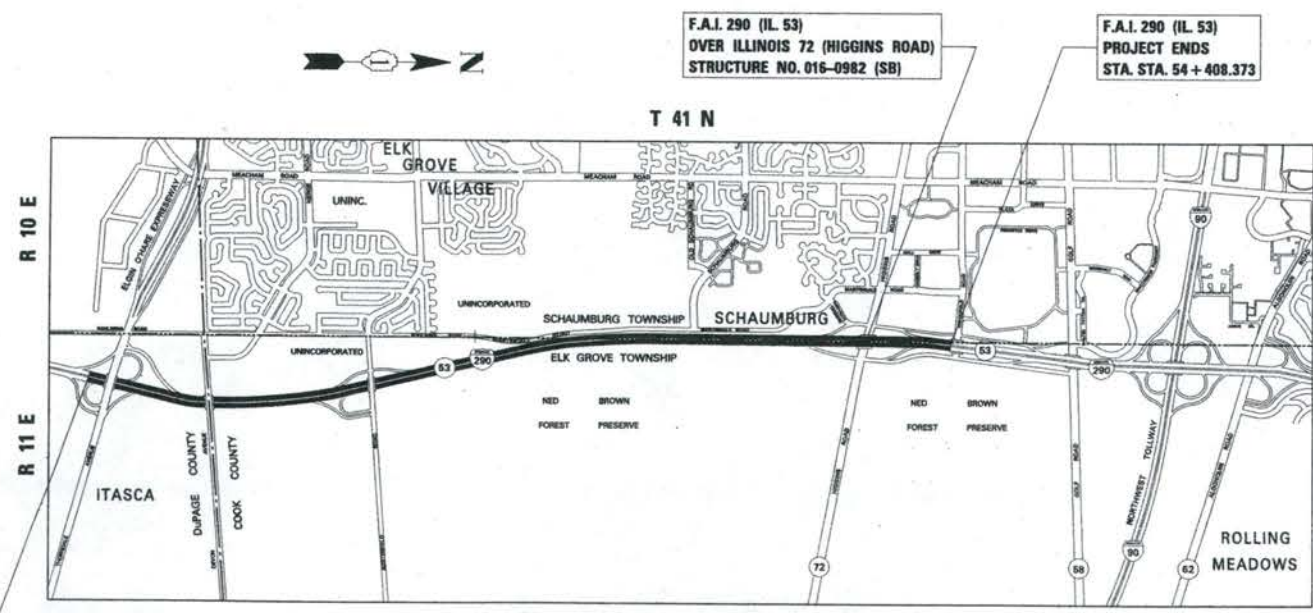


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 62332

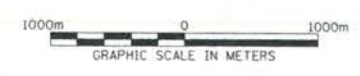
PB PARSONS BRINCKERHOFF
230 WEST MONROE STREET
SUITE 350
CHICAGO, ILLINOIS 60606
TEL: (312) 782-8150
FAX: (312) 782-1684



F.A.I. 290 (IL 53)
PROJECT BEGINS
STA. 47+691.000

SCHAUMBURG - ELK GROVE TWP.

LOCATION MAP
NET LENGTH OF PROJECT: 6717.373 METERS = 6.717 KM



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2001-153 I	COOK & DUPAGE	259	1



SEAL



LICENSE NO. 081-005467
LICENSE EXPIRES 11-30-2002

LICENSE NO. 062-046611
LICENSE EXPIRES 11-30-03

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED February 8, 2002
John T. Kue DISTRICT ENGINEER

March 22, 2002
Michael R. Klein ENGINEER OF DESIGN AND ENVIRONMENT

March 22, 2002
James H. Rostad DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

DISTRICT DESIGN/CONSULTANT SERVICES PROJECT MANAGER
ART ABBAS (847) 705-4431

0-383

Salvage: S.B. Structure fascia Girder 1 bearings at abutments and piers.

ROUTE NO. F.A.I. 290	SECTION 22	COUNTY COOK	TOTAL SHEETS 259	SHEET NO. 132	SHEET NO. 1 25 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		



PROFILE GRADE HIGGINS RD.

Along C Higgins Rd.

PVI Sta. 53+763.801
Elev. 226.820
L = 338.466 m

+1.10 %
 -0.20 %
 338.466'

PVC Sta. 53+594.568
 Elev. 224.958

PVT Sta. 53+933.034
 Elev. 226.481

PROFILE GRADE F.A.I. 290

Along Existing Southbound PGL

(Profile is approximated based on survey data
of top of existing deck on January 31, 2002)

PVI Sta. 253+757.938
Elev. 226.831
L = 330.0 m

$+1.119\%$
 PVC Sta. 253+592.938 Elev. 224.985
 PVT. Sta. 253+922.938 Elev. 226.501

PROFILE GRADE F.A.I. 290
(ULTIMATE CONDITION)

Along Southbound PGL

Ahmad M. Hammad, S.E. II, Lic. No. 081-00546
Expires 11-30-2002

LOADING MS18 & ALT.

DESIGN SPECIFICATIONS

1996 AASHTO WITH 1997 - 2000 INTERIMS.

DESIGN STRESSES

EXISTING	PROPOSED
$f_c = 9.7 \text{ MPa}$	$f'_c = 24 \text{ MPa}$
$f_s = 138 \text{ MPa (Reinf.)}$	$f_y = 400 \text{ MPa (Reinf.)}$
	$f_y = 250 \text{ MPa (M270 Grade 250)}$

SEISMIC DATA

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

GENERAL PLAN & ELEVATION

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

RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY

STA. 53+754.657

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

DESIGNED	AH
CHECKED	JIG
DRAWN	EKM
CHECKED	AH

03-07-02

PLAN

LEGEND

HR-1 - indicates Soil Boring Location

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

NOTES:

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

**PB PARSONS
BRINCKERHOFF**

LOCATION SKETCH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
F.A.I. 290	**	COOK	259	133
SHEET NO. 2				
25 SHEETS				

GENERAL NOTES

- Fasteners shall be high strength bolts. Bolts M 20, open holes 22 mm ϕ , unless otherwise noted.
- All new structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300, Type 1.
- Field welding of construction accessories will not be permitted to the bottom flange of beams and girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
- Anchor bolts shall be set before bolting diaphragms over supports.
- The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams, web and tension flanges of the plate girder and all splice plate material except fill plates.
- Reinforcement bars shall conform to the requirements of AASHTO M 31M, M 42M or M 53M, Grade 400.
- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 3 mm. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 3 mm adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. (For Type I Elastomeric Bearings, two 3 mm adjusting shims shall be provided for each bearing and placed as detailed).
- The contractor shall drive one 305 mm ϕ metal shell test pile with 6 mm wall in a permanent location at both abutments and piers, 4 locations, as directed by the Engineer before ordering the remainder of the piles.
- Bridge Seat Sealer shall be applied to the seat area of the abutments.
- Prior to pouring the new concrete for the deck, all loose rust, loose mill scale and all other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item Concrete Removal. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.
- All existing construction accessories welded to the top flange over the piers between the quarter points of the beams or girders shall be removed. The remaining weld shall be ground smooth and inspected for cracks using magnetic particle testing. Any cracks that can not be removed by grinding approximately 6 mm deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of this work will be paid for according to Article 109.04.
- All dimensions are in millimeters (mm) except as noted.
- The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

INDEX OF SHEETS

- General Plan & Elevation
- General Notes and Bill of Material
- Stage Construction
- Temporary Concrete Barrier
- Top of Slab Elevations Layout
- Top of Slab Elevations I
- Superstructure
- Superstructure Details
- Neoprene Expansion Joint Detail
- Bar Splicer Assembly Details
- Framing Plan
- Structural Steel Details I
- Structural Steel Details II
- Elastomeric Bearing Assembly Type I
- Elastomeric Bearing Assembly Type II
- Anchor Bolt Details for Bearings
- South Abutment Widening
- South Abutment Details
- Pier 1 Widening
- Pier 2 Widening
- North Abutment Widening
- North Abutment Details
- Pile Details
- Boring Logs I
- Boring Logs II

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUB	TOTAL
Protective Shield	Sq. m	130	—	130
Concrete Removal	Cu. m	49.4	10.7	60.1
Structure Excavation	Cu. m	—	245	245
Bridge Joint System (Expansion), 25 mm	m	3.8	—	3.8
Elastomeric Bearing Assembly, Type I	Each	1	—	1
Elastomeric Bearing Assembly, Type II	Each	1	—	1
Temporary Support System	Each	2	—	2
Structural Steel Removal	kg	3,550	—	3,550
Neoprene Expansion Joint, 65mm	m	3.8	—	3.8
Concrete Structures	Cu. m	—	72.5	72.5
Concrete Superstructure	Cu. m	65.6	—	65.6
Stud Shear Connectors	Each	312	—	312
Furnishing & Erecting Structural Steel	kg	36,570	—	36,570
Reinforcement Bars, Epoxy Coated	kg	9,650	5,320	14,970
Furnishing Metal Pile Shells, 305mm	m	—	267	267
Driving and Filling Shells	m	—	267	267
Test Pile Metal Shells	Each	—	4	4
Bridge Seat Sealer	Sq. m	—	4.4	4.4
Bituminous Concrete Surface Course Class I	M. Ton	30.0	—	30.0
Bar Splicers	Each	46	68	114

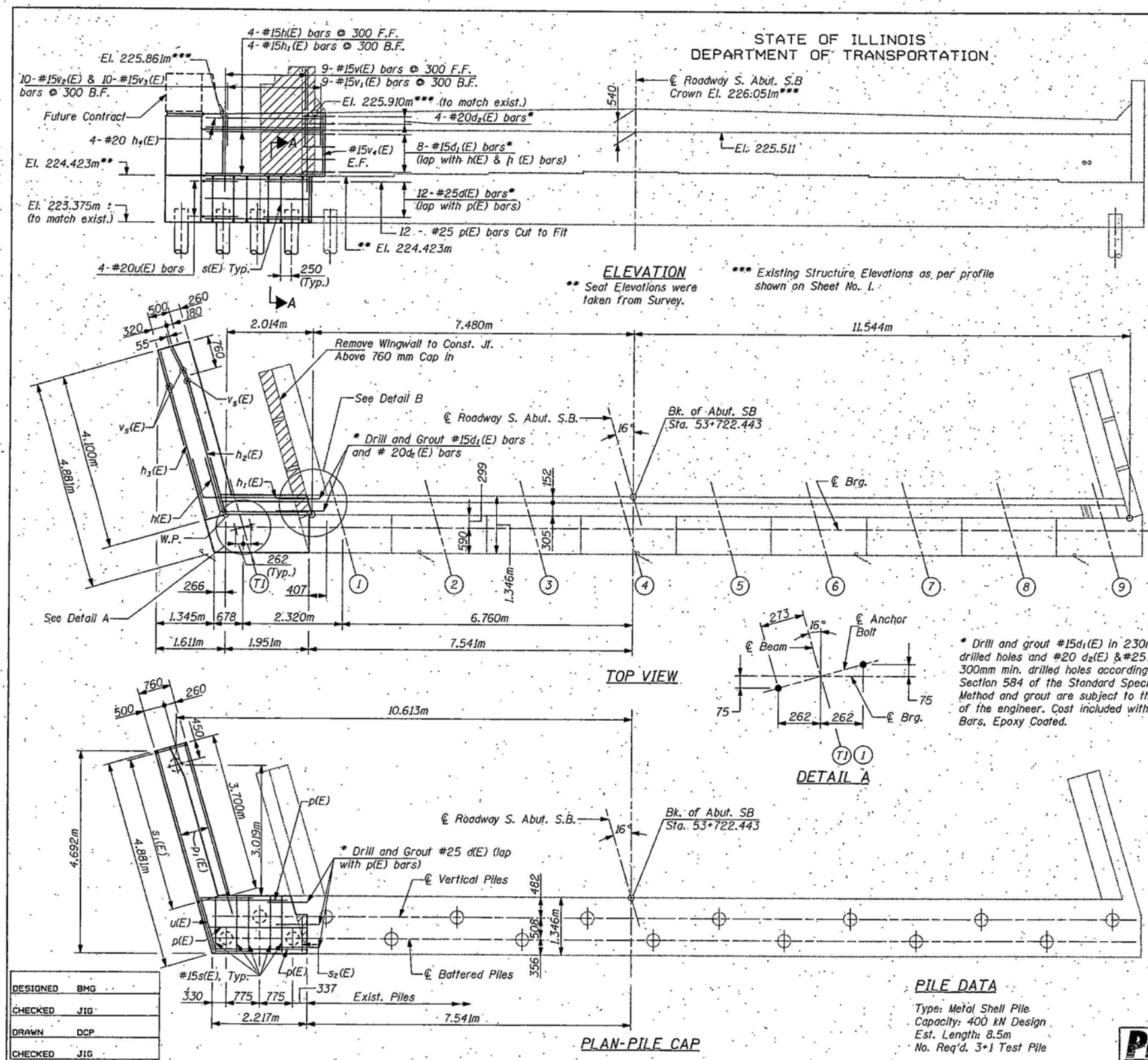
DESIGNED	CBO
CHECKED	AH
DRAWN	DCP
CHECKED	JIG

03-07-02

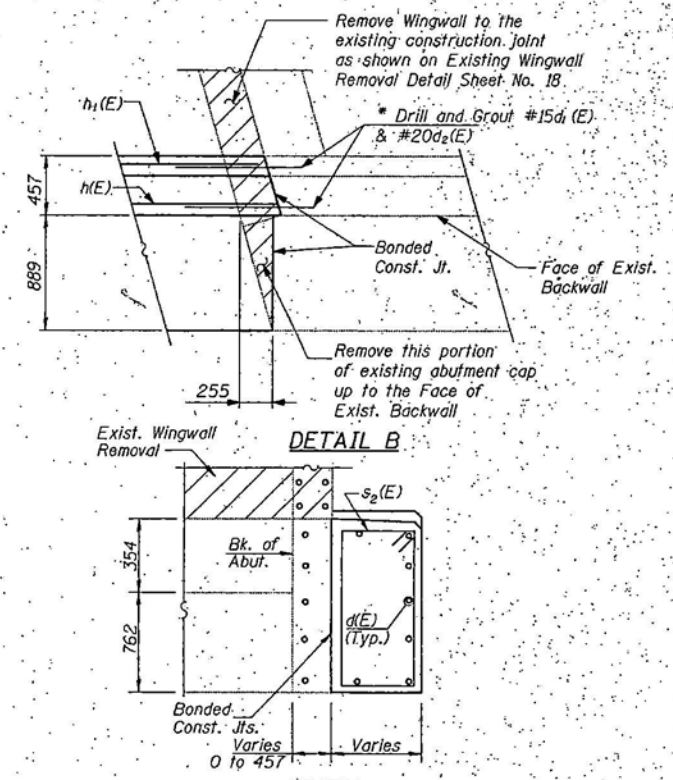
GENERAL NOTES & BILL OF MATERIAL
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)



FILENAME: G:\6772A\STRUCT\TEMP\STRUCTSOABT.DGN; 3/7/02; 17:32:01

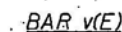


- Notes:
1. All edges have standard 20mm chamfers except as noted.
 2. All dimensions are in millimeters (mm) except as noted.
 3. Space reinforcement in cap to miss anchor bolts.
 4. For wing wall and abutment details, See Sheet No. 18 of 25.
 5. Existing reinforcement extending into the removal area 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.
 8. For legend See Sheet No. 18 of 25.



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.)



03-07-02

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

Bar	No.	Size	Length (m)	Shape
d(E)	12	#25	1.660	
d ₁ (E)	8	#15	0.910	
d ₂ (E)	4	#20	1.130	
h(E)	4	#15	3.180	
h ₁ (E)	4	#15	3.180	
h ₂ (E)	8	#15	4.005	
h ₃ (E)	8	#15	3.990	
h ₄ (E)	4	#20	2.770	
n(E)	14	#20	3.520	
n ₁ (E)	6	#20	1.770	
p(E)	12	#25	2.485	
p ₁ (E)	6	#25	4.780	
s(E)	7	#15	4.790	
s ₁ (E)	16	#15	2.920	
s ₂ (E)	2	#15	3.870	
u(E)	4	#20	2.590	
v(E)	9	#15	2.050	
v ₁ (E)	9	#15	1.500	
v ₂ (E)	10	#15	.760	
v ₃ (E)	10	#15	.912	
v ₄ (E)	2	#15	1.400	
v ₅ (E)	34	#20	1.555	

Concrete Structures	m ³	11.5
Reinforcement Bars, Epoxy Coated	kg	1050
Furnishing Metal Pile Shells, 305 mm.	m	25.5
Driving and Filling Shells	m	25.5
Test Pile Metal Shells	Each.	1
Concrete Removal	m ³	2.8
Structure Excavation	m ³	45
Bridge Seat Sealer	m ²	2.2

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. The cost of any slopewall removal required to facilitate the substructure widening is included with Structure Excavation.

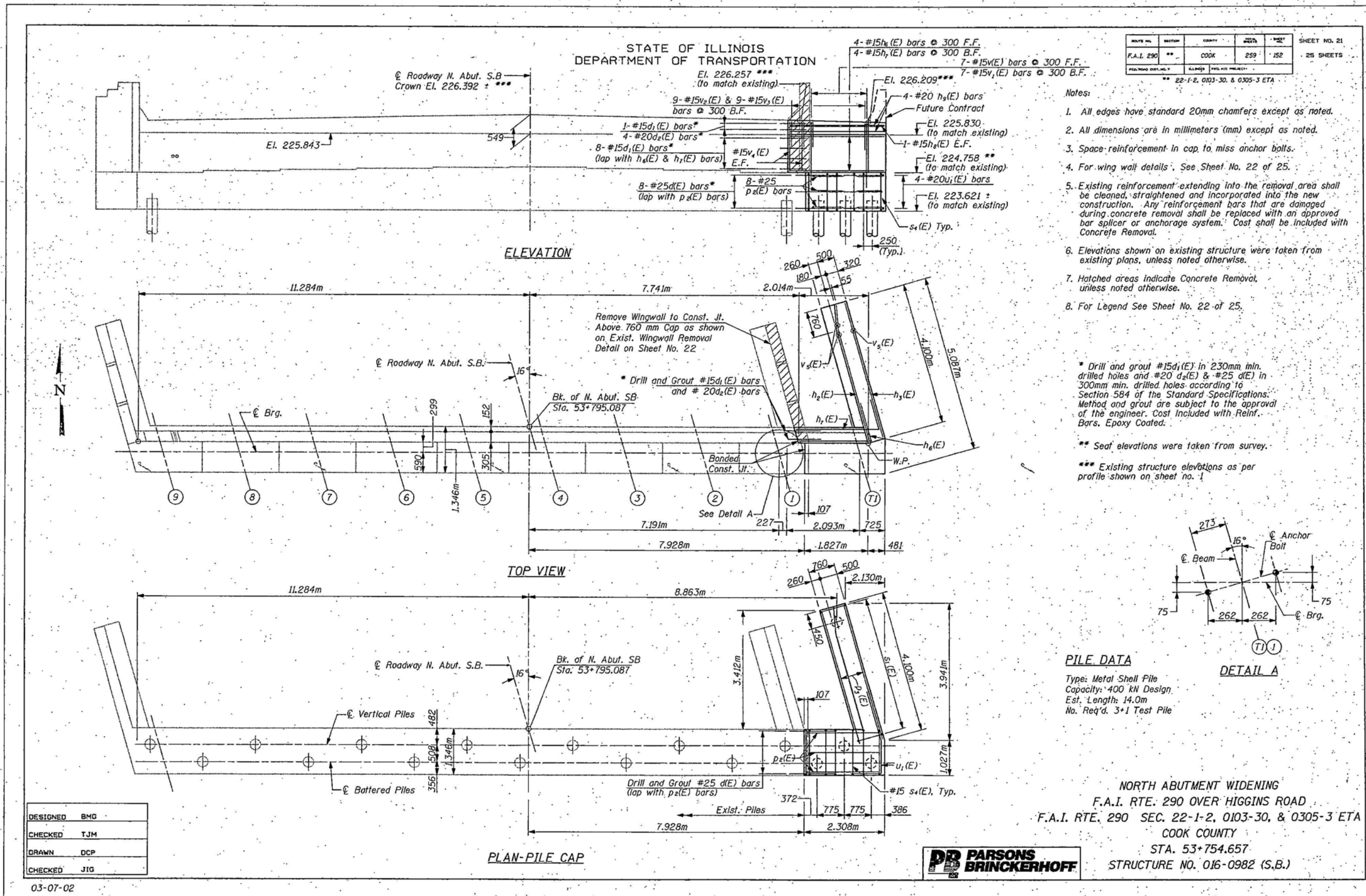
I.F. Inside Face
O.F. Outside Face
F.F. Front Face
B.F. Back Face
E.F. Each Face
S.E. Southeast
S.W. Southwest

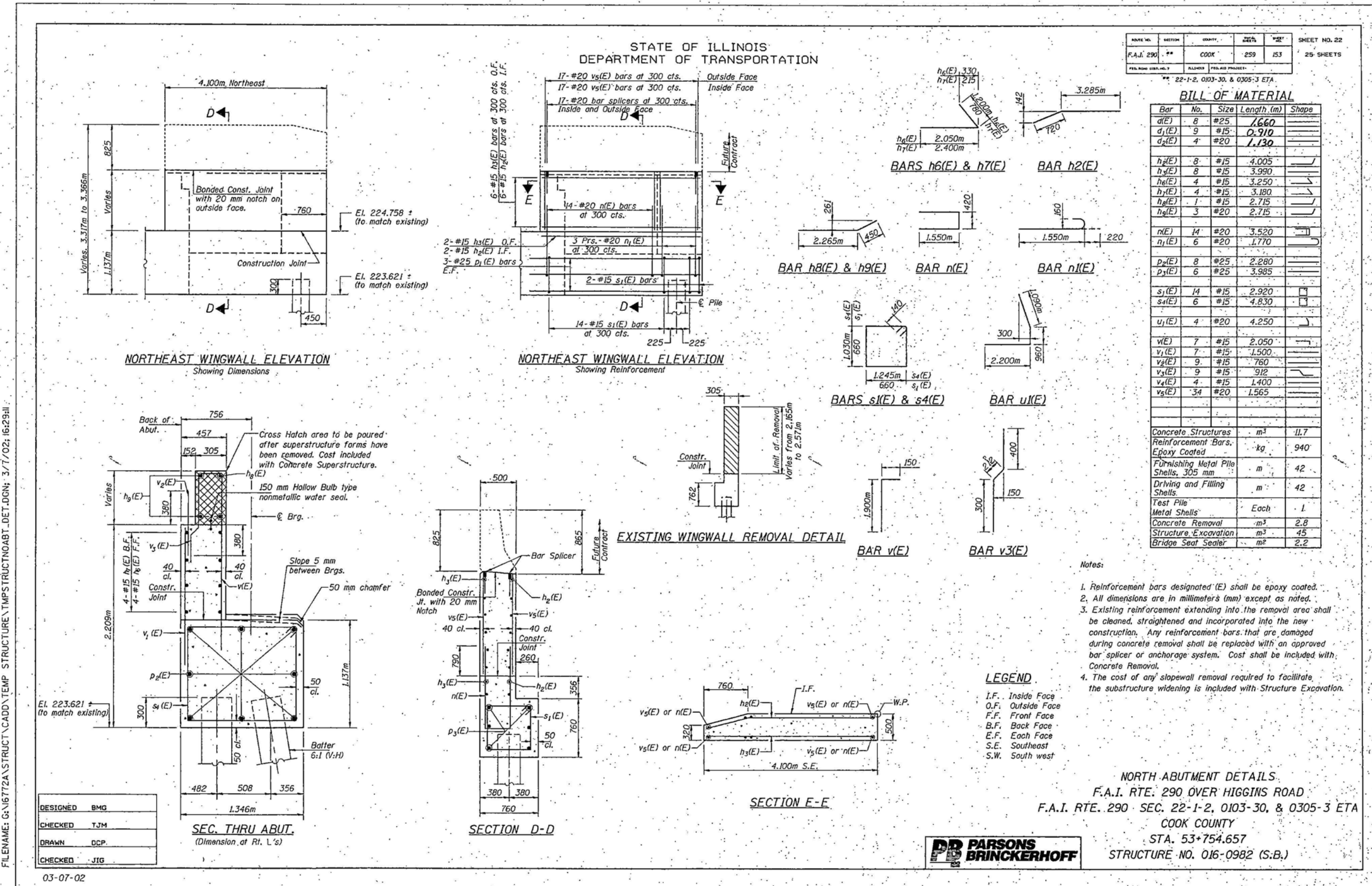
SOUTH ABUTMENT DETAILS
F.A.I. RTE. 290 OVER HIGGINS ROAD
F.A.I. RTE. 290 SEC. 22-1-2, 0103-30, & 0305-3 ETA
COOK COUNTY
STA. 53+754.657
STRUCTURE NO. 016-0982 (S.B.)

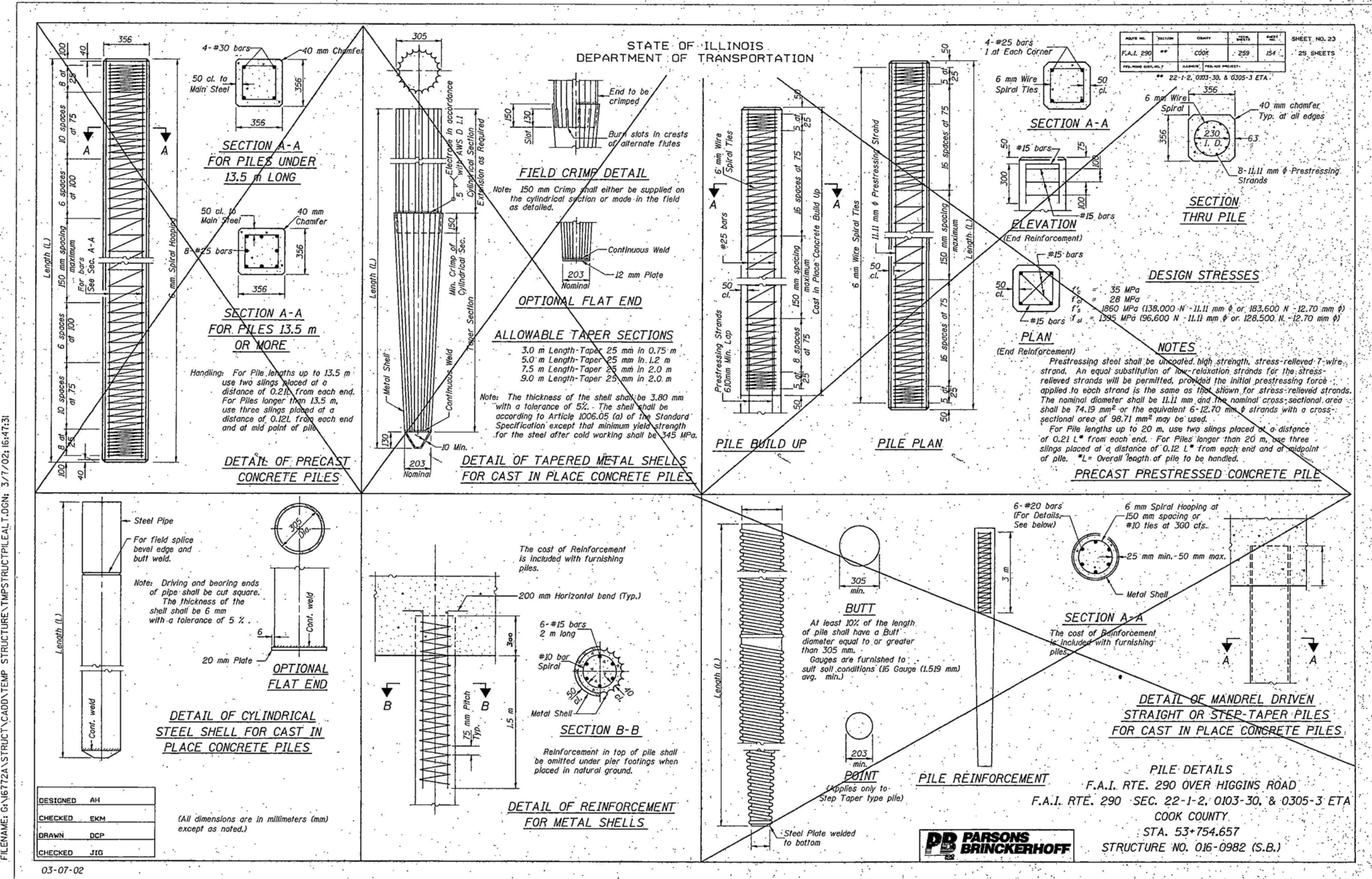












BORING HR-3

BORING HR-4

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 290	**	COOK	259	156
FED. ROAD DIST. NO. 7		EVALUATOR FED. AID PROJECT		

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

SHEET NO. 25
25 SHEETS

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.)



4-14-95 #4

COOK

I + R copy

(0305-302K + 0505-303HBK)RS-2...

#4

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

FOR INDEX OF SHEETS, SEE SHEET NO. 2

99.9%
9-15-95

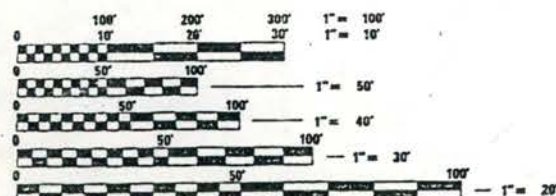
PLAN
PROFILE HORIZ.
PROFILE VERT.
CROSS SECTIONS

F.A.I. ROUTE 290 / IL. ROUTE 53 (F.A. ROUTE 342)
SECTION: (0305-302K & 0505-303HBK)RS-2 &
(0404[313HB, 314HB, 316HB] & 0505-303HBK)BR-1
DEVON AVE. TO IL. RTE. 62 (ALGONQUIN ROAD)
RESURFACING, BRIDGE REPAIRS AND PAVEMENT PATCHING
COOK COUNTY
C-91-130-94

LOCATION OF ADDITIONAL WORK

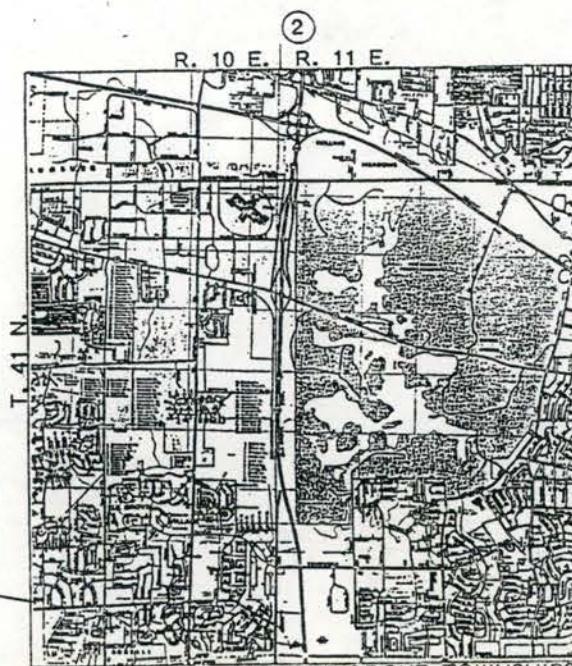
- ① IL. RTE. 53 SB LANE #2
FROM IL. RTE. 19 TO US RTE. 20
- ② IL. RTE. 53 SB
FROM KIRCHOFF TO IL. RTE. 62

PROJECT LOCATED IN THE
VILLAGE OF ELK GROVE,
VILLAGE OF SCHAUMBURG, AND
THE CITY OF ROLLING MEADOWS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

IMPROVEMENT BEGINS
STA. 404+17



SCHAUMBURG AND ELK GROVE TOWNSHIPS

IMPROVEMENT ENDS
STA. 651+75

NET LENGTH OF IMPROVEMENT = 24,758 LIN. FT. = 4.689 MILES

BRIDGE #	OVER	STA
016-0983	IL. RTE. 72 (NB)	561+70
016-0982	IL. RTE. 72 (SB)	561+70
016-0979	WOODFIELD RD (NB)	583+98
016-0978	WOODFIELD RD (SB)	583+98
016-0980	ILL. RTE. 58	612+54
016-0977	I-90	637+76

BRIDGE WORK WILL CONSIST OF DECK
REPAIRS, RESURFACING AND JOINTS
RECONSTRUCTION.

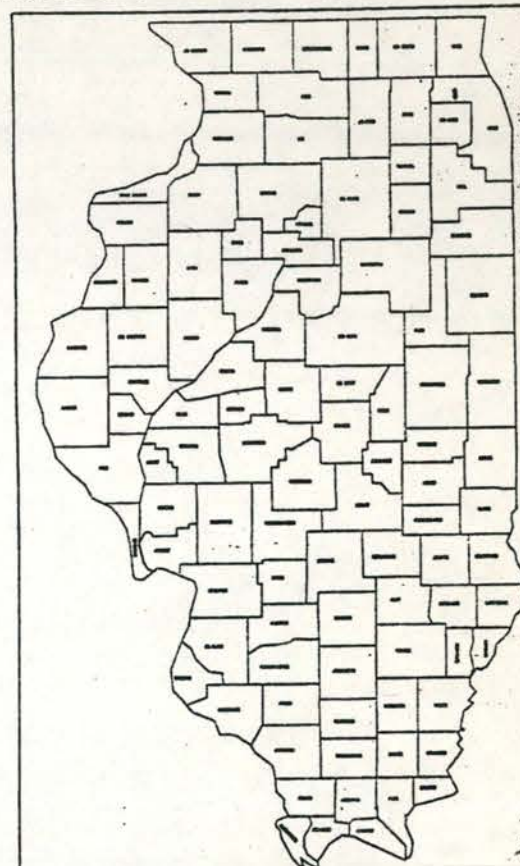
TRAFFIC DATA

1990 ADT = 151,800
SPEED LIMIT = 55 MPH

FBI RTE	SECTION	COUNTY	TOTAL SHEET	SHEET NO.
290 / F. 3	COOK	199	1	1

(0305-302K & 0505-303HBK)RS-2 &
(0404[313HB, 314HB, 316HB] & 0505-303HBK)BR-1

D-91-130-94



LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Feb 7 1995

EXAMINED 18

PASSED March 17 1995 Harry Hand

APPROVED March 17 1995 James C. Slay

FOR UTILITY INFORMATION
CALL J.U.L.I.E. (800) 892-0123

0-299

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STATE OF ILLINOIS

CONTRACT NO. 82701

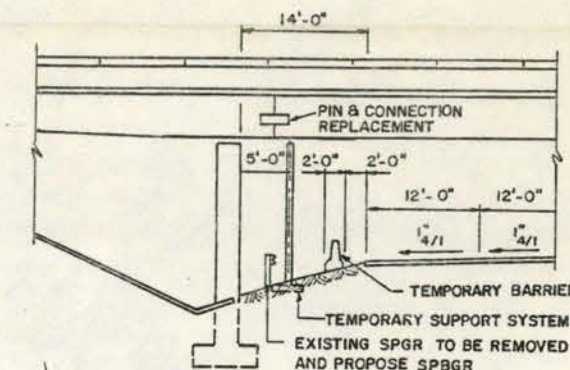
016-0982(SB) 0983(NB)

Set Out by Office: / 11/11/95 / 11/11/95 / 11/11/95

PLAN PREPARATION ENGINEER: M. DEVONG / R. BIAHI (708)-708-4437

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	COOK	199	137
STA.	TO STA.		
FILE NO. PROJ. NO.	ALIGNED	FILE NO. PROJ.	

* (305-302K & 0505-303HBK) RS-2 &
(0404 C313HB; 314HB316HB) & 0505-
303HBK) BR-1



DETAIL "A"

CONSTRUCTION SEQUENCE

1. TRAFFIC STAGING
2. BITUMINOUS CONCRETE REMOVAL (DECK) (1 1/2")
3. DECK SLAB REPAIRS
4. RECONSTRUCT TRANSVERSE EXPANSION JOINTS
5. WATERPROOFING MEMBRANE SYSTEM
6. 1 3/4" BITUMINOUS CONCRETE SURFACE COURSE CLASS I

GENERAL NOTES:

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSION AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATION SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT BID PRICE OR THE WORK.
2. ALL TRAFFIC CONTROL DEVICES AND MEASURES DEEMED NECESSARY AND PLACED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF THE VARIOUS STANDARDS SHOWN ON THE TITLE SHEET WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE PAY ITEM TRAFFIC CONTROL, AND PROTECTION.
3. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 M-42, OR M-53 GRADE 60
4. THE CONTRACTOR MUST USE EXTREME CARE DURING CONCRETE REMOVALS AS NOT TO NICK, CUT, OR DAMAGE ANY OF THE STRUCTURAL STEEL MEMBERS AND TO NOT DAMAGE OR CUT EXISTING REINFORCING TO BE INCORPORATED INTO THE NEW CONSTRUCTION. ANY DAMAGE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE
5. ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M-270, GR.36 UNLESS OTHERWISE SPECIFIED.

TOTAL BILL OF MATERIALS - BRIDGE

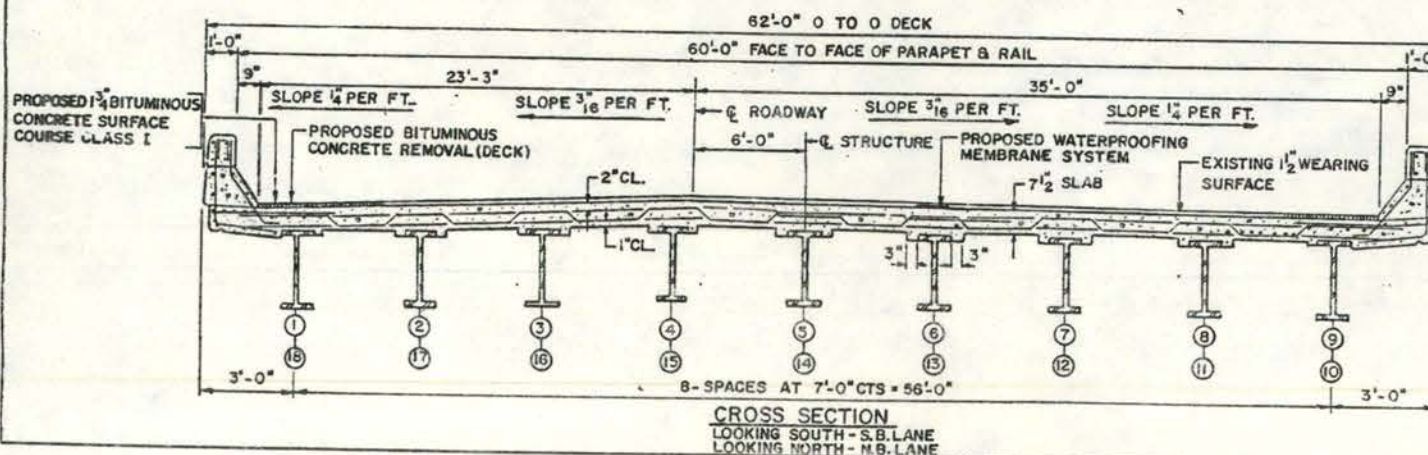
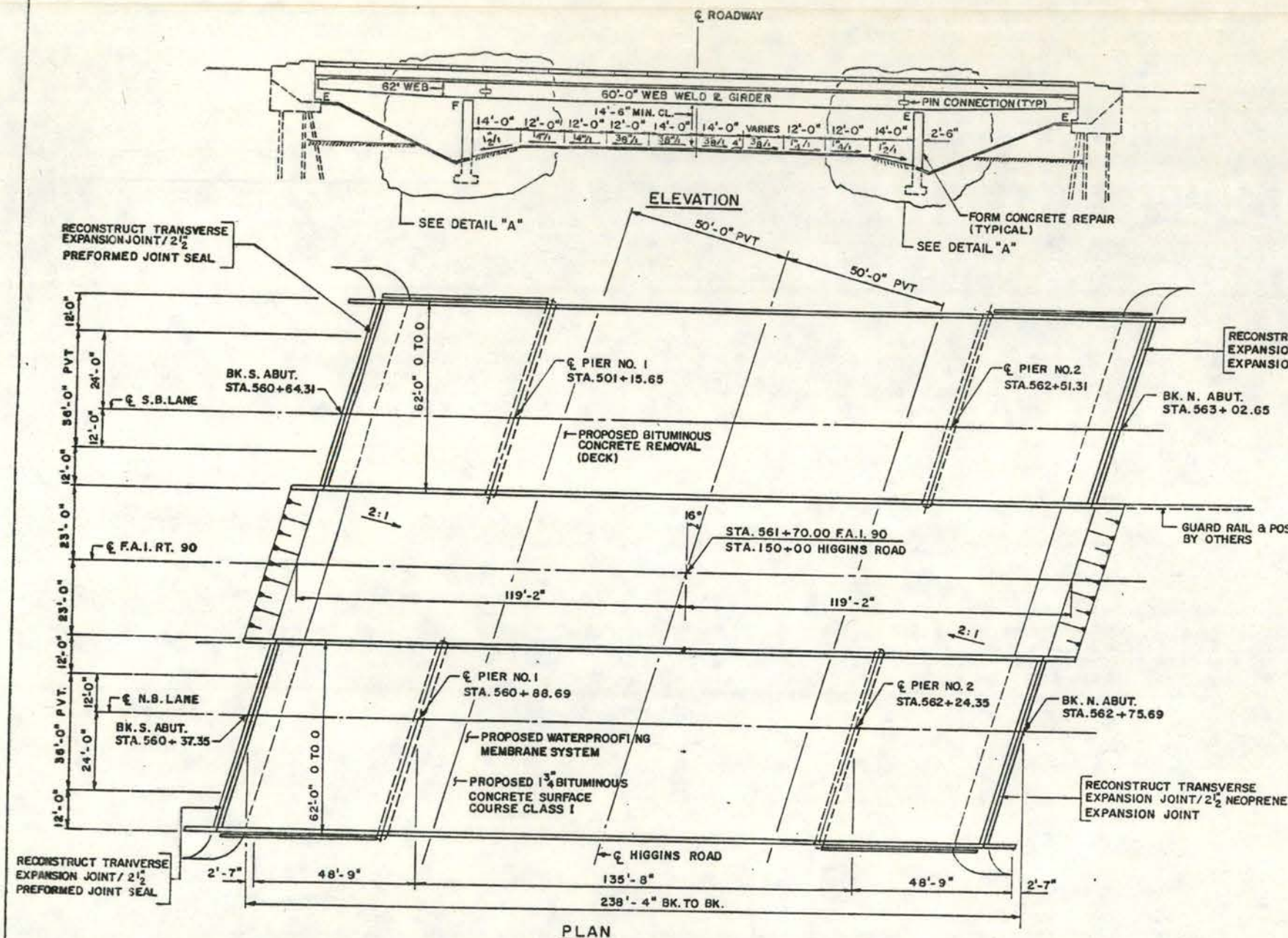
Item	Unit	Quantity
Pin and Connection Replacement	Each	36
Temporary Support System	Each	36
Concrete Superstructure	Cu. Yd.	38
Reinforcement Bars (Epoxy Coated)	bs.	5100
Neoprene Expansion Joint (2 1/2")	Foot	124
Furnished And Erection Of Structural Steel	bs.	9740
Preformed Joint Seal (2 1/2")	Foot	124
Bituminous Concrete Removal (Deck)	Sq. Yd.	3100
Concrete Removal	Cu. Yd.	38
Bituminous Concrete Surface Course Class I	Ton	353
Waterproofing Membrane System	Sq. Yd.	3100
Deck Slab Repair (Partial)	Sq. Yd.	364
Deck Slab Repair (Full Depth-Type I)	Sq. Yd.	7
Deck Slab Repair (Full Depth-Type II)	Sq. Yd.	0
Formed Concrete Repair (1 1/2")	Sq. Ft.	27
Formed Concrete Repair (1 1/2")	Sq. Ft.	76
Epoxy Crack Sealing	Foot	250
Bar Solderers	Each	48
Protective Shield	Sq. Yd.	3100

6. THE BRIDGE DECK SHALL BE CLEANED OF ALL DEBRIS. ANY EXISTING WATERPROOFING MEMBRANE SHALL BE REMOVED SUCH THAT THERE IS NO LOOSE MATERIAL REMAINING ON THE BRIDGE PRIOR TO PLACEMENT OF WATERPROOFING MEMBRANE SYSTEM. THIS WORK IS INCIDENTAL TO BITUMINOUS CONCRETE REMOVAL (DECK).

REVISIONS	
NAME	DATE
M.V.T.	12-12-94

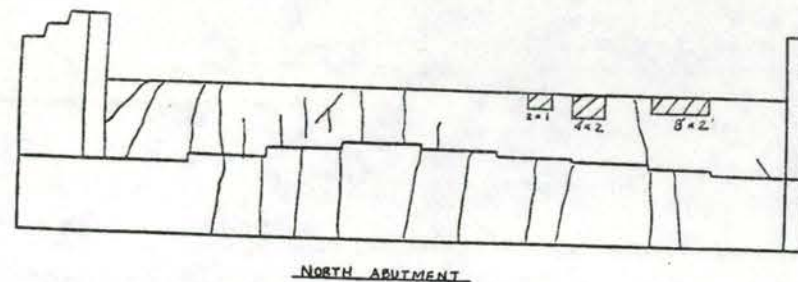
ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 290
OVER ILLINOIS ROUTE 72
S.N.016-0982/0983
PLAN & TYPICAL SECTION

SCALE: VERT. 1"=10'
HORIZ. 1"=40'
DATE
DRAWN BY MVT
CHECKED BY JAF

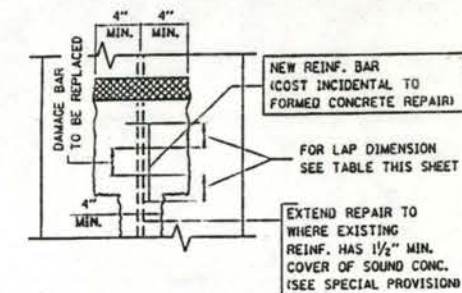
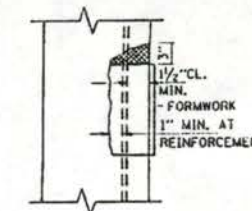
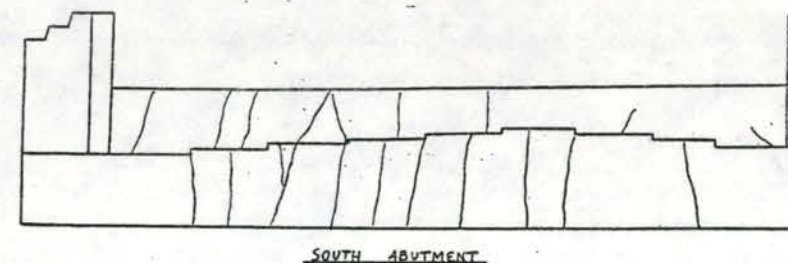


F. A. NO.	SECTION	COUNTY	TERM MONTHS	ENCL. NO.
290	*	COOK	199	142
STA.		TO STA.		
FED. ROAD DIST. NO.		SLIPPER	FED. AID PROJECT	

* (305-302K+0505-303HBK) RS-28
 (0404(3)3HBK) 316HBK 30505-303HBK
 W-1



☐ - SPALL AREA (26 Sq. Ft.)



LAP DIMENSIONS	
BAR SIZE	LAP LENGTH
#4	1'-8"
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"

NOTE:
EXISTING REINFORCEMENT HAVING 10% OR MORE OF CROSS SECTIONAL AREA LOST DUE TO CORROSION OR DAMAGED DURING CONC. REMOVAL SHALL BE REPLACED BY NEW REINFORCEMENT LAPPED AS SHOWN ON REVISION.

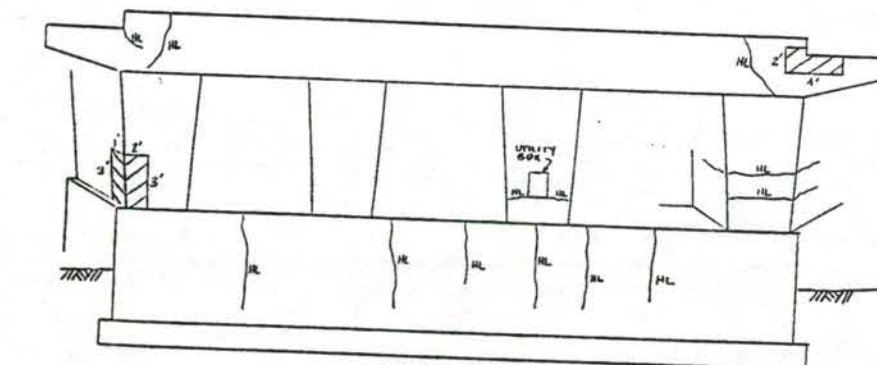
FORMED CONCRETE REPAIR DETAIL WITH REINFORCEMENT

LEGEND

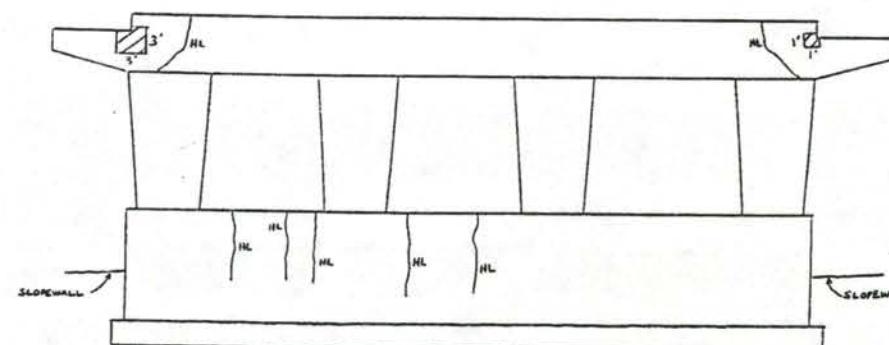
 INDICATES FORMED CONCRETE REPAIR

Item	Unit	Quantity
Formed Concrete Repair < 5" Depth	Sq. Ft.	64
Formed Concrete Repair > 5" Depth	Sq. Ft.	20
Epoxy Crack Sealing	Foot	150

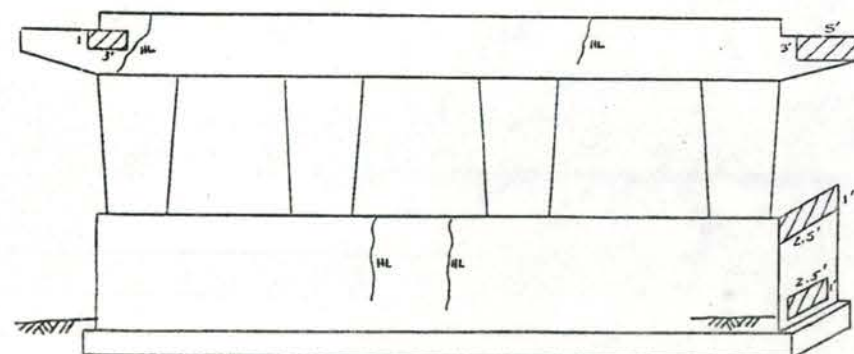
NOTE:
FORMED CONCRETE REPAIR < 5" OR > 5" IS TO BE DETERMINE
IN THE FIELD AT THE RESIDENT ENGINEER'S DISCRETION.
FIELD DATA BY



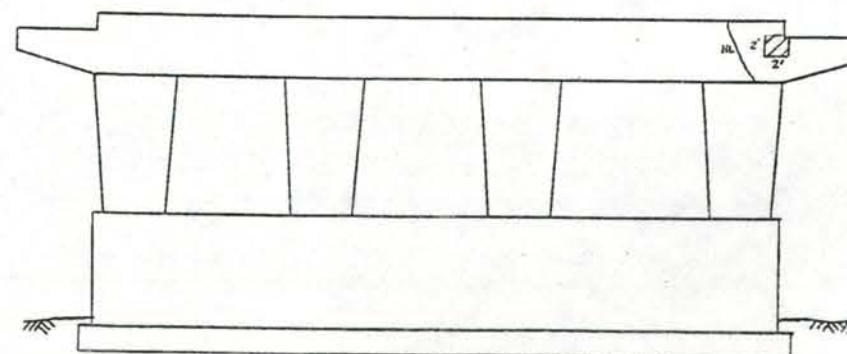
☐ - SPILLED AREA (17sf)



☐ - SPALLED AREA (IO & f)



☐ - SPALLED AREA (23 sf)



☐ - SPALLED AREA (4sf)

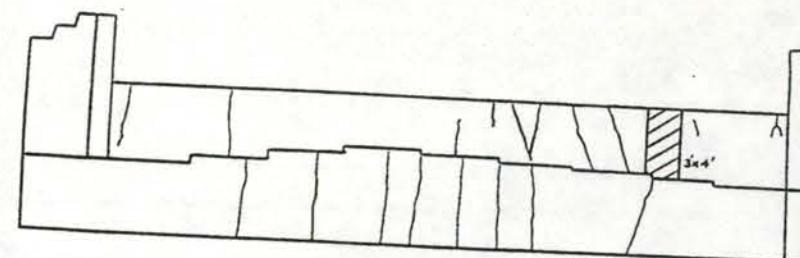
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 290
OVER ILLINOIS ROUTE 72 (S.B.)
S.N.016-0982
SUBSTRUCTURE REPAIR PLANS

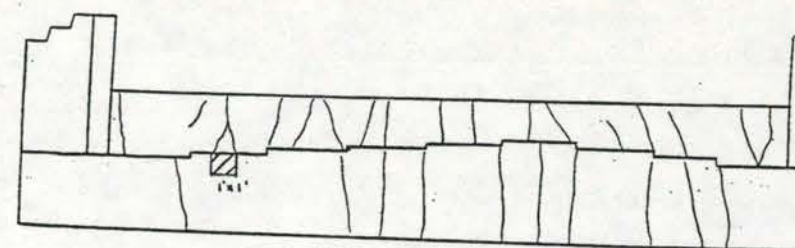
SCALE:	VERT.
	HORIZ.
DATE	

DRAWN BY CADD
CHECKED BY JAF

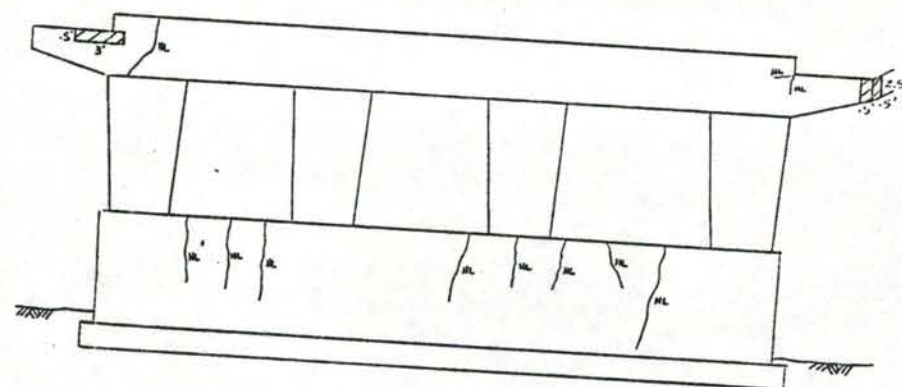
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	COOK	199	143
STA. TO STA.			
FED. ROAD DIST. NO.			
ILLINOIS			
FED. AID PROJECT			
*1305-302K8.0505-303HBKRS-28			
10404(313HB:314HB)316HB38.0505-303HBK1			
DH-1			



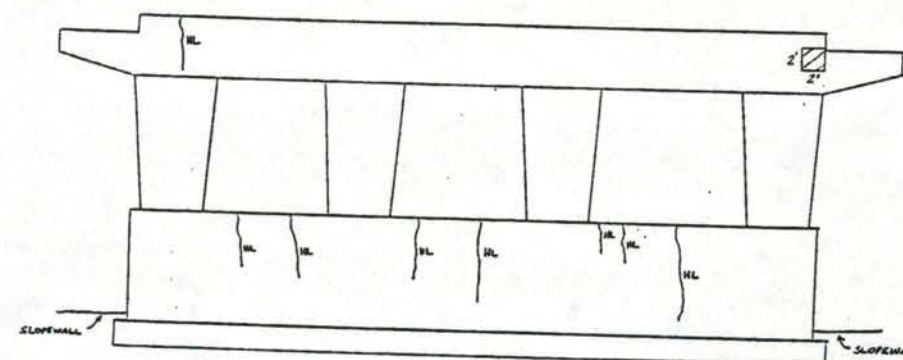
SPALL AREA (12.54 sq ft)
NORTH ABUTMENT



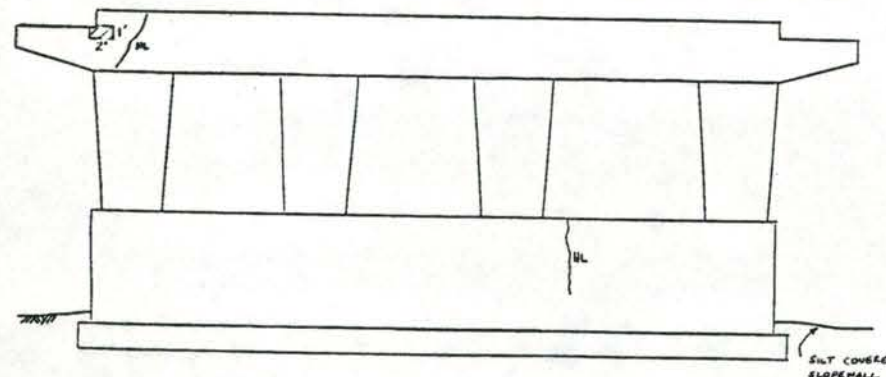
SPALL AREA (1.54 sq ft)
SOUTH ABUTMENT



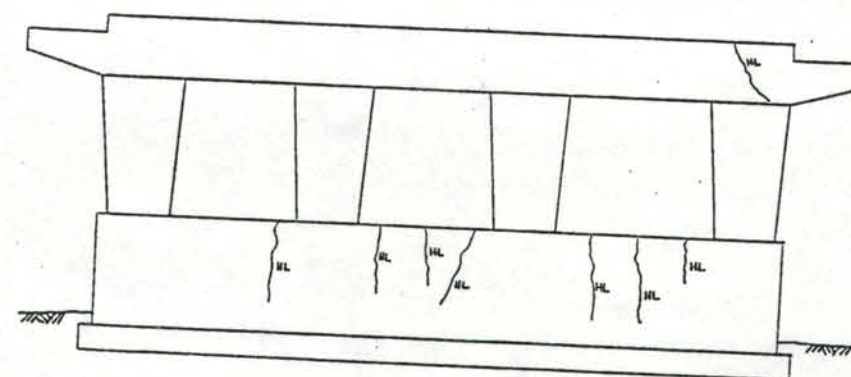
SPALLED AREA (4.16)
PIER #1
NORTH FACE



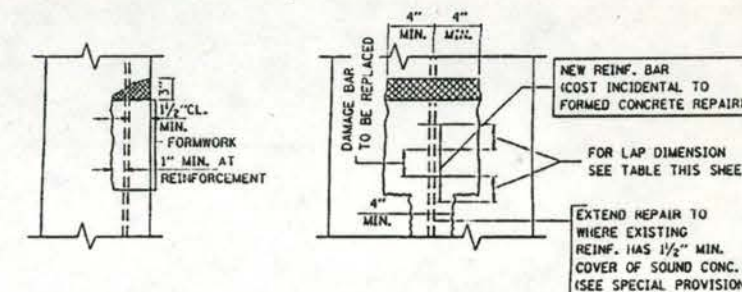
SPALLED AREA (4.16)
PIER #1
SOUTH FACE



SPALLED AREA (2.16)
PIER #2
NORTH FACE



PIER #2
SOUTH FACE



NOTE:
EXISTING REINFORCEMENT HAVING 10% OR MORE OF CROSS SECTIONAL AREA LOST DUE TO CORROSION OR DAMAGED DURING CONC. REMOVAL SHALL BE REPLACED BY NEW REINFORCEMENT LAPPED AS SHOWN OR NOTED.

LAP DIMENSIONS	
BAR SIZE	LAP LENGTH
#4	1'-8"
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-5"

FORMED CONCRETE REPAIR DETAIL WITH REINFORCEMENT

LEGEND

INDICATES FORMED CONCRETE REPAIR

BILL OF MATERIALS

Item	Unit	Total
Formed Concrete Repair < 5" Depth	Sq. Ft.	16
Formed Concrete Repair > 5" Depth	Sq. Ft.	9
Epoxy Crack Sealing	Foot	100

NOTE:
FORMED CONCRETE REPAIR < 5" OR > 5" IS TO BE DETERMINE IN THE FIELD AT THE RESIDENT ENGINEER'S DISCRETION.
FIELD DATA BY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 290
OVER ILLINOIS ROUTE 72 (N.B.)
S.N.016-0983
SUBSTRUCTURE REPAIR PLANS

SCALE: VERT.
HORIZ.
DATE

DRAWN BY CADD
CHECKED BY JAF

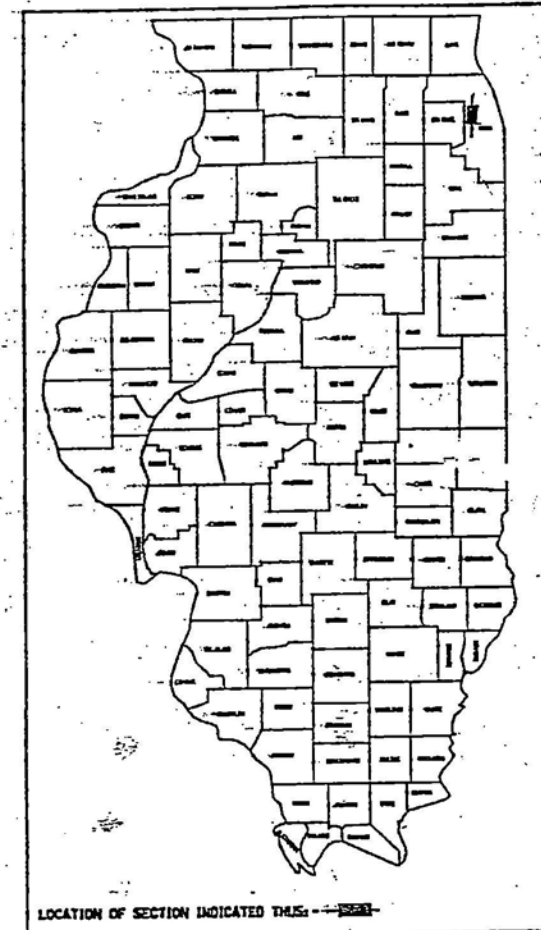
Cook

Sec. 0404(313,316)HB & 0405-314HB(BR-89) I&R June 30, 1989 #99

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

F&I RITE	SECTION	COUNTY	TOTAL SHEETS
290	*	COOK	54
PROJECT		BRIDGE	1

D-91-026-89



LOCATION OF SECTION INDICATED THIS

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES
3. WORK TO BE PERFORMED; STAGE CONSTRUCTION; TRAFFIC CONTROL NOTES

HIGGINS ROAD BRIDGES

4. WORK TO BE PERFORMED
5. PLAN OF IMPROVEMENT
6. EXPANSION JOINT REPAIR
7. 13. ORIGINAL DRAWINGS AND PROPOSED WORK

WOODFIELD DRIVE BRIDGES

14. WORK TO BE PERFORMED
15. PLAN OF IMPROVEMENT
16. BITUMINOUS CONCRETE RESURFACING
17. EXPANSION JOINT REPAIRS
18. ABUTMENT BACKWALL REPAIRS
19. 26. ORIGINAL DRAWINGS AND PROPOSED WORK

GOLF ROAD BRIDGE

27. WORK TO BE PERFORMED
28. PLAN OF IMPROVEMENT
- 29-30. EXPANSION JOINT REPAIRS
31. 35. ORIGINAL DRAWINGS AND PROPOSED WORK

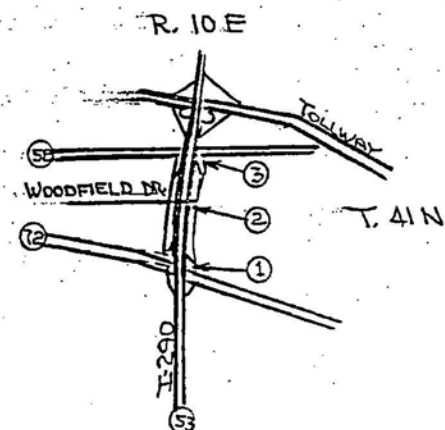
36. 40. TRAFFIC CONTROL - STAGE I
41. 47. TRAFFIC CONTROL - STAGE II
48. 49. TRAFFIC CONTROL - STAGE III

50. BAR SPlicer DETAILS
51. ONE LANE CLOSURE
52. TWO LANE CLOSURE
53. TWO LANE WEAVE
54. NEOPRENE EXPANSION JOINT STANDARDS

2298-7	2314-5	U-2
2299-10	2396	U-5
2300-3	2419	
2307-6	2316-11	

97 1/2
10-14-89

ROUTE: F.A.I. 290 (ILL. 53)
SECTION: 0404(313,316)HB & 0405-314HB(BR-89)
COUNTY: COOK
C-91-026-89



SCHAUMBURG TOWNSHIP
COOK COUNTY
LOCATION SKETCH

BRIDGE REPAIR ON NORTH AND SOUTH BOUND I-290 OVER:

- (1) HIGGINS ROAD SN: 016-0982 & 016-0983
- (2) WOODFIELD DR. SN: 016-0978 & 016-0979
- (3) GOLF ROAD SN: 016-0980

CONTRACT NO. 80259

016-0982 & 0983

COOK COUNTY SECTION 0404(313,316)HB & 0405-314HB(BR-89) F.A.I. 290

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: April 25, 1989
EXAMINED: May 10, 1989
PASSED: May 15, 1989
APPROVED: May 15, 1989

0-222

B.M. #5: Square cut in Center of head-wall of Concrete Culvert under Higgins Rd. on N.W. corner of Intersection of Higgins Rd. and Route #53, E.I. 723.07

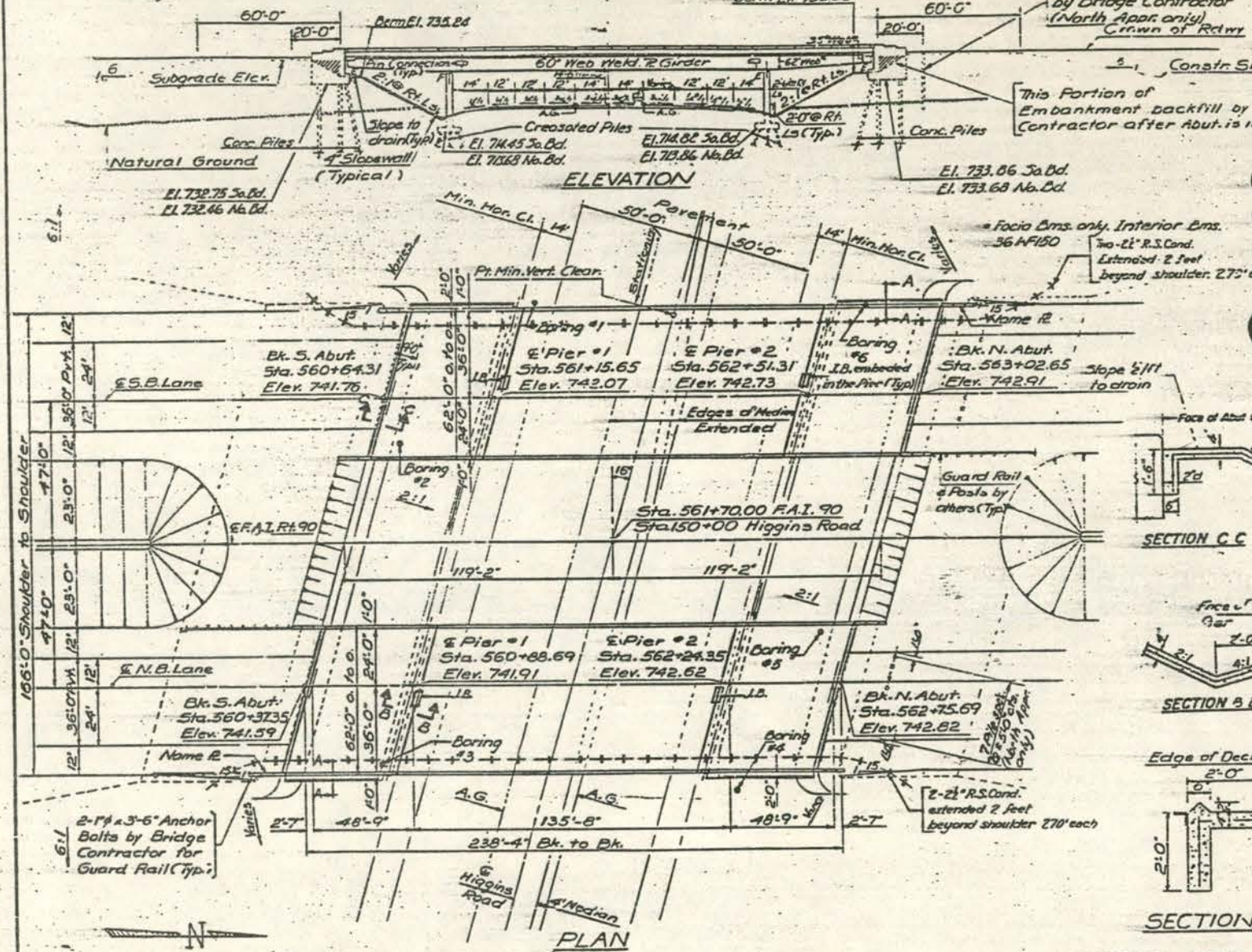
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE	SECTION	COUNTY	TOT. SHT.	SHT. NO.
I-290	0404 (313,316) HB 0405-314 HB (89)	COOK	54	4

NOTE: THIS SHEET REPRESENTS THE ORIGINAL CONSTRUCTION DRAWING

PROPOSED WORK TO BE PERFORMED

- A- Remove Existing Asphalt on Approaches- scarify and conduct Resurfacing operations.
- B- Re-furbish existing 4" Roadway Expansion Joints.
- C- Remove and Replace existing Deck Joints over Abutments- See Sht. 6
- D- Conduct Backwall Repairs at all 4 Abutments- Sht. 18
- E- Reposition certain Abutment Rocker Bearings- See Sht. 9, 11, 12
- F- Seal cracks in Abutments with epoxy injected material- See Sht. 9, 10



SECTION C-C

SECTION B-B

SECTION A-A

DESIGN STRESSES

$f_c = 1200$ p.s.i. Deck
 $f_c = 1400$ p.s.i. Curb, Parapet & Sub.
 $f_s = 20,000$ p.s.i. Reinf. & Strud Steel
 $f_c = 75$ p.s.i. Figs.
 $n = 10$

Loading: HS-20-44 & Alternate.



TOTAL BILL OF MATERIAL

Item	Super	Sub.
Class X Concrete	888.3	686.6
Reinforcement Bars	209,980	71,040
Structural Steel	1205,700	
Aluminum Rolling	Lin. Ft.	940
Formwork	Sq. Yds.	2
Slope Wall	Sq. Yds.	2000
Soil for Interlock Protective Foot	Sq. Yds.	3,050
Stud Shear Connectors	Ea.	5,616
Class X Excav. for Struc.	Sq. Yds.	558
Concrete Piles	Lin. Ft.	3,524
Formwork (Concrete)	Ea.	5,463

FAI ROUTE 210
SECTION 0404 (313,316) HB
0405-314 HB (89)
COOK COUNTY

INFORMATION DRAWING
WORK TO BE PERFORMED

113-HB

LOCATION PLAN I-290 OVER HIGGINS RD

901
3 RD.)

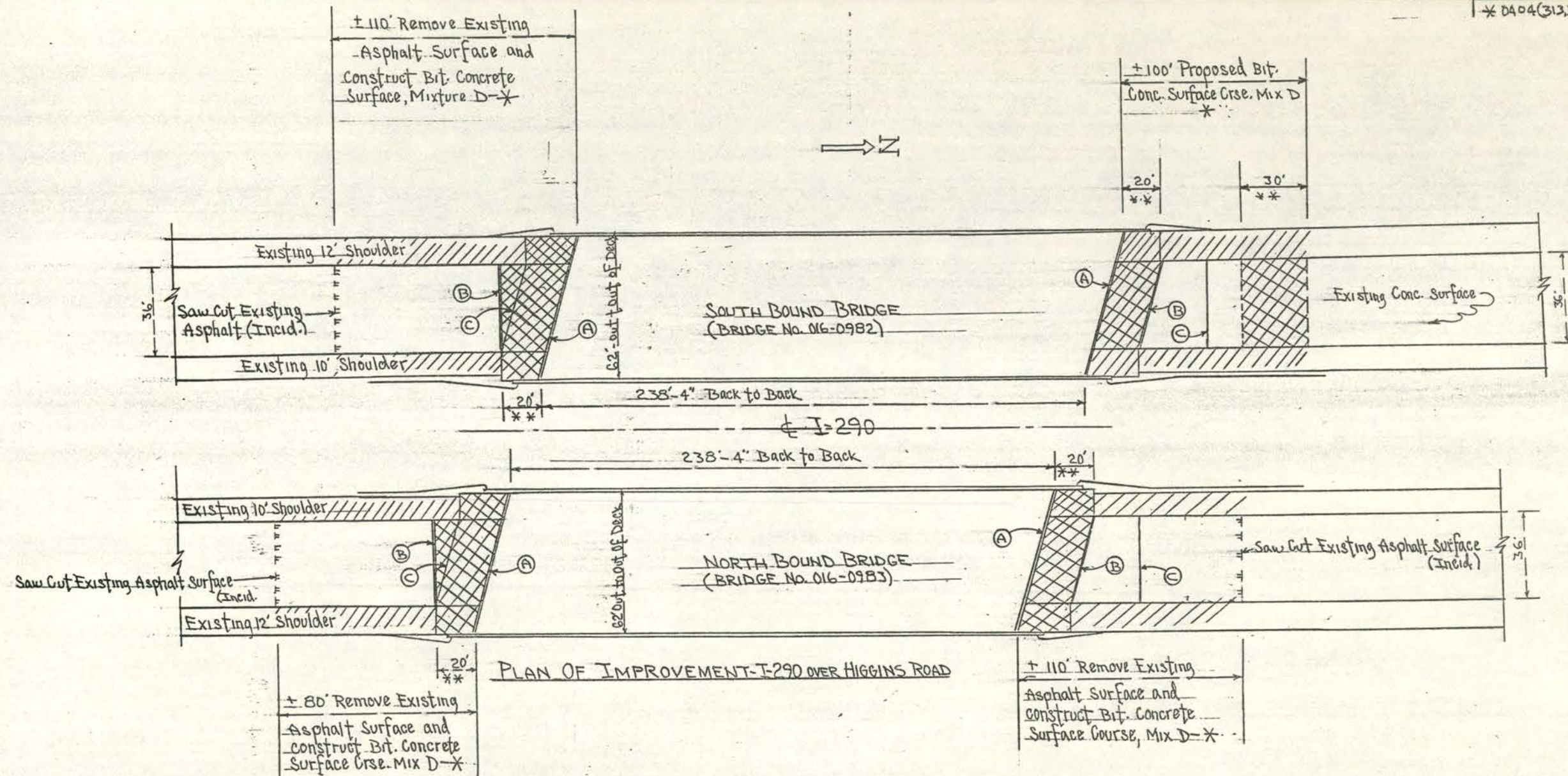
BRIDGE NOS. 016-0982 & 016-0983

DESIGNED: Dan Chilton
 CHECKED: James M. Barber
 DRAWN: A. Corrozo
 CHECKED: B.B.

APPROVED: [Signature]
 DATE: 11/2/89
 PROJECT: I-290 OVER HIGGINS RD.

PROFILE ALONG HIGGINS RD. PROFILE ALONG F.A.I. 90

ROUTE	SECTION	COUNTY	TOT. SHTS.	SHT. NO.
FAI 290	*	COOK	54	5
* D404(313,316)HB & D405-314HB(89)				



- LEGEND**
- ▨ Proposed Asphalt Taper
 - ▩ Proposed P.C.C. Scarification- Similar to details shown on Sht. 16
 - Ⓐ Remove and Replace Joint over Abutment- See Sht. 6
 - Ⓑ Existing 4" Joint to be Re-furbish- Similar to details shown on Sht. 16
 - Ⓒ Exist Joint to be cleaned and filled with Mixture For Cracks, Joints And Flangeways
 - * The Contractor shall construct, as shown above and as directed by the Engineer, a variable thickness of Bituminous Concrete so as to eliminate existing "dips" and to present a smooth rideable roadway surface
 - ** Proposed P.C.C. Surface Removal (Butt Joint)- Similar to details shown Sht 16

I-290 OVER HIGGINS ROAD	
FAI ROUTE 290	
SECTION D404(313,316)HB & D405-314 HB(89)	
COOK COUNTY	
PLAN OF IMPROVEMENT	

BRIDGE NOS. 016-0982 & 016-0983

NOTE: THIS SHEET REPRESENTS THE ORIGINAL CONSTRUCTION DRAWING
PROPOSED WORK TO BE PERFORMED

④ Repair Backwall at locations shown herewith and as directed by the Engineer

Backwall to be repaired - See Sheet 18

✓ Seal cracks located at various locations with epoxy injected material = ± 25 lineal feet

NOTE: Racketer Bearings under Beams 3, 4, 5, 6, 7 and 8 to be reset - See Sht. 31

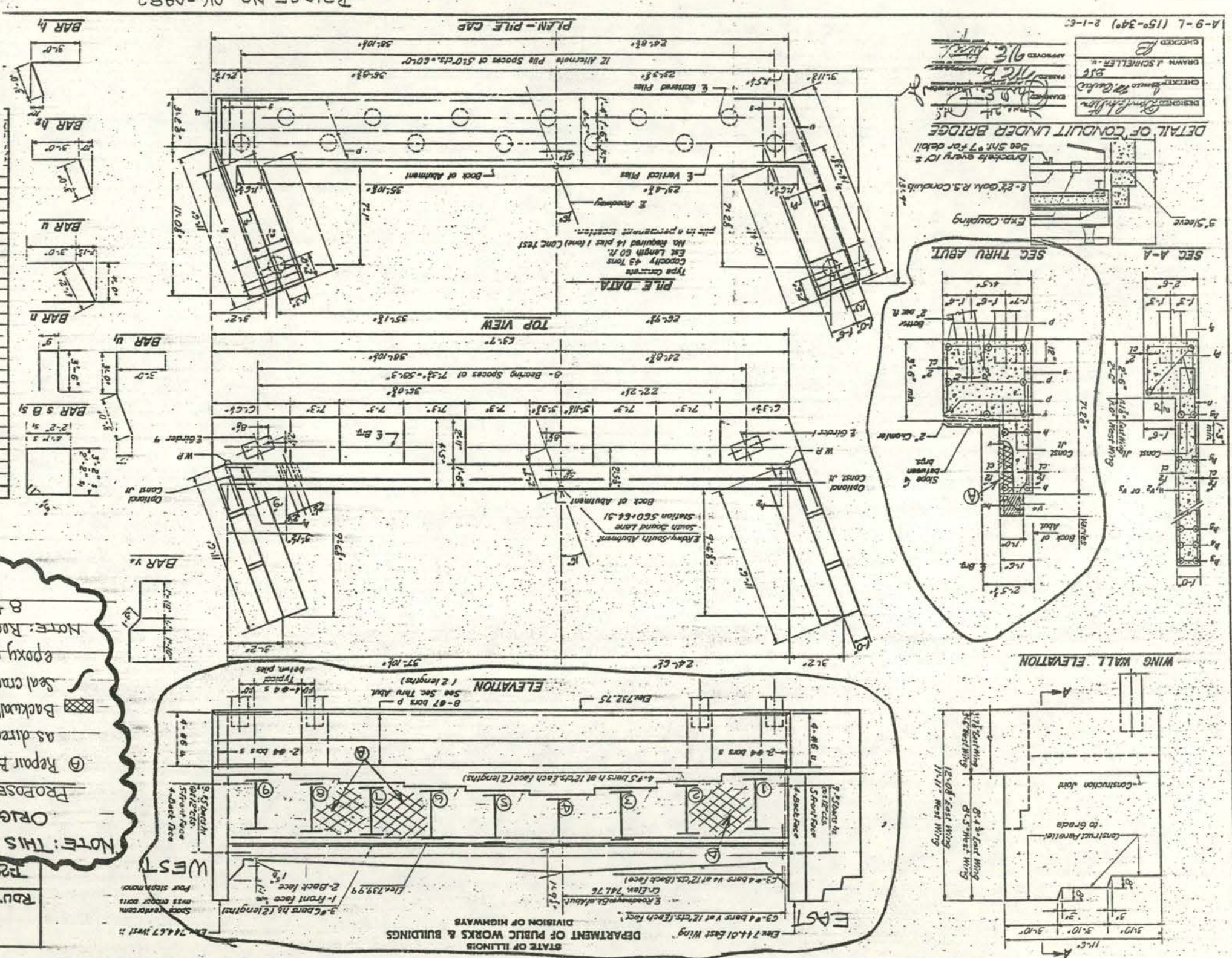
⑦ Repair Backwall at locations Shown herewith and as directed by the Engineer

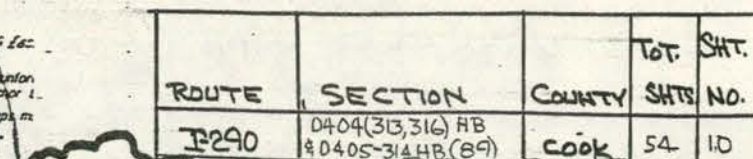
Backwall to be repaired - See Sheet 18

Seal cracks located at various locations with epoxy injected material = ± 25 lineal feet

NOTE: Rocker Bearings under Beams 3, 4, 5, 6, 7 and

FAI ROUTE 210	SECTION D4D4(313.316) HB & 10405-314 HB (09)	COOK COUNTY
LOCATION OF BACKWALL REPAIR	LOCATION OF ROCKER ADJUST- MENTS	





⑨ Repair Backwall at locations shown herewith and as designated by the Engineer

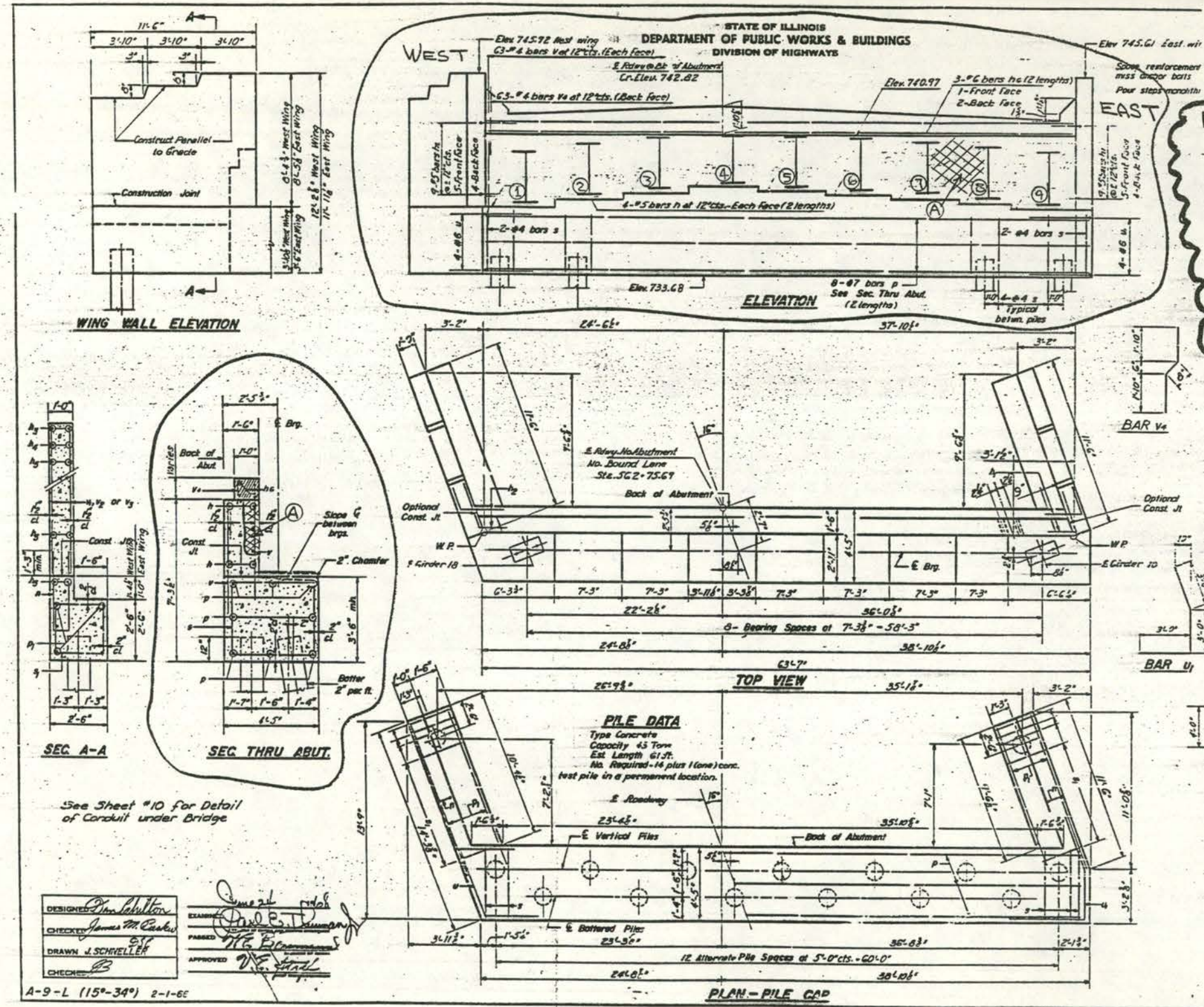
☒ Backwall Area to be Repaired - See Sht. 18

✓ Seal cracks located at various locations with epoxy injected material = ± 25 lineal feet

[illegible]

LOCATION OF BACKWALL REPAIR

N. ABUT. ON S.B. BRIDGE
I-290 OVER HIGGINS RD



ROUTE	SECTION	COUNTY	TOT. SHTS.	SHT. NO.
I-290	0404(313,316)HB & 0405-314HB(89)	COOK	54	11

NOTE: THIS SHEET REPRESENTS THE ORIGINAL CONSTRUCTION DRAWING PROPOSED WORK TO BE PERFORMED:

Ⓐ Repair Backwall at locations shown herewith and as directed by the Engineer

Backwall Area to be Repaired - See Sheet 18

NOTE: Rocker Bearings under Beams 2, 3, 4 and 5 to be reset - See Sht. 31

ONE ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	1	#5	31.9"	
h	2	#5	6.0"	J
h	3	#5	6.0"	
h	4	#4	31.6"	
h	5	#4	7.3"	
h	6	#4	17.1"	
h	7	#4	32.9"	
h	8	#4	17.6"	
h	9	#4	15.6"	
h	10	#4	9.6"	
h	11	#4	10.2"	
h	12	#4	7.0"	
h	13	#4	6.0"	
h	14	#4	8.0"	
h	15	#4	7.6"	
h	16	#4	6.9"	
h	17	#4	8.4"	

FAI ROUTE 290
SECTION 0404(313,316)HB & 0405-314HB(89)
COOK COUNTY
 LOCATION OF BACKWALL REPAIR
 LOCATION OF ROCKER ADJUSTMENT

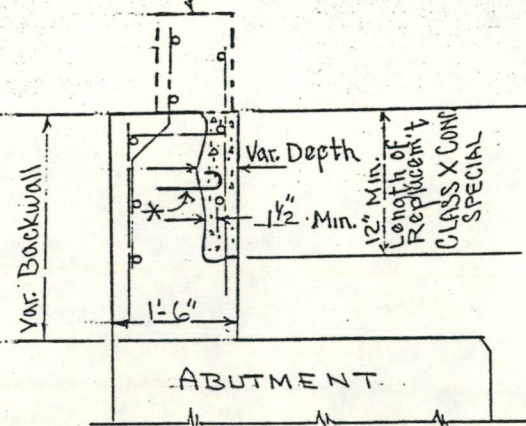
BRIDGE NO. 016-0983

N. ABUT. ON N.B. BRIDGE
 I-290 OVER HIGGINS RD.

DESIGNED: *John Schuller*
 CHECKED: *James M. Cook*
 DRAWN: *J. SCHWELER*
 A-9-L (15°-34°) 2-1-66

EXAMINED: *John E. T. Summary*
 PASSED: *W. E. E. Summary*
 APPROVED: *W. E. E. Summary*

Replaced Concrete Block - See
Expansion Joint Repairs on Sht. 17 For Woodfield Drive Structures
Sht. 29 For Golf Road Structures
Sht. 6 For Higgins Road Structures



TYPICAL CONCRETE BACKWALL REPAIRS

NOTE: Proposed Class X Concrete for Backwall Repair shall be poured monolithically with Concrete Block Replacement.

Existing Re-Bars to be cleaned & incorporated into new concrete.
*When depth of repairs exceed 3 3/4" or when directed by the Engineer will be required to install 3/4"x9" Anchor Bolts @ 18" Spacing the Contractor

BILL OF MATERIAL FOR I-290 OVER WOODFIELD DRIVE

LOCATION	CONCRETE REMOVAL	CLASS X CONCRETE, SPEC.
N. ABUT. BACKWALL ON N. BOUND BRIDGE	1.2 Cu. Yd.	1.2 Cu. Yd.
S. ABUT. BACKWALL ON N. BOUND BRIDGE	0.4 Cu. Yd.	0.4 Cu. Yd.
N. ABUT. BACKWALL ON S. BOUND BRIDGE	0.6 Cu. Yd.	0.6 Cu. Yd.
S. ABUT. BACKWALL ON S. BOUND BRIDGE	0.2 Cu. Yd.	0.2 Cu. Yd.
TOTAL =	2.4 Cu. Yd.	2.4 Cu. Yd.

BILL OF MATERIAL FOR I-290 OVER HIGGINS ROAD		
LOCATION	CONCRETE REMOVAL	CLASS X CONCRETE, SPEC.
N. ABUT. BACKWALL ON N. BOUND BRIDGE	0.4 Cu. Yds.	0.4 Cu. Yds.
S. ABUT. BACKWALL ON N. BOUND BRIDGE	0.4 Cu. Yds.	0.4 Cu. Yds.
N. ABUT. BACKWALL ON S. BOUND BRIDGE	1.0 Cu. Yds.	1.0 Cu. Yds.
S. ABUT. BACKWALL ON S. BOUND BRIDGE	1.1 Cu. Yds.	1.1 Cu. Yds.
TOTAL =	2.9 Cu. Yds.	2.9 Cu. Yds.

BILL OF MATERIAL FOR I-290 OVER GOLF ROAD

LOCATION	CONCRETE REMOVAL	CLASS X CONCRETE, SPEC.
N. ABUT. BACKWALL ON N. BOUND BRIDGE	0	0
S. ABUT. BACKWALL ON N. BOUND BRIDGE	2.2 Cu. Yds.	2.2 Cu. Yds.
N. ABUT. BACKWALL ON S. BOUND BRIDGE	0.4 Cu. Yds.	0.4 Cu. Yds.
S. ABUT. BACKWALL ON S. BOUND BRIDGE	1.0 Cu. Yds.	1.0 Cu. Yds.
TOTAL =	3.6 Cu. Yds.	3.6 Cu. Yds.

I-290 STRUCTURES

FAI ROUTE 290
SECTION 0404(313,316)HB 0404-314 HB (BRB9)
COOK COUNTY
DETAILS OF ABUTMENT BACKWALL REPAIRS

0404 310114

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

FEDERAL-AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
90	0305-302 K	COOK	306	1
P. F. R. REG. NO. 4 ILLINOIS PROJECT I-FI-90-3(76) 72				

P-91-121-63-10-3

CET Set

1
5-6-69

NOTE
FOR INDEX OF SHEETS
SEE SHEET NO. 2

F.A.I. ROUTE 90
PROJECT SECTION

I-FI-90-3(76) 72
0305-302 K
0404-313 HB
0404-316 HB

GRADING, PAVING AND GRADE SEPARATION
SCHAUMBURG ROAD TO SOUTH OF GOLF ROAD
COOK COUNTY
C-90-795-68



LOCATION OF SECTION INDICATED THUS:—

SECTION	BEGINNING STATION TO	ENDING STATION	OMISSION	NET LENGTH
0305-302K	515+00.00	611+80.97	560+50.83 - 562+89.17 583+12.73 - 584+80.99	9,274.37 FT. =1.756 MI.
0404-316HB	583+12.73	584+80.99		168.26 FT. = 0.032 MI.
0404-313HB	560+50.83	562+89.17		2,38.34 FT. = 0.0451 MI.
HIGGINS RD. IMPROVEMENT	136+00.00	175+43.46		3,943.46 FT. = 0.747 MI.

PROJECT I-FI-90-3(76) 72
ENDS STA. 611+80.97

OMISSION
STA. 583+12.73 - STA. 584+80.99

OMISSION
STA. 560+50.83 - STA. 562+89.17

PROJECT I-FI-90-3(76) 72
BEGINS STA. 515+00

BEGIN I PORTION

END I-FI PORTION
STATION 611+80.97

FI PORTION BEGINS (MAIN LINE ONLY)
S.B. LANE STA. 587+26.06
N.B. LANE STA. 592+81.00

SECTION 0305-302 K INCLUDES THE EXCAVATION AND FINAL GRADING FOR PAVING, THE CONSTRUCTION OF EMBANKMENT, THE CONSTRUCTION OF C.R.P.C.C. PAVEMENT, THE CONSTRUCTION OF P.C.C. PAVEMENT, THE CONSTRUCTION OF STABILIZED SUB-BASE AND STABILIZED SHOULDERS, THE CONSTRUCTION OF DRAINAGE FACILITIES AND ALL INCIDENTAL WORK AS SHOWN ON THE PLANS AND SPECIAL PROVISIONS.

SECTION 0404-316 HB INCLUDES TWO (2) PARALLEL 3 SPAN WIDE FLANGE GIRDER BRIDGES CARRYING F.A.I. ROUTE 90 OVER WOODFIELD DRIVE AT STA. 583+97.56 @ F.A.I. ROUTE 90, WHICH EQUALS STA. 10+00.00 @ WOODFIELD DRIVE.

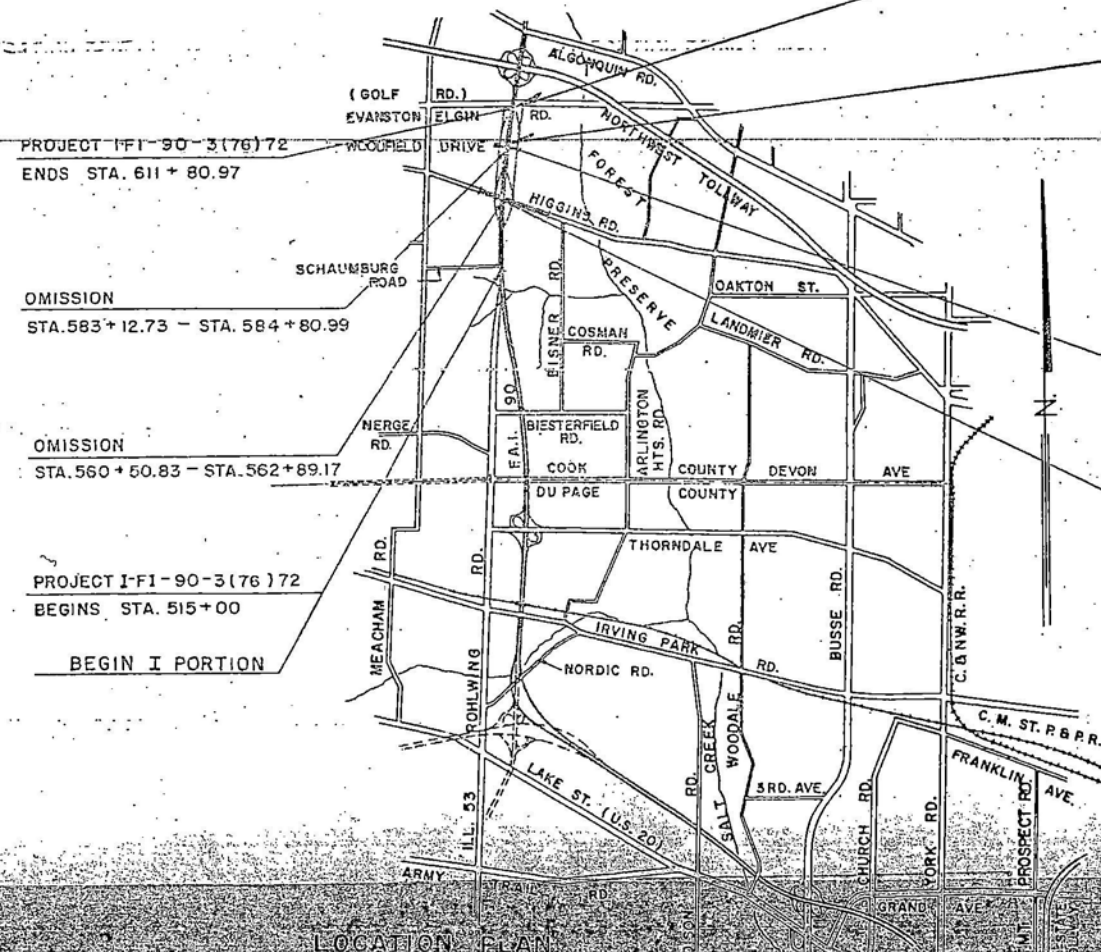
SECTION 0404-313 HB INCLUDES TWO (2) PARALLEL 3 SPAN WELDED GIRDER BRIDGES CARRYING F.A.I. ROUTE 90 OVER HIGGINS RD. AT STA. 561+70.00 @ F.A.I. ROUTE 90, WHICH EQUALS STA. 150+00 @ HIGGINS RD.; ALSO INCLUDES THE RECONSTRUCTION OF HIGGINS RD. FROM STA. 136+00 TO STA. 175+43.46.

DESIGN DESIGNATION

F.A.I.-90 — 10,858 (87) · FR-1 (MOD)* 24 (P.C.C.-20)
HIGGINS ROAD — 3,909 (87) · EX-1 · 14.14 (P.C.C.-20)
WOODFIELD DRIVE — 1,240 (87) · TS-4 · 2.7 (P.C.C.-20)

* DESIGN SPEED 70 MPH.

LENGTH OF PROJECT = 9,680.97 FT. = 1.834 MI.



STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS

SUBMITTED: [Signature]
EXAMINED: [Signature]
PASSED: [Signature]
APPROVED: [Signature]
APPROVED: [Signature]

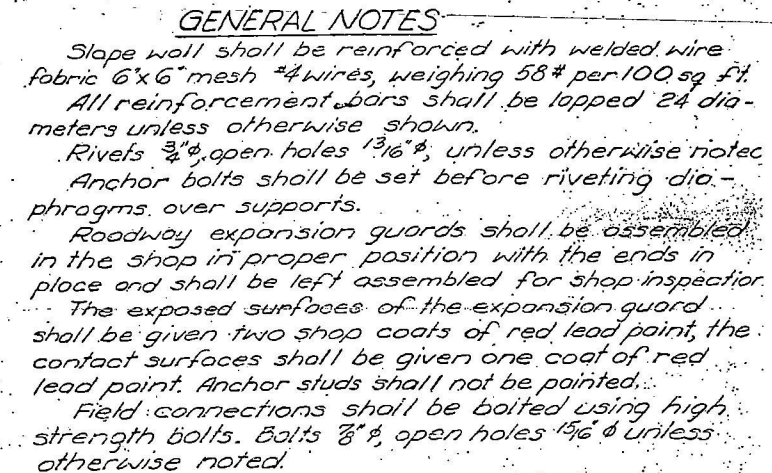
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED: [Signature]
DIVISION ENGINEER
DATE: [Signature]

REEL 0-94

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	SURV. SHEETS	SHEET NO.	SHEET NO. /
R.E.L. P.A.L. 90	0404- 313HB	COOK	306	123	21 SHEETS.
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT I-55-90-37672			



Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of paint. See Special Provisions for field paint.

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

The Contractor shall drive one (1) concrete test pile in a permanent location at the South Abut. South Bd. Lanes, and the North Abut. North Bd. Lane and one (1) timber test pile shall be driven in the vicinity of Pier 1 North Bd. Lanes, and Pier 2 South Bd. Lanes, as directed by the Engineer before ordering the remainder of piles.

Concrete piles at abutments shall be driven in hole prepared through the embankment in accordance with Art. 513.09(c) of the Standard Specifications.

Field welding of construction accessories to the bottom flanges or for a distance of $\frac{1}{4}$ of the span each way from pier supports on the top flanges of beams or girders will not be permitted. Field welding in other areas will be permitted only when approved by the Engineer.

TOTAL BILL OF MATERIAL

Item	Super.	Sub.	Total
Class X Concrete C.U. Yds.	828.3	686.6	1514.9
Reinforcement Bars Lbs.	209,980	71,040	281,020
Structural Steel Lbs.	1205,700		1205,700
Aluminum Rolling Lin. Ft.	940		940
Name Plates Ea.	2		2
Slope Wall Sq. Yds.		2000	2000
Cool Tar Insulation Protective Coat Sq. Yds.	3,050		3,050
Stud Shear Connectors Ea.	5,616		5,616
Class A Excav. for Struc. Cu. Yds.		558	558
Concrete Piles Lin. Ft.		3,524	3,524
Test Piles (Concrete) Ea.		2	2
Creosoted Piles (20.1'-38') Lin. Ft.		5,463	5,463
Test Piles (Timber) Ea.		2	2
Creosoted Piles (Up to 20') Lin. Ft.		272	272
Protective Coat Sq. Yds.	404		404
Bitum. Conc. Surface Course-Class I Tons	247		247
Preformed Joint Sealer Lin. Ft.	125		125
Conduit Attached to Structural Steel Cables, Steel Straps			165

GENERAL PLAN & ELEVATION
PROJ. I-FI-90-3(76)72

F.A.I. RT 90 SEC. 0404-313-HB.

COOK COUNTY

STA. 561+70 (F.A.I. RT. 90)

STA. 150+00 (HIGGINS RD.)

DESIGN STRESSES

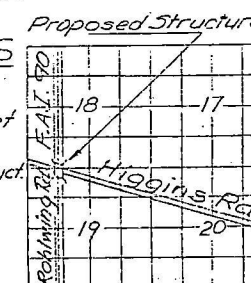
fc = 1,200 p.s.i. Deck
fc = 1,400 p.s.i. Curb, Parapet
 & Sub.

$f_s = 20,000 \text{ p.s.i. Rein. \& Struct. Steel}$

$$V_c = 75 \text{ p.s.i. Ftgs.}$$

$$n = 10$$

Loading: HS-20-44 & Alternate.



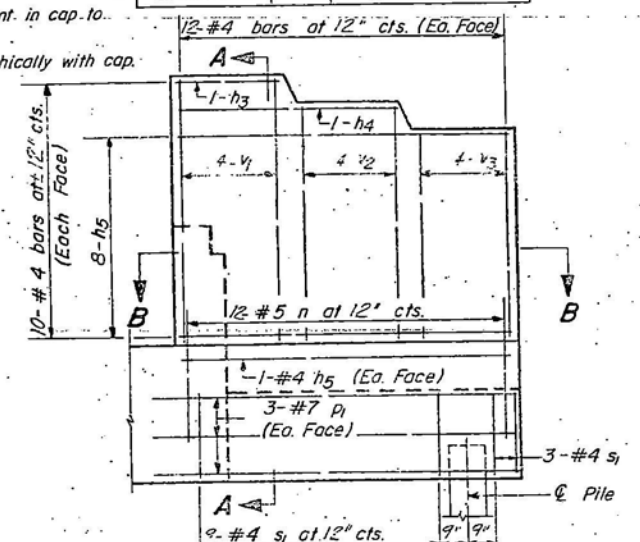
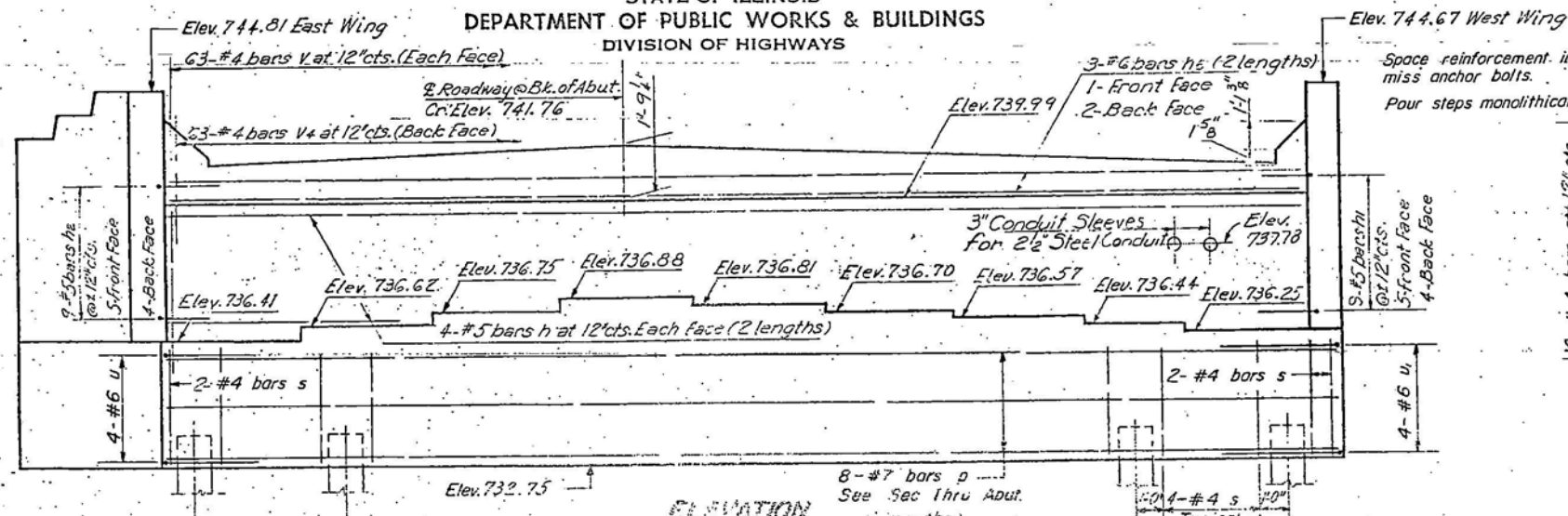
LOCATION PLAN

PROFILE ALONG HIGGINS RD. PROFILE ALONG F.A.I. 90

DESIGNED	<i>Van Chilton</i>
CHECKED	<i>James M. Burke</i>
DRAWN	<i>A. Barrozo</i> <i>256</i>
CHECKED	<i>B</i>

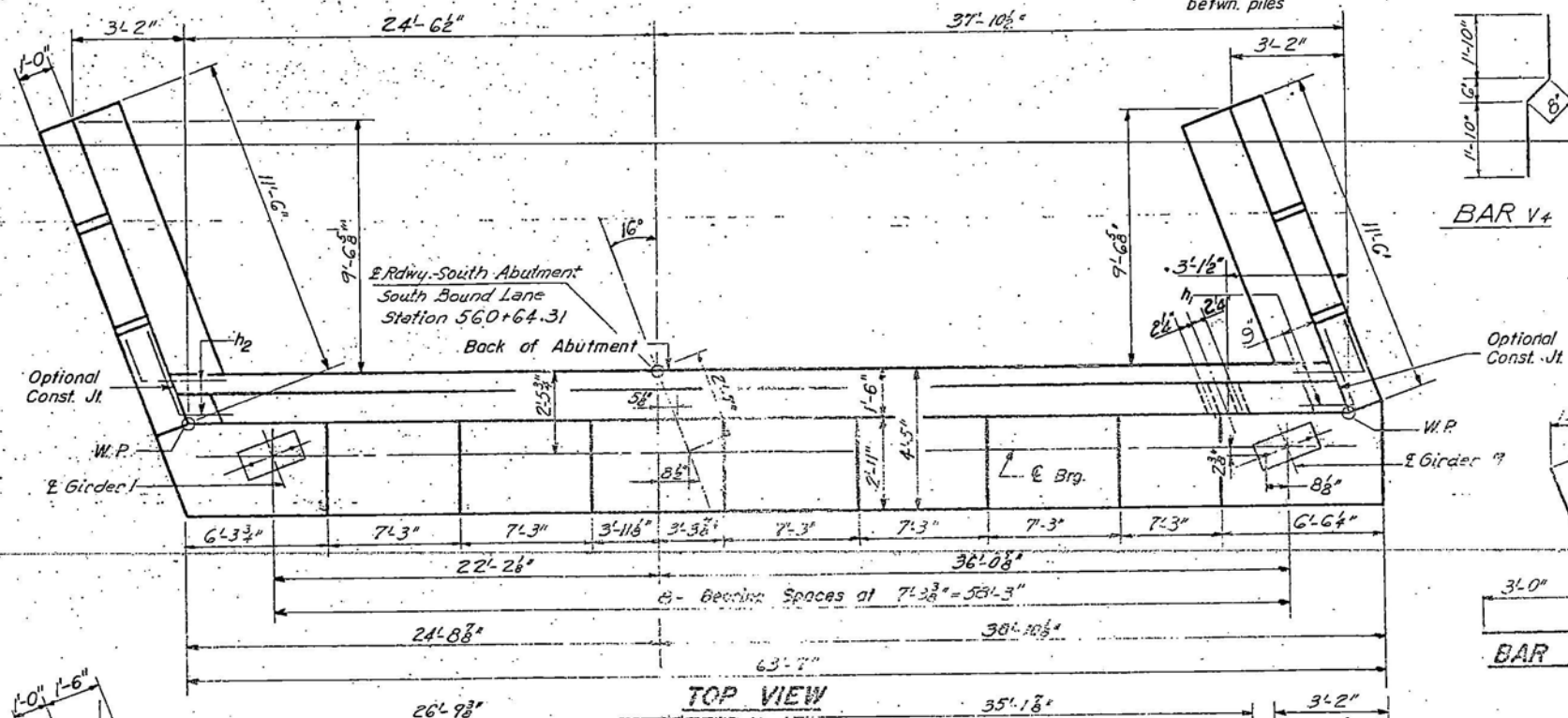
EXAMINED *P. S. F. H.*
 ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
 PASSED *W. E. Briggs*
 ENGINEER OF DESIGN
 APPROVED *W. E. Briggs*
 CHIEF HIGHWAY ENGINEER

PR
Sta 150+00.00
Elev 720.33

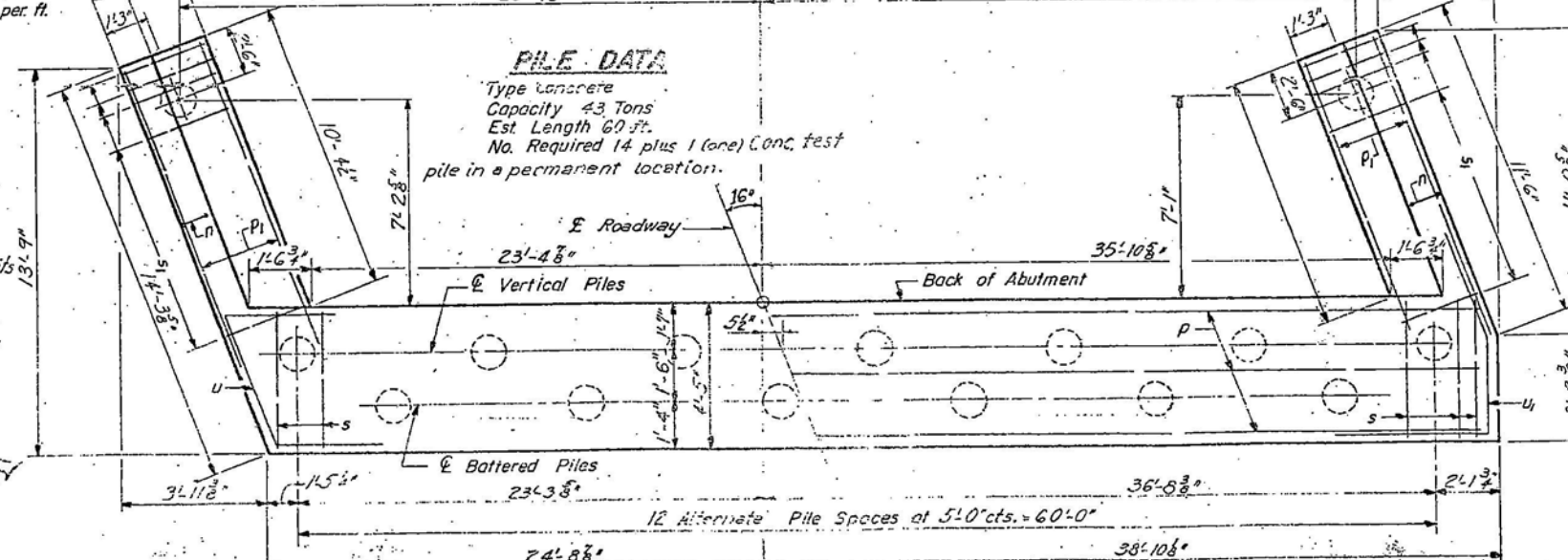


ELEVATION

WING WALL ELEVATION
Reinforcement



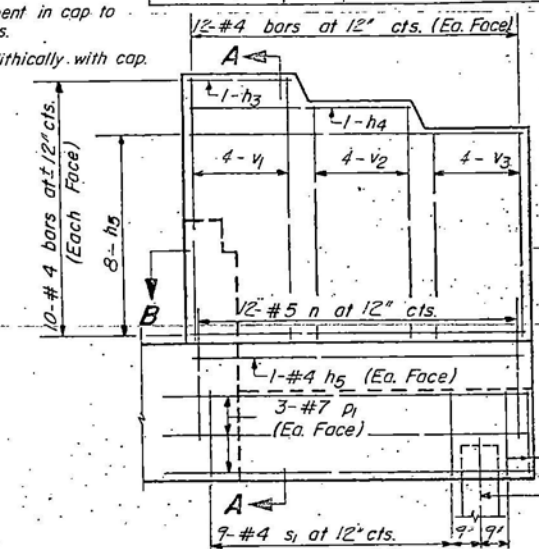
SEC. THRU ABUT.



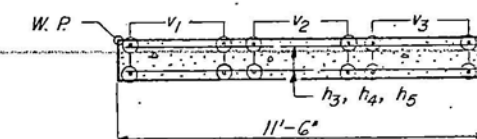
FILE DATA

Type Concrete
Capacity 43 Tons
Est. Length 60 ft.
No. Required 14 plus 1 (one) Conc. test
pile in a permanent location.

SOUTH ABUT.-SOUTH BD.LANE
F.A.I.RT.90-SEC.-0404-313-F3
COOK COUNTY
STA.561+70



WING WALL ELEVATION
Reinforcement



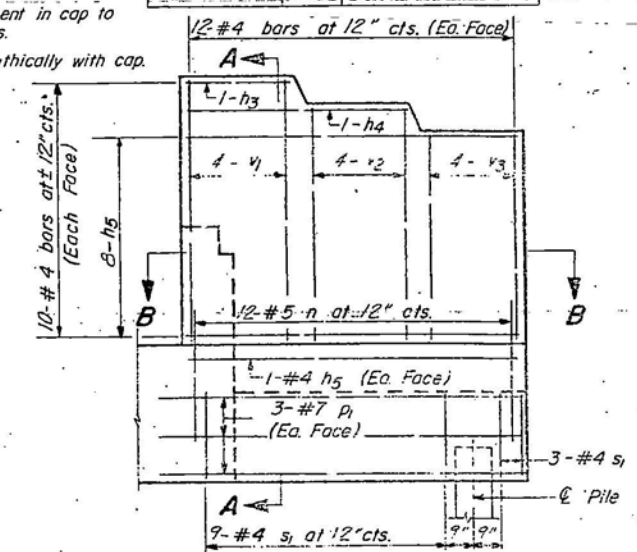
ONE ABUTMENT
BILL OF MATERIAL

[illegible]

PLAN - PILE CAP

DESIGNED	<i>Tom E. Carter</i>
CHECKED	<i>James M. Carter</i>
DRAWN	<i>J. SCHNELLER</i> <i>ESB</i>
CHECKED	<i>ESB</i>

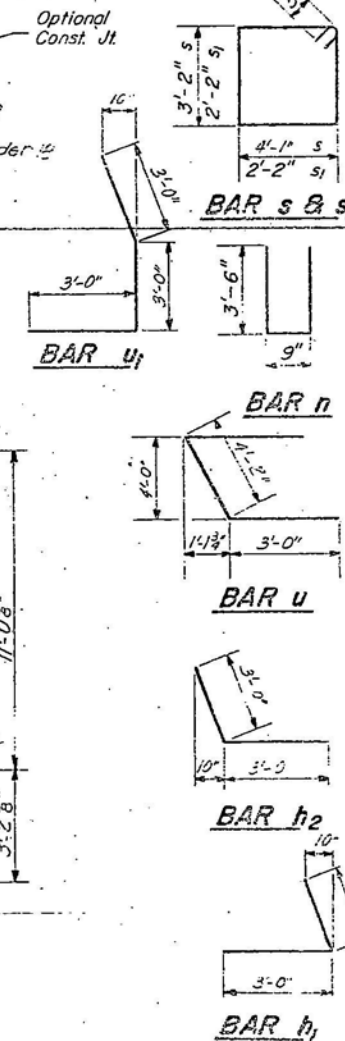
EXAMINED *[Signature]*
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED *H.E. Baumann*
IN CHIEF OF DIVISION
APPROVED *V.E. [Signature]*
CHIEF ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES



WING WALL ELEVATION
Reinforcement



SEC. THRU ABUT.



TOP VIEW

PLAN.-PILE CAP

ONE ABUTMENT				
BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
h	16	#5	31'-9"	—
h ₁	9	#5	6'-0"	J
h ₂	9	#5	6'-0"	L
h ₃	4	#4	3'-6"	—
h ₄	4	#4	7'-3"	—
h ₅	36	#4	11'-3"	—
h ₆	6	#6	32'-0"	—
n	24	#5	7'-9"	U
p	16	#7	32'-9"	—
p ₁	12	#7	11'-6"	—
s	52	#4	15'-2"	□
s ₁	24	#4	9'-6"	□
u	4	#6	10'-2"	—
u ₁	4	#6	9'-0"	J
v	126	#4	6'-0"	—
v ₁	16	#4	8'-0"	—
v ₂	16	#4	7'-6"	—
v ₃	16	#4	6'-9"	—
v ₄	63	#4	4'-4"	—
Class X Concrete			Cu. Yds.	64.2
Reinforcement Bars			Lbs.	4500
Concrete Piles			Lin. Ft.	575

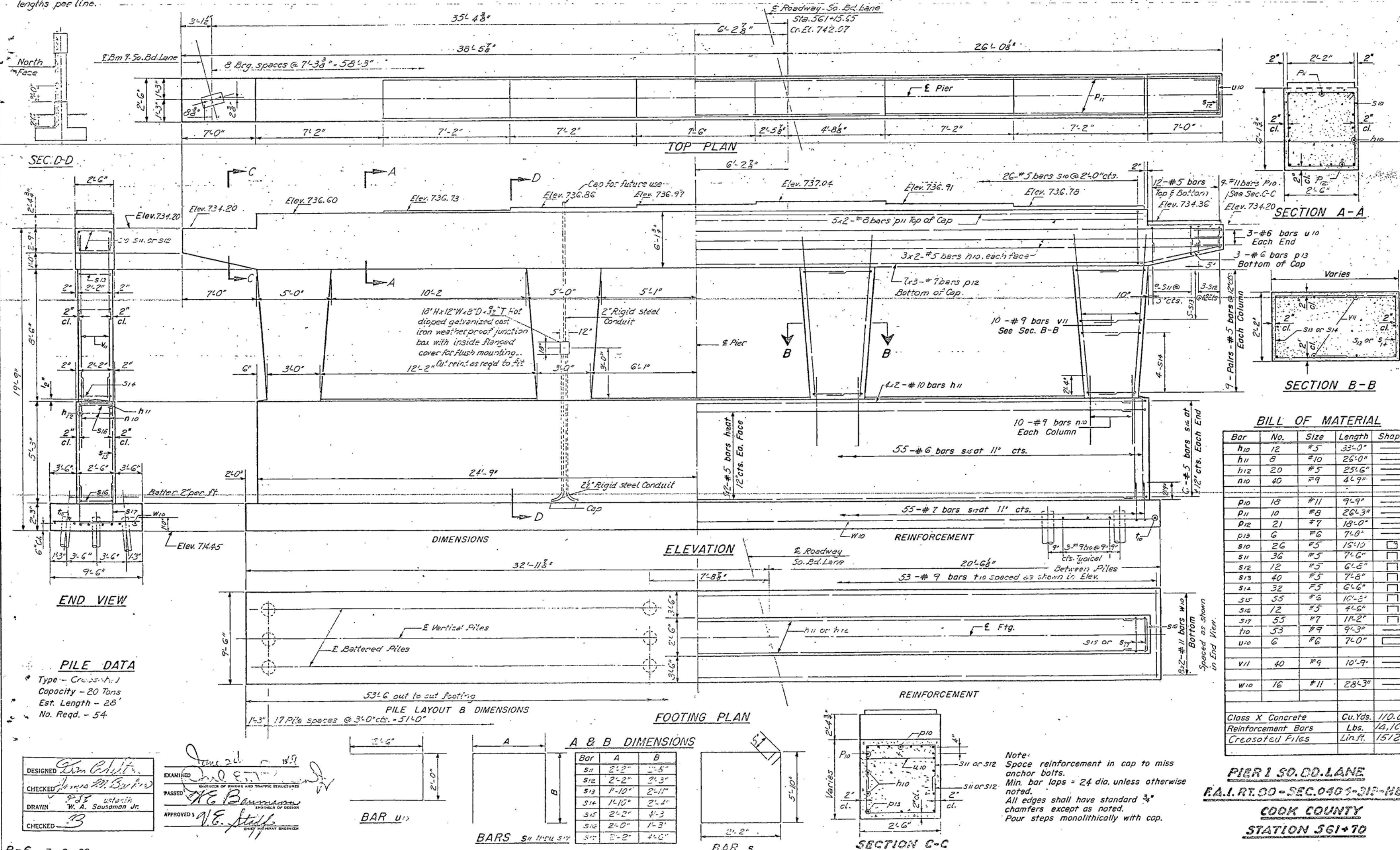
SOUTH ABUT. NORTH BD. LANE
F.A.I. RT. 90 - SEC. 0404-313-HB
COOK COUNTY
STA. 56+70

June 21 1968
EXAMINED *PALETT*
PASSED *W.E. Berman*
APPROVED *V.E. Stahl*
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
MEMBER OF SOCIETY
CIVIL ENGINEERS

Note:
Bars indicated thus 20x3-#5 etc.
indicates 20 lines of bars with 3
lengths per line.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

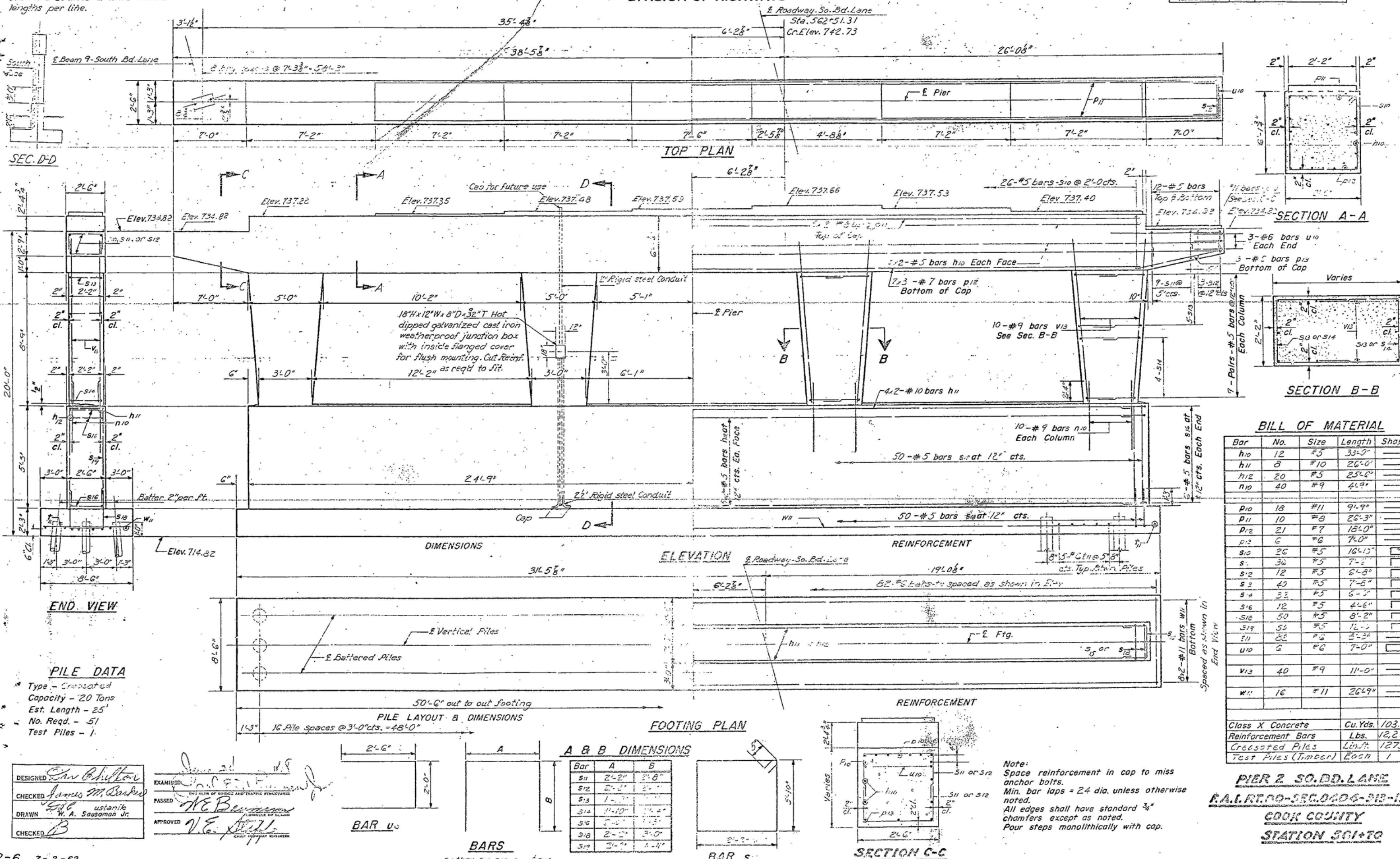
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. / 4
R.R. 90	2404- 813H8	Cook	306	136	21 SHEETS
P.C. ROAD DIST. NO. 1	ILLINOIS	P.C. ROAD PROJECT			

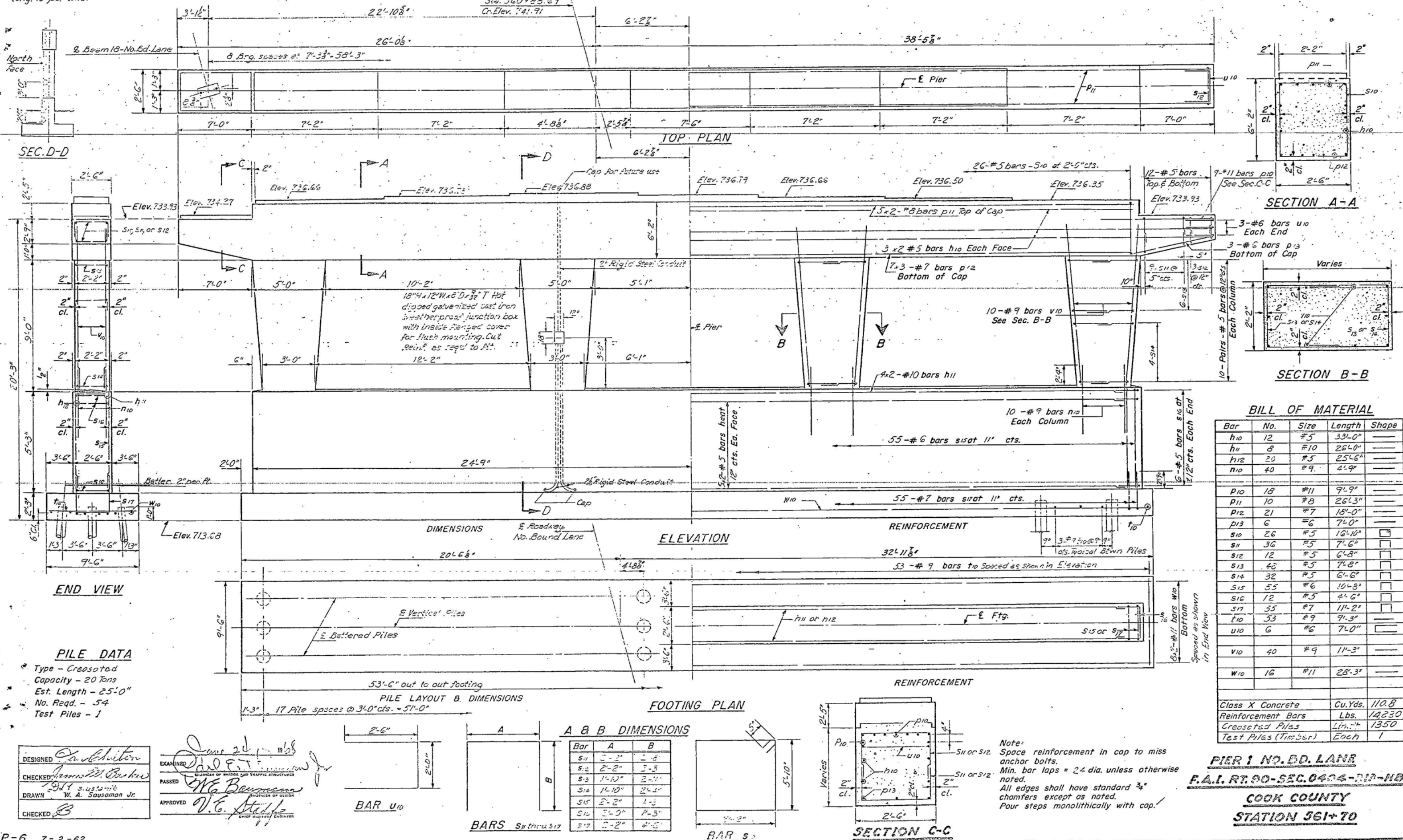


Note:
Bars indicated thus 20x3-#5 etc.
indicates 20 lines of bars with 3
lengths per line.

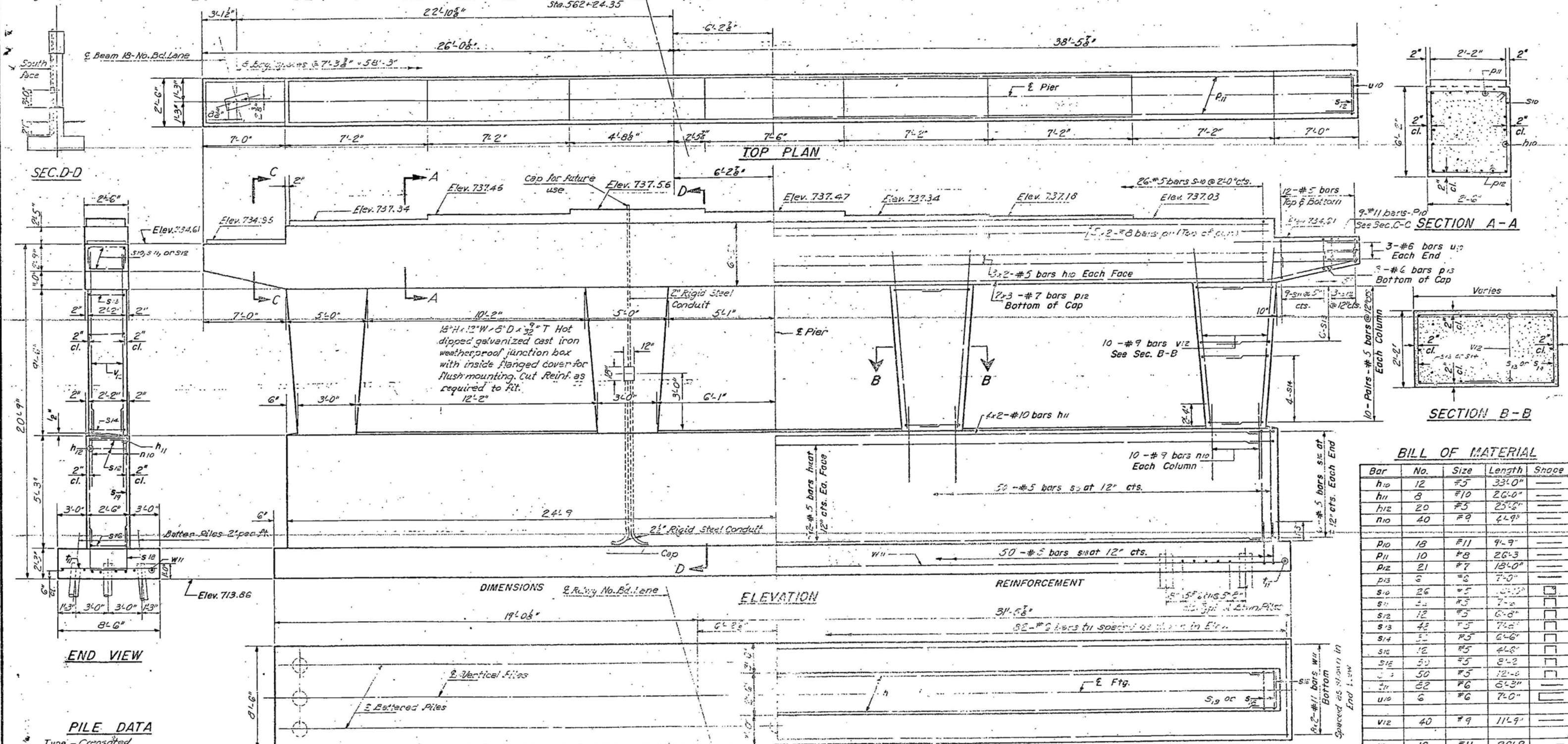
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. / 15
1-1-90	04-06-313 HB	COOK	306	137	21 SHEETS
PER. ROAD DIST. NO. 1	ALUMINUM	PER. AND PROJECT			





PIER 1 NO. 8D. LANE
F.A.I. RT. 90-SEC. 0404-R10-H0
COOK COUNTY
STATION 561+70



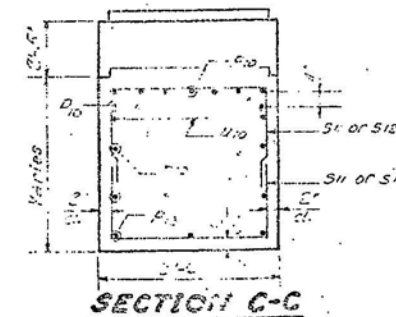
Bar	No.	Size	Length	Shape
h10	12	#5	33'-0"	—
h11	8	#10	26'-0"	—
h12	20	#5	25'-6"	—
n10	40	#9	4'-9"	—
p10	18	#11	9'-9"	—
p11	10	#8	26'-3	—
p12	21	#7	18'-0"	—
p13	3	#8	7'-0"	—
s10	26	#5	13'-10"	☐
s11	23	#3	7'-8"	☐
s12	12	#5	6'-8"	☐
s13	43	#5	7'-6"	☐
s14	5	#5	6'-6"	☐
s15	12	#5	4'-8"	☐
s16	50	#5	8'-2"	☐
s17	50	#5	12'-6"	☐
s18	52	#6	6'-3"	☐
u10	6	#6	7'-0"	☐
v12	40	#9	11'-9"	—
w11	16	#11	26'-9	—
Class X Concrete			Cu. Yds.	135.2
Reinforcement Bars			Lbs.	12440
Creosoted Piles			Lbs. ft.	1326

PIER 2 NO. DD. LANE
F.A.I. RT. 90-SEC. 0004-213-HD
COOK COUNTY
STATION SGI+70

Note:
Space reinforcement in cap to miss anchor bolts.
Min. bar laps = $2\frac{1}{4}$ dia. unless otherwise noted.
All edges shall have standard $\frac{3}{4}$ " chamfers except as noted.
Four steps monolithically with cap.

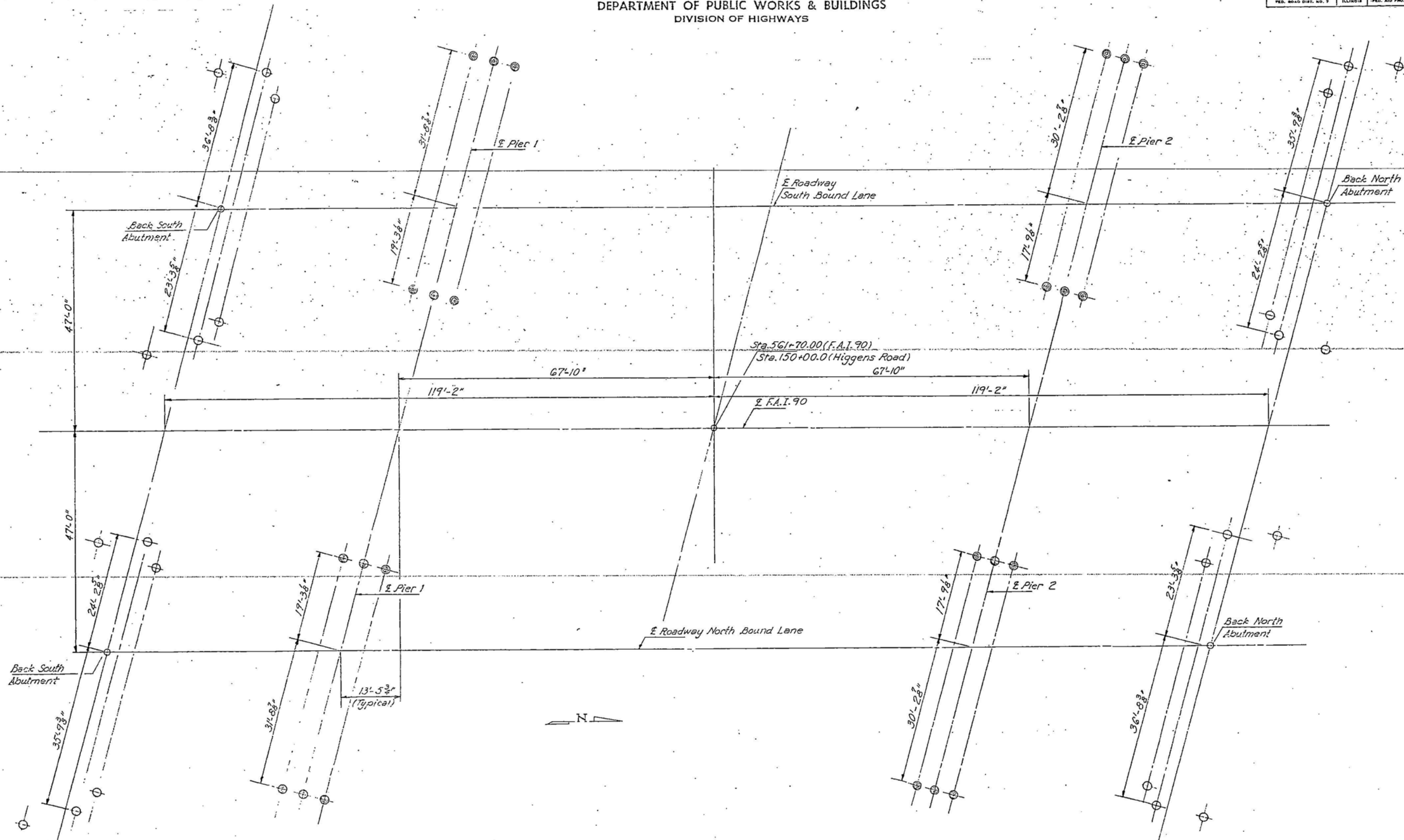
A & B DIMENSIONS

Bar	A	B
S ₁₁	2'-2"	2'-3"
S ₁₂	2'-2"	2'-3"
S ₁₃	1'-10"	2'-4"
S ₁₄	1'-10"	2'-4"
S ₁₅	2'-4"	-
S ₁₆	2'-2"	-
S ₁₇	2'-2"	-



STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. / SHEETS
90	313HB	COOK	300	140	21 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS - FED. AID PROJECT					



DESIGNED *Condit*
CHECKED *James M. Barker*
DRAWN *W. L. Barker*
CHECKED *B*

EXAMINED
PASSED *W. E. Baumann*
APPROVED *J. E. Atch*

PILE LAYOUT SHEET
F.A.I. RT. 90-SEC. 0406-812-40
COOK COUNTY
STATION 561+70

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	313HB	COOK	300	141
SHEET NO. 19				
2/SHEETS				

BORING-1									
GROUND WATER OBSERVATIONS									
AT 4.2 FT. ELEV. 719.5	DURING DRILLING	CASING	SAMPLER	TYPE	SIZE I.D.	SIZE O.D.	DATE START	DATE FINISH	OFFSET
AT 4.2 FT. ELEV. 719.5	AFTER 100 HRS.	TYPE	SIZE I.D.	SIZE O.D.	DATE START	DATE FINISH	DATE START	DATE FINISH	DATE FINISH
AT 4.2 FT. ELEV. 719.5	AFTER 100 HRS.	TYPE	SIZE I.D.	SIZE O.D.	DATE START	DATE FINISH	DATE START	DATE FINISH	DATE FINISH
DEPTH BELOW SURFACE	DEPTHS	REC.	NO. & TYPE	ELEV.	SOIL DESCRIPTION AND REMARKS	N	QU	QV	VC
							est.	est.	%
1.0-2.5	S-1		721.0		Silty Clay A-7-6	14	4.0		25
3.5-5.0	S-2				Hard Blk ORGANIC Silty CLAY, trace c-f Sand, trace f Gravel	7	2.7		30
6.0-7.5	S-3		716.0		Silty Clay A-6	6	1.6		23
8.5-10.0	S-4		713.0		Very Stiff to Stiff Br & Gr Silty CLAY, trace c-f Sand, trace m-f Gravel	15	4.9		14
11.0-12.5	S-5				Clay A-6	9	2.3		18
13.5-15.0	S-6				Clay A-6	10	2.1		17
16.0-17.5	S-7				Clay A-6	8	1.9		27
18.5-20.0	S-8				Clay A-6	9	3.1		17
21.0-22.5	S-9				Very Stiff to Stiff Gr Silty CLAY, little c-f Sand, trace f Gravel	9	3.1		18
23.5-25.0	S-10				Clay A-6	9	1.9		21
26.0-27.5	S-11				Clay A-6	11	2.5		20
28.5-30.0	S-12				Clay A-6	10	3.1		21
31.0-32.5	S-13				Clay A-6	11	2.3		22
33.5-35.0	S-14				Clay A-6	13	2.3		21
36.0-37.5					Clay A-6	11	2.1		23
38.5-40.0	S-16				Clay A-6	8	1.8		23
41.0-42.5	S-17				Clay A-6	8	1.0		23
43.5-45.0	S-18				Clay A-6	9	2.1		23
46.0-47.5	S-19				Sand A-1-a	58			
48.5-50.0	S-20				Very Dense to Medium Gr m-f GRAVEL, some c-f Sand, trace Silt; Fractured Limestone noted; Losing pump water	22			
53.5-55.0	S-21				Silty Loam A-4	39			
56.0-57.5	S-22				Dense Gr Br SILT, some c-f Sand, trace m-f Gravel	16			
58.5-60.0	S-23				Silty Loam A-4	26			
61.0-62.5	S-24				Clay A-6	18	2.4		12
63.5-65.0	S-25				Very Stiff Gr Silty CLAY, little c-f Sand, trace m-f Gravel	23	1.2		18
66.0-67.5	S-26				Silty Clay Loam A-6	30	5.3		14
68.5-70.0	S-27				Stiff Gr Br Clayey SILT, trace c-f Sand; Silt and Sand seams	25	3.5		13
73.5-75.0	S-28				Silty Clay Loam A-6	21	2.9		16
76.0-77.5	S-29				Hard Gr Br Clayey SILT, trace c-f Sand; 4" Gravel seam noted at El 657.3	53			
79.0-80.5	S-30				Clay A-6	42			
82.0-83.5	S-31				Very Stiff Gr Silty CLAY, little c-f Sand, trace f Gravel	33			
85.0-86.5	S-32				Sand A-3	53			
88.0-89.5	S-33				Very Dense Br Gr SAND, trace Silt; Silt seams noted	42			
91.0-92.5	S-34				Sand A-4	42			
94.0-95.5	S-35				Dense Br Gr SILT, trace f Sand; Clayey Silt seam noted	42			
97.0-98.5	S-36				Sand A-1-b	33			
100.0-101.5	S-37				Dense Br Gr c-f SAND, some m-f Gravel, trace Silt	33			

DEPTH BELOW SURFACE	DEPTHS	REC.	NO. & TYPE	ELEV.	SOIL DESCRIPTION AND REMARKS	N	QU	QV	VC
							est.	est.	%
93.5-95.0	S-32			633.5	Silty Loam A-4	59			
98.5-100.0	S-33			623.0	Very Dense Br Gr SILT, some c-f Sand, trace m-f Gravel; Fractured Limestone noted	53			
103.5-104.5	S-34			619.0	Silty Loam A-4	174			
108.5-110.0	S-35			614.0	Extremely Dense Br Gr SILT, little c-f Sand, little m-f Gravel; Fractured Limestone noted	78			
					Sand A-1-a				
					Very Dense Gr m-f GRAVEL, some c-f Sand, trace Silt; Fractured Limestone noted				
					Boring Completed at 110'				

BORING-2									
GROUND WATER OBSERVATIONS									
AT 4.8 FT. ELEV. 719.5	DURING DRILLING	CASING	SAMPLER	TYPE	SIZE I.D.	SIZE O.D.	DATE START	DATE FINISH	OFFSET
AT 4.8 FT. ELEV. 719.5	AFTER 100 HRS.	TYPE	SIZE I.D.	SIZE O.D.	DATE START	DATE FINISH	DATE START	DATE FINISH	DATE FINISH
AT 4.8 FT. ELEV. 719.5	AFTER 100 HRS.	TYPE	SIZE I.D.	SIZE O.D.	DATE START	DATE FINISH	DATE START	DATE FINISH	DATE FINISH
DEPTH BELOW SURFACE	DEPTHS	REC.	NO. & TYPE	ELEV.	SOIL DESCRIPTION AND REMARKS	N	QU	QV	VC
							est.	est.	%
1.0-2.5	S-1		721.8		Silty Clay A-7-6	45	1.5		24
3.5-5.0	S-2				Stiff Blk ORGANIC Silty CLAY, trace c-f Sand, trace f Gravel	9	2.5		20
6.0-7.5	S-3				Silty Clay A-6	10	2.5		23
8.5-10.0	S-4		713.8		Very Stiff Br & Gr Silty CLAY, trace c-f Sand, trace m-f Gravel; 6" seam of Gravel noted at El 721.8	12	3.1		18
11.0-12.5	S-5		711.3		Silty Clay Loam A-6	18	3.5		13
13.5-15.0	S-6				Very Stiff Gr Clayey SILT, little c-f Sand, trace m-f Gravel; sand seams noted	9	1.4		19
16.0-17.5	S-7				Clay A-6	15	2.1		18
18.5-20.0	S-8				Clay A-6	14	2.1		15
21.0-22.5	S-9				Stiff to very Stiff Gr Silty CLAY, little c-f Sand, trace f Gravel	12	1.8		20
23.5-25.0	S-10				Clay A-6	12	1.1		0.7
26.0-27.5	S-11				Clay A-6	15	2.1		20
28.5-30.0	S-12				Clay A-6	15	2.9		20
31.0-32.5	S-13				Clay A-6	15	2.1		21
33.5-35.0	S-14				Clay A-6	15	2.8		22
36.0-37.5	S-15				Clay A-6	14	1.8		23
38.5-40.0	S-16				Clay A-6	14	2.1		22
41.0-42.5	S-17				Clay A-6	11	1.4		23
43.5-45.0	S-18				Clay A-6	11	2.3		23
46.0-47.5	S-19				Sand A-3	23	1.6		25
48.5-50.0	S-20				Medium Br Gr c-f SAND, trace f Gravel, trace Silt	82			
51.0-52.5	S-21				Sand A-1-a	38	7.2		17
53.5-55.0	S-22				Extremely Dense Gr m-f Gravel, little c-f Sand, little Silt; Limestone noted	52			
56.0-57.5	S-23				Clay A-6	29			10
58.5-60.0	S-24				Hard Gr Silty CLAY, little c-f Sand, trace m-f Gravel	25			10
63.5-65.0	S-25				Silty Loam A-4	33	5.7		11
					Medium Gr SILT, trace Clay, some c-f Sand, trace m-f Gravel; Limestone fragments noted				
					Boring Completed at 65'				

DESIGNED *Paul White*
CHECKED *James M. White*
DRAWN *AD Barroza*
CHECKED *BB*

EXAMINED *W.E. Bassman*
PASSED *W.E. Bassman*
APPROVED *W.E. Bassman*

BORINGS
F.A.I. RT. 90 SEC. 0404-313-HB
COOK COUNTY
STA. 561+70

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO. 0404-313 HB
COUNTY COOK
TOTAL SHEETS 306
SHEET NO. 142
21 SHEETS

BORING NO. S1-3
SHEET 1 OF 2
STRUCTURE Higgins Rd.
LINE & STA. 90+562+83

GROUND WATER OBSERVATIONS									
AT 5.4 FT. ELEV. 718.1	DURING DRILLING	TYPE	CASING	SAMPLER	OFFSET	79'R			
AT 5.4 FT. ELEV. 718.1	AFTER 24 HRS.	SIZE I.D. 4"	SIZE O.D. 1-3/8"		DATE START	1/3/68			
AT 4.8 FT. ELEV. 718.1	AFTER 100 HRS.				DATE FINISH	1/3/68			
DEPTH	DEPTHS	REC.	NO. R	ELEV.	SOIL DESCRIPTION AND REMARKS	N	QU	QV	WC
BELOW	FROM-TO		TYPE				EST.	EST.	%
SURFACE									
	1.0-2.5	S-1		721.5	Silty Clay A-7-6				
	3.5-5.0	S-2		715.5	Hard Blk ORGANIC Silty CLAY, trace c-f Sand, trace f Gravel	28	4.0		24
	6.0-7.5	S-3		715.5	Silty Clay A-6	20	3.7		18
	8.5-10.0	S-4		712.5	Very Stiff Br & Gr Silty CLAY, trace c-f Sand, trace f Gravel	21	2.9		18
	11.0-12.5	S-5		712.5	Clay A-6	23	4.8		16
	13.5-15.0	S-6		712.5	Hard Br Gr Silty CLAY, little c-f Sand, trace m-f Gravel; Sand seams noted	11	3.1		19
	16.0-17.5	S-7		712.5	Very Stiff to Stiff Gr Silty CLAY, little c-f Sand, trace m-f Gravel; Sand and Silt seams noted at 20'	13	3.7		17
	18.5-20.0	S-8		702.5	Clay A-6	11	2.7		19
	21.0-22.5	S-9		702.5	Hard Gr Silty CLAY, little c-f Sand, trace m-f Gravel	12	1.4		19
	23.5-25.0	S-10		695.0	Clay A-6	17	4.0		16
	26.0-27.5	S-11		695.0	Hard Gr Silty CLAY, little c-f Sand, trace m-f Gravel	24	4.1		18
	28.5-30.0	S-12		695.0	Clay A-6	19	4.1		19
	31.0-32.5	S-13		695.0	Very Stiff to Stiff Gr Silty CLAY, little c-f Sand, trace m-f Gravel	17	2.7		20
	33.5-35.0	S-14		695.0	Clay A-6	24	3.1		21
	36.0-37.5	S-15		695.0	Very Stiff to Stiff Gr Silty CLAY, little c-f Sand, trace m-f Gravel	24	2.1		21
	38.5-40.0	S-16		695.0	Clay A-6	14	2.5		22
	41.0-42.5	S-17		695.0	Very Stiff to Stiff Gr Silty CLAY, little c-f Sand, trace m-f Gravel	15	3.2		20
	43.5-45.0	S-18		678.0	Clay A-6	11	1.4		23
	46.0-47.5	S-19		678.0	Sand A-1-a	12	1.3		24
	48.5-50.0	S-20		673.0	Dense Gr m-f GRAVEL, some c-f Sand, trace Silt; Fractured Limestone noted	33			
	51.0-52.5	S-21		670.5	Clay A-6	38			
	53.5-55.0	S-22		670.5	Very Stiff Gr Br Silty CLAY, little c-f Sand, trace m-f Gravel	21	3.9		14
	56.0-57.5	S-23		665.5	Silty Clay Loam A-6	26	6.0		12
	58.5-60.0	S-24		663.5	Hard Gr Br Clayey SILT, little c-f Sand, trace m-f Gravel; Sand; Limestone fragments noted	35	9.1		9
					Boring Completed at 60'				

BORING-4

BORING NO. S1-4
SHEET 1 OF 2
STRUCTURE Higgins Rd.
LINE & STA. 90+562+32

GROUND WATER OBSERVATIONS									
AT 5.9 FT. ELEV. 717.5	DURING DRILLING	TYPE	CASING	SAMPLER	OFFSET	89'R			
AT 5.9 FT. ELEV. 717.5	AFTER 24 HRS.	SIZE I.D. 4"	SIZE O.D. 1-3/8"		DATE START	1/5/68			
AT 4.8 FT. ELEV. 718.1	AFTER 36 HRS.				DATE FINISH	1/6/68			
DEPTH	DEPTHS	REC.	NO. R	ELEV.	SOIL DESCRIPTION AND REMARKS	N	QU	QV	WC
BELOW	FROM-TO		TYPE				EST.	EST.	%
SURFACE									
	1.0-2.5	S-1		720.9	Silty Clay Loam A-7-6				
	3.5-5.0	S-2		715.5	Very Stiff Gr Br Silty CLAY, little c-f Sand, trace m-f Gravel	13	2.5		16
	6.0-7.5	S-3		715.5	Silty Clay A-7-6	14	3.3		21
	8.5-10.0	S-4		712.9	Very Stiff Br & Gr Silty CLAY, trace c-f Sand, trace f Gravel; Sand seams noted at 10'	14	3.5		19
	11.0-12.5	S-5		712.9	Clay A-6	20	2.1		18
	13.5-15.0	S-6		712.9	Very Stiff Gr Silty CLAY, little c-f Sand, trace f Gravel	11	2.1		17
	15.0-16.5	S-7		705.4	Clay A-6	11	3.5		19
	18.5-20.0	S-8		703.4	Sand A-2-4	12	0.8		
	21.0-22.5	S-9		703.4	Medium Gr c-f SAND, little m-f Gravel, trace Silt; Silty Clay seam noted	15	2.5		18
	23.5-25.0	S-10		699.4	Clay A-6	17	2.1		20
	26.0-27.5	S-11		699.4	Clay A-6	18	2.7		19
	28.5-30.0	S-12		699.4	Very Stiff to Stiff Gr Silty CLAY, little c-f Sand, trace m-f Gravel	15	1.9		22
	31.0-32.5	S-13		699.4	Clay A-6	16	2.9		19
	33.5-35.0	S-14		699.4	Clay A-6	15	2.7		22
	36.0-37.5	S-15		699.4	Clay A-6	11	1.2		30
	38.5-40.0	S-16		699.4	Clay A-6	14	2.3		22
	41.0-42.5	S-17		699.4	Clay A-6	13	1.8		22
	43.5-45.0	S-18		678.4	Very Dense Red Br & Gr m-f GRAVEL, little c-f Sand, trace Silt; Limestone fragments noted	14	1.5		24
	46.0-47.5	S-19		676.4	Sand A-1-a	50			
	48.5-50.0	S-20		673.9	Very Dense Red Br & Gr m-f GRAVEL, little c-f Sand, trace Silt; Limestone fragments noted	38			
	51.0-52.5	S-21		670.5	Clay A-6	116			
	53.5-55.0	S-22		670.5	Extremely Dense Gr m-f GRAVEL, some c-f Sand, trace Silt; Limestone fragments noted	16	6.0		11
	56.0-57.5	S-23		665.4	Silty Clay Loam A-6	16	6.0		11
	58.5-60.0	S-24		663.4	Medium Gr Br SILT, trace Clay, trace c-f Sand; trace m-f Gravel	24	4.3		17
					Boring Completed at 80'				

BORING-5

BORING NO. S1-5
SHEET 1 OF 2
STRUCTURE Higgins Rd.
LINE & STA. 90+562+65

GROUND WATER OBSERVATIONS									
AT 5.9 FT. ELEV. 716.5	DURING DRILLING	TYPE	CASING	SAMPLER	OFFSET	29'R			
AT 5.9 FT. ELEV. 716.5	AFTER 24 HRS.	SIZE I.D. 4"	SIZE O.D. 1-3/8"		DATE START	1/11/68			
AT 4.8 FT. ELEV. 718.1	AFTER 100 HRS.				DATE FINISH	1/11/68			
DEPTH	DEPTHS	REC.	NO. R	ELEV.	SOIL DESCRIPTION AND REMARKS	N	QU	QV	WC
BELOW	FROM-TO		TYPE				EST.	EST.	%
SURFACE									
	1.0-2.5	S-1		722.1	Asphaltic Concrete				
	3.5-5.0	S-2		719.9	Silty Clay A-7-6	50	1.5		28
	6.0-7.5	S-3		714.4	Stiff Br & Gr ORGANIC Silty CLAY, trace c-f Sand, trace m-f Gravel	27	4.7		15
	8.5-10.0	S-4		711.4	Silty Clay A-7-6	18	4.1		17
	11.0-12.5	S-5		711.4	Hard Br & Gr Silty CLAY, trace c-f Sand, trace f Gravel	14	3.1		21
	13.5-15.0	S-6		711.4	Clay A-6	15	2.4		17
	16.0-17.5	S-7		704.4	Very Stiff Br & Gr Silty CLAY, little c-f Sand, trace f Gravel	11	1.1		19
	18.5-20.0	S-8		704.4	Clay A-6	11	1.4		27
	21.0-22.5	S-9		699.4	Silty Clay Loam A-6	10	2.2		17
	23.5-25.0	S-10		699.4	Very Stiff Gr Br Clayey SILT, trace c-f Sand, trace f Gravel	11	2.8		17
	26.0-27.5	S-11		699.4	Clay A-6	11	1.2		22
	28.5-30.0	S-12		699.4	Clay A-6	13	2.1		21
	31.0-32.5	S-13		699.4	Stiff to Very Stiff Gr Silty CLAY, little c-f Sand, trace f Gravel	18	3.1		21
	33.5-35.0	S-14		699.4	Clay A-6	15	2.9		21
	36.0-37.5	S-15		699.4	Clay A-6	15	1.2		20
	38.5-40.0	S-16		699.4	Clay A-6	11	2.1		21
	41.0-42.5	S-17		679.4	Clay A-6	11	1.9		22
	43.5-45.0	S-18		679.4	Very Dense Gr m-f GRAVEL, little c-f Sand, trace Silt; Limestone noted	14	1.9		21
	46.0-47.5	S-19		676.4	Sand A-1-a	59			
	48.5-50.0	S-20		673.9	Dense Gr c-f SAND, little m-f Gravel, little Silt; Limestone fragments noted	44			
	51.0-52.5	S-21		669.4	Clay A-6	34	2.6		24
	53.5-55.0	S-22		669.4	Very Stiff Gr Silty CLAY, little c-f Sand, trace f Gravel; Sand seam noted	31	8.8		15
	56.0-57.5	S-23		662.4	Silty Clay Loam A-6	34			
	58.5-60.0	S-24		662.4	Hard Gr Clayey SILT, little c-f Sand; trace m-f Gravel	33	4.5		12
					Boring Completed at 60'				

BORING-6

BORING NO. S1-6
SHEET 1 OF 2
STRUCTURE Higgins Rd.
LINE & STA. 90+562+74

GROUND WATER OBSERVATIONS									
AT 5.5 FT. ELEV. 719.1	DURING DRILLING	TYPE	CASING	SAMPLER	OFFSET	82'L			
AT 4.7 FT. ELEV. 719.9	AFTER 24 HRS.	SIZE I.D. 4"	SIZE O.D. 1-3/8"		DATE START	1/9/68			
AT 3.2 FT. ELEV. 721.4	AFTER 100 HRS.				DATE FINISH	1/10/68			
DEPTH	DEPTHS	REC.	NO. R	ELEV.	SOIL DESCRIPTION AND REMARKS	N	QU	QV	WC
BELOW	FROM-TO		TYPE				EST.	EST.	%
SURFACE									
	1.0-2.5	S-1		721.6	Silty Clay A-7-6				
	3.5-5.0	S-2		719.1	Stiff Br & Gr ORGANIC Silty CLAY, trace c-f Sand, trace f Gravel	17	1.5		27
	6.0-7.5	S-3		717.6	Clay Loam A-6	9	1.1		18
	8.5-10.0	S-4		714.1	Stiff Br & Gr Silty CLAY, some c-f Sand, trace f Gravel	7			
	11.0-12.5	S-5		714.1	Very Loose Br SILT, little c-f Sand	20			
	13.5-15.0	S-6		714.1	Sand A-2-4	15	3.7		16
	16.0-17.5	S-7		714.1	Loose to Medium Gr Br c-f SAND, little Silt	21	3.4		20
	18.5-20.0	S-8		704.1	Clay A-6	16	2.1		26
	21.0-22.5	S-9		701.6	Very Stiff Gr Silty CLAY, little c-f Sand, trace f Gravel	16	2.3		26
	23.5-25.0	S-10		701.6	Sand A-2-4	11	1.5		22
	26.0-27.5	S-11		701.6	Loose Gr c-f SAND, little Silt	20	4.5		18
	28.5-30.0	S-12		701.6	Stiff Gr Silty CLAY, trace c-f Sand	20	2.1		20
	31.0-32.5	S-13		701.6	Clay A-6	20	3.9		19
	33.5-35.0	S-14		701.6	Hard to Very Stiff Gr Silty CLAY, little c-f Sand, trace m-f Gravel	24	4.8		19
	36.0-37.5	S-15		701.6	Clay A-6	21	2.7		21
	38.5-40.0	S-16		701.6	Clay A-6	17	3.2		21
	41.0-42.5	S-17		701.6	Clay A-6	19	2.5		21
	43.5-45.0	S-18		679.6	Clay A-6	16	2.6		22
	46.0-47.5	S-19		679.6	Clay A-6	17	2.1		23
	48.5-50.0	S-20		674.6	Silty Clay Loam A-6	9	2.5		21
	51.0-52.5	S-21		671.6	Very Stiff Gr Clayey SILT, trace f Sand; Silt seams noted	26	2.1		22
	53.5-55.0	S-22		663.8	Silty Clay Loam A-6	16	1.9		13
	56.0-57.5	S-23		662.7	Stiff Gr Br Clayey SILT, trace c-f Sand	49	2.6		20
	58.5-60.0	S-24		664.6	Very Stiff Gr Silty CLAY, trace c-f Sand	16			
					Boring Completed at 60'				

DESIGNED: *Charles H. Hov*
CHECKED: *James M. Bueh*
DRAWN: *A. Borroza*
CHECKED: *ES*

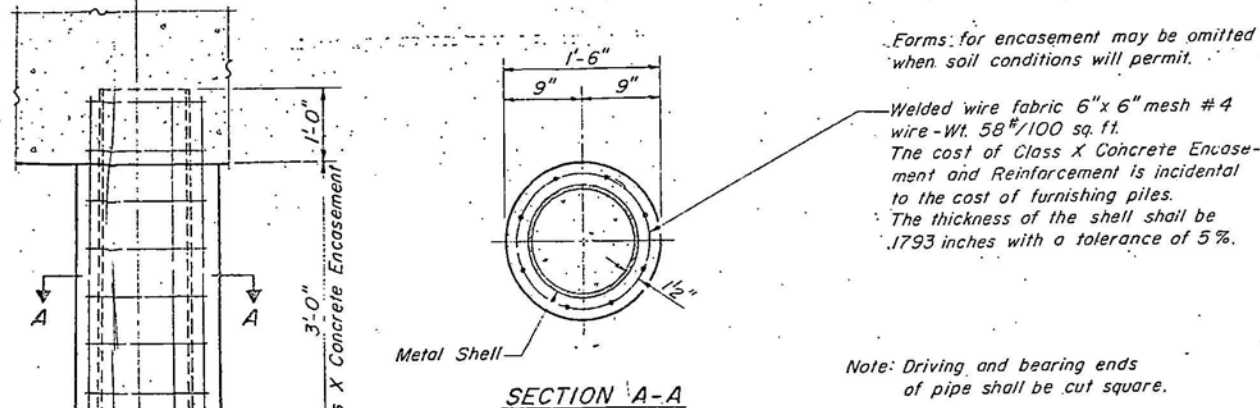
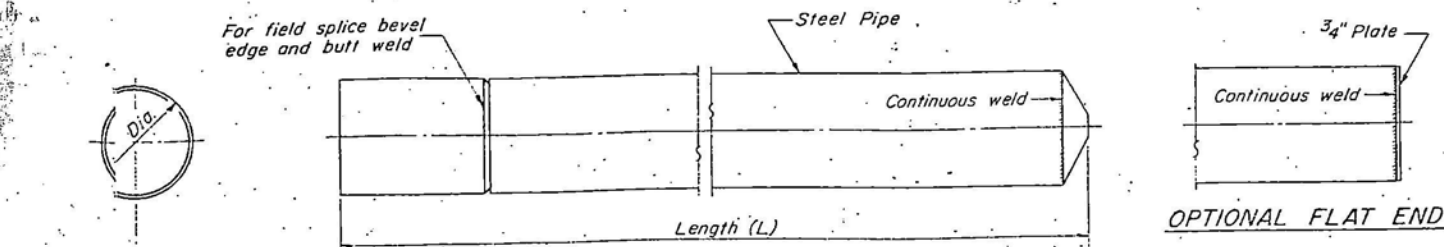
EXAMINED: *James M. Bueh*
PASSED: *W.E. Baumann*
APPROVED: *W.E. Baumann*

BORINGS
F.A.I. RT. 90 SEC. 0404-313-HB
COOK COUNTY
STA 561+70

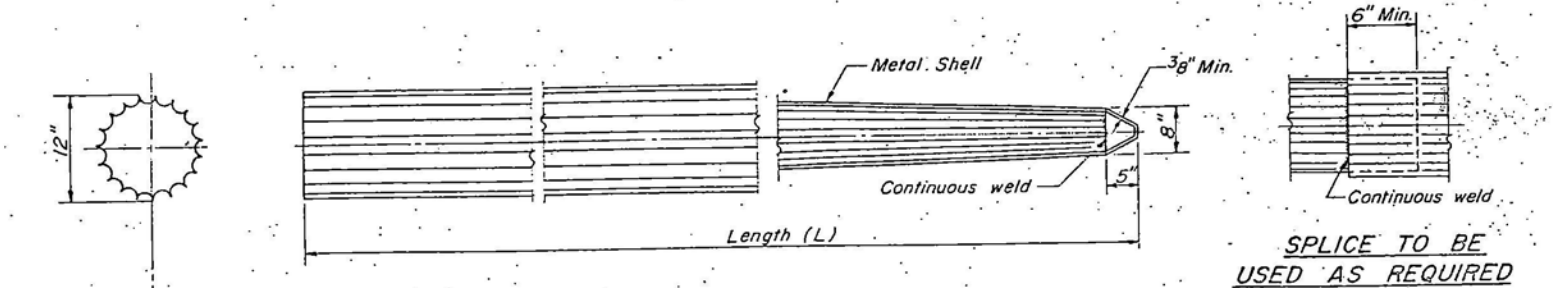
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
RD. 90	313H8	COOK	306	143
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 21
21 SHEETS

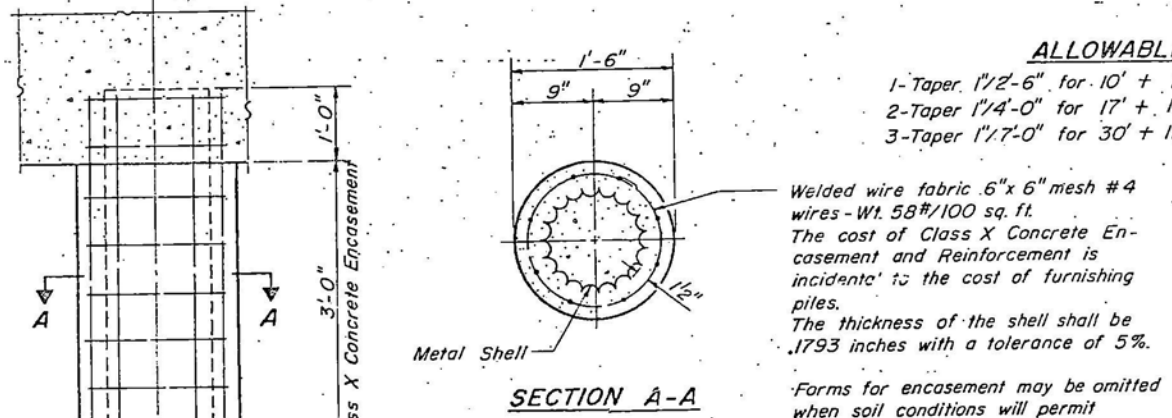


DETAIL OF CYLINDRICAL STEEL SHELL
FOR CAST IN PLACE CONCRETE PILES

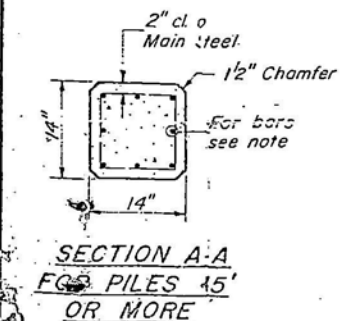
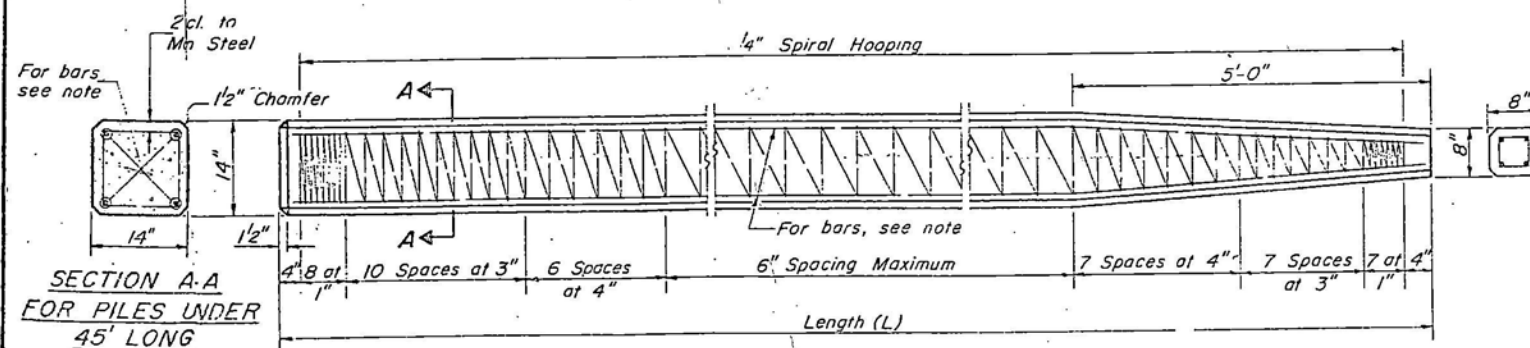


ALLOWABLE TAPERS

- 1-Taper 1 1/2'-6" for 10' + 12" Cylindrical Section Extension
- 2-Taper 1 1/4'-0" for 17' + 12" Cylindrical Section Extension
- 3-Taper 1 1/7'-0" for 30' + 12" Cylindrical Section Extension



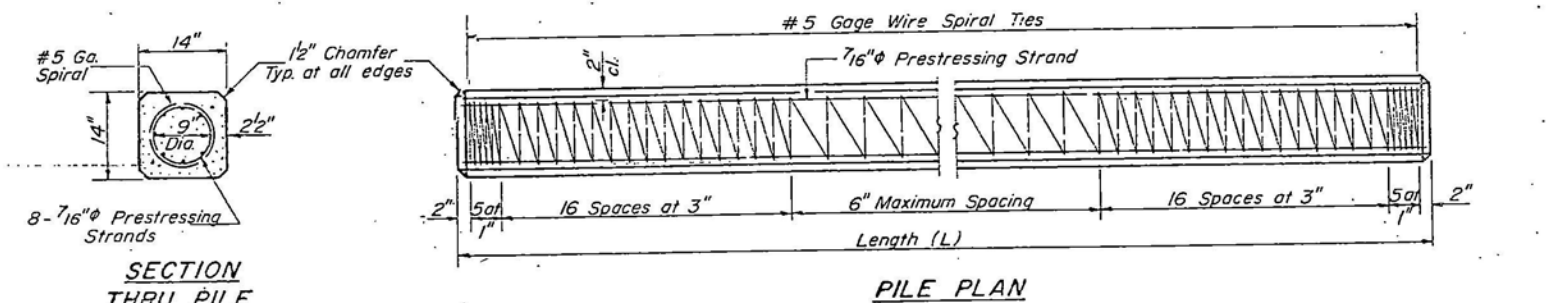
DETAIL OF TAPERED METAL SHELL
FOR CAST IN PLACE CONCRETE PILES



Note: For 14" Piles 45' long or more use 8-#8 bars 4 for the full length and 4 to the point of bevel. For 14" Piles under 45' long use 4-#9 bars full length.

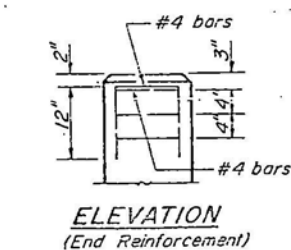
Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12 L from each end and at mid-point of pile.

DETAIL OF PRECAST CONCRETE PILES

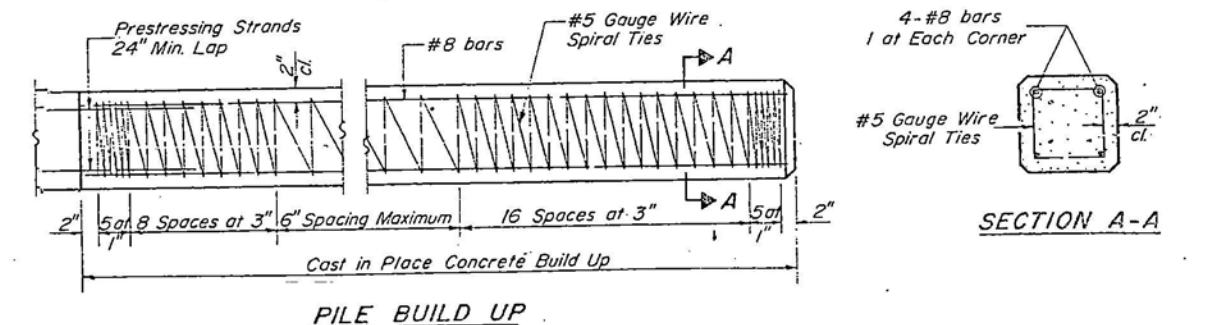


SECTION THRU PILE

PILE PLAN



ELEVATION (End Reinforcement)



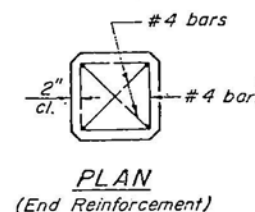
PILE BUILD UP

Note: Prestressing steel shall be non-galvanized extra high strength stress-relieved 7 wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.1155 square inch.

Handling: For pile lengths up to 65', use two slings placed at a distance of 0.21 L from each end. For piles longer than 65', use three slings placed at a distance of 0.12 L from each end and at midpoint of pile.

DESIGN STRESSES

$f_c' = 5,000$ psi.
 $f_{cl}' = 4,000$ psi.
 $f_s' = 268,000$ psi. (31,000 lbs.)
 $f_{sl}' = 188,000$ psi. (21,700 lbs.)



PLAN (End Reinforcement)

DETAIL OF PRECAST PRESTRESSED CONCRETE PILES

PILE DETAILS

RD. 90-SEC. 0406-313-HB
COOK COUNTY
STATION 561+70

DESIGNED	Amelation
CHECKED	James M. Barker
DRAWN	556
CHECKED	556

EXAMINED	1918
PASSED	1918
APPROVED	1918