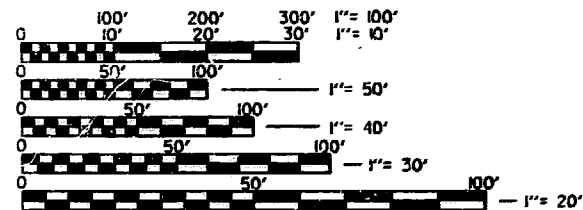


**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

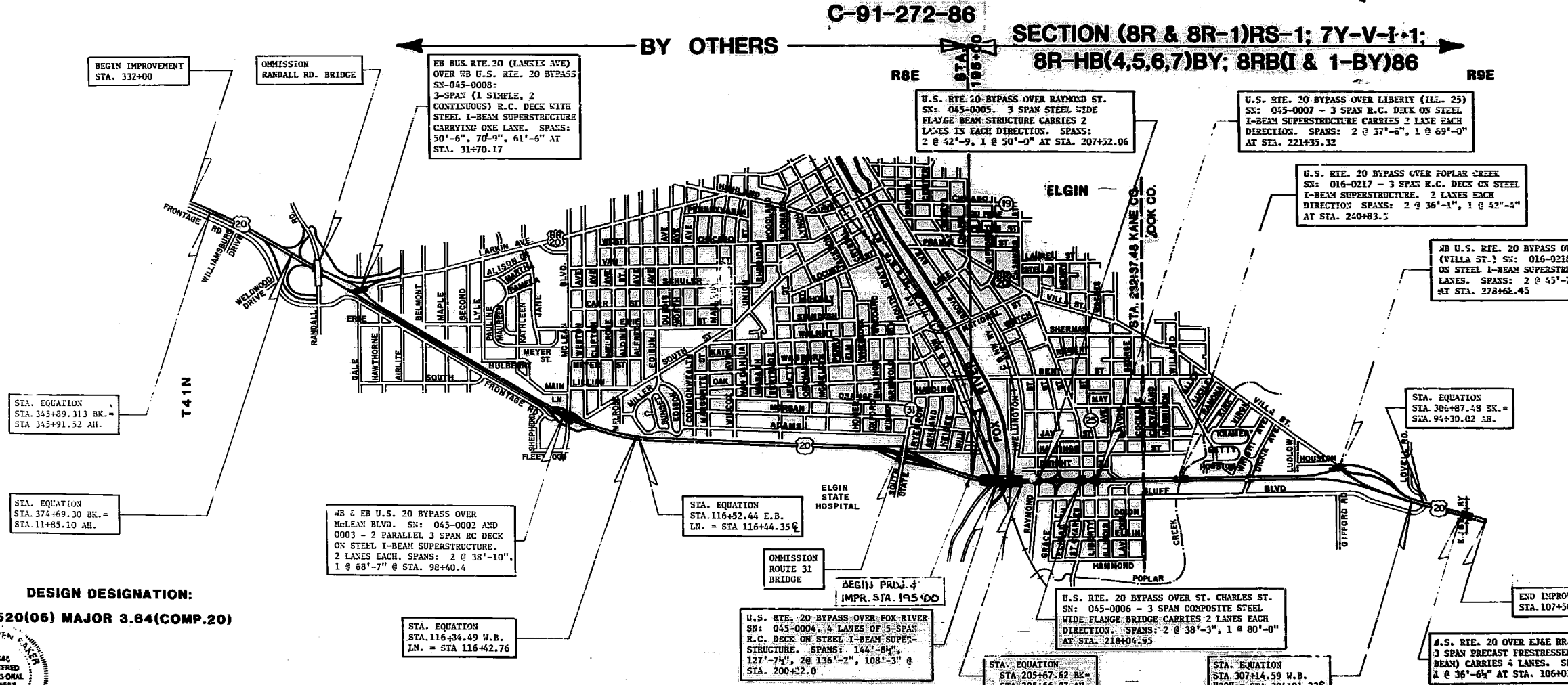
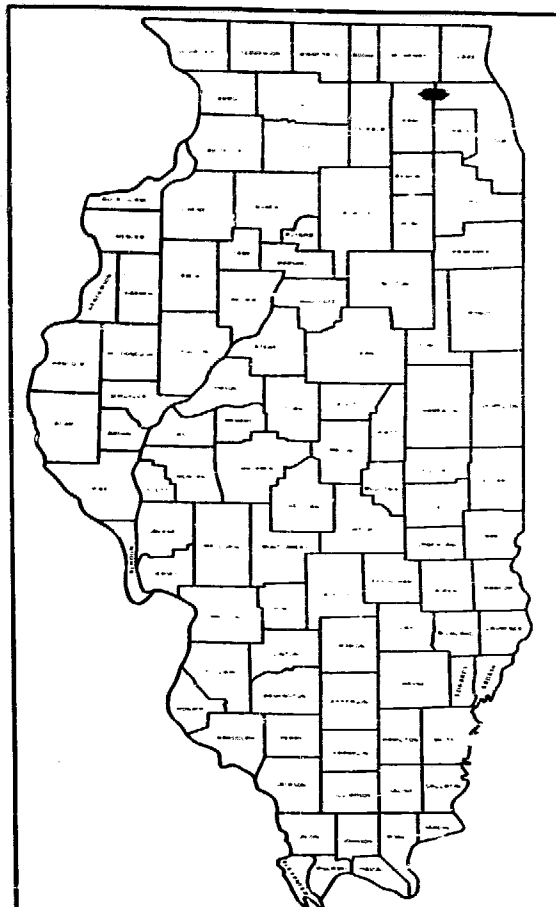
**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**

FOR INDEX OF SHEETS, SEE SHEET NO. 2



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.

**F.A. ROUTE 426 (U.S. 20)  
SECTION (8R & 8R-1)RS-1; 7Y-V-I-1; 8R-HB(4,5,6,7)BY; 8RB(I & 1-BY)86  
PROJECT IX - 426-I(19)  
KANE AND COOK COUNTIES**



**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

SUBMITTED: 6-23 1986  
 EXAMINED: 9-2 1986  
 PASSED: 9-2 1986  
 APPROVED: 9-2 1986

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

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION**

APPROVED \_\_\_\_\_  
 DIVISION ADMINISTRATOR DATE \_\_\_\_\_

**TOTAL PROJECT**  
 GROSS LENGTH OF IMPROVEMENT 12,821.37 LIN. FT. (2.429 MILES) 3738.13 LIN. FT. (0.708 MI.) 9083.24 LIN. FT. (1.720 MI.)  
 NET LENGTH OF IMPROVEMENT 12,821.37 LIN. FT. (2.429 MILES) 3738.13 LIN. FT. (0.708 MI.) 9083.24 LIN. FT. (1.720 MI.)

CONSULTANT PROJECT ENGINEER: R. SHAH (312) 884-4232

DESIGN DESIGNATION:  
**2520(06) MAJOR 3.64(COMP.20)**

CONTRACT NO. 426-19

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3,4	TYPICAL SECTIONS
5-7	SUMMARY OF QUANTITIES
8	DRAINAGE SCHEDULES
9	SIGNING SCHEDULES
10-15	PROPOSED ROADWAY PLANS
16	PROFILE W.B. U.S. RTE 20 (BY-PASS) VILLA STREET REALIGNMENT
17	PROFILE W.B. U.S. RTE 20 (BUSINESS) VILLA STREET REALIGNMENT
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26,27	MISCELLANEOUS DETAILS
28-33	PAVEMENT STRIPPING AND SIGNING PLANS
34-36	GUIDE SIGN LEGEND LAYOUT
37	GROUND MOUNT SIGN STRUCTURES - BREAKAWAY SIGN POSTS
38	OVERHEAD SIGN STRUCTURES - GENERAL PLAN AND ELEVATION
39	OVERHEAD SIGN STRUCTURES - POST AND CHORD DETAILS
40,41	OVERHEAD SIGN STRUCTURES - STEEL WALKWAY DETAILS
42	OVERHEAD SIGN STRUCTURES - FOUNDATION DETAILS
43	OVERHEAD SIGN STRUCTURES - CANTILEVER - GENERAL PLAN AND ELEVATION
44	OVERHEAD SIGN STRUCTURES - CANTILEVER - FRAME AND POST DETAILS
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STA		TO STA		
FED. ROAD DIST. NO. 7		ILLINOIS		
FED. ROAD DIST. NO. 7		ILLINOIS		

## GENERAL NOTES

- FLUORESCENT VESTS: ALL CONSTRUCTION PERSONNEL WILL BE REQUIRED TO WEAR FLUORESCENT ORANGE VESTS AT ALL TIMES WHILE ON THE CONSTRUCTION SITE. COMPLIANCE WITH THIS REQUIREMENT SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
- BARRICADES: THE CONTRACTOR WILL PROVIDE AND INSTALL TWO (2) WEIGHTED SAND BAGS ON EACH BARRICADE USED.
- THE REMOVAL OF THE TERMINAL SECTIONS (TAPERS) SHALL BE INCLUDED IN THE UNIT PRICE COST FOR STEEL PLATE BEAM GUARD RAIL REMOVAL.
- THE EXISTING CABLE CROSSINGS AS SHOWN ON THE PLANS ARE APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL BE AWARE WHEN CONSTRUCTION BEGINS THAT ANY DAMAGE TO THESE CROSSINGS BECAUSE OF CONSTRUCTION WILL BE AT HIS EXPENSE, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- QUANTITIES: QUANTITIES SHOWN ON THE PLANS ARE BASED ON FIELD INSPECTION AT THE TIME OF PLAN PREPARATION AND ARE TO BE USED FOR PREPARATION PROPOSALS. HOWEVER, AS DETERMINED BY THE ENGINEER, QUANTITIES MAY CHANGE BASED UPON CONDITIONS UNCOVERED AT THE TIME OF CONSTRUCTION.
- ANY DAMAGE TO THE REINFORCEMENT BARS AS A RESULT OF THE CONTRACTOR'S CONCRETE POURING AND/OR CONCRETE REMOVAL OPERATION SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
- ALL TRAFFIC CONTROL AND PROTECTION DEVICES SHALL BE CLEANED AS NECESSARY THROUGHOUT THE DURATION OF THE CONTRACT.
- THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL OF THE ENGINEER FOR ANY METHODS OF TRAFFIC CONTROL AND PROTECTION DIFFERENT FROM THAT SHOWN ON THE PLANS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED THE CONTRACTOR.
- IT MAY BE NECESSARY TO REMOVE A SMALL PORTION OF THE EXISTING PIPE CULVERT TO ALLOW FOR PROPER FIT AND PLACEMENT OF END SECTIONS. THE AMOUNT OF PIPE TO BE REMOVED SHALL BE DESIGNATED BY THE ENGINEER AND SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THAT PARTICULAR END SECTION ITEM.
- SOD SHALL BE PLACED IN ALL AREAS DESIGNATED FOR DITCH RESTORATION AND IN AREAS DESIGNATED BY THE ENGINEER.
- TREES SHALL BE REMOVED AS SHOWN ON THE PLANS AND AS DESIGNATED BY THE ENGINEER.
- PROPOSED TREE REMOVALS UNDER 6" IN DIAMETER SHALL NOT BE MEASURED OR PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE TREE REMOVAL - 6" TO 15" ITEM.
- THE STANDARD DRAWINGS LISTED WITH THE INDEX ON SHEET 2 ARE INTENDED TO BE THE LATEST REVISION AND SHALL TAKE PRECEDENCE OVER EARLIER REVISIONS THAT MAY BE REFERRED TO ELSEWHERE IN THE PLANS OR IN THE SPECIAL PROVISIONS.
- DRAINAGE STRUCTURE GRADES SHALL BE VERIFIED IN THE FIELD PRIOR TO INSTALLATION OF DRAINAGE ITEMS.
- THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS ELEVATIONS AND INVERTS PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS IN SOME AREAS. THE DATA SHOWN ON THE PLANS IS TAKEN FROM PREVIOUS SURVEY & DESIGN PLANS AND IS ASSUMED TO BE CORRECT. HOWEVER, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AS SUCH AND NO ADDITIONAL COMPENSATION WILL BE AWARDED HIM TO COMPLY WITH THIS PROVISION. THEREFORE, AS DIRECTED BY THE ENGINEER, THE INVERTS OF THE PROPOSED DRAINAGE SYSTEM WILL BE REVISED TO MEET THE EXISTING FIELD CONDITIONS.
- WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER AND AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- IN THE EVENT SECTION MONUMENTS AND/OR BENCH MARKS ARE ENCOUNTERED WITHIN PAVEMENT AREA TO BE RESURFACED, THE CONTRACTOR SHALL ADJUST SAFE AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
- GUYPED RAIL SHALL BE CONSTRUCTED WITH GALVANIZED STEEL POSTS.
- THE ELEVATIONS SHOWN ON THE PLANS ARE FINISHED GRADES OF SURFACE COURSE, UNLESS OTHERWISE INDICATED.
- WHEN DURING CONSTRUCTION OPERATIONS ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF DITCHES, GUTTERS OR DRAINAGE STRUCTURES SO THAT THE NATURAL FLOW OF WATER IS OBSTRUCTED, IT SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES SO AFFECTED SHALL BE CLEANED OF ALL DIRT AND DEBRIS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL EXISTING UTILITIES FOR THE DURATION OF THE CONTRACT AT HIS OWN EXPENSE.
- SITES WITHIN THE R.O.W. OF THE IMPROVEMENT USED FOR STORING SALVAGED GUARDRAIL, FRAMES AND GRATES, ETC. SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS BY THE CONTRACTOR. THE WORK INVOLVED WILL NOT BE PAID FOR SEPARATELY.

ILLINOIS DEPARTMENT OF TRANSPORTATION

## INDEX OF SHEETS STATE STANDARDS

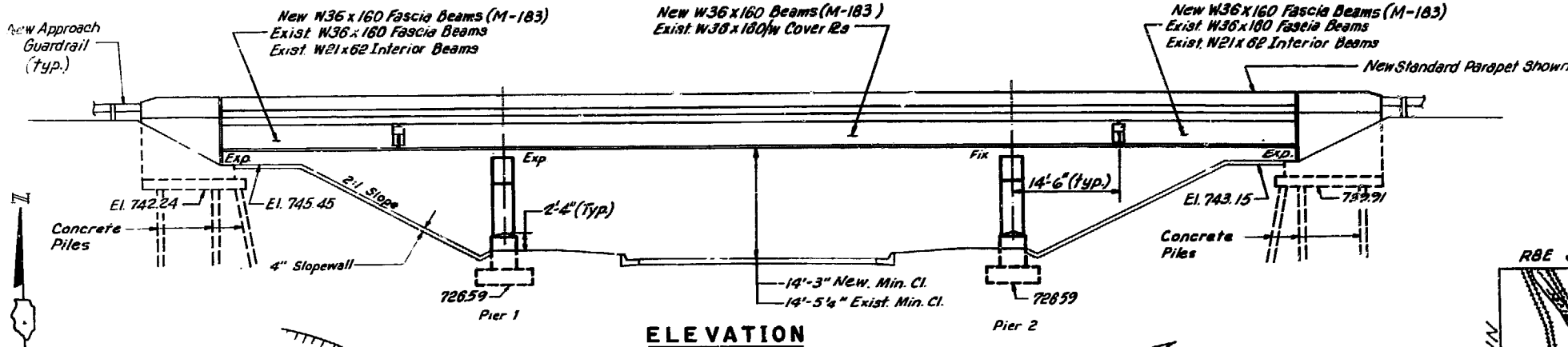
REVISIONS	
NAME	DATE

SCALE: VERT. } N.A.  
 HORIZ. }  
 DATE 6-86 DRAWN BY MJC  
 CHECKED BY GSD



B.M. DATA: "□" CUT IN W. SIDE OF S.W. WINGWALL EL. 751.43

SHEET NO	426	8R-HB-6(86)	KANE	209	137
OF 21 SHEETS					



**EXISTING STRUCTURE DATA:** THE EXISTING THREE SPAN NON-COMPOSITE ROLLED BEAM STRUCTURE WAS CONSTRUCTED IN 1959, CARRYING TWO LANES IN EACH DIRECTION OF U. S. ROUTE 20 TRAFFIC OVER LIBERTY STREET (ILL-25) IN THE CITY OF ELGIN. THE STRUCTURE IS 147'-6" LONG WITH A 63'-8" O. TO O. ROADWAY WIDTH. THE EAST AND WESTBOUND TRAFFIC IS SEPARATED BY A NEW JERSEY TYPE CONCRETE BARRIER WALL MEDIAN WHICH WAS CONSTRUCTED IN 1979. THE DECKS AND SUBSTRUCTURES ARE REINFORCED CONCRETE. THE PIERS ARE SUPPORTED ON SPREAD FOOTINGS, AND THE ABUTMENTS ARE SUPPORTED ON PILES.

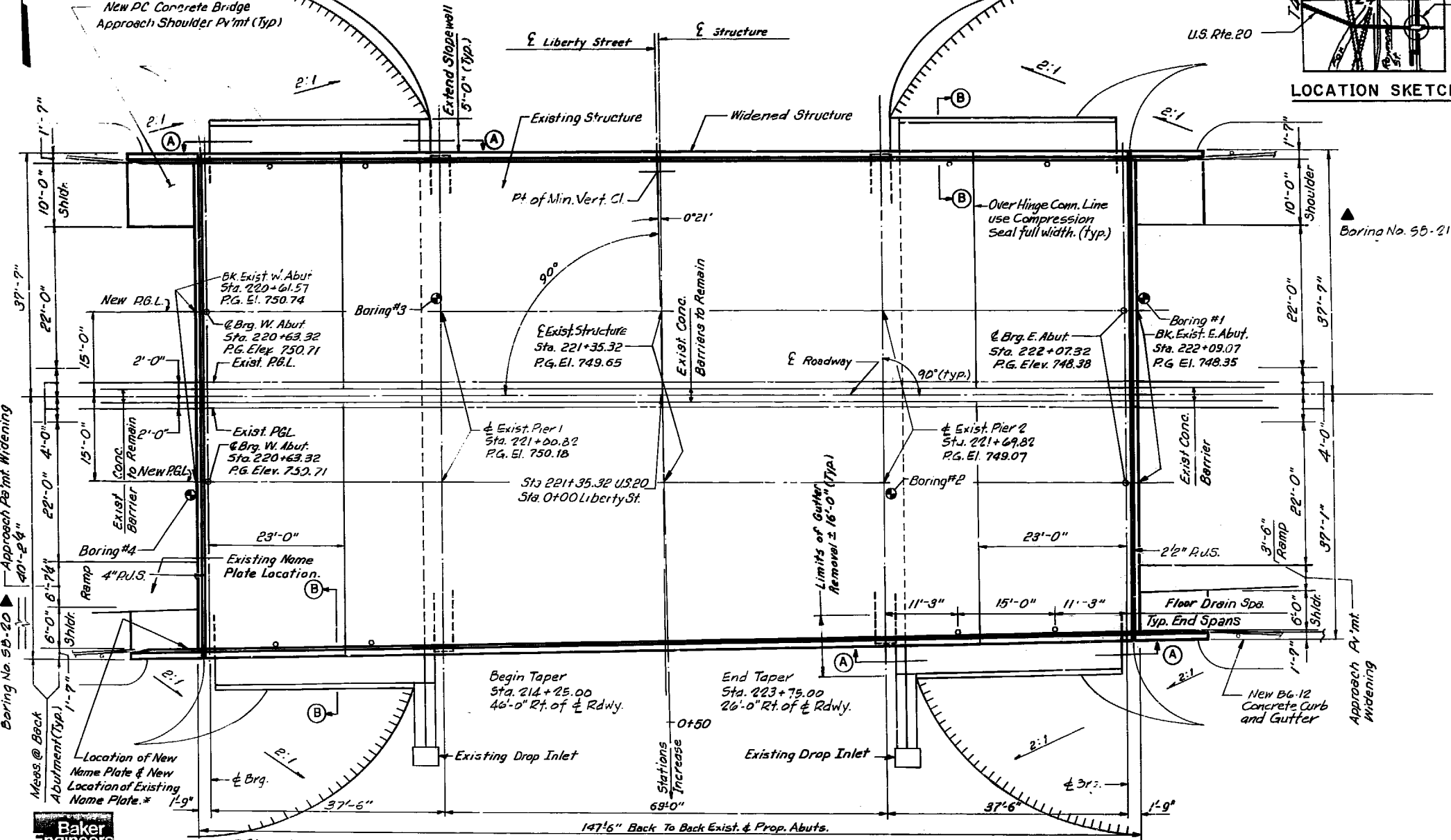
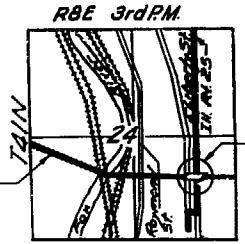
THE CONTRACTOR SHALL WIDEN THE EXISTING STRUCTURE, SCARIFY THE EXISTING DECK AND APPLY A CONCRETE OVERLAY OVER THE EXISTING DECK. TWO LANES OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES UTILIZING STAGE CONSTRUCTION. NO SALVAGE.

- Original Construction Boring Locations
- 1985 Reconstruction Boring Locations

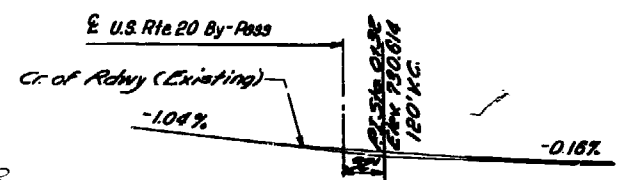
**NOTE:**  
See Sheet #2 for Sections A-A and B-B

STA. 221+35.32  
WIDENED 198 BY  
STATE OF ILLINOIS  
F.A.R.T. 6(S.B.I. 5) SEC. 6R-HB-6(86)  
F.A. PROJ. 2-742-1114  
LOADING HS20  
STR. NO. 045-0007

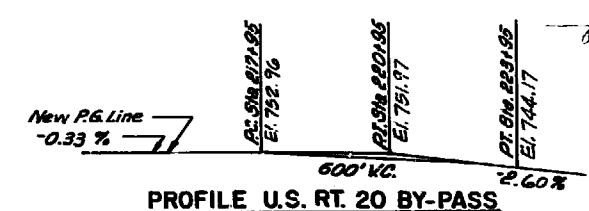
See Standard 2113  
See Plan for locations of new and existing Name Plates.



**PLAN**



**PROFILE-LIBERTY ST.**



**PROFILE U.S. RT. 20 BY-PASS**

APPROVED  
FOR THE STATE OF ILLINOIS

*James T. Harkin*  
Professional Engineer

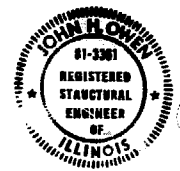
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GENERAL PLAN AND ELEVATION**

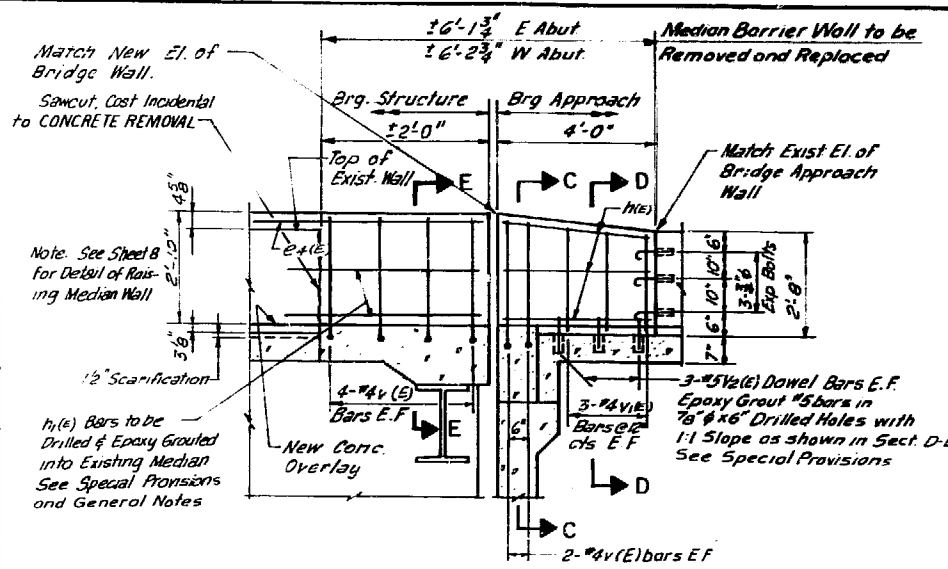
REVISIONS	NAME	DATE
Revised Profile Grade		5/31/85
Revised Profile Grade		2/3/86

U.S. ROUTE 20 BY-PASS (F.A.R. 426) OVER  
LIBERTY STREET  
SECTION 8R-HB-6(86)  
KANE COUNTY—STATION 221+35.32  
STR. NO. 045-0007

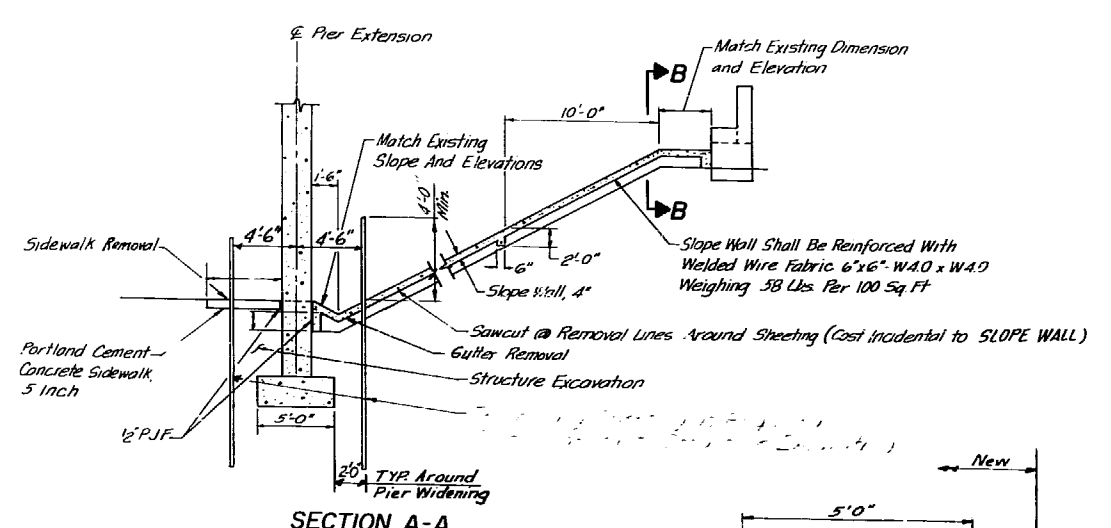
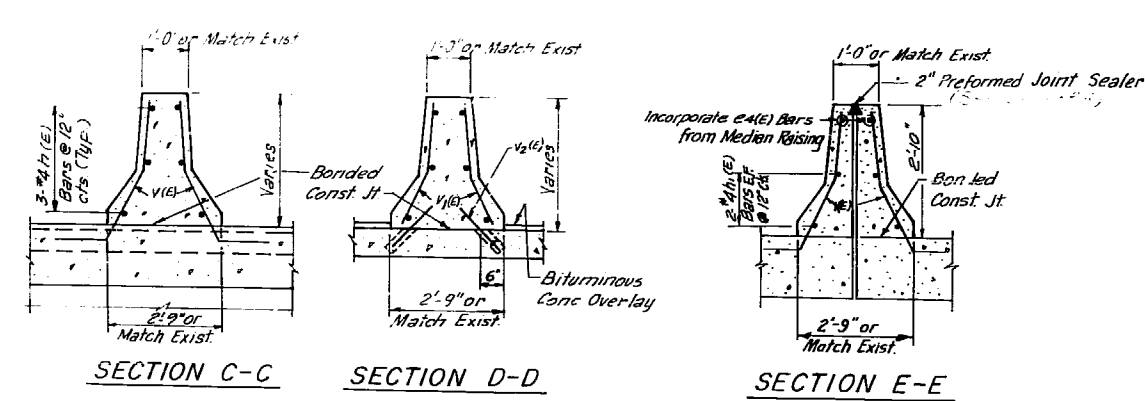
**Baker Engineers**  
Baker Engineering, Inc.  
DESIGNED: P. Wood  
CHECKED: J. Owen  
DRAWN: S. Shelby  
CHECKED: P. Wood



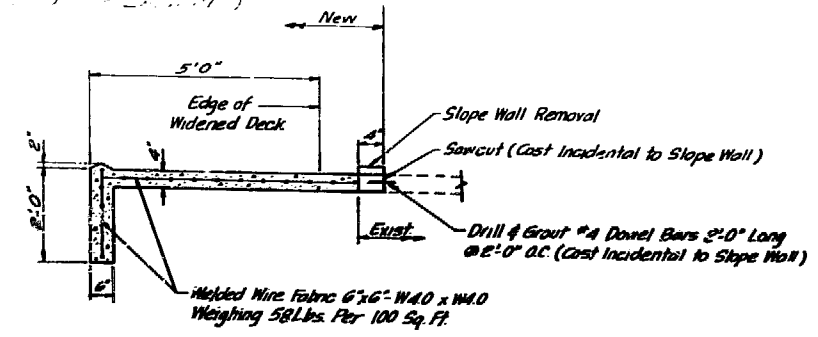
Signed *John H. Owen* Date 3-18-86  
John H. Owen, SE, Ill. Reg. No. 81-3361



**DETAIL OF MEDIAN BARRIER WALL**  
@ Abutments (Work this detail with Sheet No 8)



**SECTION A-A**  
NOTE: See Sheet No. 1 for Location of Section A-A



**SECTION B-B**

TOTAL BILL OF MATERIALS				
ITEM	UNIT	SUPER-STRUCTURE	SUB-STRUCTURE	TOTAL
CONCRETE REMOVAL	CU YD	72	9	81
EXPANSION BOLTS, 3/4 INCH	EACH	6	96	102
REMOVAL OF EXISTING BEARINGS	EACH	---	36	36
STRUCTURE EXCAVATION	CU YD	---	119	119
FLOOR DRAINS	EACH	8	---	8
PROTECTIVE COAT	SQ YD	1,408	---	1,408
PREFORMED JOINT SEAL, 2 1/2"	LIN FT	75	---	75
PREFORMED JOINT SEAL, 4"	LIN FT	78	---	78
PREFORMED JOINT SEAL, 1"	LIN FT	153	---	153
PREFORMED JOINT SEAL, 2"	LIN FT	146	---	146
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	---	30	30
ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	---	15	15
CLASS X CONCRETE	CU YD	141.4	111.8	253.2
STRUCTURAL STEEL	L. SUM	24	---	24
CLEANING AND PAINTING ST. BR. 110 B	L. SUM	1	---	1
REINFORCEMENT BARS	POUND	---	11,680	11,680
REINFORCEMENT BARS, EPOXY COATED	POUND	27,160	---	27,160
FURNISHING CONCRETE PILES	LIN FT	---	191	191
DRIVING CONCRETE PILES	LIN FT	---	191	191
TEST PILE CONCRETE	EACH	---	1	1
NAME PLATE	EACH	1	---	1
FURNISH & INSTALL	---	---	---	---
TEMPORARY CONCRETE BARRIER	UNIT	57	---	57
TEMPORARY CONCRETE BARRIER, TERMINAL SECTION	EACH	2	---	2
RELOCATE TEMPORARY CONCRETE BARRIER	UNIT	57	---	57
GUTTER REMOVAL	LIN FT	---	32	32
SIDEWALK REMOVAL	SQ FT	---	325	325
SLOPE WALL REMOVAL	SQ YD	---	6	6
SLOPE WALL, 4 INCH	SQ YD	---	178	178
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SQ FT	---	325	325
BRIDGE DECK SCARIFICATION 1/2"	SQ YD	775	---	775
PLASTICIZED BRIDGE DECK CONCRETE OVERLAY	SQ YD	783	---	783
DECK SLAB REPAIR (FULL DEPTH)	SQ YD	45	---	45
DECK SLAB REPAIR (PARTIAL DEPTH)	SQ YD	400	---	400
EPOXY MORTAR REPAIR	CU FT	---	7	7
EPOXY CRACK SEALING	LIN FT	---	232	232

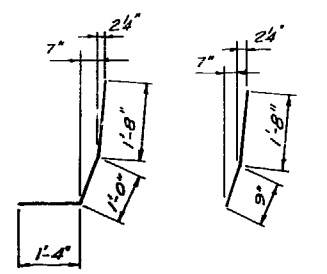
Calculated weight of Structural Steel = 79,850 Lbs.

BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
h(E)	12	#4	3'-8"	
h1(E)	8	#4	2'-9"	
V(E)	24	#4	4'-0"	
V1(E)	12	#4	2'-5"	
V2(E)	2	#8	1'-5"	

Item	Unit	Quantity
Class X Concrete	CU. Yd.	1.8
Reinforcement Bars	Pound	170
Concrete Removal	CU. Yd.	2
Expansion Bolts	Each	6

Note: Quantities of Concrete & Reinforcement Bars Are For Medians At Both Approaches And Are Included In Superstructure Quantities



BAR V(E) BAR V1(E)

**GENERAL NOTES**

- SEE PROPOSAL FOR BORING DATA.
- FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" DIA., OPEN HOLES 1 1/16" DIA., UNLESS OTHERWISE NOTED.
- ALL STRUCTURAL STEEL SHALL RECEIVE ONE COAT OF DULL ORANGE PRIMER; NEW STRUCTURAL STEEL SHALL BE SHOP PRIMED.
- ALL STRUCTURAL STEEL, NEW AND EXISTING, SHALL RECEIVE TWO FIELD COATS OF ALUMINUM PAINT WITH THE FOLLOWING EXCEPTIONS, AS APPLICABLE, WHICH SHALL RECEIVE ONE COAT OF ALUMINUM PAINT AND FINAL COAT OF INTERSTATE "SPEL".
- THE EXTERIOR WEB SURFACE, THE BOTTOM AND EDGES OF THE BOTTOM FLANGE, THE BOTTOM SURFACE OF THE EXTERIOR TOP FLANGE, AND THE TOP SURFACE OF THE EXTERIOR BOTTOM FLANGE, OF NEW FACIA BEAMS.
- ALL STRUCTURAL STEEL ELEMENTS OF NEW ELASTOMERIC BEARING ASSEMBLIES AND NEW STRUCTURAL STEEL FIXED BEARINGS FOR NEW FACIA BEAMS.
- FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS 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 NEW 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, ALL SPLICE PLATE MATERIAL AND HINGE PLATES.
- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 OR M-53, GRADE 60.
- 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.
- EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND 3/4" DIA. X 12" HOOKED BOLTS.
- BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8" INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS. FOR TYPE I ELASTOMERIC BEARINGS, SHIMS OF THE DIMENSIONS OF TOP PLATE SHALL BE PROVIDED AND DETAILED.
- CONCRETE PILES AT ABUTMENTS SHALL BE DRIVEN THROUGH THE EMBANKMENT WITHOUT PRECORING.
- THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE(S) IN PERMANENT LOCATION(S) SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.
- THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO WIDENING OF THE ABUTMENTS.

**DESIGN DATA**

- DESIGN SPECIFICATIONS: AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1983 EDITION, 1984 & 1985 INTERIMS.
- DESIGN STRESSES:
  - NEW CONCRETE: FC=3500PSI, FC=1400PSI
  - NEW REINFORCING STEEL: FY=60,000PSI, FS=24,000PSI
  - NEW STRUCTURAL STEEL: FS=20,000PSI
  - EXISTING STRUCTURAL STEEL: FS=18,000PSI
- STRUCTURAL STEEL, CONCRETE DECK AND SUBSTRUCTURE CONCRETE ARE DESIGNED BY THE SERVICE LOAD METHOD.
- DESIGN LOADING: HS20-44



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES, BILL OF MATERIAL AND DETAILS**

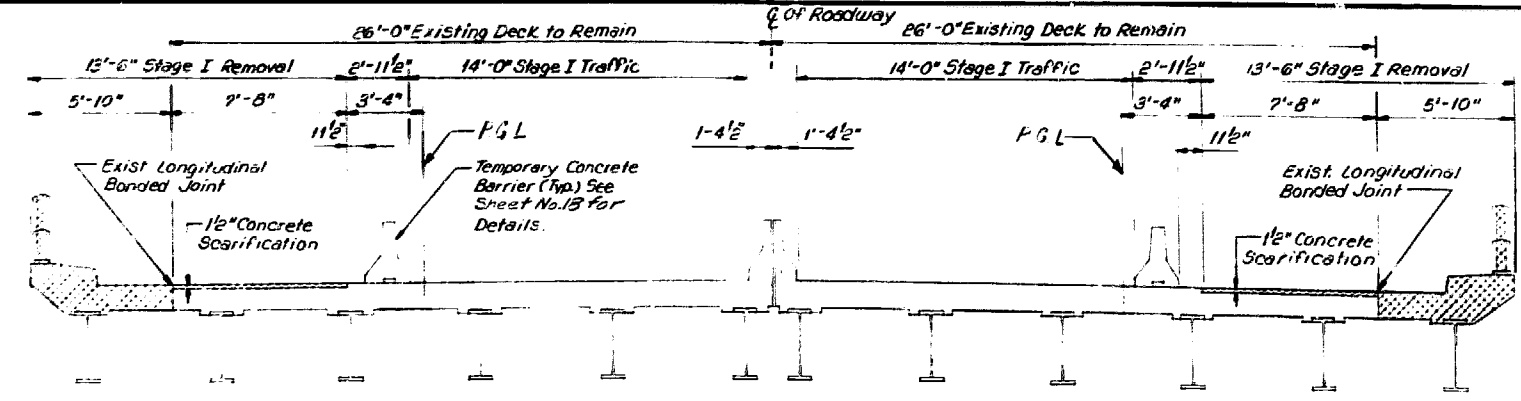
U.S. ROUTE 20 BY-PASS (FA.P.426) OVER  
LIBERTY STREET  
SECTION BR-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

REVISIONS	
NAME	DATE

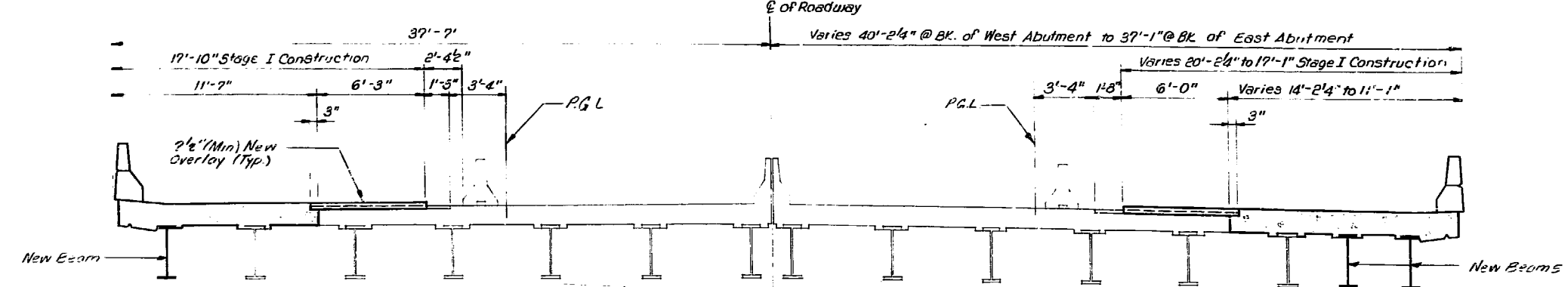
**Baker Engineers**  
Baker Engineering, Inc.

DESIGNED	P. Wood
CHECKED	J. Owen
DRAWN	C. Prieto, Z. Dabrowski
CHECKED	P. Wood

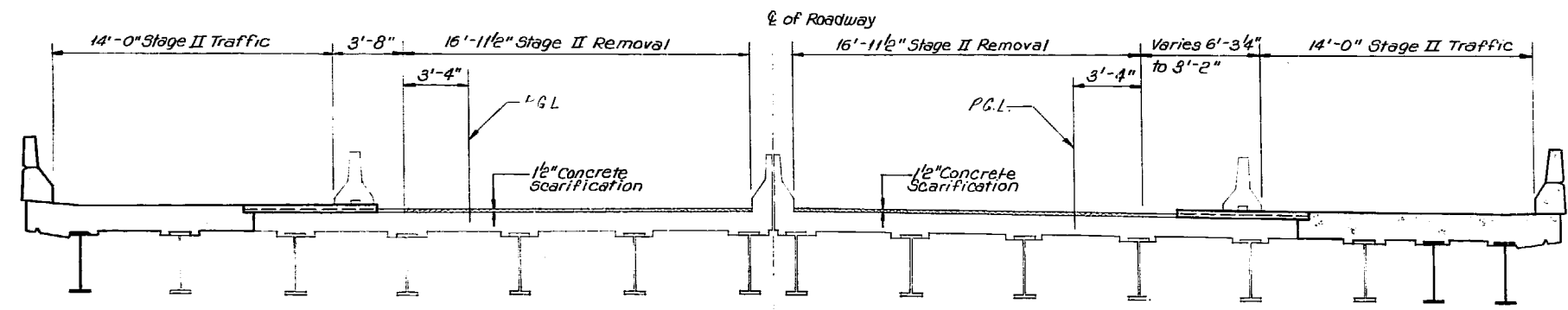
SHEET NO. 3	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
OF 21 SHEETS	426 BR-HB-6(86)	KANE	209	139
STA		TO STA		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT



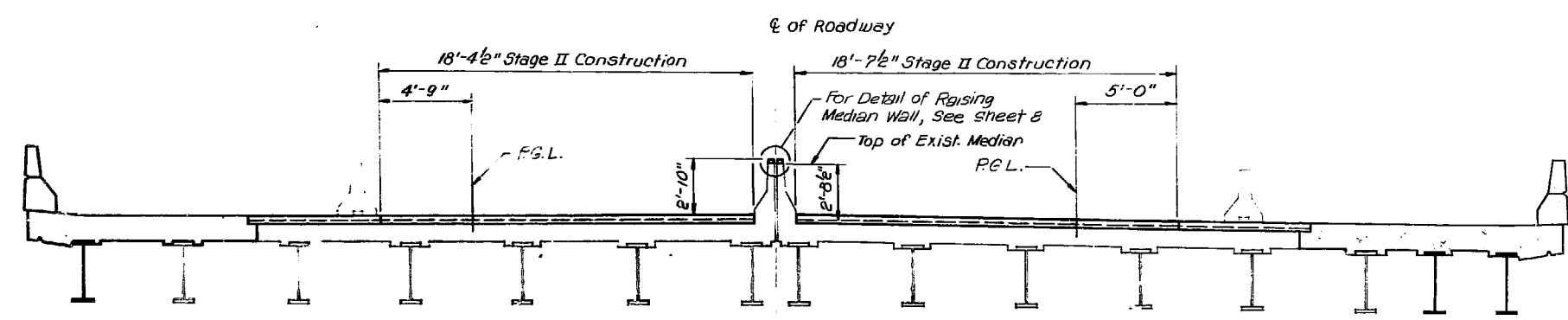
**\* STAGE I REMOVAL**



**\* STAGE I CONSTRUCTION**



**\* STAGE II REMOVAL**



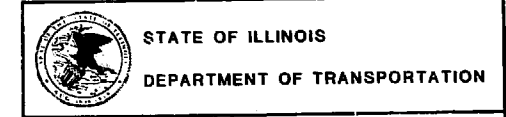
**\* STAGE II CONSTRUCTION**

\* LOOKING EAST

**NOTES:**  
 Transverse Deck Reinforcement Extending into Removed Area Shall be Cleaned and Incorporated into the New Construction.  
 [Hatched Box] Denotes Removal



DESIGNED	J. Chalakis
CHECKED	R. Zemaitaitis
DRAWN	J. Chalakis
CHECKED	R. Zemaitaitis



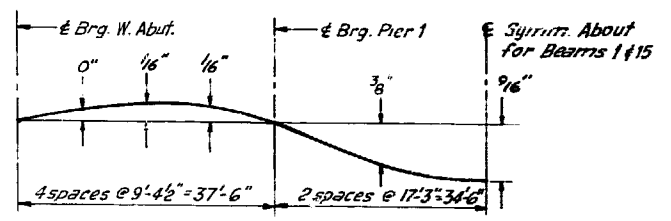
**STAGE CONSTRUCTION**

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
 LIBERTY STREET  
 SECTION BR-HB-6(86)  
 KANE COUNTY - STATION 221+35.32  
 STR. NO. 045-0007

REVISIONS	
NAME	DATE



SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BR-HB-6(86)	KANE	204	140
STA	TO STA		
PRJ. WORD DIST. NO. 1	ILL. NO. 1	PRJ. A.D. PROJECT	

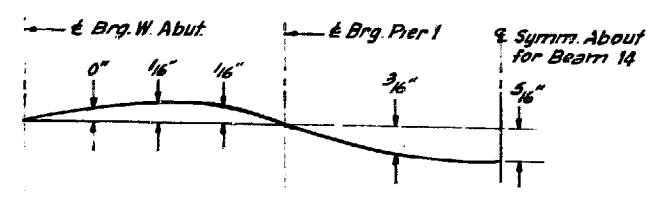


**DEAD LOAD DEFLECTION DIAGRAM**  
(Includes weight of concrete only)

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 deflection as shown below.

**BEAM 1**

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CBRGWA	220+63.32	-19.580	750.352	750.362
A	220+73.32	-19.580	750.226	750.225
B	220+83.32	-19.580	750.086	750.081
C	220+93.32	-19.580	749.542	749.938
CBRGP1	221+00.82	-19.580	749.831	749.831
D	221+10.82	-19.580	749.681	749.699
E	221+20.82	-19.580	749.526	749.561
F	221+30.82	-19.580	749.368	749.412
G	221+40.82	-19.580	749.206	749.250
H	221+50.82	-19.580	749.041	749.074
I	221+60.82	-19.580	748.871	748.887
CBRGP2	221+69.82	-19.580	748.715	748.715
J	221+79.82	-19.580	748.539	748.534
K	221+89.82	-19.580	748.358	748.354
L	221+99.82	-19.580	748.174	748.173
CBRGEA	222+07.32	-19.580	748.033	748.033



**DEAD LOAD DEFLECTION DIAGRAM**

**BEAM 2**

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CBRGWA	220+63.32	-14.080	750.478	750.478
A	220+73.32	-14.080	750.342	750.342
B	220+83.32	-14.080	750.201	750.199
C	220+93.32	-14.080	750.057	750.055
CBRGP1	221+00.82	-14.080	749.947	749.947
D	221+10.82	-14.080	749.796	749.809
E	221+20.82	-14.080	749.642	749.668
F	221+30.82	-14.080	749.484	749.517
G	221+40.82	-14.080	749.322	749.355
H	221+50.82	-14.080	749.156	749.182
I	221+60.82	-14.080	748.987	748.999
CBRGP2	221+69.82	-14.080	748.831	748.831
J	221+79.82	-14.080	748.654	748.652
K	221+89.82	-14.080	748.474	748.472
L	221+99.82	-14.080	748.289	748.289
CBRGEA	222+07.32	-14.030	748.149	748.149

**NORTH LONG. CONST. JOINT**

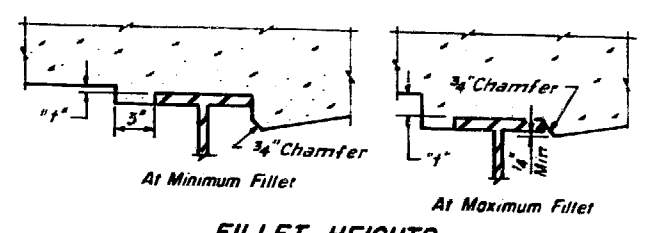
LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CBRGWA	220+63.32	-11.000	750.543	750.543
A	220+73.32	-11.000	750.406	750.406
B	220+83.32	-11.000	750.266	750.264
C	220+93.32	-11.000	750.122	750.120
CBRGP1	221+00.82	-11.000	750.012	750.012
D	221+10.82	-11.000	749.861	749.874
E	221+20.82	-11.000	749.707	749.733
F	221+30.82	-11.000	749.548	749.581
G	221+40.82	-11.000	749.387	749.420
H	221+50.82	-11.000	749.221	749.247
I	221+60.82	-11.000	749.051	749.063
CBRGP2	221+69.82	-11.000	748.895	748.895
J	221+79.82	-11.000	748.719	748.717
K	221+89.82	-11.000	748.538	748.537
L	221+99.82	-11.000	748.354	748.354
CBRGEA	222+07.32	-11.000	748.213	748.213

**BEAM 3**

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CBRGWA	220+63.32	-8.500	750.581	750.581
A	220+73.32	-8.500	750.445	750.449
B	220+83.32	-8.500	750.305	750.306
C	220+93.32	-8.500	750.161	750.160
CBRGP1	221+00.82	-8.500	750.050	750.050
D	221+10.82	-8.500	749.900	749.907
E	221+20.82	-8.500	749.745	749.759
F	221+30.82	-8.500	749.587	749.604
G	221+40.82	-8.500	749.425	749.442
H	221+50.82	-8.500	749.259	749.272
I	221+60.82	-8.500	749.090	749.096
CBRGP2	221+69.82	-8.500	748.934	748.934
J	221+79.82	-8.500	748.757	748.756
K	221+89.82	-8.500	748.577	748.579
L	221+99.82	-8.500	748.393	748.397
CBRGEA	222+07.32	-8.500	748.252	748.252

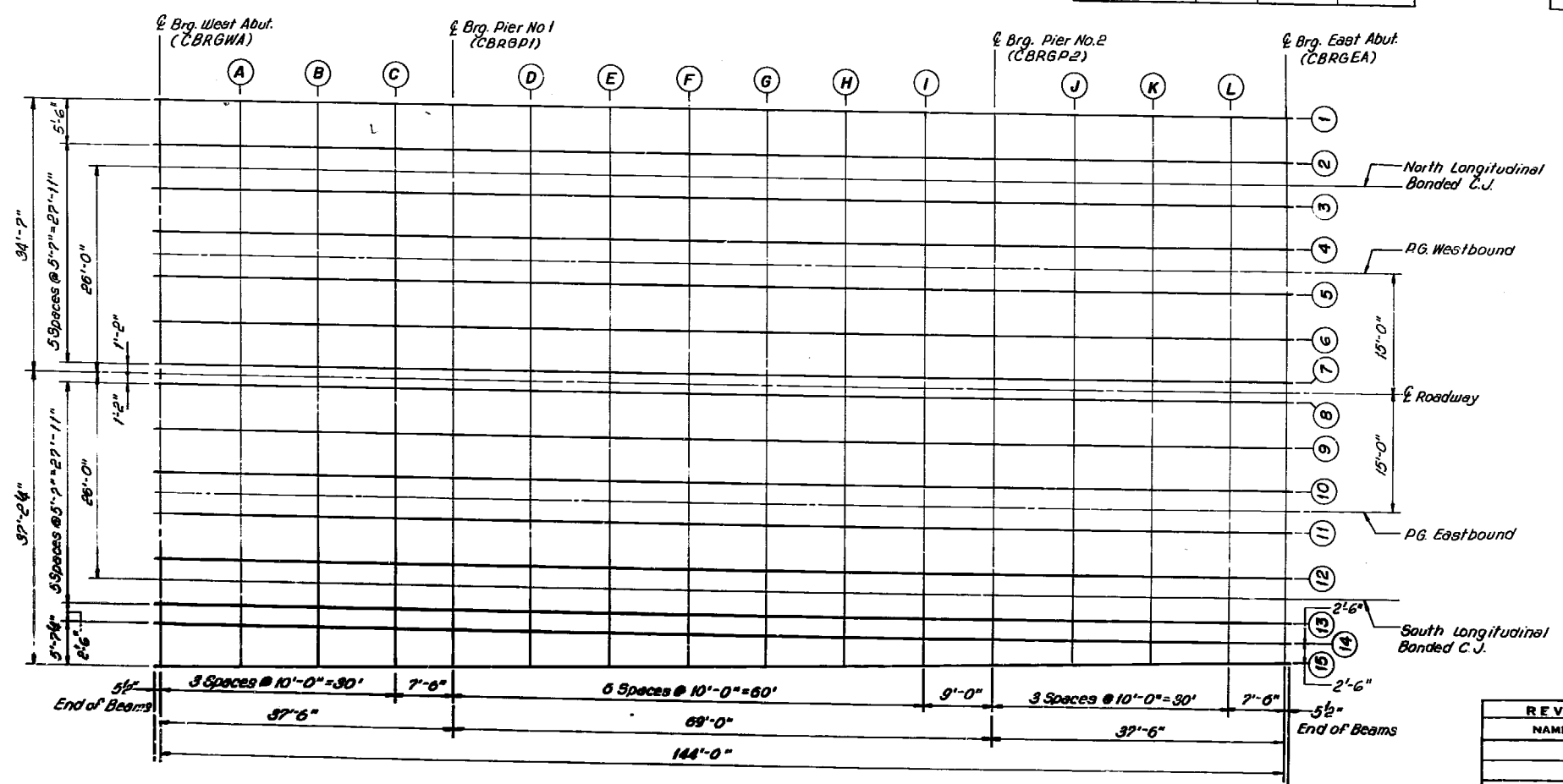
**BEAM 4**

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CBRGWA	220+63.32	-2.920	750.667	750.667
A	220+73.32	-2.920	750.531	750.535
B	220+83.32	-2.920	750.391	750.392
C	220+93.32	-2.920	750.247	750.246
CBRGP1	221+00.82	-2.920	750.136	750.136
D	221+10.82	-2.920	749.986	749.993
E	221+20.82	-2.920	749.831	749.845
F	221+30.82	-2.920	749.673	749.690
G	221+40.82	-2.920	749.511	749.528
H	221+50.82	-2.920	749.346	749.359
I	221+60.82	-2.920	749.176	749.182
CBRGP2	221+69.82	-2.920	749.020	749.020
J	221+79.82	-2.920	748.854	748.863
K	221+89.82	-2.920	748.663	748.665
L	221+99.82	-2.920	748.479	748.483
CBRGEA	222+07.32	-2.920	748.338	748.338



**FILLET HEIGHTS**

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet height's "t" above top flange of beams.



NOTE:  
The deck pour on each side of widening shall be completed at one continuous pour to avoid tension over piers.

**Baker Engineers**  
Baker Engineering, Inc.

DESIGNED	P. Wood
CHECKED	J. Owen
DRAWN	J. Shelby
CHECKED	P. Wood

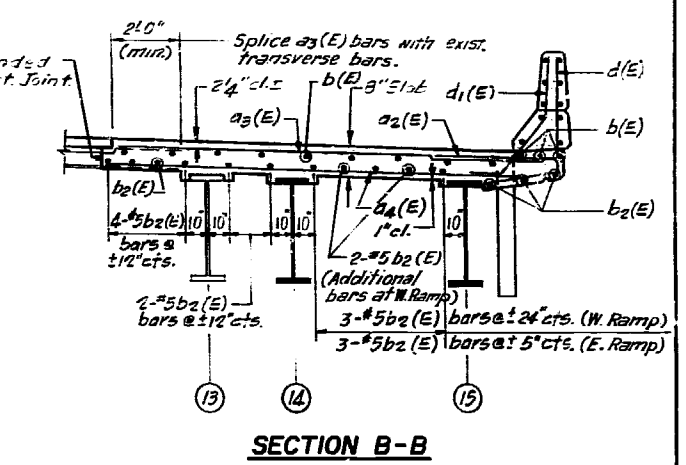
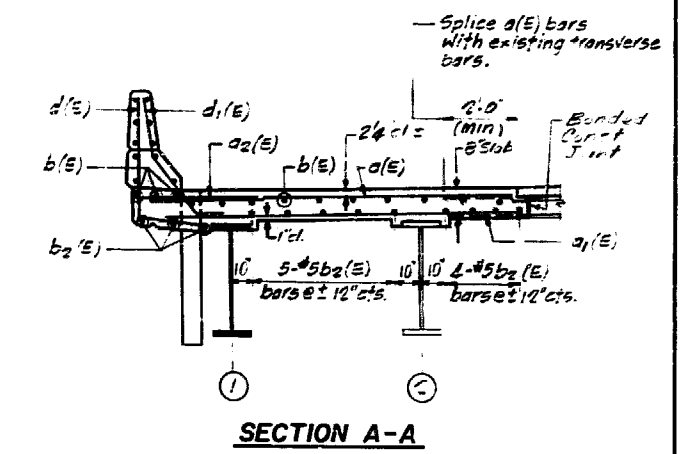
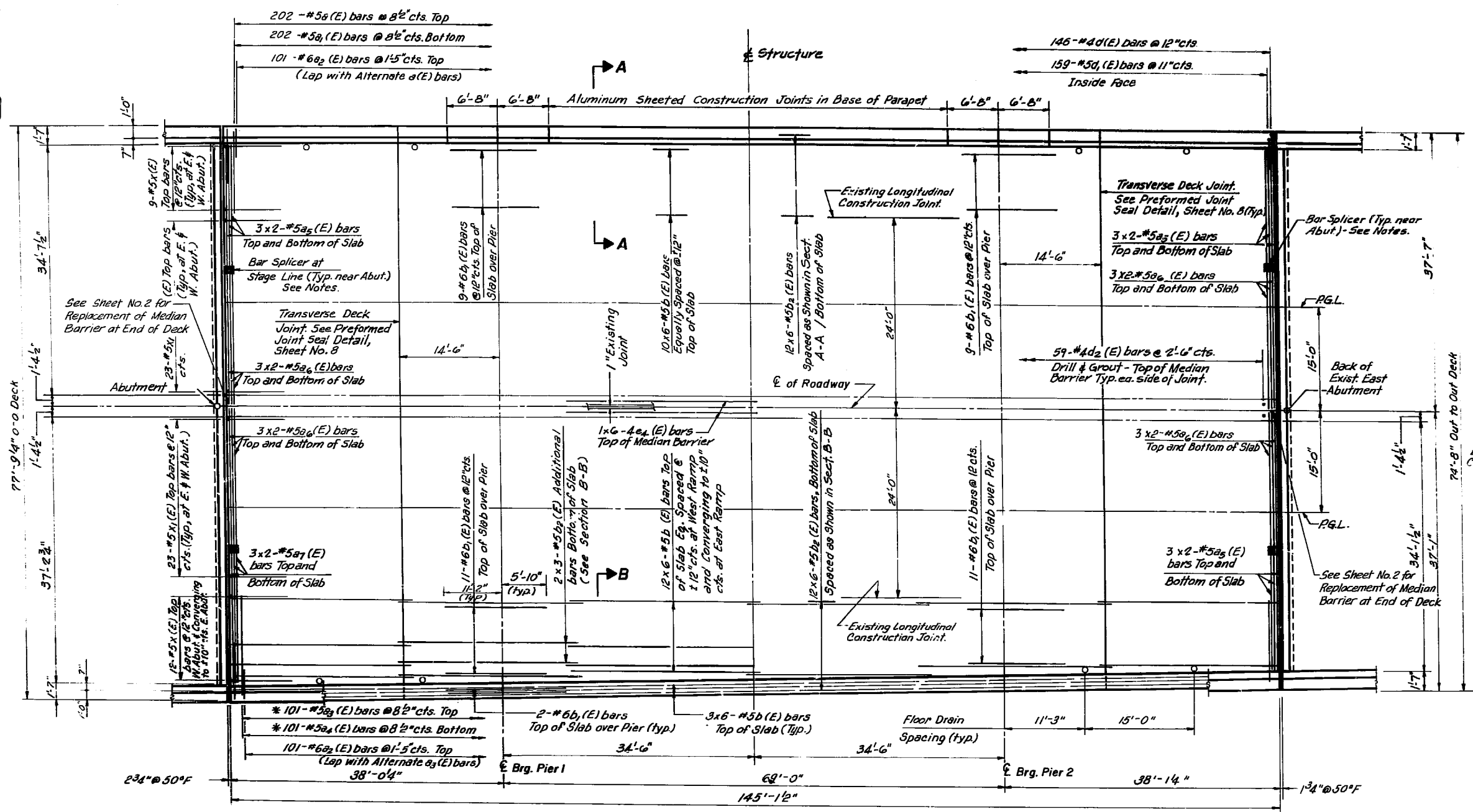
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**TOP OF SLAB ELEVATIONS**

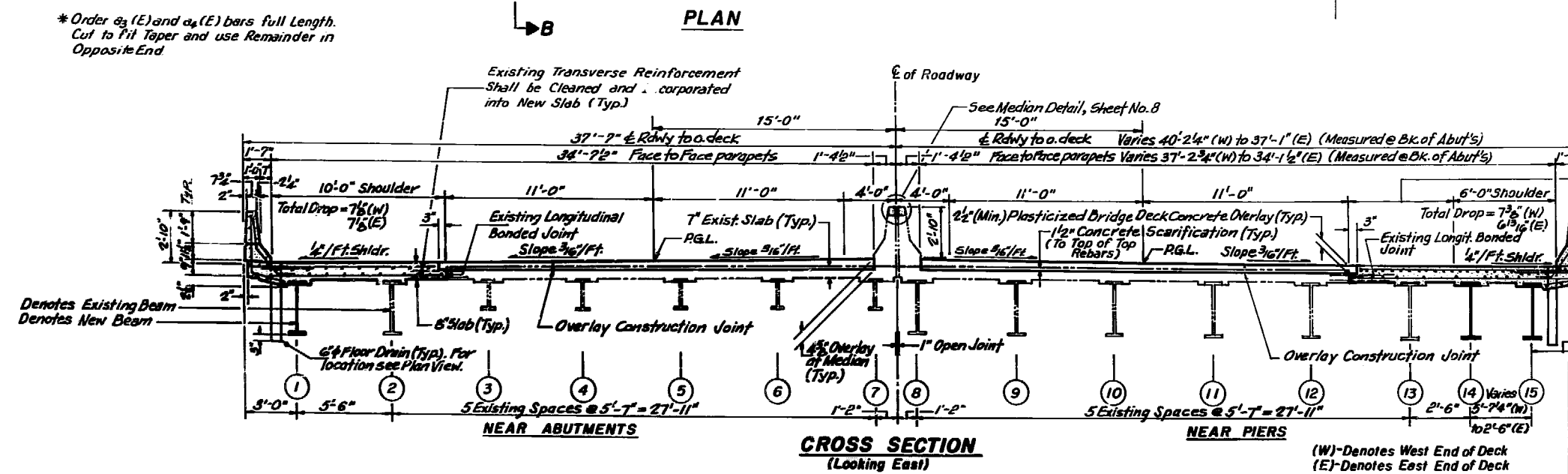
U.S. ROUTE 20 BY-PASS (FA.R 426) OVER  
LIBERTY STREET  
SECTION BR-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

REVISIONS	
NAME	DATE





- NOTES:**
- See Sheet No. 7 for Superstructure Details and Bill of Material.
  - Reinforcement Bars designated (E) shall be Epoxy coated.
  - Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.
  - For Bar Splicer Details, see Std. Sheet. Cost incidental to REINFORCEMENT BARS (Epoxy Coated).
  - Minimum Bar Laps  
#5 - 1'-8"  
#6 - 2'-0"



**Baker Engineers**  
Baker Engineering, Inc.

DESIGNED	R. Zemaitaitis
CHECKED	P. Wood
DRAWN	J. Chalakis
CHECKED	R. Zemaitaitis

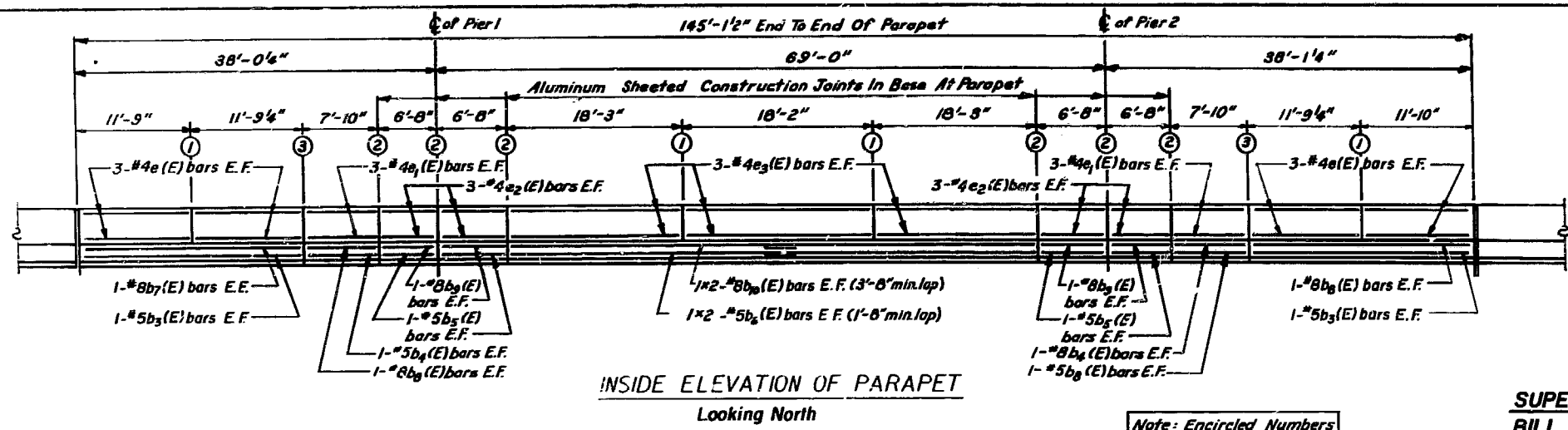
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**SUPERSTRUCTURE**

U.S. ROUTE 20 BY-PASS (F.A.R. 426) OVER  
LIBERTY STREET  
SECTION BR-HB-6186  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

REVISIONS	
NAME	DATE





- E.F. indicates Each Face.
- Bars indicated thus 15x7-#5 etc. indicates 1 line of bars with 15 lengths per line.
- The exterior surfaces of the Floor Drain shall be coated with a coat of zinc and a protective film. The exterior surfaces of the Aluminum Tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structures Painting Council's Specification SSPC-SPI & SSPC-Paint 27 prior to painting.
- Fiberglass Pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 psi. minimum. The surface of the Fiberglass Pipe shall be free of bond inhibiting agents.
- Reinforcement bars designated (E) shall be Epoxy coated.

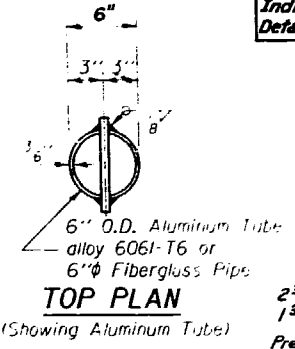
**SUPERSTRUCTURE  
BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Plasticized Bridge Deck Conc. Overlay	Sq. Yd.	783
Bridge Deck Scarification 1 1/2"	Sq. Yd.	775
Deck Slab Repair (Partial Depth)	Sq. Yd.	400
Deck Slab Repair (Full Depth)	Sq. Yd.	45
Concrete Removal	Cu. Yd.	70
Preformed Joint Seal, 1 in.	Lin. Ft.	153
Preformed Joint Seal, 2 in.	Lin. Ft.	146

**SUPERSTRUCTURE  
BILL OF MATERIAL (Cont.)**

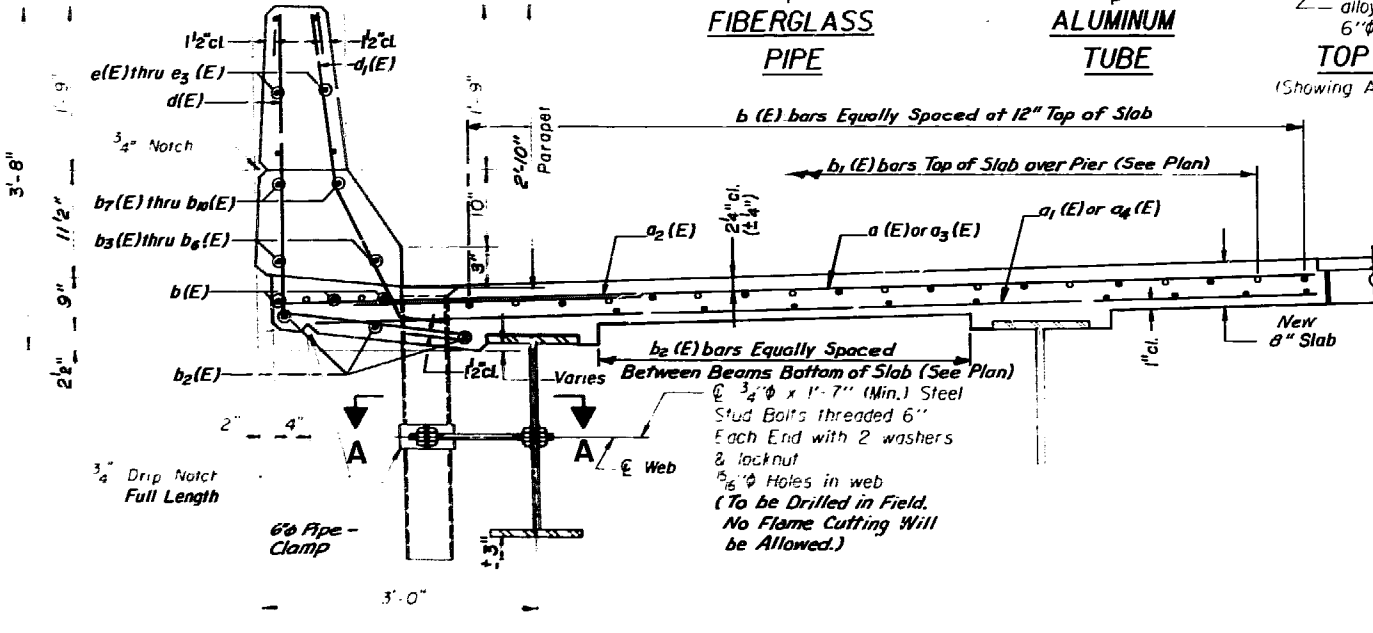
Bar No.	Size	Length	Shape
a1(E)	#5	10'-6"	
a2(E)	#5	11'-0"	
a3(E)	#5	4'-0"	
a4(E)	#5	23'-1"	
a5(E)	#5	24'-7"	
a6(E)	#5	16'-6"	
a7(E)	#5	19'-5"	
a8(E)	#5	19'-0"	
b1(E)	#5	25'-8"	
b2(E)	#5	17'-0"	
b3(E)	#5	25'-8"	
b4(E)	#5	23'-2"	
b5(E)	#5	7'-6"	
b6(E)	#5	6'-4"	
b7(E)	#5	19'-0"	
b8(E)	#8	23'-2"	
b9(E)	#8	7'-6"	
b10(E)	#8	6'-4"	
b11(E)	#8	20'-0"	
d1(E)	#4	5'-0"	
d2(E)	#5	3'-11"	
d3(E)	#4	1'-0"	
x1(E)	#5	5'-5"	
x2(E)	#5	3'-7"	
e1(E)	#4	11'-5"	
e2(E)	#4	7'-7"	
e3(E)	#4	6'-5"	
e4(E)	#4	17'-11"	
e5(E)	#4	20'-2"	
Reinforcement Bars (Epoxy Coated)	Lbs.	26,990	
Class "X" Concrete	Cu. Yd.	139.6	
Floor Drains	Ea.	8	

Note: Encircled Numbers Indicate Joint Type. For Details See Sheet No. 8.

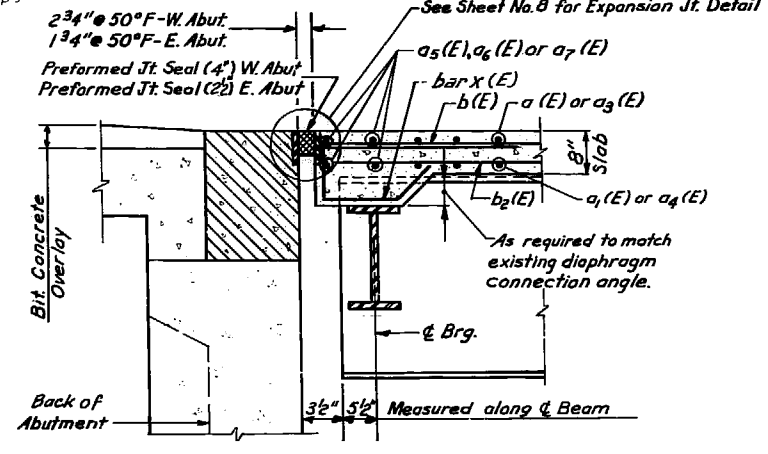
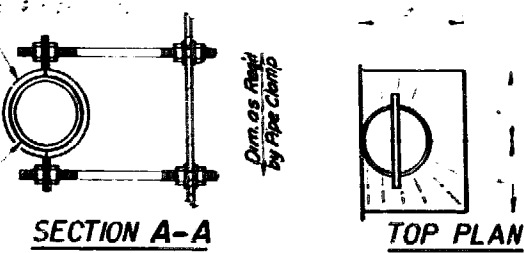


**FIBERGLASS  
PIPE**

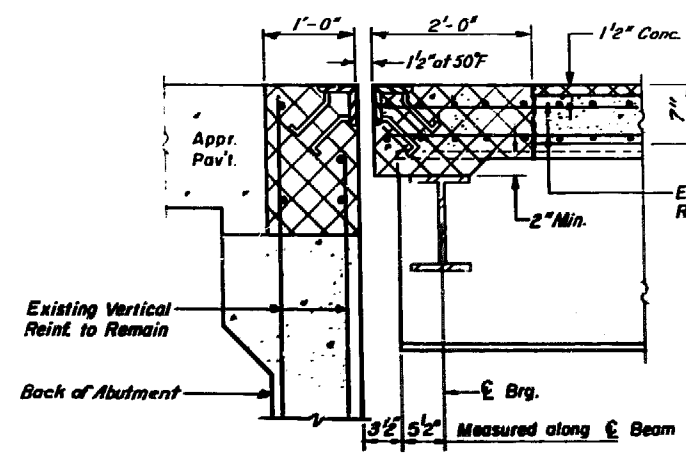
**ALUMINUM  
TUBE**



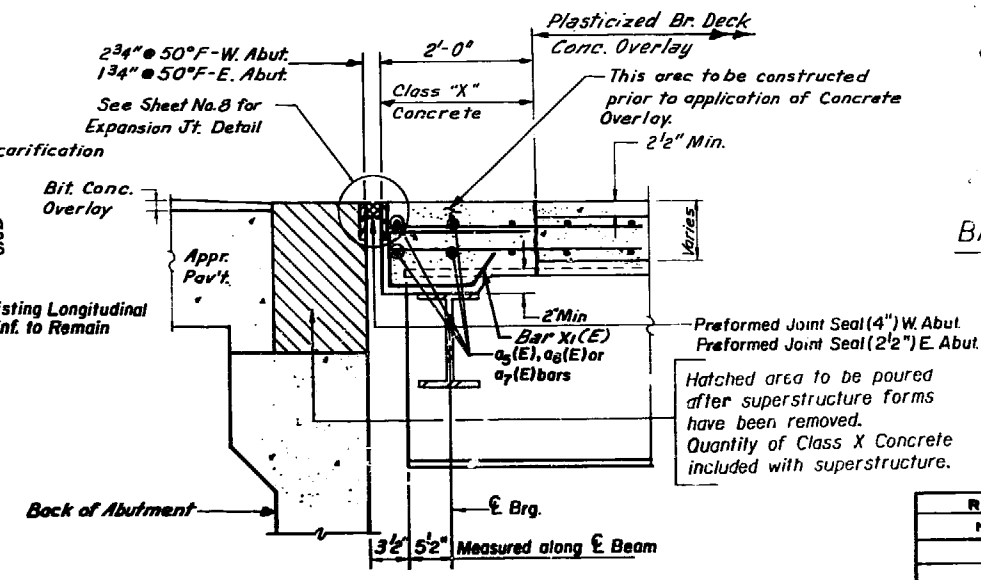
**SECTION THRU WIDENING**



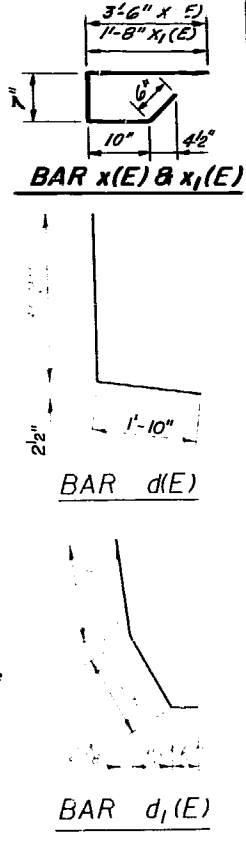
**SECTION THRU ABUTMENTS AT WIDENING**



**EXISTING SECTION THRU ABUTMENTS**



**NEW SECTION THRU EXISTING ABUTMENTS**



Denotes Concrete Removal and Scarification

**REVISIONS**

NAME	DATE

**SUPERSTRUCTURE DETAILS**

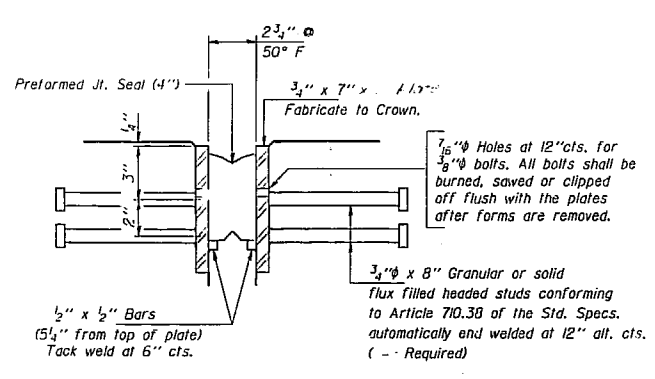
U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
LIBERTY STREET  
SECTION BR-HB-6(86)  
KANE COUNTY-STATION 221+35.32  
STR. NO. 045-0007

DESIGNED  
**R. Zemaitaitis**

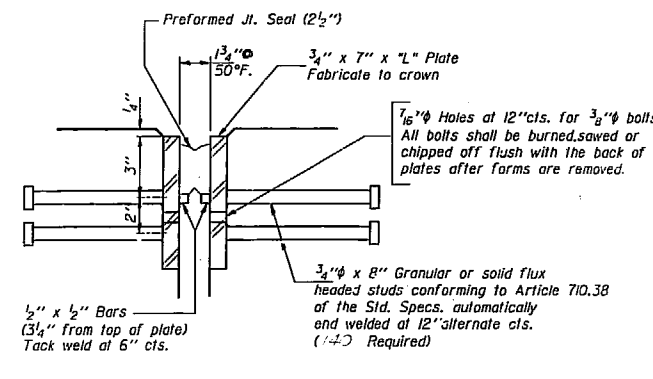
CHECKED  
**P. Wood**

DRAWN  
**K. Dypkowski**

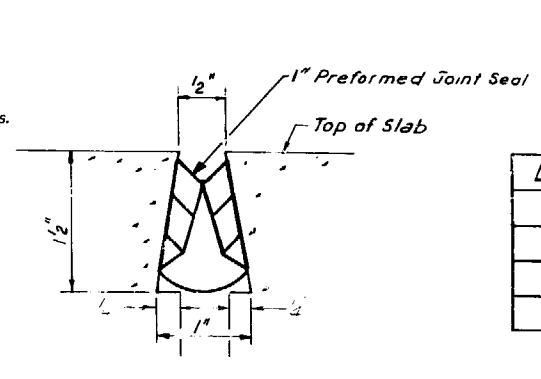
CHECKED  
**R. Zemaitaitis**



**EXPANSION JOINT**  
(WEST ABUTMENT)



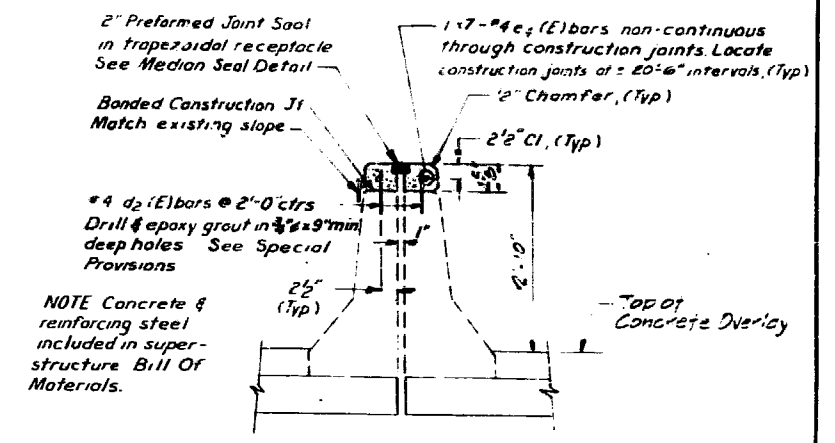
**EXPANSION JOINT**  
(EAST ABUTMENT)



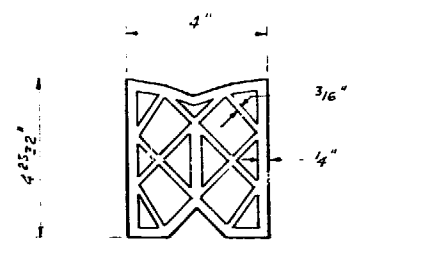
**TRANSVERSE DECK JOINT**  
(AT HINGE - All horizontal dimensions at right angles to joint)

	Stage I	Stage II
North	16'-2 3/4"	18'-5 1/4"
South	15'-5 3/4" E. Abut. 18'-7" W. Abut.	18'-7 1/4"

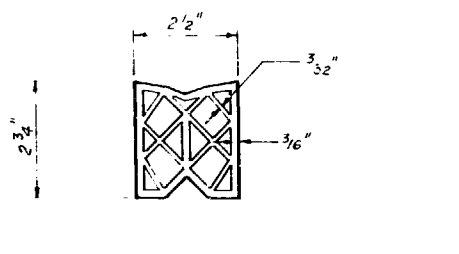
Burr Weld Plates at Stage Line



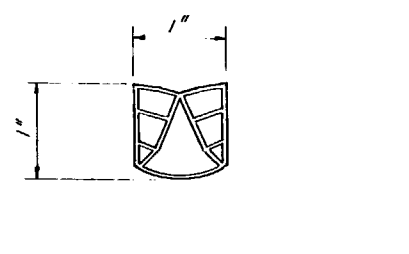
**MEDIAN DETAIL**



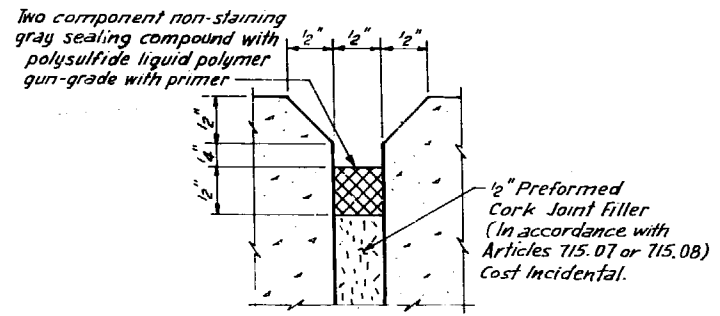
**PREFORMED JOINT SEAL (4")**



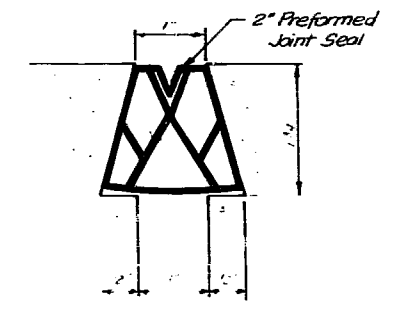
**PREFORMED JOINT SEAL (2 1/2")**



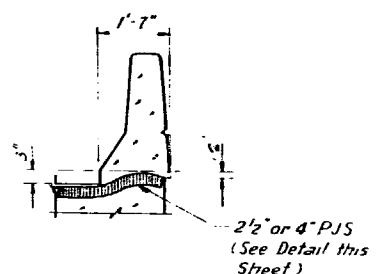
**PREFORMED JOINT SEAL (1")**  
(0.450" MOVEMENT)



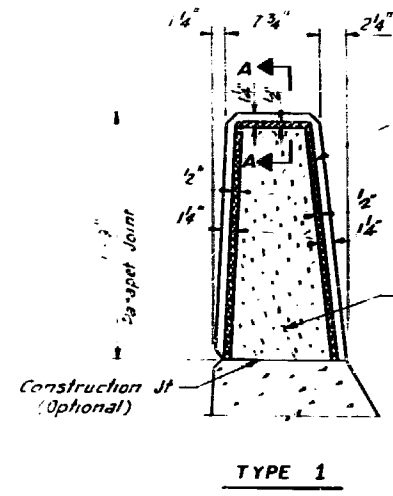
**SECTION A - A**



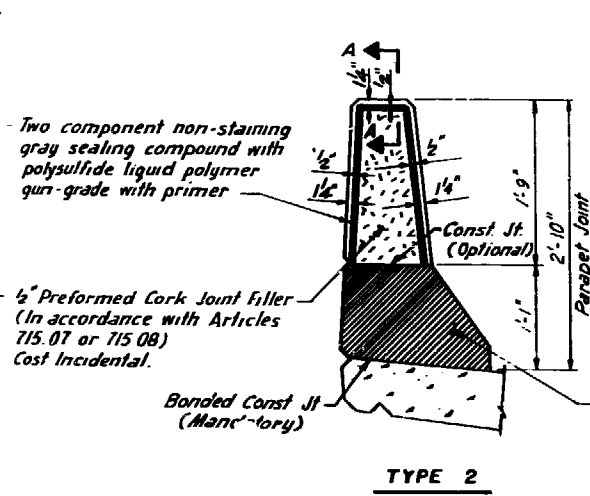
**MEDIAN SEAL DETAIL**



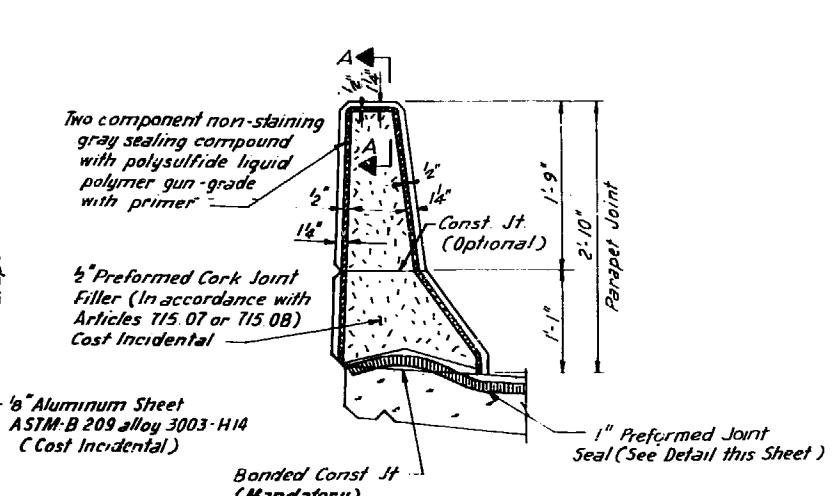
**EXPANSION JOINT**  
END OF SEAL TREATMENT



**TYPE 1**



**TYPE 2**



**TYPE 3**

**PARAPET JOINT DETAILS**  
(For Location of Parapet Joints See Sheet No. 7)

**PREFORMED JOINT SEAL (2")**  
(0.975" MOVEMENT)

**Baker Engineers**  
Baker Engineering, Inc.

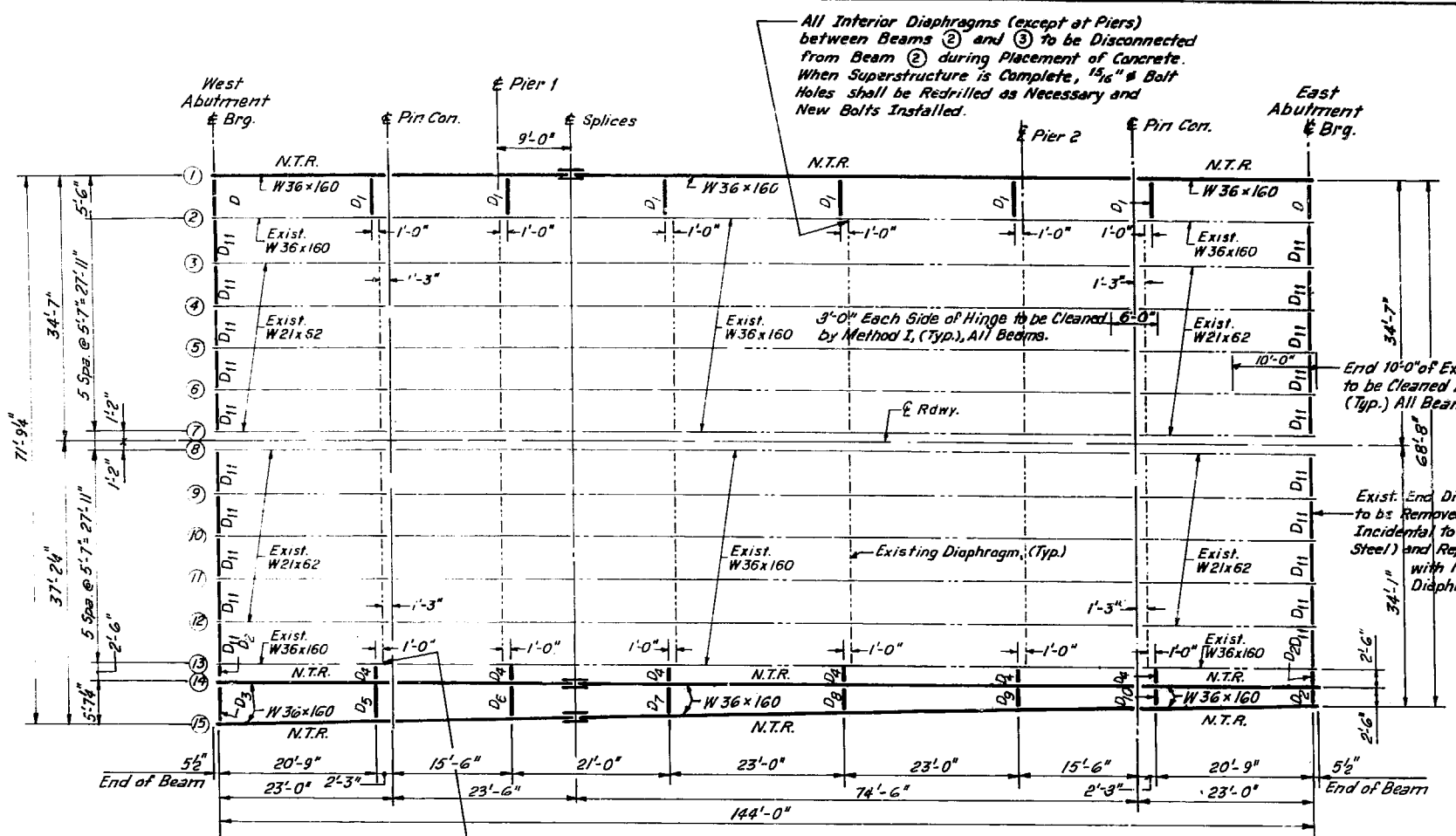
DESIGNED	P. Wood
CHECKED	J. Owen
DRAWN	Z. Dabrowski
CHECKED	P. Wood

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

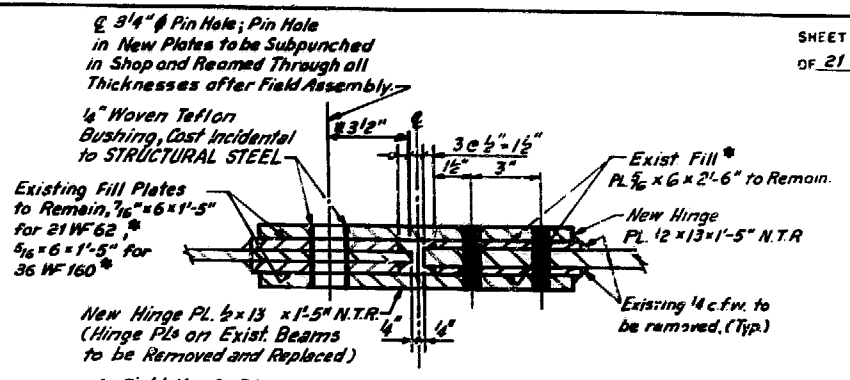
**SUPERSTRUCTURE DETAILS**

REVISIONS	
NAME	DATE

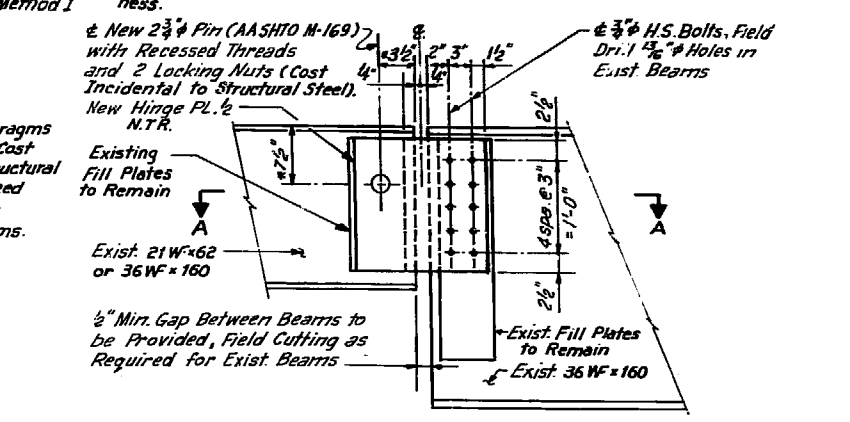
U.S. ROUTE 20 BY-PASS (F.A.R.426) OVER  
LIBERTY STREET  
SECTION BR-HB-6(06)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007



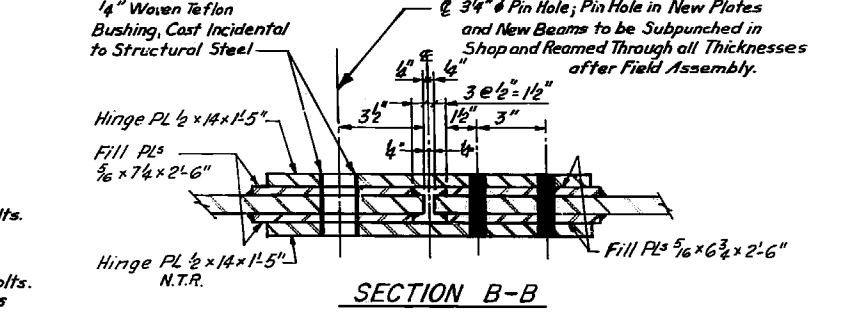
FRAMING PLAN



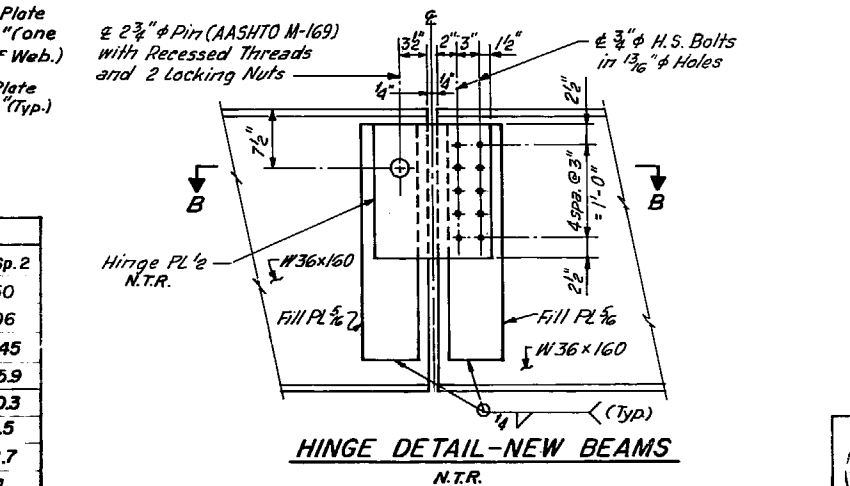
SECTION A-A



HINGE DETAIL-EXIST. BEAMS



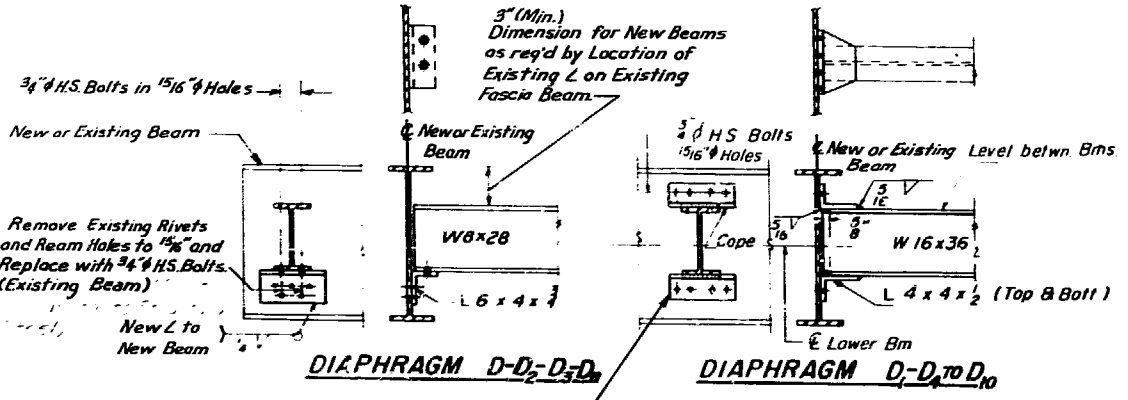
SECTION B-B



HINGE DETAIL-NEW BEAMS

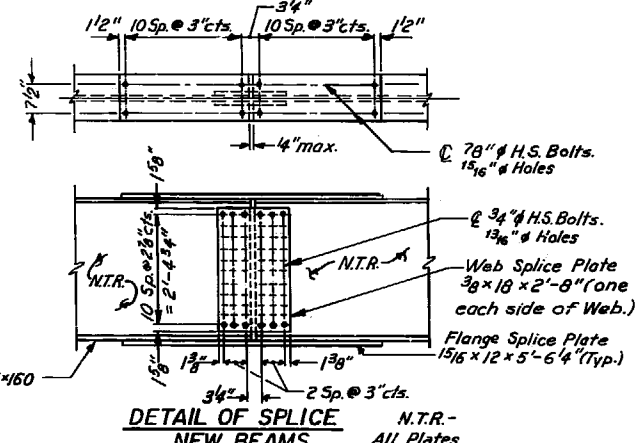
- NOTES:
- TWO HARDENED WASHERS SHALL BE REQUIRED OVER ALL 15/16" HOLES IN DIAPHRAGM.
  - ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M183, UNLESS OTHERWISE NOTED.
  - BUSHINGS TO BE SELF LUBRICATING FILAMENT WOUND EPOXY MATRIX BACKED CAR-FIL BEARING OR METAL BACKED FIBER GLIDE BEARING OR EQUIVALENT, COST INCIDENTAL TO STRUCTURAL STEEL.
  - SUGGESTED SEQUENCE OF CONSTRUCTION FOR HINGE REPLACEMENT. CONTRACTOR MAY SUBMIT HIS OWN SEQUENCE OF CONST. FOR APPROVAL.
    - REMOVE PORTIONS OF CONCRETE DECK SHOWN ON SHEET 3.
    - ERECT FALSEWORK TO SUPPORT BEAMS IN SPANS 1 AND 3. FALSEWORK SHALL CONFORM TO THE REQUIREMENTS OF ART. 507.88 AND THE COST SHALL BE INCIDENTAL TO FURNISHING AND ERECTING STRUCTURAL STEEL. SEE SPECIAL PROVISIONS.
    - REMOVE EXISTING PINS AND BEAM HINGE CONNECTION PLATES.
    - CLEAN BEAMS - SEE NOTE NO. 5.
    - FIELD DRILL BOLT HOLES IN BEAM WEBS AND FILL PLATES, INSTALL BOLTS FINGER TIGHT, ADJUST PLATES INTO PROPER POSITION FOR PIN, FULLY TORQUE H.S. BOLTS, BEAM PIN HOLE THROUGH BEAM WEB AND PLATES, INSTALL PIN ASSEMBLY.
    - REMOVE FALSEWORK.
  - CLEAN AND PAINT ALL STRUCTURAL METALS. ALL EXISTING STRUCTURAL METALS SHALL BE CLEANED USING METHOD II, WITH THE EXCEPTION OF THE FOLLOWING WHICH SHALL BE CLEANED BY METHOD I: THE END 10 FT. OF EACH BEAM AT THE ABUTMENTS; THE EXISTING BEAMS FOR A DISTANCE OF 3 FT. EACH SIDE OF THE HINGE CONNECTIONS AFTER THE HINGE CONNECTIONS ARE DISASSEMBLED; AND THE BEARINGS AT PIER 2.
- FOLLOWING REMOVAL OF THE CONCRETE DECK IN THE DESIGNATED AREAS, THE TOP FLANGES OF THE FACIA BEAMS, SPLICES AND END DIAPHRAGMS SHALL BE CLEANED USING METHOD II. THE METAL THUS EXPOSED SHALL BE FIELD PRIMED PRIOR TO FORMING THE NEW DECK. SEE SPECIAL PROVISIONS FOR CLEANING AND PAINTING STEEL STRUCTURES.
- ALL CONTACT SURFACES OF JOINTS FOR THE DIAPHRAGMS SHALL BE FREE OF PAINT OR LACQUER.
  - SEE GENERAL NOTES, SHEET NO. 2, FOR NOTCH TOUGHNESS REQUIREMENTS.
  - REMOVAL OF EXISTING WELDS SHALL BE BY USE OF ARC-AIR METHOD TO MINIMIZE DAMAGE TO THE EXISTING STRUCTURAL STEEL, EXCEPT THAT CONTRACTOR MAY USE OTHER METHODS IF APPROVED BY THE ENGINEER.

All Interior Diaphragms (except at Piers) between Beams 2 and 3 to be Disconnected from Beam 2 during Placement of Concrete. When Superstructure is Complete, 1/2" Bolt Holes shall be Redrilled as Necessary and New Bolts Installed.



DIAPHRAGM D-D1-D2-D3-D4

DIAPHRAGM D1-D2-D3-D4-D5-D6



DETAIL OF SPLICE NEW BEAMS

	0.3 Sp. or 0.7 Sp. 3	PIER 1 or 2	0.5 Sp. 2
I (New) (in <sup>4</sup> )	9750	9750	9750
I (Exist) (in <sup>4</sup> )	1330	9750	13106
DL (k)	0.345	0.945	0.945
M <sub>D</sub> (k)	62.6	256.4	305.9
M <sub>L</sub> (k)	93.3	311.6	490.3
Imp (k)	28.0	86.9	126.5
M <sub>Total</sub> (k)	183.9	654.9	922.7
f <sub>a</sub> (New) (ksi)	4.1	14.5	20.4
f <sub>a</sub> (Exist) (ksi)	17.3	14.5	15.7

FOR EXISTING INTERIOR BEAMS

LOC. BEAM	C BRG. W. ABUT.	C BRG. HINGE NO. 1	C BRG. PIER 1	C BRG. SPLICE	C BRG. PIER 2	C BRG. HINGE NO. 2	C BRG. E. ABUT.
1	749.654	749.332	749.063	748.896	748.984	747.763	747.325
14	749.741	749.417	749.137	748.964	748.047	747.825	747.404
15	749.625	749.308	749.043	748.878	747.979	747.762	747.354

FOR FABRICATION ONLY

	ABUTMENT	PIER
R <sub>D</sub> (k)	10.9	57.1
R <sub>L</sub> (k)	26.5	43.1
Imp (k)	7.9	12.0
R <sub>Total</sub> (k)	45.3	112.2

DIAPHRAGM NO.	TO & FROM SPAN
D1	5'-6"
D2, D4	2'-6"
D3	5'-7 1/4"
D5	5'-1 1/2"
D6	4'-9 1/2"
D7	4'-3 3/8"
D8	3'-9 1/2"
D9	3'-3 1/2"
D10	2'-11 3/8"
D11	5'-7"

Baker Engineers  
DESIGNED: R. Zemaitaitis  
CHECKED: P. Wood  
DRAWN: Z. Dabrowski  
CHECKED: R. Zemaitaitis

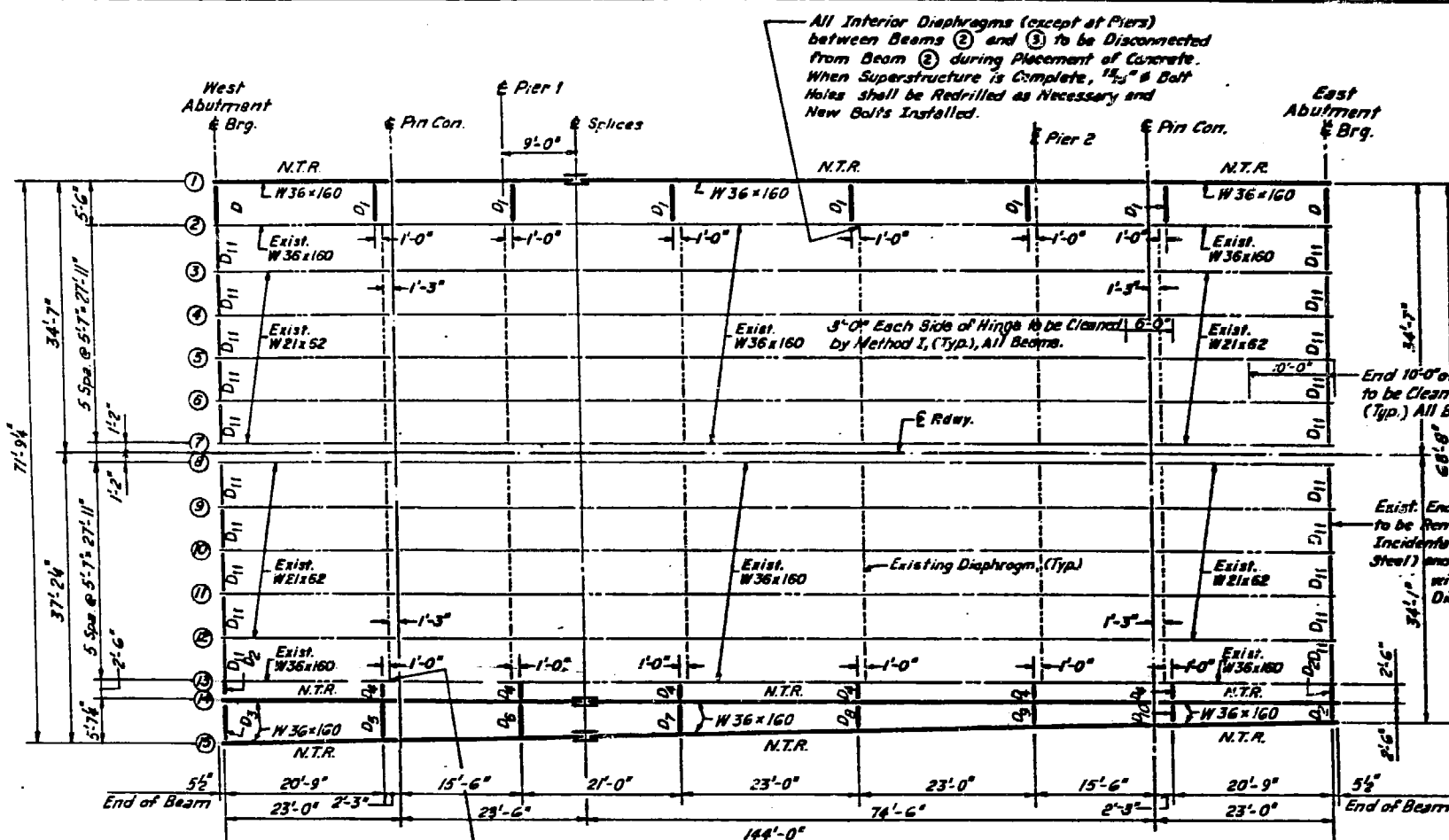
--- MOMENT OF INERTIA  
DL --- DEAD LOAD INCLUDING BEAM, SLAB, MEDIAN AND/OR PARAPET  
M<sub>D</sub> --- MOMENT DUE TO DEAD LOAD  
M<sub>L</sub> --- MOMENT DUE TO LIVE LOAD  
IMP --- IMPACT  
f<sub>s</sub> --- BENDING STRESS DUE TO TOTAL MOMENT, M<sub>T</sub>.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

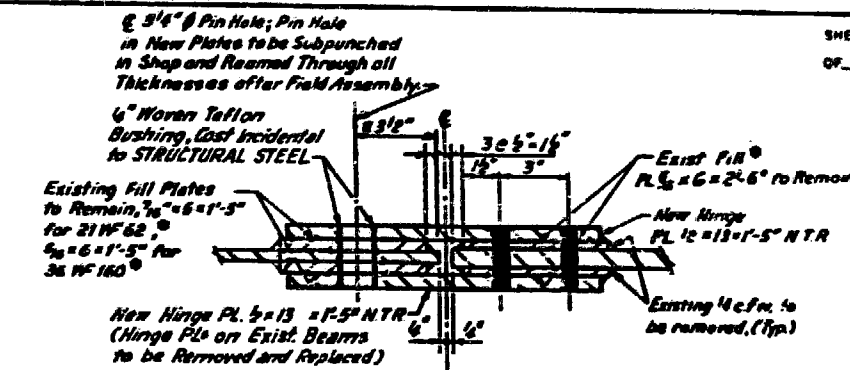
STRUCTURAL STEEL

U.S. ROUTE 20 BY-PASS (F.A.P.426) OVER  
LIBERTY STREET  
SECTION 8R-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

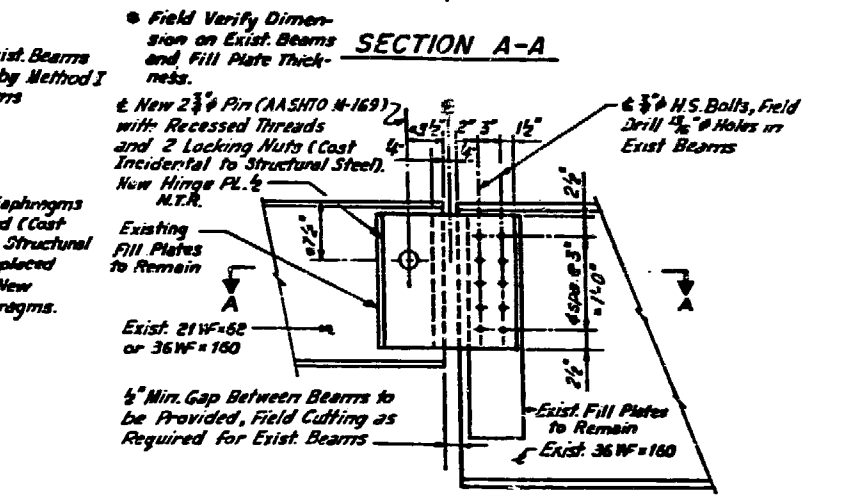
NAME	DATE



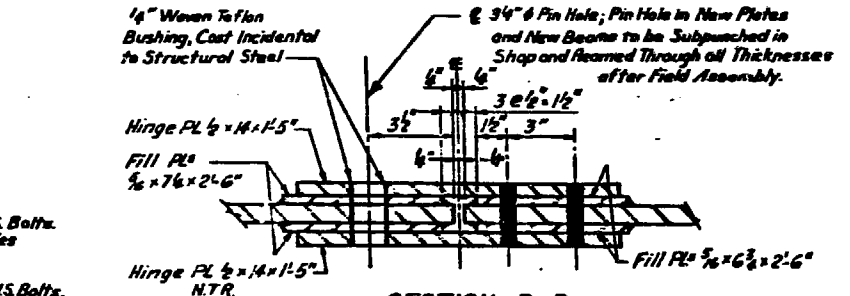
FRAMING PLAN



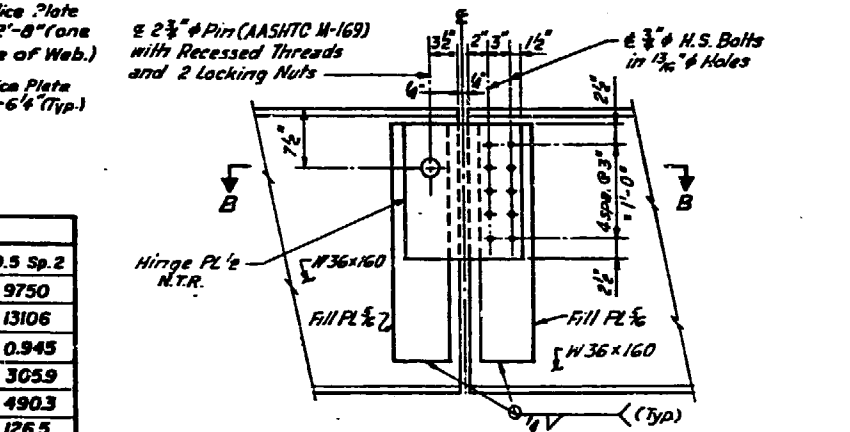
SECTION A-A



HINGE DETAIL - EXIST. BEAMS



SECTION B-B

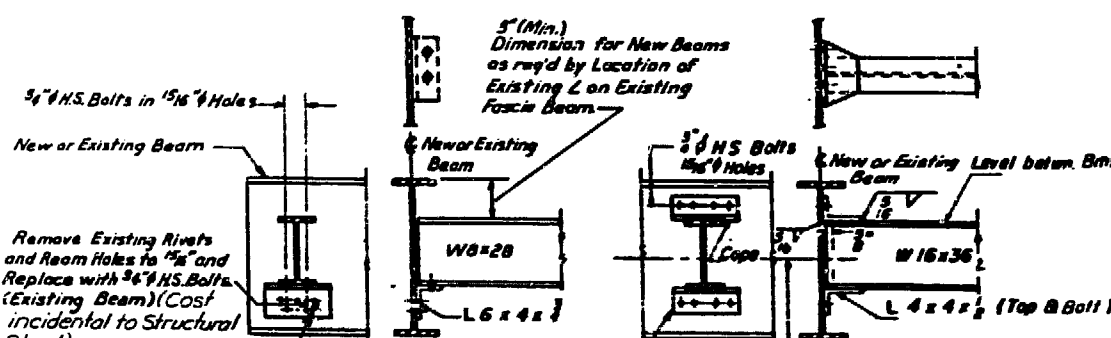


HINGE DETAIL - NEW BEAMS

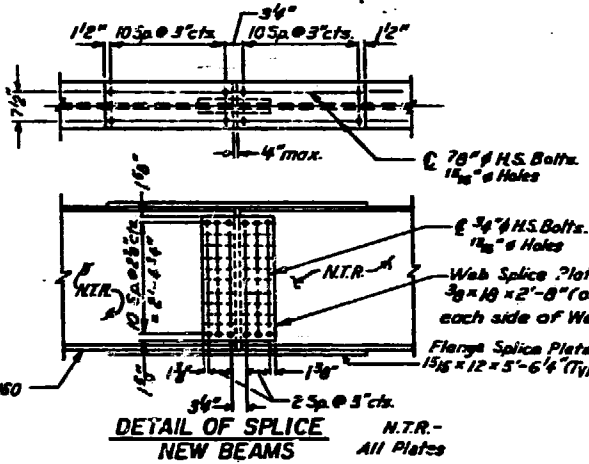
- NOTES:
- TWO HARDENED WASHERS SHALL BE REQUIRED OVER ALL 1 1/8" HOLES IN DIAPHRAGM.
  - ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M153, UNLESS OTHERWISE NOTED.
  - BEARINGS TO BE SELF LUBRICATING FLAMANT WOUND SPORT MATRIX BACKED CARBIDE BEARING OR METAL BACKED FIBER GLASS BEARING OR EQUIVALENT, COST INCIDENTAL TO STRUCTURAL STEEL.
  - SUGGESTED SEQUENCE OF CONSTRUCTION FOR HINGE REPLACEMENT. CONTRACTOR MAY SUBMIT HIS OWN SEQUENCE OF CONST. FOR APPROVAL.
    - REMOVE PORTIONS OF CONCRETE DECK SHOWN ON SHEET 1.
    - ERECT FALSEWORK TO SUPPORT BEAMS IN SPANS 1 AND 2. FALSEWORK SHALL CONFORM TO THE REQUIREMENTS OF ART. 107.02 AND THE COST SHALL BE INCIDENTAL TO FURNISHING AND ERECTING STRUCTURAL STEEL. SEE SPECIAL PROVISIONS.
    - REMOVE EXISTING PINS AND BEAM HINGE CONNECTION PLATES.
    - CLEAN BEAMS - SEE NOTE NO. 1.
    - FIELD DRILL BOLT HOLES IN BEAM WEBS AND FILL PLATES. INSTALL BOLTS IN PROPER POSITION FOR PIN, FULLY TORQUE U.S. BOLTS, BEAM PIN BOLT THROUGH BEAM WEB AND PLATE, INSTALL PIN ASSEMBLY. REMOVE FALSEWORK.
  - CLEAN AND PAINT ALL STRUCTURAL METALS. ALL EXISTING STRUCTURAL METALS SHALL BE CLEANED USING METHOD II, WITH THE EXCEPTION OF THE FOLLOWING WHICH SHALL BE CLEANED BY METHOD I: THE END 10 FT. OF EACH BEAM AT THE ABUTMENTS; THE EXISTING BEAMS FOR A DISTANCE OF 3 FT. EACH SIDE OF THE EDGE CONNECTIONS AFTER THE CONNECTIONS ARE DISASSEMBLED; AND THE BEARINGS AT PIER 2.
- FOLLOWING REMOVAL OF THE CONCRETE DECK IN THE DESIGNATED AREA, THE TOP FLANGES OF THE AREA BEAM, UTILITY AND END DIAPHRAGMS SHALL BE CLEANED USING METHOD II. THE METAL THUS EXPOSED SHALL BE FIELD PRIMED PRIOR TO FORMING THE NEW DECK. SEE SPECIAL PROVISIONS FOR CLEANING AND PAINTING STEEL STRUCTURES.
- ALL CONTACT SURFACES OF JOINTS FOR THE DIAPHRAGMS SHALL BE FREE OF PAINT OR LACQUER.
  - SEE GENERAL NOTES, SHEET NO. 2, FOR NOTCH TOUGHNESS REQUIREMENTS.
  - REMOVAL OF EXISTING WELDS SHALL BE BY USE OF ARC-AIR METHOD TO MINIMIZE DAMAGE TO THE EXISTING STRUCTURAL STEEL, EXCEPT THAT CONTRACTOR MAY USE OTHER METHODS IF APPROVED BY THE ENGINEER.

All Interior Diaphragms (except at Piers) between Beams 2 and 3 to be Disconnected from Beam 3 during Placement of Concrete. When Superstructure is Complete, 1/2" Bolt Holes shall be Redrilled as Necessary and New Bolts Installed. (Cost incidental to Structural Steel)

All Interior Diaphragms (except at Piers) between Beams 2 and 3 to be Disconnected from Beam 3 during Placement of Concrete. When Superstructure is Complete, 1/2" Bolt Holes shall be Redrilled as Necessary and New Bolts Installed.



DIAPHRAGM D-D, D1-D1, D2-D2, D3-D3  
(Field drilled holes in new beam for bolted connection.)



DETAIL OF SPLICE NEW BEAMS

	ABUTMENT	PIER
R <sub>D</sub> (K)	109	571
R <sub>L</sub> (K)	26.5	43.1
Imp (K)	79	120
R <sub>Total</sub> (K)	455	1122

	5'-6"
D <sub>1</sub>	5'-6"
D <sub>2</sub>	2'-6"
D <sub>3</sub>	5'-7 1/2"
D <sub>4</sub>	5'-18"
D <sub>5</sub>	4'-9 1/2"
D <sub>6</sub>	4'-3 1/2"
D <sub>7</sub>	3'-9 1/2"
D <sub>8</sub>	3'-3 1/2"
D <sub>9</sub>	2'-11 1/2"
D <sub>10</sub>	5'-7"

	0.3 Sp. 1 or 0.7 Sp. 3	PIER 1 or 2	0.5 Sp. 2
M <sub>(New) Gr. 1</sub>	9750	9750	9750
M <sub>(Exist) (in)</sub>	1330	9750	13106
D <sub>L</sub> (K)	0.945	0.945	0.945
M <sub>D</sub> (K)	626	256.4	3059
M <sub>L</sub> (K)	93.3	311.6	490.3
Imp (K)	28.0	86.9	126.5
M <sub>Total</sub> (K)	183.9	654.9	922.7
P <sub>0</sub> (New) (ksi)	4.1	14.5	20.4
P <sub>0</sub> (Exist) (ksi)	17.3	14.5	15.7

LOC. BEAM	BRG. W. ABUT.	BRG. HINGE NO. 1	BRG. PIER 1	BRG. SPLICE	BRG. PIER 2	BRG. HINGE NO. 2	BRG. E. ABUT.
1	749.654	749.332	749.063	748.896	747.984	747.763	747.325
14	749.741	749.417	749.137	748.964	748.047	747.825	747.404
15	749.625	749.308	749.043	748.878	747.979	747.762	747.354

AS REVISED

DESIGNED: R. Zemaitis  
CHECKED: P. Wood  
DRAWN: Z. Dabrowski  
CHECKED: R. Zemaitis

- I --- MOMENT OF INERTIA
- DL --- DEAD LOAD INCLUDING BEAM, SLAB, MEDIAN AND/OR PARAPET
- M<sub>D</sub> --- MOMENT DUE TO DEAD LOAD
- M<sub>L</sub> --- MOMENT DUE TO LIVE LOAD
- IMP --- IMPACT
- M<sub>Total</sub> --- BENDING STRESS DUE TO TOTAL MOMENT, M<sub>T</sub>

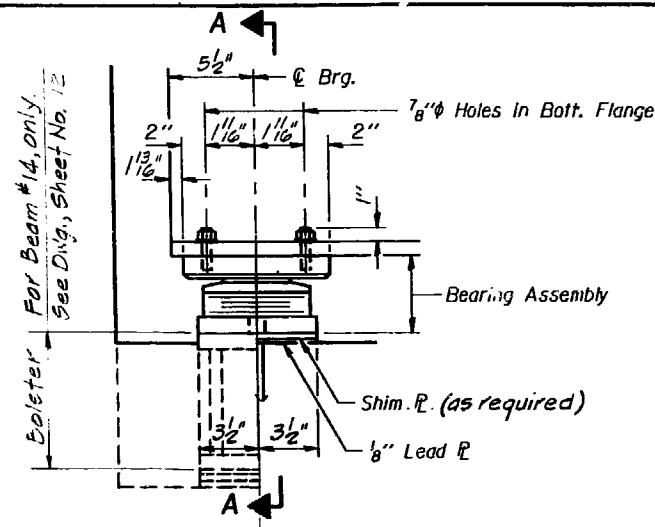
NAME	DATE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

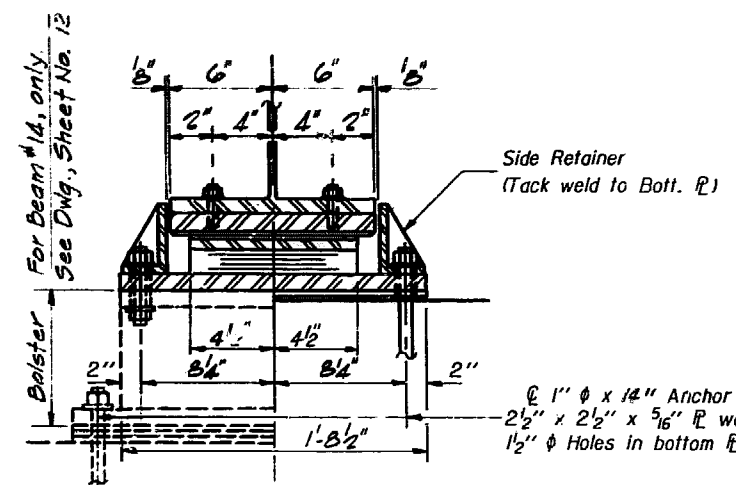
STRUCTURAL STEEL

U.S. ROUTE 20 BY-PASS (FA.R.426) OVER  
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STR. NO. 045-0007

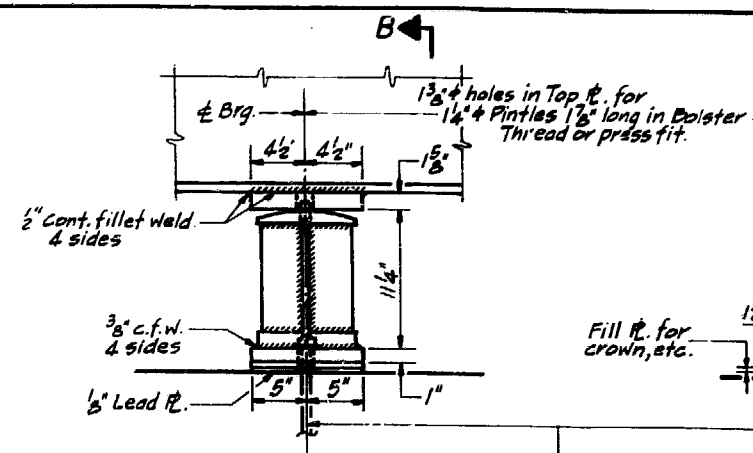
As Revised 3-10-87



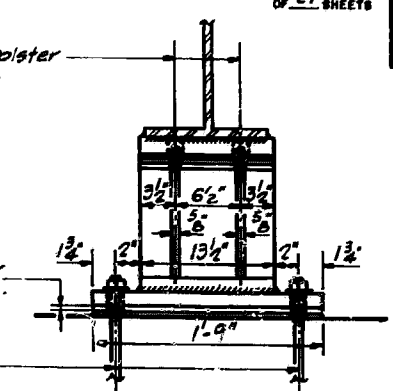
ELEVATION AT WEST ABUT.  
(Looking North)



SECTION A-A

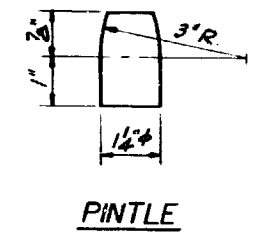


ELEVATION AT PIER 2

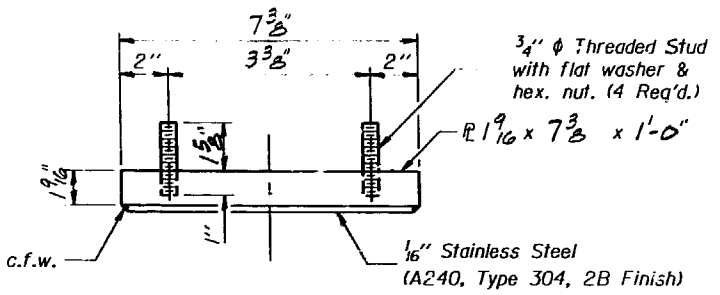


SECTION B-B

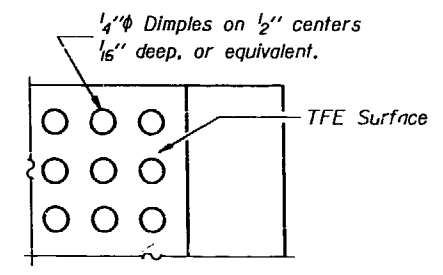
FIXED BEARING



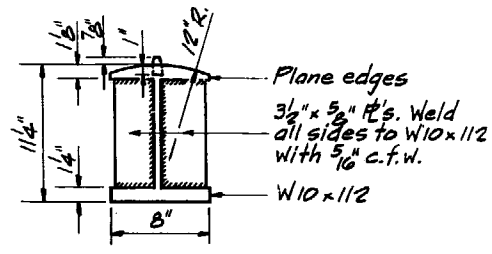
TYPE II TFE ELASTOMERIC EXP. BRG.



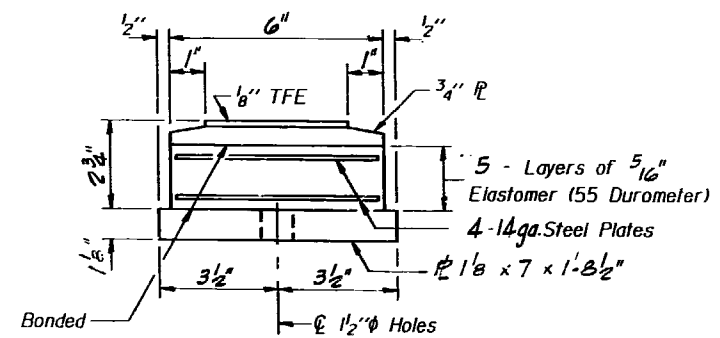
TOP BEARING ASSEMBLY



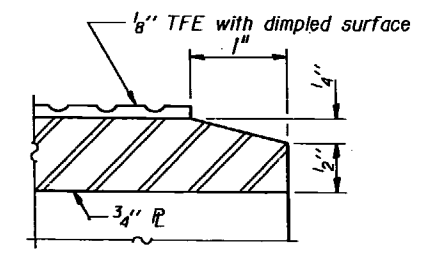
PLAN-TFE SURFACE



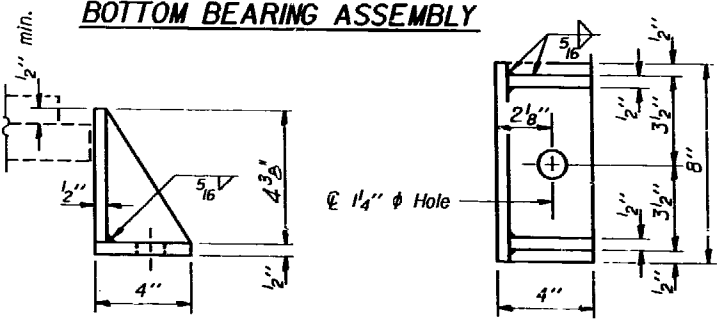
BOLSTER



BOTTOM BEARING ASSEMBLY

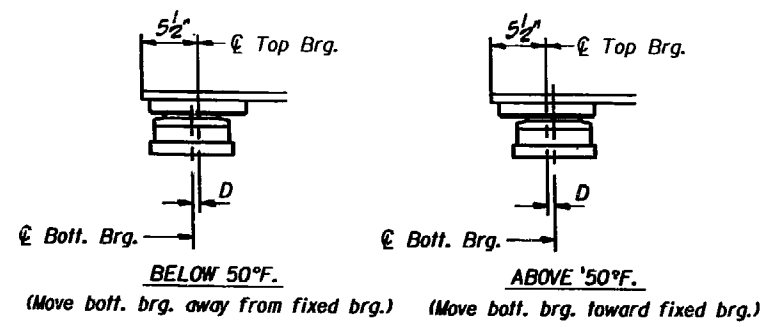


SECTION THRU TFE



SIDE RETAINER

Equivalent rolled angle with stiffeners  
will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG. (TYPE II)

D=1/8" per each 100' of expansion for every 15° temp.  
change from the normal temp. of 50°F.

- Notes:
- Anchor bolts at fixed bearings may be built into the masonry. See Sheet #20 for Anchor Bolt Details.
  - All steel plates shown on this sheet shall be AASHTO M-183 unless otherwise noted.
  - The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
  - Cost of Structural Steel for Fixed Bearing at Pier #2 is included for payment with "Furnishing and Erecting Structural Steel."

DESIGNED	R. Zemaitaitis
CHECKED	J. Owen
DRAWN	J. Chalakis
CHECKED	P. Wood

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	3

REVISIONS

NAME	DATE

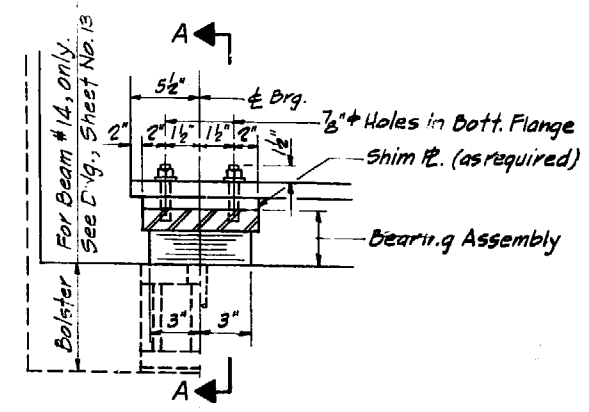
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NEW BEARING DETAILS  
WEST ABUTMENT & PIER 2

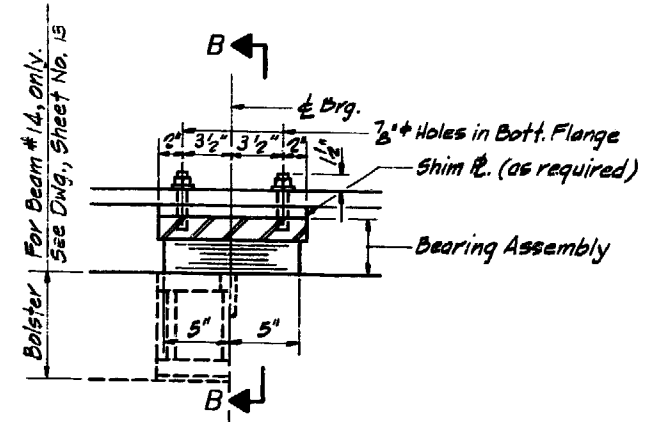
U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
LIBERTY STREET  
SECTION BR-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007



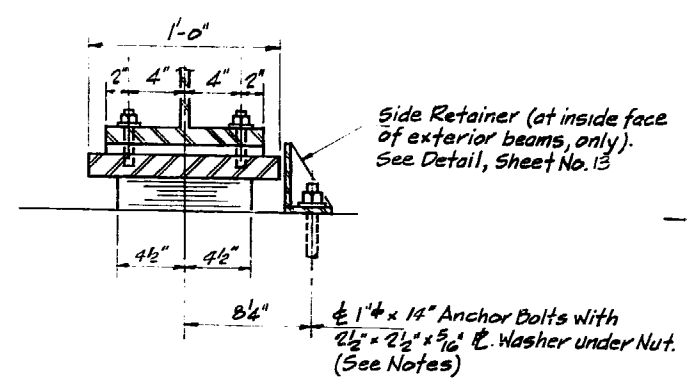
SHEET NO. 11	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
OF 21 SHEETS	426 BR-HB-6(86)	KANE	209	147
STA	TO STA			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



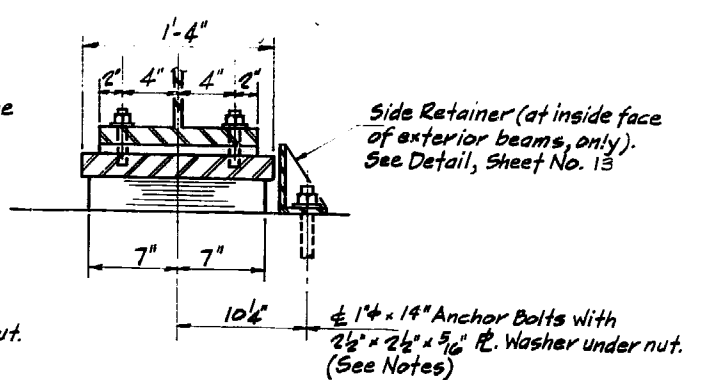
ELEVATION AT EAST ABUT.  
(Looking South)



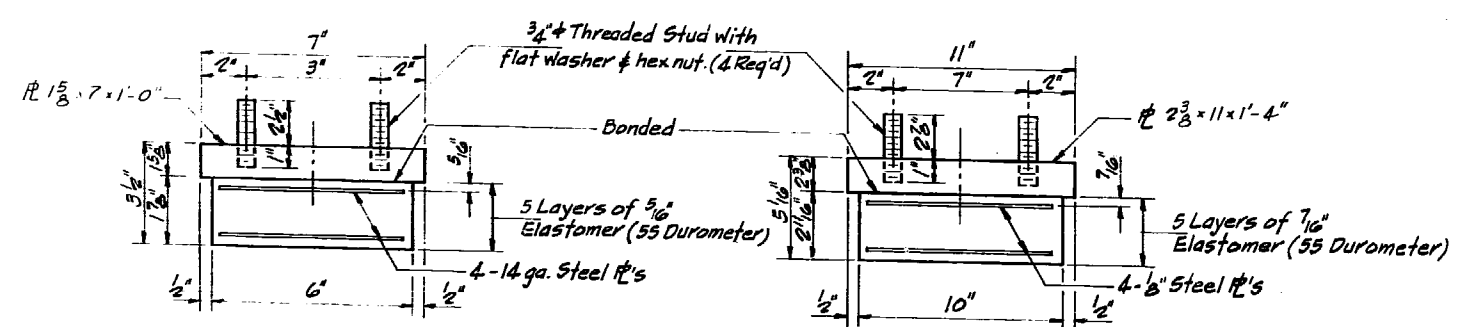
ELEVATION AT PIER 1



SECTION A-A



SECTION B-B



EAST ABUT. BEARING ASSEMBLY

PIER 1 BEARING ASSEMBLY

TYPE I ELASTOMERIC EXPANSION BRG.

- NOTES:
- See Sheet # 20 for Anchor Bolt Details.
  - Shim plates shall not be placed under Bearing Assembly.

DESIGNED	R. Zemaitaitis
CHECKED	J. Owen
DRAWN	J. Chaliki's
CHECKED	P. Wood

BILL OF MATERIAL

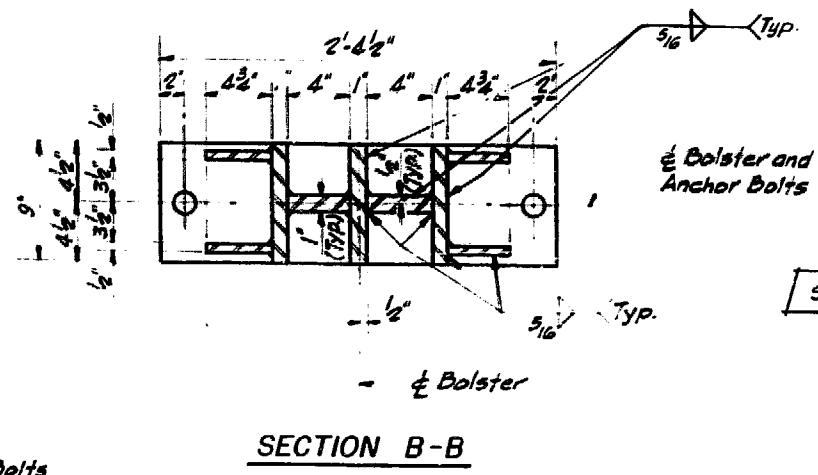
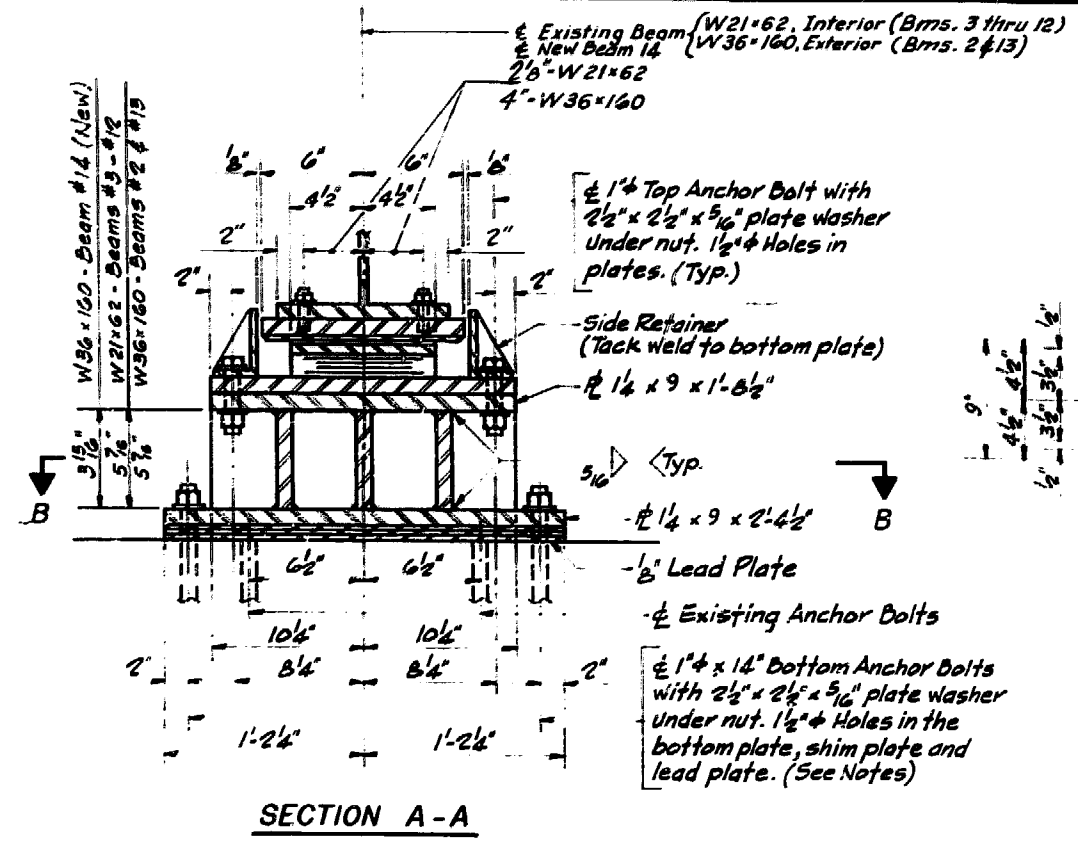
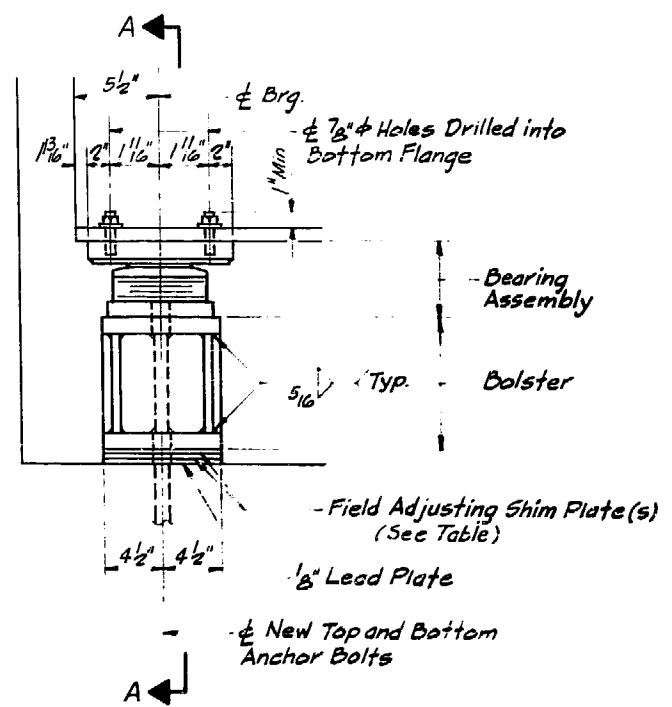
Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6

REVISIONS	
NAME	DATE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**NEW BEARING DETAILS  
EAST ABUTMENT & PIER 1**

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
LIBERTY STREET  
SECTION 8R-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

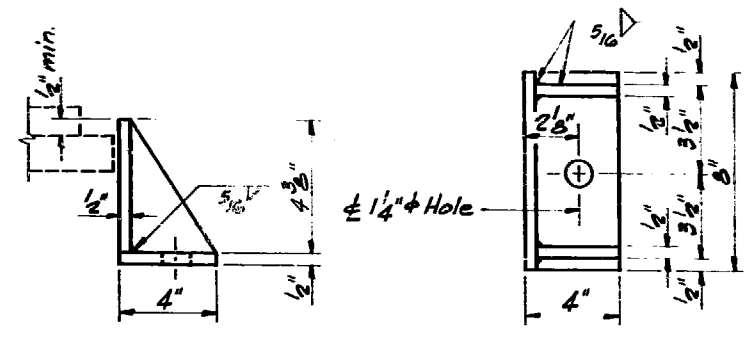
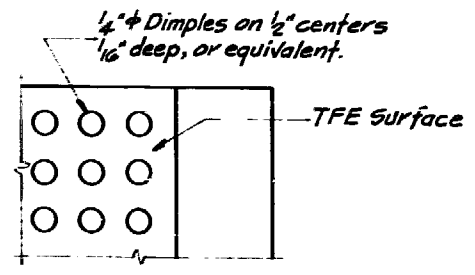
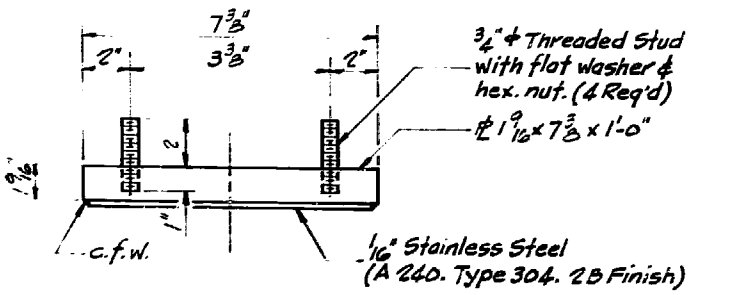


ELEVATION AT WEST ABUT.

SECTION A-A

SECTION B-B

**TYPE II TFE ELASTOMERIC EXP. BRG. WITH BOLSTER**



**TABLE OF SHIM PLATES**

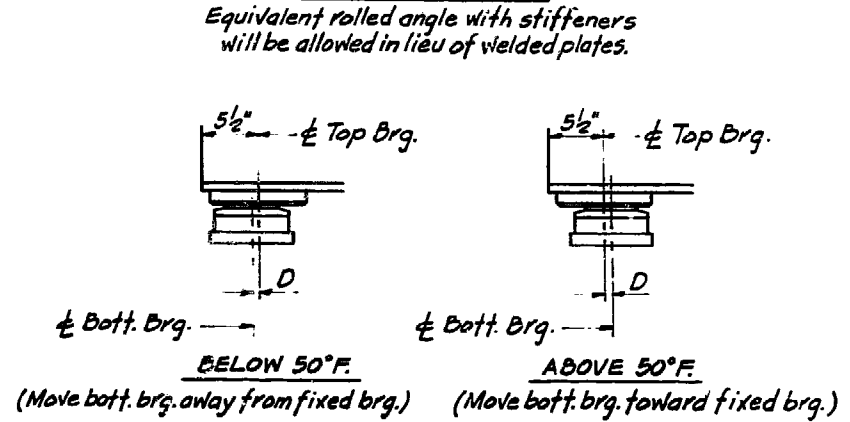
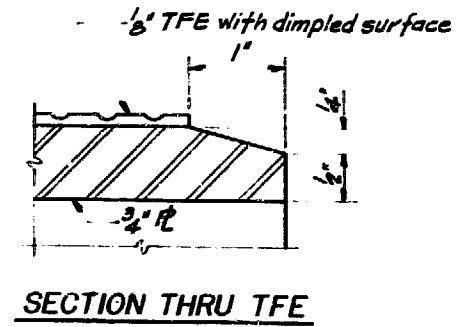
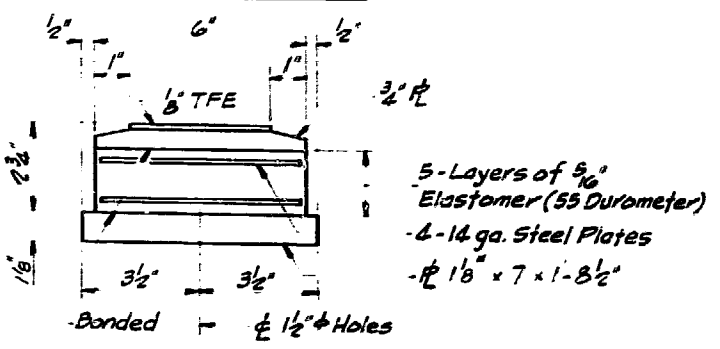
Beam Location	2	3	4	5	6	7	8	9	10	11	12	13
West Abutment	0	0	9/16"	0	9/16"	0	0	9/16"	0	9/16"	0	0

- Notes:
- See Sheet #20 for Anchor Bolt Details.
  - The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
  - Contractor shall verify dimensions of exist Bearings before removal and ordering of new Bearings, or fabrication of Bolsters.
  - Cost of Structural Steel for Bolsters is included for payment with "Furnishing and Erecting Structural Steel".
  - The Contractor has the option to provide an alternate Bolster arrangement made up of an appropriate wide Flange or H.P. shape with the necessary Stiffeners. This alternate must be submitted via Detailer shop Drawings and must receive approval by the Engineer prior to Fabrication.

TOP BEARING ASSEMBLY

PLAN - TFE SURFACE

SIDE RETAINER



**SETTING ANCHOR BOLTS AT EXP. BRG.**

$D = 1/8"$  per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

**BILL OF MATERIAL**

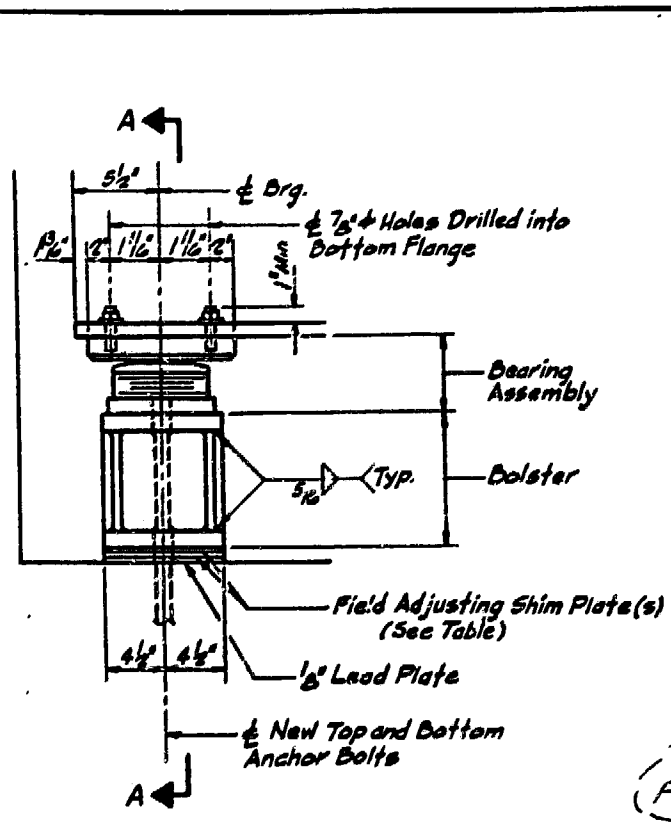
Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	12

**REVISIONS**

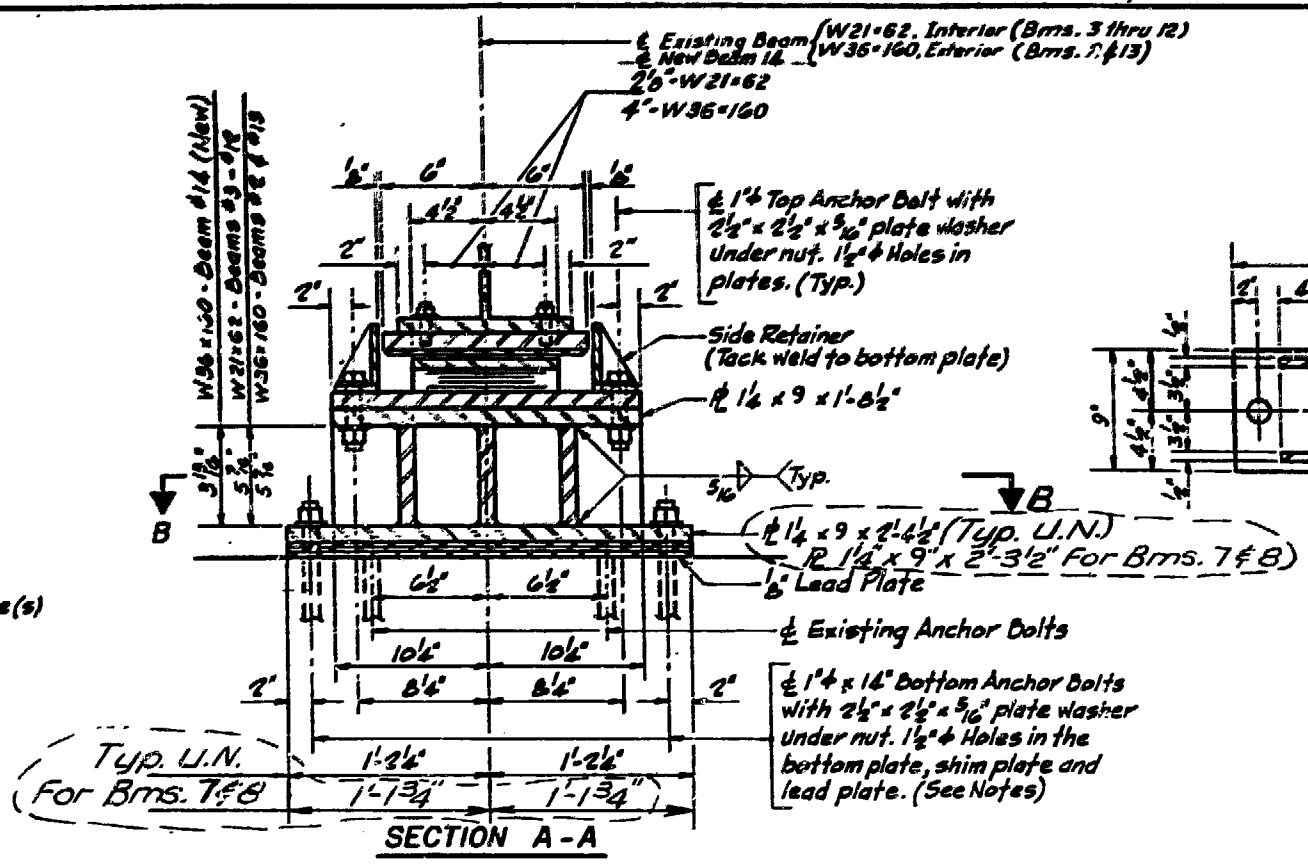
NAME	DATE

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
**REPLACEMENT BEARING DETAILS**  
**WEST ABUTMENT**  
 U.S. ROUTE 20 BY-PASS (F.A.R. 426) OVER  
 LIBERTY STREET  
 SECTION 88-HB-6(86)  
 KANE COUNTY - STATION 221+35.32  
 STR. NO. 045-0007

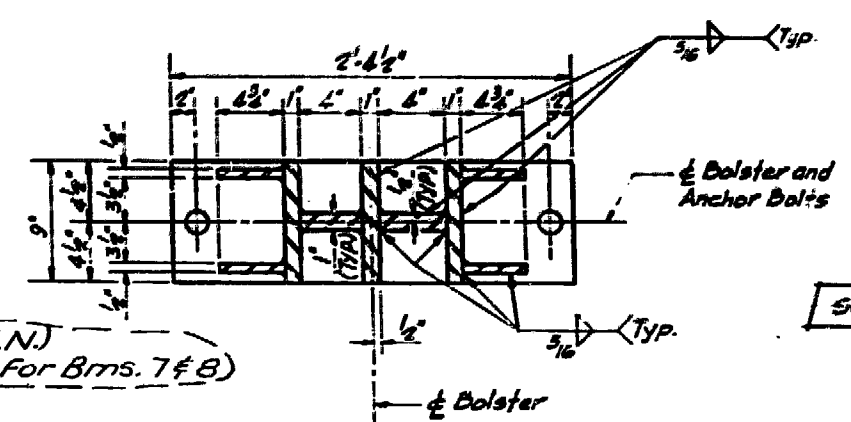
DESIGNED R. Zemaitaitis  
 CHECKED J. Owen  
 DRAWN J. Chaliki  
 CHECKED P. Wood



ELEVATION AT WEST ABUT.



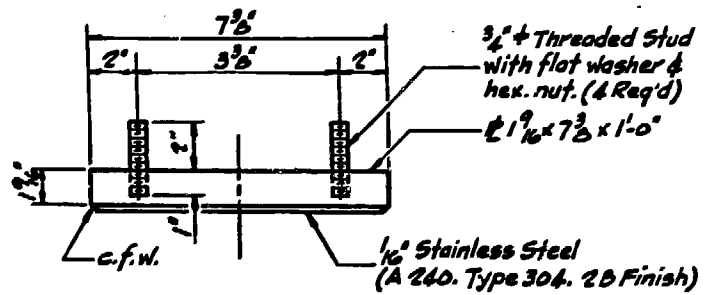
SECTION A-A



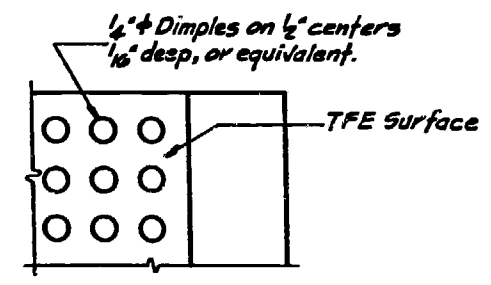
SECTION B-B

See Note 5.

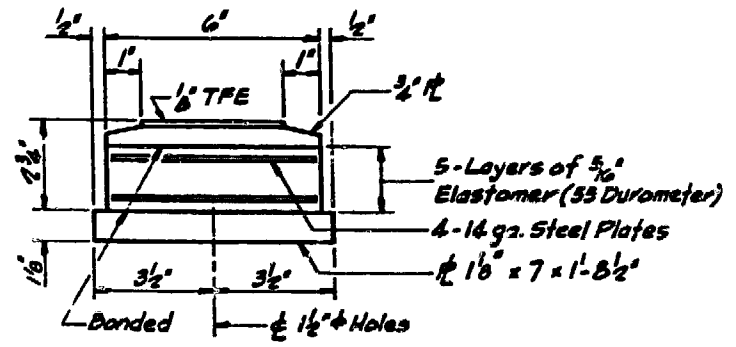
TYPE II TFE ELASTOMERIC EXP. BRG. WITH BOLSTER



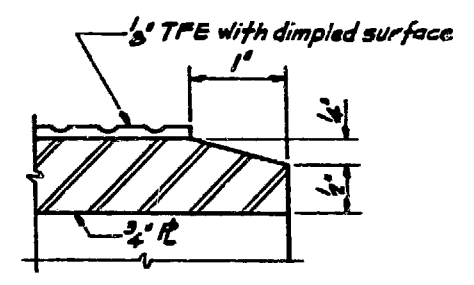
TOP BEARING ASSEMBLY



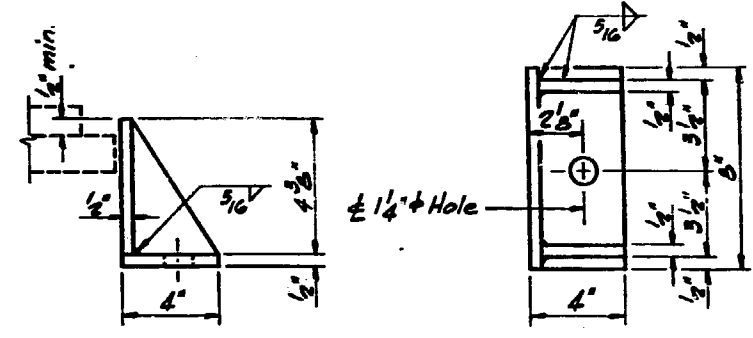
PLAN - TFE SURFACE



BOTTOM BEARING ASSEMBLY

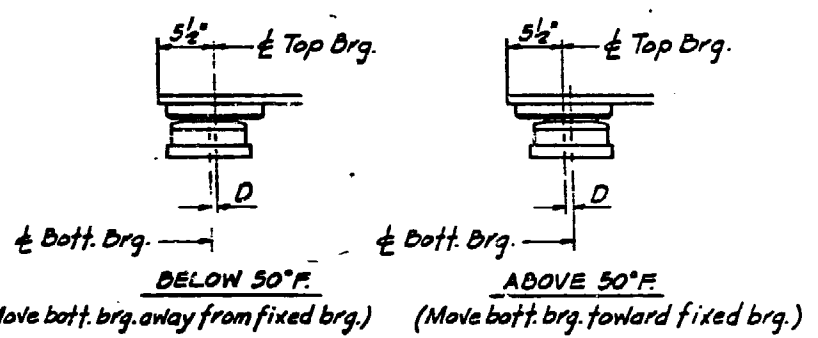


SECTION THRU TFE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

TABLE OF SHIM PLATES

Beam	2	3	4	5	6	7	8	9	10	11	12	13
Location												
West Abutment	0	0	9/16	0	9/16	0	0	9/16	0	9/16	0	0

- Notes:
- See Sheet #20 for Anchor Bolt Details.
  - The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
  - Contractor shall verify dimensions of exist. Bearings before removal and ordering of new Bearings, or fabrication of Bolsters.
  - Cost of Structural Steel for Bolsters is included for payment with "Furnishing and Erecting Structural Steel".
  - The Contractor has the option to provide an alternate Bolster arrangement made up of an appropriate wide flange or H.P. shape with the necessary stiffeners. This alternate must be submitted via Detailer shop Drawings and must receive approval by the Engineer prior to fabrication.

**Baker Engineers**  
 R. Zemaits  
 J. Owen  
 J. Chaliki  
 P. Wood

AS REVISED

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	12

REVISIONS

NAME	DATE

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
**REPLACEMENT BEARING DETAILS**  
**WEST ABUTMENT**  
 U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
 LIBERTY STREET  
 SECTION BR-NB-6188  
 KANE COUNTY - STATION 221+35.32  
 STR. NO. 045-0007

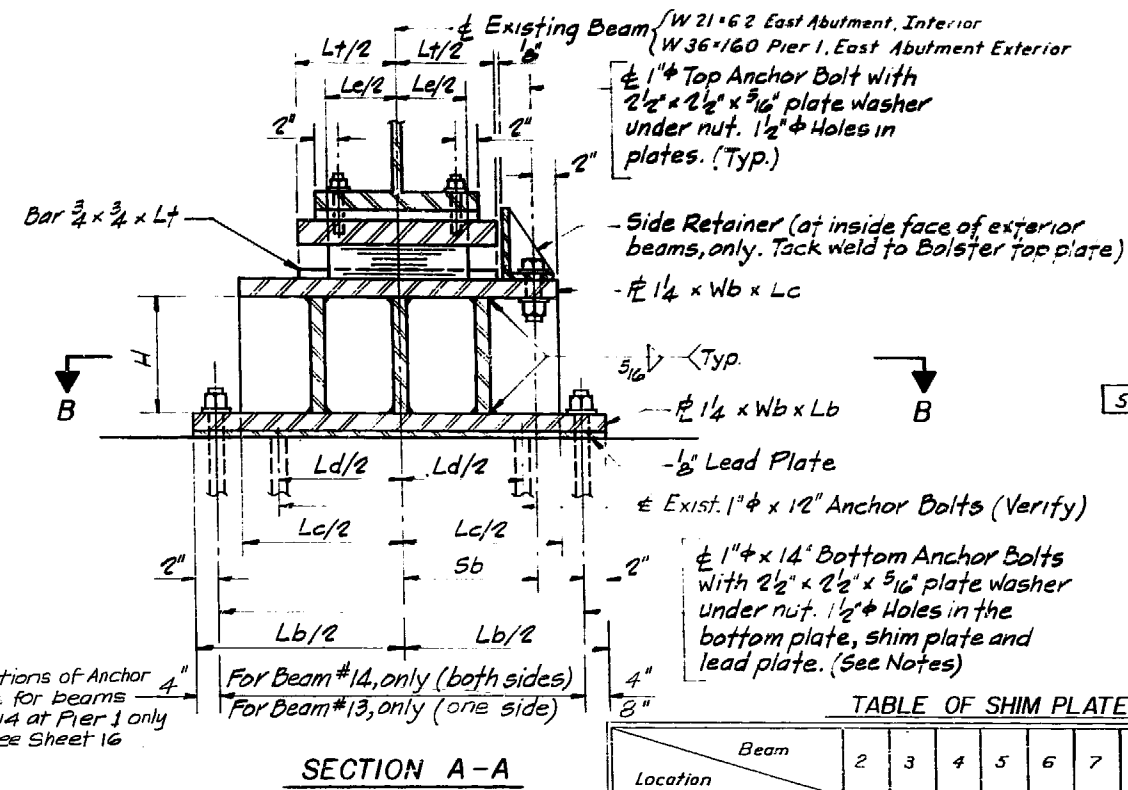
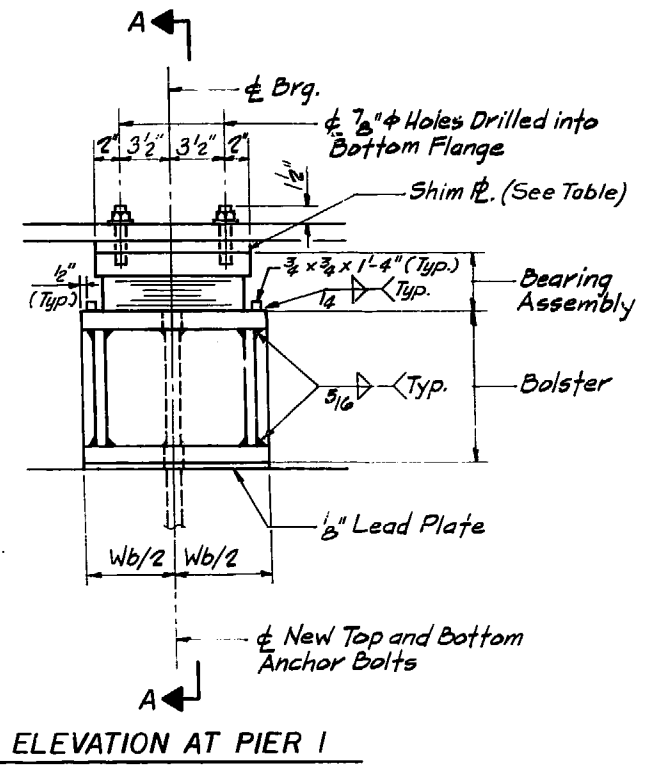
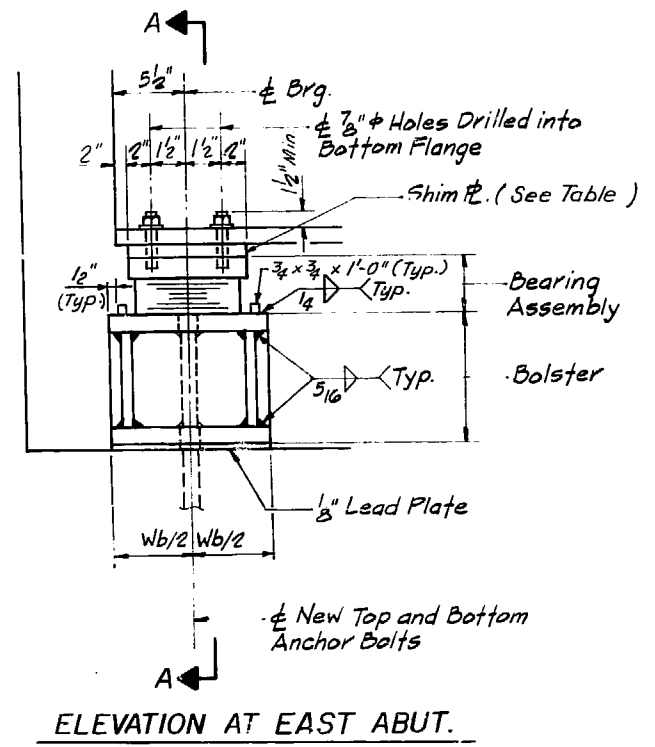
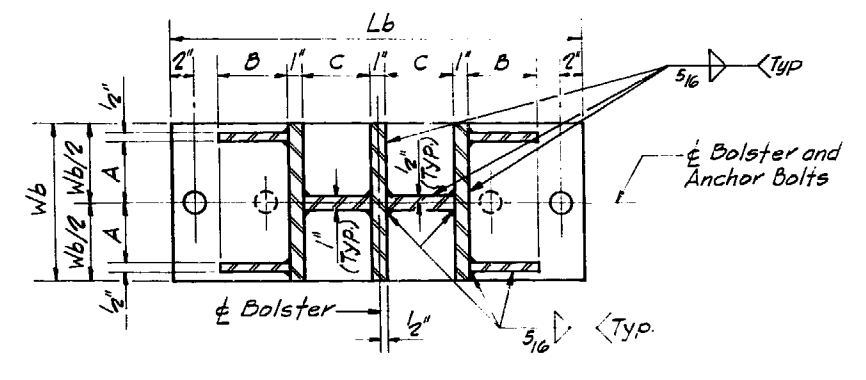
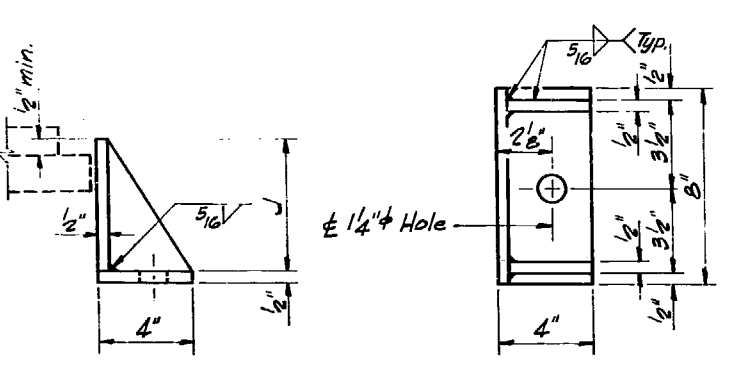
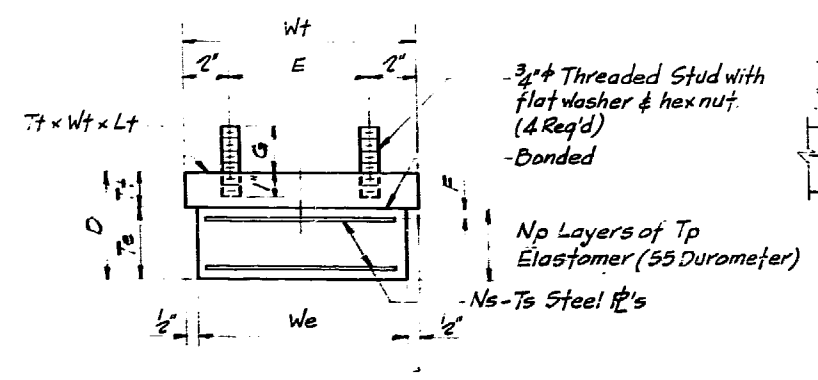


TABLE OF SHIM PLATES

Beam Location	2	3	4	5	6	7	8	9	10	11	12	13
East Abutment	0	0	9/16"	0	9/16"	0	0	9/16"	0	9/16"	0	0
Pier I	0	9/16"	0	9/16"	0	9/16"	9/16"	0	9/16"	0	9/16"	0

TYPE I ELASTOMERIC EXPANSION BRG. WITH BOLSTER



EAST ABUT. BEARING ASSEMBLY  
 PIER I BEARING ASSEMBLY

SIDE RETAINER  
 Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	24

TABLE OF VARIABLES FOR TYPE I EXPANSION BEARINGS WITH BOLSTERS

LOCATION	VARIABLE																							
	Te	We	Le	Np	Tp	Ns	Ts	Tt	Wt	Lt	Wb	Lb	Lc	Sb	Ld	A	B	C	D	E	F	G	H	J
East Abutment Int. W21x62 Beams #3-#12	17 1/2	6	9	5	5 1/2	4	1 1/2	15 1/2	7	1-0	10	2-4 1/2	1-8 1/2	8 1/2	1-1	4	4 3/4	4	3 1/2	3	5 1/2	2 1/2	7 3/8	3 1/2
East Abutment Ext. W36x160 Beams #2 & #13	17 1/2	6	9	5	5 1/2	4	1 1/2	15 1/2	7	1-0	10	2-4 1/2	1-8 1/2	8 1/2	1-1	4	4 3/4	4	3 1/2	3	5 1/2	2 1/2	7 3/8	3 1/2
East Abutment Ext. W36x160 Beam #14	17 1/2	6	9	5	5 1/2	4	1 1/2	15 1/2	7	1-0	10	2-4 1/2	1-8 1/2	8 1/2	NA	4	4 3/4	4	3 1/2	3	5 1/2	2 1/2	5 1/2	3 1/2
Pier I, Beams #2-#13	21 1/2	10	1-2	5	7 1/2	4	1 1/2	2 3/8	11	1-4	1-2	2-0 1/2	2-0 1/2	10 1/2	1-5 1/2	6	5 3/4	5	5 1/2	7	7 1/2	2 1/2	6 1/2	5 1/2
Pier I, Beam #14	21 1/2	10	1-2	5	7 1/2	4	1 1/2	2 3/8	11	1-4	1-2	2-0 1/2	2-0 1/2	10 1/2	NA	6	5 3/4	5	5 1/2	7	7 1/2	2 1/2	5 1/2	5 1/2

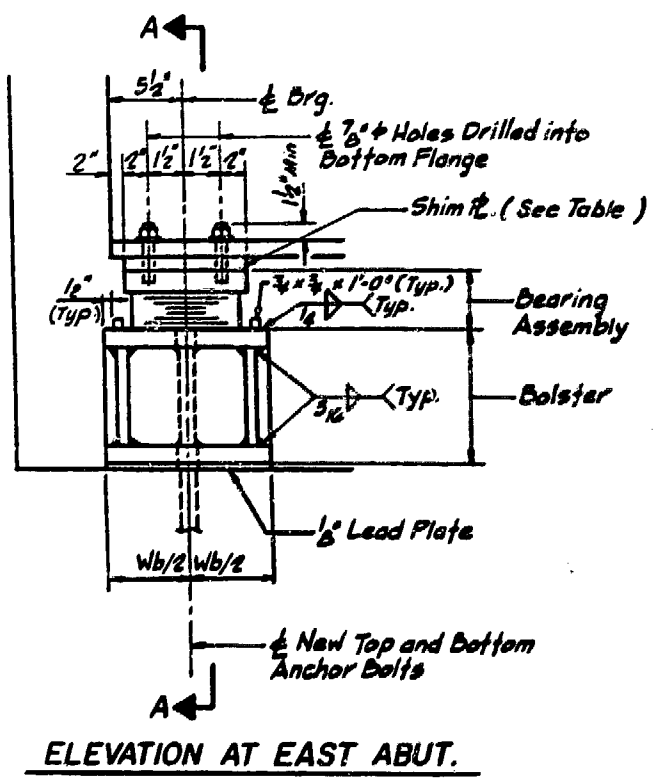
- Notes:
- See Sheet #20 for Anchor Bolt Details.
  - Contractor shall verify dimensions of existing Bearings before removal and ordering of new Bearings, or fabrication of Bolsters.
  - Cost of Structural Steel for Bolsters is included for payment with "Furnishing and Erecting Structural Steel".

DESIGNED: R. Zemaitis  
 CHECKED: J. Owen  
 DRAWN: J. Chalakis  
 CHECKED: F. Wood

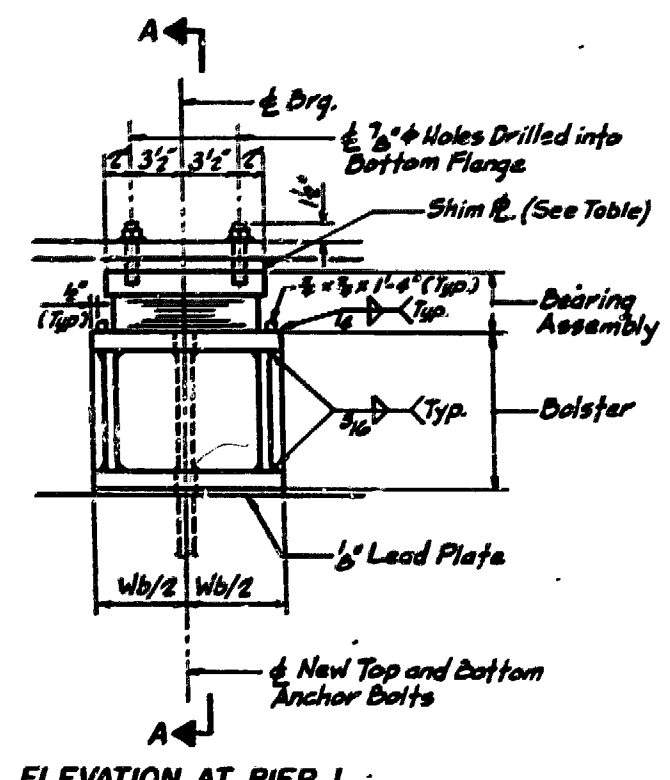
REVISIONS

NAME	DATE

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 REPLACEMENT BEARING DETAILS  
 EAST ABUTMENT & PIER I  
 U.S. ROUTE 20 BY-PASS (F.A.R. 426) OVER  
 LIBERTY STREET  
 SECTION BR-HB-6(86)  
 KANE COUNTY - STATION 221+35.32  
 STR. NO. 045-0007

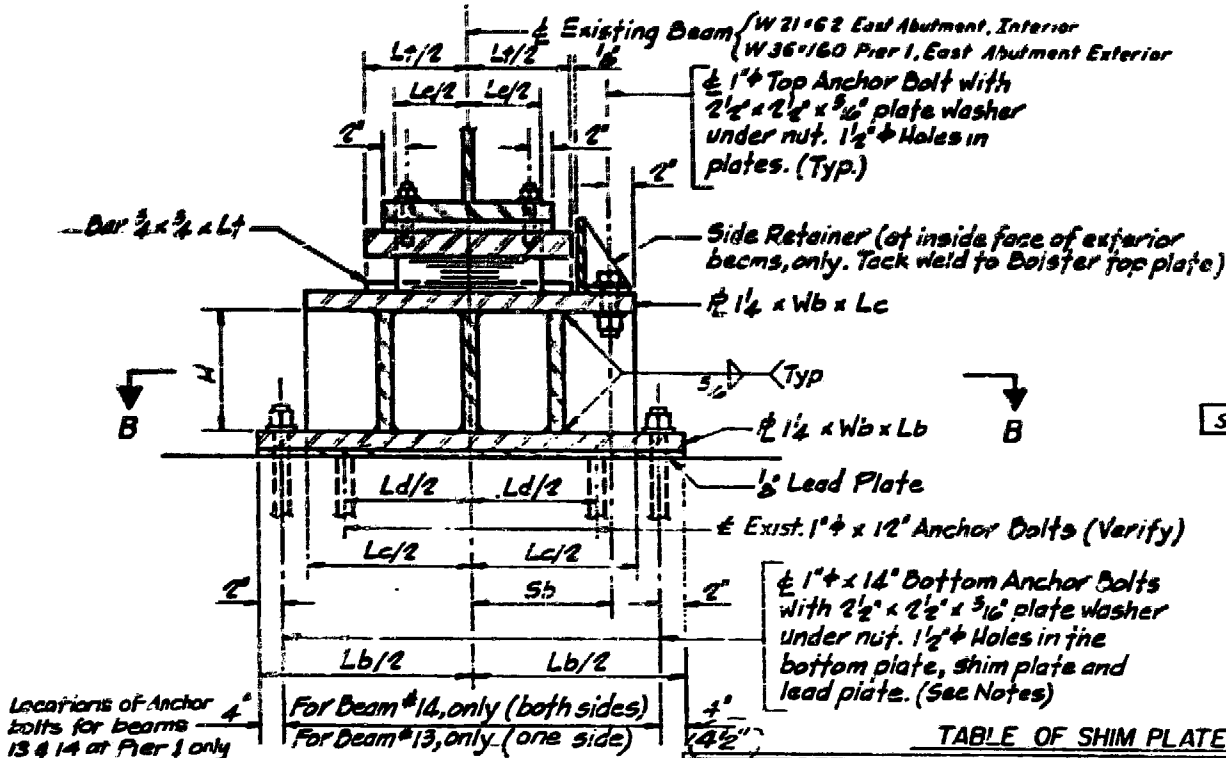


ELEVATION AT EAST ABUT.



ELEVATION AT PIER I

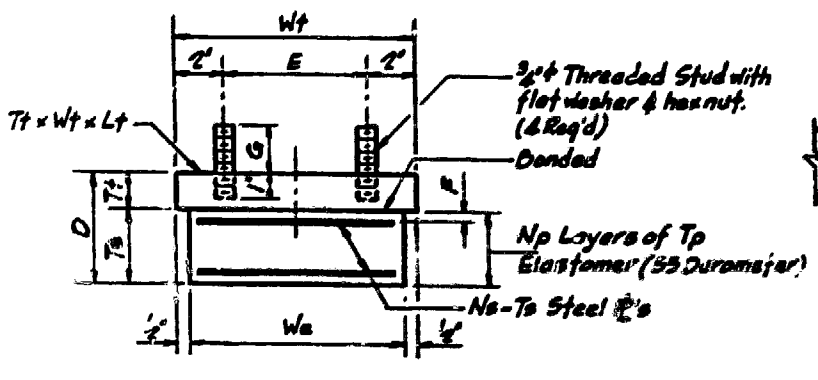
TYPE I ELASTOMERIC EXPANSION BRG. WITH BOLSTER



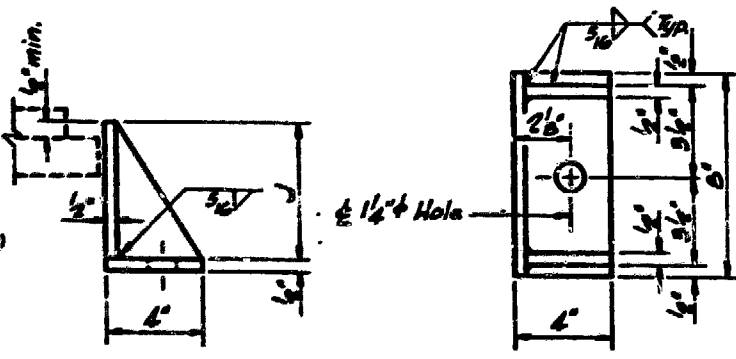
SECTION A-A

TABLE OF SHIM PLATES

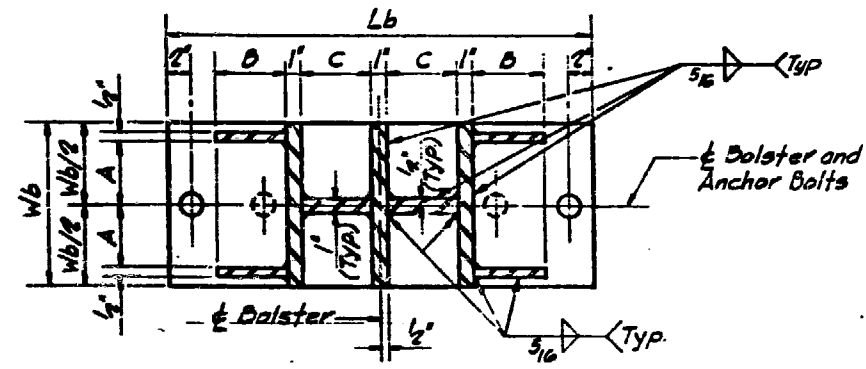
Beam Location	2	3	4	5	6	7	8	9	10	11	12	13
East Abutment	0	0	9/16	0	9/16	0	0	9/16	0	9/16	0	0
Pier I	0	9/16	0	9/16	0	9/16	9/16	0	9/16	0	9/16	0



EAST ABUT. BEARING ASSEMBLY  
 PIER I BEARING ASSEMBLY



SIDE RETAINER  
 Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	24

- Notes:
- See Sheet #20 for Anchor Bolt Details.
  - Contractor shall verify dimensions of existing Bearings before removal and ordering of new Bearings, or fabrication of Bolsters.
  - Cost of Structural Steel for Bolsters is included for payment with "Furnishing and Erecting Structural Steel".

TABLE OF VARIABLES FOR TYPE I EXPANSION BEARINGS WITH BOLSTERS

LOCATION	VARIABLE																							
	Ta	Wa	La	Np	Tp	Ns	Ts	Tf	Wf	Lf	Wb	(Lb)	Lc	Sb	Ld	A	B	C	D	E	F	G	H	J
East Abutment Int. W21x62 Beams 2-21	1 1/2	6	9	5	3/8	4	1 1/2	1 1/2	7	1-0	10	2-4 1/2	1-8 1/2	8 1/2	1-1	4	4 1/2	4	3 1/2	3	3 1/2	2 1/2	7 1/2	3 1/2
East Abutment Ext. W36x160 Beams 2-21	1 1/2	6	9	5	3/8	4	1 1/2	1 1/2	7	1-0	10	2-4 1/2	1-8 1/2	8 1/2	1-1	4	4 1/2	4	3 1/2	3	3 1/2	2 1/2	7 1/2	3 1/2
East Abutment Ext. W36x160 Beams 2-21	1 1/2	6	9	5	3/8	4	1 1/2	1 1/2	7	1-0	10	2-4 1/2	1-8 1/2	8 1/2	NA	4	4 1/2	4	3 1/2	3	3 1/2	2 1/2	5 1/2	3 1/2
Pier I, Beams 2-21	2 1/2	10	1-2	9	7/8	4	1 1/2	1 1/2	11	1-6	1-2	2-0 1/2	2-0 1/2	10 1/2	1-5 1/2	6	5 1/2	5	3 1/2	7	7 1/2	2 1/2	6 1/2	5 1/2
Pier I, Beam 2-12	2 1/2	10	1-2	9	7/8	4	1 1/2	1 1/2	11	1-6	1-2	2-0 1/2	2-0 1/2	10 1/2	NA	6	5 1/2	5	3 1/2	7	7 1/2	2 1/2	5 1/2	5 1/2

\* Lb = Typ. U.N.  
 Lb = 2'-3 1/2" For Bms. 7 & 8.

Baker Engineers  
 DESIGNED: R. Zemitaitis  
 CHECKED: J. Owen  
 DRAWN: J. Chalakis  
 CHECKED: F. Wood

AS REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

REPLACEMENT BEARING DETAILS  
 EAST ABUTMENT & PIER I

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
 LIBERTY STREET  
 SECTION BR-HB-6186)  
 KANE COUNTY - STATION 221+35.32  
 STR. NO. 045-0007

REVISIONS

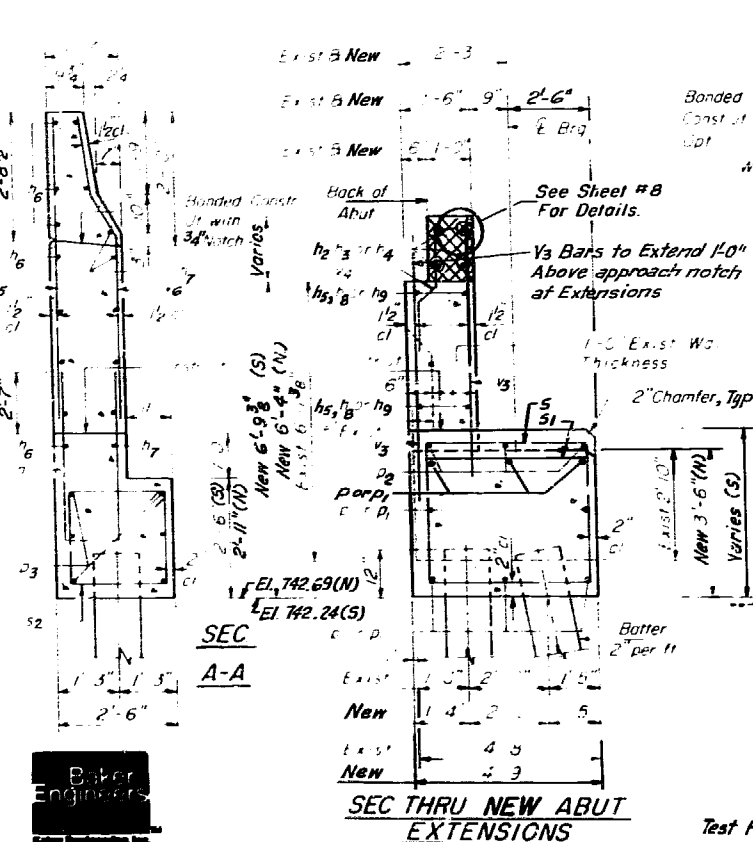
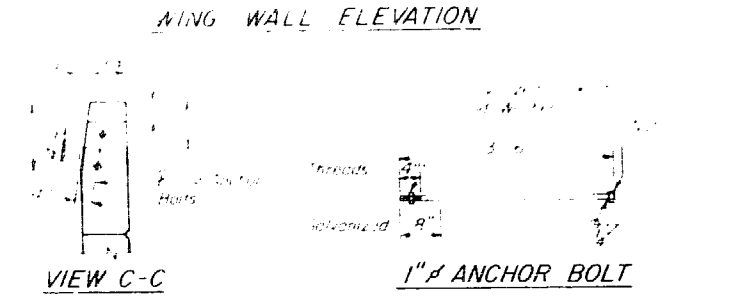
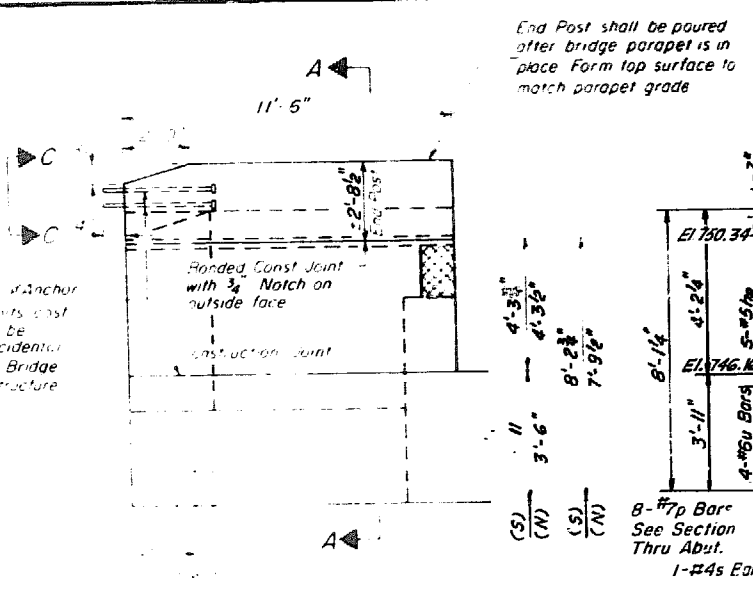
NAME	DATE



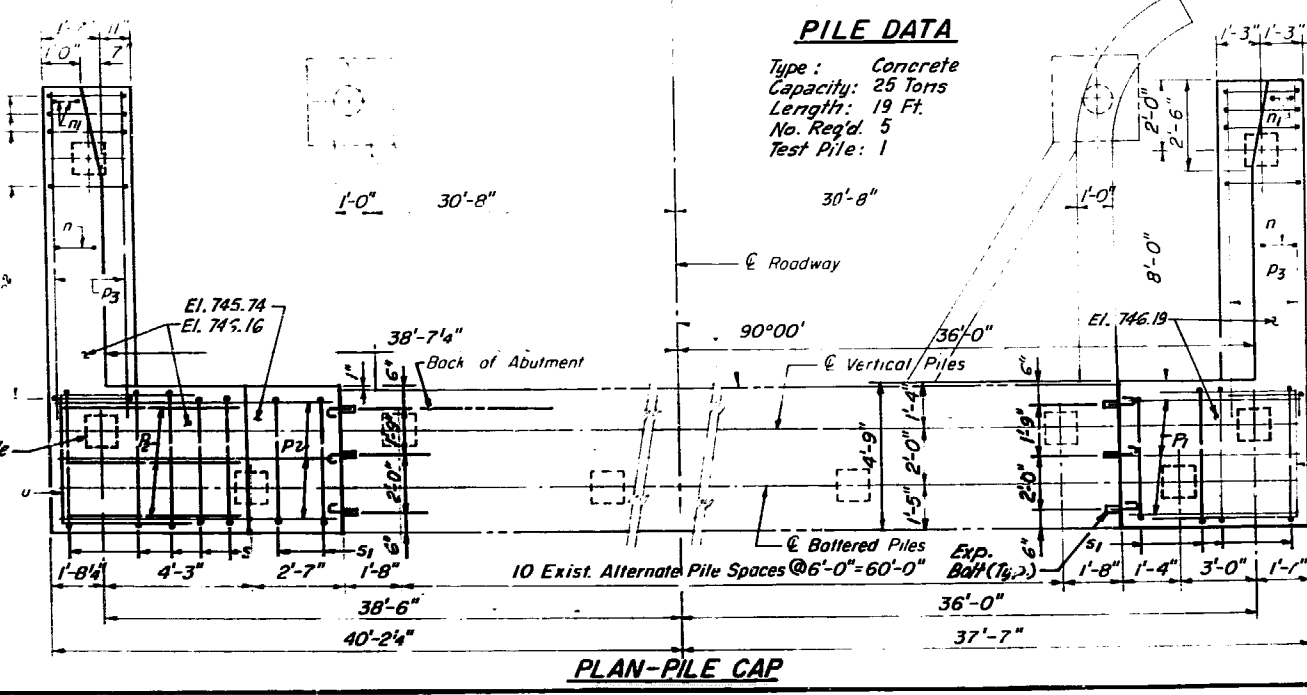
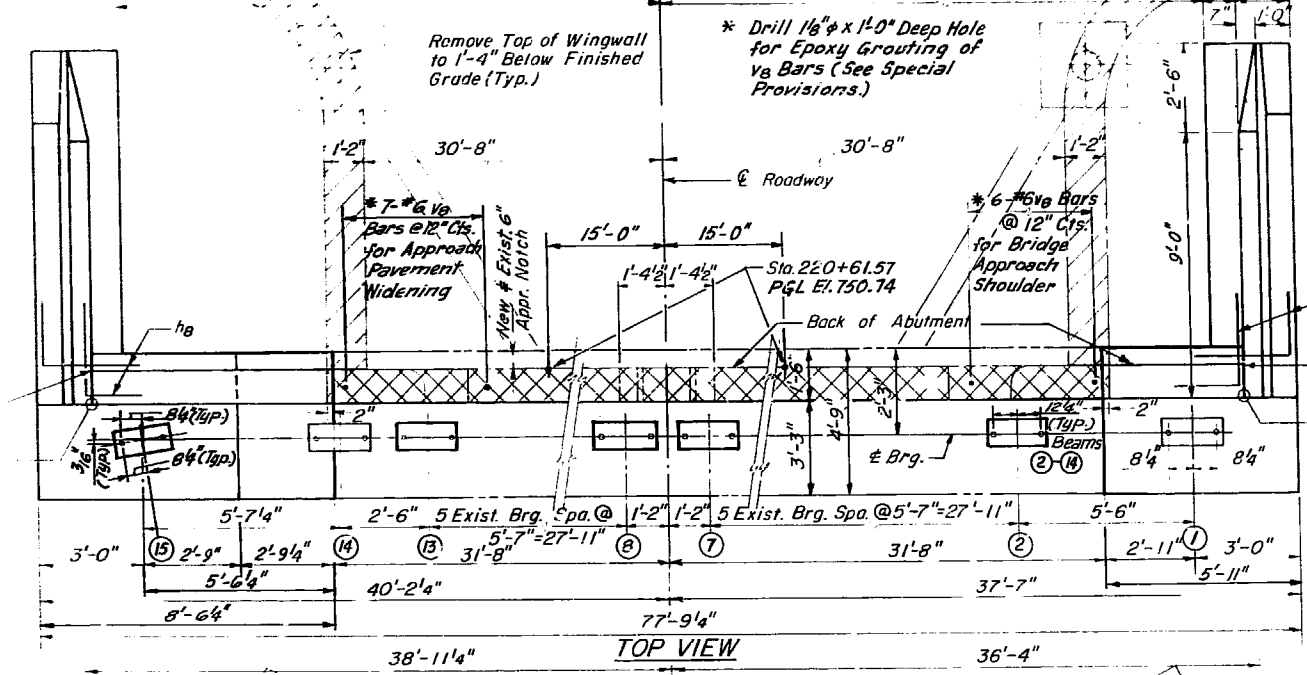
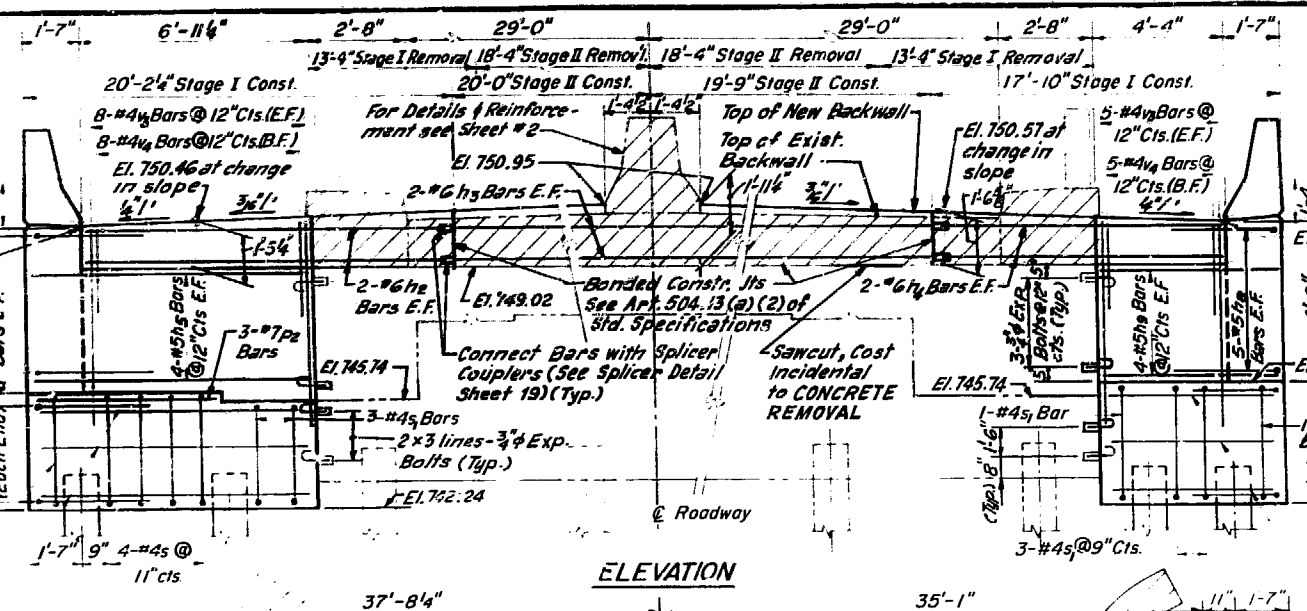
**NOTES:**  
 Hatched Area Indicates Concrete Removal.  
 Reinforcement Extending Into Removed Area Shall Be Cleaned And Incorporated Into The New Construction.  
 Cross Hatched Area To Be Paired After Superstructure Is In Place. Quantity Of Class X Concrete Included With Superstructure.  
 Expansion Bolts Shall Be Anchored In Sound Concrete.  
 Pour Steps Monolithically With Cap.

**Designations:**  
 (N) Denotes North Wingwall  
 (S) Denotes South Wingwall  
 I.F. Denotes Inside Face  
 O.F. Denotes Outside Face  
 E.F. Denotes Each Face  
 N.F. Denotes Near Face  
 B.F. Denotes Back Face  
 Cost of Bar Splicer Incidental to REINFORCEMENT BARS.

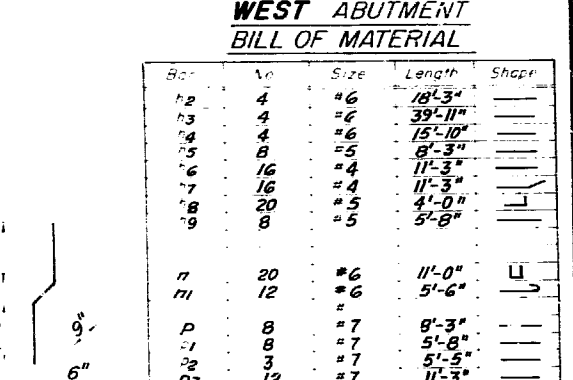
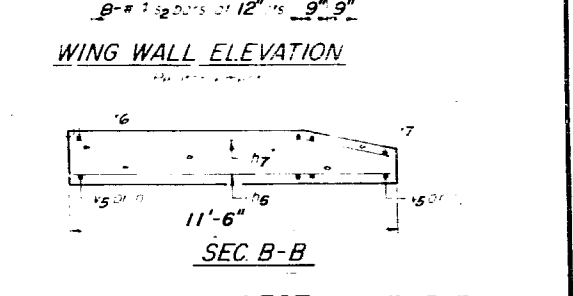
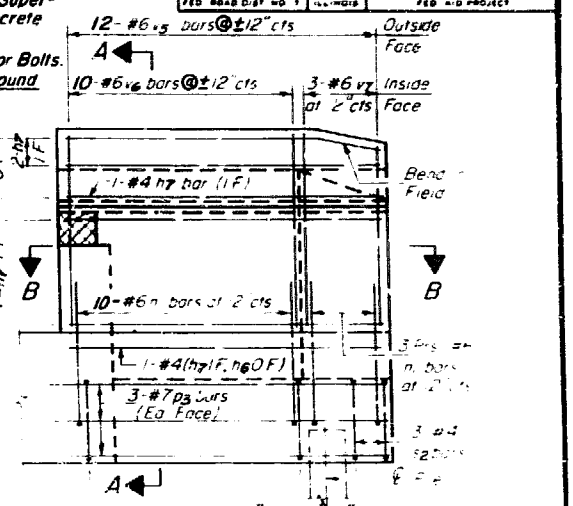
End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



**DESIGNED** P. Wood  
**CHECKED** J. Owen  
**DRAWN** Z. Dabrowski  
**CHECKED** P. Wood



**PILE DATA**  
 Type: Concrete  
 Capacity: 25 Tons  
 Length: 19 Ft.  
 No. Reg'd: 5  
 Test Pile: 1



**WEST ABUTMENT BILL OF MATERIAL**

Bar	Qty	Size	Length	Shape
h2	4	#6	18'-3"	
h3	4	#6	39'-11"	
h4	4	#6	15'-10"	
h5	8	#5	8'-3"	
h6	16	#4	11'-3"	
h7	16	#4	11'-3"	
h8	20	#5	4'-0"	
h9	8	#5	5'-8"	
n	20	#6	11'-0"	
n1	12	#6	5'-6"	
p	8	#7	9'-3"	
p1	8	#7	5'-8"	
p2	3	#7	5'-9"	
p3	12	#7	11'-3"	
v1	5	#4	16'-9"	
v2	8	#4	15'-11"	
v3	22	#4	9'-5"	
v4	8	#6	9'-4"	
v5	26	#4	5'-6"	
v6	13	#4	3'-9"	
v7	24	#6	6'-8"	
v8	20	#6	6'-8"	
v9	6	#6	6'-8"	
v10	13	#6	2'-0"	
s1	25.9	Class X Concrete		25.9
s2	29.0	Reinforcement Bars		29.0
s3	95	Furnishing Concrete Piles		95
s4	1	Test Pile Concrete		1
s5	4.5	Concrete Removal		4.5
s6	18	Expansion Bolts (3/4")		18

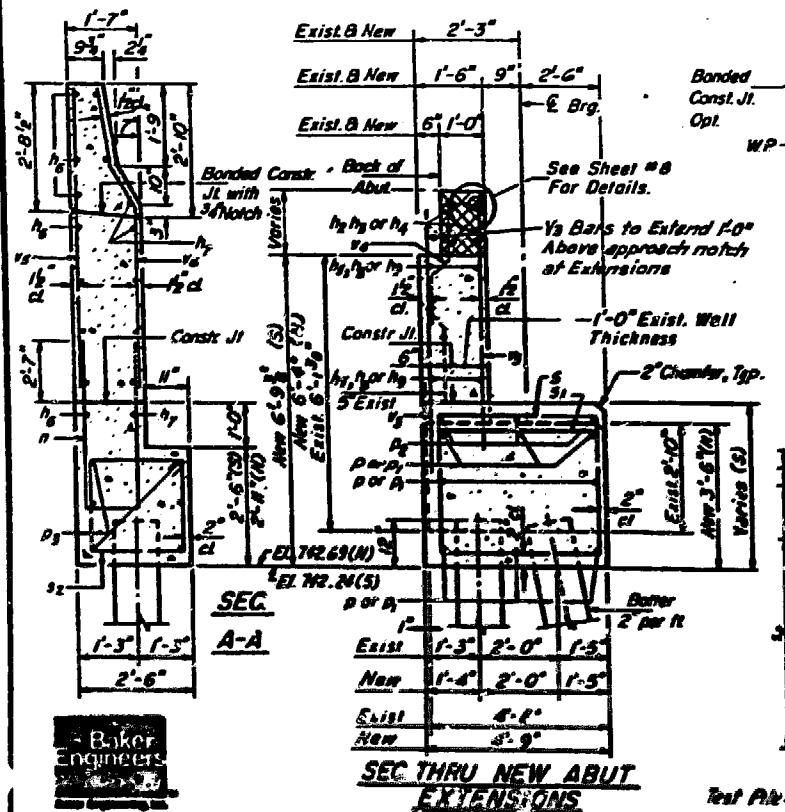
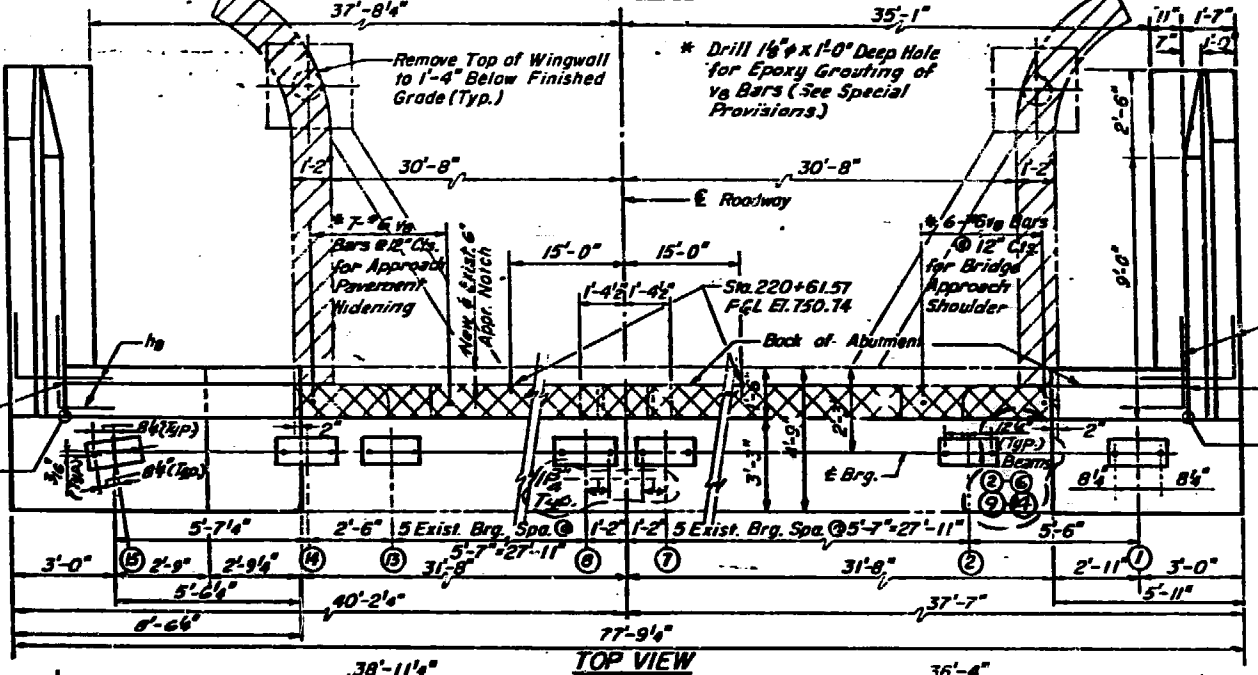
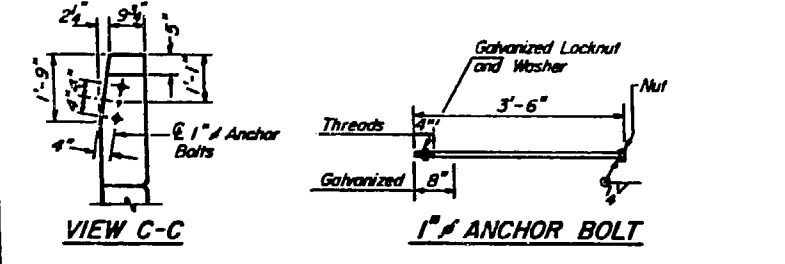
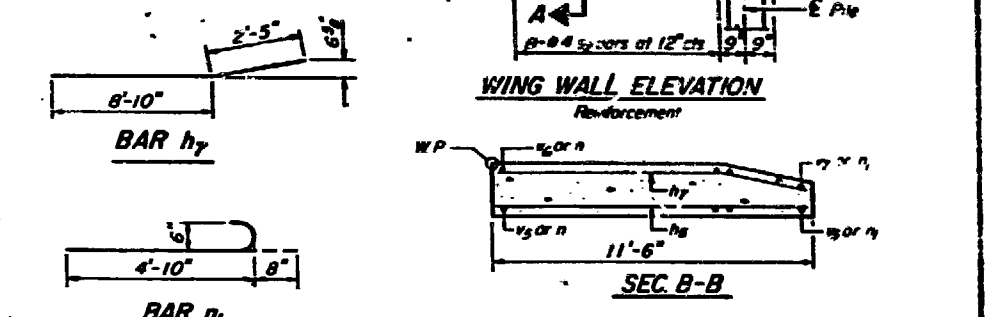
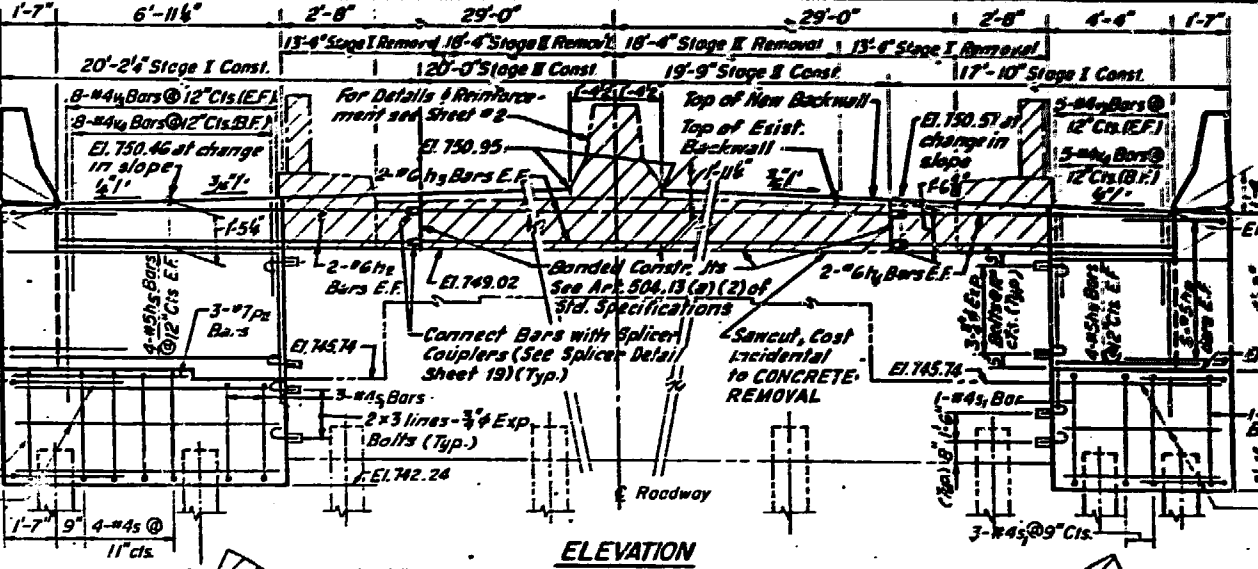
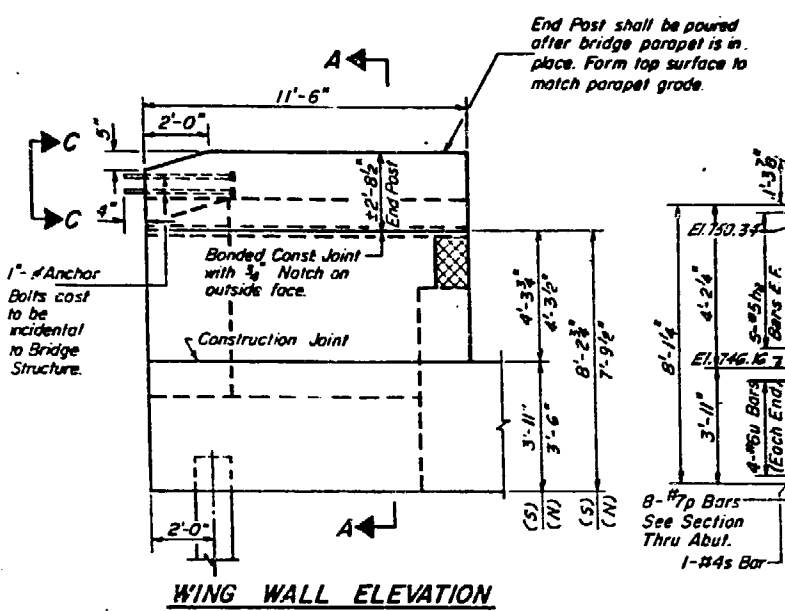
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**WEST ABUTMENT**  
 U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER LIBERTY STREET  
 SECTION 8R-HB-6(86)  
 KANE COUNTY—STATION 221+35.32  
 STR. NO. 045-0007

**REVISIONS**

NAME	DATE

**NOTES**  
 Hatched Area Indicates Concrete Removal or 21 SHEETS  
 Reinforcement Extending Into Removed Area Shall Be Cleared And Incorporated Into The New Construction.  
 Cross Hatched Area To Be Poured After Superstructure Is In Place. Quantity Of Class X Concrete Included With Superstructure.  
 Space Reinforcement In Cap To Miss Anchor Bolt Expansion Bolts Shall Be Anchored In Spung Concrete.  
 Pour Steps Monolithically With Cap.  
**Designations:**  
 (N) Denotes North Wingwall  
 (S) Denotes South Wingwall  
 I.F. Denotes Inside Face  
 O.F. Denotes Outside Face  
 E.F. Denotes Each Face  
 N.E. Denotes Near Face  
 B.F. Denotes Back Face  
 Cost of Bar Splicer Incidental to REINFORCEMENT BARS.



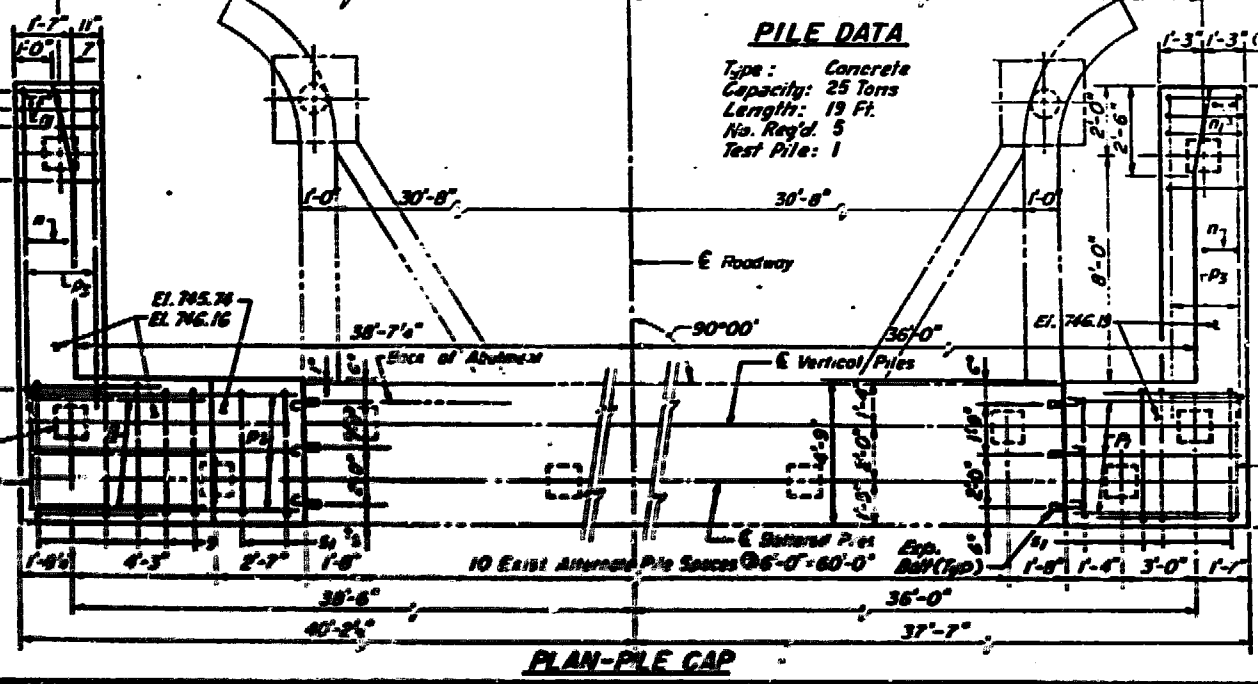
**WEST ABUTMENT BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>2</sub>	4	#6	18'-3"	—
h <sub>3</sub>	4	#6	39'-11"	—
h <sub>4</sub>	4	#6	15'-10"	—
h <sub>5</sub>	8	#5	8'-3"	—
h <sub>6</sub>	16	#4	11'-3"	—
h <sub>7</sub>	16	#4	11'-3"	—
h <sub>8</sub>	20	#5	4'-0"	—
h <sub>9</sub>	8	#5	5'-8"	—
n	20	#6	11'-0"	—
n <sub>1</sub>	12	#6	5'-2"	—
p	8	#7	8'-3"	—
p <sub>1</sub>	8	#7	5'-8"	—
p <sub>2</sub>	3	#7	5'-5"	—
p <sub>3</sub>	12	#7	11'-3"	—
s	5	#4	16'-9"	—
s <sub>1</sub>	8	#4	15'-11"	—
s <sub>2</sub>	22	#4	9'-5"	—
u	8	#6	9'-4"	—
v <sub>3</sub>	26	#4	5'-6"	—
v <sub>4</sub>	13	#4	3'-9"	—
v <sub>5</sub>	24	#6	6'-8"	—
v <sub>6</sub>	20	#6	6'-8"	—
v <sub>7</sub>	6	#6	6'-8"	—
v <sub>8</sub>	13	#6	2'-0"	—
Class X Concrete				Cu. Yds. 25.9
Reinforcement Bars				Lbs. 2910
Furnishing Concrete Piles				Lin. Ft. 95
Test Pile Concrete				Ea. 1
Concrete Removal				Cu. Yds. 4.5
Expansion Bolts (3/4")				Ea. 18

**AS REVISED**

REVISIONS

NO.	NAME	DATE



**PILE DATA**

Type: Concrete  
 Capacity: 25 Tons  
 Length: 19 Ft.  
 No. Reqd. 5  
 Test Pile: 1

**REVISIONS**

NO.	NAME	DATE

As Revised 3-10-87

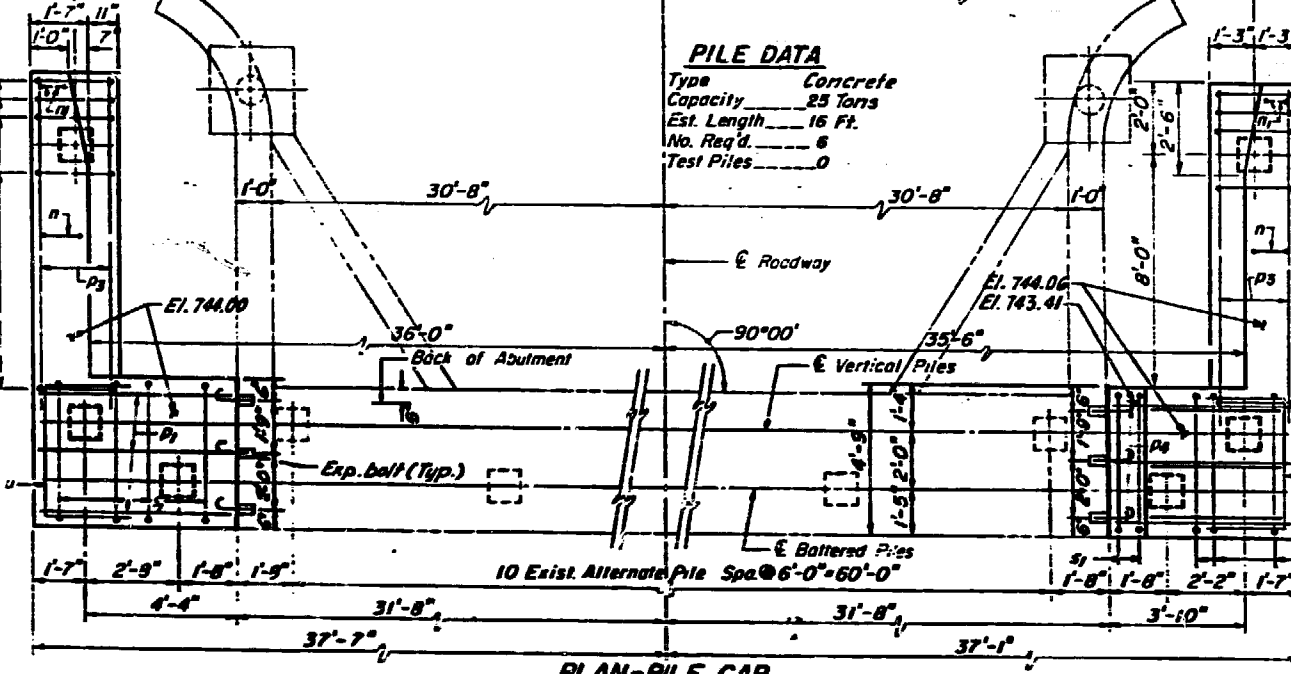
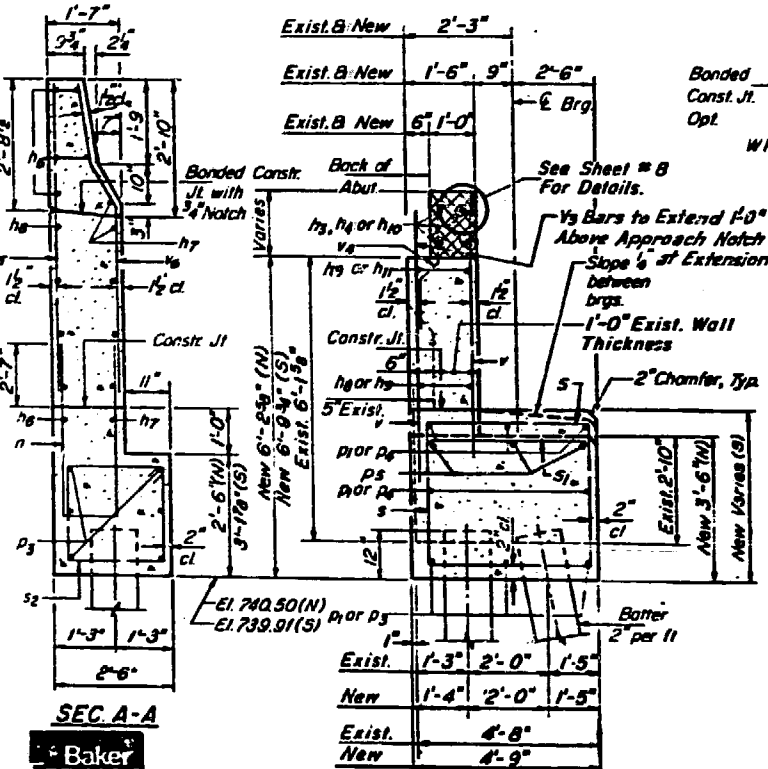
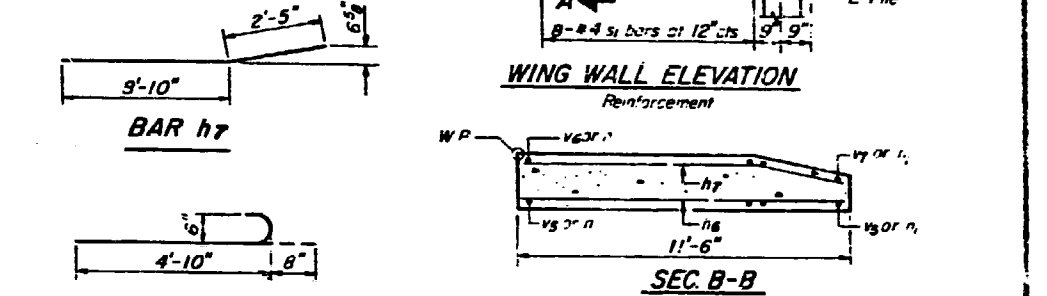
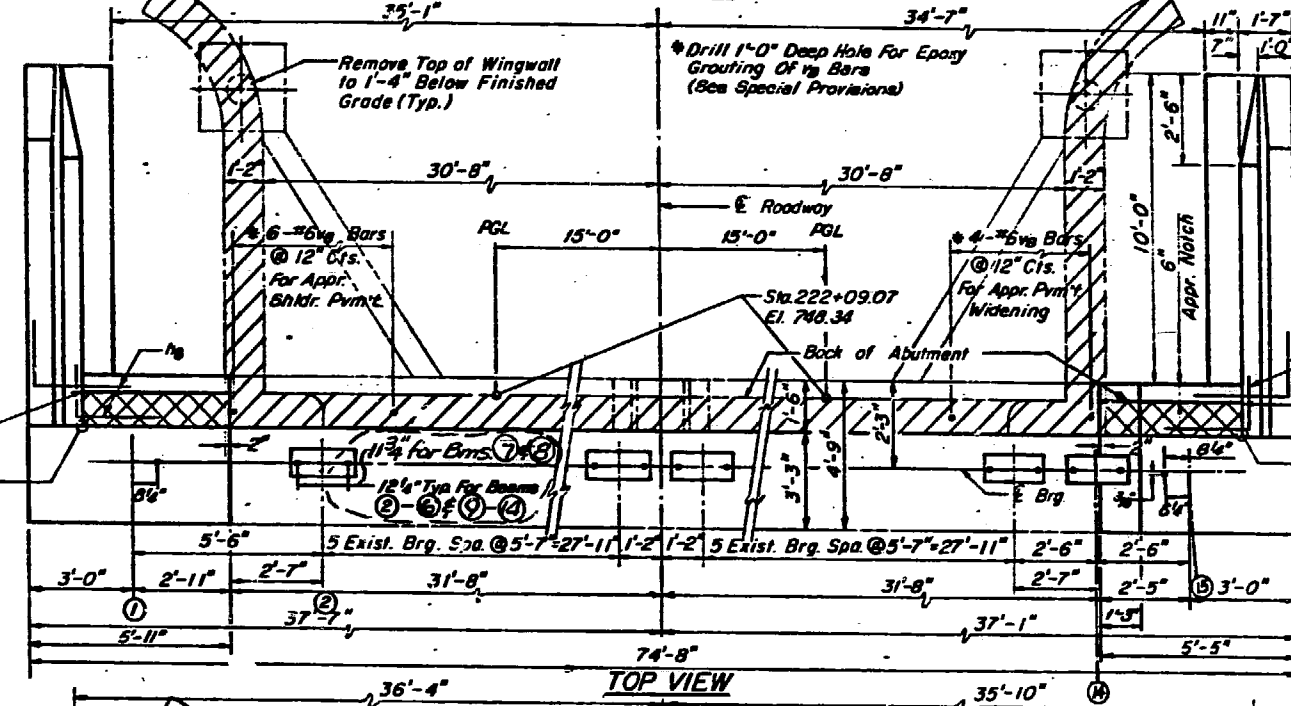
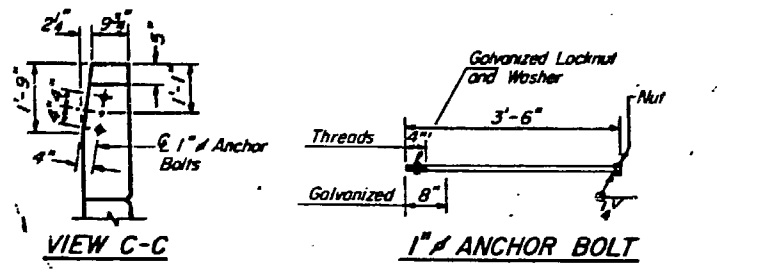
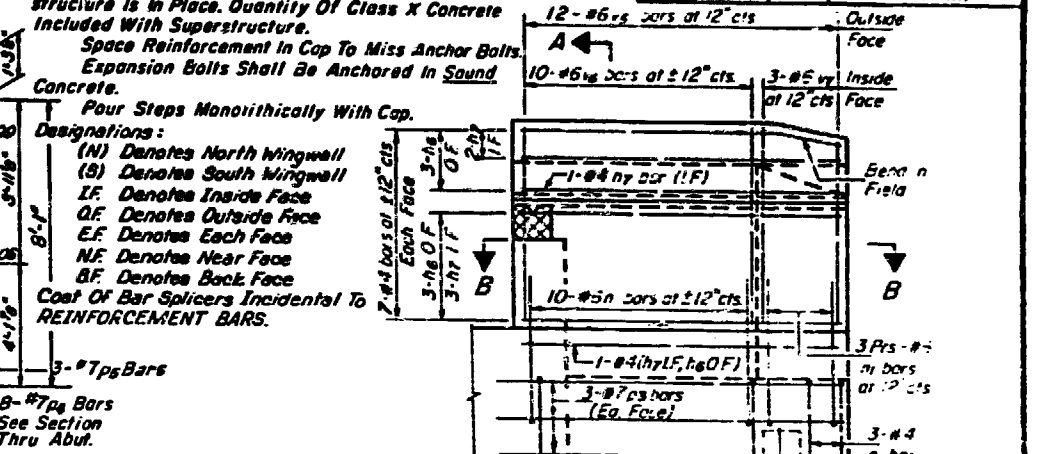
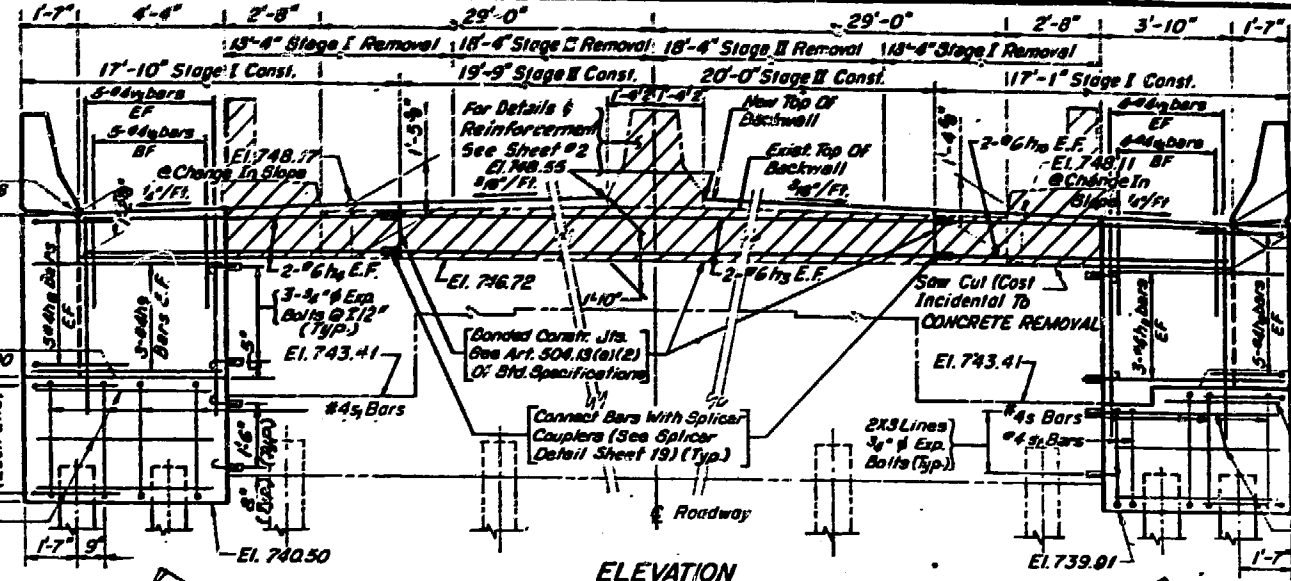
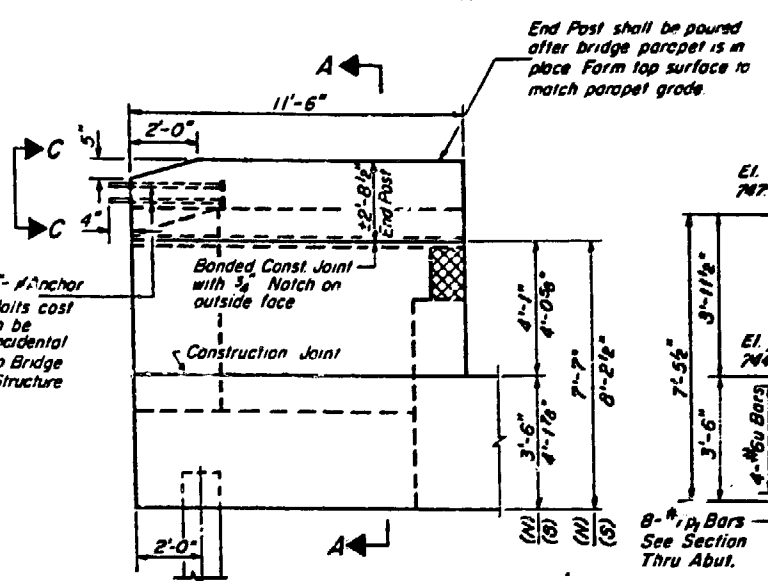
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**WEST ABUTMENT**

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER LIBERTY STREET  
 SECTION BR-HB-6(86)  
 KANE COUNTY - STATION 221+35.32  
 STR. NO. 045-0007



**NOTES:**  
Hatched Area Indicates Concrete Removal. Reinforcement Extending Into Removed Area Shall Be Cleaned And Incorporated Into The New Construction. Cross Hatched Area To Be Poured After Superstructure Is In Place. Quantity Of Class X Concrete Included With Superstructure.  
Space Reinforcement In Cap To Miss Anchor Bolts. Expansion Bolts Shall Be Anchored In Sound Concrete.  
Pour Steps Monolithically With Cap.  
Designations:  
(N) Denotes North Wingwall  
(S) Denotes South Wingwall  
IF Denotes Inside Face  
OF Denotes Outside Face  
EF Denotes Each Face  
NF Denotes Near Face  
BF Denotes Back Face  
Coat Of Bar Splicers Incidental To REINFORCEMENT BARS.



**EAST ABUTMENT BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>3</sub>	4	#6	39'-11"	—
h <sub>4</sub>	4	#6	15'-10"	—
h <sub>5</sub>	16	#4	11'-3"	—
h <sub>6</sub>	16	#4	11'-3"	—
h <sub>7</sub>	20	#5	4'-0"	—
h <sub>8</sub>	6	#5	5'-8"	—
h <sub>9</sub>	4	#4	15'-1"	—
h <sub>10</sub>	6	#4	5'-1"	—
n <sub>1</sub>	20	#6	11'-0"	U
n <sub>2</sub>	12	#6	5'-6"	—
p <sub>1</sub>	8	#7	5'-8"	—
p <sub>2</sub>	12	#7	11'-3"	—
p <sub>3</sub>	8	#7	5'-8"	—
p <sub>4</sub>	3	#7	3'-10"	—
s <sub>1</sub>	3	#4	16'-9"	—
s <sub>2</sub>	6	#4	15'-11"	—
s <sub>3</sub>	28	#4	9'-5"	—
u	8	#6	9'-4"	—
v <sub>1</sub>	18	#4	5'-6"	—
v <sub>2</sub>	9	#4	3'-9"	—
v <sub>3</sub>	24	#6	6'-8"	—
v <sub>4</sub>	20	#6	6'-8"	—
v <sub>5</sub>	6	#6	6'-8"	—
v <sub>6</sub>	10	#6	2'-0"	—
Class X Concrete				Cu.Yds. 23.3
Reinforcement Bars				Lbs. 2770
Furnishing Concrete Piles				Lin. Ft. 36
Concrete Removal				Cu.Yds. 4.5
Expansion Bolts (1/2" #)				Ea. 18

BAR h<sub>7</sub>

BAR n<sub>1</sub>

BAR v<sub>4</sub>

BAR v<sub>6</sub>

BAR n

BAR v<sub>4</sub>

BAR u

BAR v<sub>7</sub>

BAR h<sub>8</sub>

**Baker Engineers**  
DESIGNED R. Wood  
CHECKED J. Owen  
DRAWN N. Redicks  
CHECKED R. Wood

AS REVISED

**REVISIONS**

NAME	DATE

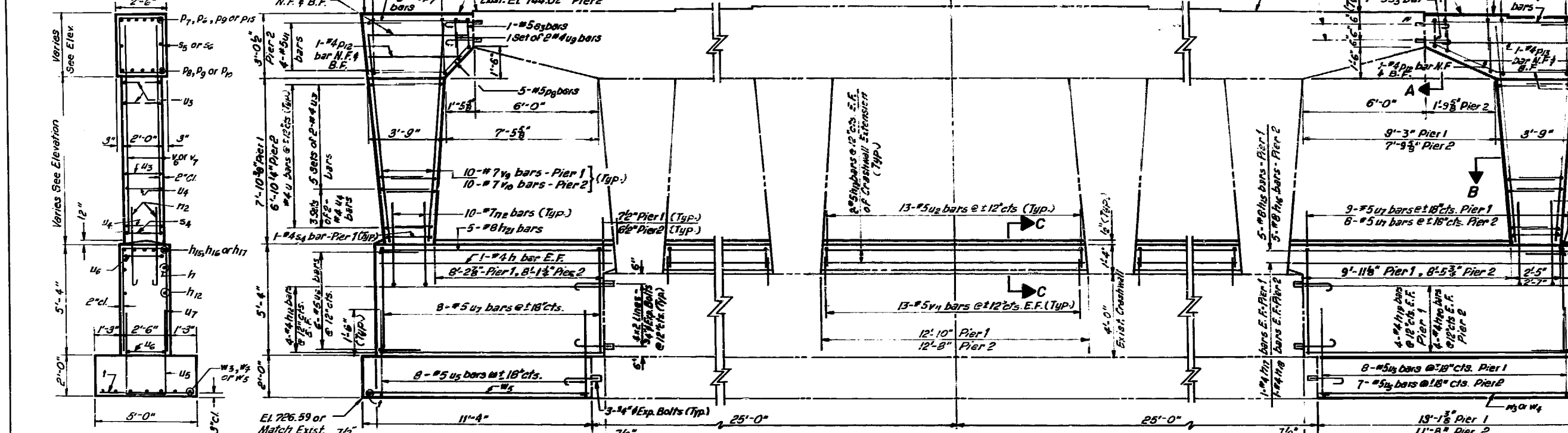
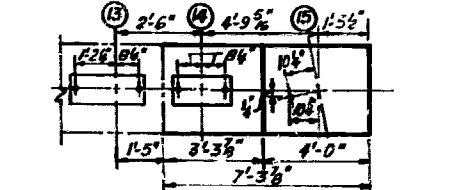
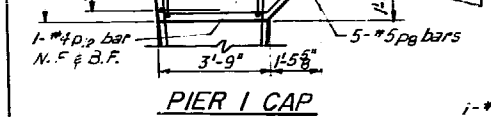
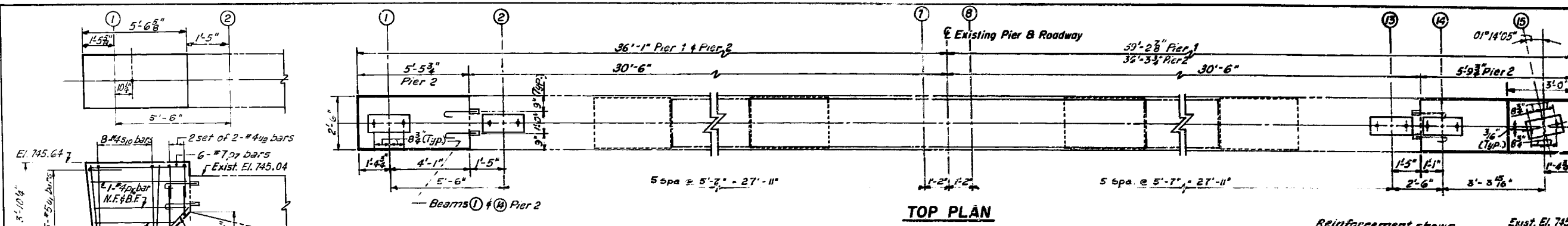
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**EAST ABUTMENT**

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER LIBERTY STREET  
SECTION 88-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

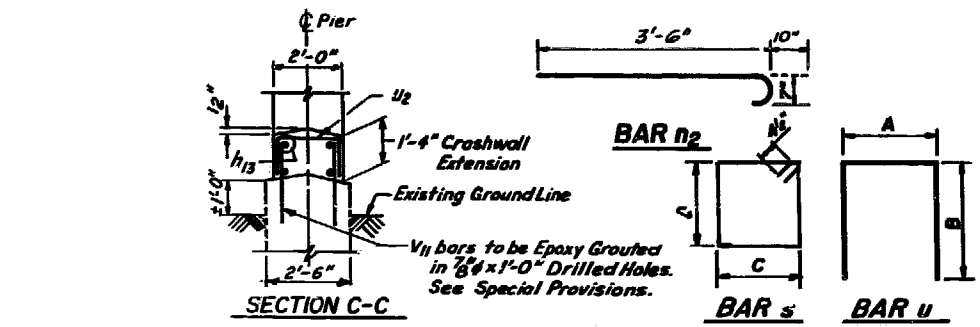
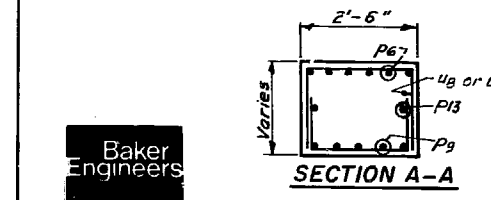
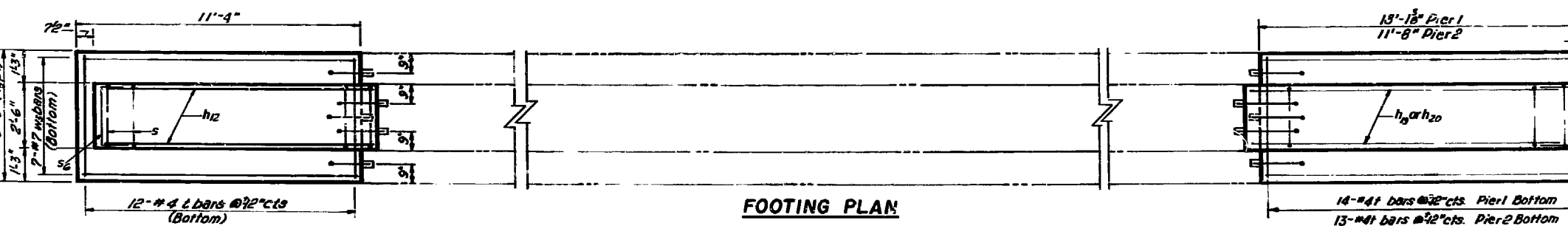
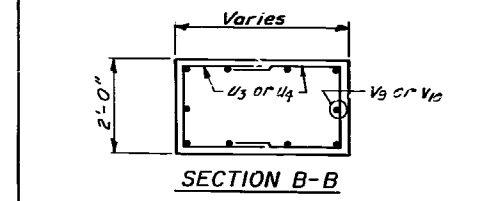
AS Revised 3-10-87





**END VIEW**  
 Note: All Edges Shall have Standard 3/4" Chamfer Except Footing.

**NOTE:**  
 Dimensions shown are for Piers 1 & 2 unless otherwise noted.  
**ELEVATION**  
 Looking East  
 Maximum Soil Pressure = 3.25 Tons/sq.ft



**BAR BENDING DETAILS**

BAR	A-B DIMENSIONS		C-D DIMENSIONS	
	A	B	C	D
U1	2'-1"	1'-8"	2'-2"	1'-8"
U2	1'-8"	1'-0"	2'-2"	1'-8"
U3	1'-8"	2'-7"	2'-2"	2'-8"
U4	1'-8"	2'-0"	2'-2"	3'-6"
U5	2'-2"	3'-3"	2'-2"	3'-6"
U6	2'-1"	2'-0"	2'-2"	3'-6"
U7	2'-2"	4'-11"	2'-2"	3'-6"
U8	2'-2"	2'-4"	2'-2"	3'-6"
U9	2'-2"	1'-8"	2'-2"	3'-6"

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Class X Concrete	Cu Yd	62.0
Reinforcement Bars	Pound	6000
Expansion Joints	Each	60
Structure Excavation	Cu Yd	71

**BILL OF MATERIAL**

Bar No.	Size	Length	Shape
h12	16	#4	11'-6"
h13	24	#5	12'-4"
h15	5	#8	13'-4"
h16	5	#8	11'-1"
h17	2	#4	13'-4"
h18	2	#4	11'-1"
h19	8	#4	12'-11"
h20	8	#4	11'-3"
h21	10	#8	11'-6"
h26	6	#7	5'-4"
P7	12	#7	5'-0"
P8	10	#5	5'-7"
P9	5	#5	5'-10"
P10	5	#5	7'-0"
P11	6	#5	3'-7"
P12	6	#4	4'-3"
P13	2	#4	5'-2"
P14	2	#4	6'-9"
P15	6	#7	6'-9"
P16	6	#4	5'-0"
h2	40	#7	4'-8"
h3	3	#5	8'-5"
h4	2	#4	8'-1"
h5	16	#4	10'-5"
h6	16	#4	12'-1"
h7	2	#5	12'-5"
h1	51	#4	4'-8"
h17	17	#5	5'-5"
h2	78	#5	3'-8"
h3	40	#4	6'-10"
h4	24	#4	6'-0"
h5	31	#5	8'-8"
h6	24	#5	6'-1"
h8	33	#5	12'-0"
h9	13	#4	6'-10"
h10	11	#4	5'-6"
h11	20	#7	9'-3"
h12	20	#7	10'-3"
h13	156	#5	2'-0"
h14	7	#7	11'-4"
h15	7	#7	12'-11"
h16	7	#7	11'-0"

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

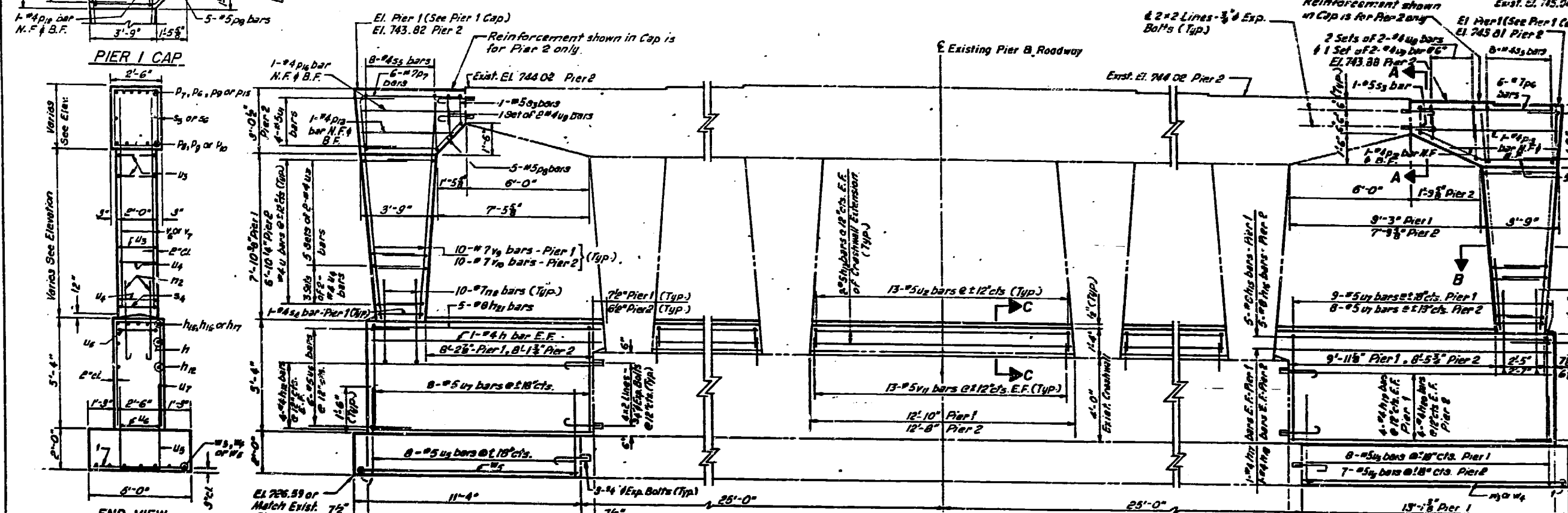
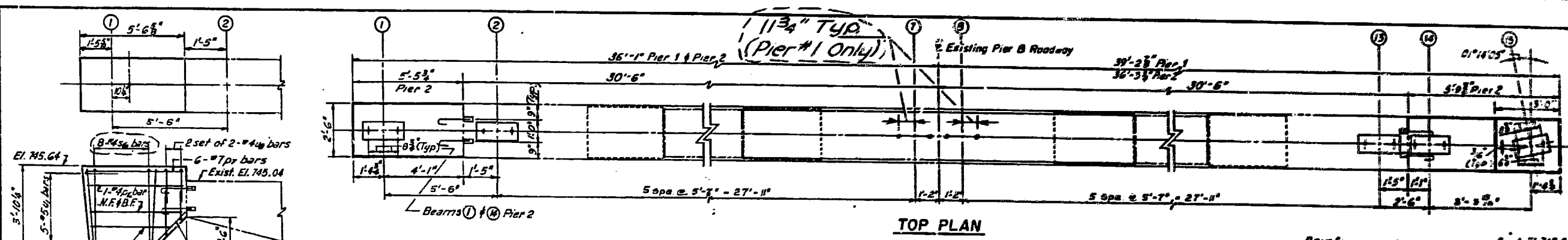
**PIERS**

U.S. ROUTE 20 BY-PASS (F.A.P.426) OVER  
 LIBERTY STREET  
 SECTION BR-NB-6(06)  
 KANE COUNTY - STATION 221+35.32  
 STR. NO. 045-0007

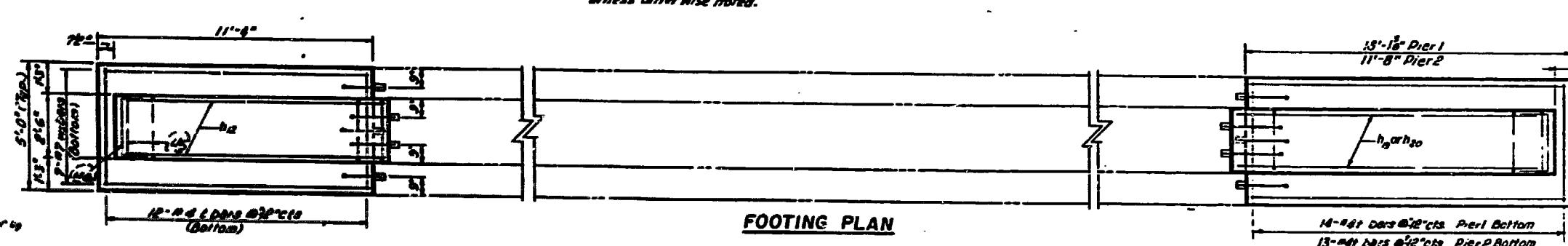
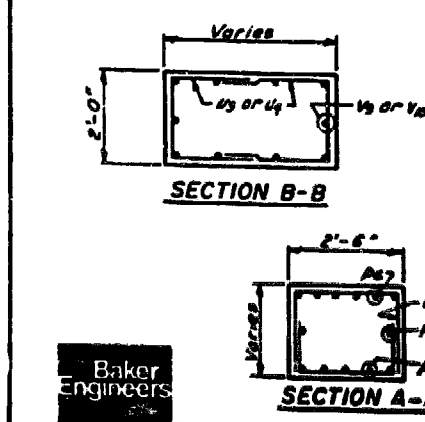
**Baker Engineers**  
 Baker Engineering, Inc.

DESIGNED: R. Zema, Jaitis  
 CHECKED: P. Wood  
 DRAWN: K. Dypkowski  
 CHECKED: P. Wood





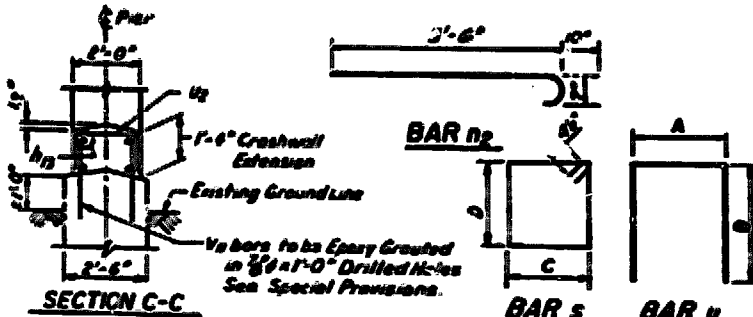
END VIEW  
 Note: All Edges Shall have Standard 3/4" Chamfer Except Footing.



**Baker Engineers**  
 DESIGNER: R. Kamaitaitis  
 CHECKED: P. Wood  
 DRAWN: K. Dykowski  
 CHECKED: P. Wood

**AS REVISED**

AS Revised 3-10-87



**BAR BENDING DETAILS**

ADD DIMENSIONS			C&D DIMENSIONS		
BAR	A	B	BAR	C	D
#4	2'-1"	1'-0"	#2	2'-2"	1'-0"
#7	1'-0"	1'-0"	#4	2'-2"	1'-0"
#7	1'-0"	2'-7"	#4	2'-2"	2'-0"
#5	1'-0"	2'-7"	#6	2'-2"	3'-6"
#5	2'-8"	3'-3"	#7	2'-2"	3'-0"
#5	2'-1"	2'-0"			
#7	2'-2"	4'-1"			
#9	2'-2"	2'-8"			
#9	2'-2"	1'-0"			

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Class 2 Concrete	Cu Yd	52.6
Reinforcement Bars	Pound	6000
Expansion Bolts 3/4" Ø	Each	60
Structure Excavation	Cu Yd	71

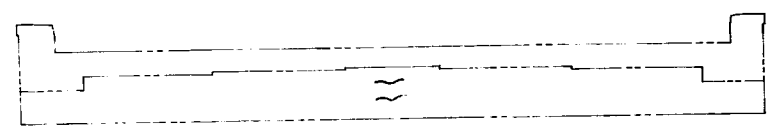
**REVISIONS**

NAME	DATE

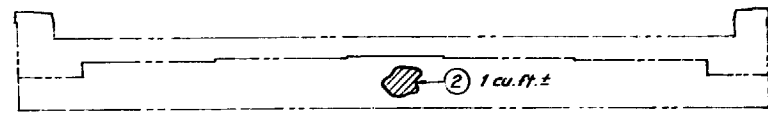
**BILL OF MATERIAL**

Bar No	Size	Length	Shape
h2	#4	11'-6"	—
h3	#5	12'-4"	—
h4	#8	13'-4"	—
h5	#8	11'-1"	—
h7	#4	13'-0"	—
h8	#4	12'-8"	—
h10	#4	11'-3"	—
h11	#8	11'-6"	—
h12	#7	5'-8"	—
h13	#7	5'-0"	—
h14	#5	5'-7"	—
h15	#5	5'-10"	—
h16	#5	7'-0"	—
h17	#5	3'-7"	—
h18	#4	4'-3"	—
h19	#4	5'-2"	—
h20	#4	6'-9"	—
h21	#4	6'-9"	—
h22	#4	5'-0"	—
h23	#4	4'-3"	—
h24	#4	5'-2"	—
h25	#4	6'-9"	—
h26	#4	6'-9"	—
h27	#4	5'-0"	—
h28	#4	4'-3"	—
h29	#4	8'-5"	—
h30	#4	8'-1"	—
h31	#4	10'-5"	—
h32	#4	12'-1"	—
h33	#4	12'-5"	—
h34	#4	4'-8"	—
h35	#5	5'-5"	—
h36	#5	3'-5"	—
h37	#4	6'-10"	—
h38	#4	6'-10"	—
h39	#4	6'-10"	—
h40	#4	6'-10"	—
h41	#4	6'-10"	—
h42	#4	6'-10"	—
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h45	#4	6'-10"	—
h46	#4	6'-10"	—
h47	#4	6'-10"	—
h48	#4	6'-10"	—
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h50	#4	6'-10"	—
h51	#4	6'-10"	—
h52	#4	6'-10"	—
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h55	#4	6'-10"	—
h56	#4	6'-10"	—
h57	#4	6'-10"	—
h58	#4	6'-10"	—
h59	#4	6'-10"	—
h60	#4	6'-10"	—
h61	#4	6'-10"	—
h62	#4	6'-10"	—
h63	#4	6'-10"	—
h64	#4	6'-10"	—
h65	#4	6'-10"	—
h66	#4	6'-10"	—
h67	#4	6'-10"	—
h68	#4	6'-10"	—
h69	#4	6'-10"	—
h70	#4	6'-10"	—
h71	#4	6'-10"	—
h72	#4	6'-10"	—
h73	#4	6'-10"	—
h74	#4	6'-10"	—
h75	#4	6'-10"	—
h76	#4	6'-10"	—
h77	#4	6'-10"	—
h78	#4	6'-10"	—
h79	#4	6'-10"	—
h80	#4	6'-10"	—
h81	#4	6'-10"	—
h82	#4	6'-10"	—
h83	#4	6'-10"	—
h84	#4	6'-10"	—
h85	#4	6'-10"	—
h86	#4	6'-10"	—
h87	#4	6'-10"	—
h88	#4	6'-10"	—
h89	#4	6'-10"	—
h90	#4	6'-10"	—
h91	#4	6'-10"	—
h92	#4	6'-10"	—
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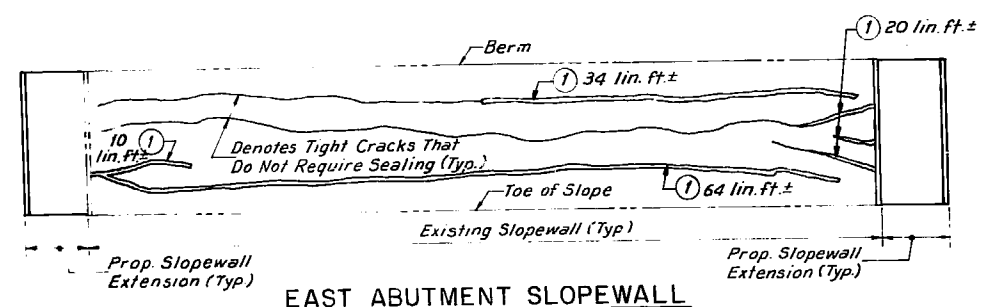
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
**PIERS**  
 U.S. ROUTE 20 BY-PASS (F.A.P.426) OVER  
 LIBERTY STREET  
 SECTION 8R-HB-6(196)  
 KANE COUNTY - STATION 221 + 33.32  
 STR. NO. 045-0007



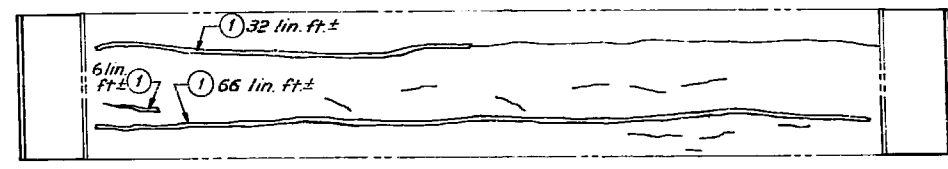
EAST ABUTMENT



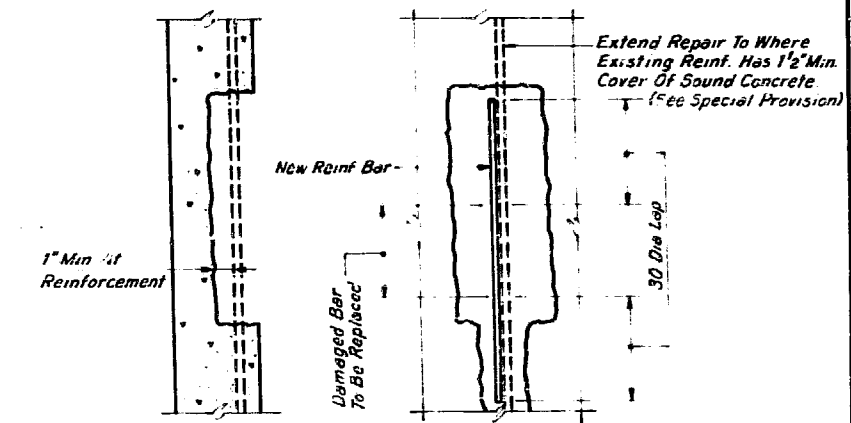
WEST ABUTMENT



EAST ABUTMENT SLOPEWALL

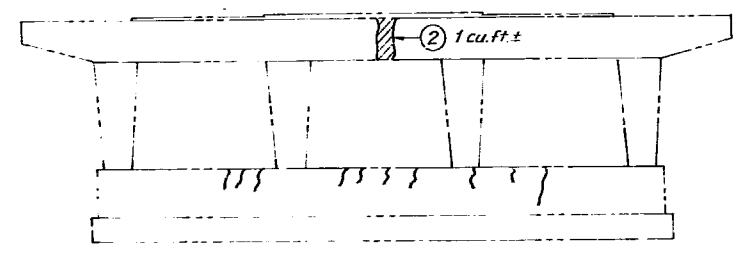


WEST ABUTMENT SLOPEWALL

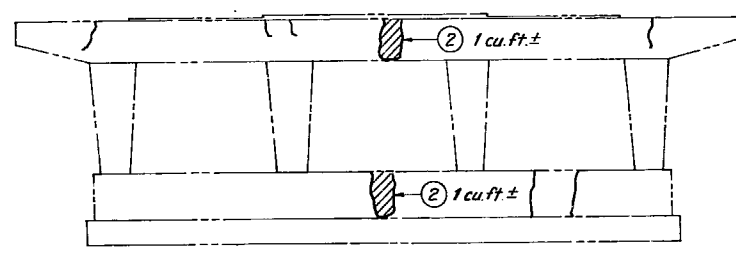


NOTE: Detail Applies Where Exist. Reinf. Is Exposed As A Result Of Removing Unsound Concrete. Exist. Reinf. Having 25% Or More Of Cross Sectional Area Lost Due To Corrosion Or Damage During Concrete Removal Shall Be Replaced By New Reinf. Lapped As Shown. Payment For Added Reinforcing Steel Shall Be At The Unit Price For Reinforcement Bars.

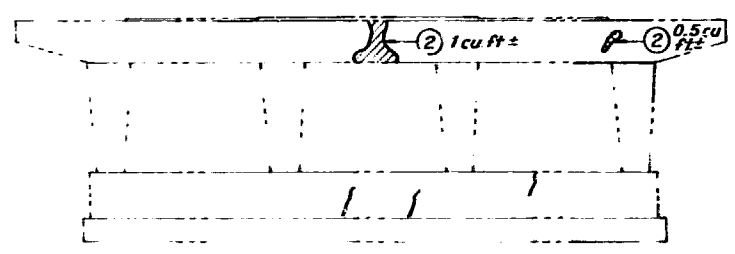
EPOXY MORTAR REPAIR DETAIL



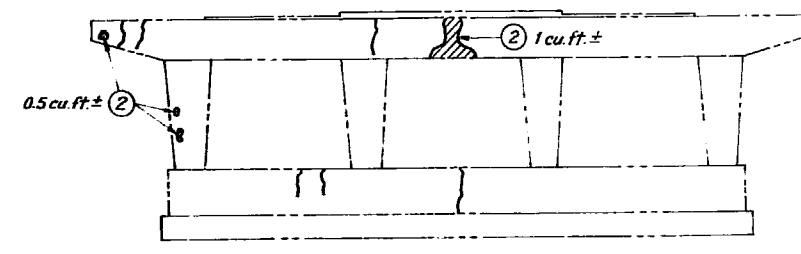
PIER 2 EAST FACE



PIER 2 WEST FACE



PIER 1 EAST FACE



PIER 1 WEST FACE

BILL OF MATERIAL

Item	Unit	Quantity
Epoxy Crack Sealing	Lin. Ft.	232
Epoxy Mortar Repair	Cu. Ft.	7

LEGEND

- ① Denotes Epoxy Crack Sealing
- ② Denotes Epoxy Mortar Repair
- Denotes Tight Crack that does not Require Sealing.

**Baker Engineers**  
Civil Engineering, Inc.

DESIGNED	C. Prieto
CHECKED	P. Wood
DRAWN	C. Prieto
CHECKED	P. Wood

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

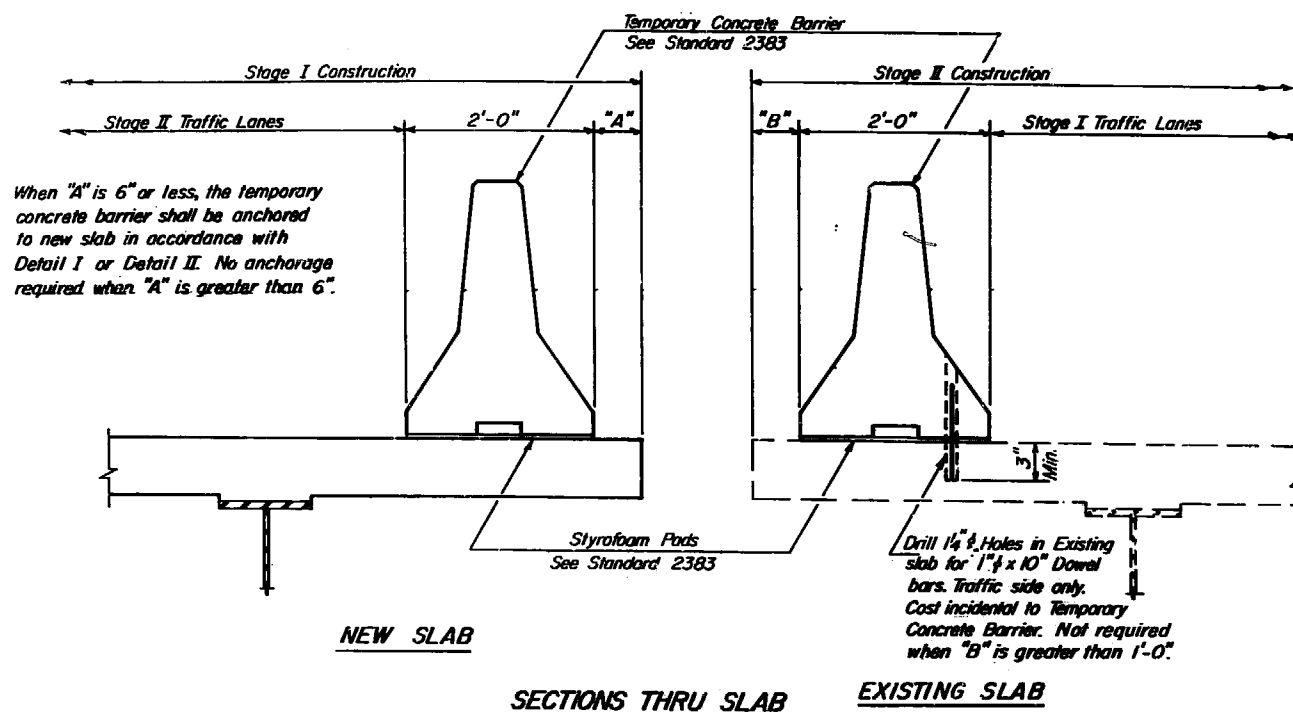
EXISTING SUBSTRUCTURE REPAIRS

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
LIBERTY STREET  
SECTION BR-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

REVISIONS	
NAME	DATE

DATE	PROJECT	NO.	REV.
4/28	100	209	154
NAME	SCALE	DATE	

SHEET NO. 18  
OF 21 SHEETS

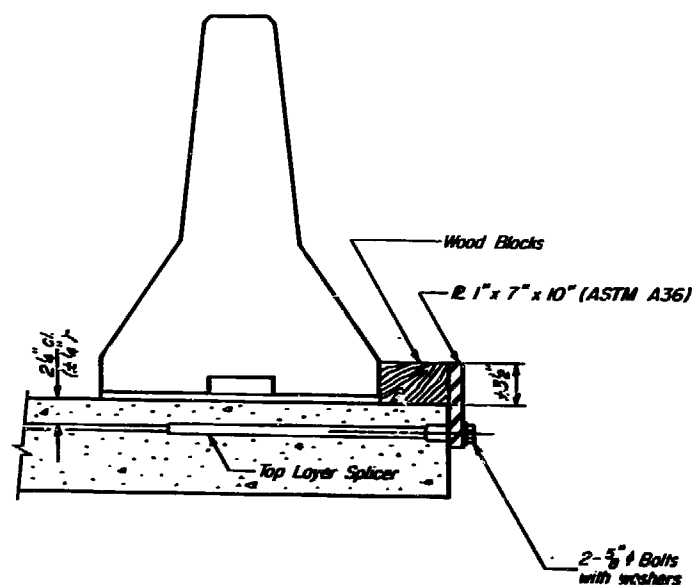


**NOTES**

**Detail I - With Bar Splicer or Couplers:**  
Connect one (1) 1" x 7" x 10" steel plate to the top layer of couplers with 2-5/8" bolts screwed to coupler at approximate center of each 10'-0" barrier panel.

**Detail II - With Extended Reinforcement Bars:**  
Connect one (1) 1" x 7" x 10" steel plate to the concrete slab with 2-5/8" Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate center of each 10'-0" barrier panel.

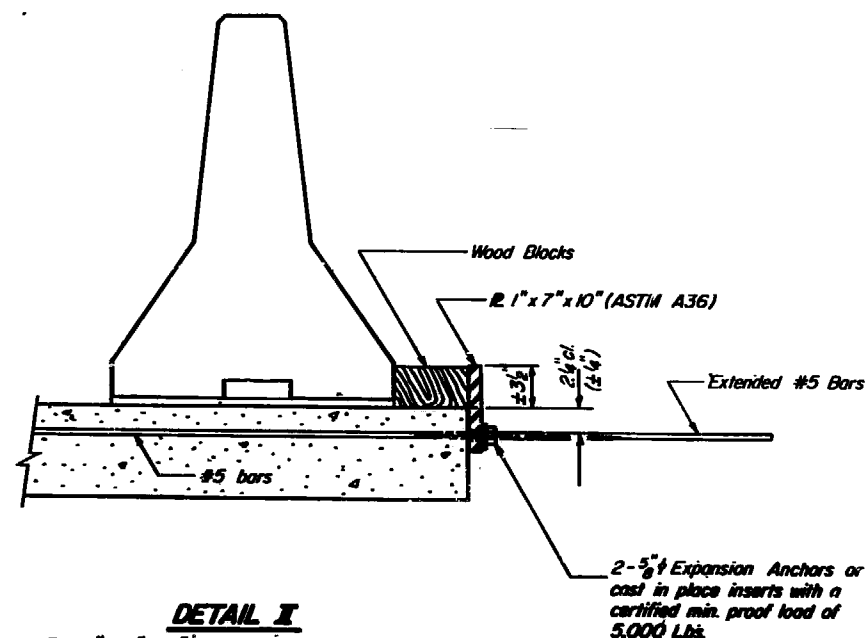
Cost of anchorage is incidental to Temporary Concrete Barrier.



**DETAIL I**

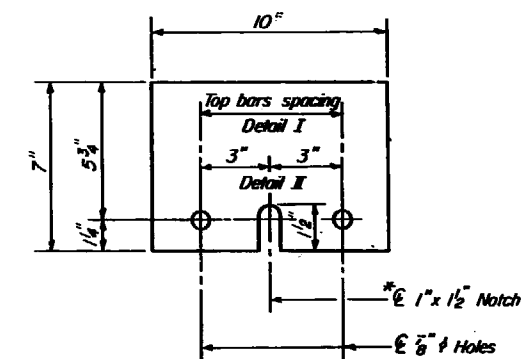
The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.

DESIGNED
CHECKED
DRAWN
CHECKED



**DETAIL II**

The 1" x 7" x 10" 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.



**1" x 7" x 10"**

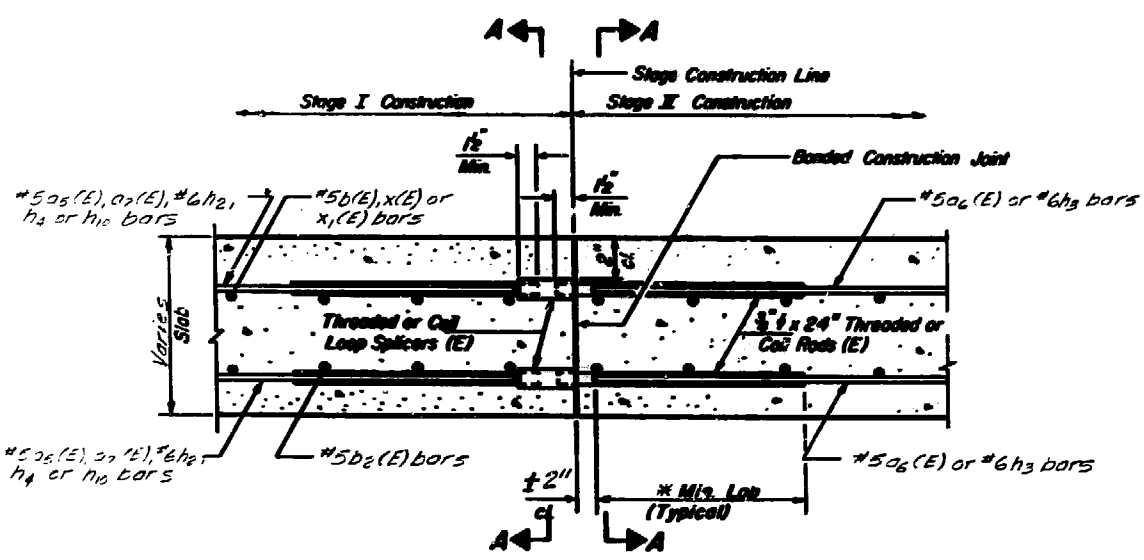
\* Required only with Detail II

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

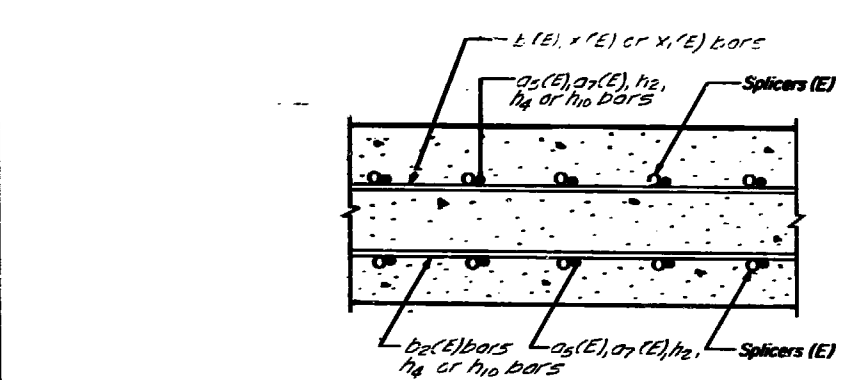
**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION**

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
LIBERTY STREET  
SECTION 8R-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007



**SECTION THRU SLAB**

Min. Bar Laps: #5 bars 1'-8"  
#6 bars 2'-0"



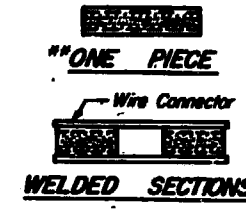
**SECTION A-A**

**SPLICER DETAILS**  
(No. Reqd. 40)

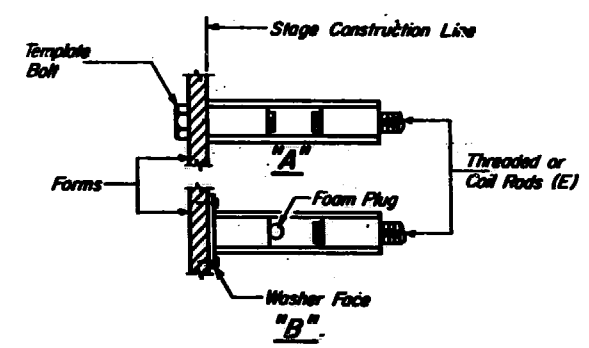
Cost incidental to reinforcement bars (Epoxy Coated).



**Roller Thread Dowel Bar**



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



**INSTALLATION AND SETTING METHODS**

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

**NOTES**

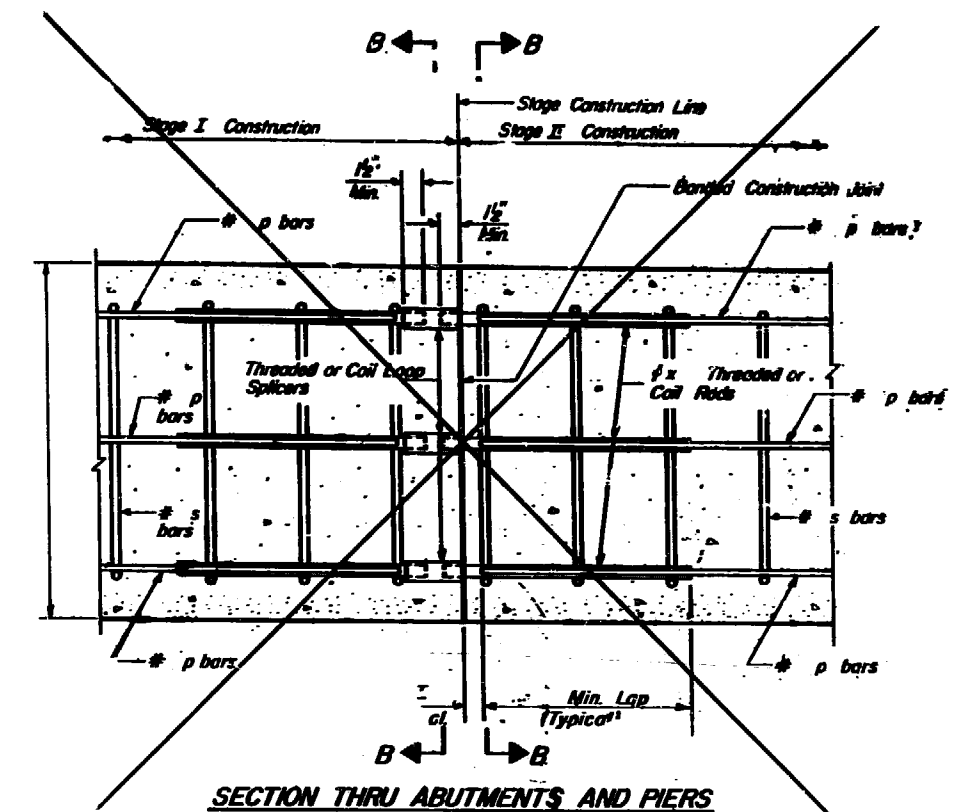
Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal or greater than that of the lapped reinforcement bars.  
Splicer rods shall extend minimum 1/2 inches into the couplers.  
All reinforcement bars shall be lapped and tied to the splicer rods.  
Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

- Minimum Capacity =  $1.25 \times f_y \times A_s$   
(Tension in lugs)
- Minimum Pull-out Strength =  $1.25 \times f_{allow} \times A_s$   
(Tension in lugs)

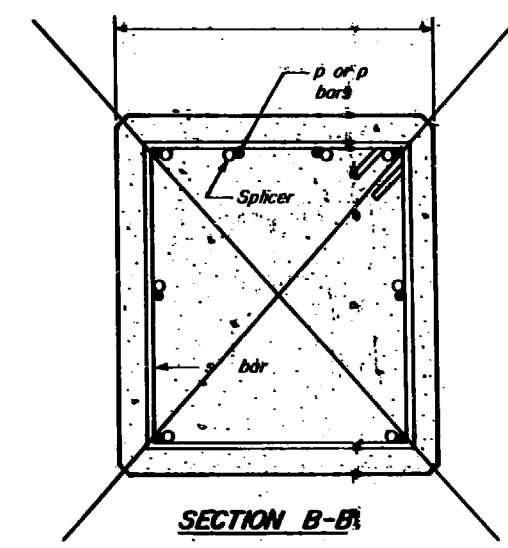
Where  $f_y$  = Yield strength of lapped reinforcement bars in k.s.i.  
 $f_{allow}$  = Allowable tensile stress in lapped reinforcement bars in k.s.i. (Service Load)  
 $A_s$  = Tensile stress area of lapped reinforcement bars.  
\* 28 day concrete

**Typical Splicer (Coupler) Assembly Sizes:**

In Slabs	#5 bar lap with 3/4" Splicer (Coupler) x 2'-0" Splicer Rods	Minimum Capacity = 230 lugs-tension Minimum Pull-out Strength = 220 lugs-tension
	#7 bar lap with 1" Splicer (Coupler) x 3'-5" Splicer Rods	Minimum Capacity = 451 lugs-tension Minimum Pull-out Strength = 430 lugs-tension
In Sub-structure	#8 bar lap with 1 1/2" Splicer (Coupler) x 4'-6" Splicer Rods	Minimum Capacity = 589 lugs-tension Minimum Pull-out Strength = 536 lugs-tension



**SECTION THRU ABUTMENTS AND PIERS**  
No epoxy coating required.



**SECTION B-B**

**SPLICER DETAILS**  
(No. Reqd.)

Cost incidental to reinforcement bars.

DESIGNED
CHECKED
DRAWN
CHECKED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION**

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER LIBERTY STREET  
SECTION BR-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

REVISIONS	
NAME	DATE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

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NOTES

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

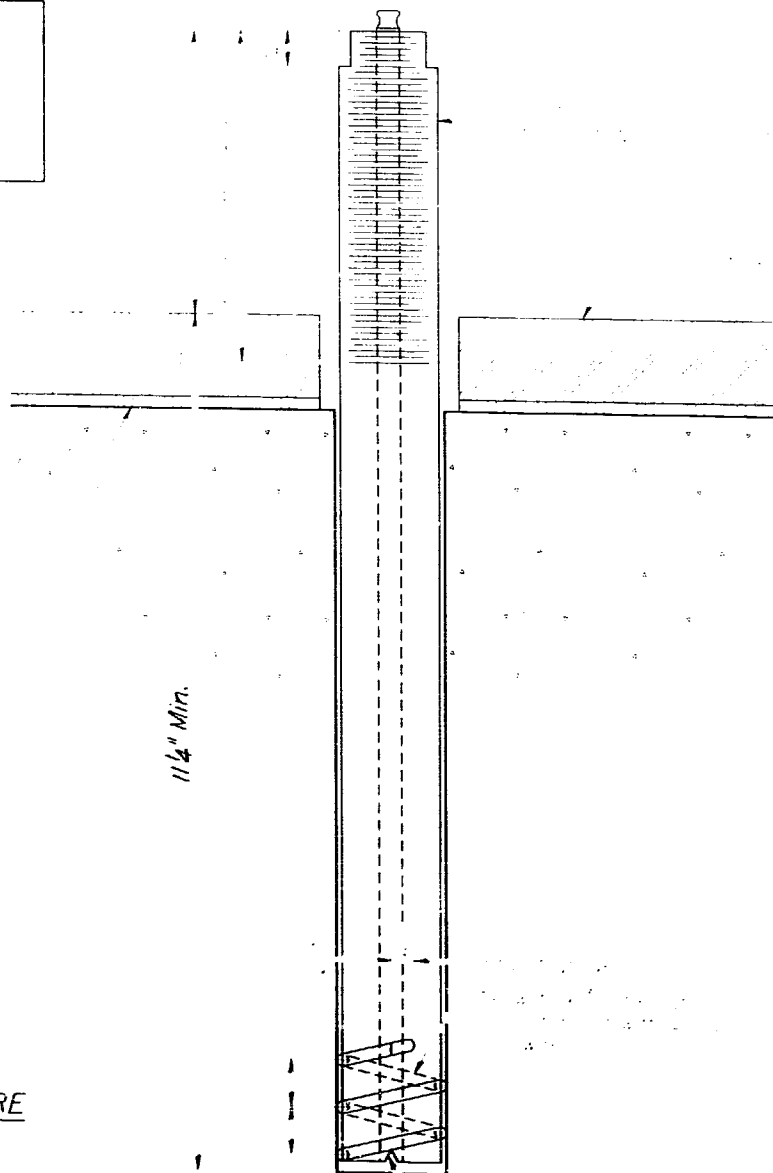
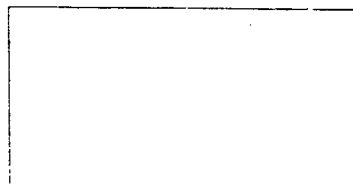
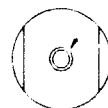
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ALTERNATE ANCHOR BOLTS

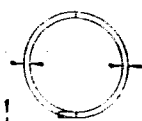
The Contractor may use, at his option, the capsule or the anchor rods that have been previously tested and approved by the Department. The Contractor shall install these anchor rods in accordance with the manufacturer's recommendations and procedures.

The capsule of the adhesive cartridge type anchor bolt shall consist of:

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



ILLINOIS COIL-LOCK ANCHOR BOLT



PLAN-COIL WIRE



DESIGNED  
CHECKED  
DRAWN  
CHECKED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

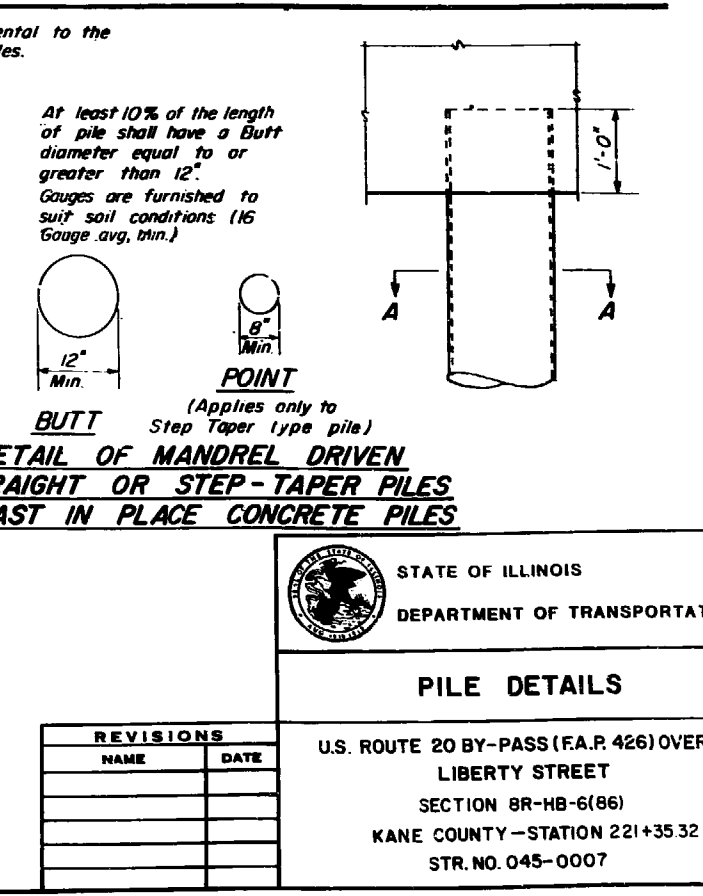
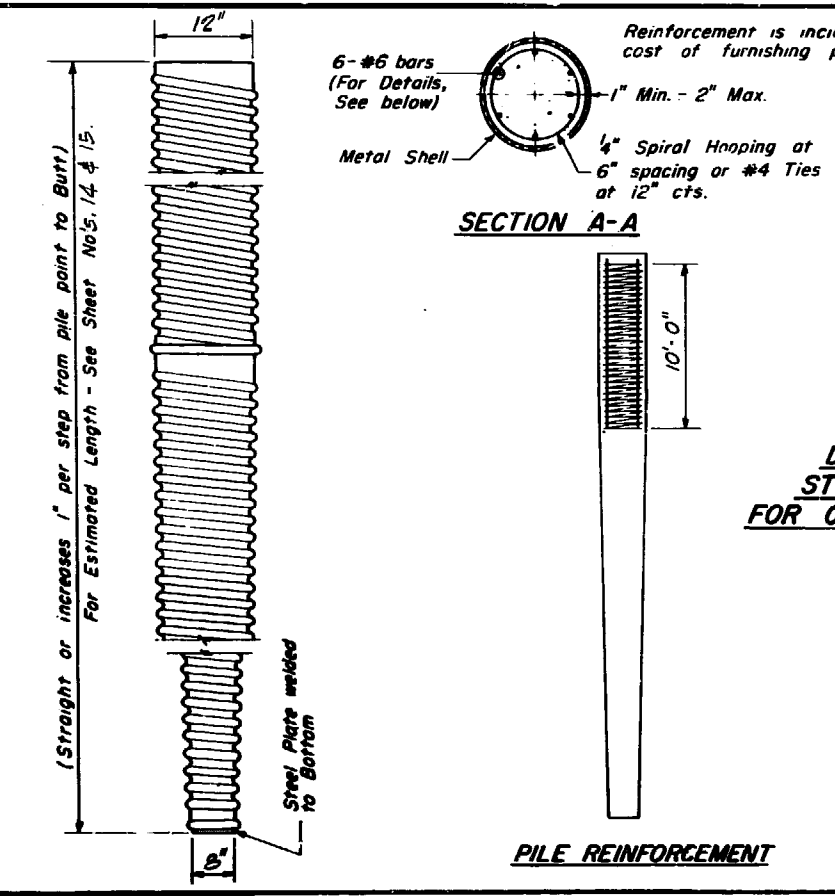
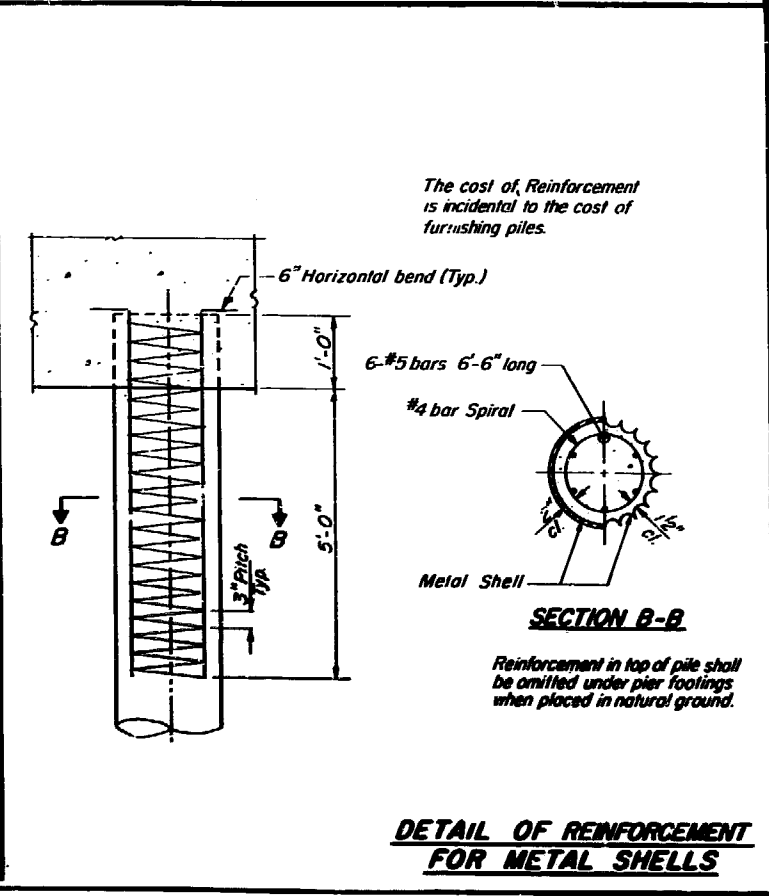
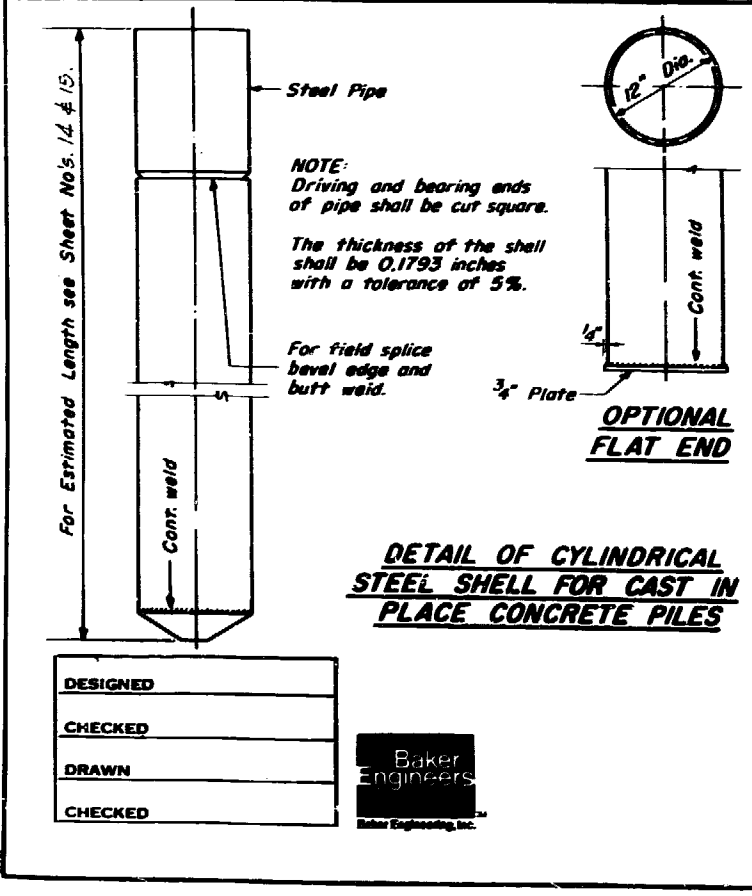
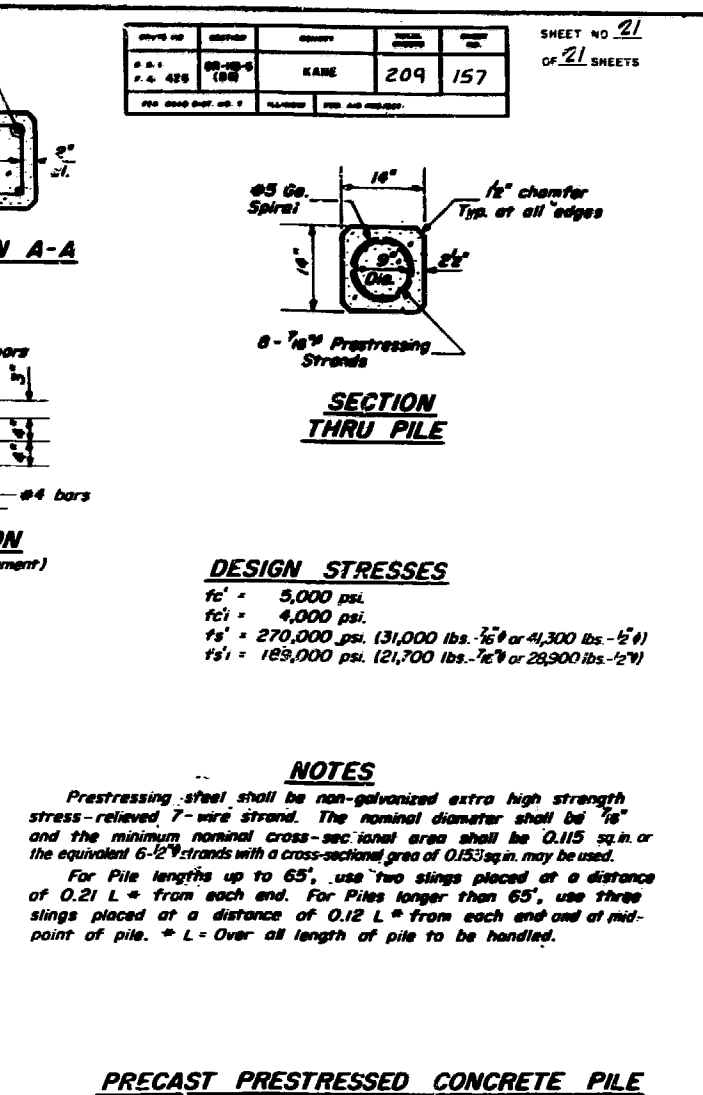
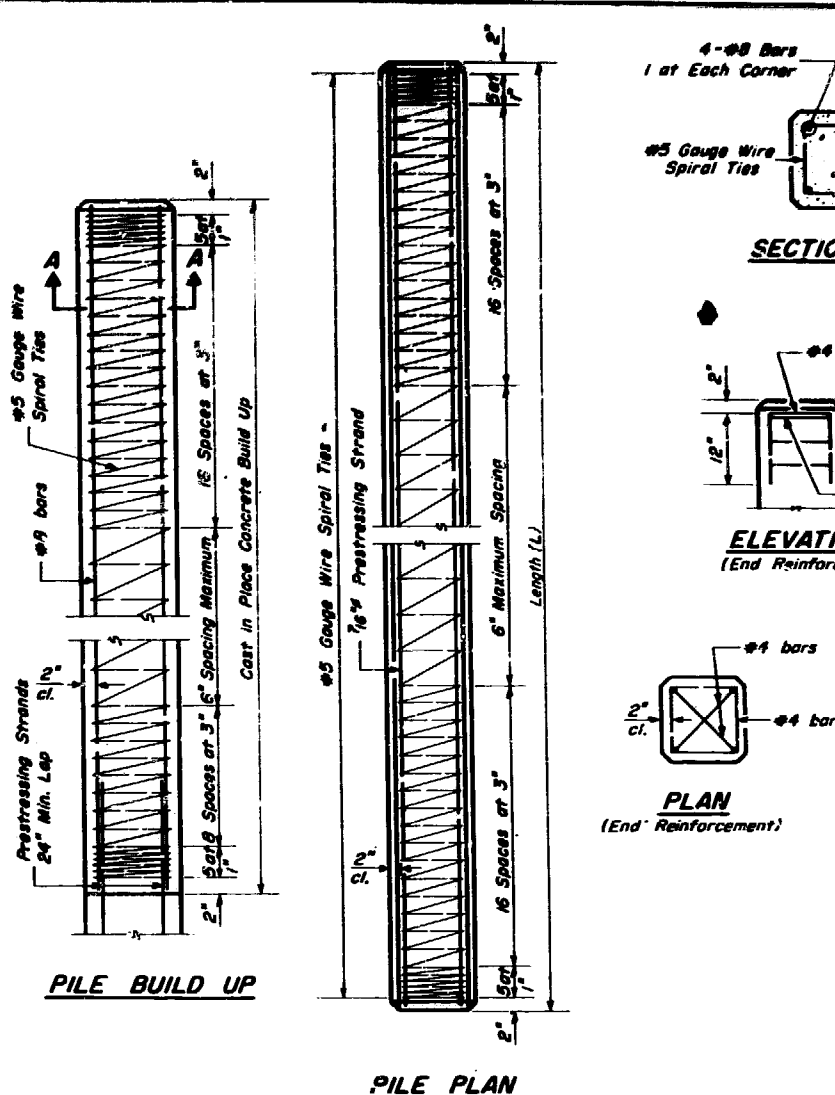
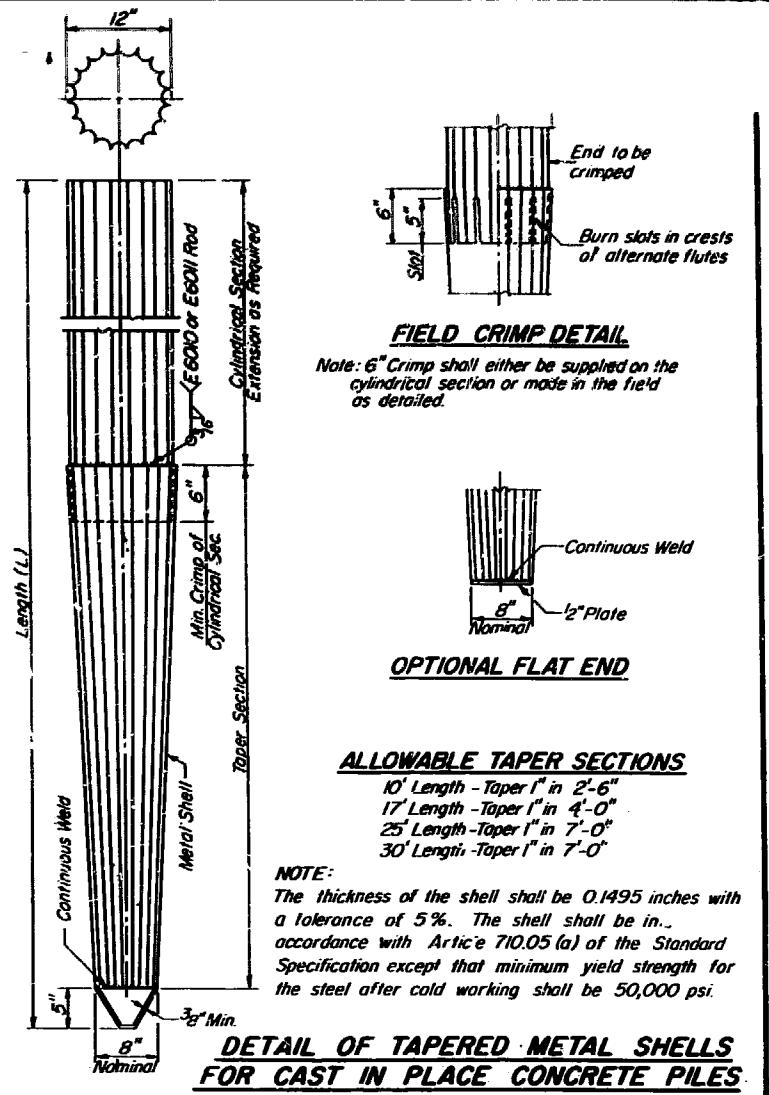
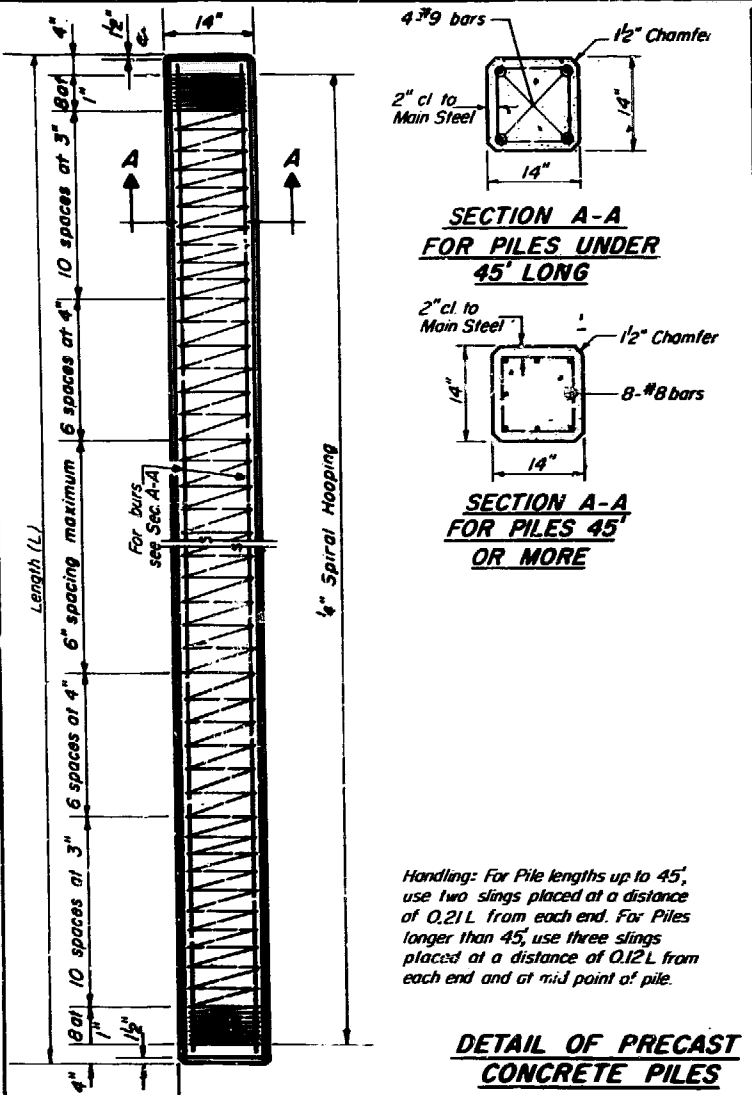
**ANCHOR BOLT DETAILS FOR BEARINGS**

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
LIBERTY STREET  
SECTION BR-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

REVISIONS	
NAME	DATE



DATE	REVISED	BY	NO.	DATE
1.4.48	88-88-6 (88)	KANE	209	157
FOR ROAD DIST. NO. 1				



**DESIGNED**  
**CHECKED**  
**DRAWN**  
**CHECKED**

Baker Engineers  
Baker Engineering, Inc.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**PILE DETAILS**

U.S. ROUTE 20 BY-PASS (F.A.P. 426) OVER  
LIBERTY STREET  
SECTION 8R-HB-6(86)  
KANE COUNTY - STATION 221+35.32  
STR. NO. 045-0007

REVISIONS	
NAME	DATE