099-0260

I-55/IL. 53
TS 135
2 spans

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

SCALES
PLAN 1" = 50'
PROFILE HORIZ. 1" = 50'
PROFILE VERT. 1" = 5'
CROSS SECTIONS V. 1" = 10'
H. 1" = 5'

F.A.I. ROUTE 55 (STEVENSON EXPRESSWAY) N.B. & S.B.
SECTION (28, 29 & 121)WRS-1
PROJECT: STP I-55-6 (194)264

PROJECT LOCATED IN THE VILLAGES OF ROMEOVILLE AND BOLINGBROOK

WIDENING, RESURFACING, BRIDGE JACKING, LIGHTING, SURVEILLANCE & WEIGH-IN-MOTION SCALES
WILL COUNTY
C-91-053-90

FAI-55 OVER IL. RTE. 53

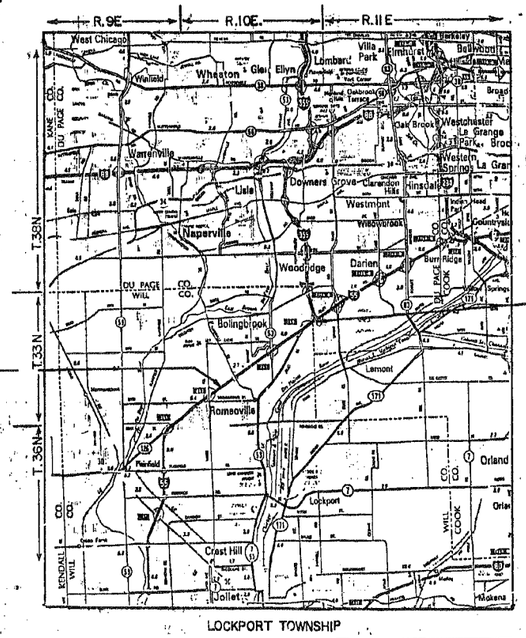
STRUCTURE NO. 099-0260 (STA. 477+54.96)
JACKING EXIST. SUPER STRUCTURE

FAI-55 OVER JOLIET RD.

STRUCTURE NO. 099-0028 (STA. 684+83.12)
JACKING EXIST. SUPER STRUCTURE

DESIGN DESIGNATION
ADT 52,900 (2005) TRUNK 47.8% (B-20)

POSTED SPEED LIMIT = 55 MPH



LOCKPORT TOWNSHIP

PROJECT BEGINS STATION 339+00

PROJECT ENDS STATION 700+00

STATION EQUATIONS
STA. 466+76.62 BACK =
STA. 466+72.95 AHEAD

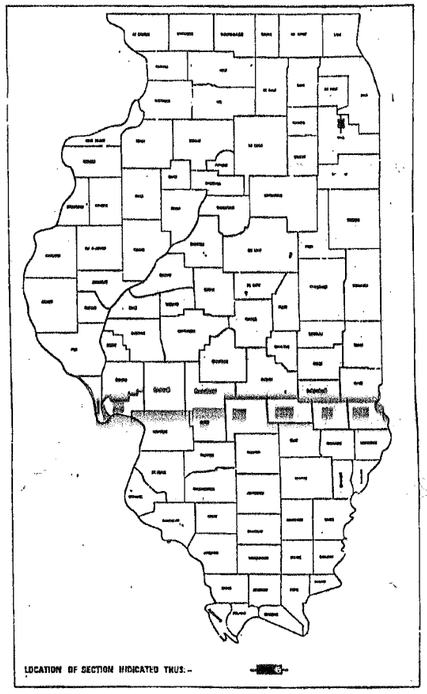
STA. 487+58.11 BACK =
STA. 604+00.00 AHEAD

STA. 676+72.33 BACK =
STA. 676+09.00 AHEAD

F.A.I-55 (STEVENSON EXPRESSWAY)

GROSS LENGTH = 24,525.11 LIN. FT. OR 4.645 MILES
NET LENGTH = 24,525.11 LIN. FT. OR 4.645 MILES

FOR UTILITY INFROMATION, CALL
J.U.L.I.E. 1-800-892-0123



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Dec. 12 19 94
DISTRICT ENGINEER

EXAMINED _____ 19 _____
ENGINEER OF PLANS AND CONTRACTS

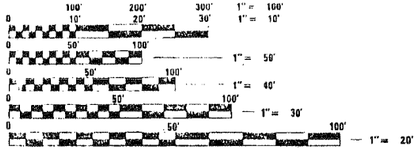
PASSED January 27 19 95
ENGINEER OF DESIGN

APPROVED January 27 19 95
DIRECTOR, BUREAU OF ENGINEERING

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR



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.

CONTRACT NO. 80649

PLAN PREPARATION ENGINEER
TOM HOLTZ RAJENDRA SHAH (708) 705-4437

WILL & COOK COUNTIES SECTION (28, 29 & 121)WRS-1 F.A.I. ROUTE 55

Sheets 1 Thru 50

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	#	WILL	230	2
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

(28, 29, & 121)WRS-1

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	INDEX OF SHEETS, STATE STANDARDS AND PLAN NOTES
*4-11	SUMMARY OF QUANTITIES
13-15	TYPICAL SECTIONS
16-40	STAGING, TRAFFIC CONTROL & DETOUR
41-49	DRAINAGE AND UTILITIES
50-58	PLAN AND PROFILE
59-63	ROADWAY DETAILS (STA.455+00 TO STA. 720+00)
64-71	PROFILES (STA.455+00 TO STA. 691+00)
72	I-55 AT IL. RTE 53 DETAILS
73	I-55 AT JOLIET ROAD DETAILS
74-88	STRUCTURE DETAILS - I-55 OVER JOLIET ROAD
89-100	STRUCTURE DETAILS - I-55 OVER IL RTE 53
101-109	PARAPET WALL DETAILS AT IL RTE 53
110-134	LIGHTING
135-143	SIGNING
144-173	SURVEILLANCE
174	TEMPORARY SIGN PANEL MODIFICATIONS FOR STAGE CONSTRUCTION
175-187	WEIGH - IN MOTION SCALE PLANS
188	PRE-STAGE SHOULDER REPAIRS
189	SPECIAL DETAILS - TEMPORARY INFORMATION SIGNING - SHOULDER RESURFACING ADJACENT TO MEDIAN INLET
190	PAVEMENT PATCHING DETAILS
191	INLET ADJUSTMENT WITH NEW FRAME (SPECIAL)

* SHEET 12 DELETED

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
192	SHOULDER ADDITION AT S.B. EXIT RAMP AT IL. RTE. 53
192	ROADWAY MILLING & RESURFACING ADJACENT TO NON-RESURFACED P.C.C. RAMP PAVEMENT
193	DOUBLE CONCRETE BARRIER (SPECIAL)
194	CONCRETE BARRIER TYPICAL SECTIONS
195-196	CONCRETE BARRIER TRANSITION DETAILS
197-199	CONCRETE COLLAR DETAILS
200	MANHOLE WITH RESTRICTOR PLATE
201	STORM SEWER CONNECTION TO EXISTING SEWER
202	CADD STANDARD SYMBOLS
203	PAVEMENT PATCHING BITUMINOUS SURFACED PAVEMENT
204	BUTT JOINT AND BITUMINOUS TAPER
205	CATCH BASINS, SPECIAL, WITH TWO FRAMES AND GRATES
206	DISTRICT ONE FREEWAY STANDARD- ONE LANE CLOSURE
207	DISTRICT ONE FREEWAY STANDARD- TWO LANE CLOSURE
208	ENTRANCE AND EXIT RAMP CLOSURE TRAFFIC CONTROL DETAILS
209	DETAILS FOR CENTER LANE CLOSURE, TWO LANE WEAVE AND SHOULDER LANE
210	TRAFFIC CONTROL AND PROTECTION FOR SIDEROADS, INTERSECTIONS AND DRIVEWAYS
211	MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS
212	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)
213	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
214-230	CROSS SECTIONS

PLAN NOTES

10' TRANSITIONS SHALL BE USED TO MATCH PROPOSED CURB & GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURBS & GUTTERS AND MEDIANS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

THE REMOVAL OF GUARDRAIL TERMINAL SECTIONS SHALL BE INCLUDED IN THE UNIT PRICE PER LINEAL FOOT FOR STEEL PLATE BEAM GUARD RAIL REMOVAL.

BARRICADES: THE CONTRACTOR SHALL PROVIDE AND INSTALL TWO (2) WEIGHTED SAND BAGS ON EACH TYPE I OR TYPE II BARRICADE USED. (ONE (1) WEIGHTED SAND BAG ACROSS EACH BOTTOM RAIL).

WHEN ARTIFICIAL LIGHTING IS UTILIZED IN NIGHT OPERATIONS THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.

ON STATE STANDARDS 2429 AND 2430 AGGREGATE SUBGRADE 12" SHALL BE USED IN LIEU OF LIME MODIFIED SOIL OR SUB-BASE GRANULAR MATERIAL, TYPE C SPECIFIED. THE ADDITIONAL THICKNESS OF AGGREGATE SUBGRADE UNDER THE SHOULDER SHALL BE INCLUDED IN THE COST PER SQ YD OF "AGGREGATE SUBGRADE 12".

ALL STORM SEWER CONNECTIONS WITH PIPES 27" DIAMETER AND SMALLER SHALL BE MADE WITH PRECAST "TEE" OR "WYE" PIPES. FOR PROPOSED STORM SEWER PIPES LARGER THAN 27" DIAMETER OPENINGS OF THE APPROPRIATE DIAMETER, SHALL BE MADE IN THE PIPE AT THE TIME IT IS MANUFACTURED. PRECAST "TEE" AND "WYE" PIPE CONNECTIONS FOR PROPOSED STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST FOR STORM SEWERS.

TRAFFIC CONDITIONS, ACCIDENTS AND OTHER UNFORSEEN EMERGENCY CONDITIONS MAY REQUIRE THE ENGINEER TO RESTRICT, MODIFY OR REMOVE LANE CLOSURES OR CHANNELIZATION SHOWN IN THE PLANS. THE CONTRACTOR SHALL MAKE THE NECESSARY ADJUSTMENTS AS DIRECTED BY THE ENGINEER WITHOUT DELAY. THE CONTRACTOR SHALL RESPOND WITHIN THIRTY (30) MINUTES FROM THE TIME OF NOTIFICATION BY THE ENGINEER TO ANY REQUEST MADE BY THE ENGINEER FOR CORRECTION.

ALL PAVEMENT RELIEF JOINTS SHALL BE REMOVED AND RECONSTRUCTED, SEE STANDARD 2426 (METHOD II). THE REMOVAL, THE SAW CUT (FULL DEPTH) AND ALL OTHER NECESSARY WORK SHALL BE CONSIDERED INCIDENTAL TO CLASS B PATCH - EXPANSION JOINT.

NEW THERMPLASTIC PAVEMENT MARKINGS ARE TO BE REMOVED PRIOR TO SURFACING OPERATIONS. GRINDING OF PAVEMENT MARKINGS TO BE REMOVED WILL BE PERMITTED WHERE THE PAVEMENT IS TO BE RESURFACED.

Chain Link Fence 4'

1) Install chain link fence 4' at location of existing fence to be removed, unless otherwise directed by Engineer.

2) Contractor and Engineer will agree upon a reasonable amount of existing fence removal after which the proposed chain link fence 4' must be installed at this same location, prior to removal of additional fence. The purpose being to reasonably maintain the access control fence line.

3) Removal of accumulations of rubbish of whatever nature, removal of logs, shrubs, bushes, saplings, weeds and stumps less than 6 inches shall be done prior to installing the new chain link fence 4'. This work will be incidental to chain link fence 4'.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, STATE STANDARDS & PLAN NOTES

SCALE: VERT. HORIZ. DRAWN BY

DATE CHECKED BY

F. A. I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(2282B&221WB)SI	WILL	230	72
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONCRETE BARRIER REMOVAL- 975 L.F.
DOUBLE CONCRETE BARRIER (SPL.)- 975 L.F.
STA. 466+50 TO STA. 476+25

SPBGR REMOVAL-285 L.F.
SPBGR TYPE A-200 L.F.
TBT, TYPE 5A-1 EACH
TBT, TYPE 2-1 EACH
BITUMNOUS SHOULDERS, 6"-103 S.Y.
EARTH EX. - 18 C.Y.

STA. 477+54.96 (F.A.I. 55)
STA. 1460+74.43 (ILLINOIS ROUTE 53)

33°06'45.8"

ILLINOIS ROUTE 53

FAI-55

SEE SPECIAL DETAILS FOR RETAINING WALL MODIFICATIONS

EXISTING RETAINING WALL MODIFICATIONS (SEE SPECIAL DETAILS)

EXIST. ATTENUATOR REMOVE & REINSTALL
EXIST. TBT TYPE 3B

RAMP

15"SS

ADJ

SBL

NBL

475

480

485

SPBGR REMOVAL-465 L.F.
SPBGR TYPE A-400 L.F.
TBT, TYPE 6-1 EACH
TBT, TYPE 1-1 EACH
BITUMNOUS SHOULDERS, 6"-157 S.Y.
EARTH EX. - 26 C.Y.

PROP. BRIDGE DECK JACKING
(SEE SPECIAL DETAILS)

SPBGR REMOVAL-248 L.F.
SPBGR TYPE A-220 L.F.
TBT, TYPE 5A-1 EACH
TBT, TYPE 2-1 EACH
BITUMNOUS SHOULDERS, 6"-90 S.Y.
EARTH EX. - 15 C.Y.

CONCRETE BARRIER REMOVAL- 642 L.F.
DOUBLE CONCRETE BARRIER (SPL.)- 642 L.F.
STA. 478+76 TO STA. 485+00

ILLINOIS ROUTE 53

RAMP

ROADWAY PROFILE CHANGE FOR RAISING BRIDGE

1. REMOVE AND RECONSTRUCT BARRIER WALL TO PROP. GRADE
2. MILL EXISTING PAVEMENT PER TYPICAL SECTIONS
3. PLACE ADDITIONAL BINDER THICKNESS AT STATIONS SHOWN BELOW
4. PLACE UNIFORM SURFACING THICKNESS AS SHOWN ON TYPICAL SECTIONS

*ADDITIONAL BINDER THICKNESS

0"	TO	4¾"±	
STA. 466+50	STA. 475+77		NB
STA. 485+00	STA. 478+92		NB
STA. 466+50	STA. 476+11		SB
STA. 485+00	STA. 479+26		SB

*STATIONS & THICKNESS ARE APPROXIMATE
SEE ROADWAY PROFILES

[1] SEE SPECIAL DETAILS FOR APPROACH SLAB JOINT ADJUSTMENTS

[2] BRIDGE APPROACH SHOULDER REMOVAL
P.C. CONC. BRIDGE APPROACH SHOULDER PAVEMENT
INLETS TO BE ADJUSTED WITH NEW FRAME (SPL.)
(SEE SPECIAL DETAILS)

USE 30' TRANSITIONS IN DOUBLE CONCRETE BARRIER WALL THICKNESS TO MEET WALL THICKNESS AT BRIDGE. PAYMENT SHALL BE INCLUDED IN COST FOR "DOUBLE CONCRETE BARRIER (SPL.)"

ILLINOIS DEPARTMENT OF TRANSPORTATION

I-55 @ IL. ROUTE 53
ROADWAY DETAILS

REVISIONS NAME	DATE

SCALE: VERT. 1"=40'
HORIZ.
DATE 08/18/94

DRAWN BY CAD
CHECKED BY

1 of 2

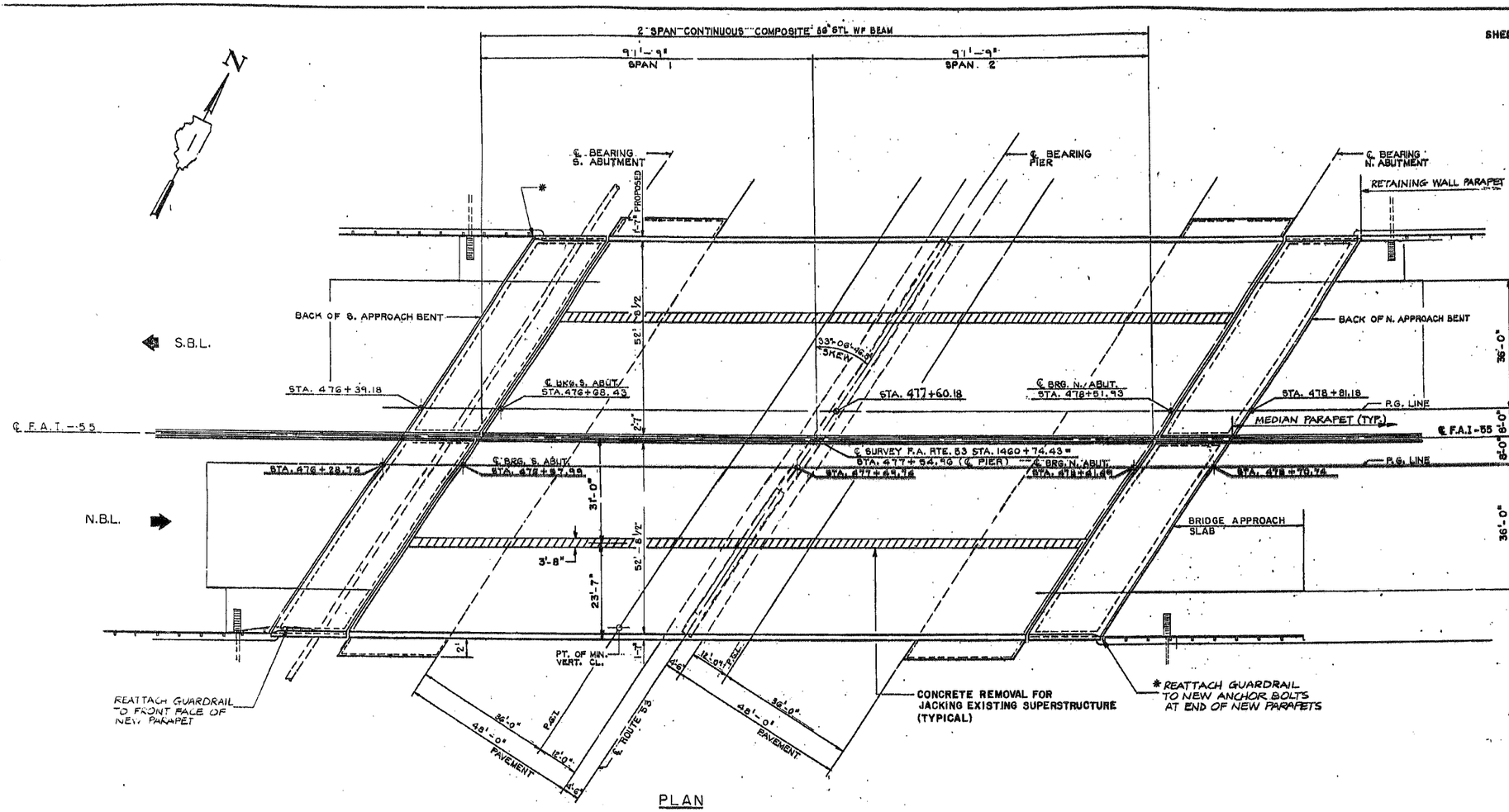
D C B A 0 A B C D

TAMERAN

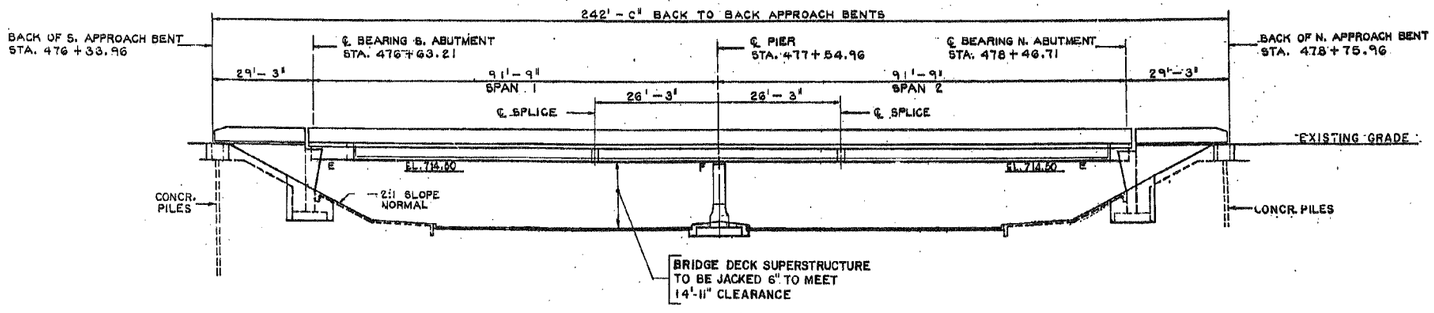
SHEET S-1 OF S-21

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
55	*	WILL	230	89
STA.		TO STA.		
FED. ROAD DIST NO 7	ILLINOIS	FED AID PROJECT		

28 0121 RS-1



PLAN



ELEVATION

CONSTRUCTION SEQUENCE

1. TRAFFIC STAGING.
2. REMOVE CONCRETE, CUT REINFORCEMENT AND JACK AND CRIB BRIDGE DECK.
3. ADJUST BEARINGS AND INSTALL NEW STEEL EXTENSIONS.
4. RECONSTRUCT TRANSVERSE EXPANSION JOINTS.
5. RECONSTRUCT LONGITUDINAL BRIDGE DECK OPENING.
6. ADD CONCRETE WEARING SURFACE.

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSION AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTUCTION OR ORDERING OF MATERIALS.

SUCH VARIATION SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT BID PRICE FOR THE WORK.

2. JACKING AND CRIBBING SHALL BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING BRIDGE RAISING OPERATIONS. TRAFFIC SHALL BE REMOVED FROM THE PORTION OF THE STRUCTURE TO BE JACKED PRIOR TO COMMENCING JACKING OPERATIONS. TRAFFIC SHALL BE KEPT OFF THE STRUCTURE DURING THE ENTIRE OPERATION. DIFFERENTIAL JACKING HEIGHT SHALL NOT EXCEED 1/8" TRANSVERSELY BETWEEN ADJACENT BEAMS OR 1/4" LONGITUDINALLY BETWEEN ADJACENT SUPPORTS.
3. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M 53 GRADE 60
4. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM.
5. ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M-270, GR.36 UNLESS OTHERWISE SPECIFIED.
6. FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
7. THE CONTRACTOR WILL BE REQUIRED TO MARK, ON THE TOP OF THE CONCRETE DECK, THE LOCATION OF THE TOP FLANGE OF THE STEEL BEAMS PRIOR TO ANY REMOVAL OF THE BRIDGE CONCRETE DECK. SAW CUTTING DIRECTLY OVER THE TOP OF THE BEAM IS NOT PERMITTED.

TWO STRUCTURES
TOTAL BILL OF MATERIALS

ITEM	UNIT	QUANTITY
CONCRETE SUPERSTRUCTURE	CU.YDS	154.3
REINFORCEMENT BARS(EPOXY COATED)	LBS	38,420
CONCRETE REMOVAL	CU.YDS	134.4
JACKING EXISTING SUPERSTRUCTURE	L.SUM	1.0
CONCRETE WEARING SURFACE	SQ.YDS	710
PREFORMED JOINT SEAL 4"	FOOT	260
FURNISHING AND ERECTING OF STRUCTURAL STEEL	LBS	24,910
BAR SPLICERS	EACH	176
PREFORMED JOINT SEAL 2½"	FOOT	60
PROTECTIVE SHIELD	SQ.YD	2372

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
I-355 TO NAPERVILLE ROAD
GENERAL PLAN AND ELEVATION
S.N.099-0260/0261

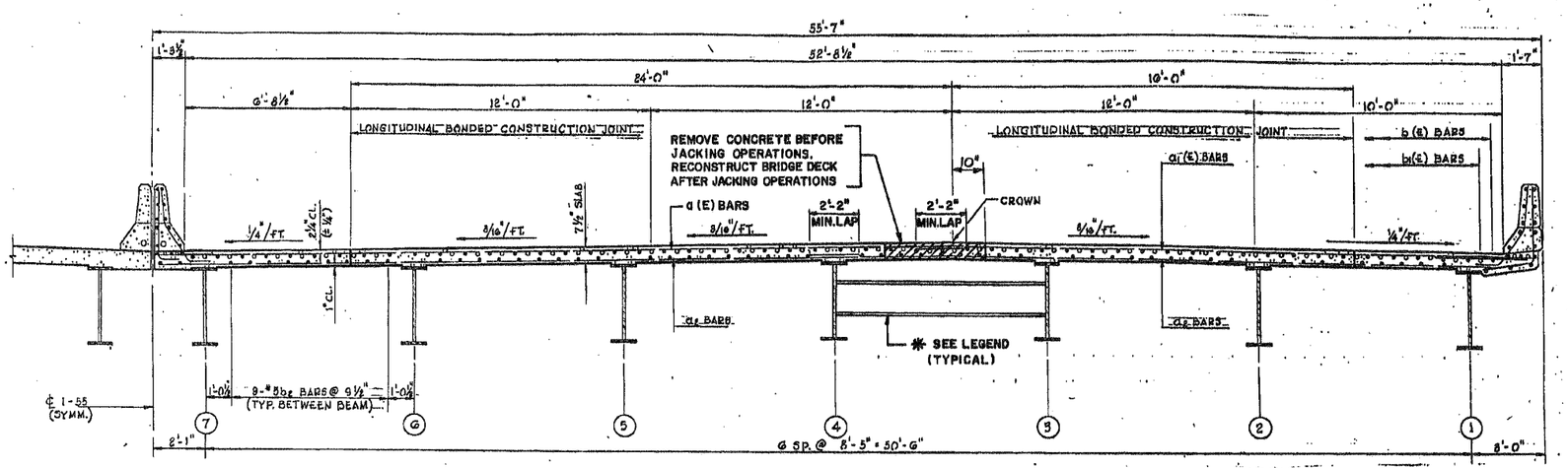
SCALE: VERT. HORIZ.
DRAWN BY MVT
CHECKED BY JAF
DATE

1 of 21

D C B A 0 A B C D

TAMERAN

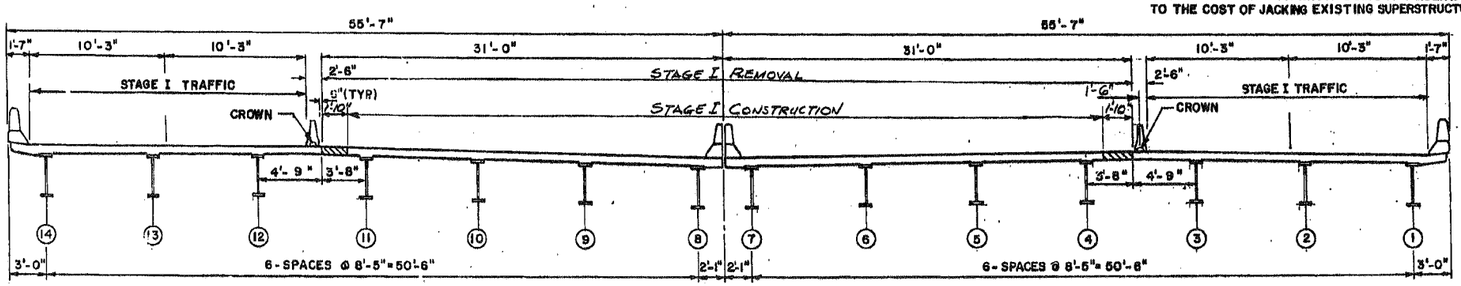
FED. ROAD DIST. NO.	STATE	COUNTY	TOTAL SHEETS	SHEET NO.
5	ILLINOIS	WILL	230	90
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL EXISTING CROSS SECTION
(LOOKING SOUTH)

LEGEND:

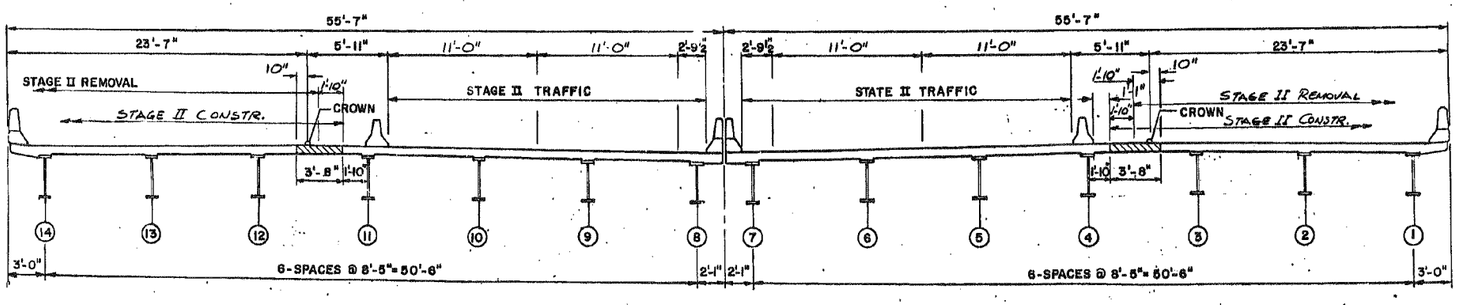
* DIAPHRAGM TO BE REMOVED DURING BRIDGE JACKING. REFASTEN EXISTING DIAPHRAMS AFTER JACKING IS COMPLETED WITH NEW 3/4" DIA. HIGH STRENGTH BOLTS (AASHTO M-164) THE COST OF HIGH STRENGTH BOLTS IS INCIDENTAL TO THE COST OF JACKING EXISTING SUPERSTRUCTURE.



N.B. STRUCTURE

S.B. STRUCTURE

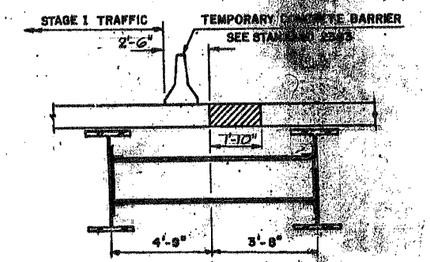
STAGE ONE CONSTRUCTION



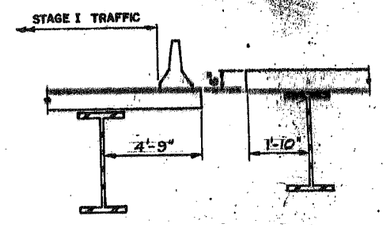
N.B. STRUCTURE

S.B. STRUCTURE

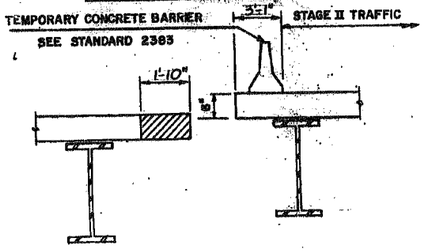
STAGE TWO CONSTRUCTION



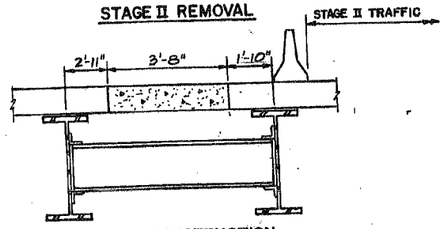
STAGE I REMOVAL



STAGE I CONSTRUCTION



STAGE II REMOVAL



STAGE II CONSTRUCTION

STAGE CONTRUCTION DETAILS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
I-355 TO NAPERVILLE ROAD
TYPICAL SECTION
S.N. 099-0260/0261

SCALE: VERT. HORIZ.
DRAWN BY MVT
DATE
CHECKED BY JAF

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	*	WILL	232	91
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET S-3 OF S-21

* 28 & 121 RS-1

NOTE:
ALL EDGES SHALL HAVE 3/4" CHAMFER UNLESS OTHERWISE NOTED.

FOUR VAULTED APPROACH SLAB AND DECK JOINTS
BILL OF MATERIALS

Bar	No.	Size	Length	Shape
a(E)	32	#5	34'-0"	
a_1(E)	32	#5	34'-0"	
a_2(E)	16	#5	4'-0"	
d(E)	32	#4	5'-2"	
d_1(E)	32	#5	3'-11"	
d_2(E)	32	#4	3'-11"	
d_3(E)	32	#5	4'-9"	
d_4(E)	120	#5	5'-0"	
d_5(E)	120	#5	4'-9"	
h(E)	16	#8	31'-0"	
h_1(E)	16	#8	34'-0"	
h_2(E)	112	#4	31'-0"	
h_3(E)	112	#4	34'-0"	
h_4(E)	224	#4	27'-0"	
h_5(E)	16	#5	27'-0"	
h_6(E)	16	#8	27'-5"	
x(E)	216	#5	2'-3"	
Reinforcement Bars (Epoxy Coated)			lbs.	16,760
Concrete Removal			Cu. Yds.	21.4
Concrete Superstructure			Cu. Yds.	28.3
Preformed Joint Seal (4")			FOOT	260
Furn. And Erect. Structural Steel			lbs.	24,910
Bar Splicers			Each	176
Concrete Wearing Surface			SQ. YD.	710
Preformed Joint Seal (2½")			Feet	60

EXISTING EXPANSION JOINT
(HATCHED AREA INDICATES CONCRETE REMOVAL)

SECTION A-A
PROPOSED EXPANSION JOINT

VIEW E-F

EXSITING/PROPOSED PARAPET AT EXPANSION JOINT

NOTE: EXISTING LONGITUDINAL REBARS TO BE CLEANED AND STRAIGHTENED. EXISTING TRANSVERSE REBARS TO BE REMOVE AND REPLACED WITH IDENTICAL EPOXY COATED BARS (3-d(E), & d_1(E) REQUIRED AT EACH LOCATION).

EXSITING/PROPOSED PARAPET AT EXPANSION JOINT

NOTE: EXISTING LONGITUDINAL REBARS TO BE CLEANED AND STRAIGHTENED. EXISTING TRANSVERSE REBARS TO BE REMOVE AND REPLACED WITH IDENTICAL EPOXY COATED BARS (3-d_2(E), & d_3(E) REQUIRED AT EACH LOCATION).

VIEW D-D

BARS d_4

BARS d_5

SECTION "B-B"

SECTION "C-C"

BRIDGE DECK EXPANSION JOINT AT ABUTMENT

1"ø ANCHOR BOLT
Cost of bolts to be incidental to Bridge Structure.

d(E) BARS

d_2(E) BARS

d_1(E) or d_3(E) BARS

X(E) BARS

PREFORMED JOINT SEAL (2½")

NOTES:
REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

EXISTING REINFORCEMENT BARS EXTENDING INTO NEW CONSTRUCTION SHALL BE CLEANED, STRAIGHTENED, AND INCORPORATED INTO THE NEW CONCRETE. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING EXISTING CONCRETE SO AS TO NOT DAMAGE EXISTING REINFORCEMENT.

BONDED CONSTRUCTION JOINT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ARTICLE 503.09(a)(2) OF THE STANDARD SPECIFICATIONS.

SEE SHEET 11 FOR BAR SPLICER DETAILS.

LEGEND:
** BEND IN FIELD IN TAPERED PORTION OF PARAPET ENDS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
TRANSVERSE EXPANSION JOINT
AT EAST/ WEST ABUTMENT
S.N.099-0260/0261

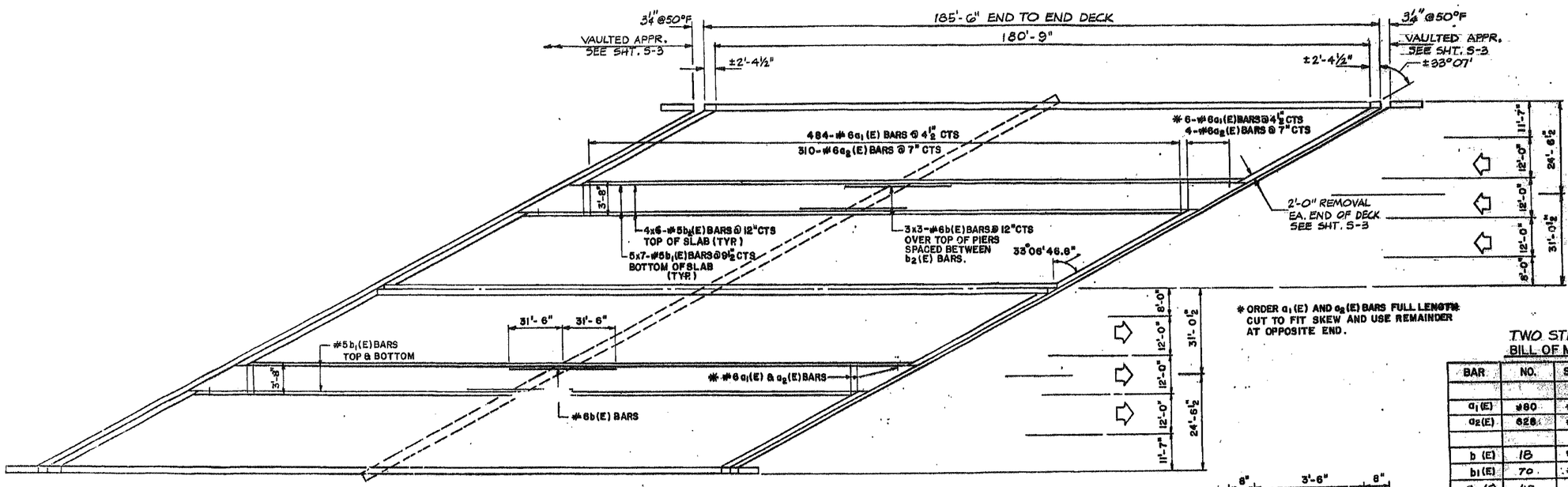
SCALE: VERT. HORIZ.
DRAWN BY JAF
DATE
CHECKED BY MVT

3 of 21

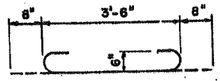
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	*	WILL	230	92
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*(28 & 121) RS-1

SHEET S-4 OF S-21



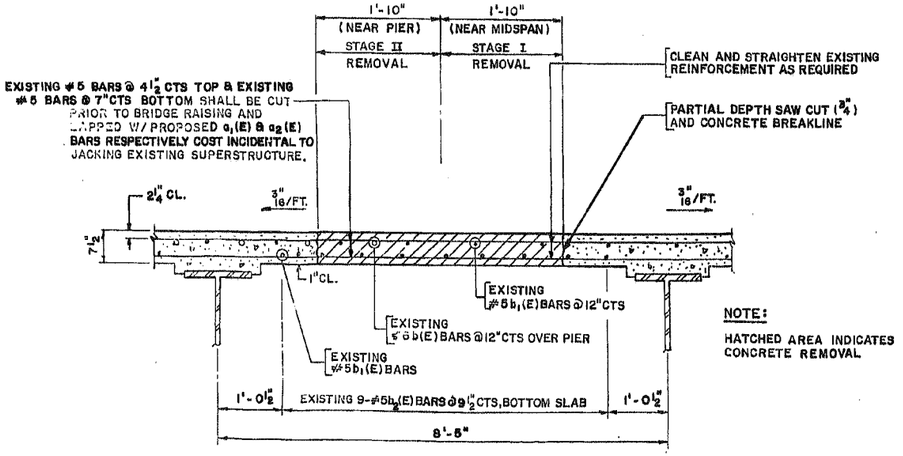
* ORDER a_1(E) AND a_2(E) BARS FULL LENGTH CUT TO FIT SKEW AND USE REMAINDER AT OPPOSITE END.



BARS a_2(E)

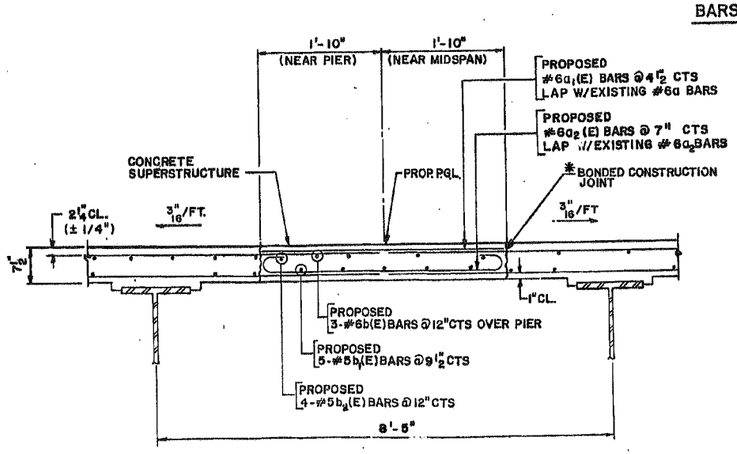
TWO STRUCTURES BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
a_1(E)	980	#6	3'-7"	—
a_2(E)	628	#6	4'-10"	⊂
b (E)	18	#6	23'-0"	—
b1 (E)	70	#5	26'-3"	—
b_2(E)	48	#5	32'-4"	—
CONCRETE REMOVAL			CU. YDS	31
CONCRETE SUPERSTRUCTURE			CU. YDS	31
REINFORCEMENT BARS (EPOXY COATED)			LBS	14,140



EXISTING BRIDGE DECK SAW CUT JOINT DETAIL

NOTE:
HATCHED AREA INDICATES CONCRETE REMOVAL.



PROPOSED BRIDGE DECK SAW CUT JOINT CLOSURE DETAIL

NOTES:

HEAVY CONSTRUCTION MACHINERY AND TRAFFIC MUST BE KEPT OFF THE BRIDGE DECK SLAB OVERHANG BETWEEN BEAMS 3 & 4 AND BEAMS 11 & 12 DURING CONCRETE REMOVAL.

THE MINIMUM LAP FOR #5 BARS IS 1'-8" CTS. #6 BARS IS 2'-0" CTS.

*BONDED CONSTRUCTION JOINT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ARTICLE 503.09 (a) (2).

EXISTING REINFORCEMENT BARS EXTENDING INTO CONCRETE REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED AND INCORPORATED INTO NEW CONSTRUCTION, COST INCIDENTAL TO "CONCRETE REMOVAL".

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

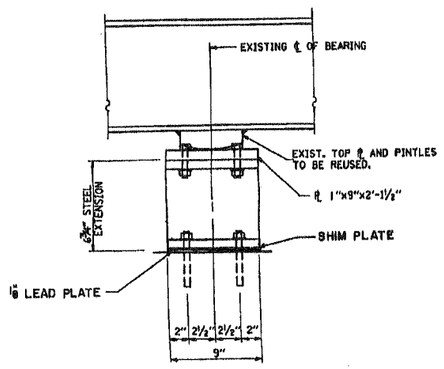
BARS INDICATED THUS 5x7-#5b1(E) INDICATES 5 LINES OF BARS WITH 7 LENGTH PER LINE.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
I-355 TO NAPERVILLE ROAD
BRIDGE DECK SAW CUT JOINT CLOSURE
S.N. 099-0260/0261
SCALE: VERT. HORIZ.
DRAWN BY MVT
CHECKED BY JAF
DATE

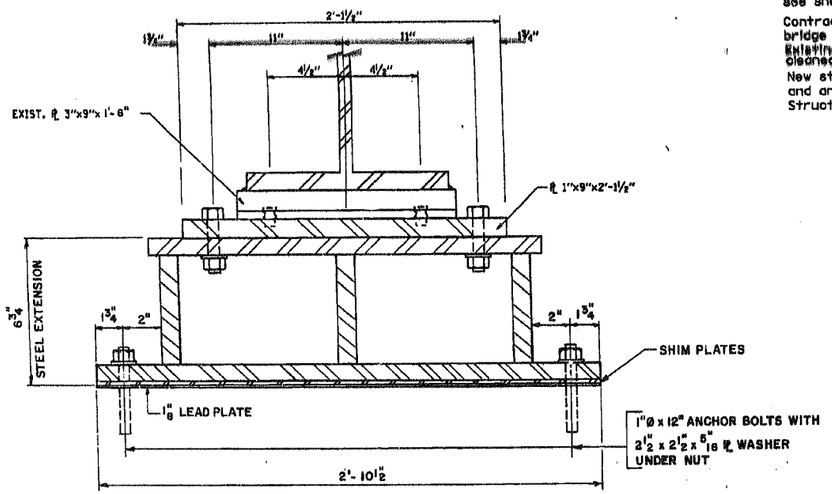
4 of 21

D C B A 0 A B C D
TAMERAN

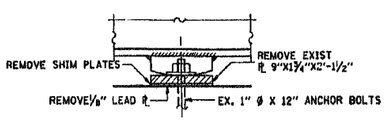


PROPOSED SECTION AT PIER #1

(14 REQUIRED)



PROPOSED FRONT FACE AT PIER



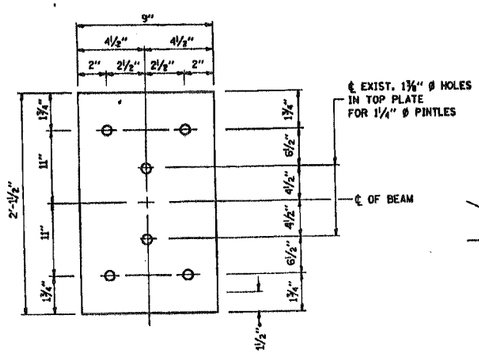
EXISTING SECTION AT PIER

(HATCHED AREA INDICATES REMOVAL)

NOTES:

Drilling of proposed anchor bolts is incidental to the cost of Furnishing and Erecting Structural Steel.
Replace broken or rusted out pintles subject to the approval of the Engineer. The cost is incidental to Furnishing and Erecting Structural Steel.
For Anchor Bolts installation details see sheet 521 of 521.
Burn existing anchor bolts flush with existing concrete surface. Grind smooth and seal with epoxy. The cost is incidental to Jacking Existing Superstructure.

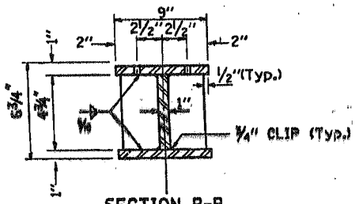
Two ⅛" additional adjusting shims of the dimensions of the steel extension shall be provided for each bearing (beam) which are shown on the plans and shall be used as required.
Proposed steel extension to be aligned above existing ℄ of bearing. Proposed plates shall be AASHTO, M-270, Gr-36.
For jacking information and the details of existing bearings see sheet 58 & 59
Contractor shall submit jacking details for approval by the bridge office.
Existing portion of fixed bearings to be reused shall be cleaned and painted. See special provisions.
New steel extensions, bearing plate, shim plates, lead plates conection bolts, and anchor bolts are included in Furnishing and Erecting Structural Steel.



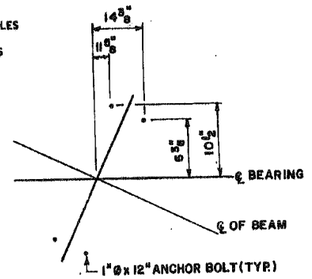
PLAN OF ℄ 1"x9"x2'-1½"

GIRDER REACTIONS

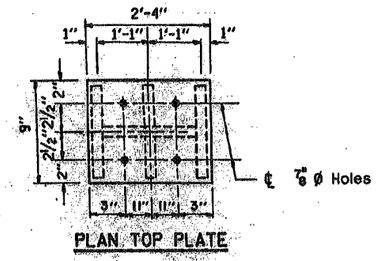
R DL (K)	163.6
R LL+Imp. (K)	93.3
R (Total) (K)	256.9



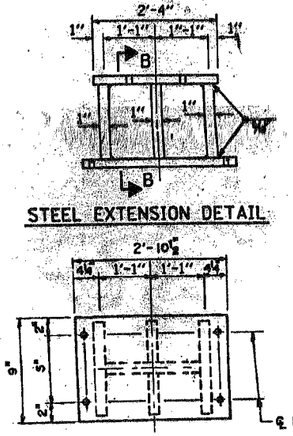
SECTION B-B



ANCHOR BOLT LOCATION AT PIER



PLAN TOP PLATE



STEEL EXTENSION DETAIL

PLAN BOTTOM PLATE

BILL OF MATERIAL

Item	Unit	Total
Furn. and Erect Structural Steel	Lbs	4370
Jacking Existing Superstructure	L.S.	1.0

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
CENTER PIER
FIXED BEARING DETAILS
S.N. 099-0260/0261
SCALE: 50'=1" DRAWN BY CADD
DATE 04/29/94 CHECKED BY JAF

Tri Apr 29 11:55:00 1994
/usr/project/dl17393/dl17393aa.m32 LY=1-8.16.35

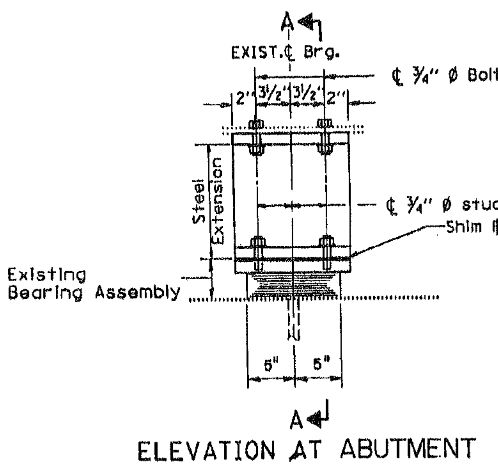
D C B A 0 A B C D

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	*	WILL	230	94

STA. TO STA.

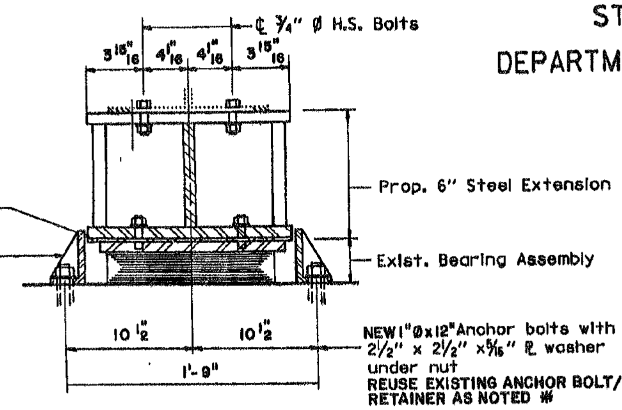
*28 &121 RS-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT ABUTMENT

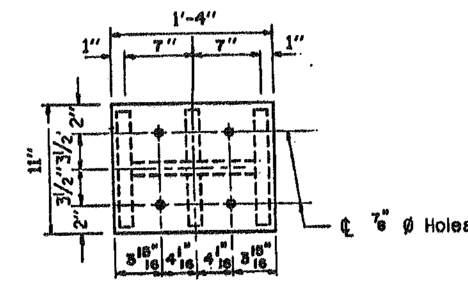
(28 Required)



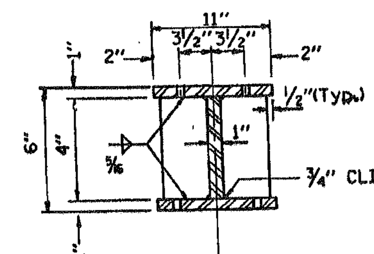
SECTION A-A

GIRDER REACTIONS

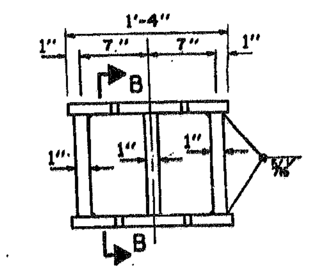
R DL	(K)	47.1
R LL+Imp.	(K)	59.9
R (Total)	(K)	107.0



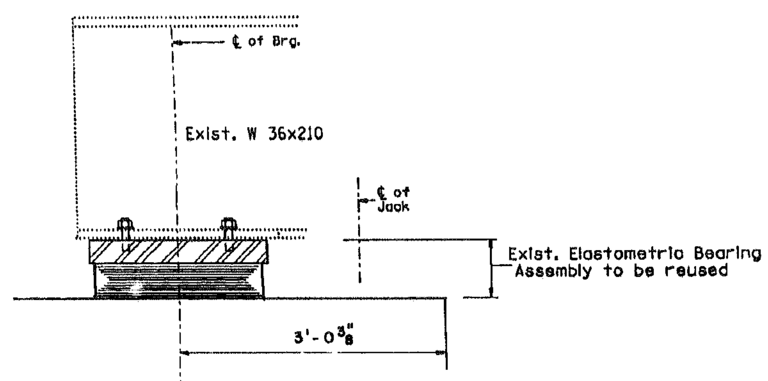
PLAN TOP PLATE



SECTION B-B



STEEL EXTENSION DETAIL



EXIST. BEARING AT EAST/WEST ABUTMENT

NOTES:

New steel extensions, shim Plates, side retainers, connection bolts, and anchor bolts are included in Furnishing and Erecting Structural Steel.

Two 1/8" additional adjusting shims of the dimensions of the steel extension shall be provided for each bearing (beam) which are not shown on the plans and shall be used as required. Shim Plates are not to be placed under bearing assembly.

Proposed Extensions to be aligned above existing ℄ of bearing.
Proposed plates shall be AASHTO M-270, Gr-36.

For jacking information and the details of existing bearings see sheets S8 & S9

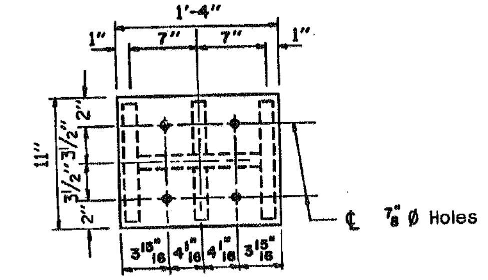
Contractor shall submit jacking details for approval by the bridge office.

Drilling of proposed anchor bolts is incidental to the cost of Furnishing and Erecting Structural Steel.

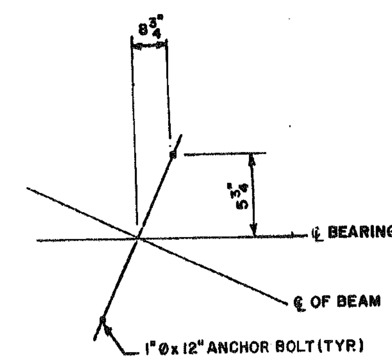
* Proposed side retainers shall be placed at both sides of all beams except at the inside face of exterior beams.

* Place 1 side retainer on outside face of exterior beams.

For anchor bolts installation details see Sheet of .



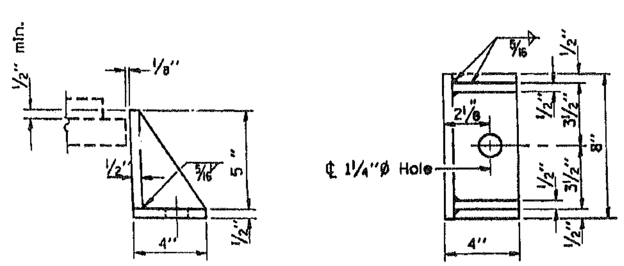
PLAN BOTTOM PLATE



ANCHOR BOLT LOCATION AT ABUTMENTS

BILL OF MATERIAL

Item	Unit	Total
Furn. and Erect Structural Steel	Lbs	5200



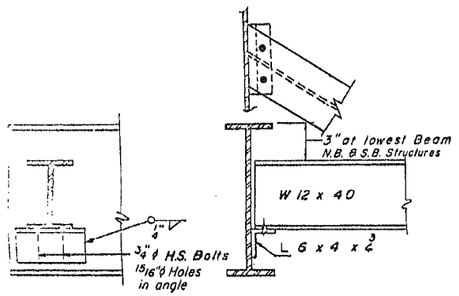
SIDE RETAINER

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

REVISIONS NAME	DATE

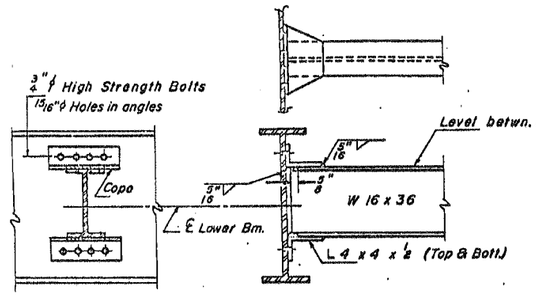
ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
EAST/WEST ABUTMENT
ELASTOMERIC BEARING DETAILS
S.N. 099-0260/0261

SCALE: VERT. HORIZ. NONE
DATE 04/28/94
DRAWN BY JAF
CHECKED BY MVT



END DIAPHRAGM

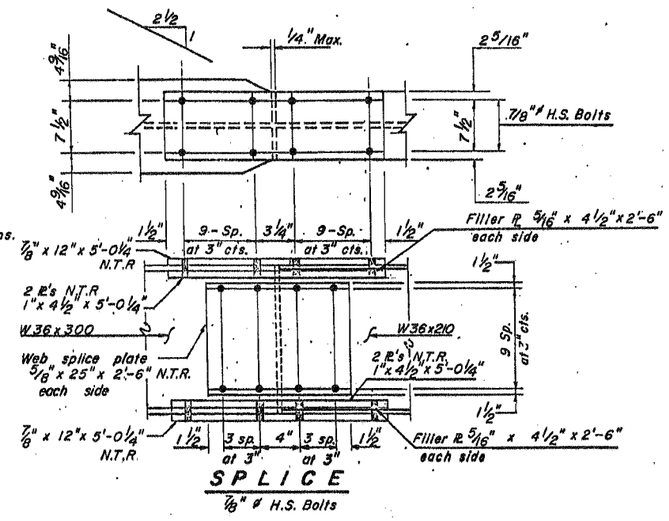
24 Required



INTERMEDIATE DIAPHRAGM

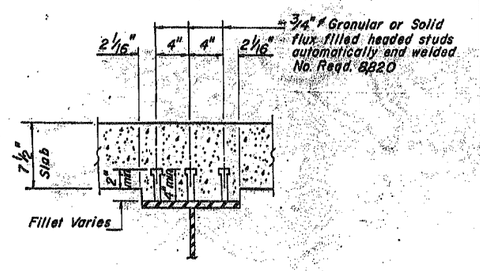
84 Required

Note: Hardened washers shall be required over 15/16" ø holes in angles.

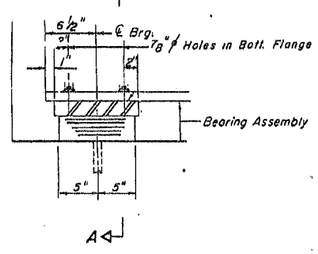


SPLICE

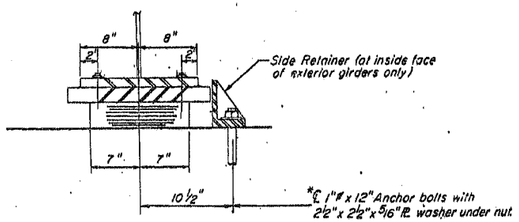
7/8" ø H.S. Bolts



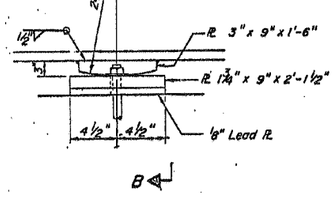
SHEAR STUDS



SECTION AT ABUT.

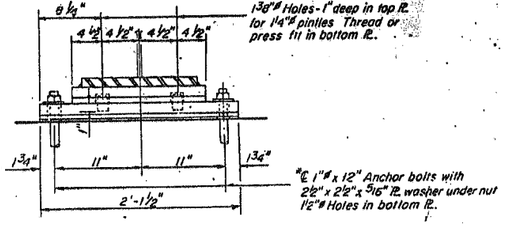


SECTION A-A



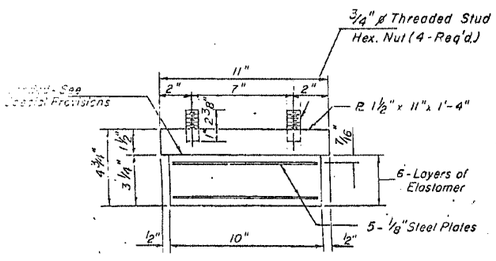
ELEVATION AT PIER

FIXED BEARING

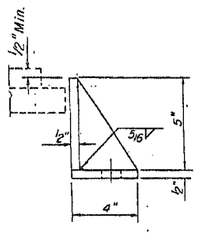


SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.

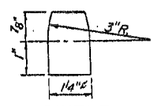


BEARING ASSEMBLY



SIDE RETAINER

*Note: After beams have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



PINTLE

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
I-355 TO NAPERVILLE ROAD
EXISTING STRUCTURAL STEEL DETAILS
S.N.099-0260/0261

SCALE: VERT.
HORIZ.

DRAWN BY MVT

DATE

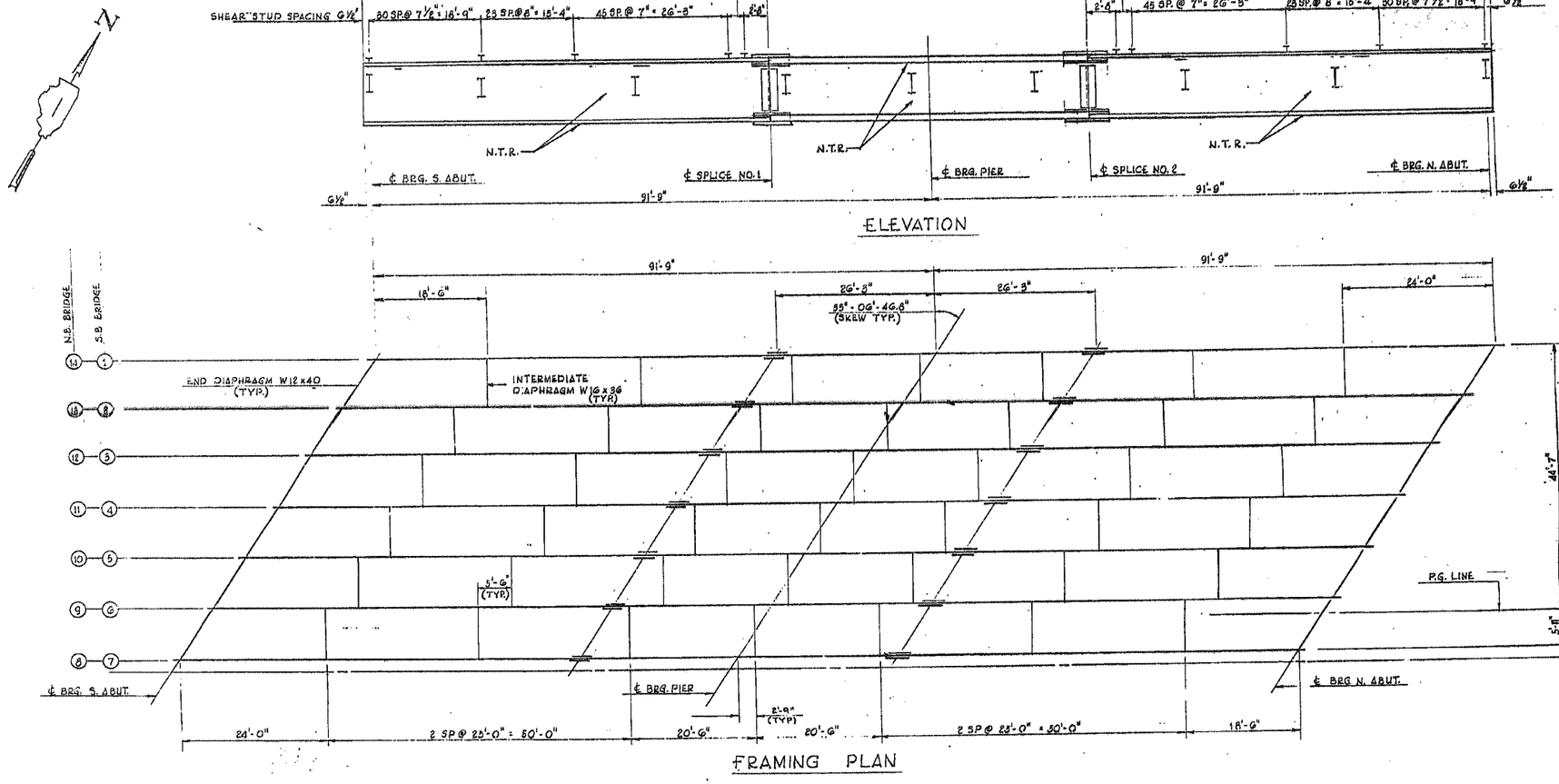
CHECKED BY JAF

7/92

SHEET 8-8 OF 8-21

T. & SEC.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	N	WILL	230	96
STA.		TO STA.		
FED. ROAD DIST. NO. 3	ILL. ROUTE		FED. AID PROJECT	

W-28-8 121 RS-1



ELEVATION

FRAMING PLAN

INTERIOR BEAM MOMENT TABLE			
		0.4 SP1 OR SP2	PIER
I_S	(IN^4)	18,200	20,300
I_C	(IN^4)	50,100	
S_S	(IN^3)	719	1,100
S_C	(IN^3)	986	
f_D	(K/I)	1.054	1.054
M_{f_L}	(IK)	576	1,294
$f_{b\text{-NON-COMP}}$	(KSI)	9.91	18.39
$f_{b\text{-}f_D}$	(K/I)	0.385	0.385
M_{f_D}	(IK)	220	316
M_{f_L}	(IK)	894	684
M_{SIMP}	(IK)	206	157
TOTAL	(IK)	1,320	1,159
$f_{b\text{-COMP}}$	(KSI)	16.03	12.53
f_b TOTAL	(KSI)	25.94	26.92
V_R	(K)	81	

INTERIOR BEAM REACTION TABLE			
		N. OR S. ABUT.	PIER
R_D	(K)	47.1	163.6
R_{f_L}	(K)	48.7	75.9
R_{IMP}	(K)	11.2	17.4
R_{TOTAL}	(K)	107.0	256.9

I_S & S_S ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_S TOTAL.
I_C & S_C ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_B TOTAL.
V_R IS THE MAXIMUM f_L + IMPACT SHEAR RANGE IN SPAN USED TO DETERMINE SHEAR CONNECTOR SPACING.

* ELEVATIONS ARE BEFORE ANY DEFLECTION AND ARE TO BE USED FOR FABRICATION ONLY.

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
I-355 TO NAPERVILLE ROAD
EXISTING STRUCTURAL STEEL PLAN
S.N.099-0260/0261

SCALE: VERT. HORIZ.
DRAWN BY MVT
CHECKED BY JAF
DATE 8-4-21

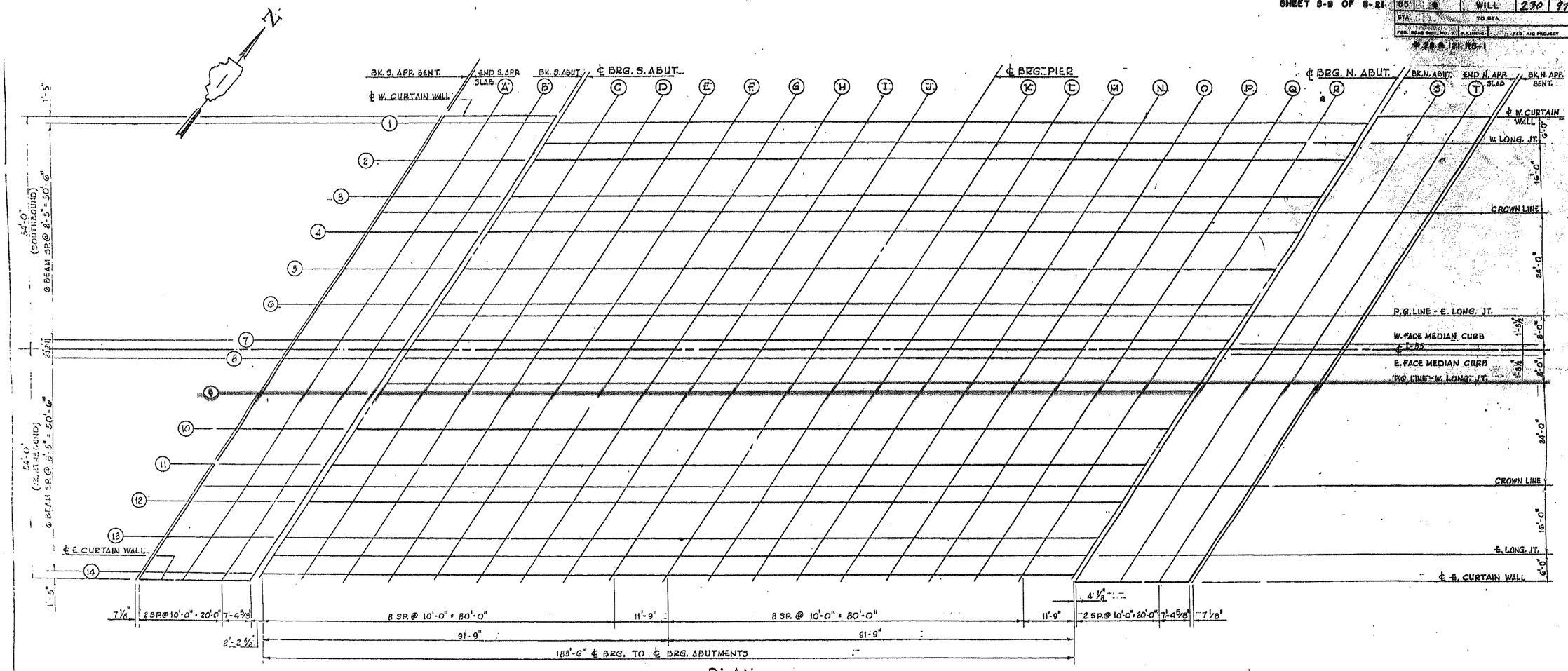
D C B A 0 A B C D

TAMERAN

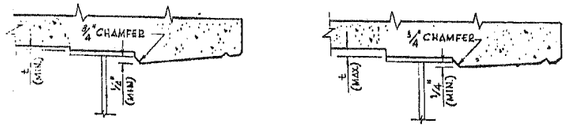
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
88		WILL	230	97
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET 8-9 OF S-21

* 28 B 121 RG-1



PLAN

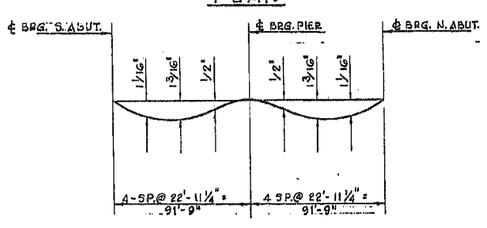


AT MINIMUM FILLET — AT MAXIMUM FILLET

EXTERIOR BEAMS

AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN ON THIS SHEET. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" SHOWN ON THE FOLLOWING SHEETS MINUS SLAB THICKNESS EQUALS THE FILLET HEIGHTS "t" ABOVE TOP FLANGE OF BEAMS.

METHOD OF DETERMINING FILLET HEIGHTS "t"



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 DEFLECTIONS AS SHOWN ON THE FOLLOWING SHEETS.

FOR INFORMATION ONLY

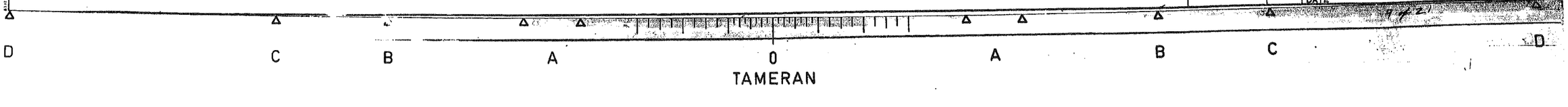
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
I-355 TO NAPERVILLE ROAD
EXISTING STRUCTURAL STEEL PLAN
S.N.099-0260/0261

SCALE: VERT. HORIZ. DRAWN BY MVT

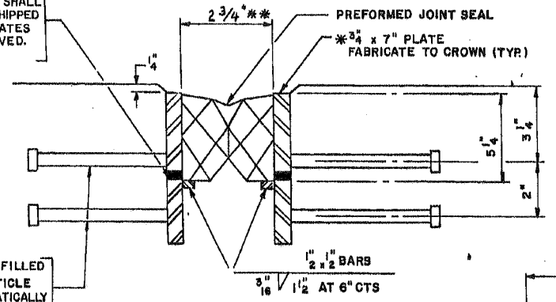
DATE CHECKED BY JAP



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	*	WILL	230	98
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* 28 & 121 RS-1

7/16" Ø HOLES AT 12" CTS. FOR 3/8" Ø BOLTS. ALL BOLTS SHALL BE BURNED, SAWED OR CHIPPED OFF FLUSH WITH THE PLATES AFTER FORMS ARE REMOVED. (TYPICAL)



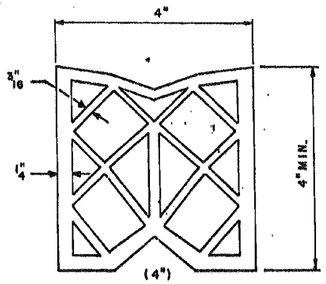
3/4" Ø x 8" GRANULAR OR SOLID FLUX FILLED HEADED STUDS CONFORMING TO ARTICLE 706.32 OF THE STD. SPECS. AUTOMATICALLY END WELDED AT 12" ALT. CTS.

** 2 3/4" AT 50° F

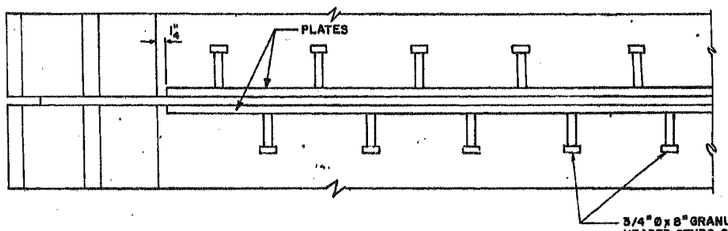
* FURNISH IN SEGMENTS OF 20 FT. MAXIMUM LENGTH. MAXIMUM SPACE BETWEEN INSTALLED SEGMENTS SHALL BE 3/16". SEAL SPACE SILICONE SEALANT SUITABLE FOR STRUCTURAL STEEL.

NOTE:

AFTER FABRICATION ALL SURFACES OF THE STEEL PLATES SHALL BE GIVEN ONE SHOP COAT OF THE INORGANIC ZINC-SILICATE PRIMER. COST INCIDENTAL TO "FURNISHING AND ERECTING STRUCTURAL STEEL". NO FIELD PAINTING REQUIRED.

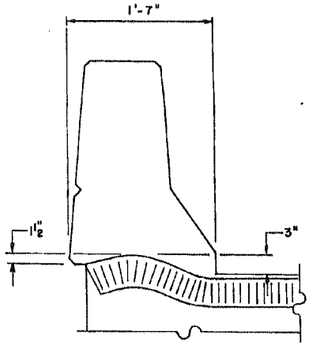


PREFORMED JOINT SEAL

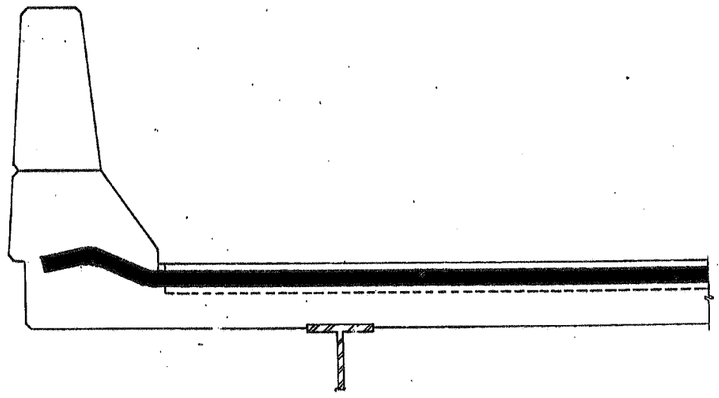


PLAN

3/4" Ø x 8" GRANULAR OR SOLID FLUX FILLED HEADED STUDS CONFORMING TO ARTCLE 706.32 OF THE STD. SPECS. AUTOMATICALLY END WELDED AT 12" ALT. CTS.



TYPICAL END OF SEAL TREATMENTS



SECTION
TYPICAL SEAL TREATMENTS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
I-355 TO NAPERVILLE ROAD
PREFORMED JOINT SEAL (4")
S.N. 099-0260/0261

SCALE: VERT. HORIZ.
DRAWN BY MVT
CHECKED BY JAF
DATE

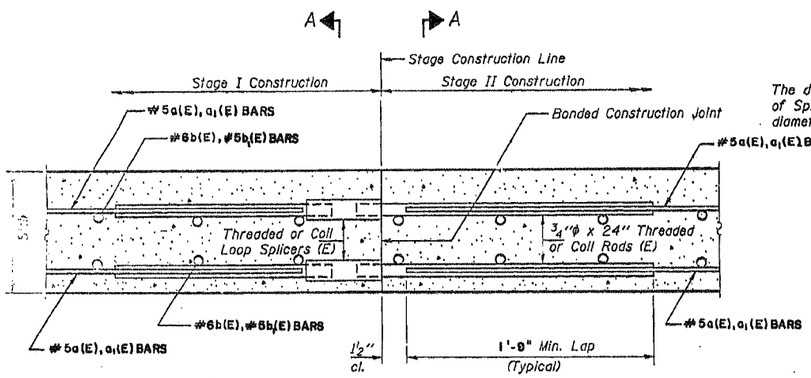
10 of 21

D C B A 0 A B C D

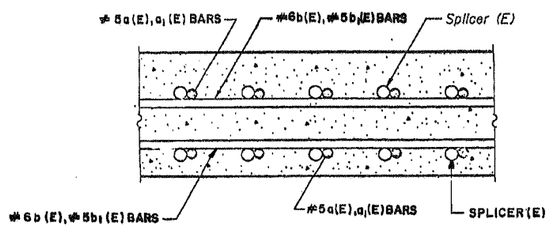
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	*	WILL	230	99
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT=	

*(28 & 121)RS-1 SHEET S-11 OF S-21



SECTION THRU SLAB



SECTION A-A

SPLICER DETAILS
(No. Req'd.)

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

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR

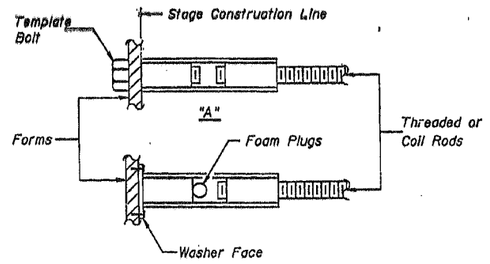
** ONE PIECE

Wire Connector

WELDED SECTIONS

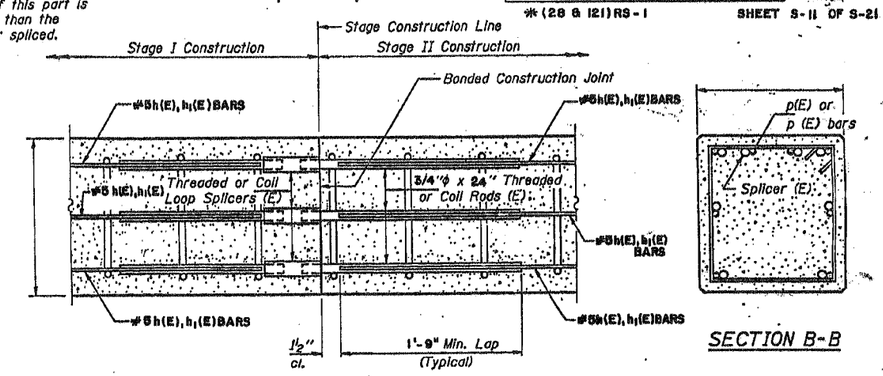
SPLICER ALTERNATIVES

** 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.



SECTION THRU ABUTMENTS AND PIERS

SECTION B-B

SPLICER DETAILS
(No. Req'd.)

TOTAL #5 BAR SPLICERS REQUIRED = 176

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.

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

Splicer (coupler) assembly 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:

① Minimum Capacity (Tension in kips) = $1.25 \times fy \times A_t$

② Minimum "Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
' = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

IN SLABS OR SUBSTRUCTURE — #5 bar lap with ¾"ϕ Splicer (Coupler) x 2'-0" Splicer Rods — Minimum Capacity = 23.0 kips-tension; Minimum Pull-out Strength = 9.2 kips-tension

Bar splicers shall be in accordance with Section 508 of the Standard Specifications, except as noted, and will be paid for at the contract unit price each for "BAR SPLICERS."

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

3SD-1 2-26-93

19
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
BAR SPLICER (COUPLER) DETAILS
AT STAGE CONSTRUCTION
SCALE: VERT. S.N.099-0260/0261
HORIZ.
DRAWN BY
DATE
CHECKED BY JAF

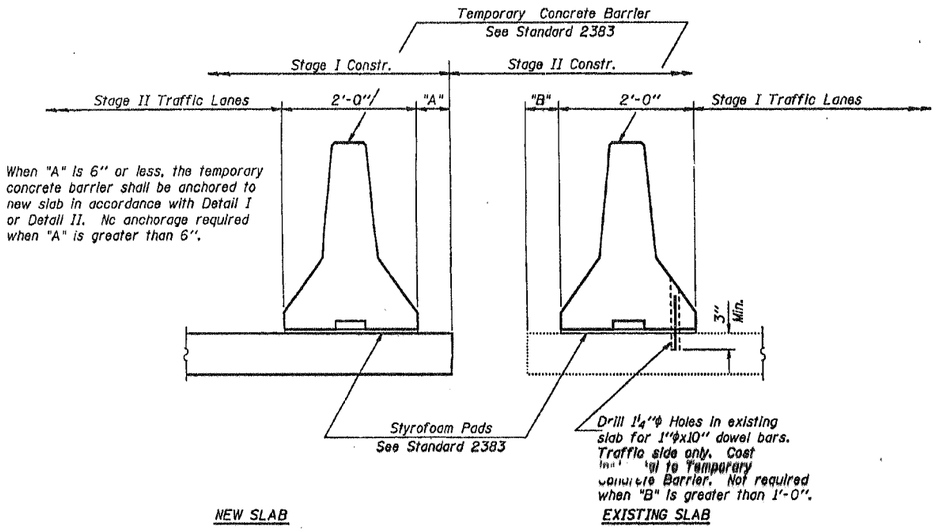
111 of 21

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
S.B.I. R.R. 55	*	WILL	230	100
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT=	

* (28 & 121) RS-1

SHEET S-12 OF S-21



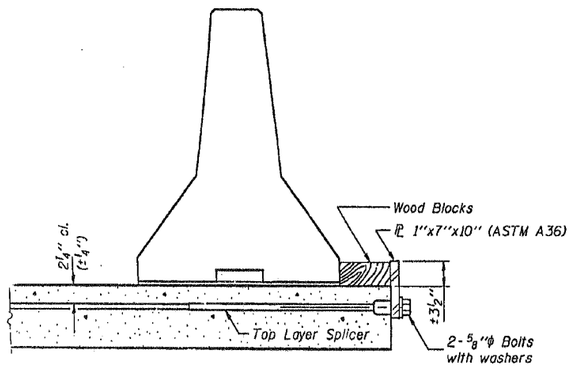
SECTIONS THRU SLAB

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℄ to the top layer of couplers with 2-⅝"ϕ bolts screwed to coupler at approximate ℄ of each 10'-0" barrier panel.

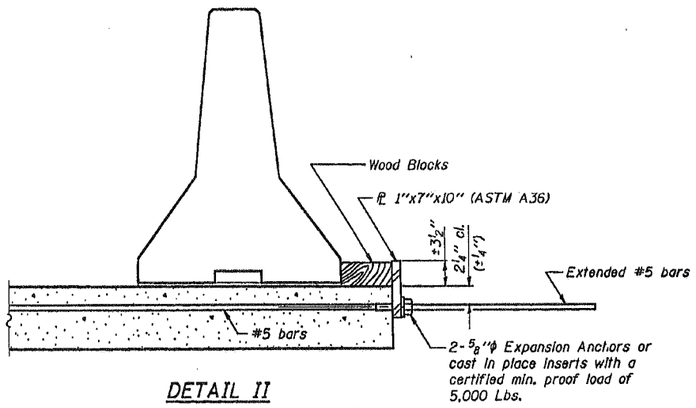
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel ℄ to the concrete slab with 2-⅝"ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each 10'-0" barrier panel.

Cost of anchorage is incidental to Temporary Concrete Barrier.



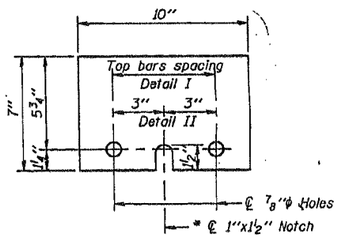
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" 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"x7"x10"

* Required only with Detail II

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

19

EXAMINED

ENGINEER OF BRIDGE DESIGN

PASSED

ENGINEER OF BRIDGES AND STRUCTURES

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERSTATE ROUTE 55
OVER ILLINOIS ROUTE 53
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
S.N.099-0260/0261

SCALE: VERT. HORIZ.

DATE:

DRAWN BY

CHECKED BY JAF

D-07 7-1-01

12-4-21

D C B A 0 A B C D

TAMERAN