F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	1
	ILLINOIS	CONTRACT NO. 70F57		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

F.A.I. ROUTE 55 (I–55)
SECTION (57–10HB)BR
PROJECT
BRIDGE DECK OVERLAY
MCLEAN COUNTY

C–95–020–22

FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.I. 55 SOUTHBOUND

CURRENT TRAFFIC DATA
STR. 057–0154 SB

2021 ADT	=	11,500
2041 ADT	=	12,700
PU+PC %	=	65.9
SU %	=	2.8
MU%	=	31.3

DESIGN DESIGNATION
INTERSTATE

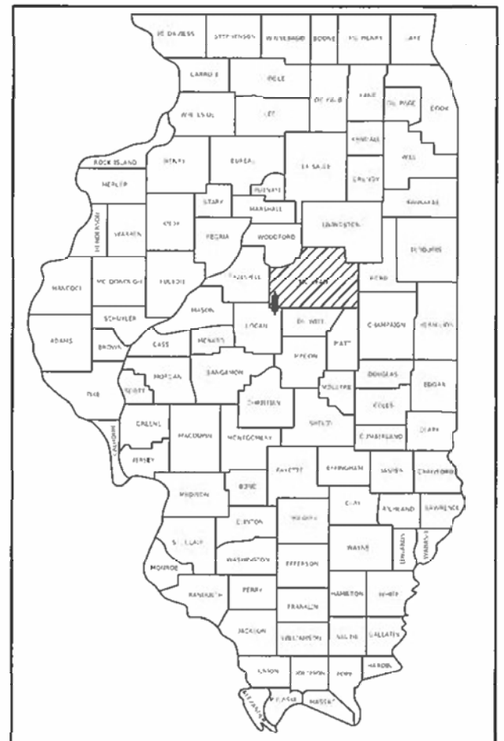
F.A.P. 315 (US 136)

CURRENT TRAFFIC DATA
UNDER STR. 057–0154

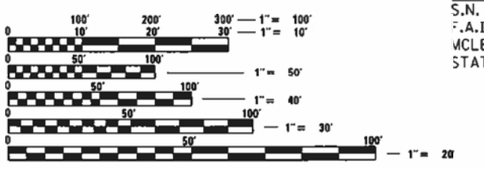
2021 ADT	=	4,900
2041 ADT	=	5,400
PU+PC %	=	70.4
SU %	=	13.3
MU%	=	16.3

DESIGN DESIGNATION
OTHER PRINCIPAL ARTERIAL

D-95-003-22



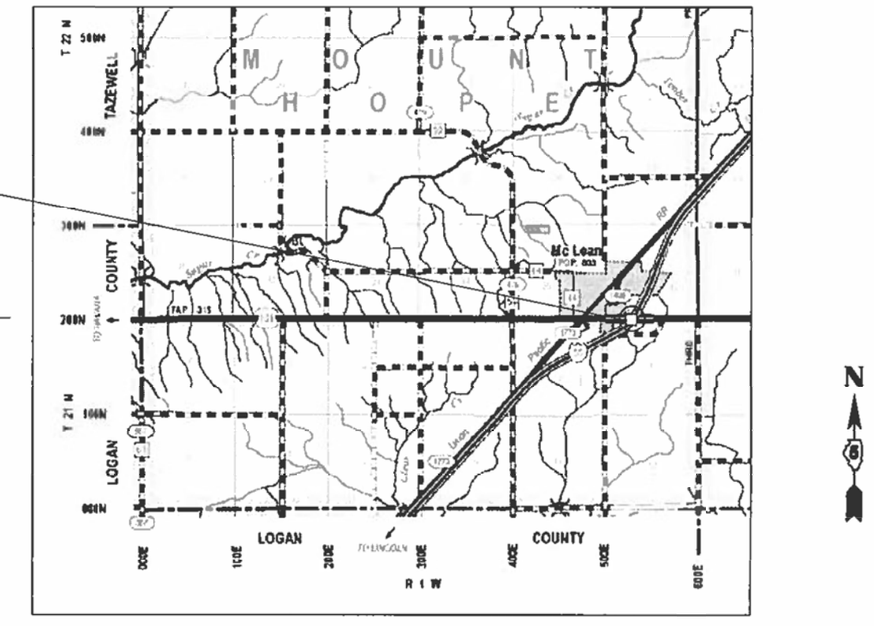
LOCATION OF SECTION INDICATED THUS:–



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

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS
1–800–892–0123
OR 811

PROPOSED STRUCTURE REPAIRS
S.N. 057-0154
F.A.I. 55 OVER U.S. 136
MCLEAN INTERCHANGE
STATION 753+54.41



GROSS LENGTH = 610.00 FT. = 0.015 MILE
NET LENGTH = 610.00 FT. = 0.015 MILE

TOWNSHIP: MOUNT HOPE

PROJECT ENGINEER TIM BRANDENBURG
PROJECT MANAGER ERIC SHAWLER

CONTRACT NO. 70F57

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 11/16 2021
Kenneth A. Garnett SWN
REGIONAL ENGINEER
February 4 2022
ENGINEER OF DESIGN AND ENVIRONMENT
February 4 2022
Stephen M Travis
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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INDEX OF SHEETS

LIST OF HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND FOOT
701006-05	OFF ROAD OPERATIONS, 2L,2W, 15' TO 24" FROM EDGE OF PAVEMENT
701101-05	OFF ROAD OPERATIONS, MULTILANE , 15' TO 24" FROM EDGE OF PAVEMENT
701400-11	APPROACH TO LANE CLOSURE, FREEWAY / EXPRESSWAY
701401-13	LANE CLOSURE, FREEWAY / EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY / EXPRESSWAY WITH BARRIER
701411-09	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP FOR SPEEDS > 45MPH
701426-09	LANE CLOSURE, MULTILANE, INTERMITTENT, OR MOVING OPER. FOR SPEEDS > 45MPH
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W, WITH NONTRASVERSABLE MEDIAN
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
D5 7800BBBB	PAVEMENT MARKINGS (INTERSTATE & MULTI-LANE APPLICTIONS)

GENERAL NOTES

G.N.-100

ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-105.09A

ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAVD 88)

G.N.-406H

MIXTURE REQUIREMENTS CONTRACT 70F57

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

Location	I-55
Mixture Use	Surface
AC/PG	SBS PG 70-22
Design Air Voids	4.0% @ Ndes=90
Mix Comp(Gradation)	IL 9.5
Friction Aggregate	Mix D
Mixture Weight	112
Quality Management Program	QC/QA
Sublot Size	N.A.
Material Transfer Device (Required?)	No

SEE R.E. FILE FOR CALCULATIONS AND SCHEDULES.

THERE ARE NO COMMITMENTS ASSOCIATED WITH THIS PROJECT.

USER NAME = shawleres	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 11/10/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, STANDARDS, GENERAL NOTES
S.N. 057–0154

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	2
		CONTRACT NO. 70F57		
		ILLINOIS	FED. AID PROJECT	

MCLEAN CO.
FAI 55 (II-55)
INTERSTATE
BRIDGE DECK REPAIR
S.N. 057-0154
100% STATE
0059

CODE NO.	ITEM	UNIT	QUANTITY
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	545.0
40604164	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N90	TON	152.5
50157300	PROTECTIVE SHIELD	SQ YD	279.0
50500505	STUD SHEAR CONNECTORS	EACH	72.0
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3.0
67100100	MOBILIZATION	L SUM	1.0
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	1.0
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1.0
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1.0
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1.0
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14.0
70400100	TEMPORARY CONCRETE BARRIER	FOOT	537.5
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH	24.0
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	537.5

* SPECIALTY ITEM

USER NAME = shawleres	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 12/16/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
S.N. 057-0154

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	3
		CONTRACT NO. 70F57		
	ILLINOIS FED. AID PROJECT			

MCLEAN CO.
FAI 55 (II-55)
INTERSTATE
BRIDGE DECK REPAIR
S.N. 057-0154
100% STATE
0059

	CODE NO.	ITEM	UNIT	QUANTITY
	70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	1.0
	70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	1.0
*	78008330	POLYUREA PAVEMENT MARKING TYPE II - LINE 6"	FOOT	1,380.0
*	78011035	GROOVING FOR RECESSED PAVEMENT MARKING 7"	FOOT	1,380.0
	X2700001	TEMPORARY RUMBLE STRIPS (SPECIAL)	EACH	8.0
	X7200201	WIDTH RESTRICTION SIGNING	L SUM	1.0
	Z0001800	APPROACH SLAB REPAIR (PARTIAL DEPTH)	SQ YD	16.1
	Z0004560	BRIDGE WEARING SURFACE REMOVAL	SQ YD	1,207.8
	Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	3.6
	Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	93.2
	Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	12.1
	Z0021908	SILICONE JOINT SEALER, 2"	FOOT	106.0
	Z0041895	POLYMER CONCRETE	CU FT	12.5

* SPECIALTY ITEM

USER NAME = shawleres	DESIGNED -	REVISED -
	DRAWN -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITES
S.N. 057-0154

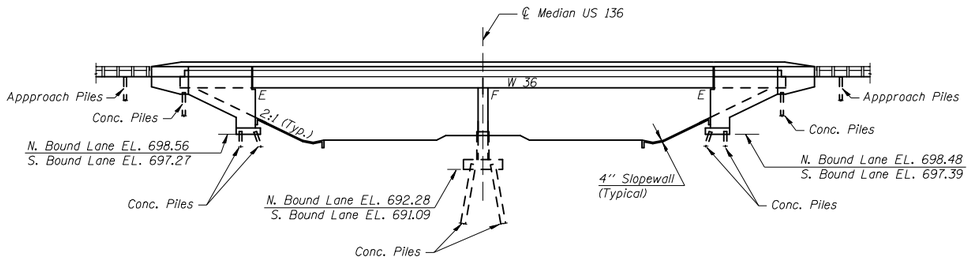
SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	4
		CONTRACT NO. 70F57		
	ILLINOIS FED. AID PROJECT			

S.N. 057-0155 (Northbound Lanes)
Benchmark No. 1. Top of Existing Pavement at Left Edge of NB Lane (P.G. Line) at Sta. 752+82.00 at Bk. of South Appr. Bent of S.N. 057-0155. Assumed Elev. = 717.15 = Plan Elev.

S.N. 057-0154 (Southbound Lanes)
Benchmark No. 2. Top of Existing Pavement at Left Edge of SB Lane (P.G. Line) at Sta. 754+25.06 at Bk. of North Appr. Bent of S.N. 057-0154. Assumed Elev. = 717.14 = Plan Elev.

Existing Structure
Two span continuous structure with steel beams. PPC I-beams on vaulted abutments and reinforced column concrete piers. S.N. 057-0154 & S.N. 057-0155.
The rehabilitation work is done by utilizing staged construction.



ELEVATION

DESIGN STRESSES & LOADING (ORIGINAL CONST.)

Live Load HS20-44 & Alt. (1969 AASHO Specification)
Dead Load included additional 25 psf for future wearing surface.

fc=1,400 psi (Substructure & (GM) Parapet)
fc=1,200 psi (Superstructure)
Vc=75 psi (Footings)
fs=20,000 psi (Reinforced Bars Field)
fs=20,000 psi (Structural Steel A-36)
n=10
f'c=5,000 psi (Prestressed Beams)
f'ci=4,000 psi (Prestressed Beams)
f's=248,000 psi (Prestressed Strands)
f'si=173,600 psi (Prestressed Strands)

NEW CONSTRUCTION

DESIGN SPECIFICATIONS

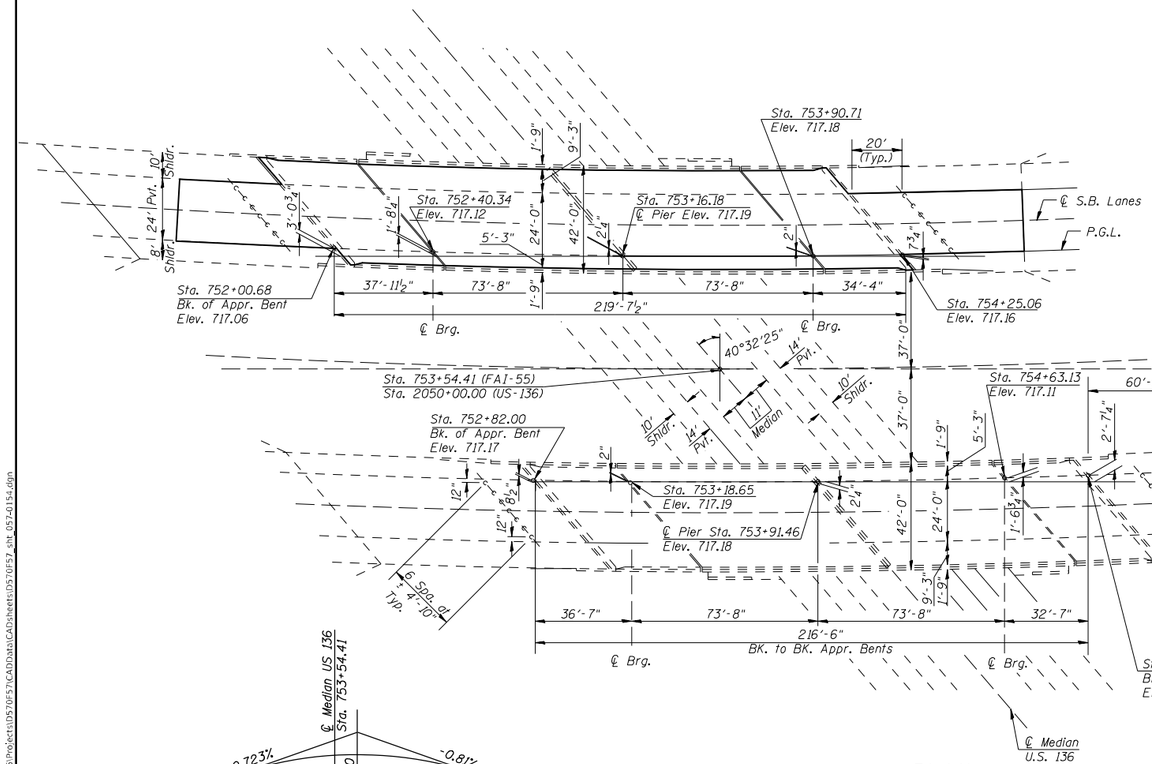
1996 AASHTO. with 1997 and 1998 interim specification.

LOADING HS 20-44 & Alt.

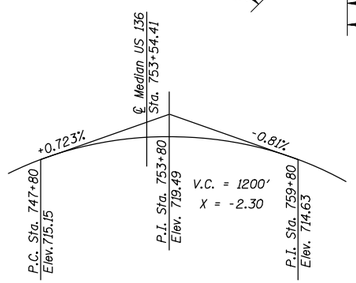
Allow 25#/sq.ft for future wearing surface

DESIGN STRESSES

fc=1,400 psi (Concrete)
fs=24,000 psi (Reinforcement bars)
fs=20,000 psi (Structural Steel)



PLAN



PROFILE GRADE (FAI 55)
(Top of overlay @ median edge of Pvt.)
The profile grade is 0.02 ft above the existing profile grade.

DAVID CARL PUZEY
081-005470
SPRINGFIELD
ILLINOIS
REGISTERED STRUCTURAL ENGINEER
STATE OF ILLINOIS

Expires 11-30-2022

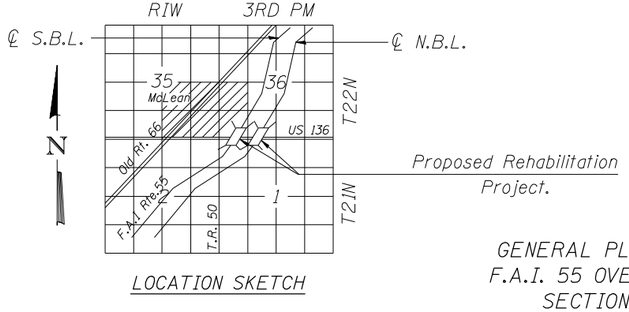
01/27/2022

HORIZONTAL CURVE DATA
FAI ROUTE 55

P.I. STA. 752+80.19
Δ = 40°33'58"
D = 1°30'
R = 3,819.72'
T = 1,411.67'
L = 2,704.41'
E = 252.51'
SE = 0.042 ft/ft

PROPOSED REHABILITATION WORK

- Bridge Wearing Surface Removal on Deck and Approaches.
- Patch the Deck and Approaches as needed and Attach Stud Shear Connectors.
- Place Hot-Mix Asphalt Surface Course with a 2¼" Depth on Deck and Vaulted Abutments.
- Place Hot-Mix Asphalt Surface Course with a 2¼" Depth on Approaches.
- Place Polymer Concrete Nosing.
- Place Silicon Joint Sealer 2 Inch.



LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A.I. 55 OVER U.S. ROUTE 136
SECTION (57-10HB)BR
McLEAN COUNTY
STATION 753+54.41
S.N. 057-0154

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	DRAWN -	REVISED -	
PLOT SCALE = 680.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/16/2021	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
S.N. 0154 SB & S.N. 057-0155

SCALE: | SHEET 1 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	5
		CONTRACT NO. 70F57		
		ILLINOIS	FED. AID PROJECT	

TOTAL BILL OF MATERIAL		
ITEM	UNIT	TOTAL
PROTECTIVE SHIELD	SQ. YD.	279.0
POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL 9.5 FG, MIX D N90	TON	152.5
STUD SHEAR CONNECTORS	EACH	72.0
BRIDGE WEARING SURFACE REMOVAL	SQ. YD.	1207.8
APPROACH SLAB REPAIR (PARTIAL DEPTH)	SQ. YD.	16.1
DECK SLAB REPAIR (PARTIAL)	SQ. YD.	12.1
DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ. YD.	3.6
DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ. YD.	93.2
SILICONE JOINT SEAL 2"	FOOT	106.0
POLYMER CONCRETE	SQ. FT.	12.5

GENERAL NOTES

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 the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

See special provisions " Deck Slab Repair" for additional requirements pertaining to Deck Slab Repair and H.M.A. Removal (Deck).

Care shall be taken to prevent damage to the existing floor drains. If the existing floor drains are damaged during construction, the contractor will be responsible for providing and installing an approved replacement at no additional cost to the department.

Joint openings shall be adjusted according to article 520.04 of the std. specs. when the deck is poured at an ambient temperature other than 50°F.

Areas of deck repairs shown are estimated. The engineer shall show actual locations of deck repairs on AS-BUILT plans.

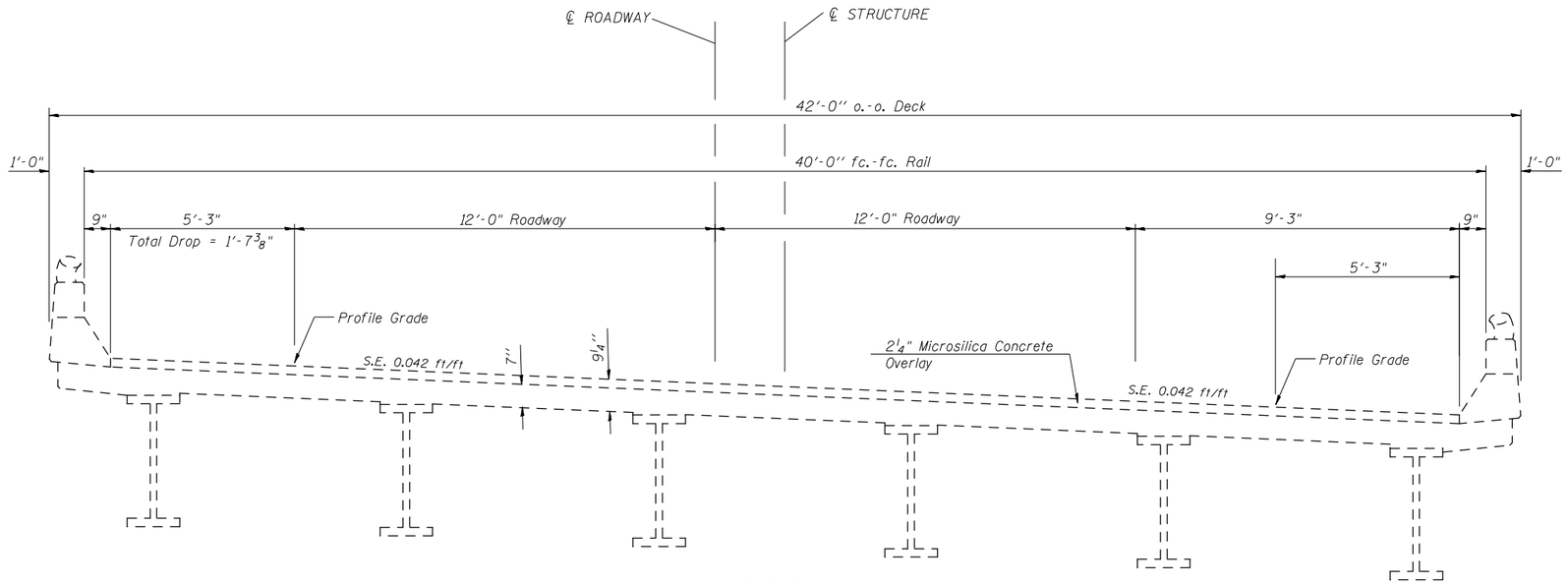
USER NAME = shawleres	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 680.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/16/2021	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

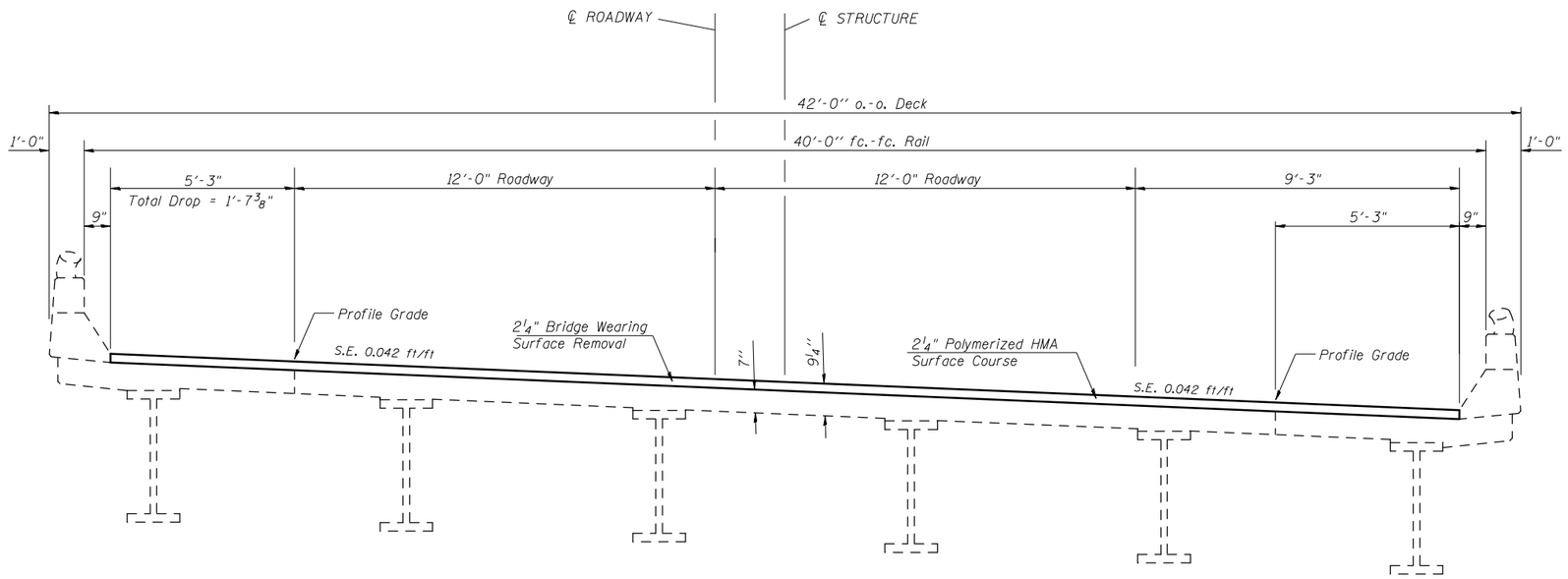
BILL OF MATERIALS & GENERAL NOTES
S.N. 057-0154

SCALE: | SHEET 2 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	6
		CONTRACT NO. 70F57		
	ILLINOIS	FED. AID PROJECT		



EXISTING
(Looking South)



PROPOSED
(Looking South)

Note - All transverse dimensions are radial.

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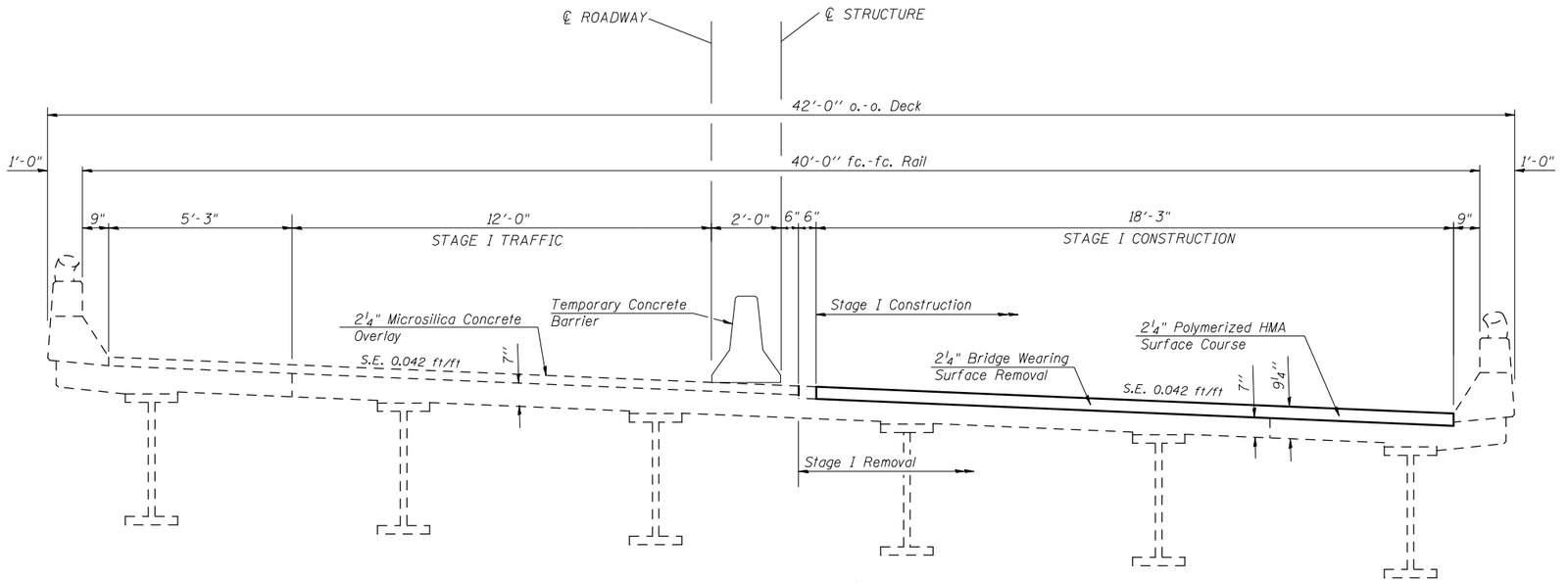
	DRAWN -	REVISED -
PLOT SCALE = 680.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 11/10/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

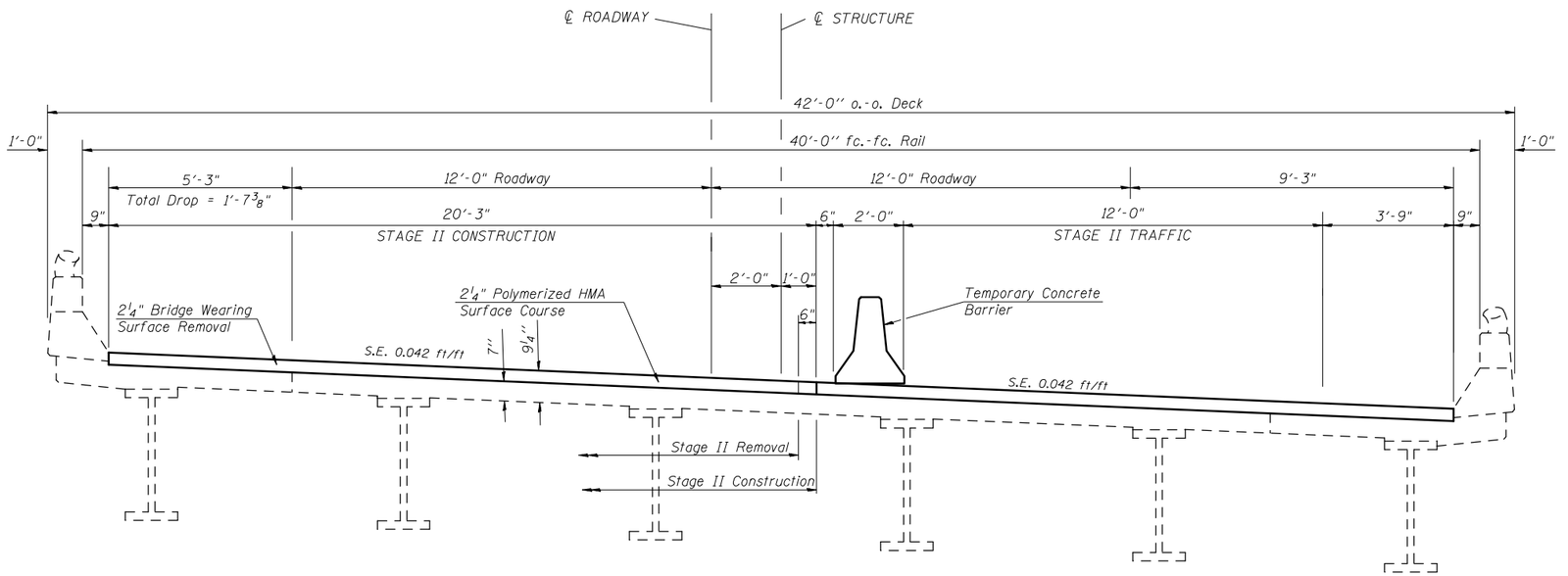
DECK CROSS SECTION
S.N. 057-0154

SCALE: | SHEET 3 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	7
		CONTRACT NO. 70F57		
	ILLINOIS	FED. AID PROJECT		



STAGE I (SBL)
(Looking South)



STAGE II (SBL)
(Looking South)

Note - All transverse dimensions are radial.

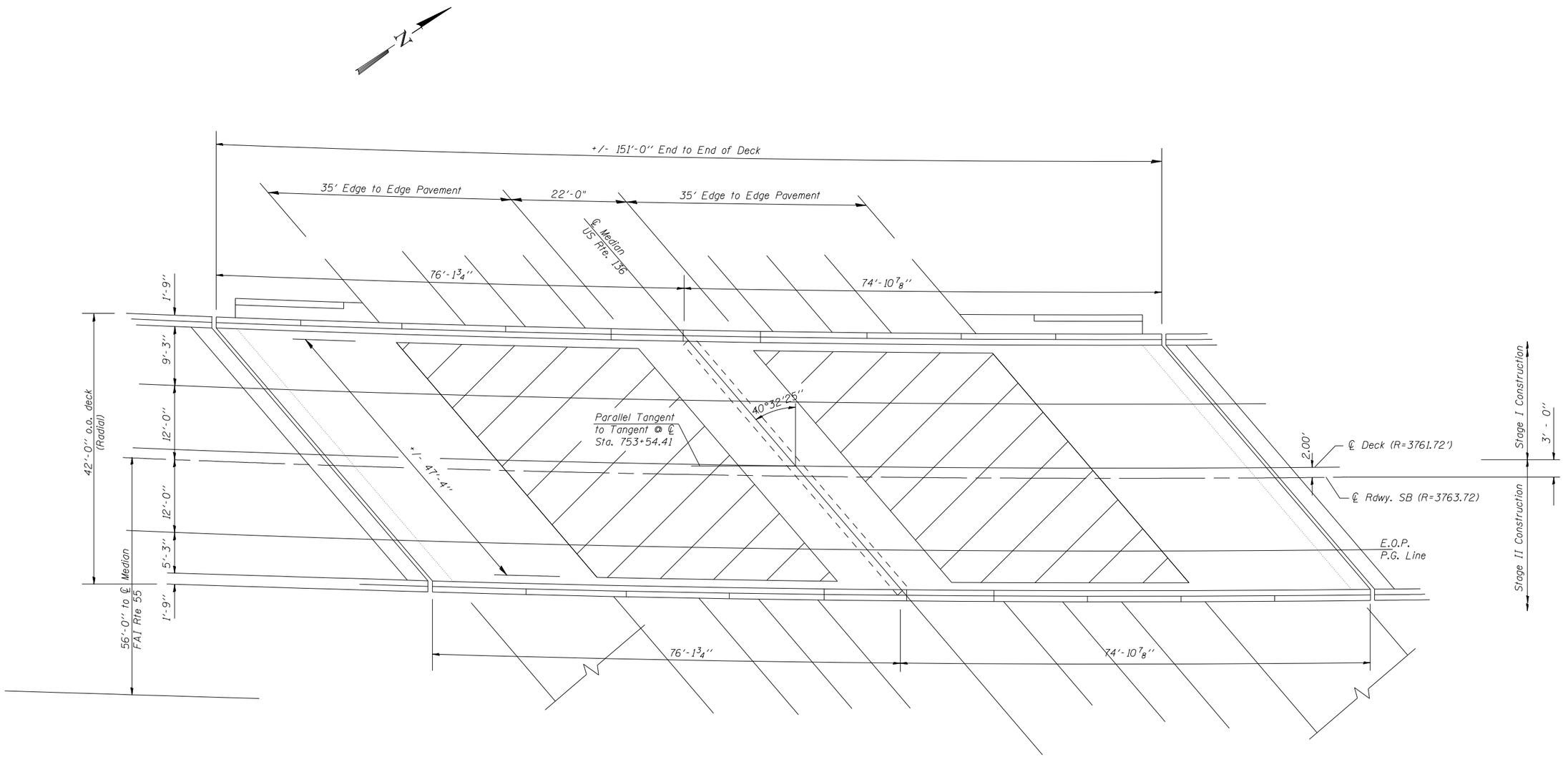
USER NAME = shawleres	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 680.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 11/10/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK STAGING DETAIL
S.N. 057-0154

SCALE: | SHEET 4 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	8
		CONTRACT NO. 70F57		
	ILLINOIS	FED. AID PROJECT		



DECK TOP PLAN
(MAIN SPANS)

LEGEND

PROTECTIVE SHIELD

ITEM	UNIT	TOTAL
Protective Shield	Sq. Yd.	279.0

Note - All transverse dimensions are radial.

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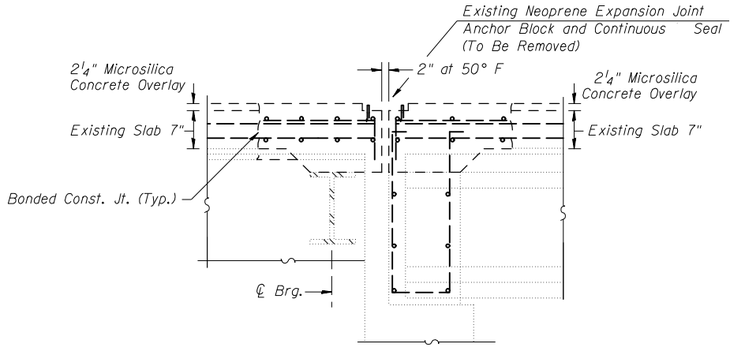
	DRAWN -	REVISED -
PLOT SCALE = 680.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 12/16/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROTECTIVE SHIELD PLAN
S.N. 057-0154

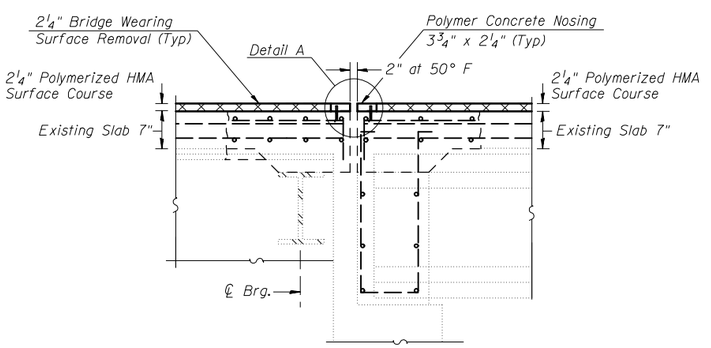
SCALE: | SHEET 5 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	9
		CONTRACT NO. 70F57		
	ILLINOIS FED. AID PROJECT			



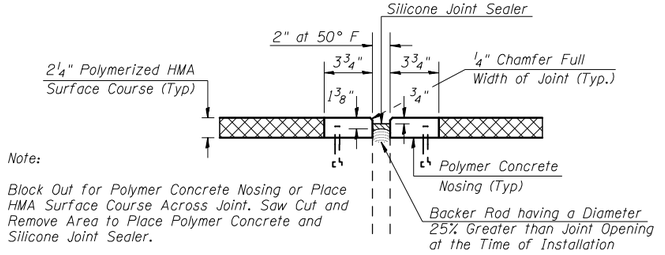
EXISTING SECTION A-A

(Dimensions are at Right Angles)



PROPOSED SECTION A-A

(Dimensions are at Right Angles)

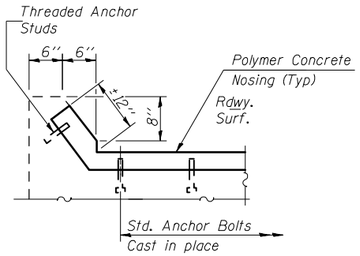


Note:

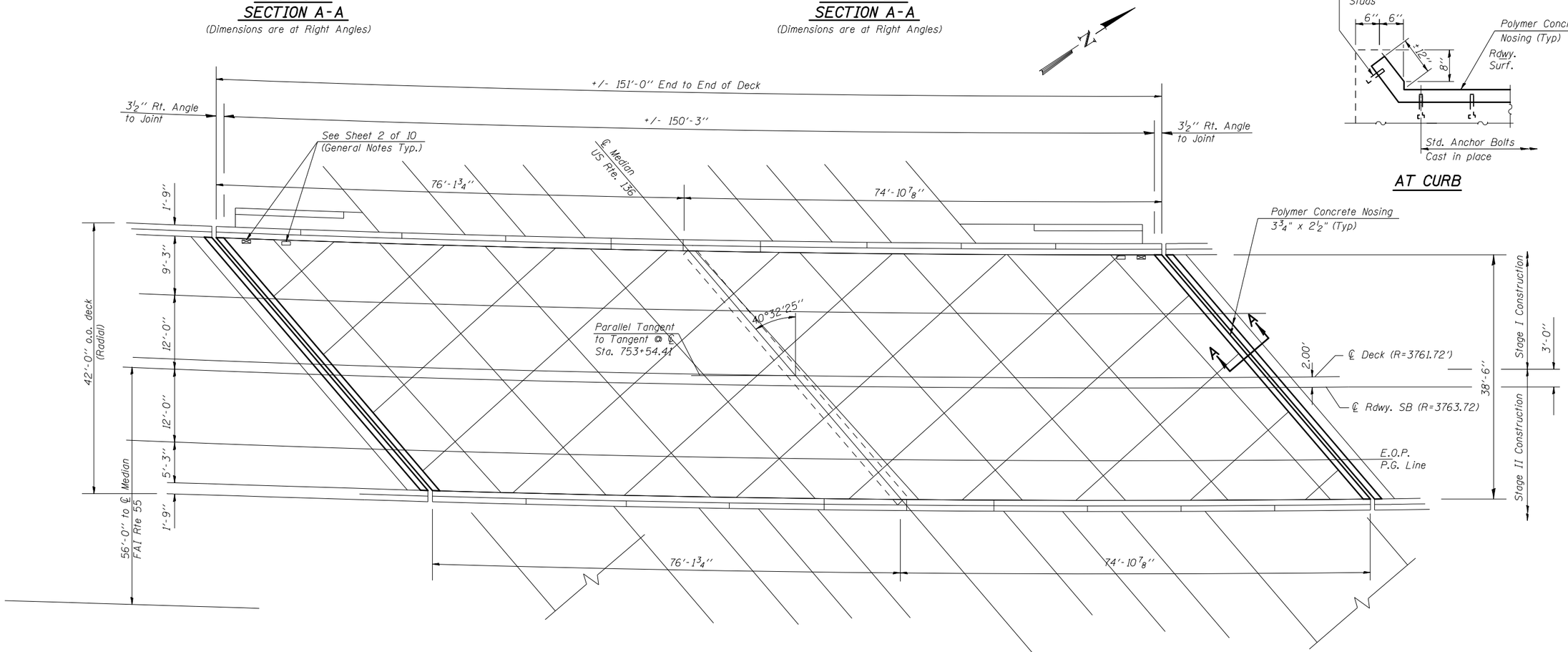
Block Out for Polymer Concrete Nosing or Place HMA Surface Course Across Joint. Saw Cut and Remove Area to Place Polymer Concrete and Silicone Joint Sealer.

DETAIL A

(Dimensions are at Right Angles)



AT CURB



DECK TOP PLAN (MAIN SPANS)

LEGEND

Bridge Wearing Surface Removal 2¼"
Polymerized HMA Surface Course 2¼"

Notes

All transverse dimensions are radial.

Paver electronic grade control shall be operated from a preset grade control stringline, See Artical 406.06(e)

ITEM	UNIT	TOTAL
Bridge Wearing Surface Removal	Sq. Yd.	1207.8
Polymerized HMA Surface Course, Il 9.5 FG, Mix D N90	Ton	152.5
Bituminous Material (Tack Coat)	Pound	545.0
Polymer Concrete	Cu. Ft.	12.5
Silicone Joint Seal 2"	Foot	106.0

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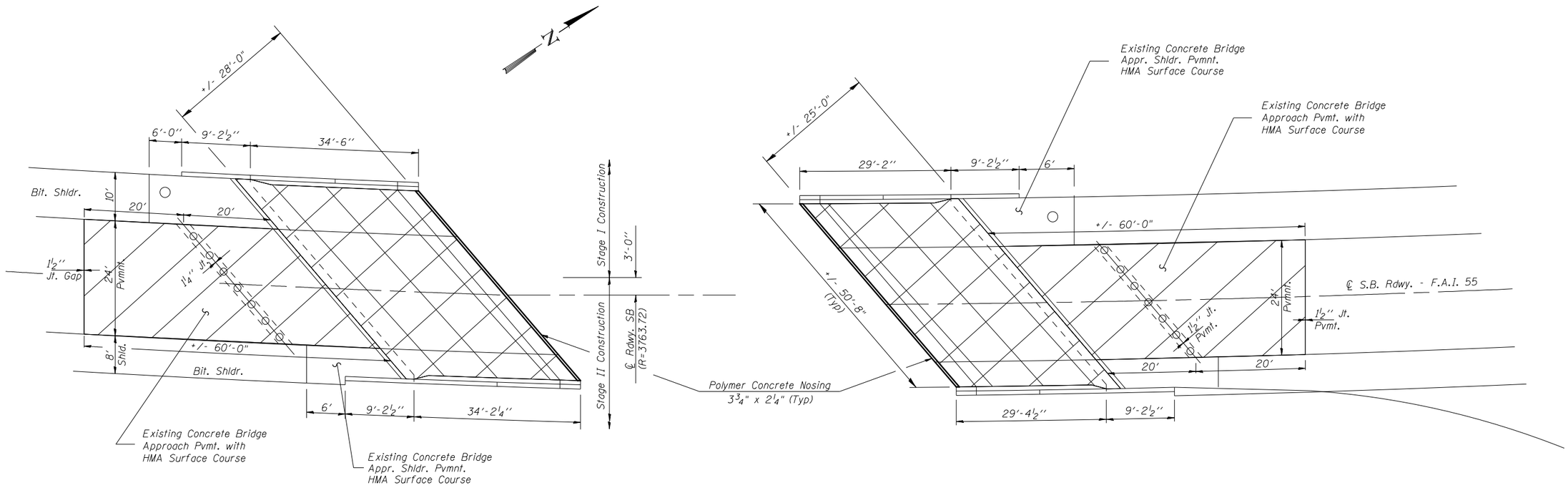
PLOT DATE = 1/25/2022	DATE -	REVISED -	

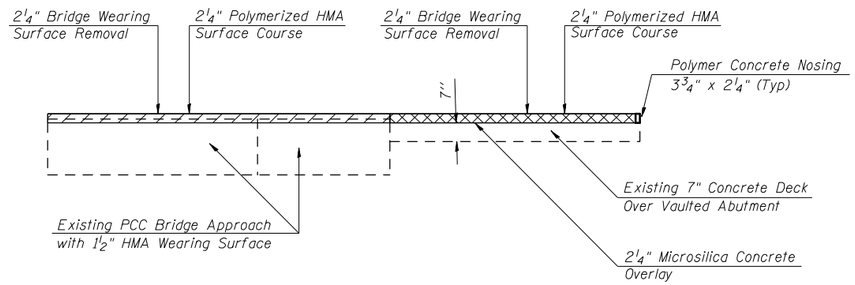
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE WEARING SURFACE PLAN
S.N. 057-0154

SCALE: | SHEET 6 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	10
		CONTRACT NO. 70F57		
		ILLINOIS	FED. AID PROJECT	





DECK TOP PLAN (APPROACH SPANS)

Notes

All transverse dimensions are radial.

Paver electronic grade control shall be operated from a preset grade control stringline, See Artical 406.06(e)

Approach Span quantities included in Table on Sheet 6 of 10.

LEGEND

Bridge Wearing Surface Removal 2¼"
Polymerized HMA Surface Course 2¼"

Bridge Wearing Surface Removal 2¼"
Polymerized HMA Surface Course 2¼"

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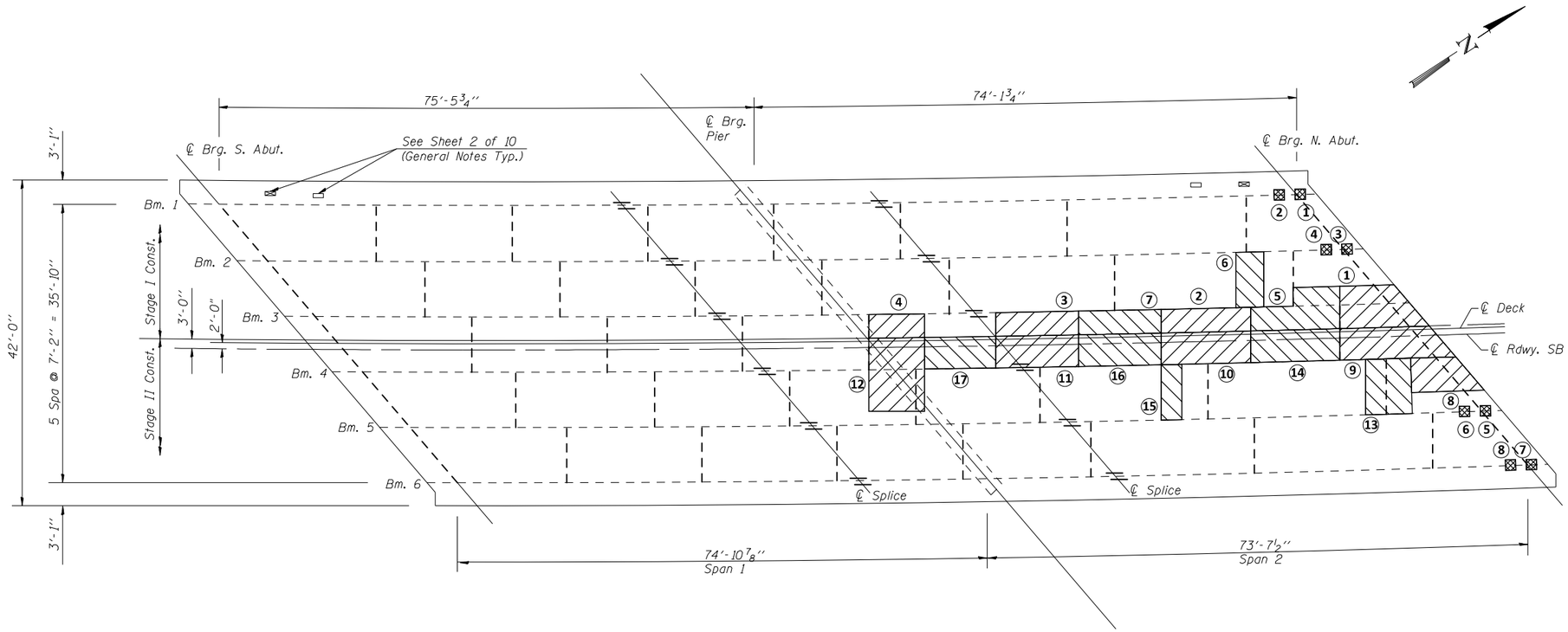
PLOT DATE = 12/16/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH WEARING SURFACE PLAN
S.N. 057-0154

SCALE: | SHEET 7 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	11
		CONTRACT NO. 70F57		
	ILLINOIS	FED. AID PROJECT		



DECK PLAN

Deck Slab Repair (Full Depth, Type II)

PATCH NO.	SIZE L ft. * W ft.	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
1	10.0 * 4.583			5.1	
2	10.0 * 2.583			2.9	
3	9.25 * 2.583			2.7	
4	8.00 * 2.583			2.3	
5	10.0 * 3.583			4.0	
6	4.0 * 7.167			3.2	
7	10.0 * 2.583			2.9	
8	10.0 * 7.167			8.0	
9	13.0 * 4.583			6.6	

Deck Slab Repair (Full Depth, Type II)

PATCH NO.	SIZE L ft. * W ft.	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
10	10.0 * 4.583			5.1	
11	10.0 * 4.583			5.1	
12	8.0 * 10.0			8.9	
13	8.0 * 7.167			6.4	
14	10.0 * 4.583			5.1	
15	3.0 * 7.167			2.4	
16	10.0 * 4.583			5.1	
17	9.0 * 4.583			4.6	

Stud Shear Connectors (Deck Slab Repair Type I)

PATCH NO.	SIZE L ft. * W ft.	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
1	2.0 * 2.0		0.45		
2	2.0 * 2.0		0.45		
3	2.0 * 2.0		0.45		
4	2.0 * 2.0		0.45		
5	2.0 * 2.0		0.45		
6	2.0 * 2.0		0.45		
7	2.0 * 2.0		0.45		
8	2.0 * 2.0		0.45		

Notes

Full Depth Patching Divided into Two Pours to Maintain Slab Stability.

LEGEND

Deck Slab Repair (Full Depth, Type II) FIRST POUR

Deck Slab Repair (Full Depth, Type II) SECOND POUR

Deck Slab Repair (Full Depth, Type I)

ITEM	UNIT	TOTAL
Deck Slab Repair (Full Depth Type II)	Sq. Yd.	80.4
Deck Slab Repair (Full Depth Type I)	Sq. Yd.	3.6

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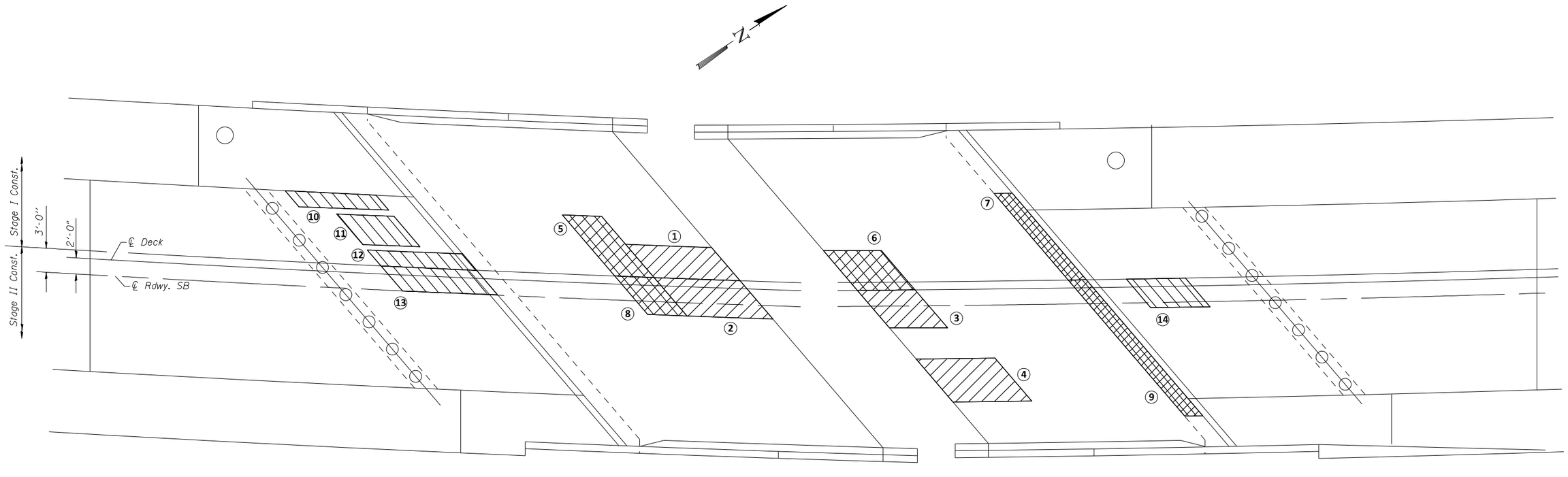
PLOT DATE = 12/16/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING PLAN
S.N. 057-0154

SCALE: | SHEET 8 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	12
		CONTRACT NO. 70F57		
	ILLINOIS	FED. AID PROJECT		



DECK TOP PLAN
(APPROACH SPANS)

LEGEND

- Deck Slab Repair (Full Depth, Type II)
- Deck Slab Repair (Partial)
- Approach Slab Repair (Partial Depth)

Deck Slab Repair (Full Depth, Type II)

PATCH NO.	SIZE L ft. * W ft.	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
1	8.0 * 4.0			3.6	
2	8.0 * 5.0			4.5	
3	3.2 * 4.0			1.4	
4	6.0 * 5.0			3.3	

Deck Slab Repair (Partial)

PATCH NO.	SIZE L ft. * W ft.	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
5	3.0 * 9.0	3.0			
6	3.2 * 4.5	1.6			
7	2.0 * 11.0	2.5			
8	3.0 * 5.0	1.7			
9	2.0 * 15.0	3.3			

Approach Slab Repair (Partial Depth)

PATCH NO.	SIZE L ft. * W ft.	SQ YD	SQ YD	APPROACH SLAB REPAIR PARTIAL DEPTH SQ YD	
10	12.0 * 2.5			3.3	
11	7.0 * 4.0			3.1	
12	12.0 * 2.5			3.3	
13	12.0 * 3.0			4.0	
14	6.0 * 3.5			2.4	

ITEM	UNIT	TOTAL
Approach Slab Repair (Partial Depth)	Sq. Yd.	16.1
Deck Slab Repair (Full Depth Type II)	Sq. Yd.	12.8
Deck Slab Repair (Partial)	Sq. Yd.	12.1

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	DRAWN -	REVISED -
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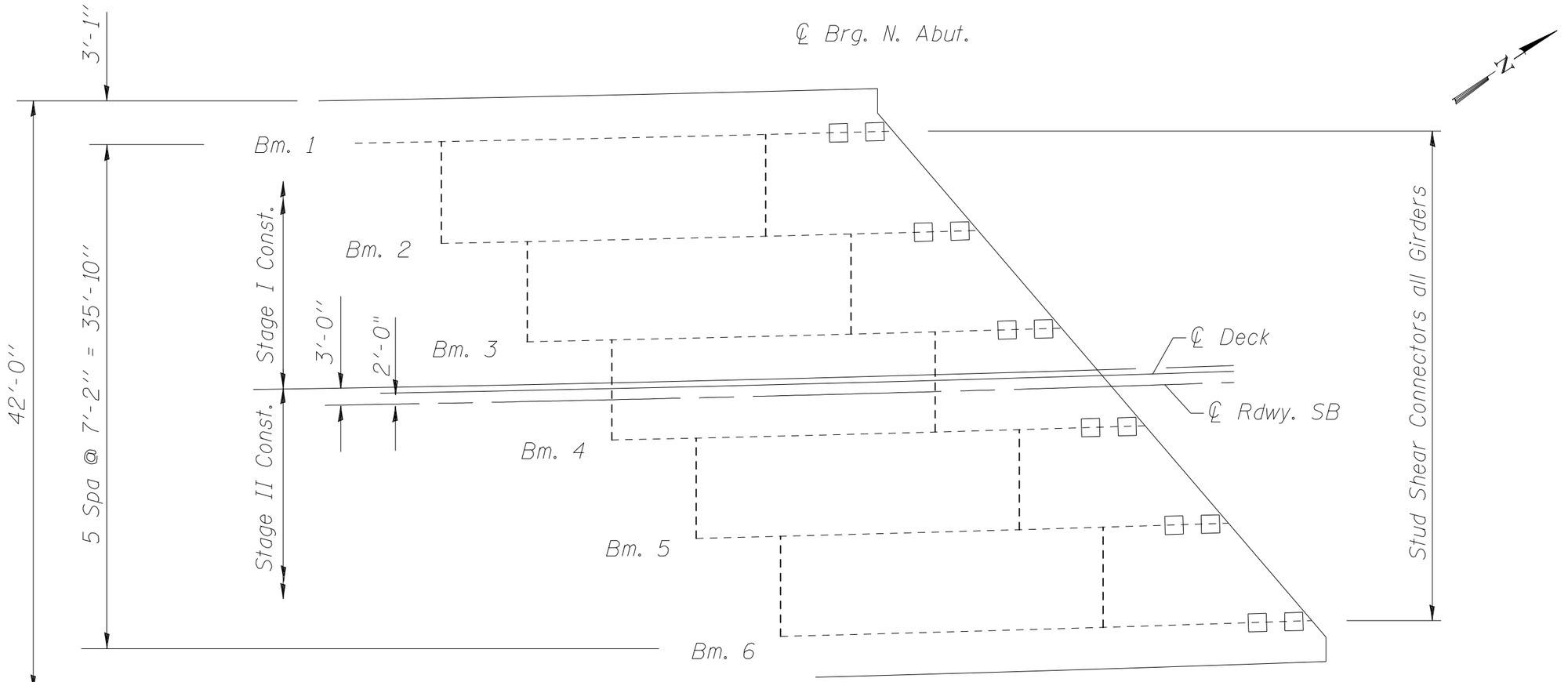
PLOT DATE = 11/10/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

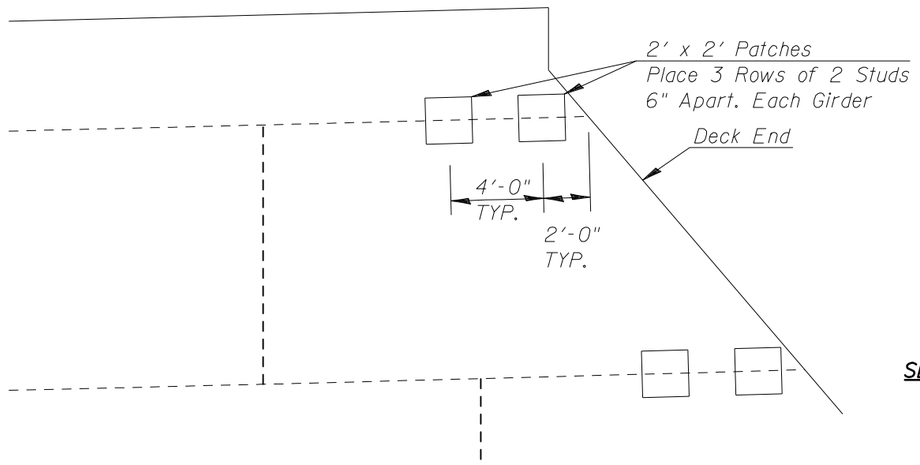
APPROACH PATCHING PLAN
S.N. 057–0154

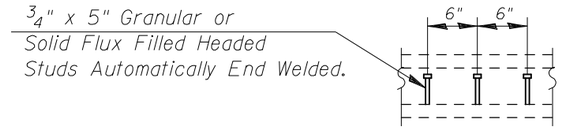
SCALE: | SHEET 9 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	13
		CONTRACT NO. 70F57		
	ILLINOIS	FED. AID PROJECT		

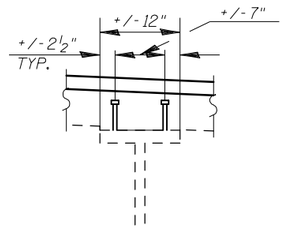


NORTH ABUTMENT PLAN





SECTION ALONG GIRDER AT STUD LOCATIONS



SECTION AT STUD LOCATIONS

Notes

Patch quantities included in Table on Sheet 6 of 10.

ITEM	UNIT	TOTAL
Stud Shear Connectors	Each	72.0

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	DRAWN -	REVISED -
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PLOT DATE = 11/10/2021	DATE -	REVISED -

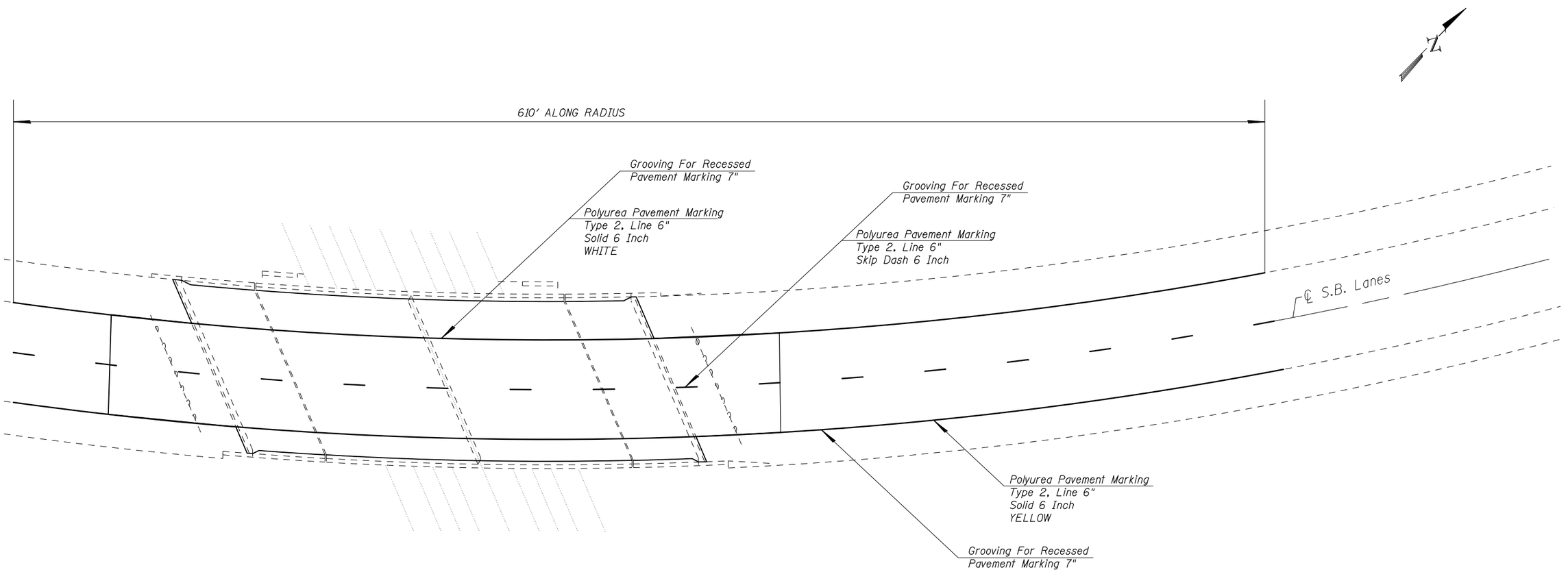
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STUD SHEAR CONNECTORS DETAIL
S.N. 057-0154

SCALE: | SHEET 10 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	14
		CONTRACT NO. 70F57		
	ILLINOIS FED. AID PROJECT			

STRIPING DETAIL
STRUCTURE 057-0154 (SBL)



ITEM	UNIT	TOTAL
Polyurea Pavement Marking, Type 2, Line 6"	Foot	1,380.0
Grooving for Recessed Pavement Marking 7"	Foot	1,380.0

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PLOT DATE = 11/10/2021	DATE -	REVISED -	

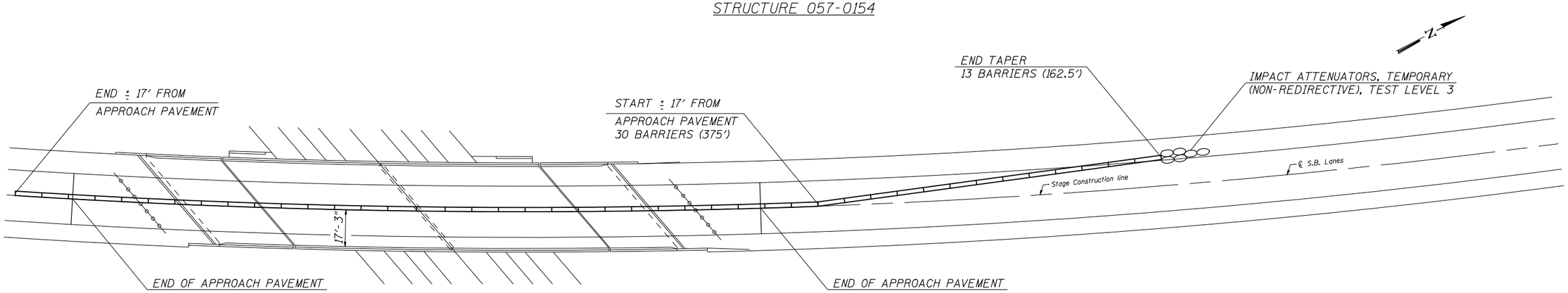
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRIPING DETAIL
S.N. 057-0154 SB

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	15
		CONTRACT NO. 70F57		
	ILLINOIS FED. AID PROJECT			

STAGE I (SBL)
STRUCTURE 057-0154



PLAN NOTES:

ALL STAGING DETAILS SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402 AND PAID FOR AT THE CONTRACT UNIT PRICE PER EACH LOCATION.

ALL WORK WITHOUT TEMPORARY CONCRETE BARRIER IN PLACE SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701400 AND 701401.

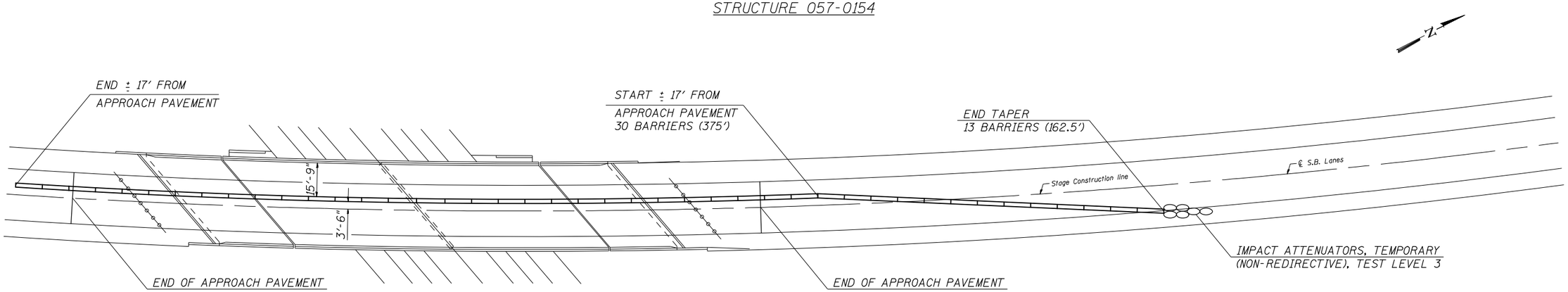
FOR ADDITIONAL DETAILS ASSOCIATED WITH TEMPORARY CONCRETE BARRIER, SEE HIGHWAY STANDARD 701402.

REFLECTOR SHALL BE ATTACHED TO GUARDRAIL AND BARRIER WALL AT 25 FOOT CENTERS. COST TO BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402.

REFLECTORIZED TEMPORARY MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER, AND ALONGSIDE BOTH SIDES OF THE WORK AREA. EXISTING MARKINGS THAT CONFLICT WITH THE STAGED TRAFFIC MARKINGS SHALL BE REMOVED OR COVERED. COST TO REMOVE EXISTING MARKINGS AND FOR THE PLACEMENT AND REMOVAL OF TEMPORARY MARKINGS SHALL BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402.

ITEM	UNIT	TOTAL
Temporary Concrete Barrier	Foot	537.5
Impact Attenuators, Temporary (Non-Redirective), Test level 3	Each	1.0
Pinning Temporary Concrete Barrier	Each	12.0

STAGE II (SBL)
STRUCTURE 057-0154



PLAN NOTES:

ALL STAGING DETAILS SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402 AND PAID FOR AT THE CONTRACT UNIT PRICE PER EACH LOCATION.

ALL WORK WITHOUT TEMPORARY CONCRETE BARRIER IN PLACE SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701400 AND 701401.

FOR ADDITIONAL DETAILS ASSOCIATED WITH TEMPORARY CONCRETE BARRIER, SEE HIGHWAY STANDARD 701402.

REFLECTOR SHALL BE ATTACHED TO GUARDRAIL AND BARRIER WALL AT 25 FOOT CENTERS. COST TO BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402.

REFLECTORIZED TEMPORARY MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER, AND ALONGSIDE BOTH SIDES OF THE WORK AREA. EXISTING MARKINGS THAT CONFLICT WITH THE STAGED TRAFFIC MARKINGS SHALL BE REMOVED OR COVERED. COST TO REMOVE EXISTING MARKINGS AND FOR THE PLACEMENT AND REMOVAL OF TEMPORARY MARKINGS SHALL BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402.

ITEM	UNIT	TOTAL
Relocate Temporary Concrete Barrier	Foot	537.5
Impact Attenuators, Relocate (Non-Redirective), Test level 3	Each	1.0
Pinning Temporary Concrete Barrier	Each	12.0

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PLOT DATE = 11/10/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY BARRIER WALL
S.N. 057-0154 SB

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(57-10HB)BR	MCLEAN	19	16
		CONTRACT NO. 70F57		
	ILLINOIS	FED. AID PROJECT		

992 #179 4-27-01 F.A.I. RTE. 55 McLEAN CO. SEC.(57-8,57-9, 57-10)RS&I I&R COPY #179

98%
8-24-2002
179

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	*	McLEAN	163	1
		ILLINOIS		

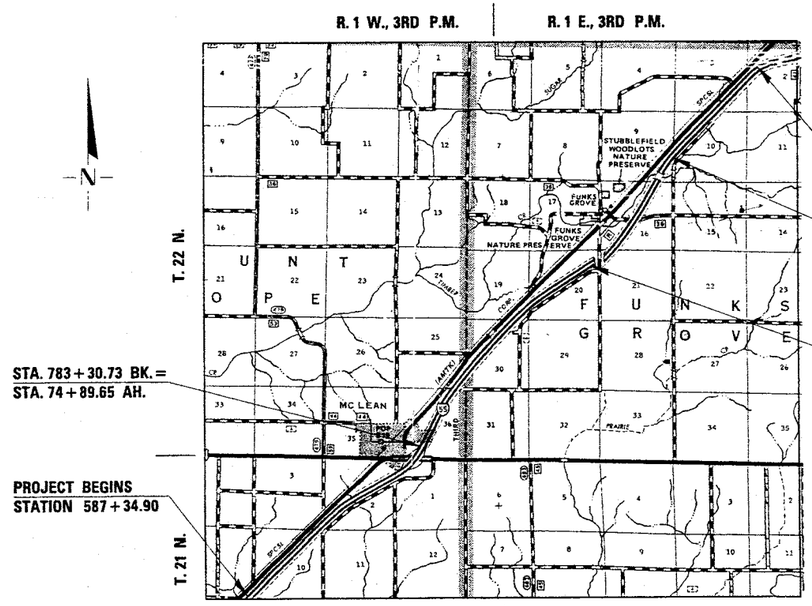
*(57-8, 57-9, 57-10) RS & I

INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. 55 (I–55)
SECTION (57–8, 57–9, 57–10) RS & I
PROJECT IM-55-4(161)141
McLEAN COUNTY
C–93–043–00



LOCATION PLAN

LENGTH OF SECTION = FEET = MILES

0 1 2 3 4 5

SCALE IN MILES

GROSS LENGTH:
NET LENGTH: 10.6 MILES – ±55,900 FEET

LOCATION OF SECTION INDICATED THUS: –

2001 ADT = 25,100
P.C. = 73.1% S.U. = 2.6% M.U. = 24.3%
DESIGN DESIGNATION – INTERSTATE

100' 200' 300' 1" = 100'
0 10' 20' 30' 1" = 10'
0 50' 100' — 1" = 50'
0 50' 100' — 1" = 40'
0 50' 100' — 1" = 30'
0 50' 100' — 1" = 20'

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

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

PROJECT ENGR: RAY MULHOLLAND UNIT CHIEF: MARIE VERDINE
FUNKS GROVE TOWNSHIP, MOUNT HOPE TOWNSHIP

CONTRACT NO. 86992 057-0154(SB) 0155(NB)

Ozyurt and Stone, Inc.
CONSULTING ENGINEERS
SPRINGFIELD, IL.

AS BUILT

Gary J. Cartwright 12/5/00
ILLINOIS PROFESSIONAL NO. 43408

GARY J. CARTWRIGHT 43408 LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
(Expires 11/30/01)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED JANUARY 9 2001
James J. Funk
DISTRICT ENGINEER
2001

ENGINEER OF PROJECT DEVELOPMENT AND IMPLEMENTATION
February 2, 2001
Michael Klein
ENGINEER OF DESIGN AND ENVIRONMENT
February 2, 2001
James C. Sloan
DIRECTOR, DIVISION OF HIGHWAYS

3-219

#9931.4

057-0154 & 0155

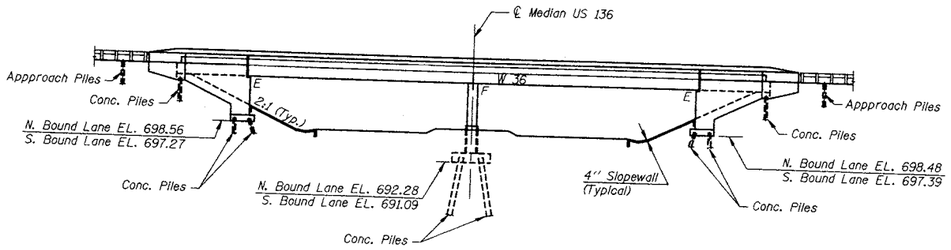
S.N. 057-0155 (Northbound Lanes)
Benchmark No. 1. Top of Existing Pavement at Left Edge of NB Lane (P.G. Line) at Sta. 752+82.00 at Bk. of South Appr. Bent of S.N. 057-0155. Assumed Elev. = 717.15 = Plan Elev.

S.N. 057-0154 (Southbound Lanes)
Benchmark No. 2. Top of Existing Pavement at Left Edge of SB Lane (P.G. Line) at Sta. 754+25.06 at Bk. of North Appr. Bent of S.N. 057-0154. Assumed Elev. = 717.14 = Plan Elev.

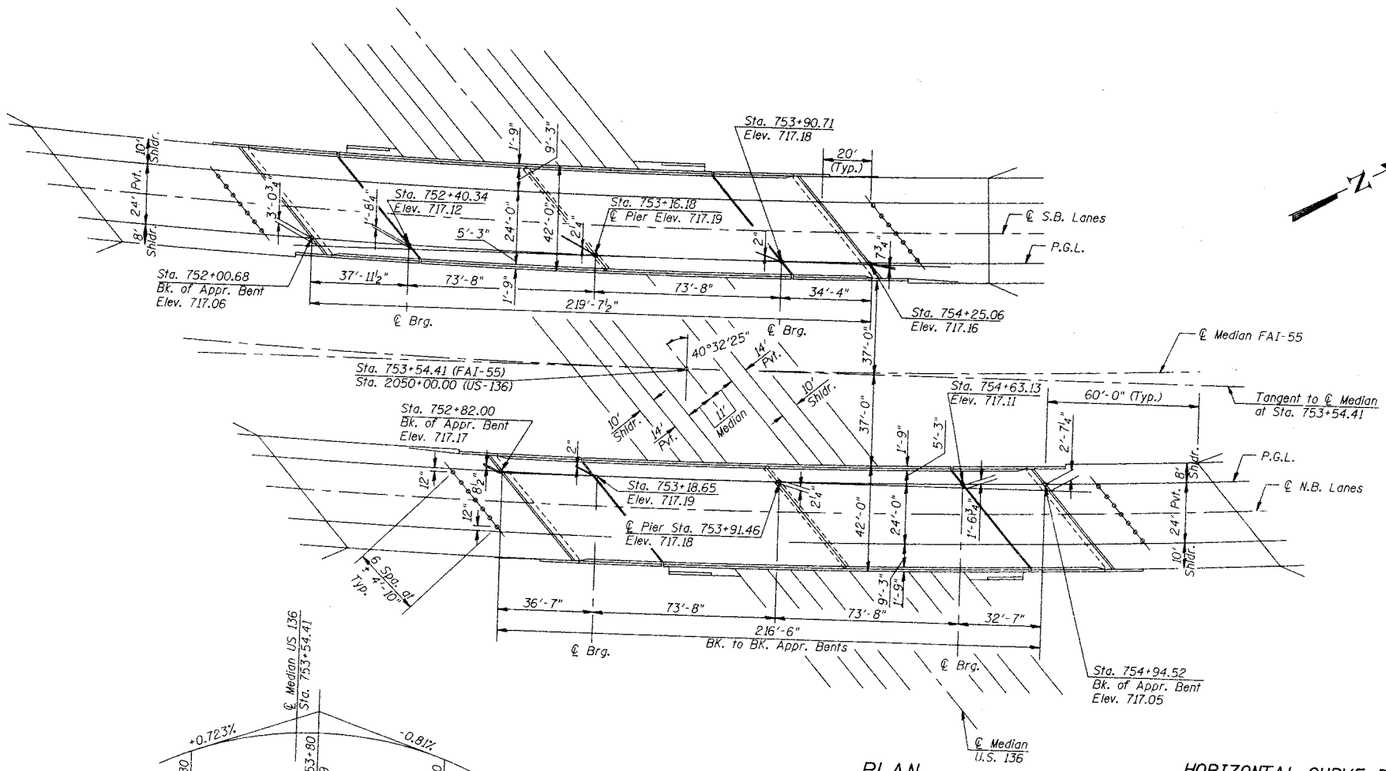
Existing Structure
Two span continuous structure with steel beams. PPC I-beams on vaulted abutments and reinforced column concrete piers. S.N. 057-0154 & S.N. 057-0155. The rehabilitation work is done by utilizing staged construction.

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	50
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

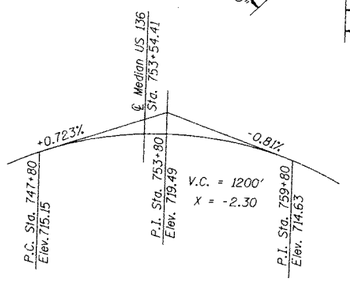
** (57-8, 57-9, 57-10) RS & I Sheet No. 1 26 Sheets



ELEVATION



PLAN



PROFILE GRADE (FAI 55)
(Top of overlay @ median edge of Pvt.)
The profile grade is 0.02 ft above the existing profile grade.

DESIGN STRESSES & LOADING (ORIGINAL CONST.)

Live Load HS20-44 & Alt. (1969 AASHO Specification)
Dead Load included additional 25 psf for future wearing surface.

fc=1,400 psi (Substructure & (GM) Parapet)
fc=1,200 psi (Superstructure)
Vc=75 psi (Footings)
fs=20,000 psi (Reinforced Bars Field)
fs=20,000 psi (Structural Steel A-36)
n=10
f'c=5,000 psi (Prestressed Beams)
f'ci=4,000 psi (Prestressed Beams)
f's=248,000 psi (Prestressed Strands)
f'si=173,600 psi (Prestressed Strands)

NEW CONSTRUCTION

DESIGN SPECIFICATIONS

1996 AASHTO. with 1997 and 1998 interim specification.

LOADING HS 20-44 & Alt.

Allow 25#/sq.ft for future wearing surface

DESIGN STRESSES

fc=1,400 psi (Concrete)
fs=24,000 psi (Reinforcement bars)
fs=20,000 psi (Structural Steel)

PROPOSED REHABILITATION WORK

- Remove the I-11 wearing surface and waterproofing membrane system.
- Patch the deck as needed.
- Repair the delaminated, spalled and cracked areas of the parapet.
- Scarify the deck surface to a depth of 0.50 inches.
- Overlay the deck with a 2.25 inch depth microsilica overlay.
- Replace the neoprene expansion joints.
- Repair beam bottom flange impact area.
- Repair deck overhang spall and delamination areas with polymer modified portland cement mortar.
- Rehabilitate abutment expansion bearings.
- Plug deck drains within 10 feet of piers and abutment expansion joints. Extend remaining drains.
- Repair erosion and place broken concrete along the exterior of the abutment wing.
- Increase height of pier crashwalls.
- Repair substructure concrete using formed concrete repair & epoxy injection.
- Fill gaps between slopewall and abutment with controlled low strength material.

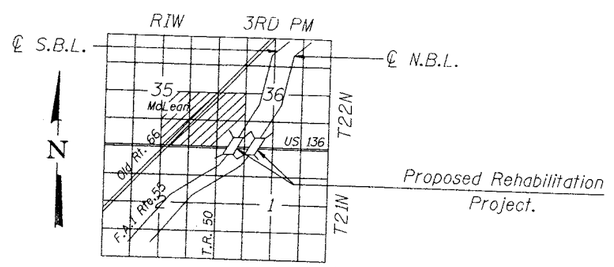
STAGES WERE Switched REHAB WORK ON Joints was Completed AS PER PLAN STAGES LINES. THE Microsilica Stage joint matches & of Roadway

HORIZONTAL CURVE DATA
FAI ROUTE 55

P.I. STA. 752+80.19
Δ = 40°33'58"
D = 1°30'
R = 3,819.72'
T = 1,411.67'
L = 2,704.41'
E = 252.51'
SE = 0.042 ft/ft

STATE OF ILLINOIS
PAUL B. LIN
No. 4419
SPRINGFIELD, ILLINOIS
LICENSED STRUCTURAL ENGINEER

Paul B. Lin 12-8-00
Illinois Structural No. 4419 Date



LOCATION SKETCH

REVISIONS	
NAME	DATE

LIN ENGINEERING.LTD.
210 W. Chestnut, Crestham, Illinois 62629
(217) 483-6868 FAX (217) 483-4706
Designed By: STD | Checked By: KRG | Drawn By: MLB
Date: 10/00 | File: COVERSHEET.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN & ELEVATION
F.A.I. 55 OVER U.S. ROUTE 136
SECTION (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41
S.N. 057-0154 & 057-0155

922\US136\coversheet.dgn 12/07/00 08:36:17 KR

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	51
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

** (57-8, 57-9, 57-10) RS & I Sheet No. 2 26 Sheets

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
BITUMINOUS CONCRETE REMOVAL (DECK)	SQ. YD.	1869	--	1869
CONCRETE REMOVAL	CU. YD.	31.6	--	31.6
NEOPRENE EXPANSION JOINT 2"	FOOT	212	--	212
FORMED CONCRETE REPAIR (DEPTH ≤5")	CU. YD.	36.6	--	36.6
FURNISHING & ERECTING STRUCTURAL STEEL	SQ. FT.	121	47	168
JACK & REMOVE EXISTING BEARINGS	POUNDS	4700	--	4700
REINFORCEMENT BARS, EPOXY COATED	EACH	24	--	24
EPOXY CRACK SEALING	POUNDS	4620	350	4970
POLYMER MODIFIED PORTLAND CEMENT MORTAR	FOOT	45	97	142
BAR SPLICERS	SQ. FT.	1	--	1
CONTROLLED LOW-STRENGTH MATERIAL	EACH	48	--	48
DECK SLAB REPAIR (PARTIAL)	CU. YD.	0.5	2	2.5
BRIDGE DECK MICROSILICA CONC. OVERLAY (2¼")	SQ. YD.	191	--	191
CONCRETE BRIDGE DECK SCARIFICATION (1/2")	SQ. YD.	1765	--	1765
PLUG EXISTING DECK DRAINS	SQ. YD.	1765	--	1765
BRIDGE DECK GROOVING	EACH	4	--	4
PROTECTIVE COAT	SQ. YD.	1766	--	1766
BEAM STRAIGHTENING	SQ. YD.	122	--	122
FLOOR DRAIN EXTENSIONS	L. SUM	1	--	1
ELASTOMERIC EXPANSION BEARING (TYPE I)	EACH	4	--	4
DECK SLAB REPAIR (FULL DEPTH) TYPE II	EACH	24	--	24
CONCRETE STUCTURES	SQ. YD.	5	--	5
* HOLES DRILLED	CU. YD.	--	3.4	3.4
* DRY GROUT SOLIDS	EACH	~~10~~	--	~~10~~ 18
	CU. FT.	~~75~~		~~75~~ 75

* AT APPROACH SHOULDERS

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M 31, M 42 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 the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Protective coat shall not be applied over microsilica concrete overlay.
All structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300, Type 1.

The existing structural steel coating contains lead. The contractor should take appropriate precautions to deal with the presence of lead on this project.

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

Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.

Limits of Bituminous Concrete Removal (Deck) and Bridge Deck Microsilica Concrete Overlay (2¼") are from back to back of the approach bents.

LIN ENGINEERING, LTD.
20 W. Chestnut, Chatham, Illinois 62629
(217) 483-4168 FAX (217) 483-4706

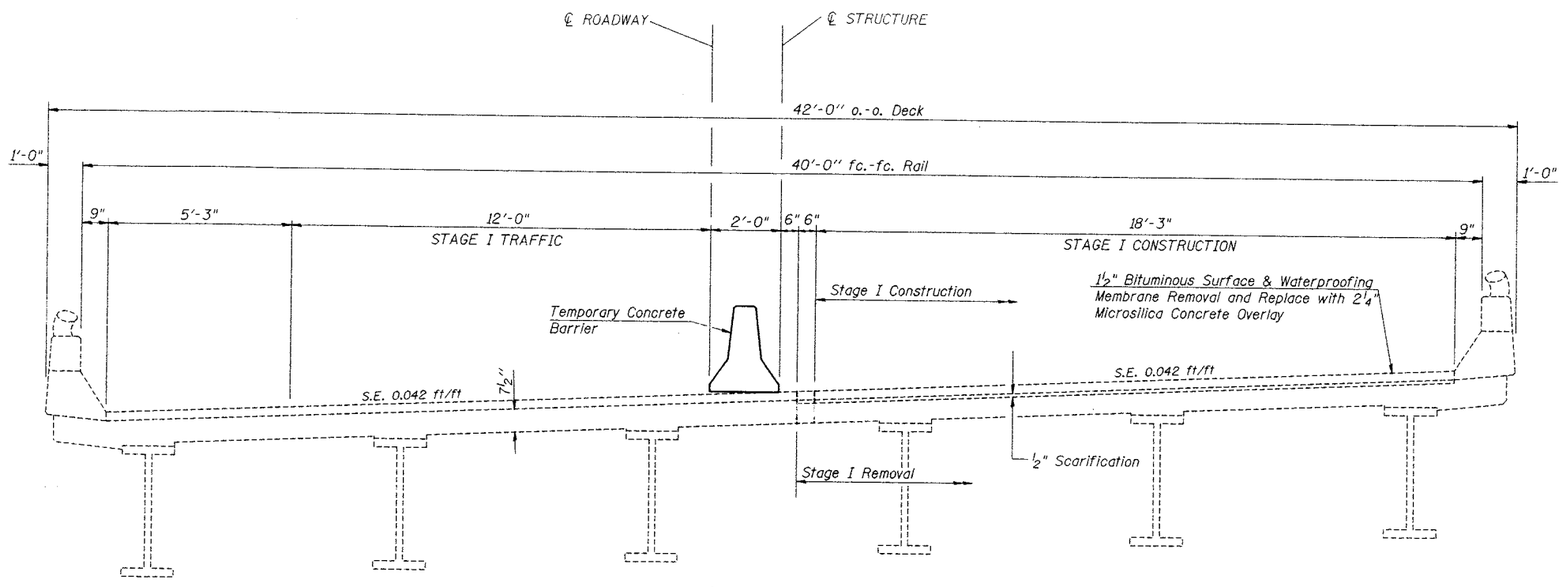
Designed By: STD | Checked By: KRG | Drawn By: FM
Date: 10/00 | File: COVERSHEET.DGN

REVISIONS	
NAME	DATE
STD	12/11/00

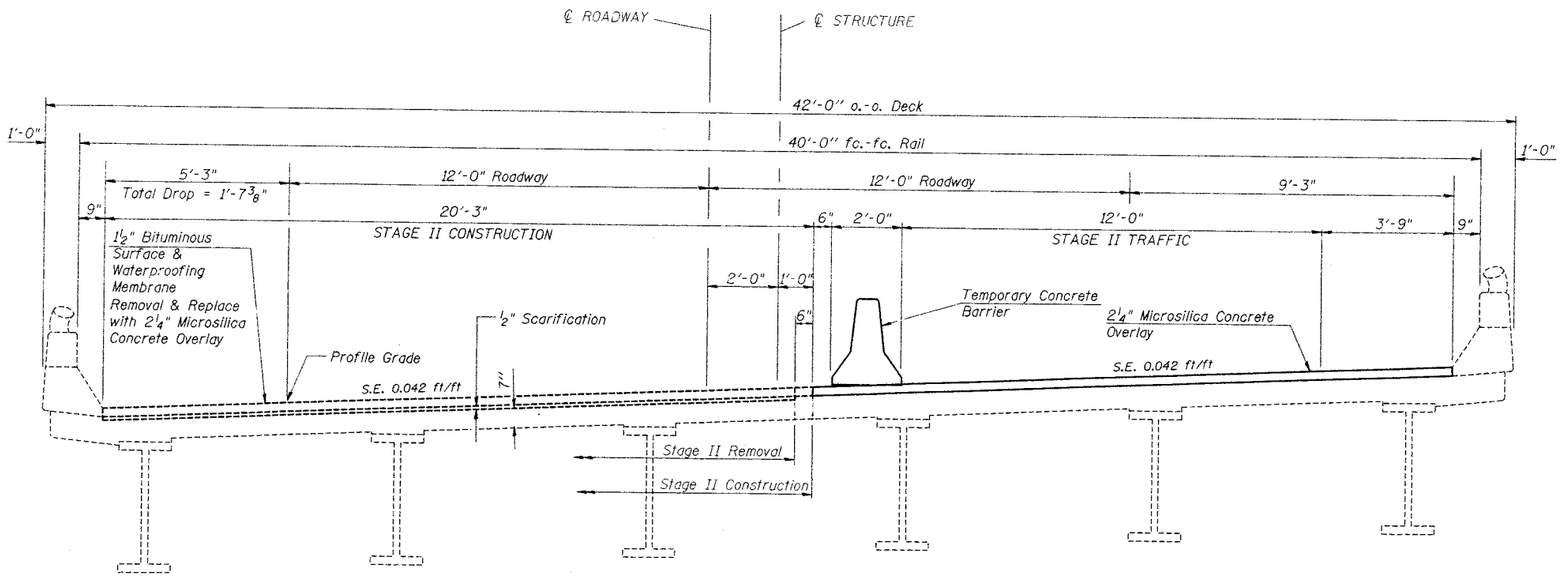
ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL NOTES & BILL OF MATERIAL
F.A.I. 55 OVER U.S. ROUTE 136
SECTION (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41
S.N. 057-0154 & 057-0155

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	52
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

** (57-8, 57-9, 57-10) RS & I Sheet No. 3
26 Sheets



STAGE I (NBL)
(Looking North)



STAGE II (NBL)
(Looking North)

Note - All transverse dimensions are radial.

LIN ENGINEERING,LTD.
210 N. Chestnut, Chatham, Illinois 62629
(217) 483-4188 FAX (217) 483-4706
Designed By: STD | Checked By: KRG | Drawn By: FML
Date: 10/00 | File: STAGECON.DGN

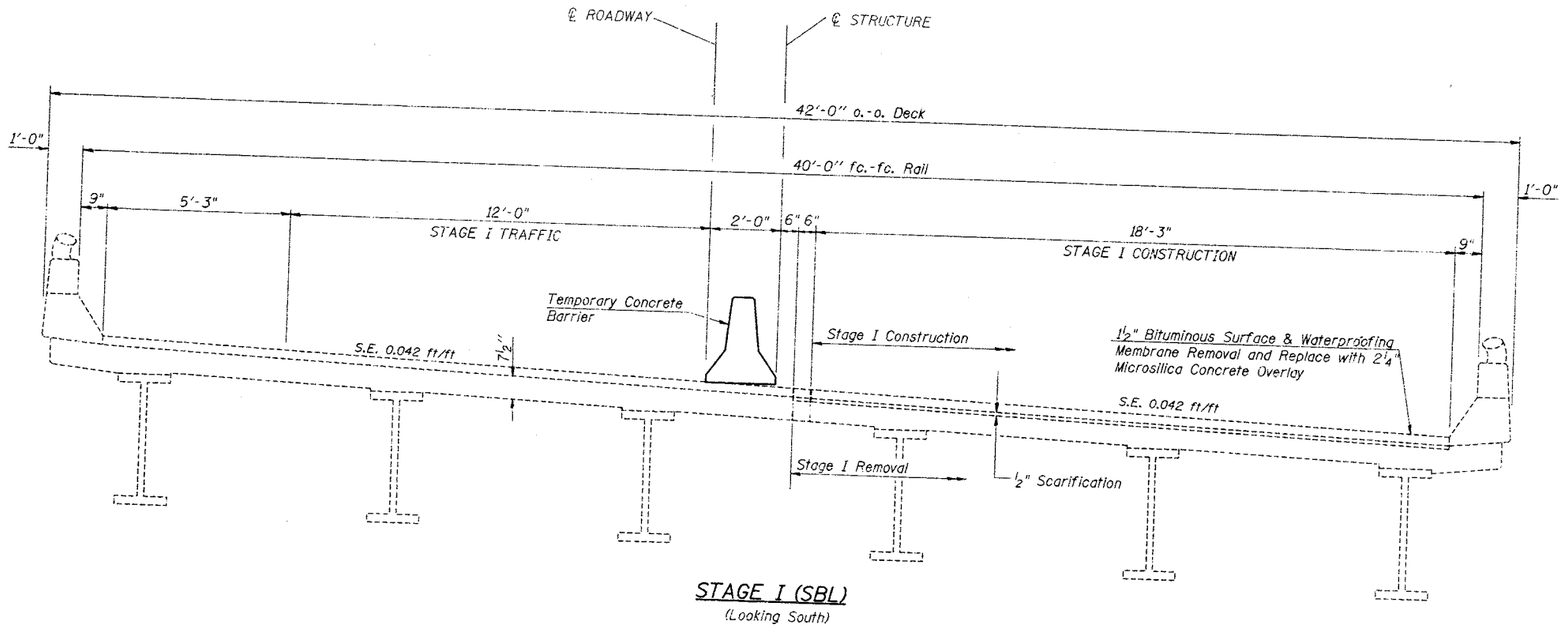
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

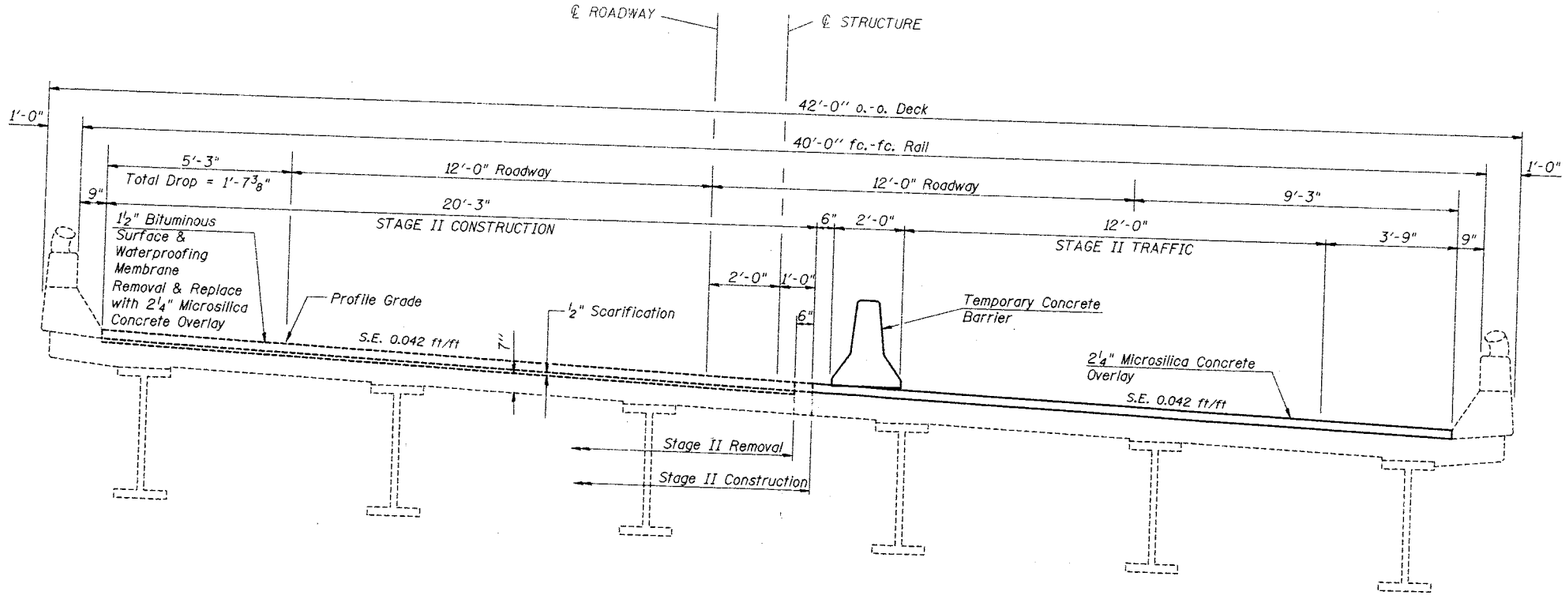
STAGE CONSTRUCTION
STRUCTURE # 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	53
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

** (57-8, 57-9, 57-10) RS & I Sheet No. 4
26 Sheets



STAGE I (SBL)
(Looking South)



STAGE II (SBL)
(Looking South)

Note - All transverse dimensions are radial.

LIN ENGINEERING, LTD.
210 W. Chestnut
(217) 483-4468
Chatham, Illinois 62629
FAX (217) 483-4706

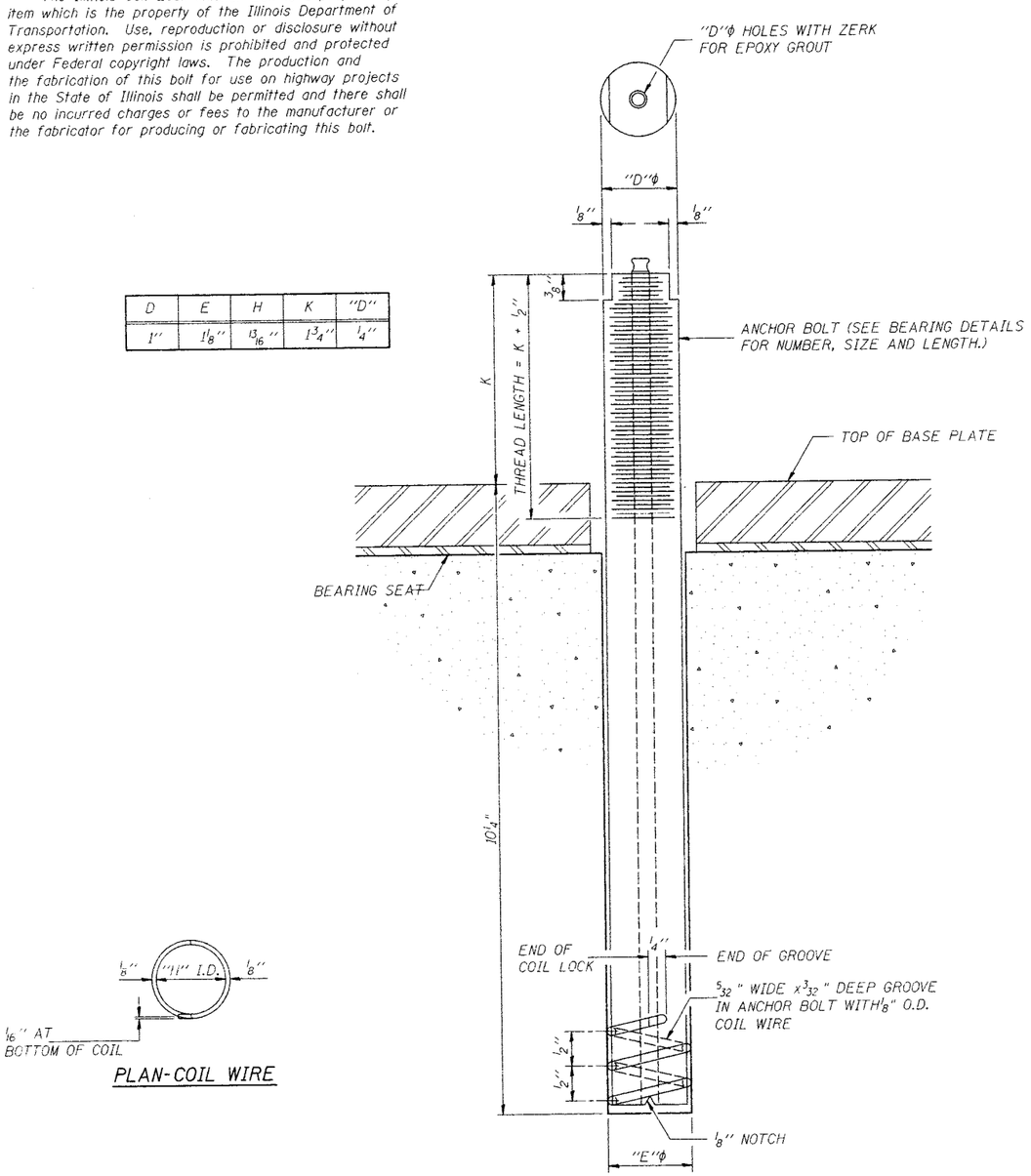
Designed By: STD	Checked By: KRG	Drawn By: KM
Date: 10/00	File: STAGECON.DGN	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGE CONSTRUCTION
STRUCTURE # 057-0154
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	183	54
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

** (57-8, 57-9, 57-10) RS & I Sheet No. 5
26 Sheets



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

PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

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

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

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

The epoxy grout shall be a two-component, epoxy resin bonding system comforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

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

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

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

GENERAL NOTES

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

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

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

Location	Type
Abutment	A 307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown here.

LIN ENGINEERING,LTD.
210 W. Chestnut Chatham, Illinois 62629
(217) 483-4168 FAX (217) 483-4706
Designed By: STD Checked By: KRG Drawn By: FML
Date: 10/00 File: ASB-1.DGN

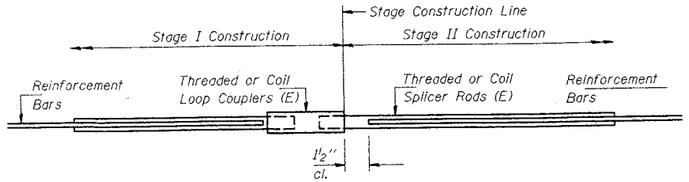
REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

ANCHOR BOLT
S.N. 057-0154 & S.N. 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41

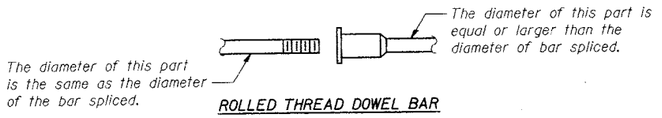
FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	55
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

** (57-8, 57-9, 57-10) RS & I Sheet No. 6
26 Sheets



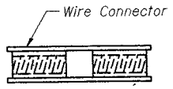
SPLICER DETAIL

Bar Size	No. Assemblies Required	Location
#5	24	Top of Slab
#5	24	Bottom of Slab



ROLLED THREAD DOWEL BAR

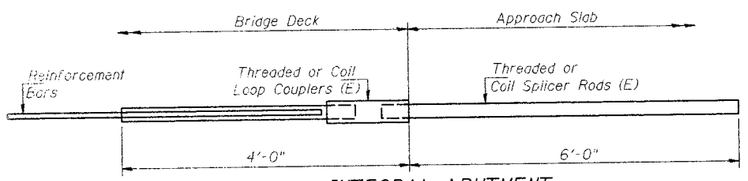
** ONE PIECE



WELDED SECTIONS

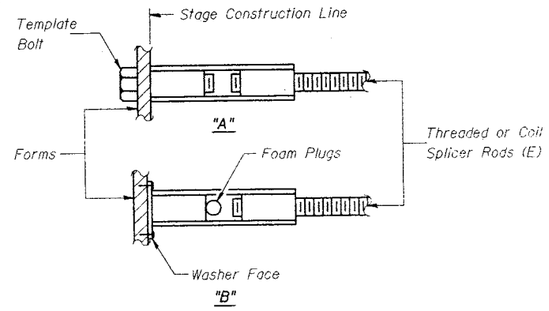
BAR SPLICER ASSEMBLY ALTERNATIVES

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



INTEGRAL ABUTMENT BAR SPLICER ASSEMBLY DETAIL FOR #5 BAR

Min. Capacity = 23 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



INSTALLATION AND SETTING METHODS

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

NOTES

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

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

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

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

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

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

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

Where f_y = 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

BAR SPLICER ASSEMBLIES			
		Strength Requirements	
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6

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

LIN ENGINEERING, LTD.
205 W. Chestnut, Chatham, Illinois 62629
(217) 483-4168, Fax (217) 483-4706
Designed By: STD | Checked By: KRD | Drawn By: FML
Date: 10/00 | File: BSD-LDGN

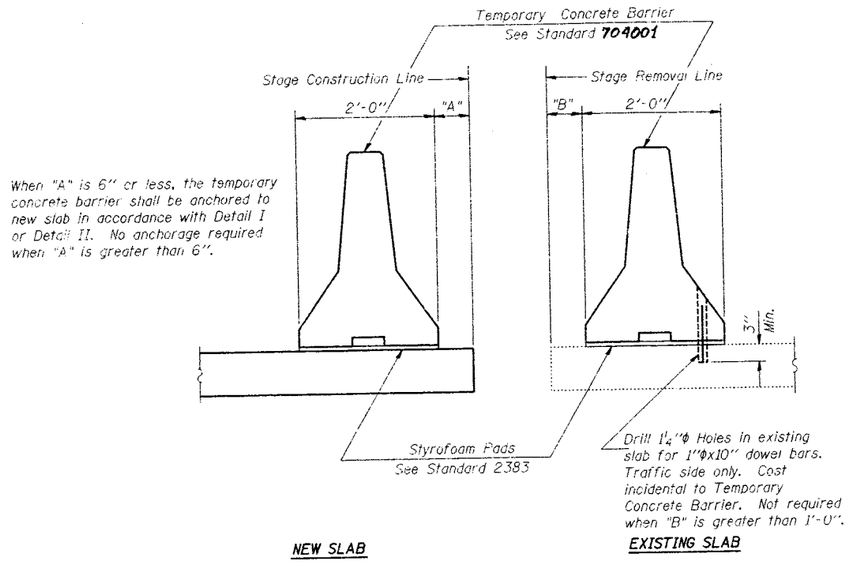
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

BAR SPLICER
S.N. 057-0154 & S.N. 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	56
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

** (57-8, 57-9, 57-10) RS & I Sheet No. 7
26 Sheets



NOTES

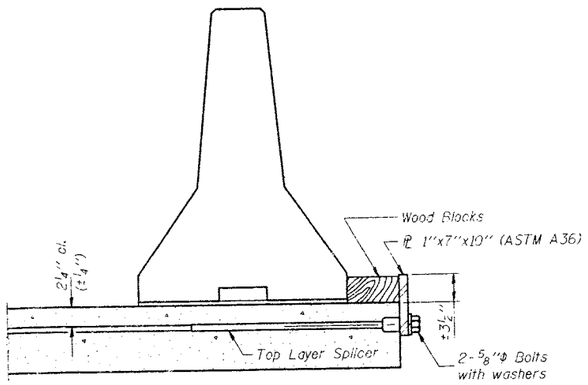
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℄ to the top layer of couplers with 2-⅝"ϕ bolts screwed to coupler at approximate ℄ of each 10'-0" barrier panel.

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.

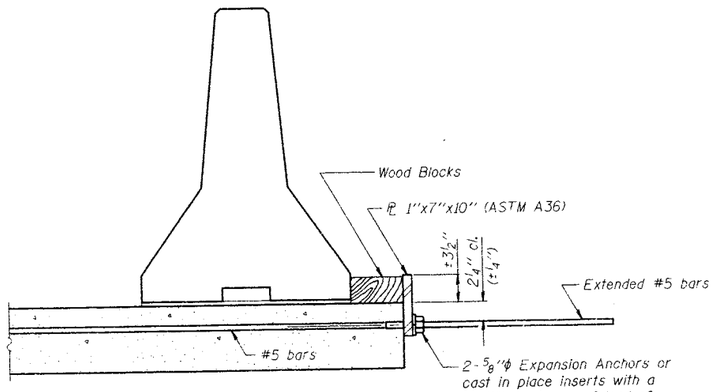
Note: For Pay Item "Temporary Concrete Barrier" See Roadway Plans.

SECTIONS THRU SLAB



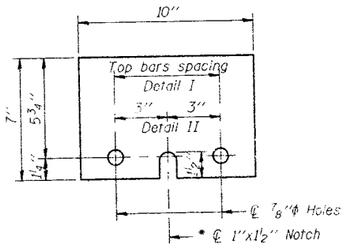
DETAIL I

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

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210 W. Chestnut Chatham, Illinois 62629
(217) 483-4868 FAX (217) 483-4706
Designed By: STD Checked By: KRG Drawn By: FML
Date: 10/00 File: R27.DGN

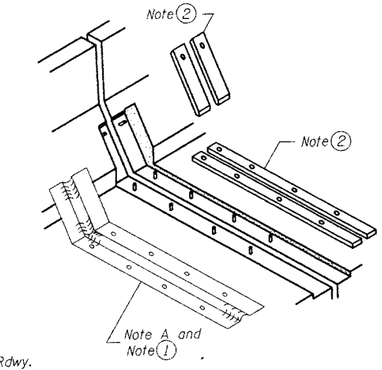
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

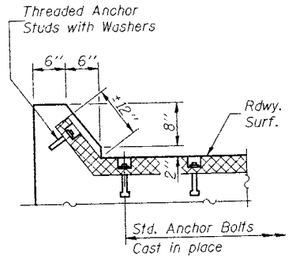
TEMPORARY CONCRETE BARRIER
S.N. 057-0154 & S.N. 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	57
ROAD DIST.	ILLINOIS			

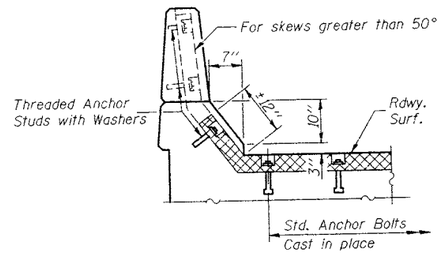
** (57-8, 57-9, 57-10) RS & I Sheet No. 8 26 Sheets



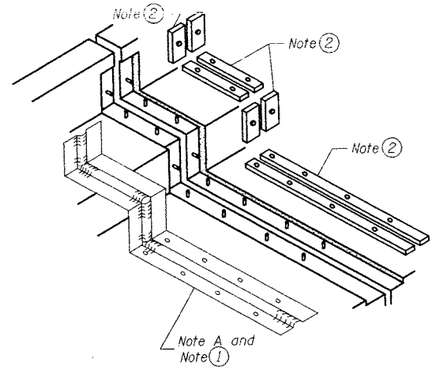
AT PARAPET



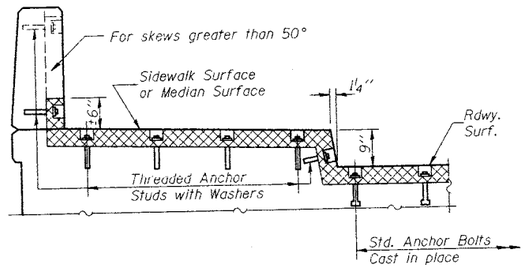
AT CURB



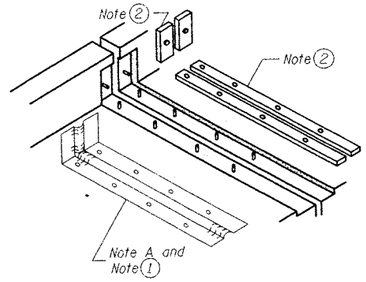
AT PARAPET



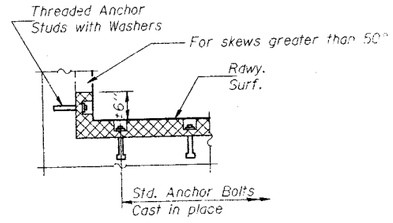
AT SIDEWALK OR MEDIAN



AT SIDEWALK OR MEDIAN
TYPICAL END TREATMENTS



AT WALL



AT WALL

Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1½" Min.
2½"	2½"	1¾" Min.
4"	3"	2½" Min.

INSTALLATION NOTES

(1) Install continuous seal in roadway, parapet, curb, and sidewalk.

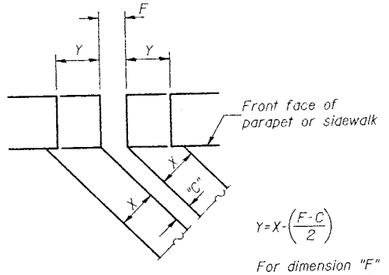
(2) Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

SKEW LIMITATIONS

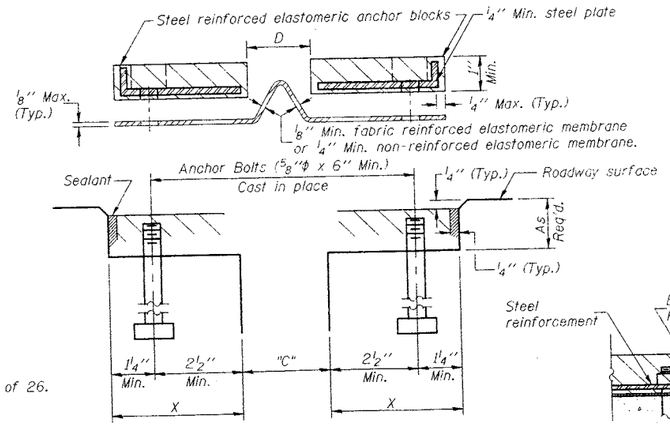
The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed according to dimension "D", might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.

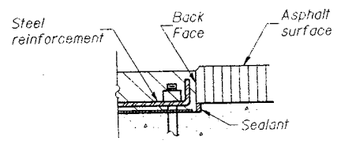


For dimension "F" see sheets #9 & #10 of 26.

FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK WITH ASPHALT SURFACE

GENERAL NOTES

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

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

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

Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

The parapet and roadway membrane shall be made continuous by an approved vulcanizing process. Lapping will not be permitted.

REVISIONS	
NAME	DATE

LIN ENGINEERING, LTD.
210 W. Chestnut, Chatham, Illinois 62629
(217) 483-4668 FAX (217) 483-4706
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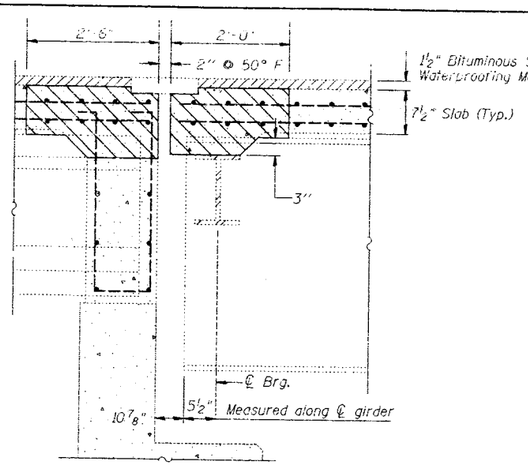
Date: 10/06 | Files: EXPJT.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION

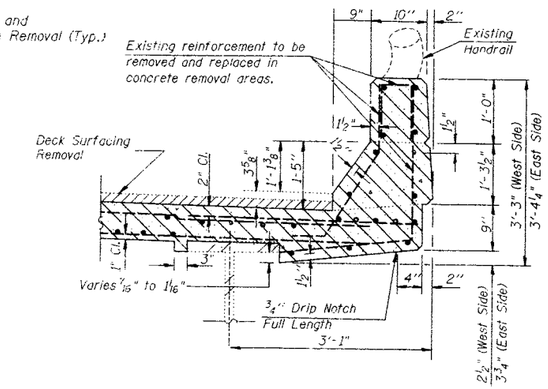
CONTINUOUS SEAL TYPE
NEOPRENE EXPANSION JOINTS
S.N. 057-0154 & 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	58
ROAD DIST.		ILLINOIS		

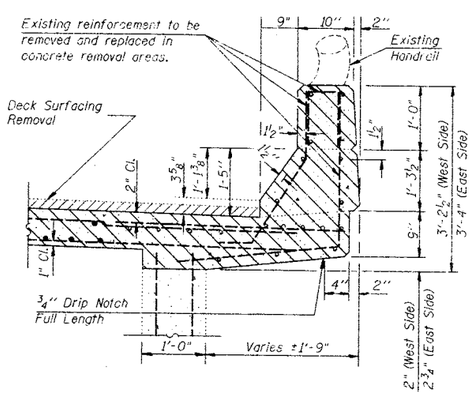
** (57-8, 57-9, 57-10) RS & I Sheet No. 9 26 Sheets



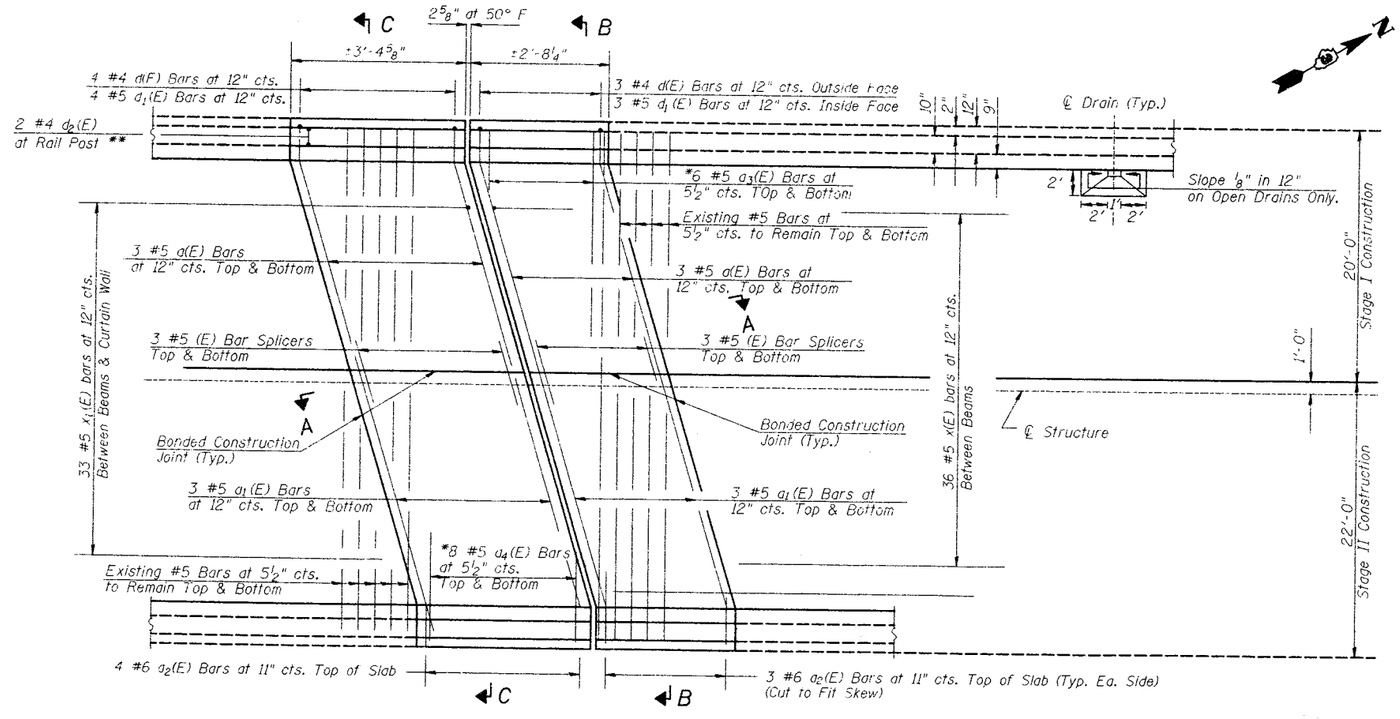
EXISTING SECTION AT ABUTMENT AT RIGHT ANGLES



EXISTING CURB SECTION (MAIN SPAN)



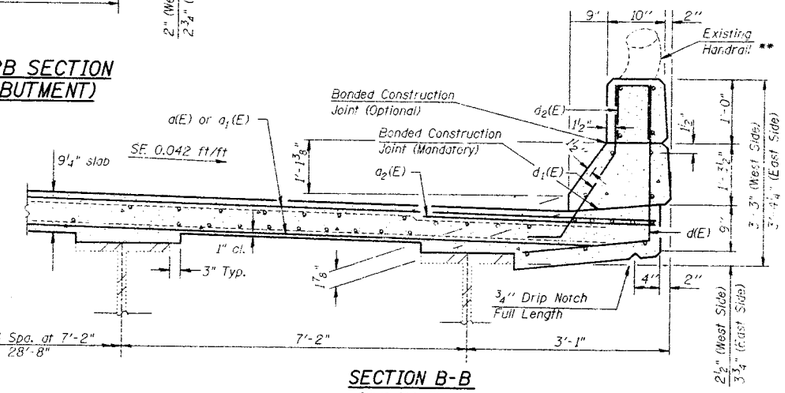
EXISTING CURB SECTION (VAULTED ABUTMENT)



VAULTED ABUTMENT — MAIN SPAN

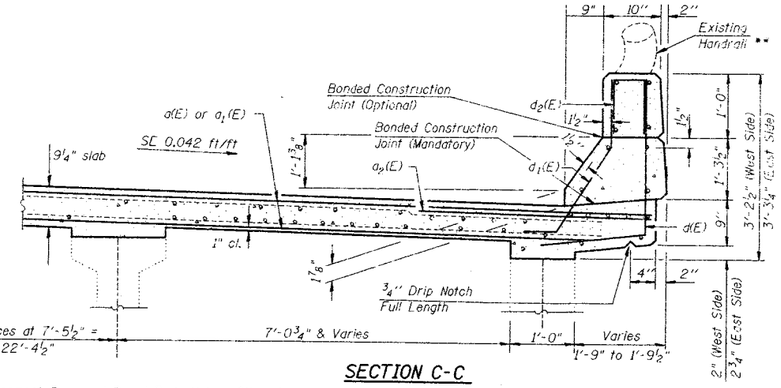
PLAN

(South End Shown - North End Similar)



SECTION B-B

(West Side Shown)



SECTION C-C

* Order $a_4(E)$ & $a_5(E)$ Bars Full Length Cut to Fit Skew. Use Remainder at the Other Abutment.

** The Rail Post Shall be Temporarily Supported During Rehabilitation. The Post Anchorage Assembly Embedded in Concrete Shall Be Cleaned and Incorporated Into New Construction.

Indicates Concrete Removal

Note:
Existing Reinforcement Bars and Dowel Rods Unless Otherwise Shown are to be Cleaned and Incorporated into New Construction.
For Section A-A See Sheet #10 of 26.
For Bill of Material & Bar Details See Sheet #10 of 26.
For Concrete Removal See Sheets #10 & #11 of 26.
All Transverse Dimensions are Radial.
Reinforcement Bars Designated (E) Shall be Epoxy Coated.
The Contractor Shall Use Extreme Care During Concrete Removal so as Not to Damage the P.P.C. I-Beam.

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Chatham, Illinois 62629 FAX (217) 483-4706
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Date: 10/00 | File: EXPJT.DGN

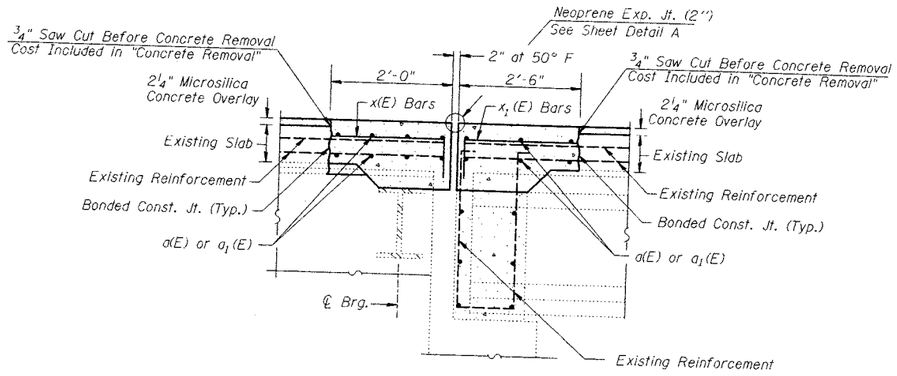
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REHABILITATION
SOUTH BOUND LANES
S.N. 057-0154
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41

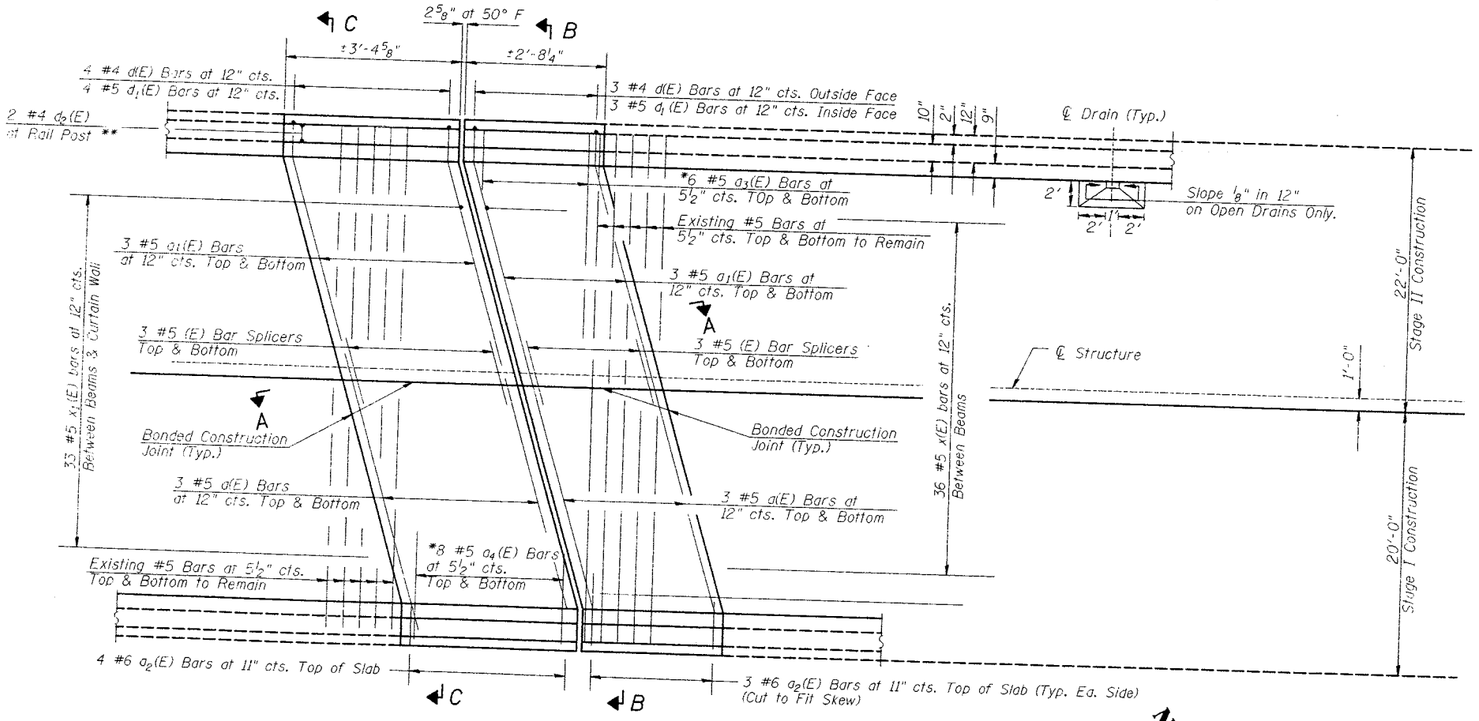
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	59
ROAD DIST.		ILLINOIS		

** (57-8, 57-9, 57-10) RS & I Sheet No. 10
26 Sheets



SECTION A-A

(Dimensions are at Right Angles)



VAULTED ABUTMENT

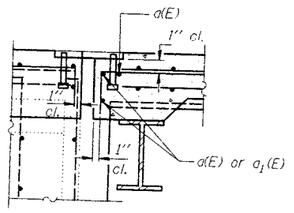
MAIN SPAN

PLAN

(South End Shown - North End Similar)

* Order $a_4(E)$ & $a_3(E)$ Bars Full Length Cut to Fit Skew. Use Remainder at the Other Abutment.

** The Rail Post Shall be Temporarily Supported During Rehabilitation. The Post Anchorage Assembly Embedded in Concrete Shall Be Cleaned and Incorporated Into New Construction.



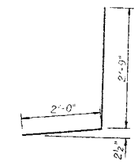
DETAIL A

Place d(E) or $a_1(E)$ bars in back of anchor bolts as shown if required to maintain 1" cl. (+0-1/8"). Anchor bolts should be tied to d(E) or $a_1(E)$ bars.

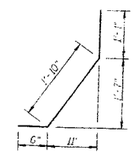
TWO SUPERSTRUCTURES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	48	#5	26'-0"	
$a_1(E)$	48	#5	28'-9"	
$a_2(E)$	56	#6	4'-0"	
$a_3(E)$	12	#5	6'-3"	
$a_4(E)$	16	#5	7'-9"	
d(E)	56	#4	4'-9"	
$d_1(E)$	56	#5	3'-5"	
$d_2(E)$	16	#4	2'-1"	
x(E)	144	#5	2'-11"	
x1(E)	132	#5	3'-7"	
Concrete Superstructure		Cu. Yds.	36.6	
Reinforcement Bars Epoxy Coated		Lbs.	4620	
Bar Splicers		Each	48	

Reinforcement bars designated (E) shall be epoxy coated.

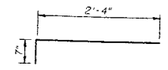


BAR d(E)

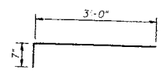


BAR $d_1(E)$

BAR $d_2(E)$



BAR x(E)



BAR $x_1(E)$

Note:
Existing Reinforcement Bars and Dowel Rods Shown are to be Cleaned and Incorporated into New Construction.
For Existing Curb Sections Sec. B-B and Sec. C-C. See Sheet # 9 of 26.
For Concrete Removal see Sheets #13 & #14 of 26.
All Transverse Dimensions are Radial.

LIN ENGINEERING, LTD.
210 W. Chestnut, Chatham, Illinois 62629
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
EXPANSION JOINT REHABILITATION
NORTH BOUND LANES
S.N. 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STATION 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	60
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 11
26 Sheets

Notes:

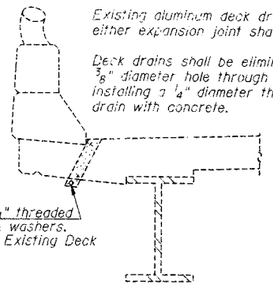
1. Existing bituminous surface and W.P. Membrane shall be removed from entire deck.

2. Entire existing deck to be scarified $\frac{1}{2}$" depth and overlayed with $2\frac{1}{4}$" Microsilica Concrete.

3. Hatched areas indicate concrete removal & replacement in stages. See Sheet #9 of 26.

4. Existing reinforcement bars & dowel rods extending into removal area are to be cleaned and incorporated into new construction.

5. Deck repair areas are estimated from survey work 6-22-00. Actual locations of repairs made shall be shown by the engineer on as built plans.

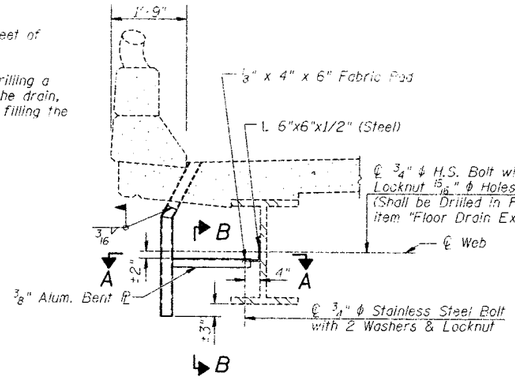


Existing aluminum deck drains within 10 feet of either expansion joint shall be eliminated.

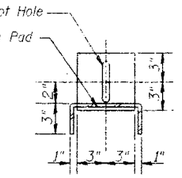
Deck drains shall be eliminated by field drilling a $\frac{3}{8}$" diameter hole through the bottom of the drain, installing a $\frac{1}{4}$" diameter threaded rod and filling the drain with concrete.

Field drill $\frac{3}{8}$" hole for $\frac{1}{4}$" threaded rod 13" long with nuts & washers. Cost included with "Plug Existing Deck Drains".

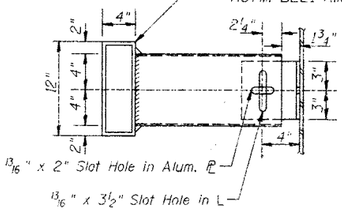
PLUG EXISTING DECK DRAINS



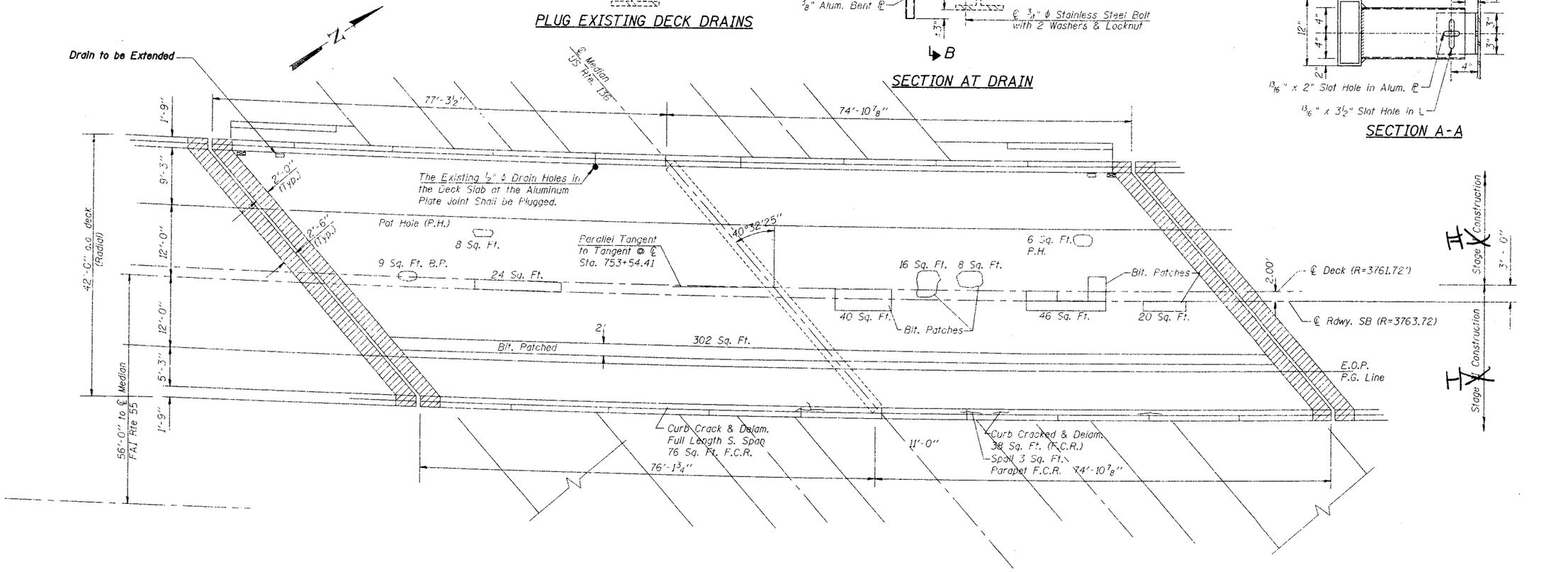
SECTION AT DRAIN



SECTION B-B



SECTION A-A



DECK TOP PLAN (MAIN SPANS)

LEGEND

- Deck Slab Repair (Partial) w/ Est. Area
- Crack, width >1/16" — Epoxy Crack Sealing
- Drain to be Plugged
- F.C.R. Formed Concrete Repair (Depth ≤ 5')
- B.P. Bituminous Patch

DECK REPAIR - QUANTITY ESTIMATE

ITEM	QUANTITY
Deck Slab Repair (Partial)	77 Sq. Yd.
Bituminous Concrete Removal (Deck)	943 Sq. Yd.
Concrete Bridge Deck Scarification ½"	891 Sq. Yd.
Bridge Deck Microsilica Concrete overlay $2\frac{1}{4}$"	891 Sq. Yd.
Bridge Deck Grooving	888 Sq. Yd.
Plug Existing Deck Drains	2 Each
Epoxy Crack Sealing	45 Foot
Formed Concrete Repair (Depth ≤ 5")	121 Sq. Ft.
Floor Drain Extensions	2 Each
Controlled Low-Strength Material	0.5 Cu. Yd.

Note - All transverse dimensions are radial.

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20 W. Chestnut, Chatham, Illinois 62629
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Date: 10/00 | File: EXHIBIT54-155.DGN

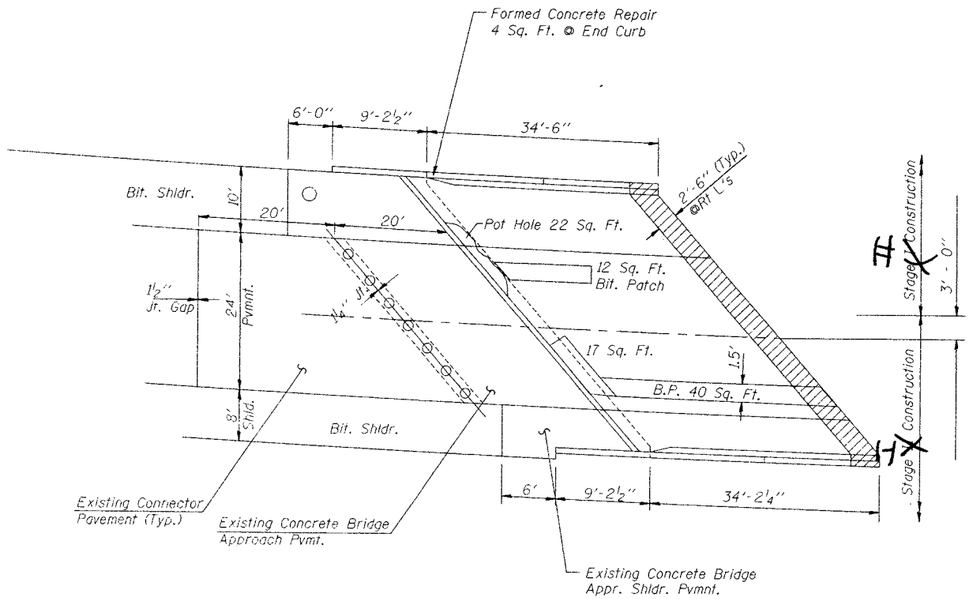
REVISIONS	
NAME	DATE

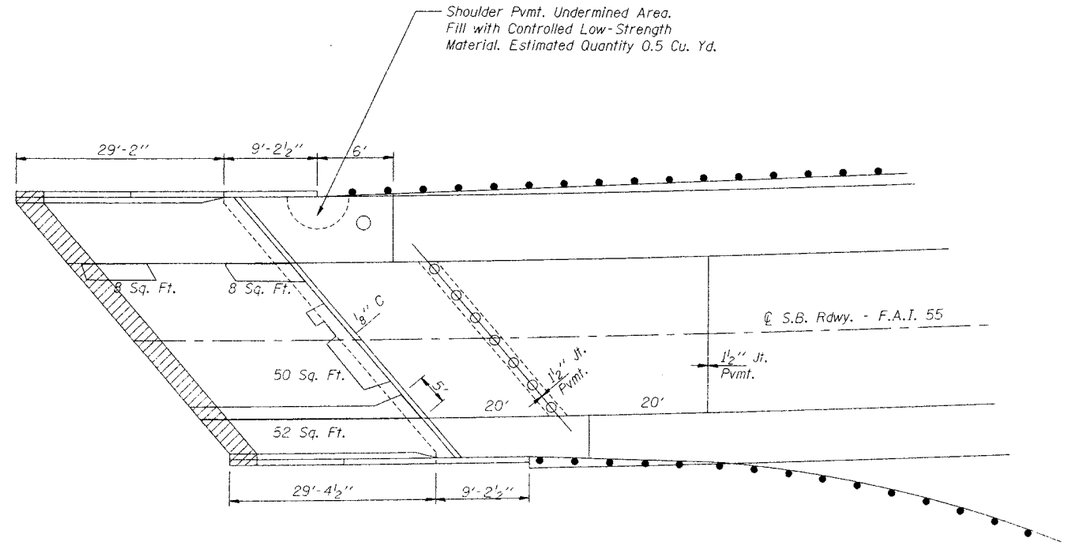
ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN
SOUTH BOUND LANES
STRUCTURE# 057-0154
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	61
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 12
26 Sheets





Note Approach Span quantities included in Table on Sheet 11 of 26.

DECK TOP PLAN
(APPROACH SPANS)

For Notes & Legend See Sheet 11 of 26.

REVISIONS	
NAME	DATE

LIN ENGINEERING, LTD.
210 W. Chestnut, Chatham, Illinois 62629
(217) 483-4966 FAX (217) 483-4706

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Date: 10/00 | File: EXHIBIT154-155.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN - APPROACH SPANS
SOUTH BOUND LANES
STRUCTURE # 057-0154
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	62
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 13 26 Sheets

Notes:

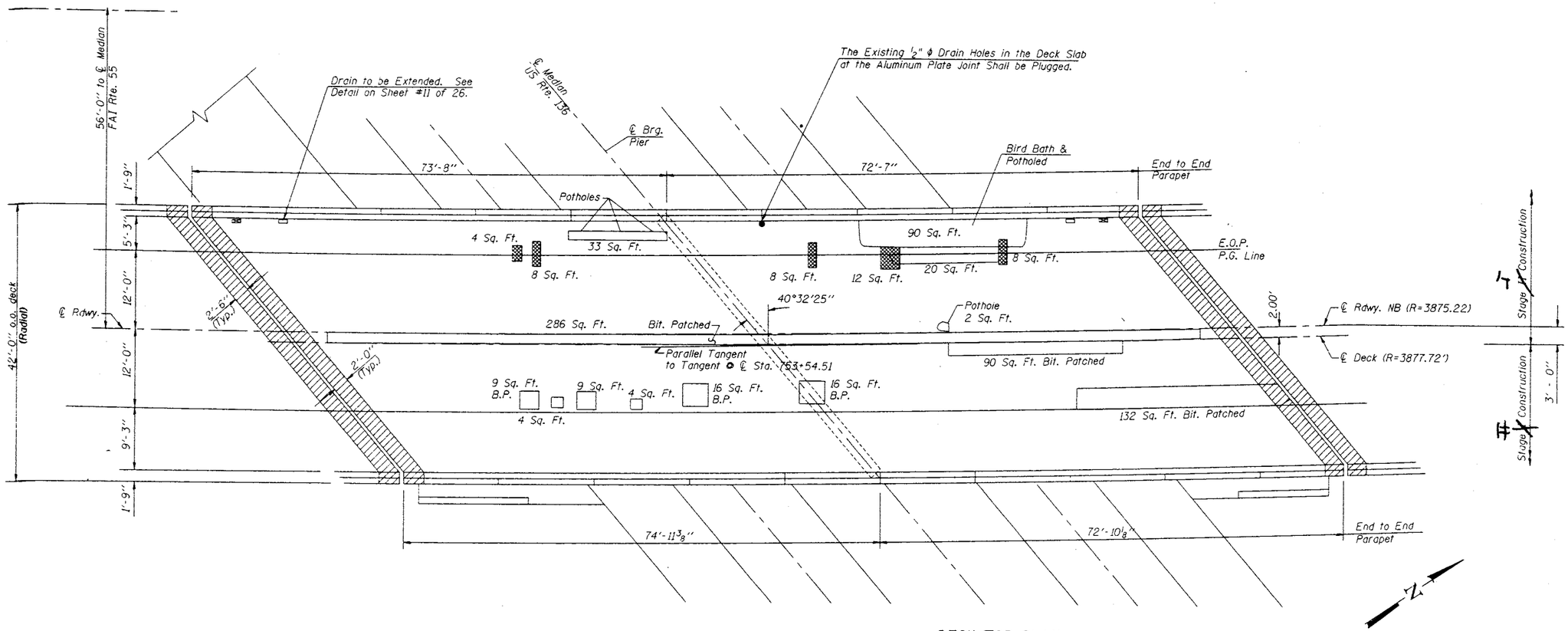
1. Existing bituminous surface and W.P. Membrane shall be removed from entire deck.

2. Entire existing deck to be scarified 2" depth and overlayed with 2¼" Microsilica Concrete.

3. Hatched areas indicate concrete removal & replacement in stages. See Sheet #10 of 26.

4. Existing reinforcement bars & dowel rods extending into new concrete are to be cleaned and incorporated into new construction.

5. Deck repair areas are estimated from survey work 6-22-00. Actual locations of repairs made shall be shown by the engineer on as built plans.



LEGEND

- Deck Slab Repair (Partial) w/ Est. Area
- Deck Slab Repair (Full Depth)
- Crack, width >1/16" } Epoxy Crack Sealing
- Drain to be Plugged. See Detail on Sheet #11 of 26.
- B.P. Bituminous Patch

DECK REPAIR - QUANTITY ESTIMATE

ITEM	QUANTITY
Deck Slab Repair (Partial)	114 Sq. Yd.
Deck Slab Repair (Full Depth) Type II	5 Sq. Yd.
Bituminous Concrete Removal (Deck)	926 Sq. Yd.
Concrete Bridge Deck Scarification ½"	874 Sq. Yd.
Bridge Deck Microsilica Concrete overlay 2¼"	874 Sq. Yd.
Bridge Deck Grooving	878 Sq. Yd.
Plug Existing Deck Drains	2 Each
Polymer Modified Portland Cement Mortar	1 Sq. Ft.
Floor Drain Extension	2 Each

DECK TOP PLAN (MAIN SPANS)

Note:
While performing the full depth deck repair, the contractor shall provide temporary protective shield to protect the traffic below without impinging on the existing vertical clearance. The contractor's method of protection shall be submitted to the Engineer for approval. The cost shall be included in the pay item "Deck Slab Repair (Full Depth) Type II".

Note - All transverse dimensions are radial.

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215 E. Chestnut, Chatham, Illinois 62629
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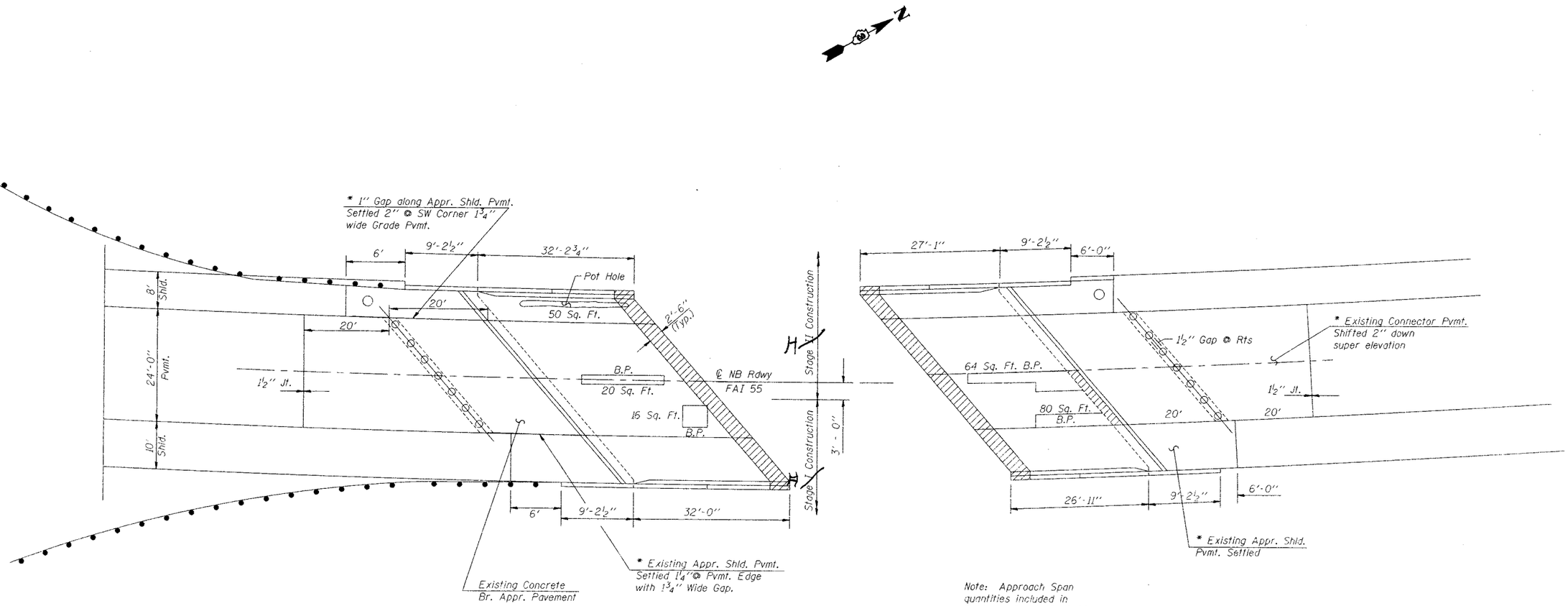
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN NORTH BOUND LANES STRUCTURE# 057-0155 F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I McLEAN COUNTY STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	63
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 14
26 Sheets



Note: Approach Span quantities included in Table on Sheet 13 of 26.

DECK TOP PLAN
(APPROACH SPANS)

* See Special Provisions for SUBSEALING OF CONCRETE PAVEMENT

For Notes & Legend See Sheet 13 of 26.

LIN ENGINEERING, LTD.
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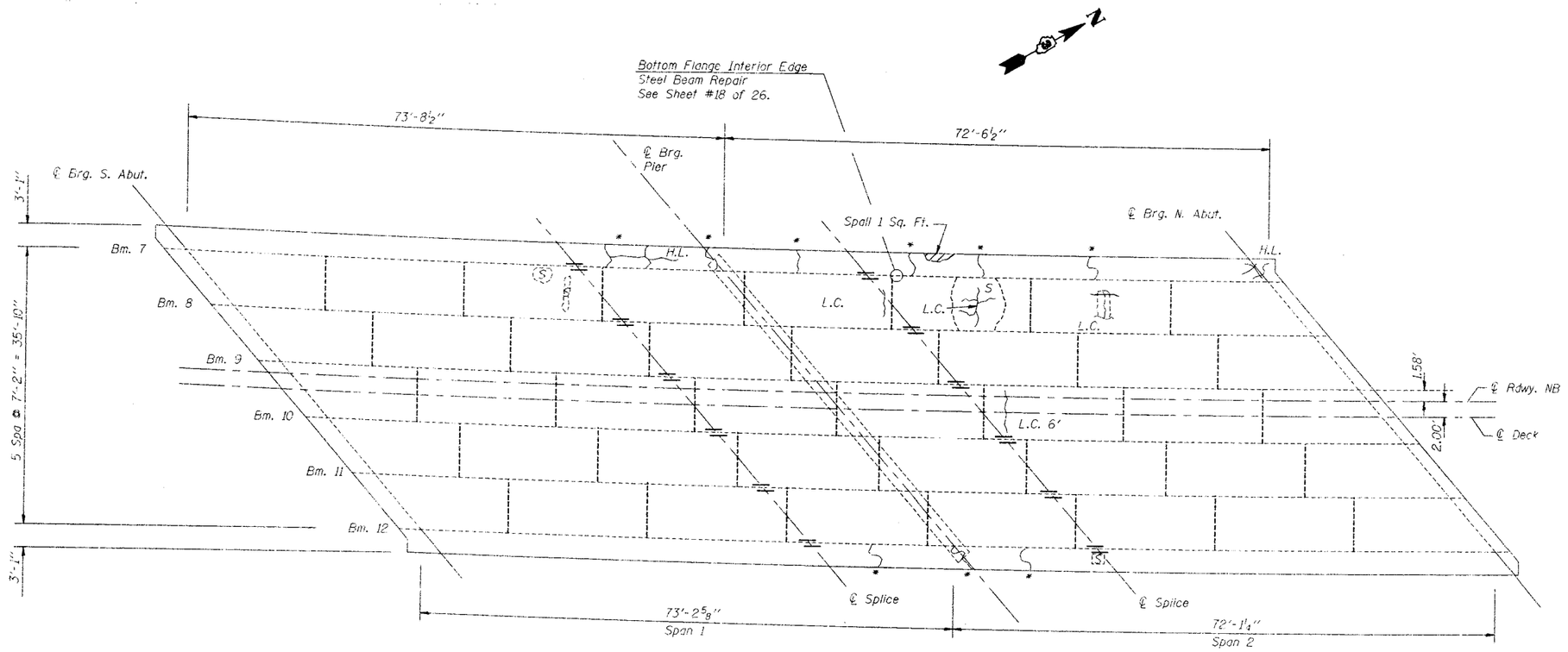
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN - APPROACH SPANS
NORTH BOUND LANES
STRUCTURE # 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	64
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 15
26 Sheets



UNDERSIDE DECK PLAN - REFLECTED

Note: Quantities are included in Table on Sheet #13 of 26.

LEGEND

Inspection Date 6-22-00
Method: Visual

- L.C. Leached Crack >1/16" width — Epoxy Crack Sealing
- C Crack >1/16" width — Epoxy Crack Sealing
- * Leached Crack at Parapet Joint
- (S) Moisture Stain
- Spall Area — Polymer Modified Portland Cement Mortar
- H.L. Hair Line Crack

REVISIONS	
NAME	DATE

LIN ENGINEERING, LTD.
20 W. Chestnut (217) 483-4456
Chatham, Illinois 62629 FAX (217) 483-4704
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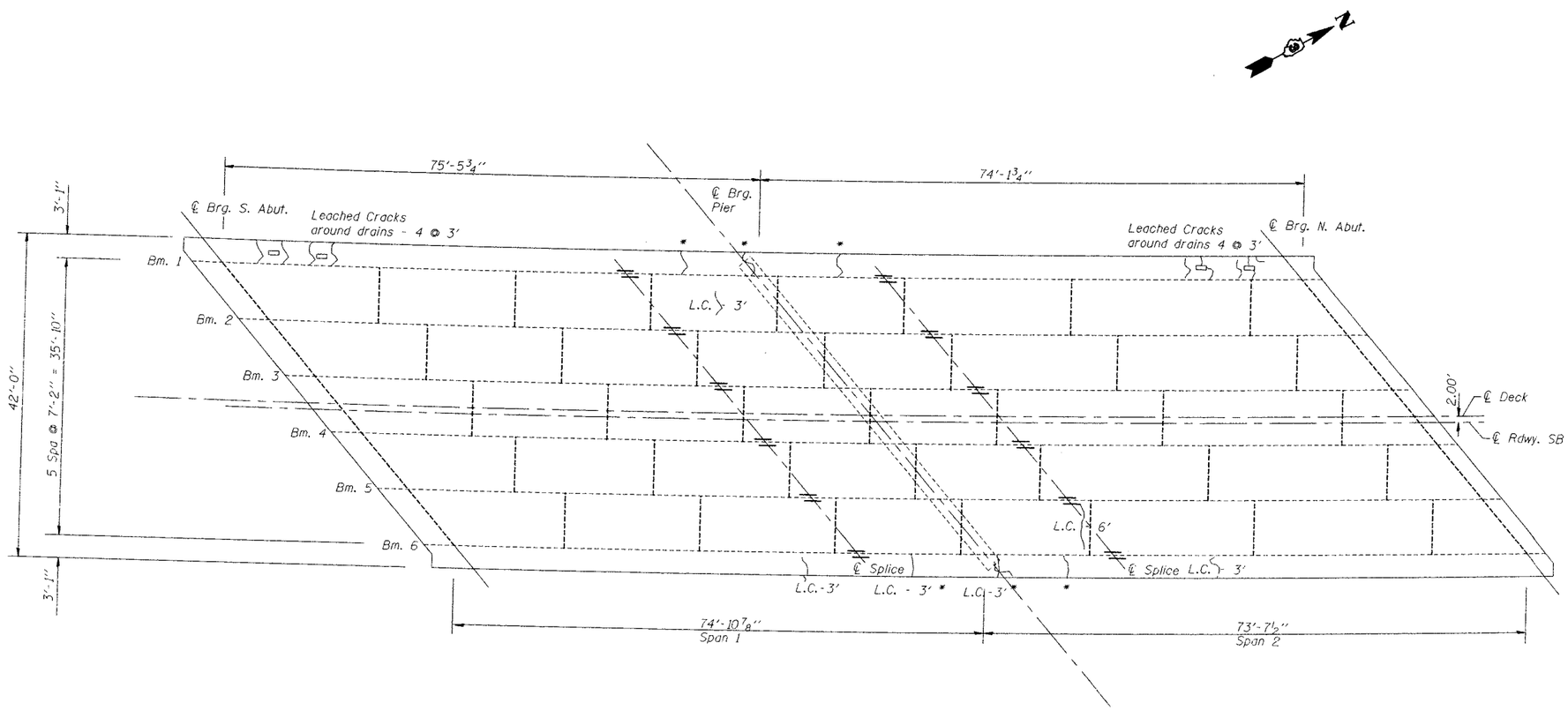
Date: 10/00 | File: EXHIBIT154-155.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION

UNDERSIDE DECK PLAN - MAIN SPANS
NORTH BOUND LANES
STRUCTURE # 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	65
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 16
26 Sheets



UNDERSIDE DECK PLAN - REFLECTED

LEGEND

Inspection Date 6-22-00
Method: Visual

- L.C. / Leached Crack >1/16" width — Epoxy Crack Sealing
- C-3 / Crack >1/16" width — Epoxy Crack Sealing
- * / Leached Crack at Parapet Joint
- (S) Moisture Stain
- Spall Area — Formed Concrete Repair (Depth ≤ 5")
- H.L. Hairline Crack

Note: Quantities are included in Table on Sheet #11 of 26.

LIN ENGINEERING, LTD.
210 W. Chestnut, Chatham, Illinois 62629
(217) 483-4418 FAX (217) 483-4706

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Date: 10/00 | File: EXHIBIT154-155.DGN

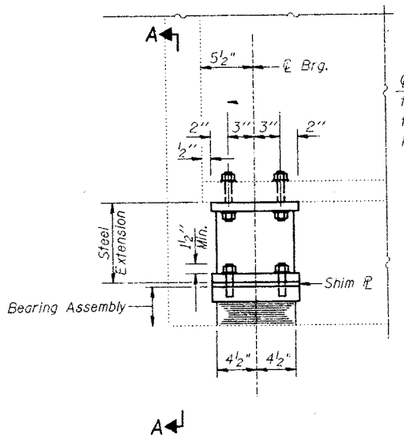
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

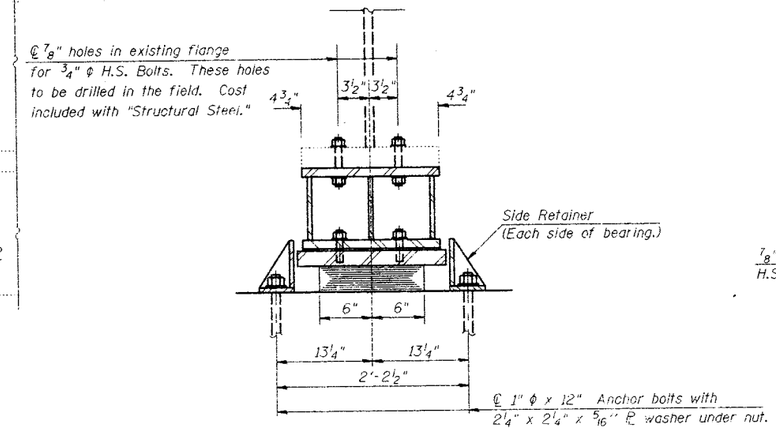
UNDERSIDE DECK PLAN - MAIN SPANS
SOUTH BOUND LANES
STRUCTURE # 057-0154
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	66
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

** (57-8, 57-9, 57-10) RS & I Sheet No. 17
26 Sheets

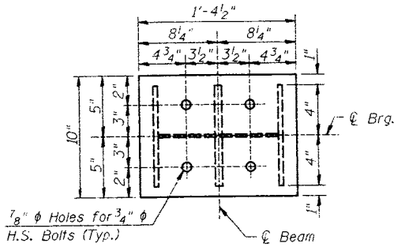


ELEVATION AT ABUT.

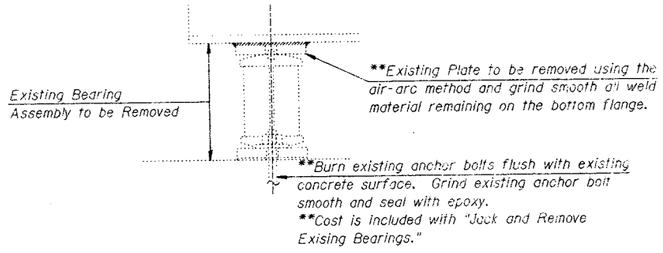


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



PLAN-TOP PLATE



JACK AND REMOVE EXISTING BEARING AT ABUTMENTS

EXISTING REACTIONS AT ABUTMENTS

R_{DL}	38.4 k
R_{LL}	39.8 k
Impact	10.0 k
Total	88.2 k

BEARING ASSEMBLY

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

STEEL EXTENSION

Equivalent welded plates will be allowed in lieu of W14x48 section.

SECTION B-B

JACK AND REMOVE EXISTING BEARING PROCEDURE AT ABUTMENTS

1. The Contractor shall submit for approval by the Engineer, plans for jacking prior to commencing any work at the bearings. Jack Capacity at each beam shall be 50 Tons.*
2. Jacking and removing existing bearings shall be done in stages.
3. Jacking shall be limited to a maximum of ⅛".
4. The new bearings and steel extensions shall be installed in place before the jacks are lowered.

*Includes effect from live load.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	24
Jack and Remove Existing Bearings	Each	24

Note: Prior to ordering any material, the contractor shall verify in the field all bearing height and shim thickness dimensions.

SIDE RETAINER

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

See Sheet #5 of 26 for Anchor Bolt Installation.

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210 W. Chestnut
(217) 483-4168
Chatham, Illinois 62629
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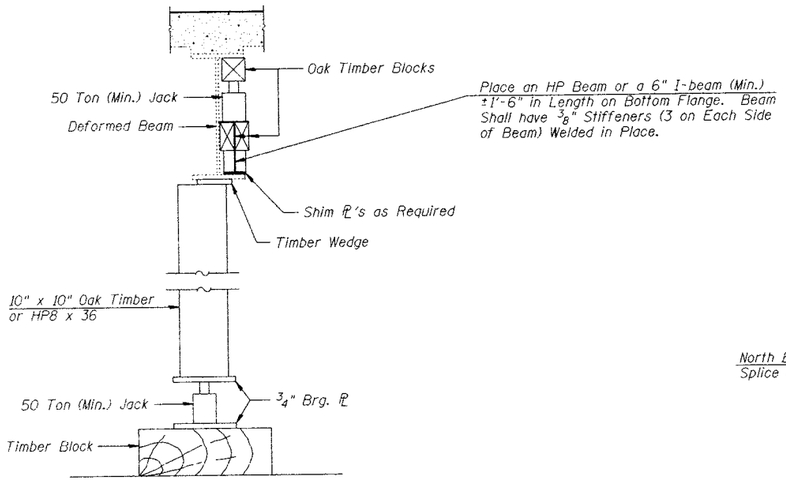
Date: 10/00 | File: BEARINGS.DGN

REVISIONS NAME	DATE

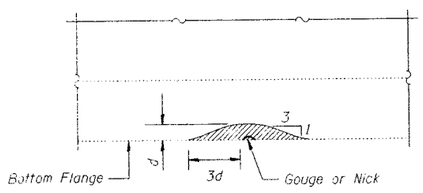
ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARING DETAILS
NORTH BOUND AND SOUTH BOUND LANES
S.N. 057-0154 & 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	57
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

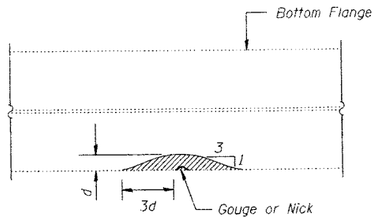
** (57-8, 57-9, 57-10) RS & I Sheet No. 18
26 Sheets



VERTICAL STRAIGHTENING DETAIL

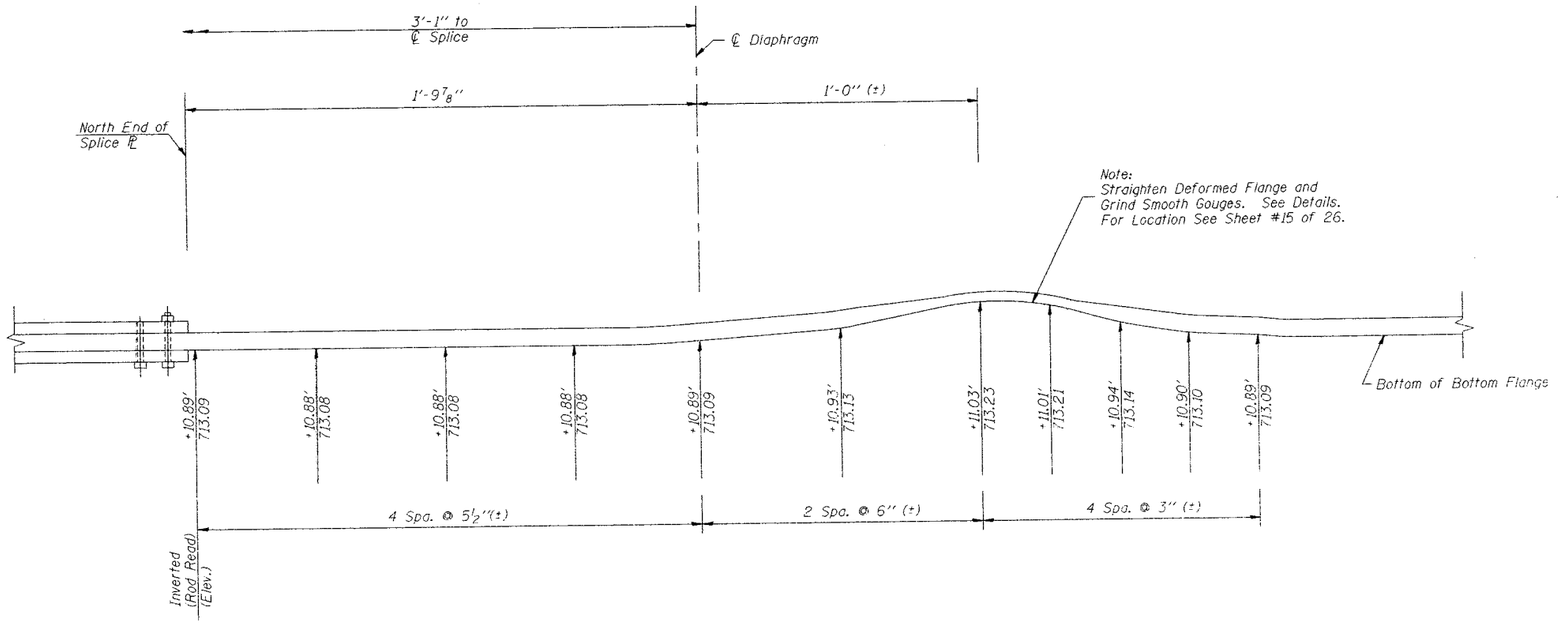


ELEVATION



PLAN

GRINDING DETAIL



BOTTOM FLANGE INTERIOR EDGE PROFILE

B.M. LINE #7 (W36x230)

Assumed BM Top of Crashwall @ Crown
= Elev. 698.65
+3.55
H.I. = 702.20
-3.54
Top Crashwall = 698.66

REVISIONS	
NAME	DATE

LIN ENGINEERING,LTD.
210 W. Chestnut (217) 483-468
Chatham, Illinois 62629 FAX (217) 483-4706

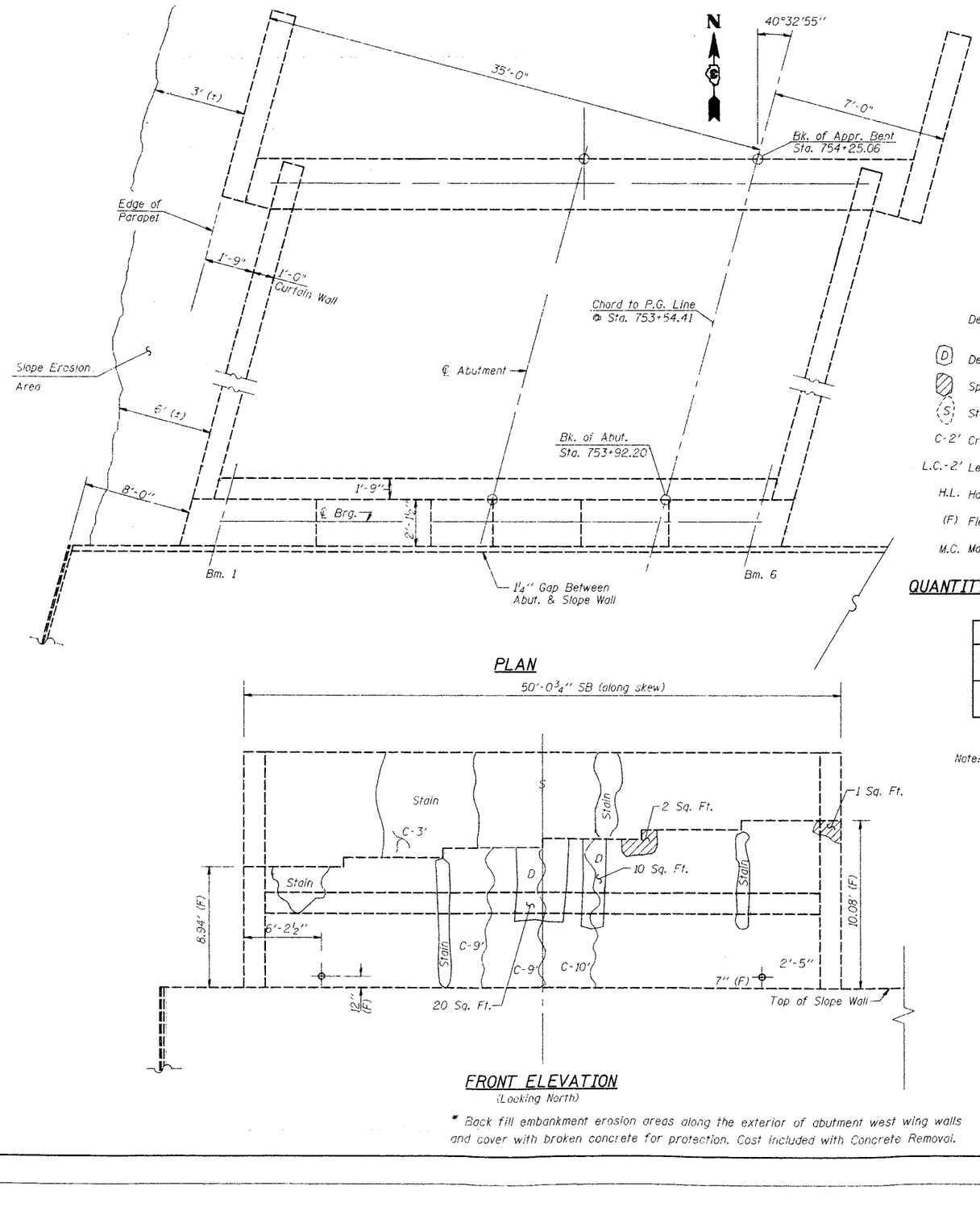
Designed By: STO | Checked By: KRG | Drawn By: FML
Date: 10/00 | File: EXHIBIT154-155.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION

BEAM STRAIGHTENING
SOUTH BOUND LANES
STRUCTURE # 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	68
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

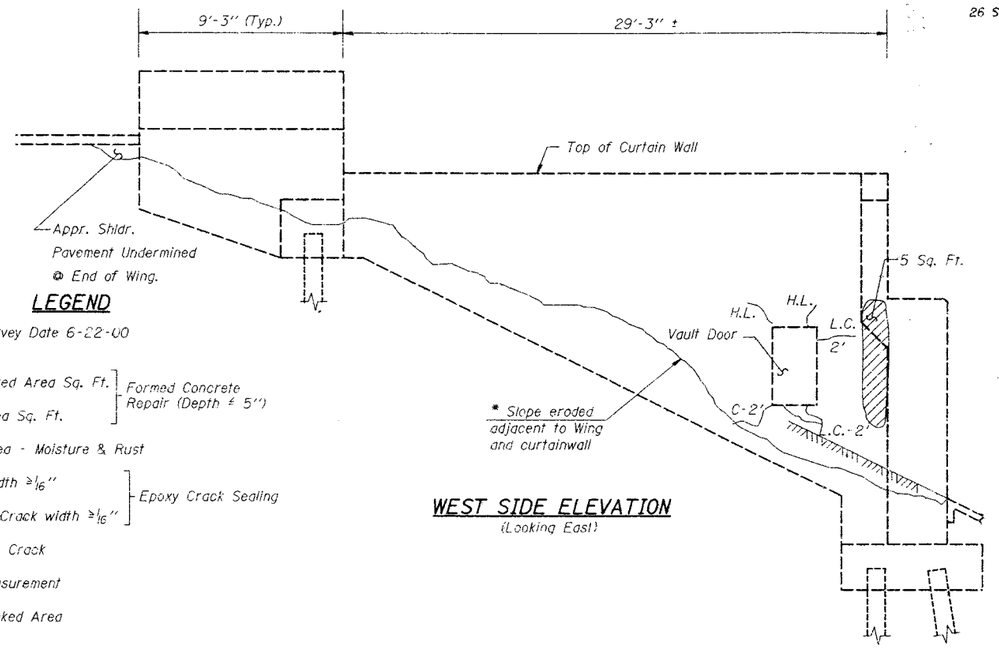
** (57-8, 57-9, 57-10) RS & I Sheet No. 19 26 Sheets



PLAN

FRONT ELEVATION
(Looking North)

* Back fill embankment erosion areas along the exterior of abutment west wing walls and cover with broken concrete for protection. Cost included with Concrete Removal.



WEST SIDE ELEVATION
(Looking East)

LEGEND

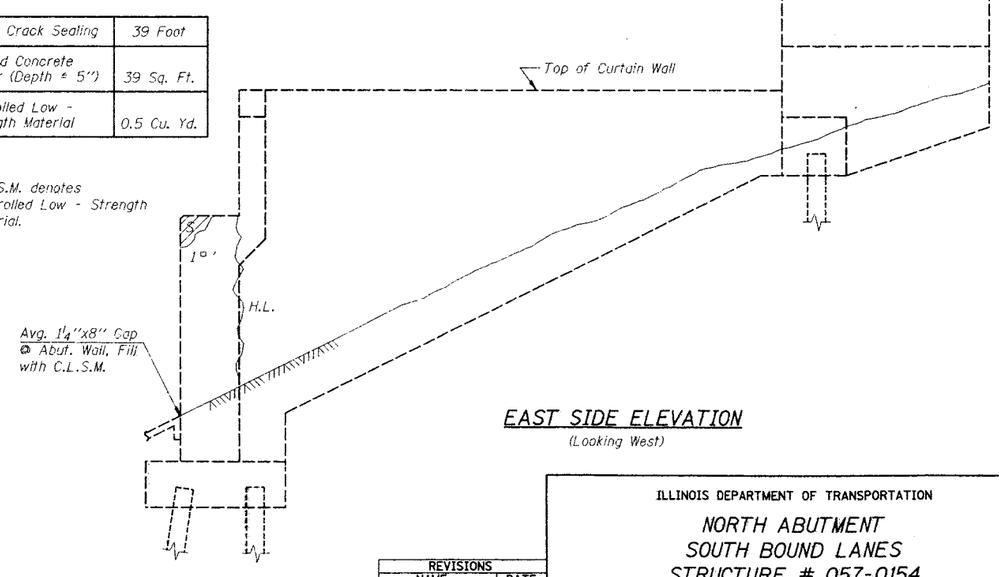
Deck Survey Date 6-22-00

- (D) Delaminated Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- Spall Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- (S) Stain Area - Moisture & Rust
- C-2' Crack width ≥1/16" — Epoxy Crack Sealing
- L.C.-2' Leached Crack width ≥1/16" — Epoxy Crack Sealing
- H.L. Hair Line Crack
- (F) Field Measurement
- M.C. Map Cracked Area

QUANTITY SUMMARY - CONCRETE REPAIRS

Epoxy Crack Sealing	39 Foot
Formed Concrete Repair (Depth ≤ 5")	39 Sq. Ft.
Controlled Low - Strength Material	0.5 Cu. Yd.

Note: C.L.S.M. denotes Controlled Low - Strength Material.



EAST SIDE ELEVATION
(Looking West)

LIN ENGINEERING, LTD.
210 W. Chestnut (217) 483-468 Chatham, Illinois 62629 FAX (217) 483-4706
Designed By: STD | Checked By: KRG | Drawn By: FML
Date: 10/00 | File: EXHIBIT154-155.DGN

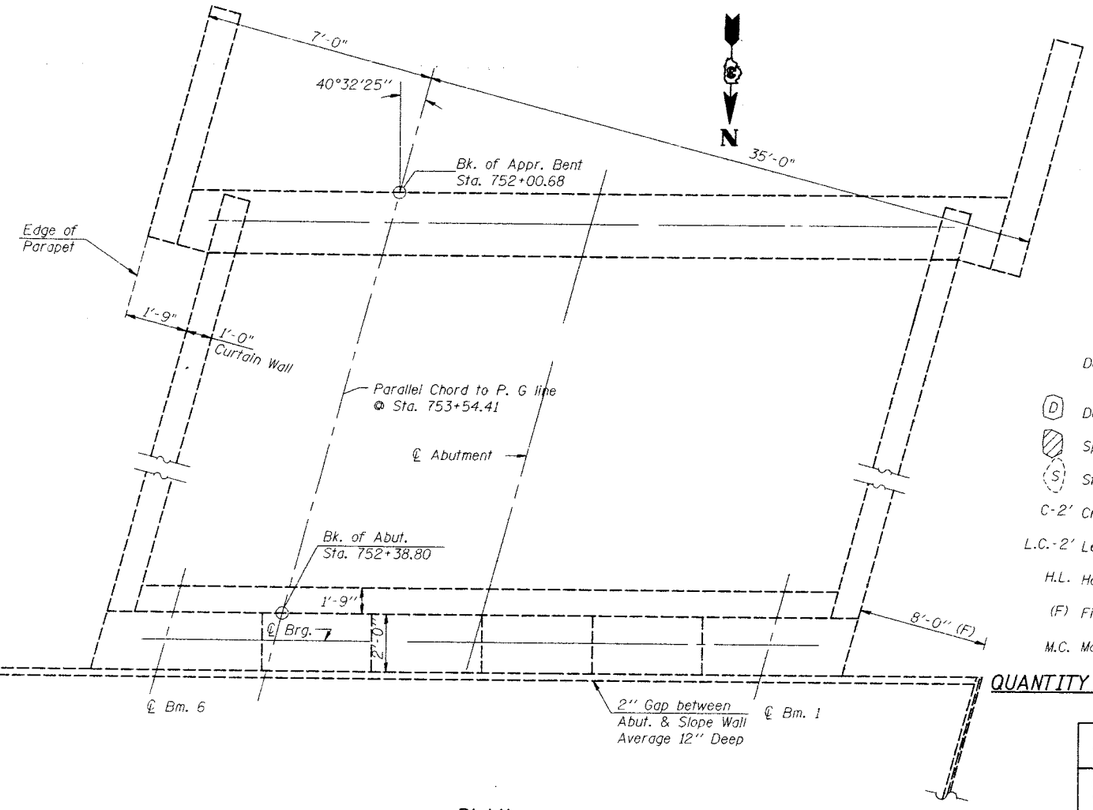
REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

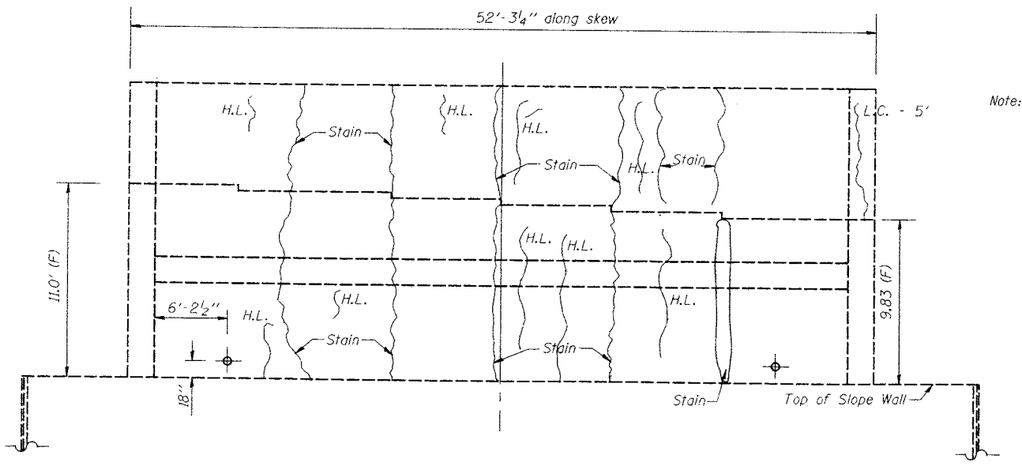
NORTH ABUTMENT
SOUTH BOUND LANES
STRUCTURE # 057-0154
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	69
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 20 26 Sheets



PLAN



FRONT ELEVATION

(Looking South)

LEGEND

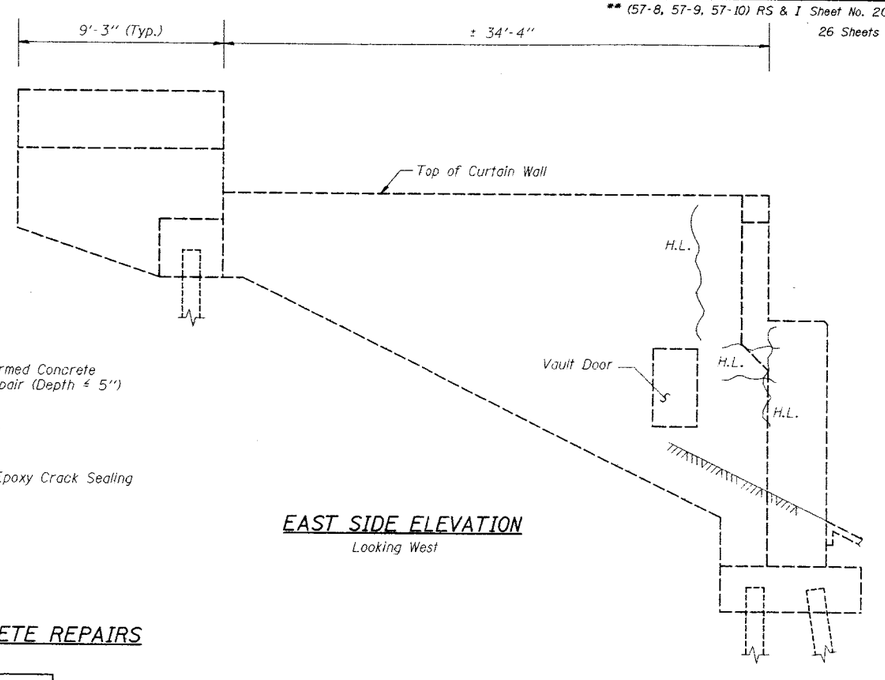
Deck Survey Date 6-22-00

- (D) Delaminated Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- Spall Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- (S) Stain Area - Moisture & Rust
- C-2' Crack width ≥1/16" — Epoxy Crack Sealing
- L.C.-2' Leached Crack width ≥1/16" — Epoxy Crack Sealing
- H.L. Hair Line Crack
- (F) Field Measurement
- M.C. Map Cracked Area

QUANTITY SUMMARY - CONCRETE REPAIRS

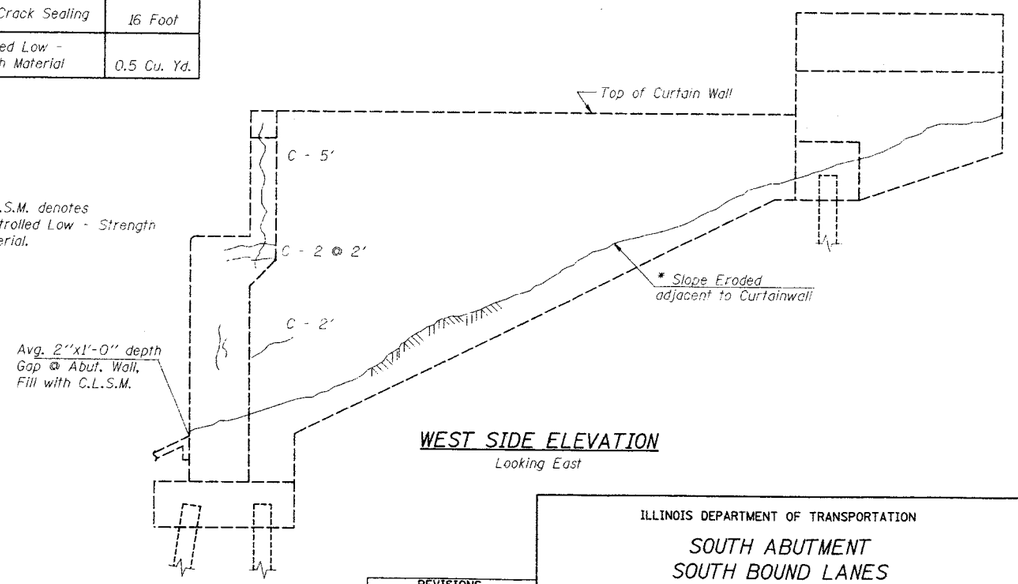
Epoxy Crack Sealing	16 Foot
Controlled Low - Strength Material	0.5 Cu. Yd.

Note: C.L.S.M. denotes Controlled Low - Strengtn Material.



EAST SIDE ELEVATION

Looking West



WEST SIDE ELEVATION

Looking East

* Back fill embankment erosion areas along the exterior of abutment west wing walls and cover with broken concrete for protection. Cost included with Concrete Removal.

REVISIONS	
NAME	DATE

LIN ENGINEERING, LTD.
20 W. Chestnut, Chathom, Illinois 62629
(217) 483-468 FAX (217) 483-4706
Designed By: STD | Checked By: KRG | Drawn By: FML
Date: 10/00 | File: EXHIBIT154-155.DGN

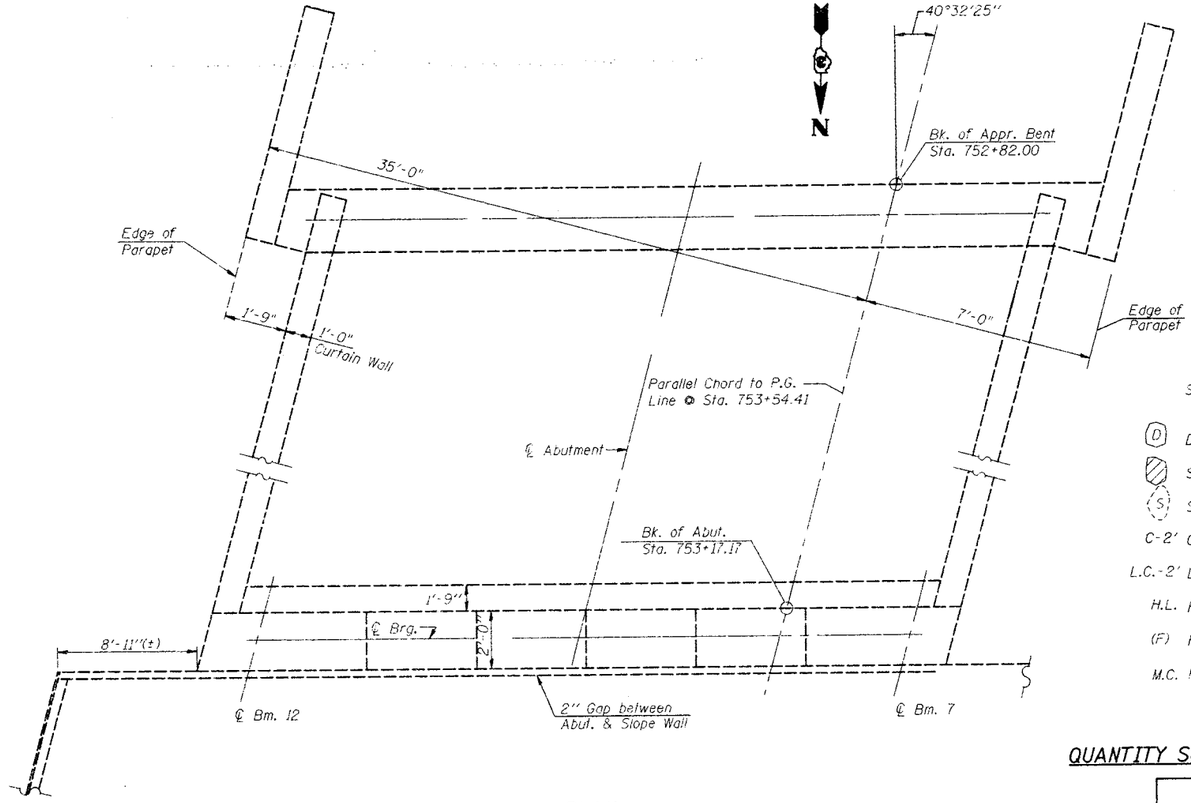
ILLINOIS DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
SOUTH BOUND LANES
STRUCTURE # 057-0154
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

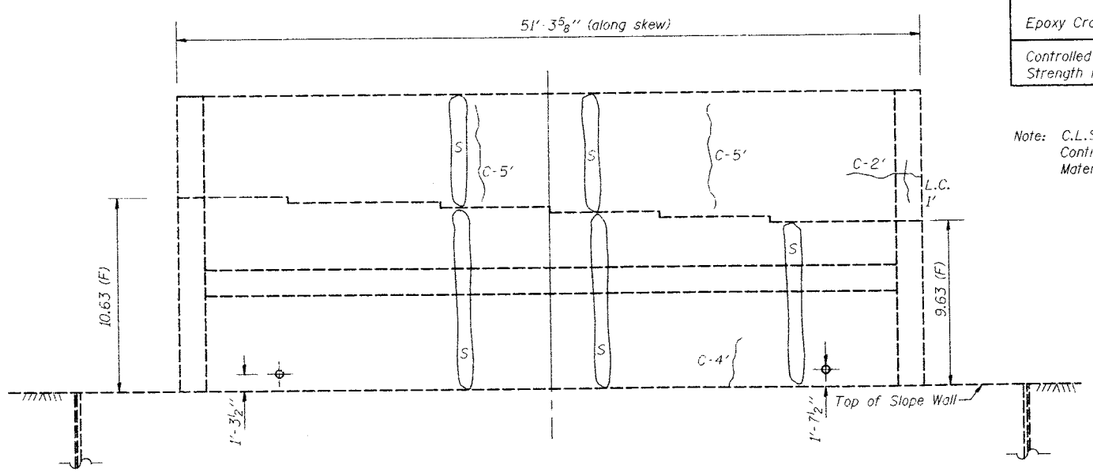
154-155\exhibit154-155.dgn Dec 13, 2000 14:18:46

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	70
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 21 26 Sheets



PLAN



FRONT ELEVATION
(Looking South)

LEGEND

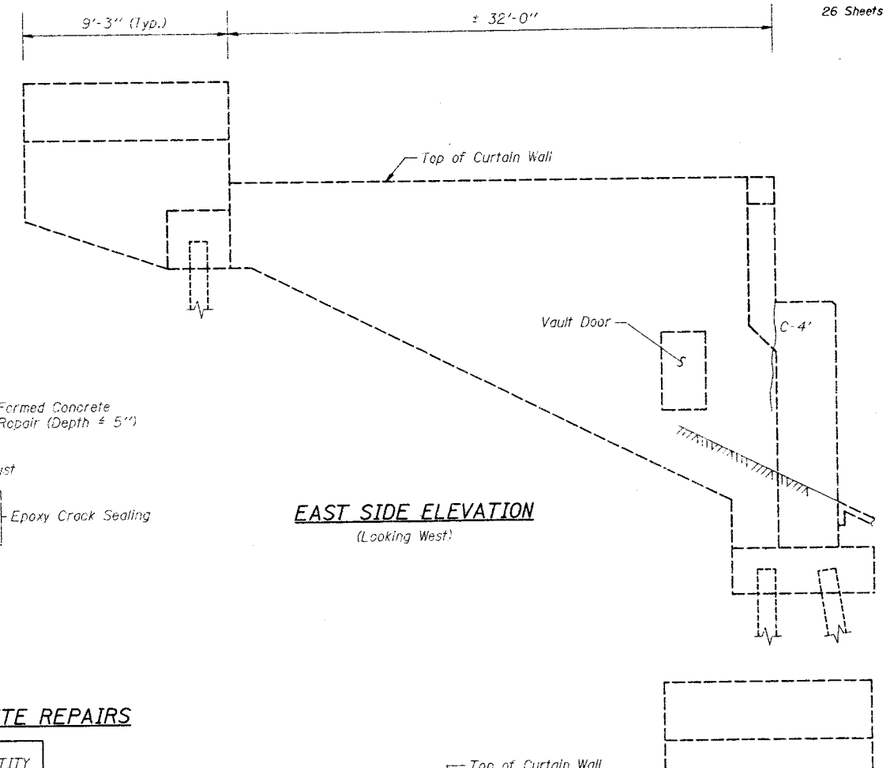
Survey Date 6-22-00

- (D) Delaminated Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- Spall Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- (S) Stain Area - Moisture & Rust
- C-2' Crack width ≥1/16" — Epoxy Crack Sealing
- L.C.-2' Leached Crack width ≥1/16" — Epoxy Crack Sealing
- H.L. Hair Line Crack
- (F) Field Measurement
- M.C. Map Cracked Area

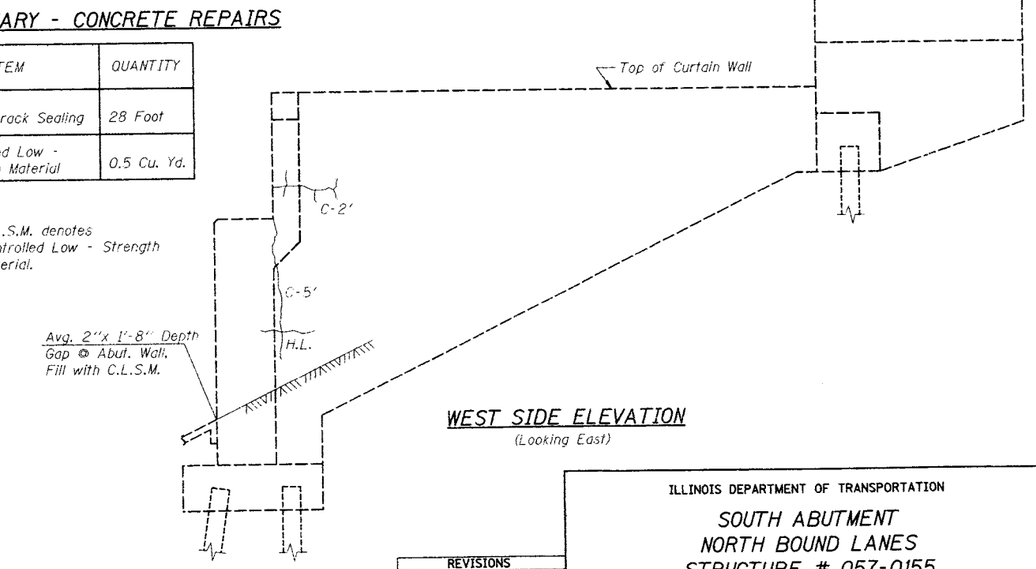
QUANTITY SUMMARY - CONCRETE REPAIRS

ITEM	QUANTITY
Epoxy Crack Sealing	28 Foot
Controlled Low - Strength Material	0.5 Cu. Yd.

Note: C.L.S.M. denotes Controlled Low - Strength Material.



EAST SIDE ELEVATION
(Looking West)



WEST SIDE ELEVATION
(Looking East)

LIN ENGINEERING, LTD.
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(217) 483-4468 FAX (217) 483-4706
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Date: 10/00 | File: EXHIBIT154-155.DGN

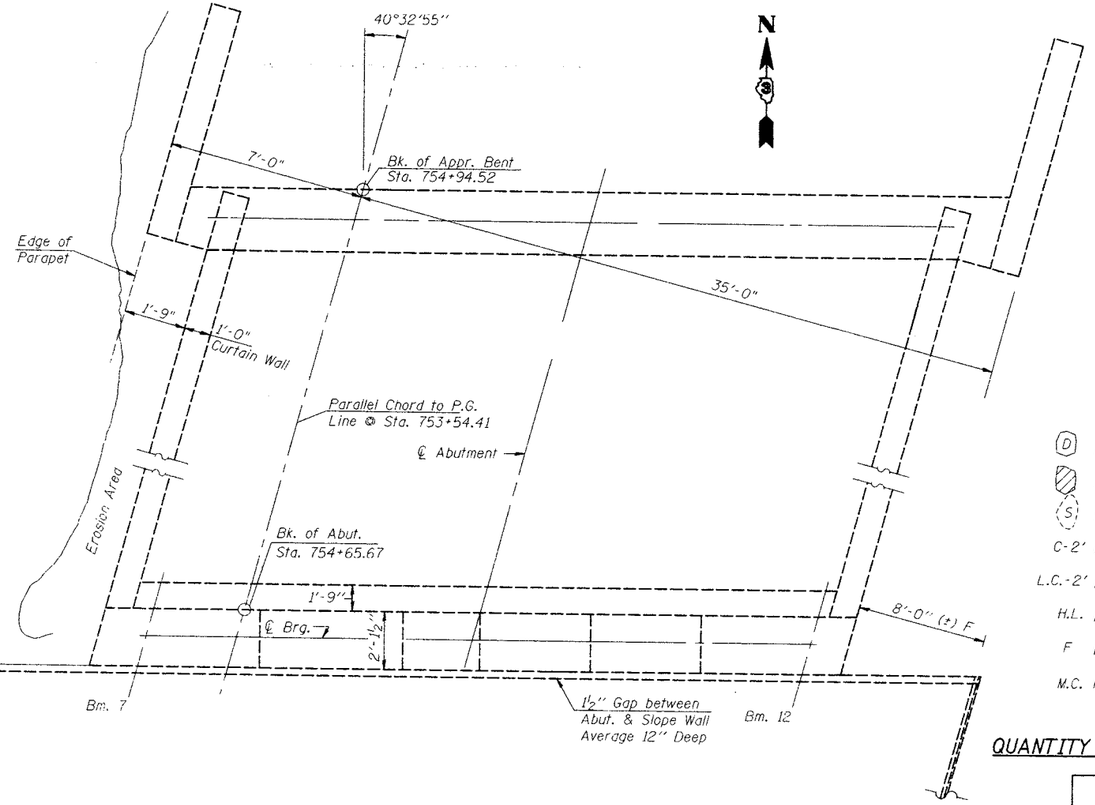
REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

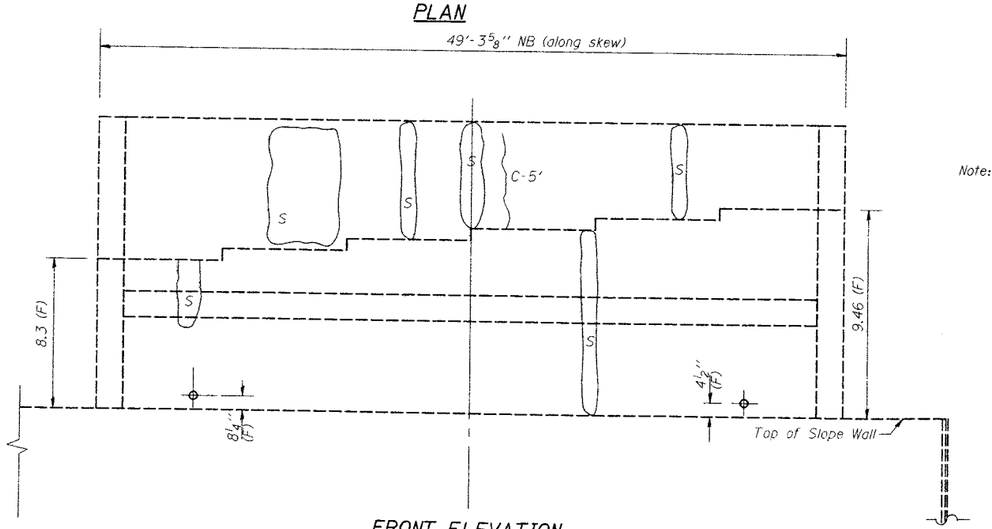
SOUTH ABUTMENT
NORTH BOUND LANES
STRUCTURE # 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	71
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 22
26 Sheets



PLAN



FRONT ELEVATION
(Looking North)

LEGEND

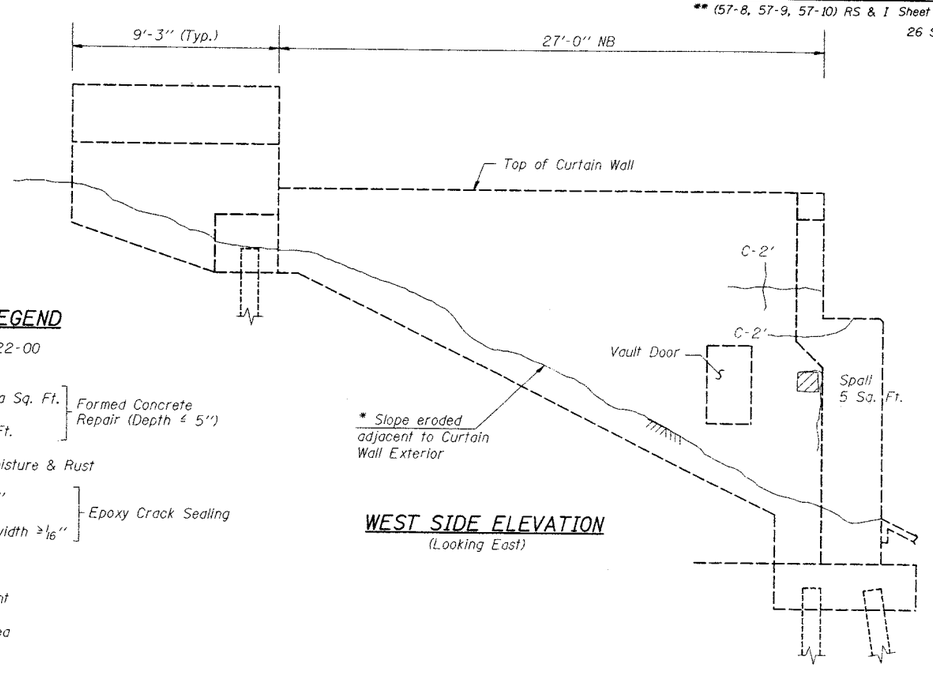
Survey Date 6-22-00

- (D) Delaminated Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- Spall Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- (S) Stain Area - Moisture & Rust
- C-2' Crack width ≥ 1/16" — Epoxy Crack Sealing
- L.C.-2' Leached Crack width ≥ 1/16" — Epoxy Crack Sealing
- H.L. Hair Line Crack
- F Field Measurement
- M.C. Map Cracked Area

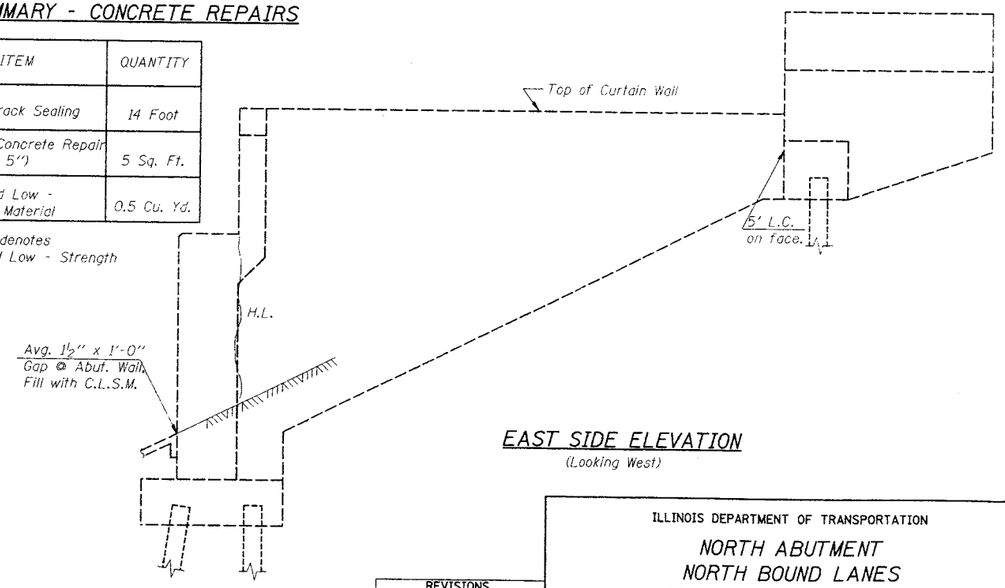
QUANTITY SUMMARY - CONCRETE REPAIRS

ITEM	QUANTITY
Epoxy Crack Sealing	14 Foot
Formed Concrete Repair (Depth ≤ 5")	5 Sq. Ft.
Controlled Low - Strength Material	0.5 Cu. Yd.

Note: C.L.S.M. denotes Controlled Low - Strength Material.



WEST SIDE ELEVATION
(Looking East)



EAST SIDE ELEVATION
(Looking West)

* Back fill embankment erosion areas along the exterior of abutment west wing walls and cover with broken concrete for protection. Cost included with Concrete Removal.

REVISIONS	
NAME	DATE

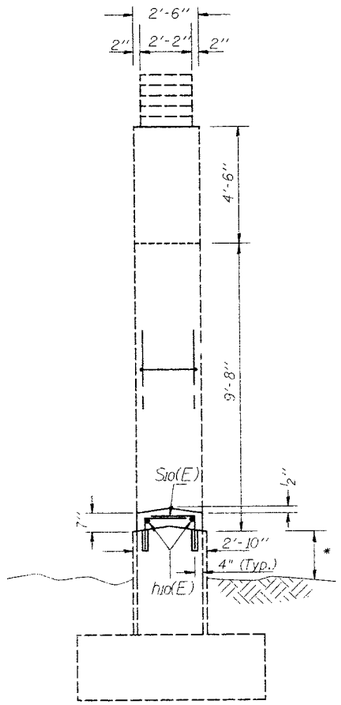
LIN ENGINEERING, LTD.
210 N. Chestnut, Chatham, Illinois 62629
(217) 483-4668 FAX (217) 483-4705
Designed By: STD | Checked By: KRG | Drawn By: FWL
Date: 10/00 | File: EXHIBIT154-155.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT
NORTH BOUND LANES
STRUCTURE # 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

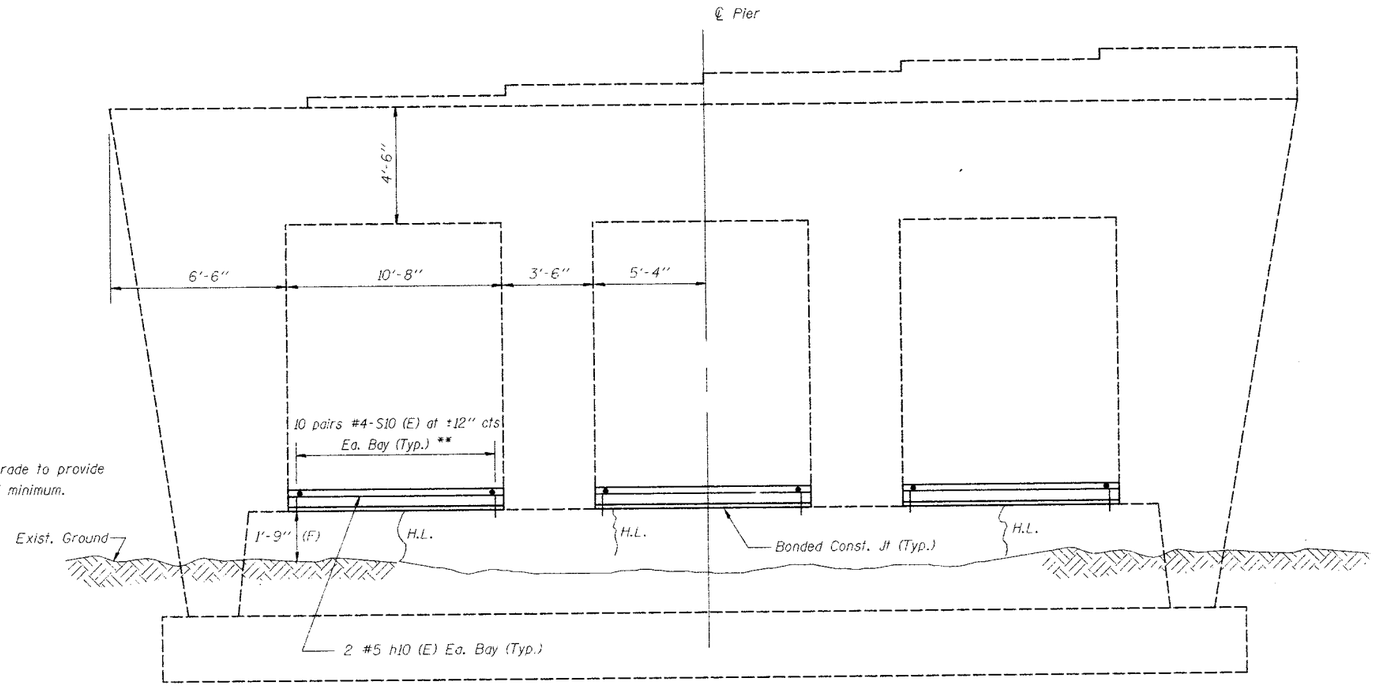
FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McCLEAN	163	72
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 23
26 Sheets



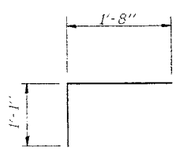
END VIEW
(West End)

* Regrade to provide 2'-4" minimum.



ELEVATION
(Looking North)

** Field drill 9" deep holes and epoxy grout S10 (E) bars in accordance with Article 584 of Standard Specifications.



Bar S10(E)

BILL OF MATERIAL (TWO PIERS)

	Bar	No.	Size	Length	Shape
	h10(E)	12	#5	10'-6"	——
	S10(E)	120	#4	2'-9"	⌐¬
	Concrete Structures			Cu. Yd.	3.4
	Reinforcement Bars, Epoxy Coated			Lbs.	350
***	Formed Concrete Repair (Depth ≤ 5")			Sq. Ft.	3

*** Quantity is for SN. 057-0154 (Pier South Bound)

Reinforcement bars designated (E) shall be epoxy coated.

LEGEND

Survey Date 6-22-00

- (D) Delaminated Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- Spall Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- (S) Stain Area - Moisture & Rust
- C-2' Crack width ≥ 1/16" — Epoxy Crack Sealing
- L.C.-2' Leached Crack width ≥ 1/16" — Epoxy Crack Sealing
- H.L. Hair Line Crack
- (F) Field Measurement
- M.C. Map Cracked Area

LIN ENGINEERING, LTD.
210 E. Chestnut
(217) 483-4468
Chatham, Illinois 62629
FAX (217) 483-5706

Designed By: STD | Checked By: KPG | Drawn By: FMI
Date: 10/00 | File: EXHIBIT154-155.DGN

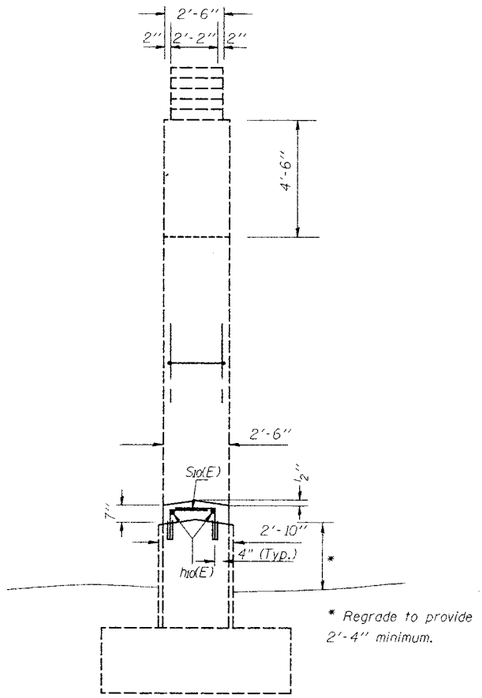
REVISIONS	
NAME	DATE
STD	12/11/00

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER
NORTH BOUND LANES
STRUCTURE # 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

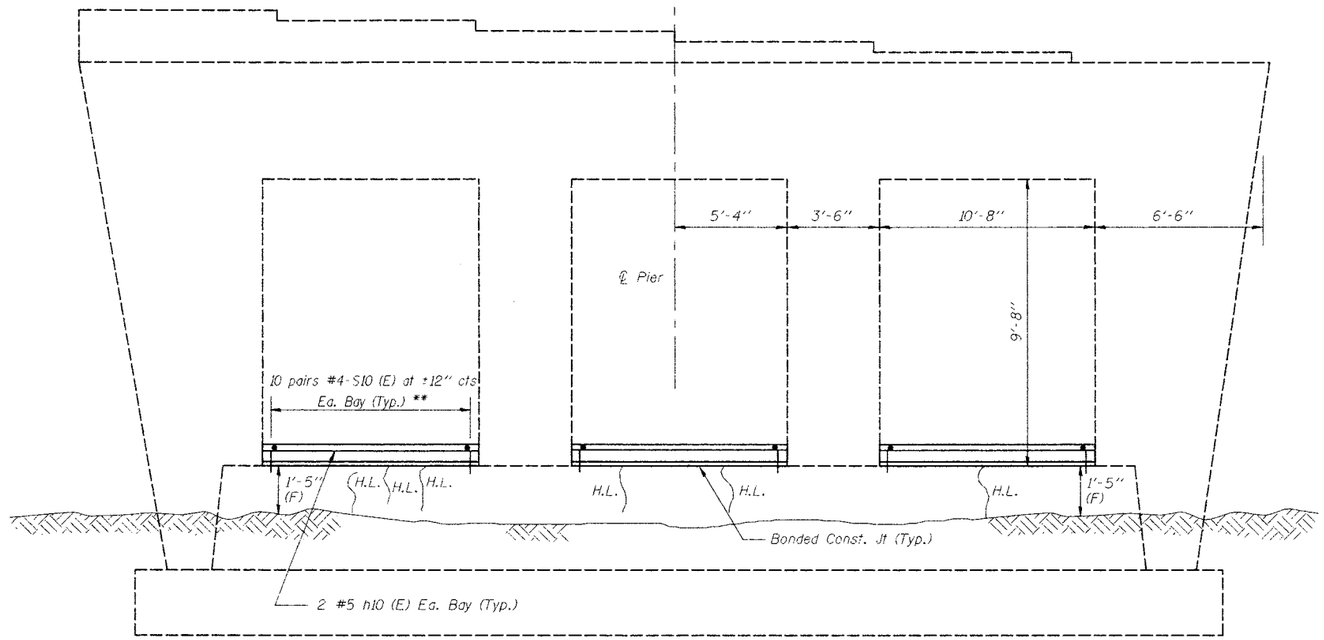
FAI RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	McLEAN	163	73
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

** (57-8, 57-9, 57-10) RS & I Sheet No. 24 26 Sheets



* Regrade to provide 2'-4" minimum.

END VIEW
(East End)



** Field drill 9" deep holes and epoxy grout S10 (E) bars in accordance with Article 584 of Standard Specifications.

ELEVATION
(Looking South)

For Notes and Bill of Material
See Sheet # 23 of 26.

LEGEND

Deck Survey Date 6-22-00

- (D) Delaminated Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- Spall Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- (S) Stain Area - Moisture & Rust
- C-2' Crack width ≥ 1/16" — Epoxy Crack Sealing
- L.C.-2' Leached Crack width ≥ 1/16" — Epoxy Crack Sealing
- H.L. Hair Line Crack
- (F) Field Measurement
- M.C. Map Cracked Area

REVISIONS	
NAME	DATE
STD	12/11/00

LIN ENGINEERING,LTD.
210 W. Chestnut (217) 483-4068
Chatham, Illinois 62629 FAX (217) 483-4706

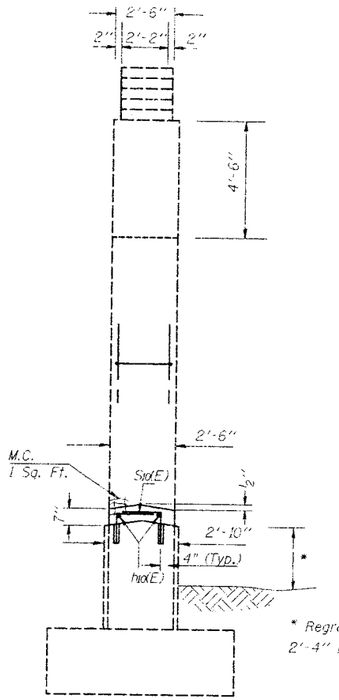
Designed By: STD | Checked By: KRG | Drawn By: FML
Date: 10/00 | File: EXHIBIT154-155.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER
NORTH BOUND LANES
STRUCTURE # 057-0155
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

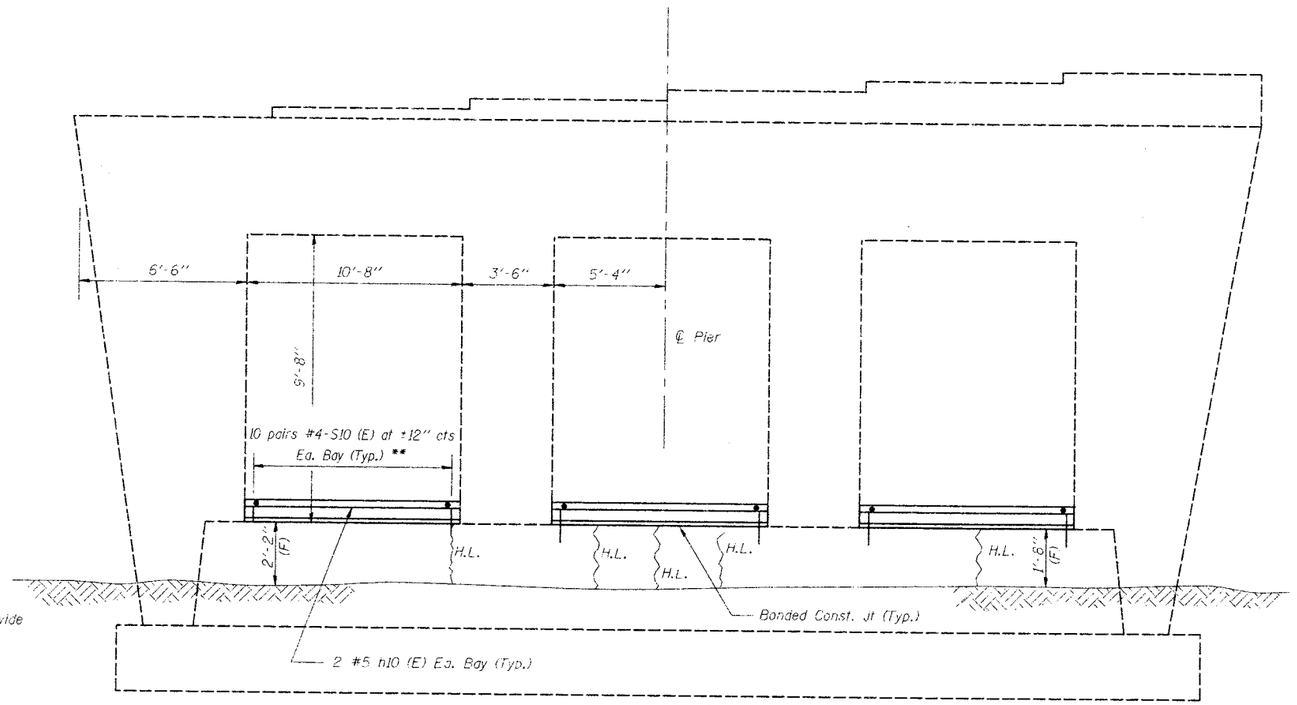
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55		McLEAN	163	74
ROAD DIST.		ILLINOIS		

** (57-B, 57-9, 57-10) RS & I Sheet No. 25 25 Sheets



* Regrade to provide 2'-4" minimum.

END VIEW
(West End)



** Field drill 9" deep holes and epoxy grout S10 (E) bars in accordance with Article 584 of Standard Specifications.

ELEVATION
(Looking North)

For Notes and Bill of Material
See Sheet # 23 of 26.

LEGEND

Deck Survey Date 6-22-00

- (D) Delaminated Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- Spall Area Sq. Ft. — Formed Concrete Repair (Depth ≤ 5")
- (S) Stain Area - Moisture & Rust
- C-2' Crack width ≥1/16" — Epoxy Crack Sealing
- L.C.-2' Leached Crack width ≥1/16" — Epoxy Crack Sealing
- H.L. Hair Line Crack
- (F) Field Measurement
- M.C. Map Cracked Area

REVISIONS	
NAME	DATE

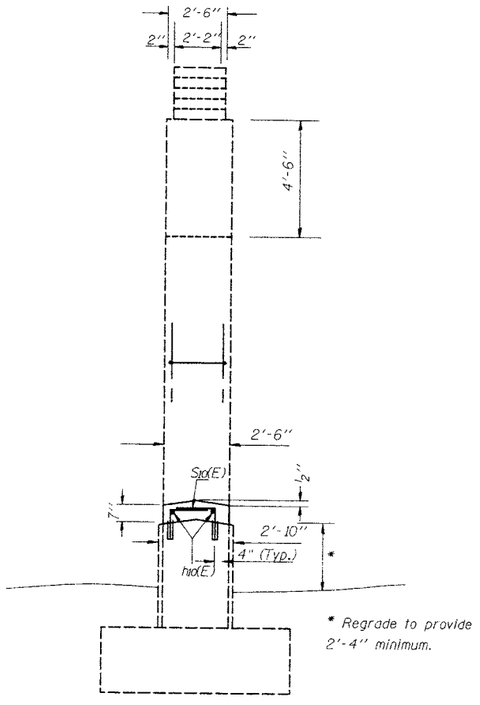
LIN ENGINEERING, LTD.

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER
SOUTH BOUND LANES
STRUCTURE # 057-0154
F.A.I. 55 SEC. (57-B, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+84.41

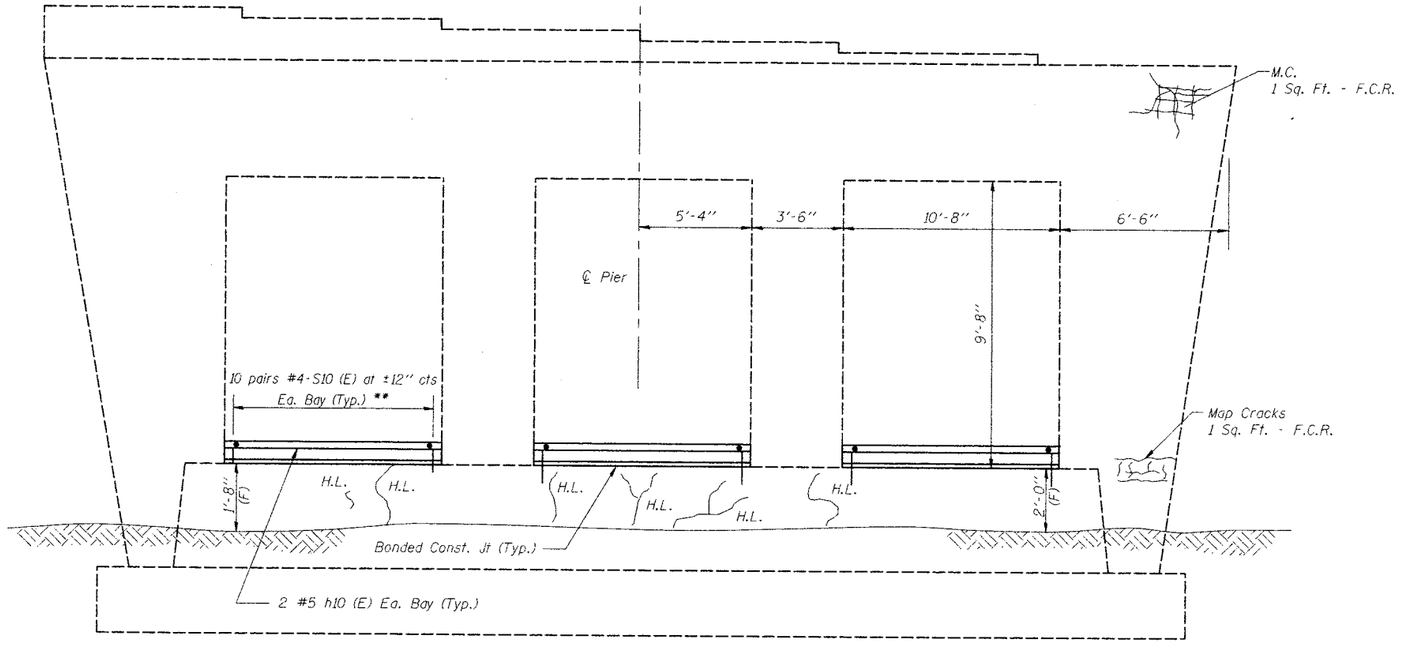
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55		McLEAN	163	75
ROAD DIST.		ILLINOIS		

** (57-8, 57-9, 57-10) RS & I Sheet No. 26
26 Sheets



* Regrade to provide 2'-4" minimum.

END VIEW
(East End)



** Field drill 9" deep holes and epoxy grout S10 (E) bars in accordance with Article 584 of Standard Specifications.

ELEVATION
(Looking South)

For Notes and Bill of Material
See Sheet #23 of 26.

LIN ENGINEERING,LTD.
210 W. Chestnut Chatham, Illinois 62629
(217) 483-466 FAX (217) 483-4706
Designed By: STD Checked By: KRC Drawn By: FML
Date: 10/00 Files: EXHIBIT154-155.DGN

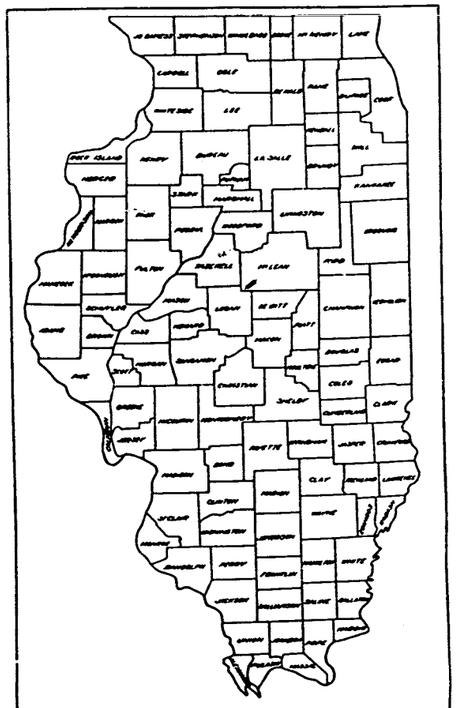
REVISIONS	
NAME	DATE
STD	12/11/00

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER
SOUTH BOUND LANES
STRUCTURE # 057-0154
F.A.I. 55 SEC. (57-8, 57-9, 57-10) RS & I
McLEAN COUNTY
STA. 753+54.41

FEDERAL-AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI - 55	57-10 57-10HB	McLEAN	224	1
S P R S REG NO. 6	ILLINOIS	PROJECT I-55-4 (93)139		

P-96-030-67



LOCATION OF SECTION INDICATED THUS:—

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
FEDERAL AID INTERSTATE HIGHWAY
F A I ROUTE 55
SECTION 57-(10,10 HB) & 57-(10,9,8) SG
PROJECT I-55-4(93)139
FA ROUTE 119 SECTION 119 WRS

C-93-003-73 (F.A.I. 55)

Mc LEAN COUNTY

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CONSTRUCTION DETAILS OTHER THAN THOSE SHOWN ON THE PLAN SHALL CONFORM TO THE FOLLOWING STANDARDS:

935	1997	2149-8	2225-3	2250	2314-2	2147-5
1527-5	1998	2153-9	2226-3	2251	2315-3	2319-1
1538-3	2051	2169-4	2227-1			2320-3
1683-2	2113-1	2176-1		2263-2		2330
1686-3	2115-3	2187-8	2230-7	2298-3	2323	2336
1744-2	2116-1	2212-2	2231-3	2299-4	2324-2	2337
1766-7	2117-1	2213-3	2244-3	2300	2327-1	2338
	2130-3	2214-2	2246-3	2305-2	BLR-7-2	2339
		2217-2	2247-3	2306-3		2340
1976	2135	2224-9	2248-1	2307-3	2153-9	2341
1981	2138-8				2259-1	2342
2256-4	2301-2	2302-2	2303-3	2315-2		

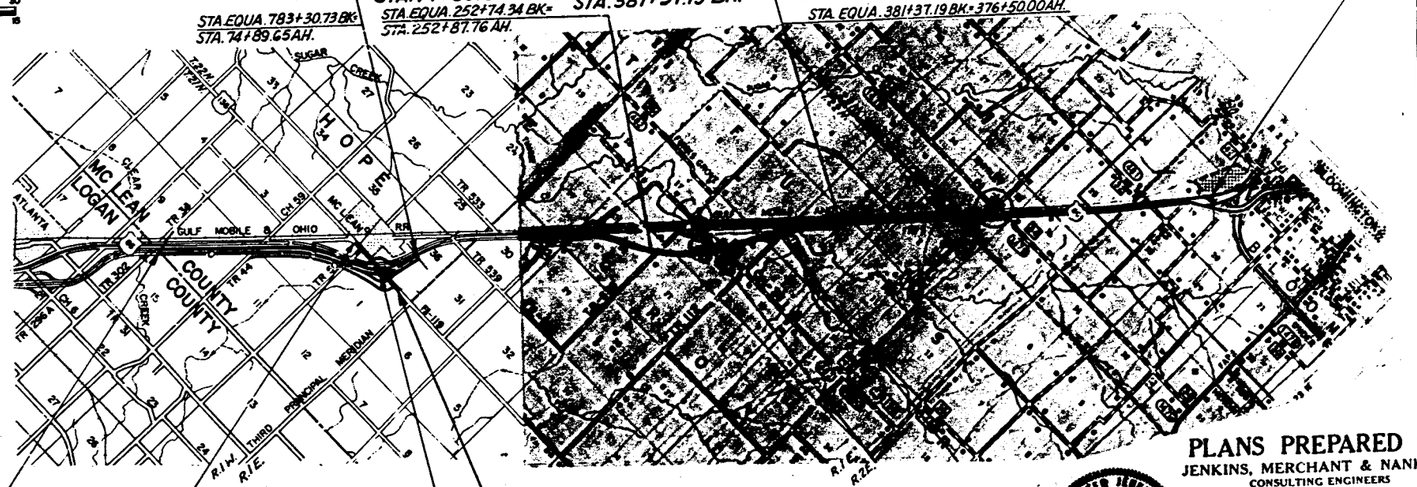
SCALES

PLAN 0 50 100 200 300
PROFILE . . . . . HORIZ. 0 50 100 200 300
VERT. 0 5 10 20 30

CROSS SECTIONS:
HORIZ. 0 10 20 30
VERT. 0 5 10 15

SECTION 57-10HB INCLUDES:
N.B. STA. 752+82.00 TO STA. 754+94.52
S.B. STA. 752+00.68 TO STA. 754+25.06
SPECIAL BRIDGE DESIGN
REINFORCED CONCRETE DECK
4 MAIN SPANS AT 73'-8"
USING W36 x 230 STEEL I-BEAMS &
4 APPROACH SPANS AT 32'-7", 34'-4", 36'-7", & 37'-11½" USING PRECAST, PRESTRESSED CONCRETE I-BEAMS 36" ON VAULTED ABUTMENTS. 40° 32' 25" SKEW TANGENT TO CURVE AT STA. 753+54.41.

	FAI-55	FA-119
MINIMUM HORIZONTAL RADIUS	3819.72	TANGENT
MAXIMUM GRADE	0.81 %	1.20 %
LENGTH OF MAXIMUM GRADE	820'	150'
MINIMUM STOPPING SIGHT DISTANCE	1,050	875'



LEGEND
EXISTING STREETS AND ROADS
PROPOSED CONSTRUCTION
ROAD CLOSED

APPROXIMATE SCALE 1 0 1 2 3 4 MILES

PROJECT I-55-4(93)139 NET LENGTH 19,605.66 FEET 3.7132 MILES
SECTION 57-10 & 57-10HB NET LENGTH 19,605.66 FEET 3.7132 MILES
SECTION 119 WRS NET LENGTH 4276.04 FEET 0.810 MILES

PLANS PREPARED BY
JENKINS, MERCHANT & NANKIVIL
CONSULTING ENGINEERS
SPRINGFIELD, ILLINOIS

CARTER JENKINS 17879 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

CARTER JENKINS
CONSULTING ENGINEER

CHARLES H. MERCHANT
STRUCTURAL ENGINEER

September 30, 1972
DATE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUBMITTED Dec 30, 1972
RECOMMENDED June 9, 1972
APPROVED June 9, 1972
ACTING CHIEF TRANSPORTATION ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ENGINEER DATE

057-0154 & 0155

DESIGN DESIGNATION
F.A.I. - 55 3327(93) TRUNK - 8.33 (PCC-20)
FA RTE. 119 (US RTE. 136) 827(93) ROADS & STREETS - 2.30 (PCC-27)

CONTRACT NO. 29566

3-89

Rev 6-11-73

57-10HB

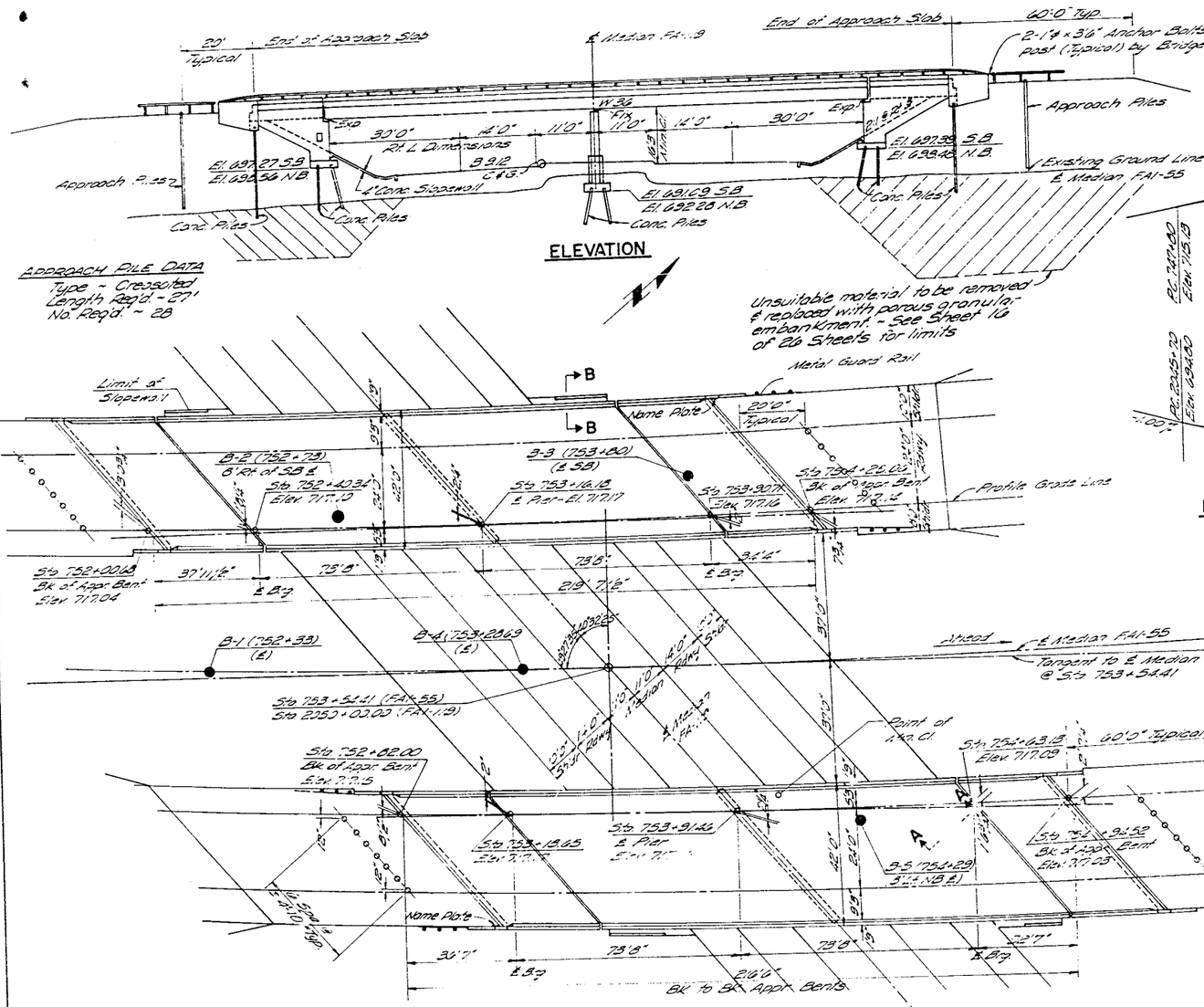
057-0154 & 0155

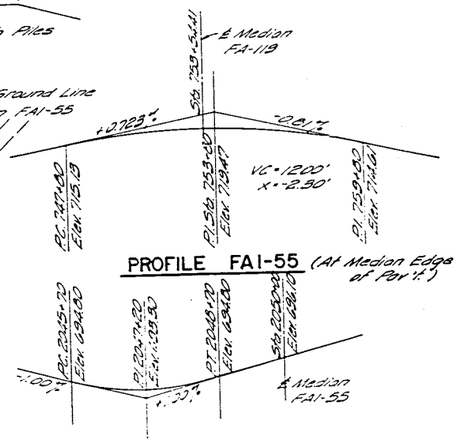
McLEAN COUNTY SECTION 57-10 57-10HB FAI ROUTE 55

BM #3 - Chiseled □ on top of headwall of 5'x6' R.C. Box Culvert 53' Rt. of Sta. 751+02 Elev. 694.24

SEC	COUNTY		
721-55	57-1048	McLean	4
STA	TO STA		
STA RTE NO. 4	ILLINOIS	FED. DIST.	

SHEET 1 OF 26 SHEETS





HORZ. CURVE DATA
FAI ROUTE 55
P.I. Sta 752+80.19
Δ = 40°33'58"
D = 1°30'
R = 3,819.72'
T = 1,411.67'
L = 2,704.41'
E = 255.51'
SE = 0.042'/'

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

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

Calculated weight of Structural Steel - 463,210 Lbs.

The Basic Lead Silica Chromate paint system shall be used for shop and field painting of structural steel.

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

Anchor bolts shall be set before bolting diaphragms over supports.

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

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

The contractor shall drive 3 test piles in permanent locations. (See Sheets 17-22) as directed by the Engineer before ordering the remainder of the piles.

Protective coat shall not be applied to surfaces to which Coal Tar Interlayer Protective Coat is applied.

Slope Wall shall be reinforced with welded wire fabric 6"x 6" mesh, weighing 58 # per 100 Sq. ft.

Concrete piles @ Abutments shall be driven in holes precored through the embankment in accordance with Article 513.09(C) of the Standard Specifications.

For Footing Layout See Sheet 16 of 26

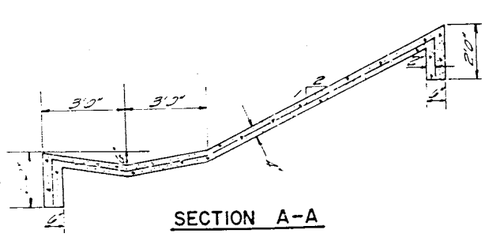
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± ½ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two ½" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

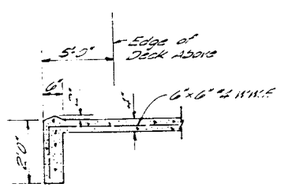
STATION 753+54.41
BUILT 197 BY
STATE OF ILLINOIS
FAI RTE 55 SEC. 57-1048
FA PROJECT I-55-4(33)
LOADING HS20

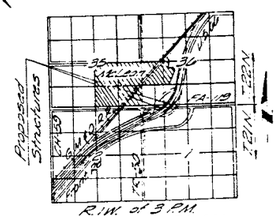
NAME PLATE
See Std. 2113 (2 Req'd)

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
B.C. Cor. Surface Course, Class I	Sq. Yd.	159		159
Structure Excavation	Cu. Yd.		177	177
Class X Concrete	Cu. Yd.	621.3	683.3	1304.6
Precast Prestr. Conc. Beams 36"	Lin. Ft.	505		505
Aluminum Railing	Lin. Ft.	91.5		91.5
Furnishing Piles 20' to 30' Feet	Lin. Ft.		754	754
Driving Piles 20' to 30' Feet	Lin. Ft.		9,182	9,182
Concrete Piles	Lin. Ft.		3	3
Test Pile Concrete	Ea.	2		2
Name Plate	Ea.			1
Slope Wall 11"	Sq. Yd.			1,845
Coal Tar Interlayer Protective Coat	Sq. Yd.	1,845		1,845
Reinforcement Bars	Lbs.	150,120	69,370	219,490
Structural Steel	Lbs.	45		45
Neoprene Expansion Jt. 2"	Lin. Ft.	614		614
Protective Coat	Sq. Yd.	335		335
Porous Granular Embankment	Cu. Yd.			1,250
Rem. & Disp. of Unsuitable Mat.	Cu. Yd.			1,250







DESIGN STRESSES

FIELD UNITS
- f_c = 1,200 p.s.i. (Deck Slab)
- f_c = 1,400 p.s.i. (Sub Curb & Parapet)
- f_s = 20,000 p.s.i. (Reinf.)
- f_s = 20,000 p.s.i. (Struct. A-36)
- v_c = 75 p.s.i. (Figs.)
- n = 10

PRECAST-PRESTRESSED UNITS
- f_c = 5,000 p.s.i.
- f'_c = 4,000 p.s.i.
- f_s = 248,000 p.s.i.
- f_s = 173,600 p.s.i.

25 #/s.f. included in D.L. for future wearing surface.
Allowable LL Defl. 1/1000

LOADING HS20 ALTERNATE
Design Specs. 1969 AASHO as applicable

GENERAL PLAN & ELEVATION
FAI-55 OVER FA-119 (U.S. ROUTE 136)
PROJECT I-55-4(33)139
FAI ROUTE 55 SEC. 57-1048
MC LEAN COUNTY
STATION 753+54.41(FAI-55)

BM #3 - Chiseled ⊡ on top of headwall at Sta 6+16.6' R.C. Box Culvert 38.10' rt of Sta 751+08 Elev 694.84

FAI-55 GROVE NE Line 726 116

SHEET 11 OF 26 SHEETS

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be high strength bolts Bolts 4½"ϕ, open holes 4¾"ϕ unless noted.

Calculated weight of Structural Steel = 483,210 Lbs.

The Dura Lar Satin Chromate paint system shall be used for shop and field painting of structural steel.

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

Anchor bolts shall be set before setting diaphragms over supports.

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

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Mandatory Concrete.

The Contractor shall drive 8 test piles in permanent locations (See Sheet 11 of 26) as directed by the Engineer before ordering the remainder of the piles.

Protective Coat shall not be applied to surfaces to which Coal Tar Intermediate Protective Coat is applied.

Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, weighing 29 lb per 100 sq ft.

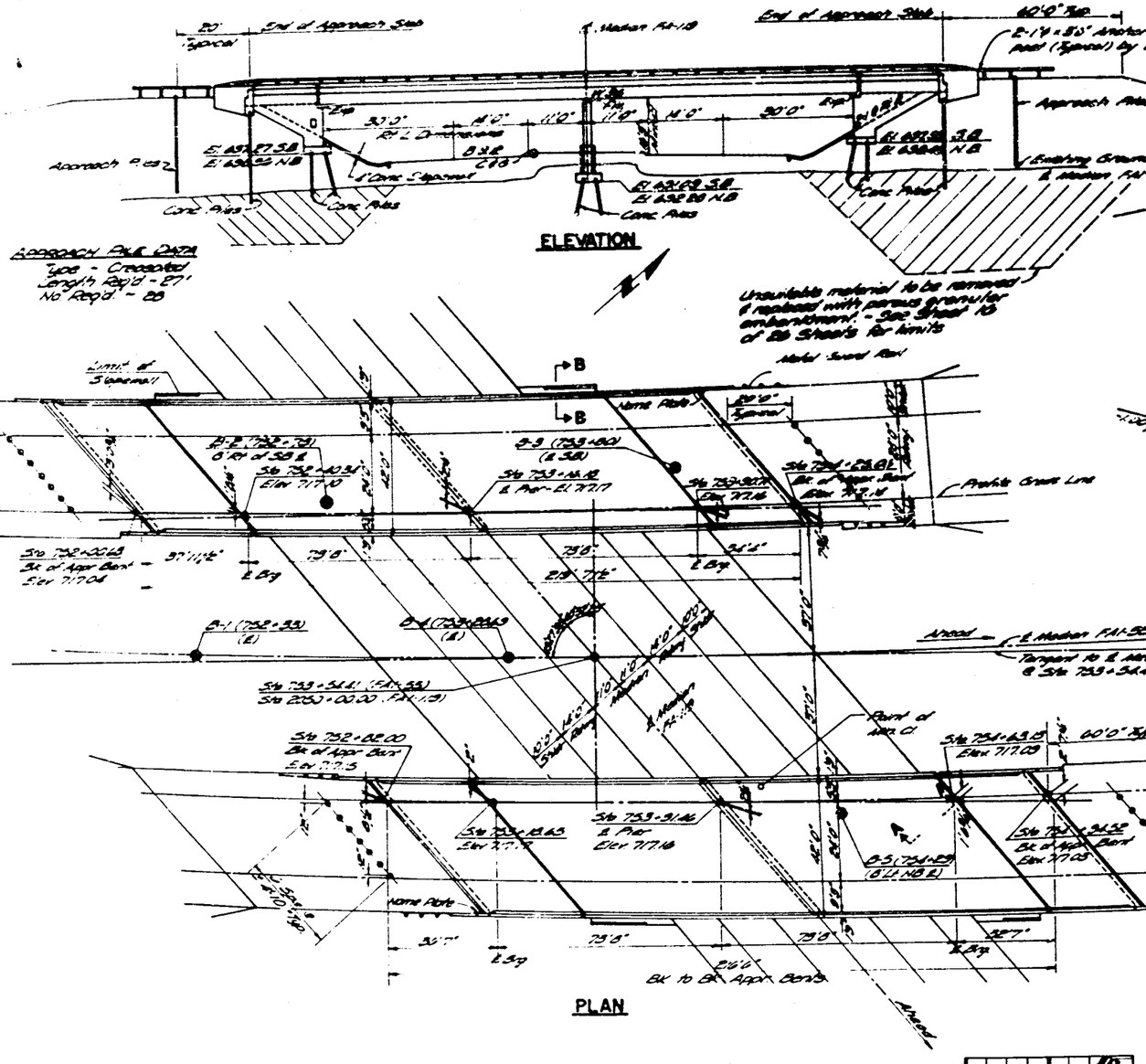
Concrete piles @ Abutments shall be driven in holes preored through the embankment in accordance with Article 513.09 (C) of the Standard Specifications.

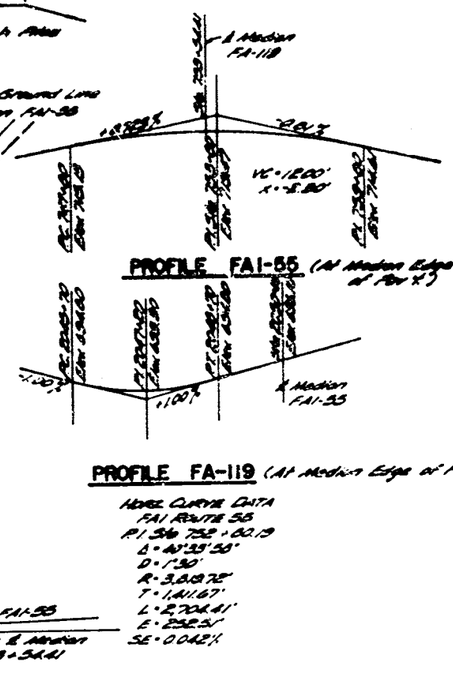
For Footing Layout See Sheet 16 of 26

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 "B" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

STATION 753+54.41
BUILT 1977 BY
STATE OF ILLINOIS
FAI RTE 55 SEC 57-10H8
FA PROJECT I-55-4(93)
LOGAN'S NO 20

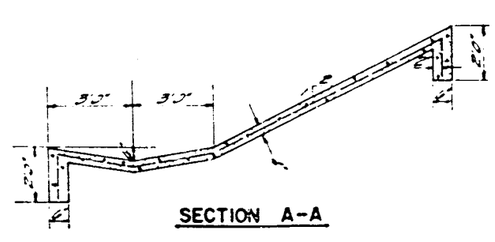
NAME PLATE
See Sht 2113 (2 Reqd)

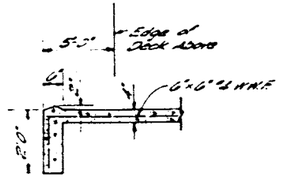


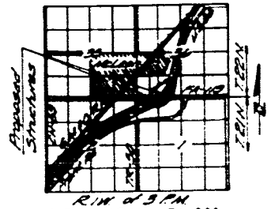


PROFILE FA-119 (At Median Edge of Pav't.

Horiz. Curve Data
FAI Route 55
PI Sta 752+00.19
Δ = 10°39'58"
D = 1°30'
R = 3,819.72'
T = 1,441.67'
L = 2,700.41'
E = 272.5'
SE = 0.042%







TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Bit. Conc. Surface Course, Class I	Tons	130		130
Structure Excavation	Cu Yds		177	177
Class X Concrete	Cu Yds	661.9	643.3	1305.2
Precast Prestr. Conc. I-Beams 36"	Lin Ft	305		305
Aluminum Railing	Lin Ft	913		913
Composite Piles 80/1 to 30 Feet	Lin Ft		754	754
Concrete Piles	Lin Ft		9,182	9,182
Test Pile (Concrete)	Ea		3	3
Name Plate	Ea	2		2
Slope Wall, 4"	Sq Yds			1,016
Coal Tar Intermediate Protective Coat	Sq Yds	1,845		1,845
Reinforcement Bars	Lbs	130,120	71,130	201,250
Structural Steel	Lbs	45		45
Neoprene Expansion Jt. 2"	Lin Ft	214		214
Protective Coat	Sq Yds	335		335
Porous Granular Embankment	Cu Yds			2,340
Rem & Disp of Unsuitable Mat'l	Cu Yds			2,340

AS REVISED

DESIGN STRESSES

FIELD UNITS
- f'_c = 1,200 p.s.i. (Deck Slab)
- f'_c = 1,400 p.s.i. (Slab Curb & Parapet)
- f_s = 20,000 p.s.i. (Rein.)
- f_s = 20,000 p.s.i. (Struct. A-36)
- v_c = 75 p.s.i. (Flgs.)
- n = 10

PRECAST-PRESTRESSED UNITS
- f'_c = 5,000 p.s.i.
- f'_c = 4,000 p.s.i.
- f_s = 240,000 p.s.i.
- f_s = 173,600 p.s.i.

25% Increase in D.L. for future wearing surface
Allowable LL Deflection 1/800

Loading H 20 / Alternate
Design Specs. 1969 AASHO as applicable

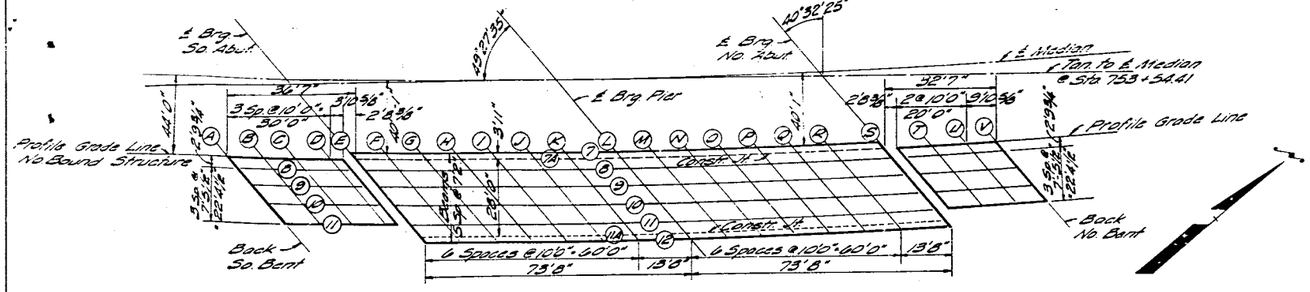
APPROVED

GENERAL PLAN & ELEVATION
FAI-55 OVER FA-119 (U.S. ROUTE 136)
PROJECT I-55-4(93)139
FAI ROUTE 55 SEC. 57-10H8
MC LEAN COUNTY
STATION 753+54.41 (FAI-55)

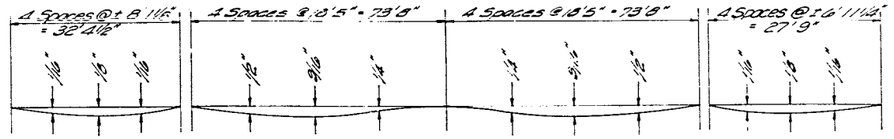
As Revised 5-6-75 L.W.

SECTION NO.	SEC	COUNTY	TOTAL SHEETS
FAI-55 57-1048	McLean	226	7
STA.	TO STA.		
I.A.R.B. PROJ. NO. #	ILLINOIS	PROJECT	

SHEET 2 OF 26 SHEETS



PLAN
NORTHBOUND STRUCTURE



DEAD LOAD DEFLECTION DIAGRAM
Includes Weight Of Concrete And Deck Surfacing Only

The Above Deflections Are Not For Use In The Field If The Engineer Is Working From The Theoretical Grade Elevations Adjusted For Dead Load Deflections.

SPAN 1

Location	Beam	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
A BACK S. ABUT.	Wall	752+77.87	4.75	716.922	716.909
	7A	752+82.00	0	717.152	717.152
	8	752+88.44	-2.812	717.272	717.272
	9	752+90.93	-10.270	717.590	717.590
	10	752+97.11	-17.729	717.908	717.908
	11	753+03.87	-25.187	718.225	718.225
	Wall	753+10.27	-32.75	718.545	718.545
B	Wall	752+87.87	4.75	716.954	716.954
	7A	752+91.99	0	717.159	717.162
	8	752+94.42	-2.812	717.279	717.284
	9	753+00.87	-10.270	717.596	717.601
	10	753+07.33	-17.729	717.913	717.918
	11	753+13.79	-25.187	718.229	718.234
	Wall	753+20.34	-32.75	718.549	718.549
C	Wall	752+97.86	4.75	716.963	716.963
	7A	753+01.90	0	717.166	717.171
	8	753+04.39	-2.812	717.285	717.295
	9	753+10.82	-10.270	717.601	717.611
	10	753+17.25	-17.729	717.918	717.928
	11	753+23.69	-25.187	718.233	718.243
	Wall	753+30.21	-32.75	718.551	718.551
D	Wall	753+07.86	4.75	716.969	716.969
	7A	753+11.94	0	717.171	717.174
	8	753+14.36	-2.812	717.290	717.295
	9	753+20.76	-10.270	717.605	717.610
	10	753+27.17	-17.729	717.921	717.926
	11	753+33.57	-25.187	718.235	718.240
	Wall	753+40.07	-32.75	718.553	718.553

SPAN 2

Location	Beam	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
E ℄ BRG. S. ABUT.	7	753+15.30	3.917	717.007	717.007
	7A	753+19.43	0	717.173	717.173
	8	753+21.92	-3.25	717.311	717.311
	9	753+28.38	-10.417	717.644	717.644
	10	753+34.82	-17.583	717.915	717.915
	11	753+39.73	-24.750	718.218	718.218
	11A	753+42.50	-28.000	718.354	718.354
	12	753+45.29	-31.917	718.518	718.518
F	7	753+25.20	3.917	717.010	717.050
	7A	753+28.53	0	717.176	717.200
	8	753+31.08	-3.25	717.314	717.342
	9	753+37.56	-10.417	717.646	717.644
	10	753+43.44	-17.583	717.916	717.944
	11	753+49.51	-24.750	718.218	718.246
	11A	753+52.29	-28.000	718.354	718.381
	12	753+55.58	-31.917	718.517	718.545
G	7	753+35.10	3.917	717.012	717.052
	7A	753+38.41	0	717.178	717.201
	8	753+41.15	-3.25	717.315	717.343
	9	753+47.20	-10.417	717.646	717.659
	10	753+53.24	-17.583	717.914	717.959
	11	753+59.29	-24.75	718.217	718.260
	11A	753+62.23	-28.00	718.352	718.398
	12	753+65.33	-31.917	718.514	718.559
H	7	753+45.00	3.917	717.013	717.061
	7A	753+48.29	0	717.178	717.226
	8	753+51.02	-3.25	717.315	717.343
	9	753+57.04	-10.417	717.645	717.643
	10	753+63.02	-17.583	717.914	717.962
	11	753+69.07	-24.75	718.215	718.263
	11A	753+71.79	-28.00	718.350	718.398
	12	753+75.08	-31.917	718.513	718.561
I	7	753+54.90	3.917	717.012	717.057
	7A	753+58.17	0	717.177	717.222
	8	753+60.88	-3.25	717.314	717.359
	9	753+66.87	-10.417	717.643	717.688
	10	753+72.86	-17.583	717.911	717.956
	11	753+78.85	-24.75	718.211	718.256
	11A	753+81.57	-28.00	718.346	718.391
	12	753+84.88	-31.917	718.509	718.553
J	7	753+64.80	3.917	717.011	717.041
	7A	753+68.05	0	717.175	717.205
	8	753+70.73	-3.25	717.312	717.342
	9	753+76.70	-10.417	717.640	717.640
	10	753+82.68	-17.583	717.907	717.937
	11	753+88.63	-24.75	718.206	718.236
	11A	753+91.33	-28.00	718.341	718.371
	12	753+94.57	-31.917	718.503	718.533
K	7	753+74.70	3.917	717.008	717.018
	7A	753+77.93	0	717.171	717.181
	8	753+80.62	-3.25	717.307	717.317
	9	753+86.54	-10.417	717.605	717.615
	10	753+92.46	-17.583	717.902	717.912
	11	753+98.30	-24.75	718.200	718.210
	11A	754+01.00	-28.00	718.335	718.345
	12	754+04.30	-31.917	718.496	718.506

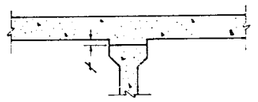
Note: Elevations indicated are to top of Deck Surfacing

SPAN 3

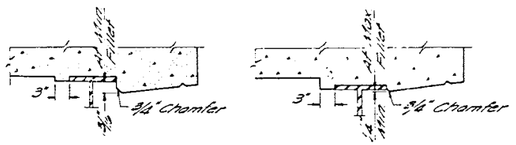
Location	Beam	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
L ℄ BRG. PIER	7	753+08.23	3.917	717.002	717.002
	7A	753+91.46	0	717.165	717.165
	8	753+93.13	-3.25	717.302	717.300
	9	754+00.00	-10.417	717.597	717.597
	10	754+06.86	-17.583	717.893	717.893
	11	754+11.76	-24.75	718.192	718.192
	11A	754+14.63	-28.00	718.327	718.324
	12	754+17.93	-31.917	718.485	718.485
M	7	753+82.00	3.917	717.002	717.002
	7A	754+01.20	0	717.159	717.164
	8	754+03.84	-3.25	717.291	717.301
	9	754+10.52	-10.417	717.590	717.597
	10	754+17.20	-17.583	717.885	717.892
	11	754+22.14	-24.75	718.182	718.189
	11A	754+24.97	-28.00	718.315	718.322
	12	754+28.20	-31.917	718.476	718.483
N	7	754+07.76	3.917	717.004	717.013
	7A	754+10.93	0	717.161	717.175
	8	754+13.54	-3.25	717.294	717.310
	9	754+19.34	-10.417	717.592	717.604
	10	754+25.14	-17.583	717.874	717.900
	11	754+30.97	-24.75	718.172	718.194
	11A	754+33.80	-28.00	718.329	718.329
	12	754+37.17	-31.917	718.454	718.489
O	7	754+17.50	3.917	717.000	717.021
	7A	754+20.66	0	717.142	717.133
	8	754+23.27	-3.25	717.277	717.310
	9	754+29.06	-10.417	717.572	717.613
	10	754+34.91	-17.583	717.862	717.877
	11	754+40.58	-24.75	718.161	718.202
	11A	754+43.20	-28.00	718.296	718.335
	12	754+46.54	-31.917	718.454	718.495
P	7	754+21.23	3.917	716.971	717.013
	7A	754+32.39	0	717.132	717.179
	8	754+33.00	-3.25	717.267	717.314
	9	754+39.79	-10.417	717.561	717.608
	10	754+46.58	-17.583	717.854	717.901
	11	754+52.45	-24.75	718.149	718.196
	11A	754+55.28	-28.00	718.291	718.328
	12	754+58.91	-31.917	718.441	718.488
Q	7	754+37.00	3.917	716.990	717.005
	7A	754+40.12	0	717.121	717.142
	8	754+42.70	-3.25	717.255	717.300
	9	754+48.99	-10.417	717.549	717.594
	10	754+55.28	-17.583	717.841	717.886
	11	754+59.78	-24.75	718.135	718.180
	11A	754+62.57	-28.00	718.267	718.312
	12	754+65.98	-31.917	718.427	718.472
R	7	754+43.36	3.917	716.984	716.983
	7A	754+49.85	0	717.109	717.142
	8	754+52.62	-3.25	717.242	717.277
	9	754+58.85	-10.417	717.535	717.570
	10	754+65.07	-17.583	717.827	717.862
	11	754+69.69	-24.75	718.120	718.155
	11A	754+72.62	-28.00	718.253	718.288
	12	754+76.05	-31.917	718.412	718.447
S ℄ BRG. N. ABUT.	7	754+40.06	3.917	716.980	716.980
	7A	754+43.13	0	717.103	717.090
	8	754+45.62	-3.25	717.228	717.223
	9	754+51.30	-10.417	717.516	717.512
	10	754+56.97	-17.583	717.804	717.802
	11	754+62.52	-24.75	718.099	718.099
	11A	754+65.27	-28.00	718.230	718.230
	12	754+68.14	-31.917	718.389	718.389

SPAN 4

Location	Beam	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
T	Wall	754+72.65	4.75	716.875	716.875
	7A	754+75.37	0	717.097	717.097
	8	754+77.97	-2.812	717.165	717.165
	9	754+83.42	-10.270	717.483	717.483
	10	754+88.87	-17.729	717.792	717.792
	11	754+94.18	-25.187	718.094	718.094
	Wall	755+01.05	-32.75	718.399	718.399
U	Wall	754+81.30	4.75	716.841	716.841
	7A	754+85.00	0	717.061	717.065
	8	754+87.19	-2.812	717.169	717.171
	9	754+93.00	-10.270	717.471	717.473
	10	754+98.81	-17.729	717.774	717.776
	11	755+04.48	-25.187	718.075	718.077
	Wall	755+10.58	-32.75	718.380	718.380
V BACK N. ABUT.	Wall	754+82.04	4.75	716.841	716.844
	7A	754+85.93	0	717.037	717.037
	8	754+88.70	-2.812	717.151	717.151
	9	755+02.28	-10.270	717.462	717.462
	10	755+08.28	-17.729	717.765	717.765
	11	755+14.03	-25.187	718.056	718.056
	Wall	755+19.90	-32.75	718.350	718.350

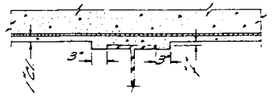


To determine "Y": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted algebraically from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown above, minus slab thickness, (including the deck surfacing) equals the fillet heights "Y". A positive value of "Y" equals the fillet height above the top of the beam. A negative value of "Y", not to exceed ½", equals the embedment of the beam above the theoretical bottom of slab elevation



AT MINIMUM FILLET AT MAXIMUM FILLET

STANDARD FILLET - EXTERIOR BEAMS



STANDARD FILLET - INTERIOR BEAMS

To determine "Y": After all Structural Steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on Sheets 2 & 3. These elevations subtracted from the "Grade Elevations Adjusted for Dead Load Deflections" shown on Sheets 2 & 3, minus slab thickness including the deck surfacing Equals the Fillet Height "Y" Above Top of Beams.

GRADE ELEVATIONS
NORTHBOUND STRUCTURE

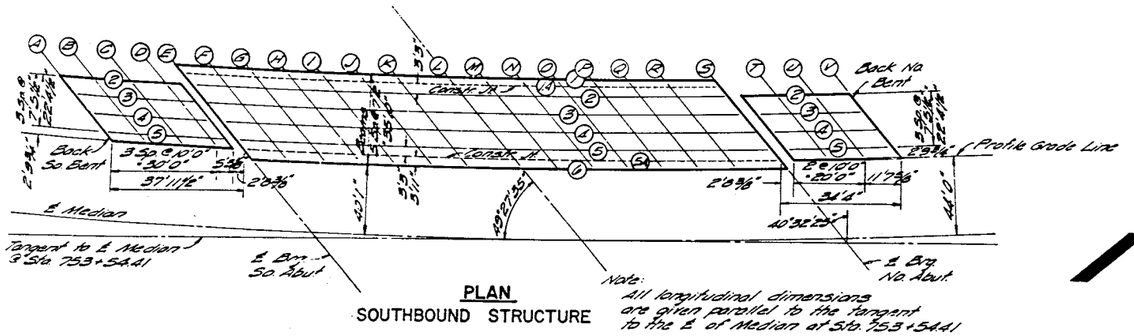
FAI ROUTE 55 SEC. 57-1OHB

MC LEAN COUNTY

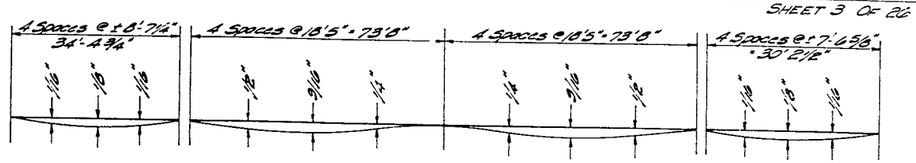
STATION 753+54.41

FAI-55 57-ICHB MCLEAN 224

SHEET 3 OF 26 SHEETS



PLAN
SOUTHBOUND STRUCTURE



DEAD LOAD DEFLECTION DIAGRAM
Includes Weight of Concrete and Deck Surfacing Only

The above deflections are not for use in the field if the Engineer is working from the Theoretical Grade Elevations Adjusted for Dead Load Deflections.

SPAN 1

Location	Beam	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted for Dead Load Deflection
A BACK S. ABUT.	Wall	751+63.38	32.75	715.648	715.648
	2	751+76.77	25.817	715.937	715.937
	3	751+83.05	17.729	716.205	716.205
	4	751+90.93	10.270	716.534	716.534
	5	751+98.00	2.812	716.920	716.920
	5A	752+00.68	0	717.049	717.049
	Wall	752+05.29	-4.75	717.251	717.251
B	Wall	751+00.27	32.75	715.028	715.028
	2	751+07.36	25.187	715.300	715.305
	3	751+84.98	17.729	716.284	716.291
	4	751+91.43	10.270	716.619	716.619
	5	751+98.46	2.812	716.939	716.944
	5A	752+01.18	0	717.063	717.063
	Wall	752+15.61	-4.75	717.269	717.269
C	Wall	751+90.82	32.75	715.649	715.649
	2	751+97.93	25.187	715.900	715.990
	3	752+04.39	17.729	716.302	716.316
	4	752+11.33	10.270	716.642	716.642
	5	752+18.95	2.812	716.957	716.967
	5A	752+21.59	0	717.079	717.080
	Wall	752+26.04	-4.75	717.286	717.286
D	Wall	752+01.44	32.75	715.670	715.670
	2	752+08.50	25.187	715.999	716.004
	3	752+15.47	17.729	716.324	716.329
	4	752+22.43	10.270	716.650	716.655
	5	752+29.99	2.812	716.973	716.978
	5A	752+32.62	0	717.095	717.096
	Wall	752+36.46	-4.75	717.301	717.301

SPAN 2

Location	Beam	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted for Dead Load Deflection
E ℄ BRG. S. ABUT.	1	752+10.85	31.917	715.721	715.721
	1A	752+14.34	28.000	715.891	715.891
	2	752+17.40	24.750	716.032	716.032
	3	752+24.07	17.503	716.345	716.345
	4	752+30.72	10.417	716.655	716.655
	5	752+37.34	3.250	716.967	716.967
	5A	752+40.04	0	717.107	717.107
F	0	752+43.93	-3.917	717.290	717.290
	1	752+21.80	31.917	715.731	715.732
	1A	752+25.28	28.000	715.893	715.896
	2	752+27.90	24.750	716.049	716.057
	3	752+34.59	17.503	716.361	716.369
	4	752+41.20	10.417	716.670	716.693
	5	752+47.80	3.250	716.980	717.003
	5A	752+50.50	0	717.120	717.143
G	6	752+54.40	-3.917	717.289	717.317
	1	752+31.85	31.917	715.755	715.798
	1A	752+35.44	28.000	715.924	715.967
	2	752+38.44	24.750	716.064	716.107
	3	752+45.05	17.503	716.375	716.418
	4	752+51.68	10.417	716.683	716.726
	5	752+58.21	3.250	716.993	717.041
	5A	752+61.20	0	717.132	717.175
H	6	752+64.80	-3.917	717.301	717.344
	1	752+42.35	31.917	715.769	715.817
	1A	752+45.95	28.000	715.938	715.986
	2	752+48.95	24.750	716.078	716.126
	3	752+55.67	17.503	716.393	716.436
	4	752+62.28	10.417	716.705	716.748
	5	752+68.89	3.250	717.004	717.052
	5A	752+71.55	0	717.143	717.191
I	6	752+75.46	-3.917	717.311	717.359
	1	752+52.90	31.917	715.788	715.838
	1A	752+56.38	28.000	715.957	715.994
	2	752+59.36	24.750	716.090	716.135
	3	752+66.10	17.503	716.399	716.440
	4	752+72.69	10.417	716.705	716.750
	5	752+79.25	3.250	717.013	717.059
	5A	752+82.05	0	717.152	717.197
J	6	752+85.96	-3.917	717.320	717.365
	1	752+63.27	31.917	715.794	715.844
	1A	752+66.76	28.000	715.962	715.992
	2	752+69.72	24.750	716.101	716.131
	3	752+76.47	17.503	716.409	716.440
	4	752+82.94	10.417	716.714	716.744
	5	752+89.53	3.250	717.021	717.051
	5A	752+92.25	0	717.159	717.189
K	6	752+96.12	-3.917	717.327	717.357
	1	752+73.58	31.917	715.807	715.815
	1A	752+77.10	28.000	715.976	715.982
	2	752+80.05	24.750	716.110	716.120
	3	752+86.80	17.503	716.417	716.427
	4	752+93.33	10.417	716.722	716.732
	5	752+99.93	3.250	717.033	717.038
	5A	753+02.63	0	717.164	717.174
	6	753+06.76	-3.917	717.333	717.343

SPAN 3

Location	Beam	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
L ℄ BRG. PIER	1	752+07.46	31.917	715.814	715.814
	1A	752+91.17	28.000	715.983	715.983
	2	752+94.09	24.750	716.121	716.121
	3	753+00.52	17.503	716.427	716.427
	4	753+06.92	10.417	716.730	716.730
	5	753+13.28	3.250	717.035	717.035
	5A	753+16.13	0	717.172	717.172
M	6	753+19.83	-3.917	717.339	717.339
	1	752+98.08	31.917	715.823	715.830
	1A	753+01.50	28.000	715.989	715.996
	2	753+04.40	24.750	716.127	716.134
	3	753+10.77	17.503	716.432	716.439
	4	753+17.13	10.417	716.735	716.742
	5	753+23.67	3.250	717.039	717.046
	5A	753+26.31	0	717.176	717.183
N	6	753+29.79	-3.917	717.341	717.348
	1	753+08.35	31.917	715.829	715.853
	1A	753+11.77	28.000	715.995	716.019
	2	753+14.68	24.750	716.132	716.156
	3	753+21.00	17.503	716.436	716.460
	4	753+27.32	10.417	716.740	716.781
	5	753+33.64	3.250	717.042	717.083
	5A	753+36.26	0	717.178	717.219
O	6	753+39.96	-3.917	717.343	717.384
	1	753+22.92	31.917	715.834	715.883
	1A	753+26.33	28.000	716.001	716.048
	2	753+29.15	24.750	716.137	716.184
	3	753+35.30	17.503	716.440	716.487
	4	753+41.61	10.417	716.740	716.787
	5	753+47.94	3.250	717.042	717.089
	5A	753+50.48	0	717.177	717.224
P	6	753+54.09	-3.917	717.342	717.389
	1	753+33.13	31.917	715.838	715.888
	1A	753+36.58	28.000	716.002	716.047
	2	753+39.37	24.750	716.138	716.183
	3	753+45.51	17.503	716.440	716.485
	4	753+51.78	10.417	716.739	716.784
	5	753+58.09	3.250	717.040	717.085
	5A	753+60.79	0	717.175	717.220
Q	6	753+64.39	-3.917	717.339	717.384
	1	753+43.37	31.917	715.838	715.873
	1A	753+46.82	28.000	716.002	716.037
	2	753+49.57	24.750	716.138	716.173
	3	753+55.71	17.503	716.440	716.475
	4	753+61.98	10.417	716.739	716.784
	5	753+68.29	3.250	717.040	717.085
	5A	753+70.99	0	717.175	717.220
R	6	753+74.59	-3.917	717.339	717.384
	1	753+53.57	31.917	715.838	715.873
	1A	753+57.02	28.000	716.002	716.037
	2	753+59.77	24.750	716.138	716.173
	3	753+65.91	17.503	716.440	716.475
	4	753+72.18	10.417	716.739	716.784
	5	753+78.49	3.250	717.040	717.085
	5A	753+81.19	0	717.175	717.220
S ℄ BRG. N. ABUT.	6	753+84.79	-3.917	717.339	717.384
	1	753+63.77	31.917	715.838	715.888
	1A	753+67.22	28.000	716.002	716.047
	2	753+69.97	24.750	716.138	716.183
	3	753+76.12	17.503	716.440	716.485
	4	753+82.38	10.417	716.739	716.784
	5	753+88.69	3.250	717.040	717.085
	5A	753+91.39	0	717.175	717.220
	6	753+94.99	-3.917	717.339	717.384

SPAN 4

Location	Beam	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted for Dead Load Deflection
T	Wall	753+72.51	32.75	716.797	716.797
	2	753+81.20	25.187	716.112	716.117
	3	753+88.31	17.729	716.422	716.427
	4	753+94.67	10.270	716.732	716.737
	5	754+01.04	2.812	717.041	717.046
	5A	754+03.72	0	717.157	717.160
	Wall	754+07.87	-4.75	717.354	717.354
U	Wall	753+85.06	32.75	716.793	716.793
	2	753+92.00	25.187	716.104	716.104
	3	753+98.39	17.729	716.415	716.417
	4	754+04.72	10.270	716.727	716.727
	5	754+11.04	2.812	717.033	717.035
	5A	754+13.69	0	717.149	717.151
	Wall	754+18.53	-4.75	717.346	717.346
V BACK N. ABUT.	Wall	753+97.43	32.75	715.736	715.736
	2	754+03.81	25.187	716.099	716.099
	3	754+10.10	17.729	716.407	716.407
	4	754+16.40	10.270	716.715	716.715
	5	754+22.69	2.812	717.022	717.022
	5A	754+25.34	0	717.138	717.138
	Wall	754+27.07	-4.75	717.336	717.336

Note: See Sheet 2 for Grade Details and Determination of ℄ Elevations indicated are to top of deck surfacing

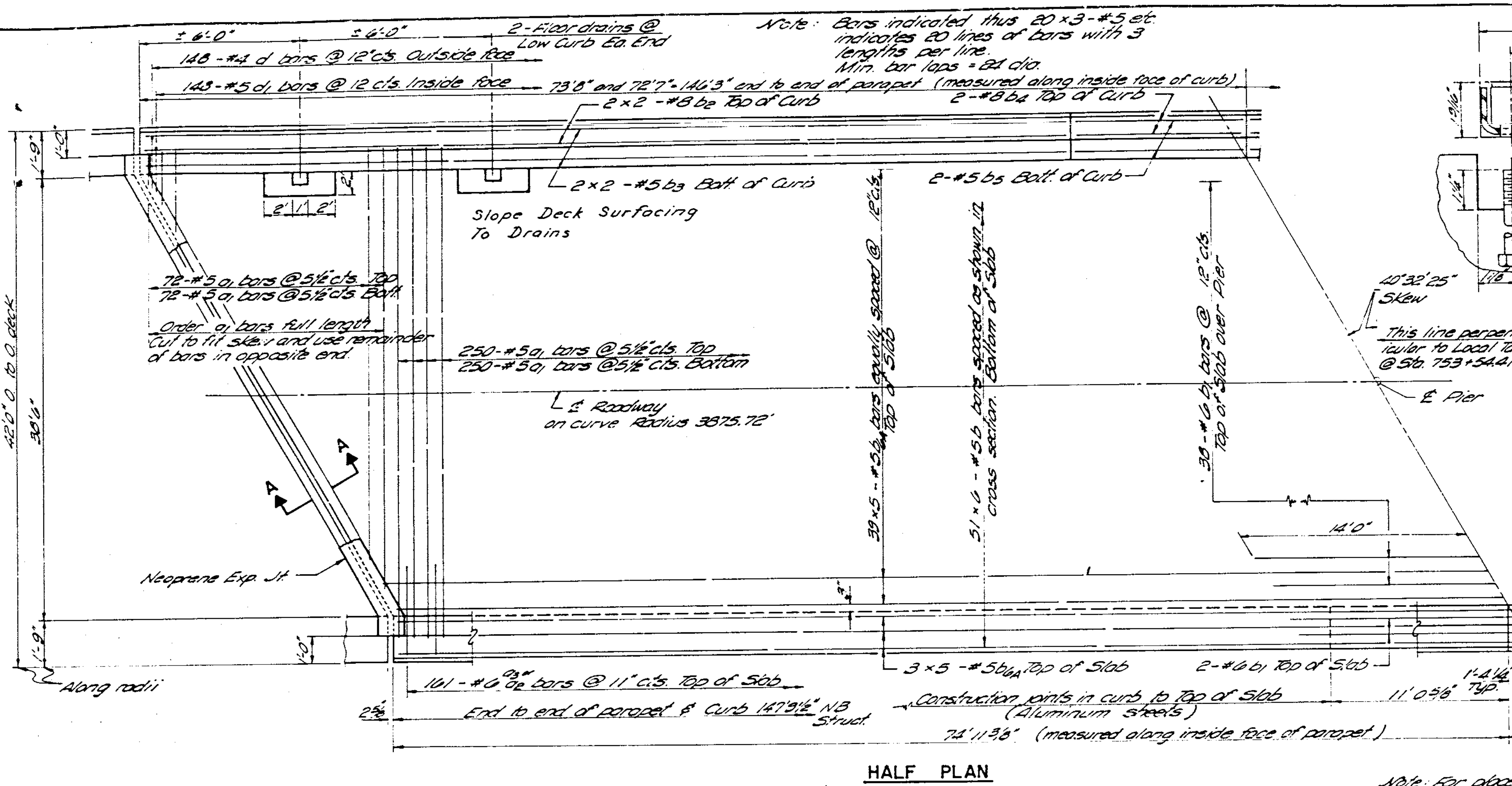
GRADE ELEVATIONS
SOUTHBOUND STRUCTURE
FAI ROUTE 55 SEC. 57-ICHB
MC LEAN COUNTY
STATION 753+54.41

FEDERAL AID ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO.
FAI-55 57-10HB McLean

STA | TO STA

B P R REG NO 4 | ILLINOIS | PROJECT

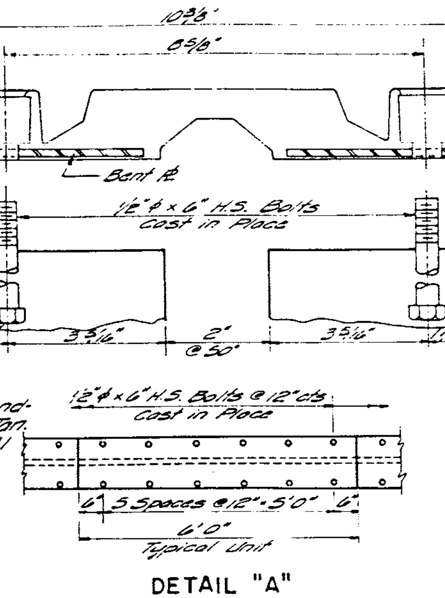
SHEET 4 OF 26 SHEETS



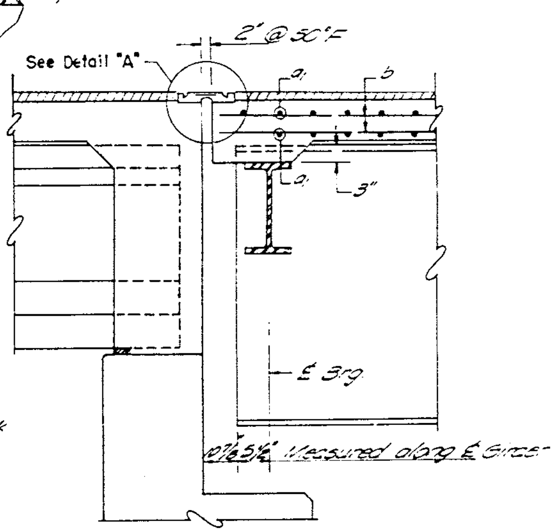
HALF PLAN

Note: Roadway and Beams are curved

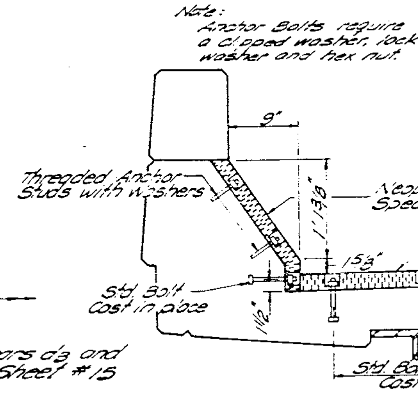
Note: For placement of bars a3 and e thru e6 See Sheet #15



DETAIL "A"



SECTION A-A

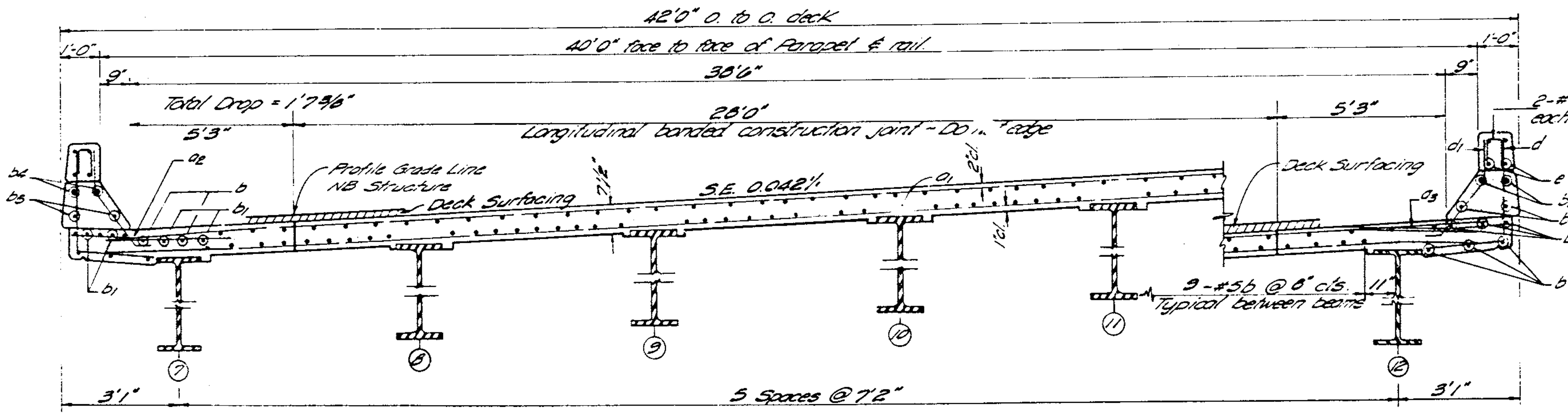


CURB INSTALLATION

NORTHBOUND STRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	644	#5	42'0"	
a2	161	#6	4'-0"	
a3	161	#6	4'0"	
b	303	#5	26'3"	
b1	42	#6	29'0"	
b2	16	#8	32'0"	
b3	16	#5	33'9"	
b4	8	#8	10'9"	
b5	8	#5	10'9"	
b6A	225	#5	31'0"	
d	296	#4	4'9"	
d1	296	#5	3'-5"	
Reinforcement Bars			Lbs.	50,550
Class X Concrete			Cu. Yds.	[illegible]

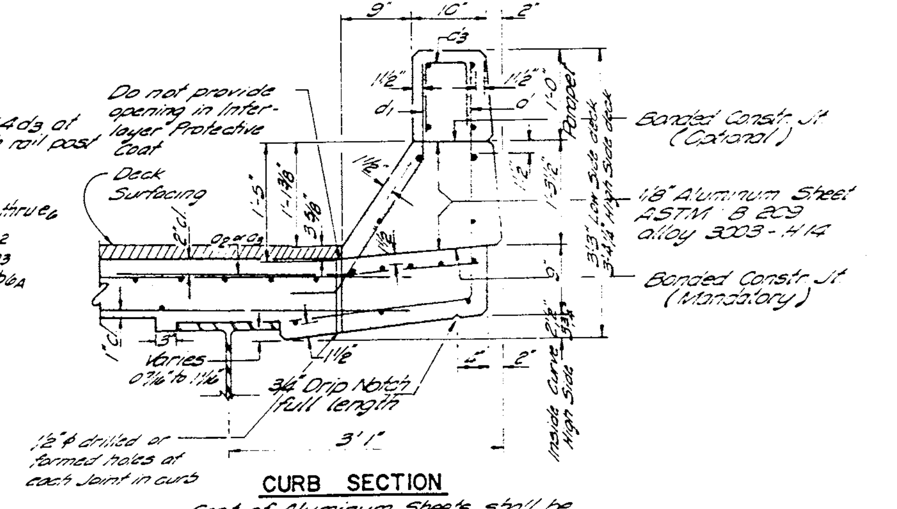
Parapet Reinforcement and Class X Concrete are billed on Sheet #15



NEAR PIER

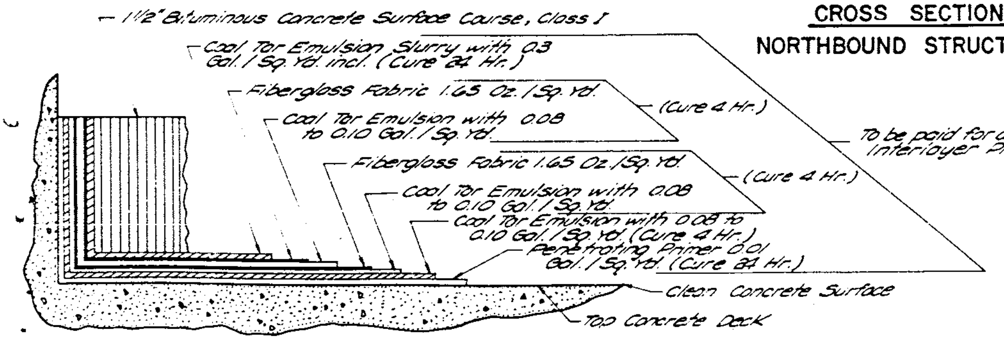
NEAR MIDSPAN

CROSS SECTION
NORTHBOUND STRUCTURE

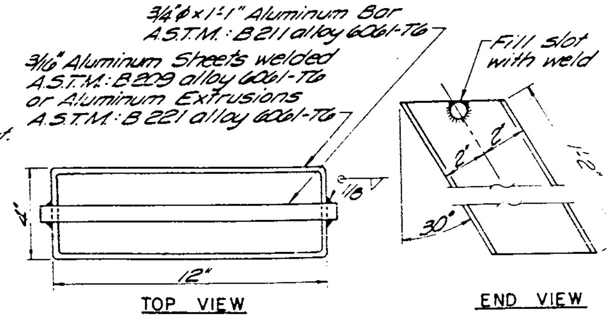


CURB SECTION

Cost of Aluminum Sheets shall be incidental to Class X Concrete

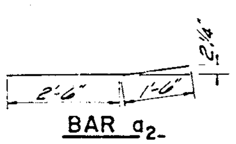


DETAIL OF DECK SURFACING

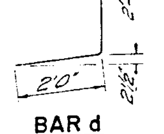


Note: Cost of Floor Drains incidental to Class X Concrete

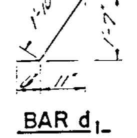
FLOOR DRAIN



BAR a2



BAR d

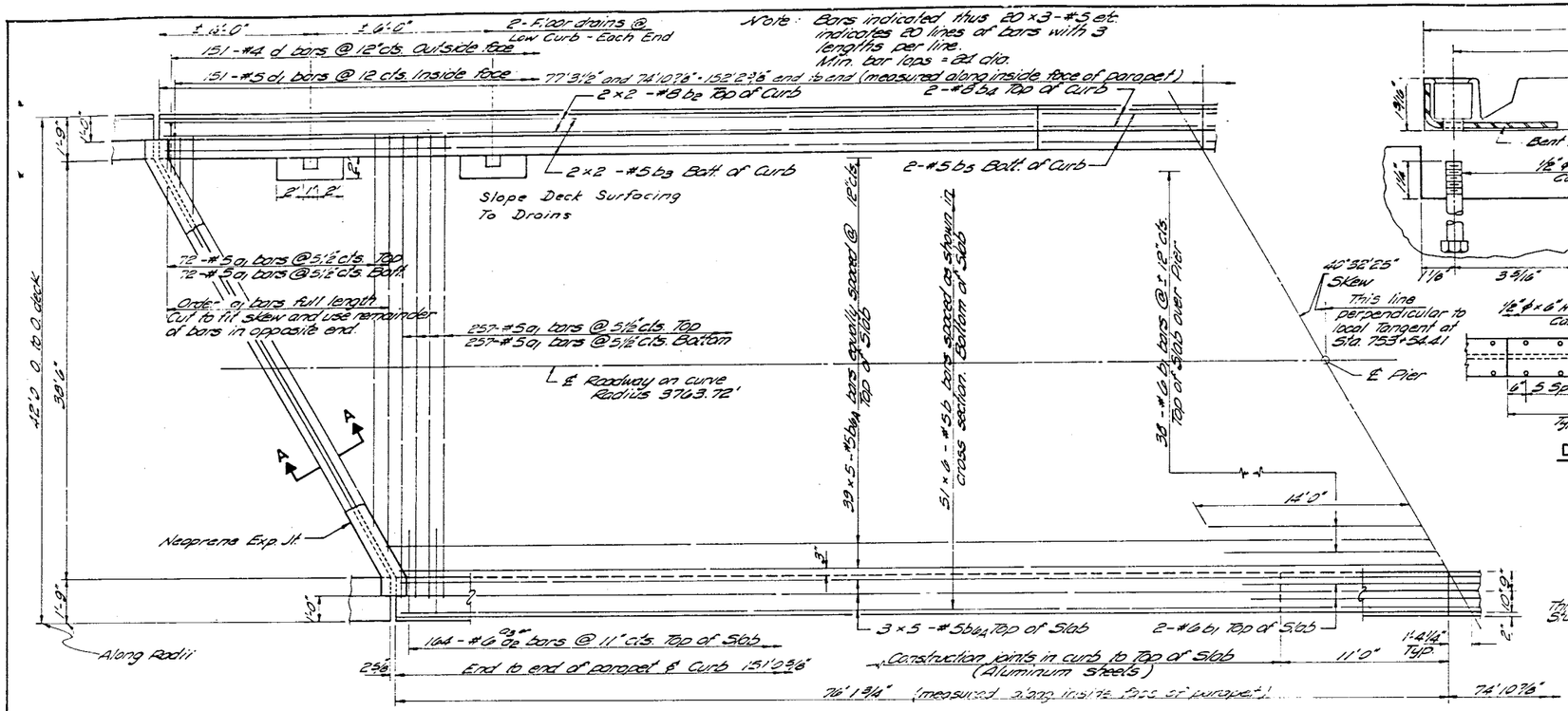


BAR d1

SUPERSTRUCTURE
NORTHBOUND STRUCTURE
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

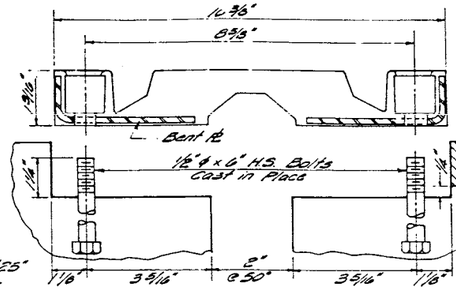
FAI-55	57-10HB	McLean	55

SHEET 5 OF 26 SHEETS

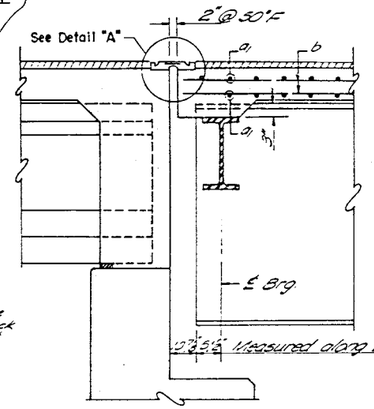


HALF PLAN

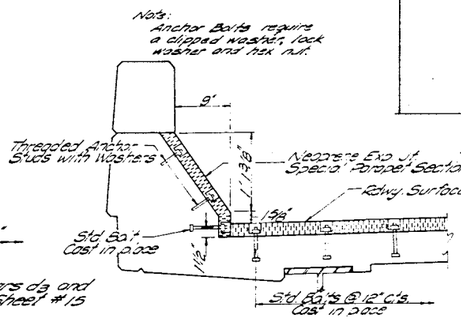
Note: Roadway and Beams are curved



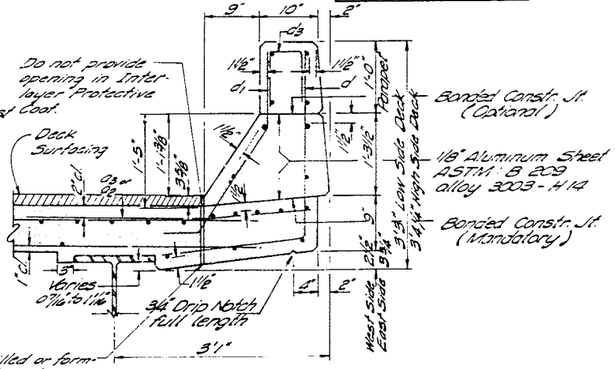
DETAIL "A"



SECTION A-A

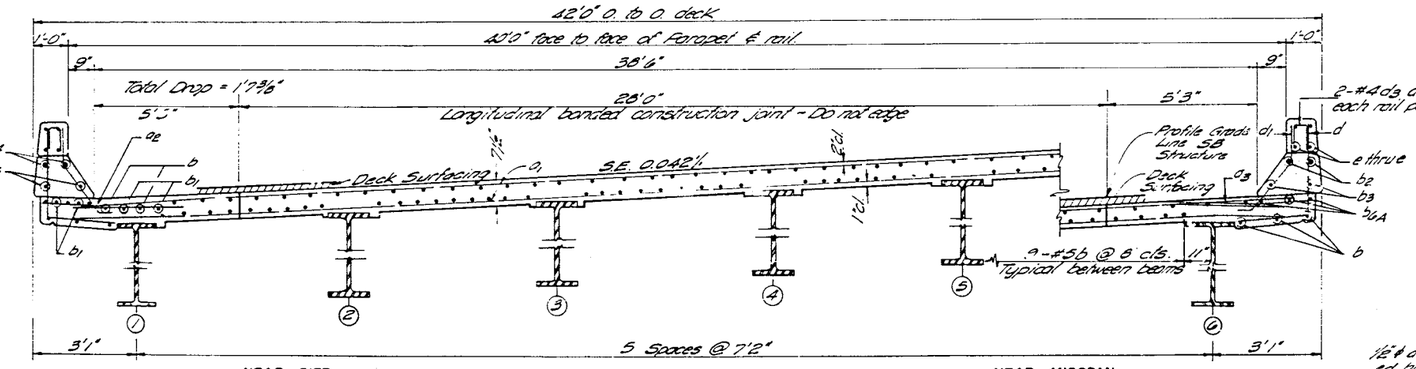


CURB INSTALLATION



CURB SECTION

Cost of Aluminum Sheets shall be incidental to Class X Concrete

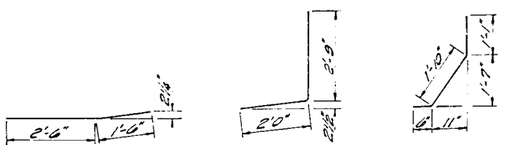


CROSS SECTION

Southbound Structure

Note:

See Sheet 4 of 26 for detail of Deck Surfacing.
See Sheet 4 of 26 for detail of Floor Drain.



Note: For placement of bars d2 and e thru e2 See Sheet #15

SOUTHBOUND STRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1	658	#5	40'0"	
a2	104	#6	4'-0"	
a3	104	#6	4'0"	
b	306	#5	26'3"	
b1	42	#6	25'7"	
b2	16	#8	34'6"	
b3	16	#5	33'9"	
b4	8	#8	10'9"	
b5	8	#5	10'9"	
b4A	225	#5	31'6"	
d	302	#4	4'9"	⌋
d1	302	#5	3'5"	⌋
Reinforcement Bars			Lbs.	51,210
Class X Concrete			Cu. Yds.	182.3

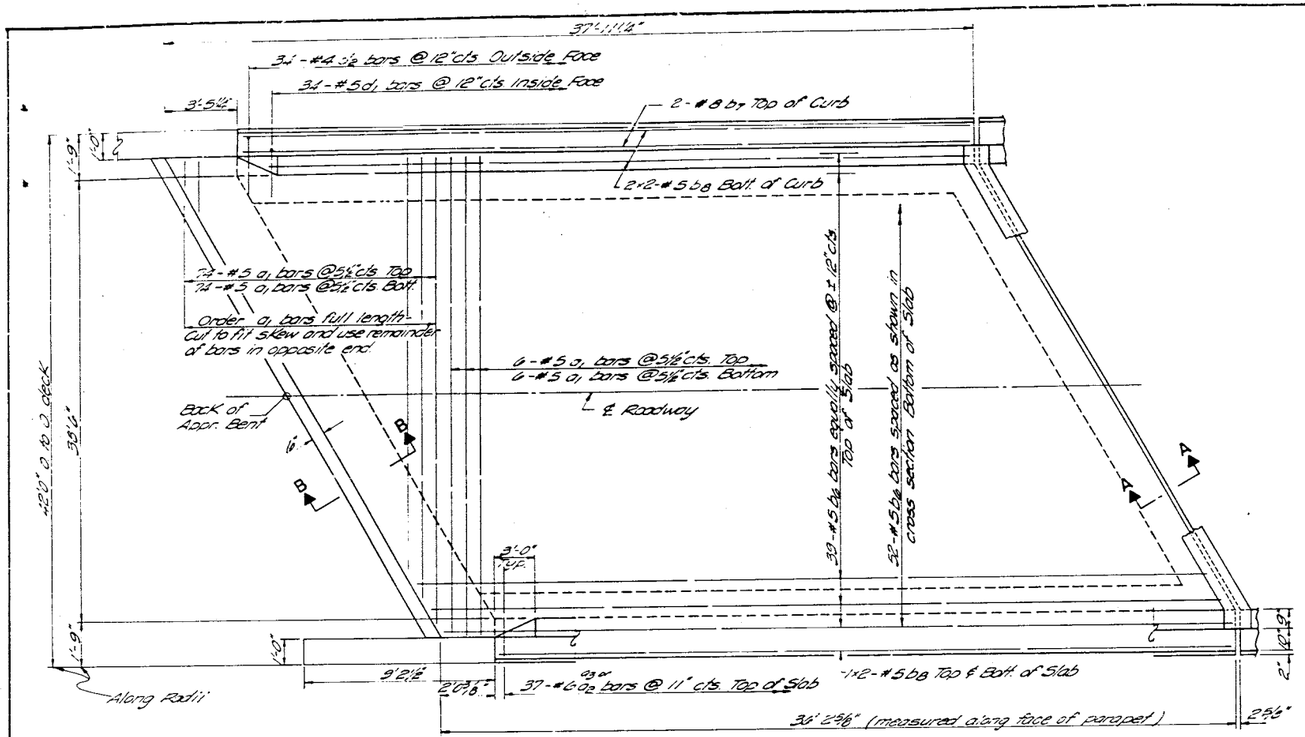
Parapet Reinforcement and Class X Concrete are bid as at Sheet #15

SUPERSTRUCTURE
SOUTHBOUND STRUCTURE
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

	SEC	COUNTY		NO.
FAI-55	57-10HB	McLEAN	22	2
STA	TO STA			
ILLINOIS	PROJECT			

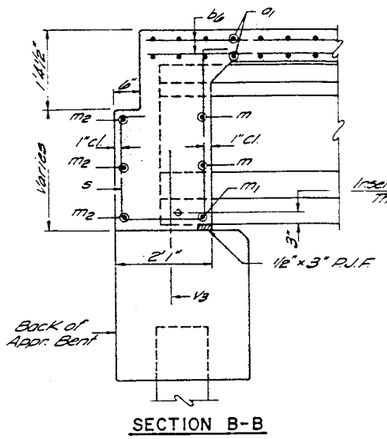
SHEET 6 OF 26 SHEETS

Note: For details of Approach Slab see Detail "A" Sheet #5

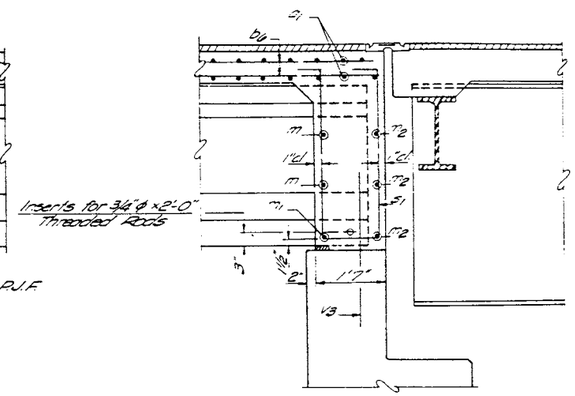


PLAN

South Span Southbound



SECTION B-B



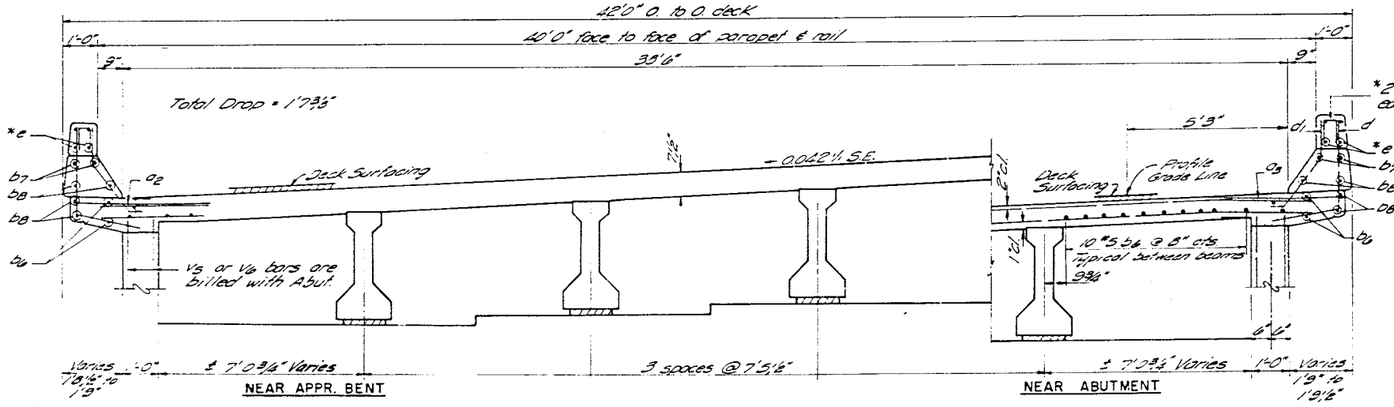
SECTION A-A

ONE APPR. SPAN
BILL OF MATERIAL

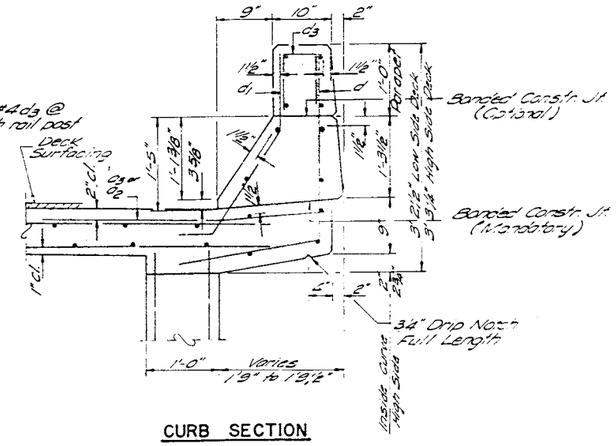
Bar	No.	Size	Length	Shape
a1	30	#5	42'0"	
a2	37	#6	2'-0"	
a3	37	#6	4'0"	
b4	91	#5	36'6"	
b7	4	#8	36'7"	
b8	4	#5	37'-3"	
d1	68	#5	3'-5"	
d2	68	#4	4'9"	
m	20	#4	8'6"	
m1	12	#5	7'6"	
m2	18	#5	24'6"	
m3	10	#4	6'9"	
m4	10	#4	5'9"	
s	35	#4	7'9"	
s1	35	#4	8'9"	
s2	25	#4	6'0"	
Reinforcement Bars			Lbs.	2,750
Class X Concrete			Cu.Yds.	34.0

* Parapet Reinforcement and Class X Concrete are billed on Sheet # 5

For placement and details of bars b7 thru m3 and s thru s2 see Sheet # 4



CROSS SECTION



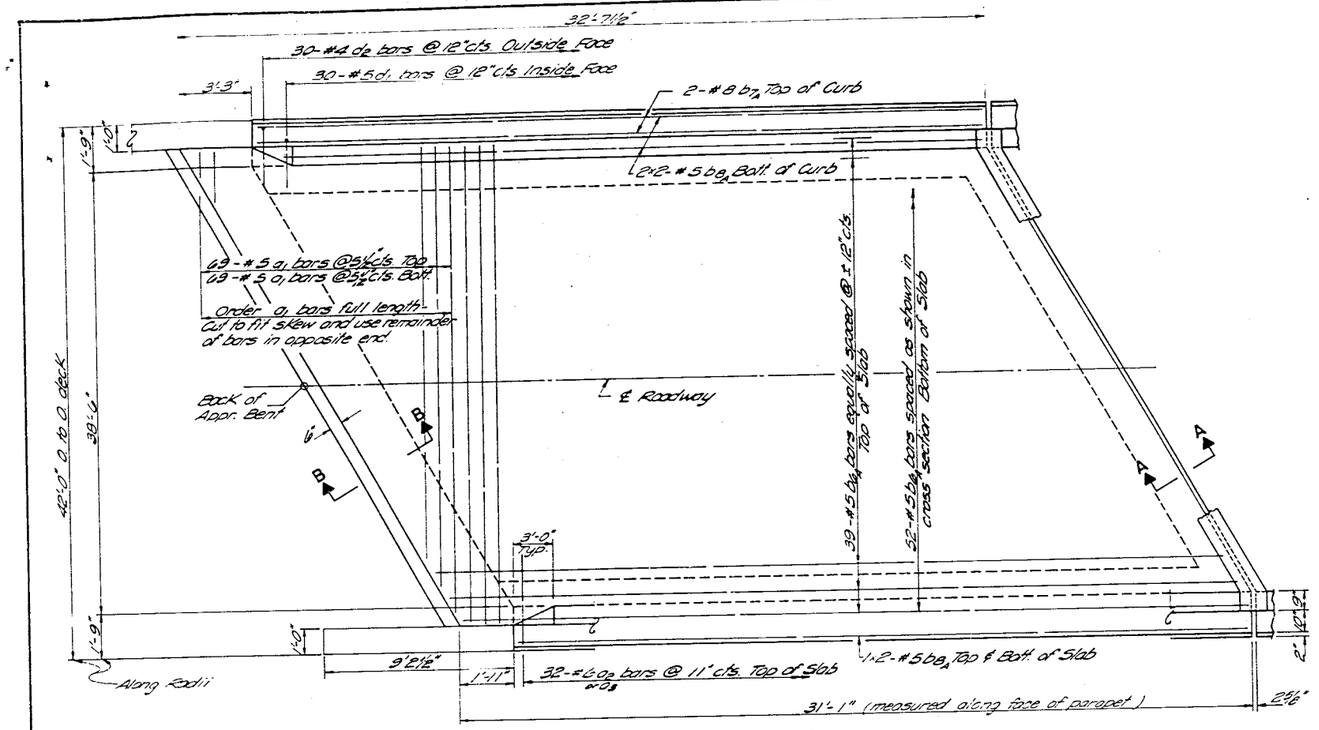
CURB SECTION

Note: See Sheet 4 For Detail of Deck Surfacing

SUPERSTRUCTURE
SOUTH SPAN - SOUTHBOUND
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

FED. ROAD DIST. NO. 4	STATE ILLINOIS	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	57H-8	MCLEAN	226	122
STA.	TO STA.			

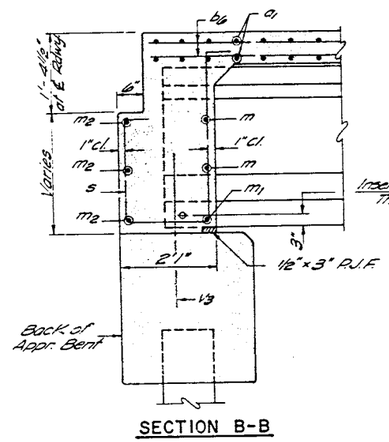
SHEET 7 OF 26 SHEETS



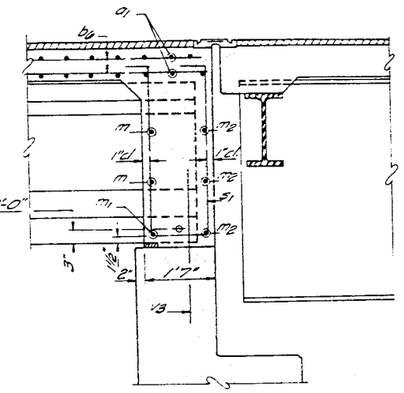
PLAN

NORTH SPAN - SOUTHBOUND

Note: For details of neoprene exp. Jt. see Detail "A" Sheet # 5



SECTION B-B



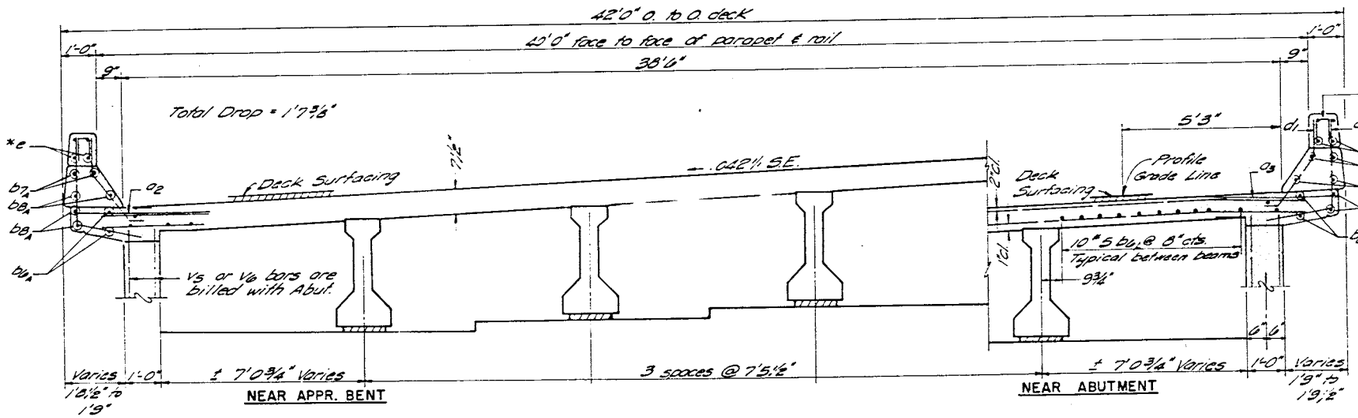
SECTION A-A

ONE APPR. SPAN
BILL OF MATERIAL

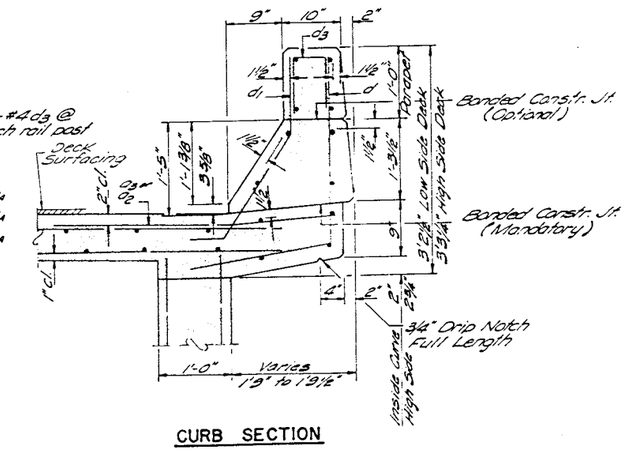
Bar	No.	Size	Length	Shape
a1	138	#5	40'-0"	
a2	32	#6	4'-0"	
a3	32	#6	4'-0"	
b6A	91	#5	31'-6"	
b7A	4	#8	28'-9"	
b8A	14	#5	15'-3"	
d1	40	#5	3'-5"	
d2	40	#4	4'-9"	
m	20	#4	8'-6"	
m1	10	#5	7'-6"	
m2	12	#5	22'-6"	
m3	10	#4	6'-9"	
m4	10	#4	5'-9"	
s	35	#4	7'-9"	
s1	35	#4	8'-9"	
s2	25	#4	6'-10"	
Reinforcement Bars			Lbs.	11,180
Class X Concrete			Cu. Yds.	55.9

* Parapet Reinforcement and Class X Concrete are billed on sheet # 5

For placement and details of bars m thru m3 and s thru s2 see Sheet # 12

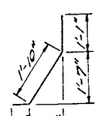


CROSS SECTION

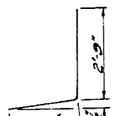


CURB SECTION

BAR g_2



BAR d_1



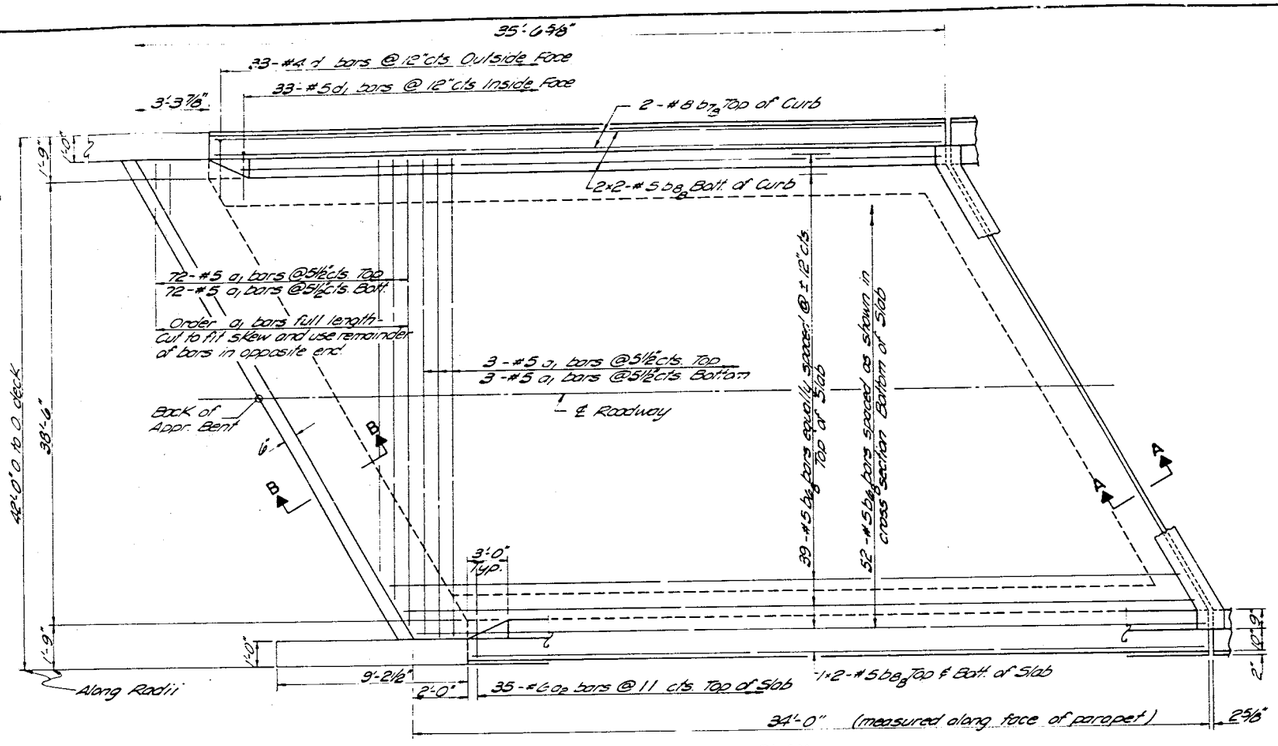
BAR d_2

Note: See Sheet 4 For Detail Of Deck Surfacing

SUPERSTRUCTURE
NORTH SPAN - SOUTHBOUND
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

	SEC	ROUTE		SHEET
FAI-55	57-10HB	MC LEAN		123
STA		TO STA		
BFR REG NO. #		ILLINOIS	PROJECT	

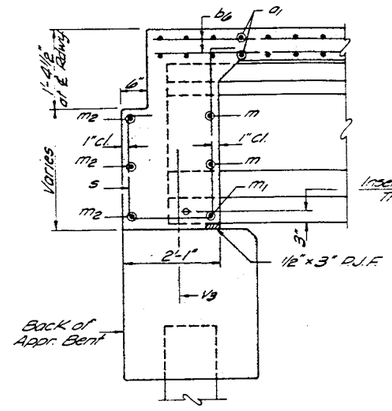
SHEET 8 OF 86 SHEETS



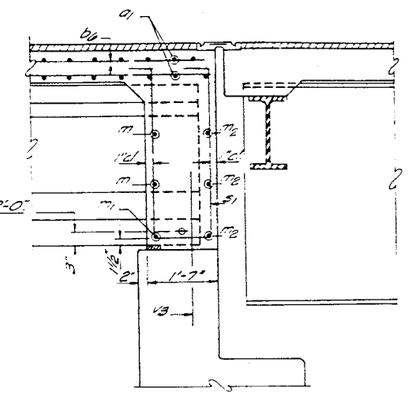
PLAN

SOUTH SPAN - NORTHBOUND

Note: For details of Neoprene exp. Jt. see Detail "A" Sheet #5



SECTION B-B



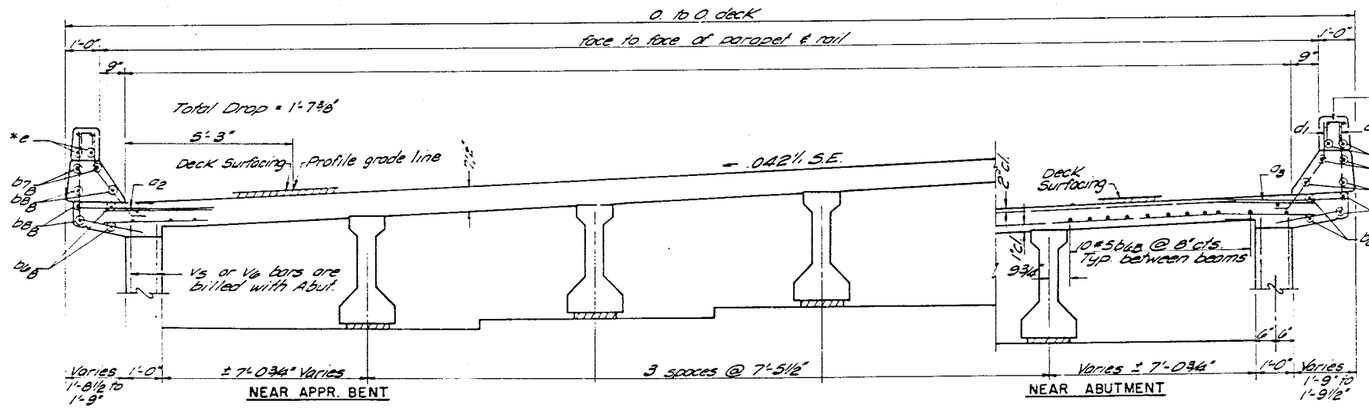
SECTION A-A

ONE APPR. SPAN
BILL OF MATERIAL

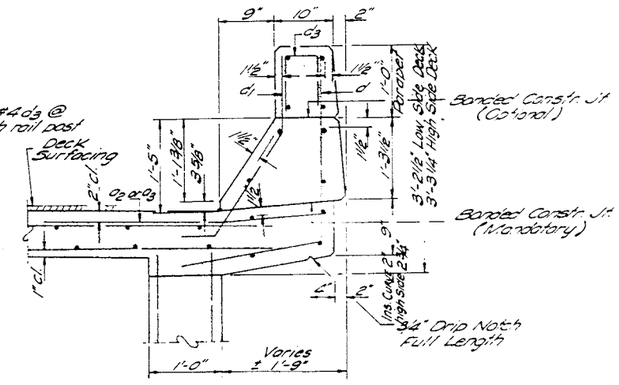
Bar	No.	Size	Length	Shape
s	150	#5	40'-0"	
s2	35	#5	4'-0"	
s3	35	#6	4'-0"	
b6, b9	91	#5	32'-0"	
b7B	4	#8	32'-0"	
b9B	10	#5	16'-5"	
c1	66	#5	3'-5"	
c2	66	#4	4'-9"	
m	20	#4	8'-6"	
m1	10	#5	7'-6"	
m2	12	#5	24'-6"	
m3	10	#4	6'-9"	
m4	10	#4	5'-9"	
s	35	#4	7'-9"	
s1	35	#4	8'-9"	
s2	25	#4	6'-10"	
Reinforcement Bars			Lbs.	2050
Class X Concrete			Cu. Yds.	55.7

* Parapet Reinforcement and Class X Concrete are billed on sheet # 5

For placement and details of bars m thru m5 and s thru s2 see Sheet # 2



CROSS SECTION



CURB SECTION

Note: See Sheet 4 For Detail Of Deck Surfacing

SUPERSTRUCTURE

SOUTH SPAN – NORTHBOUND

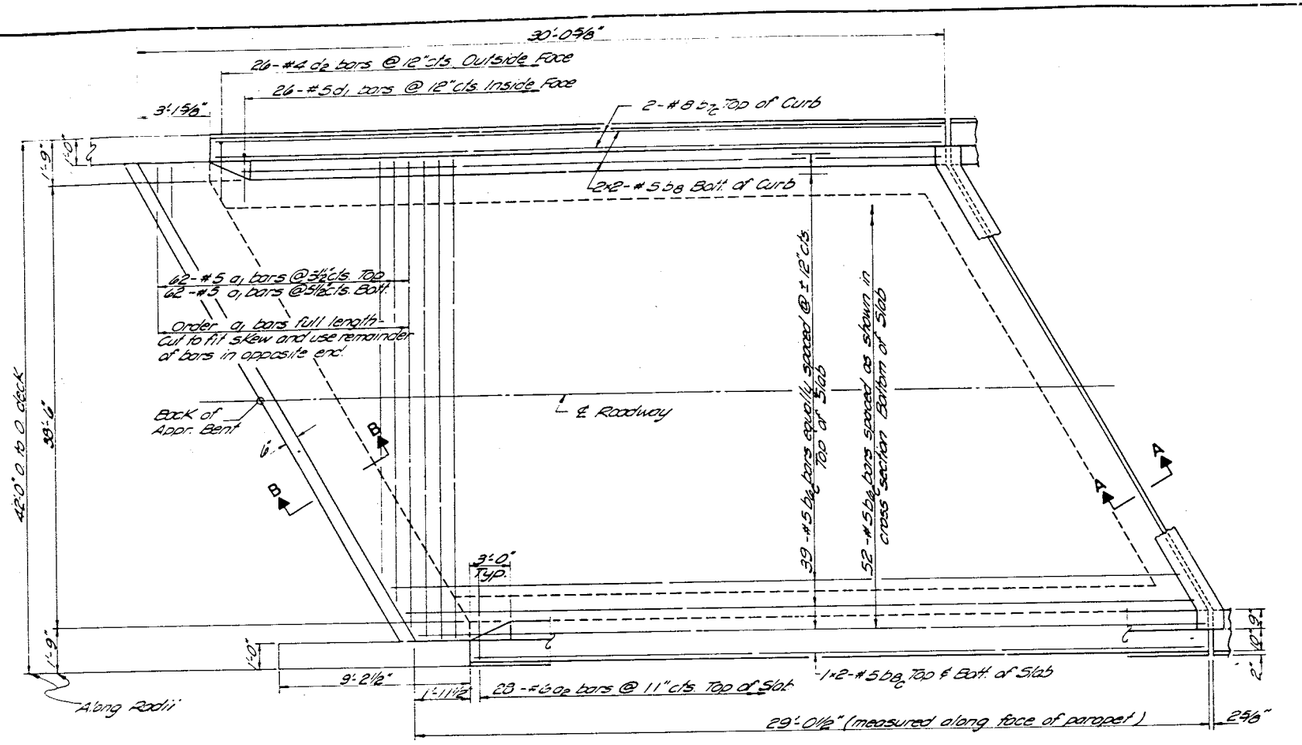
FAI ROUTE 55 SEC. 57-10HB

MC LEAN COUNTY

STATION 753+54.41

FED. ROAD DIST. NO.	STATE	COUNTY	TOTAL SHEETS	SHEET NO.
		FAI-55 57-10HB McLean	113	126
STA.		TO STA.		
F.A.S. RTE. NO.	ILLINOIS	PROJECT		

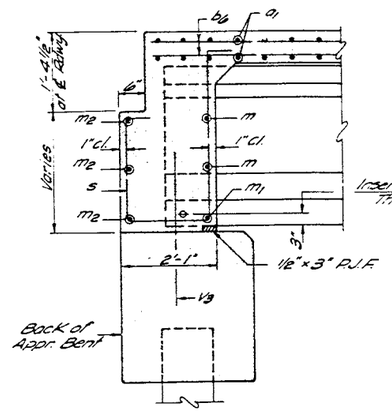
SHEET 3 OF 26 SHEETS



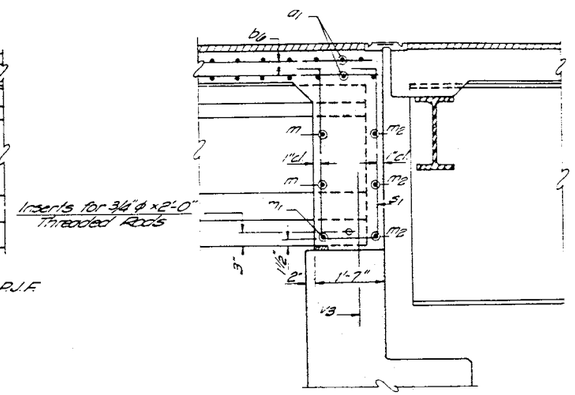
PLAN

North Span Northbound

Note: For details of neoprene exp. Jt. see Detail "A" Sheet # 5



SECTION B-B



Inserts for 3/4"ø x 2'-0" Threaded Rods

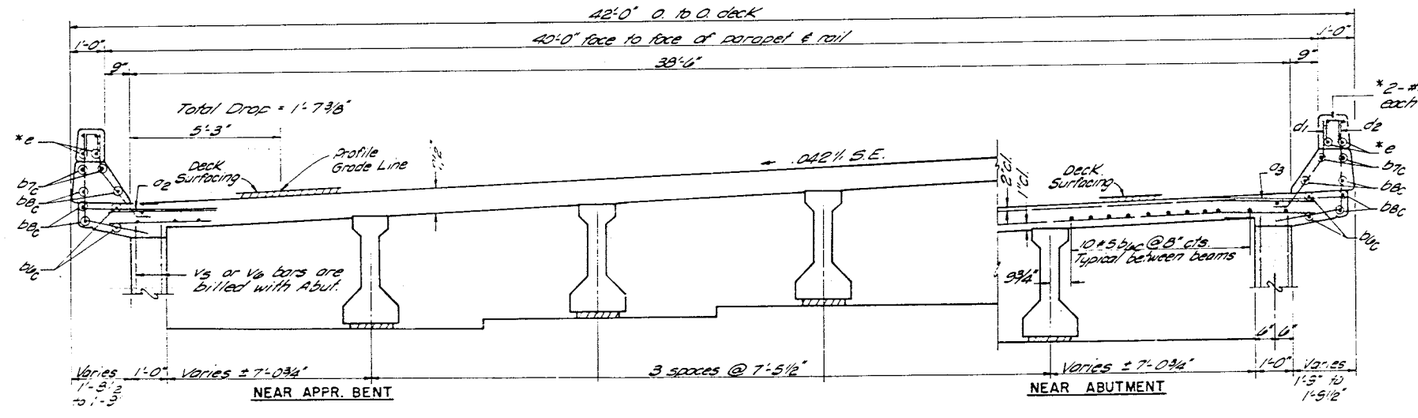
SECTION A-A

ONE APPR. SPAN
BILL OF MATERIAL

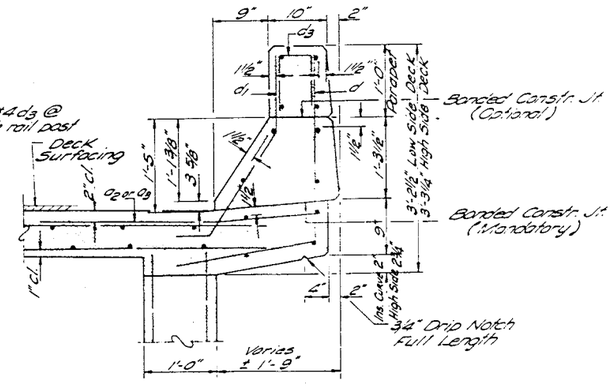
Bar	No.	Size	Length	Shape
a1	124	#5	40'-0"	
a2	28	#6	41'-0"	
a3	28	#6	42'-0"	
b2,c	91	#5	28'-3"	
b7,c	4	#8	26'-6"	
b8,c	16	#5	42'-3"	
c1	52	#5	3'-5"	
c2	52	#4	4'-9"	
m	20	#4	8'-6"	
m1	10	#5	7'-6"	
m2	12	#5	22'-6"	
m3	10	#4	6'-9"	
m4	10	#4	5'-9"	
s	35	#4	7'-9"	
s1	35	#4	8'-9"	
s2	25	#4	6'-10"	
Reinforcement Bars			Lbs.	10,140
Class X Concrete			Cu. Yds.	53.6

* Parapet Reinforcement and Class X Concrete are billed on Sheet # 5

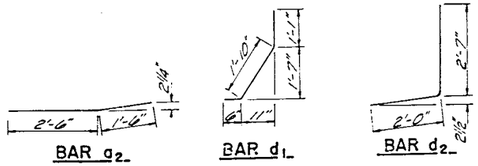
For placement and details of a1 thru a3, m thru m3 and s thru s2 see Sheet # 2



CROSS SECTION



CURB SECTION



Note: See Sheet 4 For Detail Of Deck Surfacing

SUPERSTRUCTURE

NORTH SPAN – NORTHBOUND

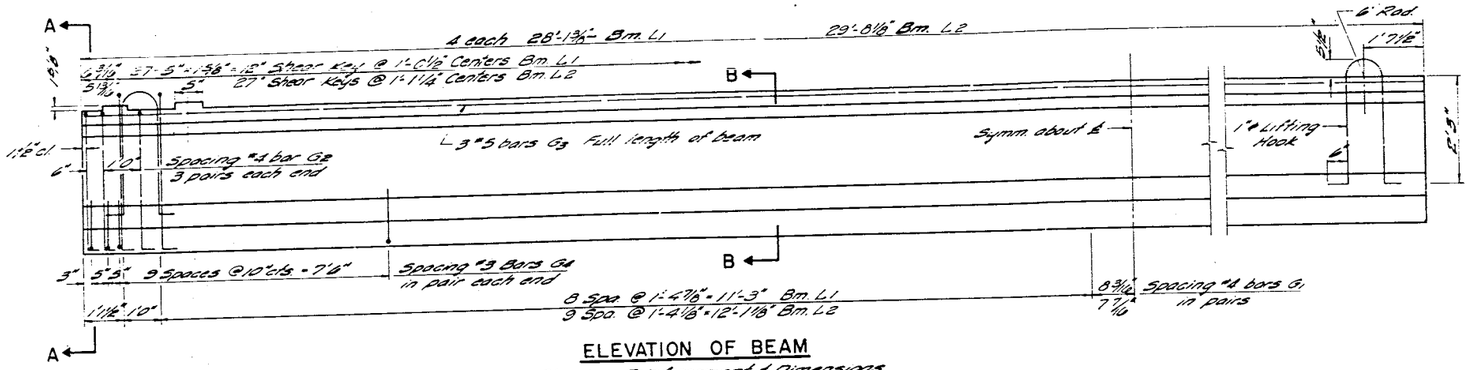
FAI ROUTE 55 SEC. 57-10HB

MC LEAN COUNTY

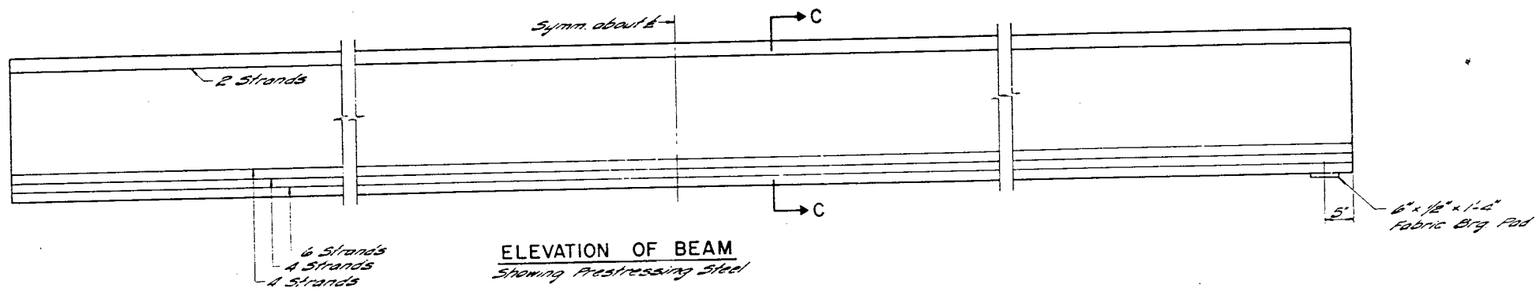
STATION 753+54.41

ROUTE NO.	SEC.	COUNTY	SHEETS	NO.
FAI-55 57-10HB	McLean			
STA.		TO STA.		
F.A.I. REG. NO. 4	ILLINOIS 1	PROJECT		

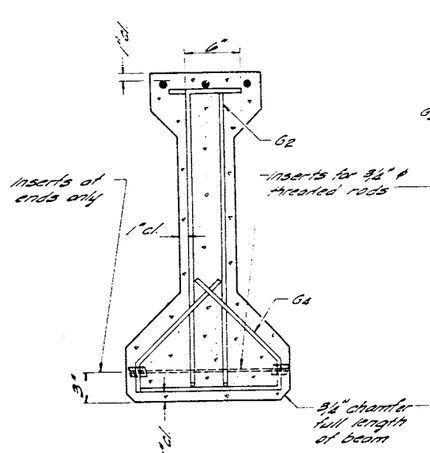
SHEET 10 OF 26 SHEETS



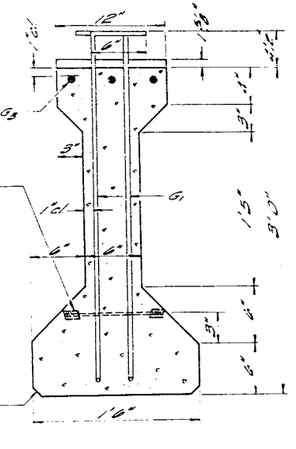
ELEVATION OF BEAM
Showing Reinforcement & Dimensions



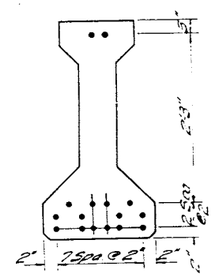
ELEVATION OF BEAM
Showing Prestressing Steel



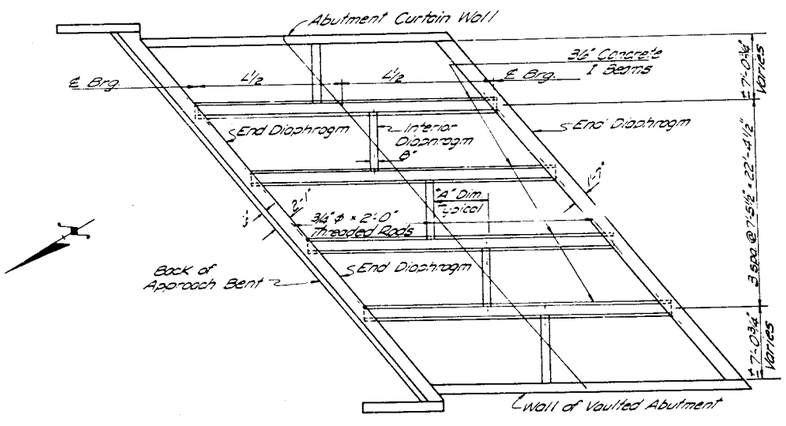
SECTION A-A



SECTION B-B



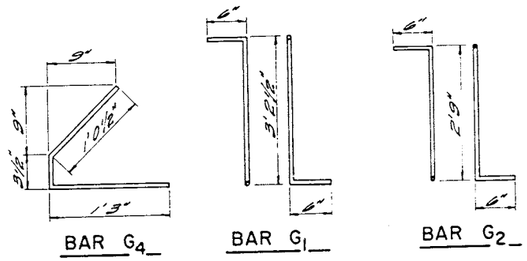
SECTION C-C



FRAMING PLAN

Beam L1: L = 27'-3 3/8" A = 5'-11 3/8" North Span Northbound Roadway
Beam L2: L = 28'-10 1/8" A = 6'-2 3/8" North Span Southbound Roadway
Four of each beam required

Note:
Beams are to be set parallel to the chord of the line designated as profile grade line (44'-0" from ℄ of Median) See Abutment and Approach Bent Sheet 20 or 22 of 26 Sheets.



BAR G_4 BAR G_1 BAR G_2

NOTES

All inserts and threaded rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per linear foot of "Furnishing And Erecting Precast Prestressed Concrete I-Beams, 36 in."

See Standard Specifications for additional information regarding materials, Prestressing equipment, construction and handling methods and other requirements for Precast Prestressed Concrete I-Beams.

Prestressing Steel shall have a nominal diameter of 7/16".

Inserts for 3/4" ϕ threaded rods are to be two strut, coil type for interior I-Beams and single rail, flared loop type for exterior I-Beams.

Steel for lifting hooks shall be A.S.T.M. A-306, Grade 70-80.

An alternate strand pattern using Extra High Strength Prestressing Strand (270 ksi) is permitted See Special Provisions.

BAR LIST

	Bar	No	Size	Length	Shape
Beam L1	G1	40	#4	4'-2 1/2"	⌐⌐
	G2	12	#4	3'-9"	⌐⌐
	G3	3	#5	27'-6"	—
	G4	48	#3	2'-7"	⌐
Beam L2	G1	40	#4	4'-2 1/2"	⌐⌐
	G2	12	#4	3'-9"	⌐⌐
	G3	3	#5	30'-3"	—
	G4	48	#3	2'-7"	⌐

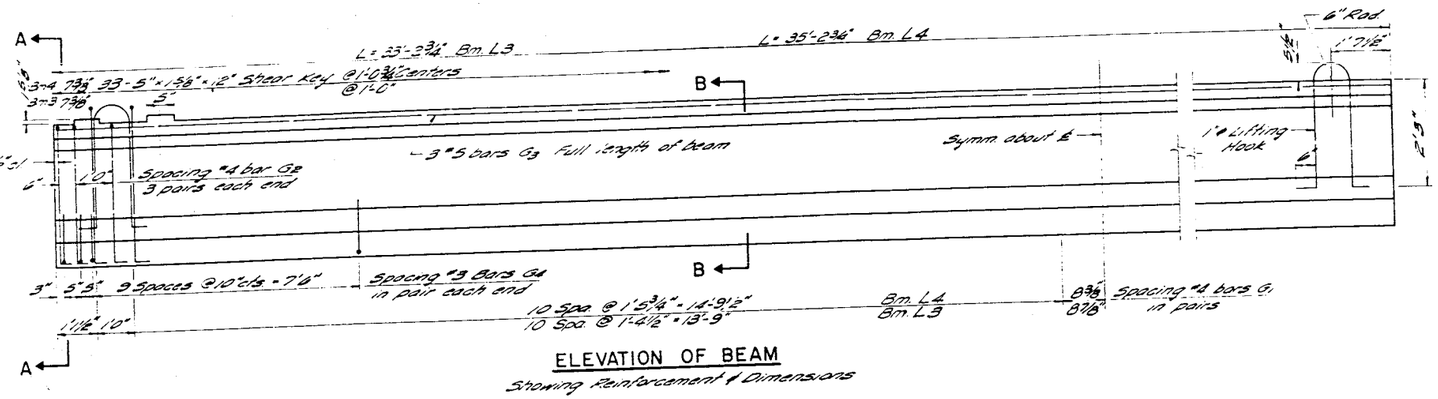
BILL OF MATERIAL *For Each Span

Item	Unit	Total
Furnishing & Erecting Precast Prestressed Concrete I-Beams, 36"	Lin. Ft.	231

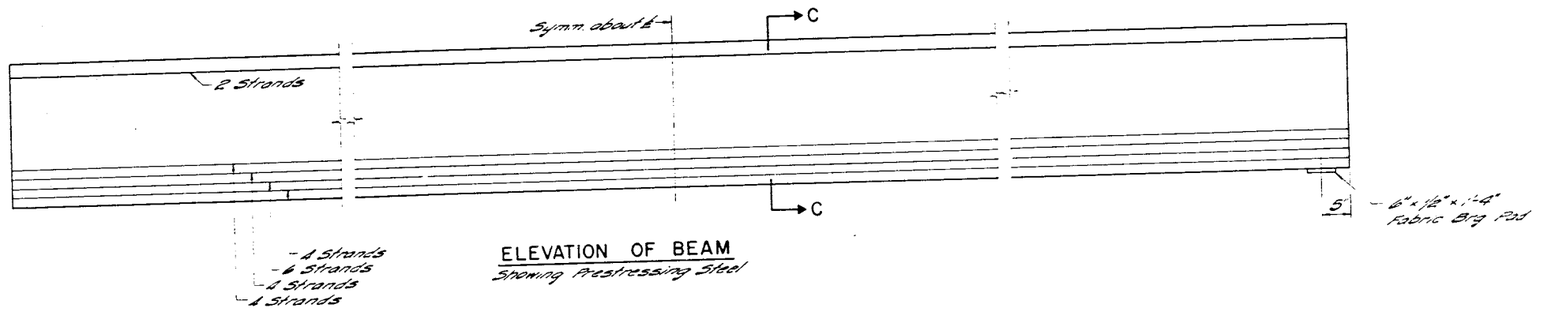
NORTH APPR. SPANS
PRESTRESSED I-BM. DETAILS
F.A.I. ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

STATE ILL.	FED. AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
	FAI-55	57-10HB	McLean	26	11
STA.		TO STA.			
BFE REG. NO. 4		ILLINOIS	PROJECT		

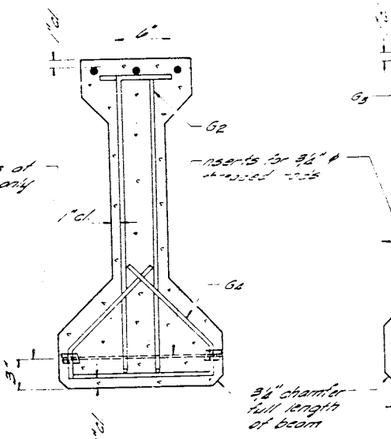
SHEET 11 OF 26 SHEETS



ELEVATION OF BEAM
Showing Reinforcement & Dimensions

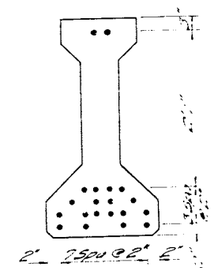


ELEVATION OF BEAM
Showing Prestressing Steel

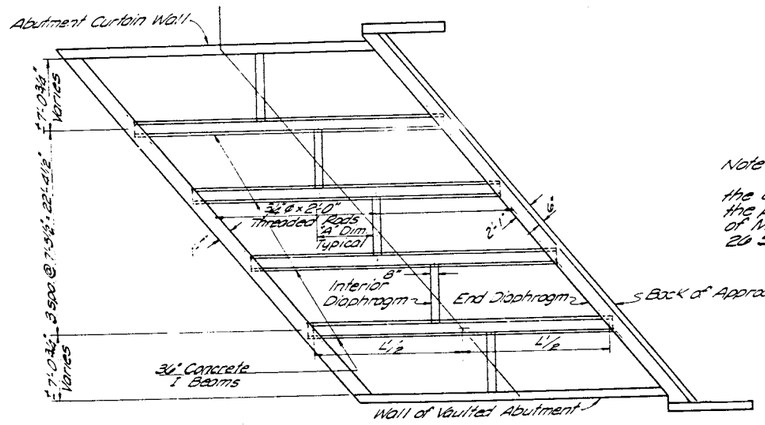


SECTION A-A

SECTION B-B



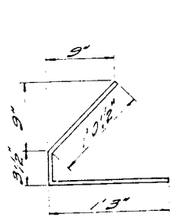
SECTION C-C



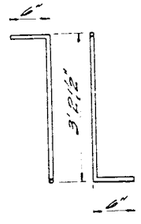
FRAMING PLAN

Beam L3: L = 32'-4 3/4" A = 6'-6 3/4" South Span Northbound Roadway
Beam L4: L = 34'-4 3/4" A = 6'-10 1/8" South Span Southbound Roadway
Four of each beam required

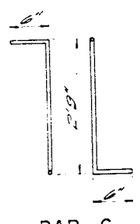
Note: Beams are to be set parallel to the chord of the line designated as the profile grade line (44'-0" from ℄ of Median) See Sheets 19 & 21 of 26 Sheets.



BAR G_4



BAR G_1



BAR G_2

NOTES

All inserts and threaded rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per linear foot of "Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36 In."

See Standard Specifications for additional information regarding materials, Prestressing equipment, construction and handling methods and other requirements for Precast Prestressed Concrete I-Beams.

Prestressing Steel shall have a nominal diameter of 7/16".

Inserts for 3/4" ø threaded rods are to be two strut, coil type for interior I-Beams and single coil, flared legg type for exterior I-Beams.

Steel for lifting hooks shall A.S.T.M., A 306 Grade 70-80.

An alternate strand pattern using Extra High Strength Prestressing Strand (270 KSI) is permitted See Special Provisions.

* BAR LIST

	Bar	No	Size	Length	Shape
Beam L4	G1	48	#4	42'6"	
	G2	2	#4	3'9"	
	G3	3	#5	35'3"	
	G4	48	#3	2'7"	
Beam L3	G1	48	#4	42'6"	
	G2	12	#4	3'9"	
	G3	3	#5	32'0"	
	G4	48	#3	2'7"	

BILL OF MATERIAL * For Each Beam

Item	Unit	Total
Furnishing & Erecting Precast Prestressed Concrete I-Beams, 36"	Lin. Ft.	274

SOUTH APPR. SPANS
PRESTRESSED I-BM. DETAILS

F.A.I. ROUTE 55 SEC. 57-10HB

MC LEAN COUNTY

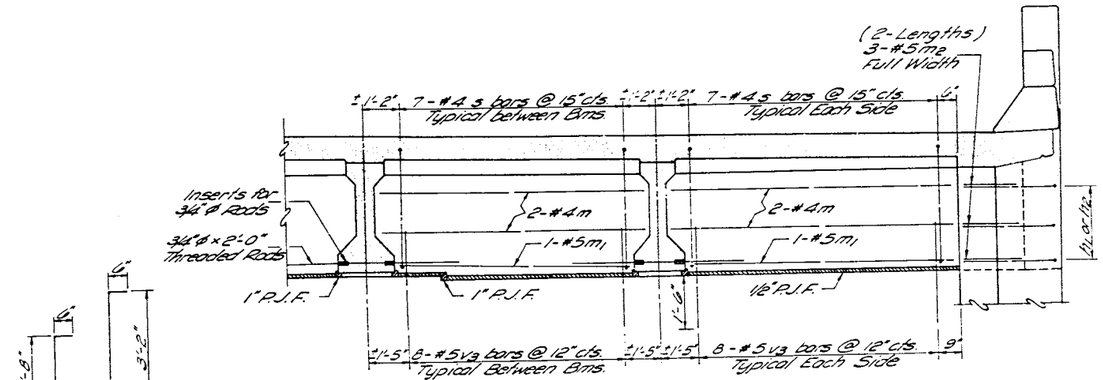
STATION 753+54.41

F.A.I. RTE. NO.	SEC	COUNTY	TOTAL SHEETS	SHEET NO.
441-55 57-10HB		McLean	26	27
STA.		TO STA.		
B.P.R. SEC. NO. 6		ILLINOIS PROJECT		

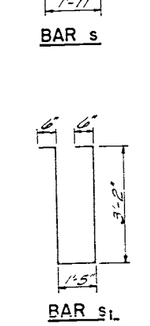
SHEET 12 OF 26 SHEETS

BEAM #	LOCATION	LENGTH	A	B	C
L1	North Bound N. Abutment	28'-1 7/8"	1'-9 3/4"	1'-3 3/4"	1'-2 1/8"
L2	South Bound N. Abutment	29'-0 1/8"	2'-1 5/8"	1'-4 1/8"	1'-5 3/4"
L3	North Bound S. Abutment	33'-2 3/4"	1'-10 7/8"	1'-5"	1'-2 7/8"
L4	South Bound S. Abutment	35'-2 3/8"	1'-11 1/2"	1'-5 3/4"	1'-3 3/8"

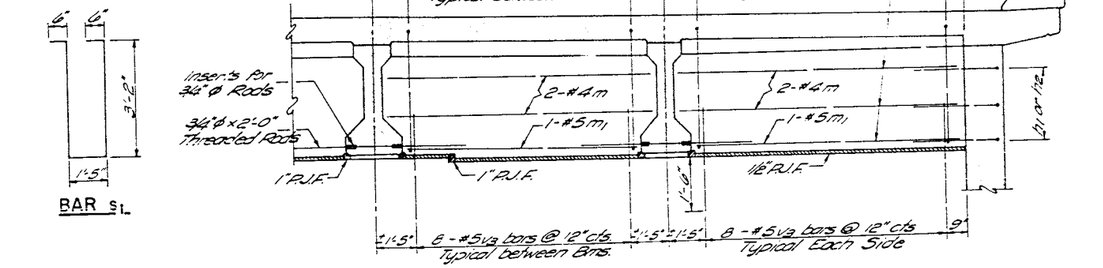
Note: Beams are set parallel to the chord of the line designated as profile grade line (44'-0" from the ℄ Median.)



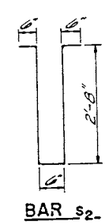
DIAPHRAGM AT APPROACH BENT



BAR s

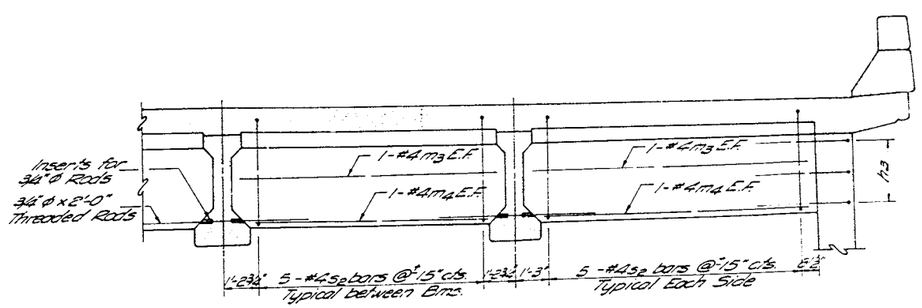


DIAPHRAGM AT ABUTMENT

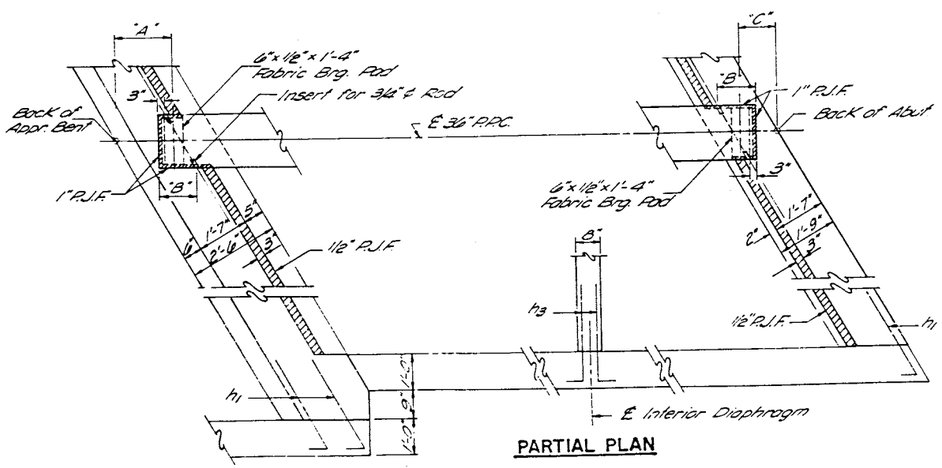


BAR s_1

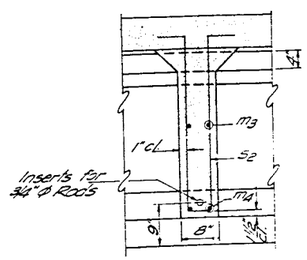
BAR s_2



INTERIOR DIAPHRAGM



PARTIAL PLAN



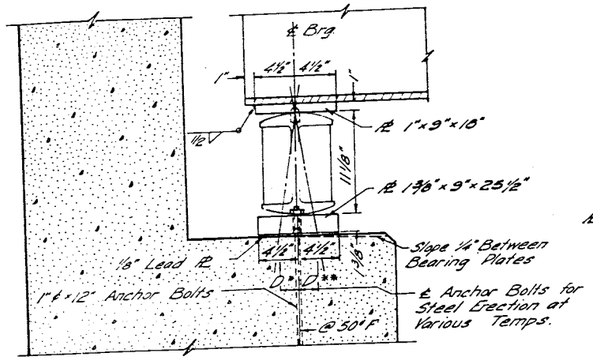
SECTION THRU INTERIOR DIAPHRAGM

Notes:
Bars s thru s_2 and m thru m_5 are billed with Approach Slab Bill of Material on Sheets # 6 thru 9

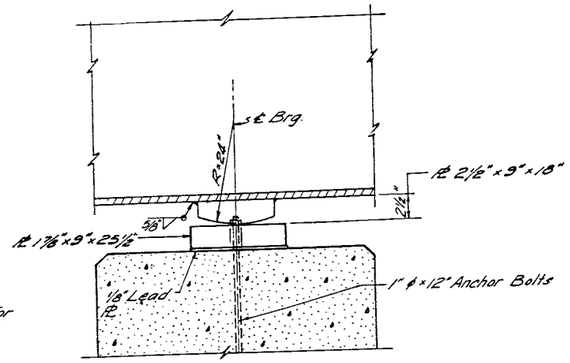
Bars h_1, h_2, h_3 & v_3 are billed with Abutment Bill of Material on Sheet # 19 thru 22

See Sheets # 6 thru 9 for sections thru abutment and approach bent diaphragms.

PRESTRESSED I-BEAM
DIAPHRAGM & BEARING DETAILS
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41



ELEVATION



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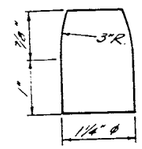
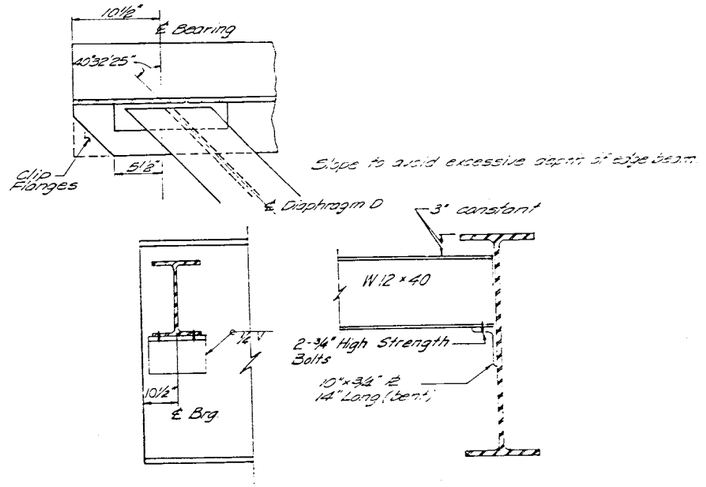
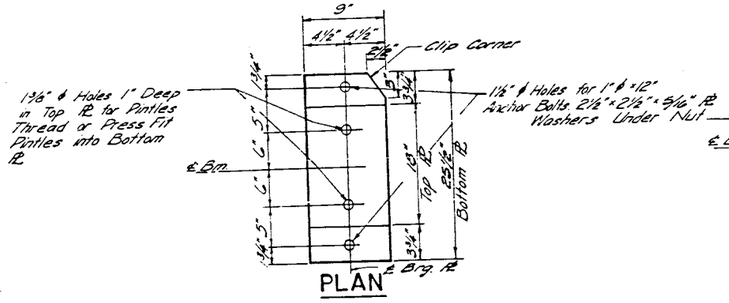


PINTLE

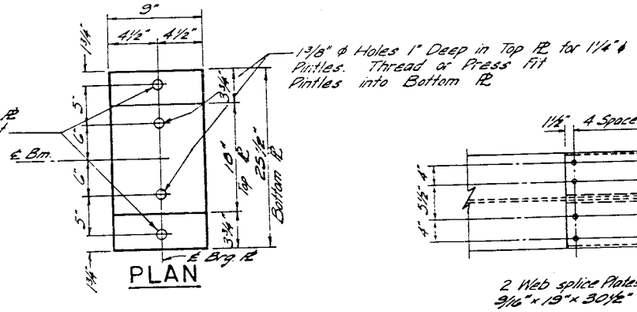


DIAPHRAGM D

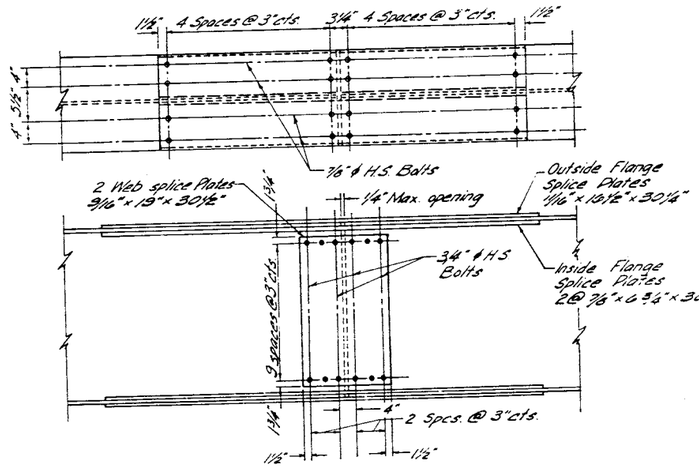
20 Required
Lengths vary See Sheet 16



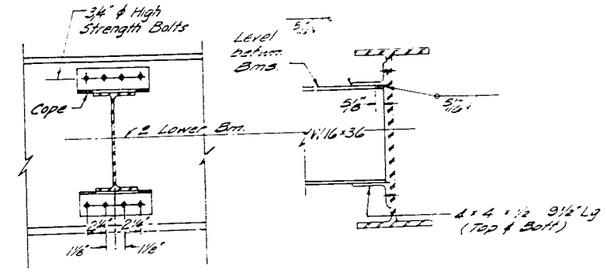
PLAN



PLAN

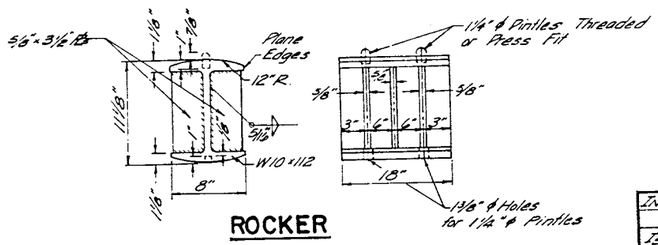


SPLICE DETAIL



DIAPHRAGM D1

70 Required



ROCKER

INT BEAM MOMENT TABLE		
	0.4 Span	Pier
I_S (in⁴)	14998.4	14998.4
S_B (in³)	835.5	835.5
DL (K/ℓ)	1.39	1.39
M_{DL} (1-K)	530.1	343.0
M_{LL} (1-K)	548.4	308.7
M_{IMP} (1-K)	130.2	77.8
M Total (1-K)	1216.7	1329.5
f_B Total (KSI)	17.5	19.4

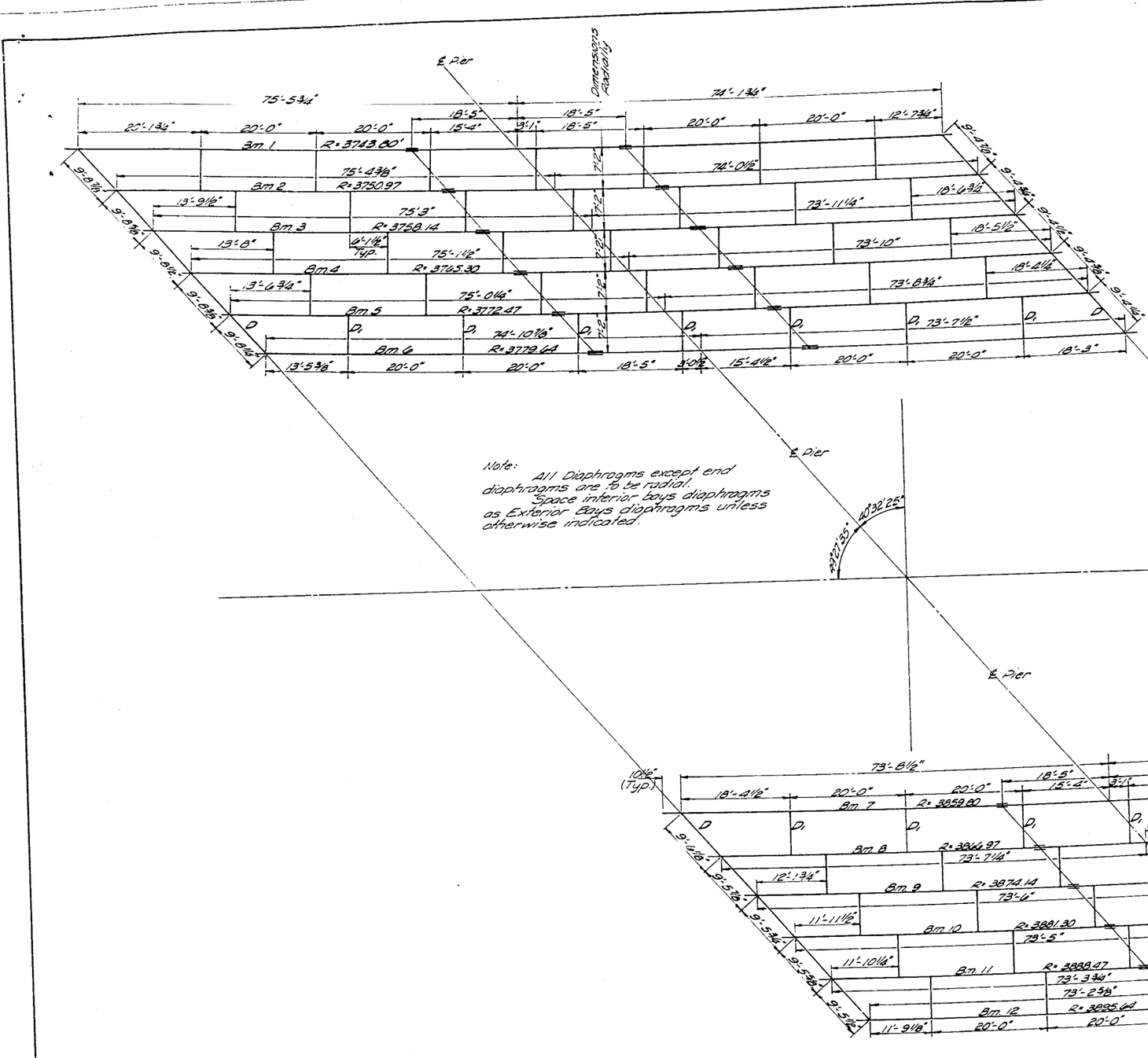
INT BEAM REACTION TABLE		
	Abut.	Pier
R_{DL} (K)	38.4	120.0
R_{LL} (K)	39.8	45.7
I_{MP} (K)	10.0	11.5
R_{TOTAL} K	88.2	185.2

NOTES FOR SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS:

a. D* (Side of brg away from fixed brg)
D* = 1/8" per each 100° of Expansion for every 15° fall below the normal temp. of 50°F.
D** (Side of brg toward fixed brg)
D** = 1/8" per each 100° of Expansion for every 15° rise above the normal temp. of 50°F.

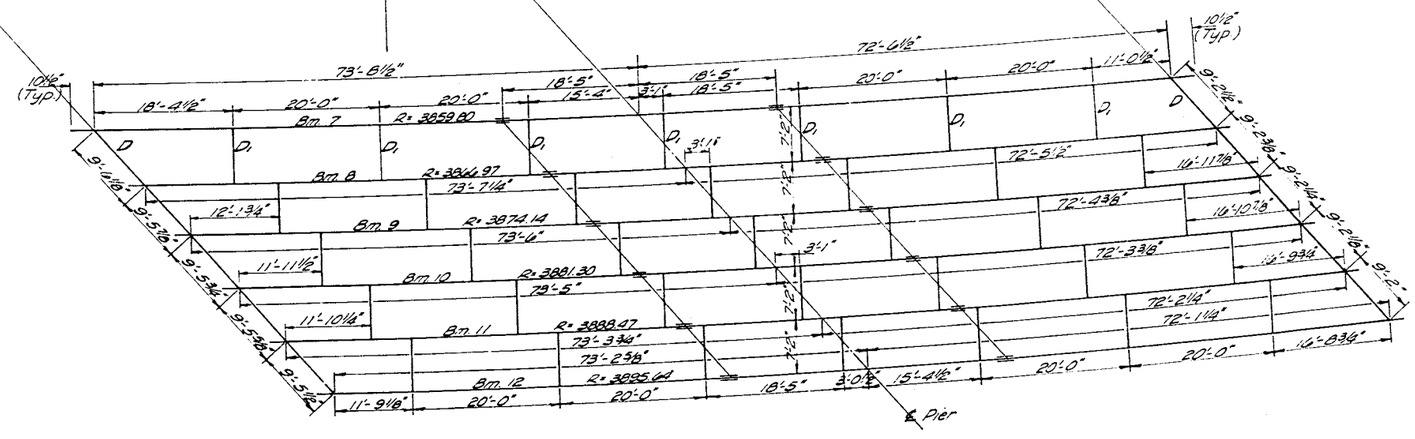
b. After beams have been erected and dimensions D* & D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

STEEL BEAM DETAILS
FAI ROUTE 55 SEC. 57-10 HB
MC LEAN COUNTY
STA. 753+54.41



TOP OF BEAM ELEVATIONS

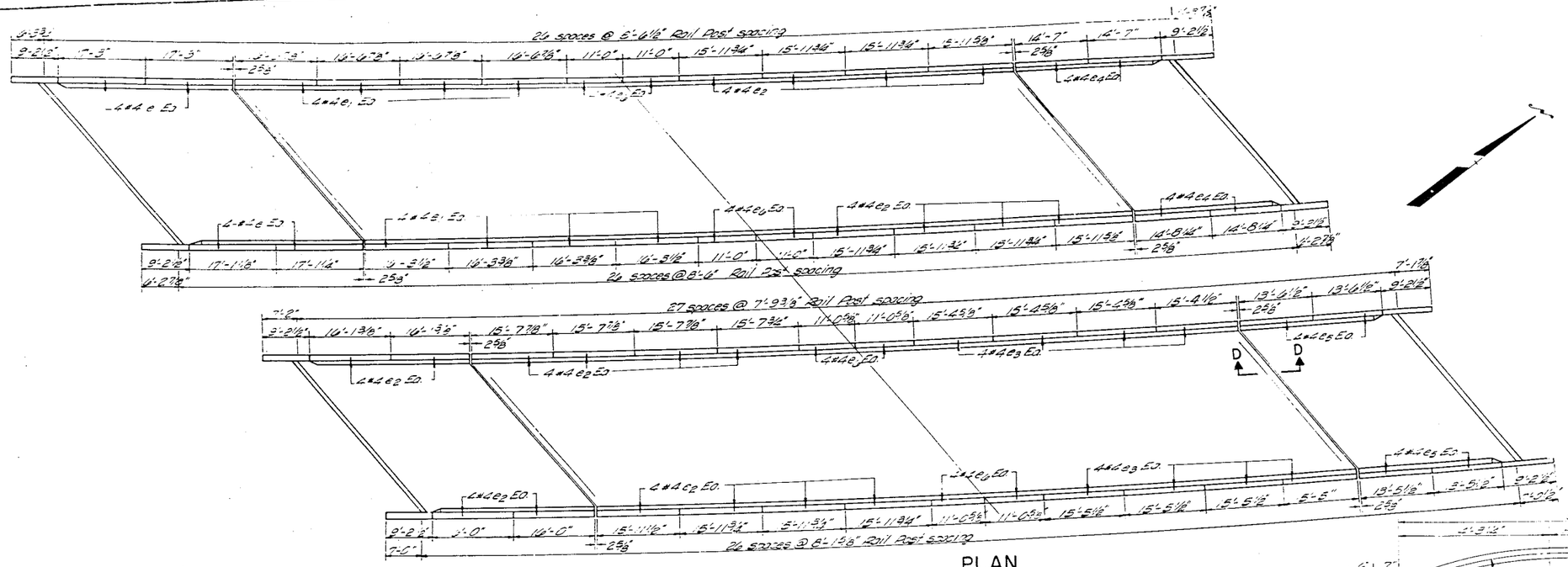
	BEAM NO.	SOUTH ABUT.	SPLICE #1	PIER	SPLICE #2	NORTH ABUT.
SOUTHBOUND	1	714.695	714.945	714.955	714.965	715.015
	2	715.215	715.255	715.245	715.275	715.315
	3	715.525	715.555	715.545	715.575	715.615
	4	715.635	715.655	715.645	715.675	715.915
	5	716.145	716.165	716.175	716.185	716.215
	6	716.455	716.465	716.475	716.485	716.505
NORTHBOUND	7	716.185	716.155	716.145	716.135	716.105
	8	716.485	716.450	716.435	716.420	716.405
	9	716.795	716.745	716.735	716.725	716.695
	10	717.095	717.040	717.025	717.010	716.985
	11	717.395	717.340	717.325	717.310	717.275
	12	717.695	717.645	717.625	717.605	717.565



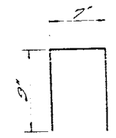
STRUCTURAL STEEL LAYOUT
ALL BEAMS W36 x 230

BEAM LAYOUT

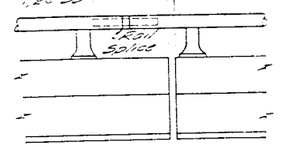
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41



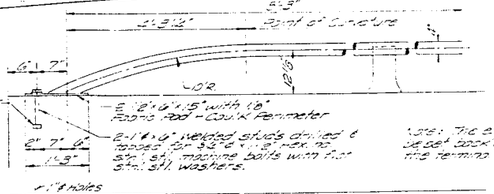
PLAN



BAR d_2

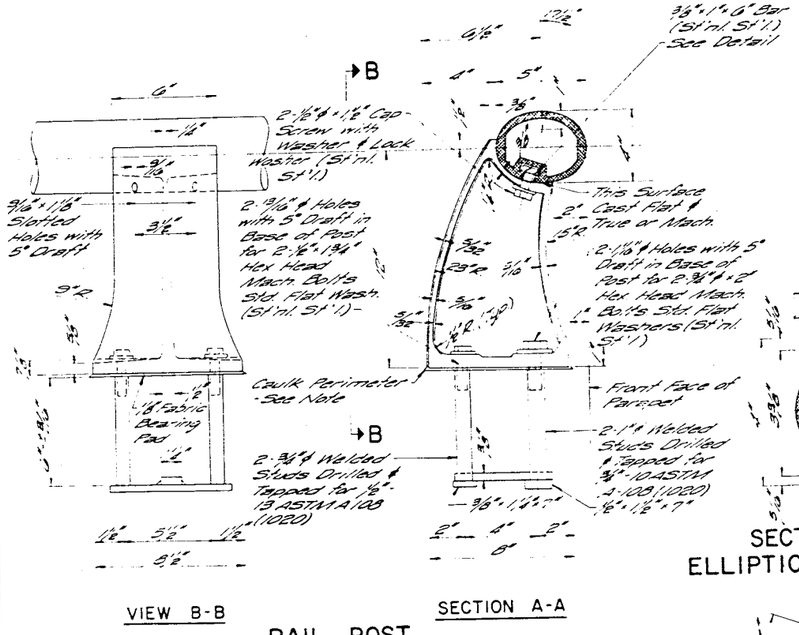


VIEW D-D



NOTE: THE BARS 'e' AND 'f' SHALL BE BENT BACK TO 'BE' AND 'BF' AFTER REMOVAL OF SECTION.

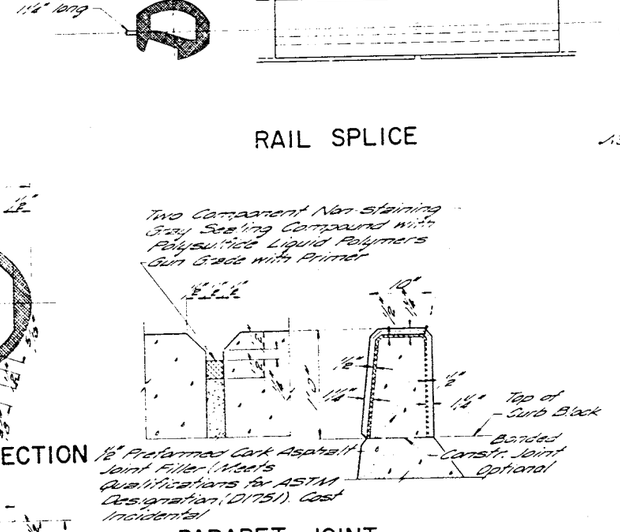
BRIDGE RAIL TERMINAL SECTION



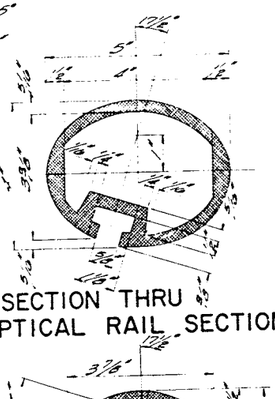
VIEW B-B

SECTION A-A

RAIL POST

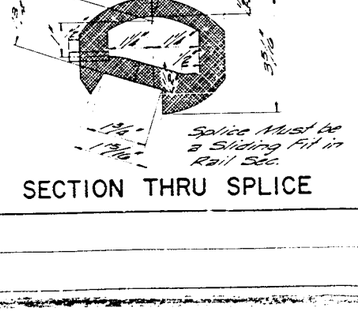


RAIL SPLICE

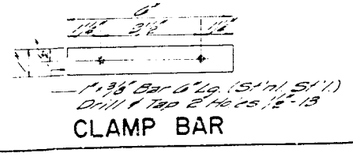


SECTION THRU ELLIPTICAL RAIL SECTION

PARAPET JOINT



SECTION THRU SPLICE



CLAMP BAR

All posts shall be normal to parapet.

All aluminum alloy extruded rail and contain to ASTM Specification B-221 alloy 6061-T6 and shall be supplied in mill lengths of 30' flat, except at the end of bridge. Clear post joints in bridge deck where the rail and be embedded to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular spans may be reduced but shall be erected to a minimum of 12 posts.

All joints in rail and be soldered and ground.

Provide 1-1/8" and 2-1/8" aluminum shims for post of the posts.

Rail element shall be parallel to grade. Top posts shall be ground and low posts shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

Aluminum alloy shall have minimum yielding strength 35 K.S.I., minimum tensile strength 38 K.S.I., and elongation of 10% in 2 inches.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
e	18	#4	10'-3"	
f	32	#4	0'-4"	
e2	80	#4	15'-9"	
e3	32	#4	5'-5"	
e4	0	#4	14'-5"	
e5	18	#4	12'-9"	
e6	32	#4	10'-9"	
f3	2'0	#4	2'-1"	

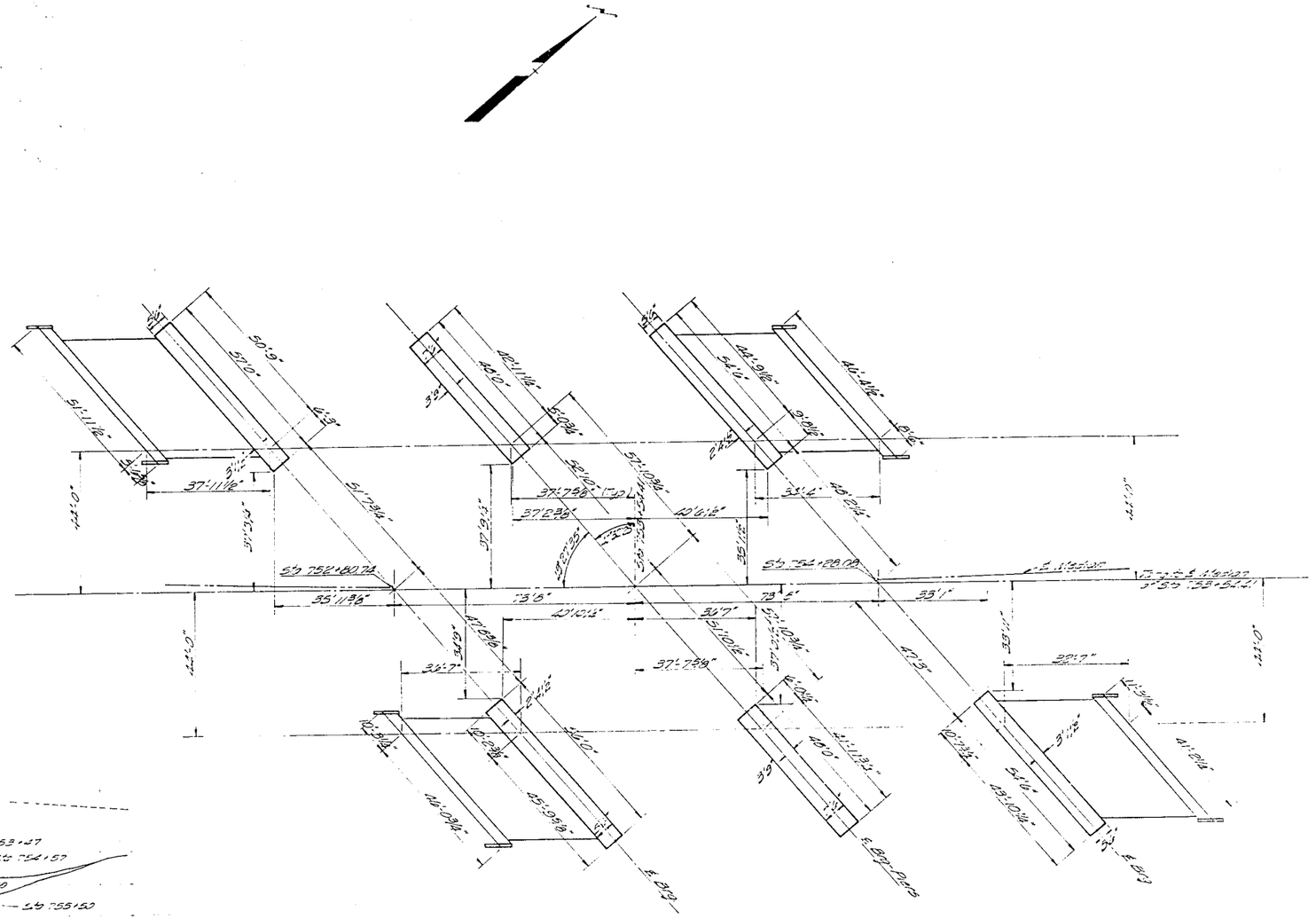
Class X Concrete (Y)	22.5 C.Y.
Reinforcement Bars #4	[illegible]
Aluminum Railing	4.5 L.F.

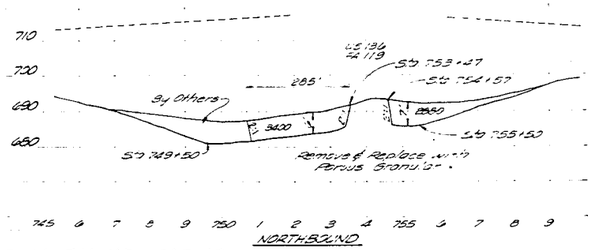
PARAPET & ALUMINUM RAILING

FAI ROUTE 55 SECTION 57-10HB

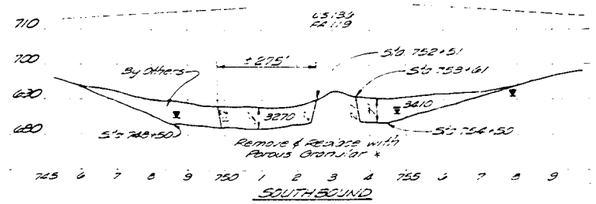
MC LEAN COUNTY

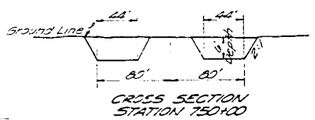
STATION 753+54.41





* Water Table At Time Of Soil Survey
* Place Porous Granular Material to 2' Above The Water Table At Time Of Construction





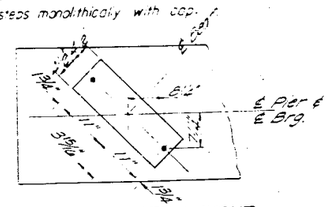
CROSS SECTION
STATION 750+00

FOOTING LAYOUT

FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

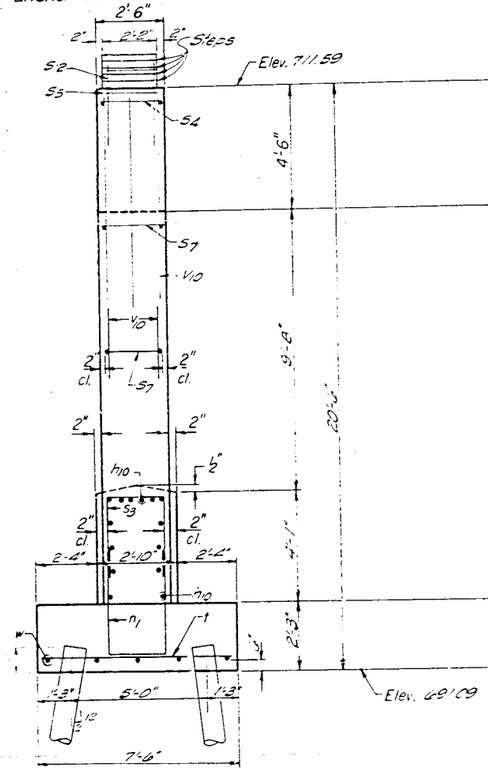
NOTES

Space reinforcement in cap to miss anchor bolts.
All edges shall have standard ¾ chamfers except as noted.
Pour steps monolithically with cap.



BEARING PLATE LAYOUT

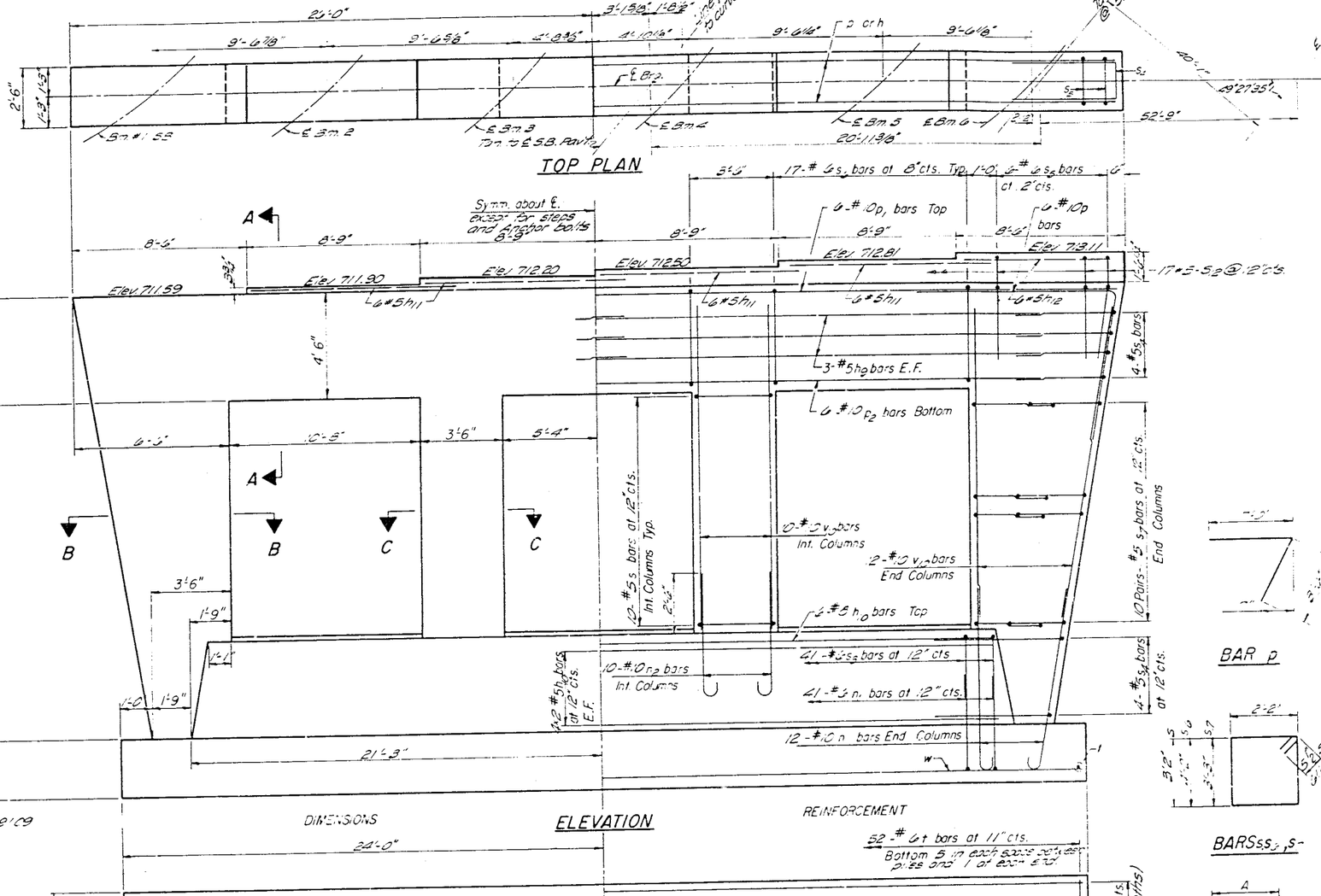
Dimensions typical for setting all anchor bolts for Southbound Pier

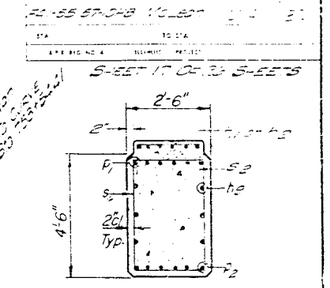


END VIEW

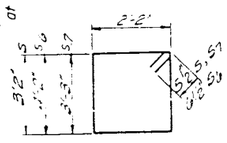
PILE DATA

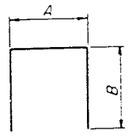
Type - Concrete
Capacity 29 Tons
Est. Length 48'-0"
No. Required 22 (Including 1 Test pile)





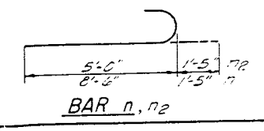
BAR p





A & B DIMENSIONS

Bar	A	B
n1	2'-6"	3'-9"
s2	2'-6"	5'-0"
s4	2'-0½"	5'-1½"
s5	2'-2"	4'-0"
s12	1'-10"	1'-0"



BILL OF MATERIAL

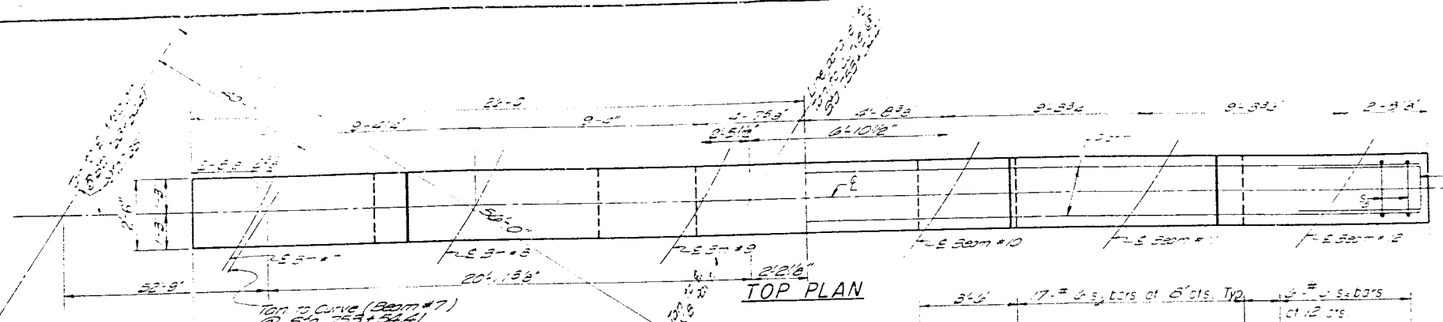
Bar	No.	Size	Length	Shape
n3	5	#8	40'-0"	
n2	2	#5	22'-0"	
h9	16	#5	2'-3"	
n	84	#5	5'-0"	
n2	5	#5	5'-3"	
n	84	#10	2'-11"	
n1	41	#5	5'-0"	
n2	20	#10	5'-5"	
p	12	#5	10'-0"	
p1	5	#5	25'-0"	
p2	5	#5	42'-0"	
s	20	#5	11'-0"	
s3	41	#5	2'-0"	
s4	10	#5	3'-3"	
s5	2	#5	5'-0"	
s6	51	#5	3'-3"	
s7	20	#5	11'-3"	
s12	17	#5	5'-0"	
t	52	#6	7'-3"	
v10	42	#10	5'-0"	
w	10	#5	20'-0"	
Class X Concrete			Cu. Yds.	22.5
Reinforcement Bars			Lbs.	5,400
Concrete Piles			Lin. Ft.	1,008
Test Piles-Concrete			Each	1

PIER

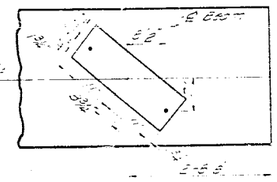
SOUTHBOUND STRUCTURE
FAI ROUTE 55 SEC. 57-1CHB
MC LEAN COUNTY
STATION 753+54.41

NOTES

Space reinforcement in cap to miss anchor bolts.
All edges shall have standard 4 chamfers except as noted.
Pair steps installed with cap

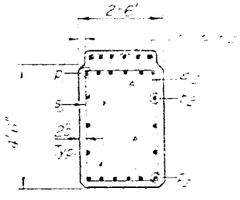


TOP PLAN

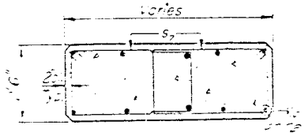


BEARING PLATE LAYOUT

Dimensions typical for 18 bearing location, see note

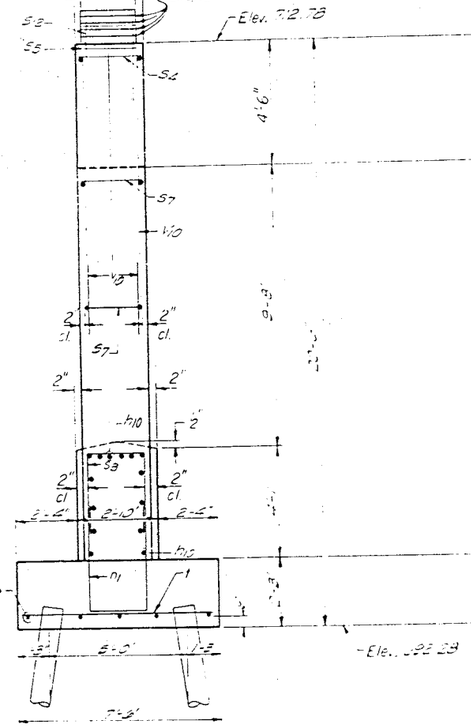


SECTION A-A

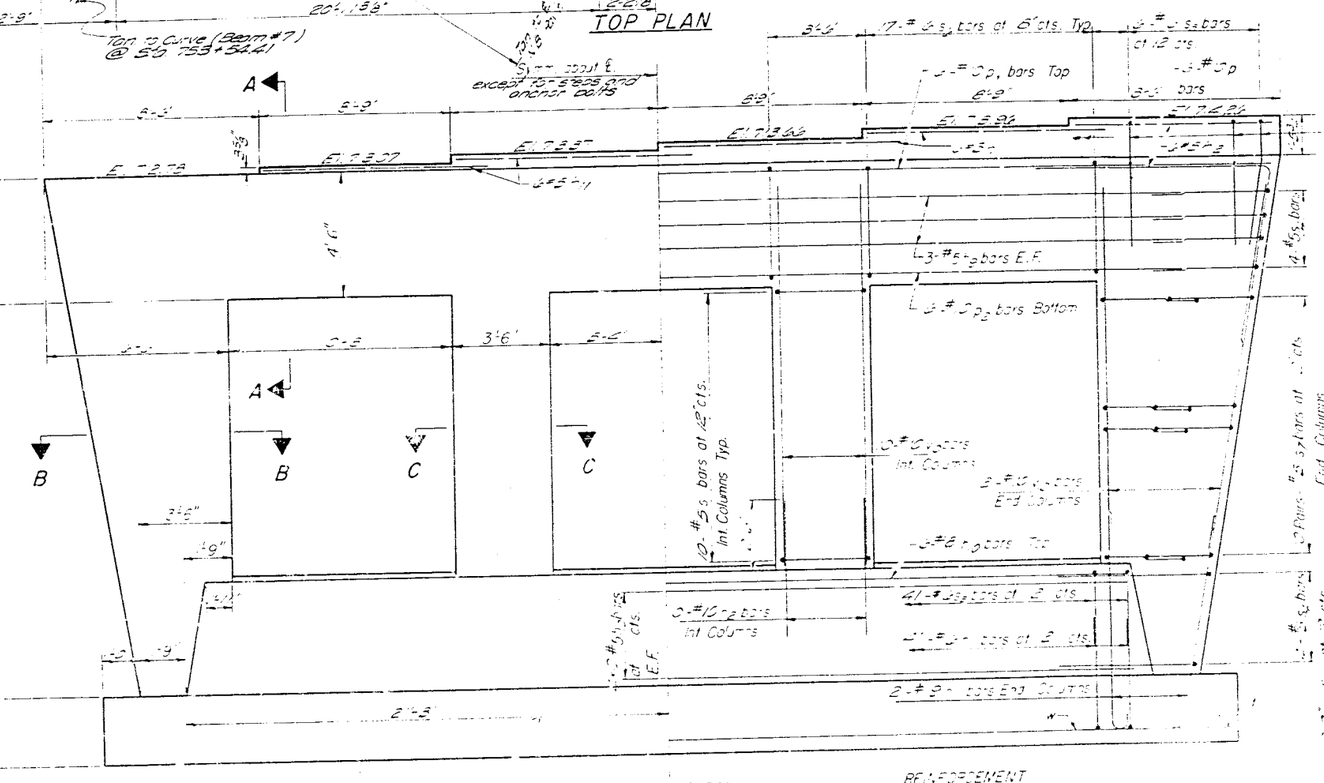


SECTION B-B

SECTION C-C

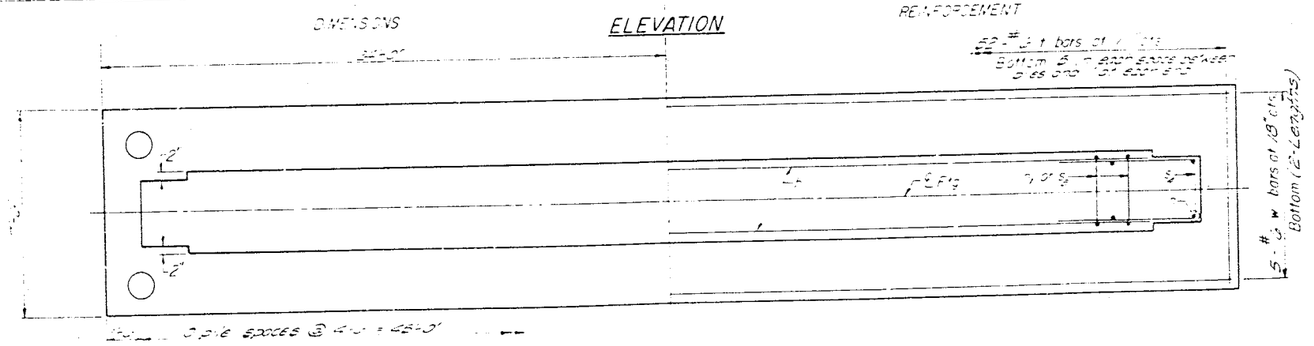


END VIEW



ELEVATION

REINFORCEMENT

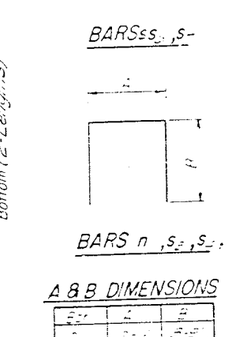


FOOTING PLAN

PILE LAYOUT & DIMENSIONS

REINFORCEMENT

BAR D



BARS s_1, s_3

BARS n, s_2, s_4, s_5, s_6

BAR n, n_2

PILE DATA

Type - Concrete
Capacity 23 Tons
Est length 48'-0"
No required 22

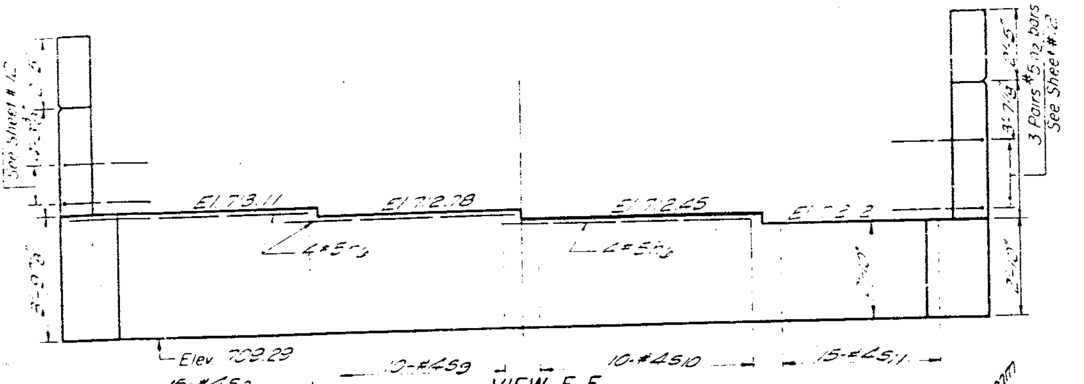
A & B DIMENSIONS

	A	B
S_1	2'-0"	3'-6"
S_2	2'-0"	3'-6"
S_3	2'-0"	3'-6"
S_4	2'-0"	4'-0"
S_5	2'-0"	4'-0"

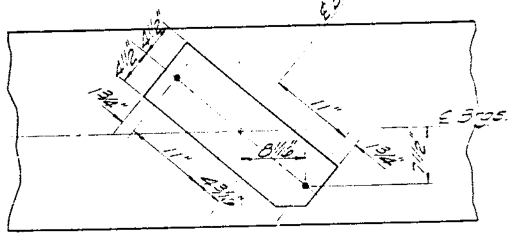
BILL OF MATERIAL

Bar	No.	Size	Type	Length
S_1	22	#6		
S_2	22	#5		
S_3	22	#5		
S_4	22	#5		
S_5	22	#5		
S_6	22	#5		
S_7	22	#5		
S_8	22	#5		
S_9	22	#5		
S_{10}	22	#5		
S_{11}	22	#5		
S_{12}	22	#5		
S_{13}	22	#5		

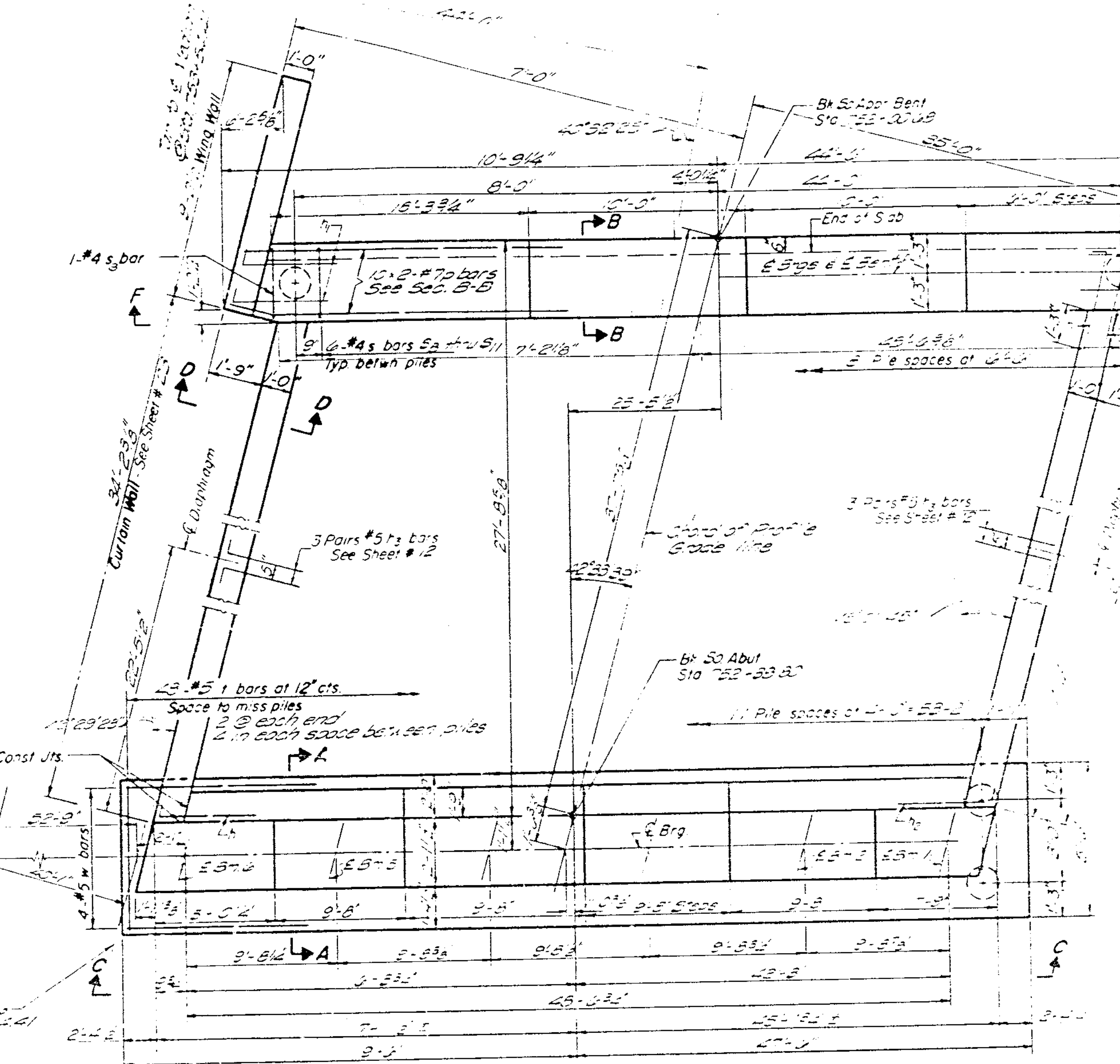
SHEET 9 OF 2[illegible] SHEETS



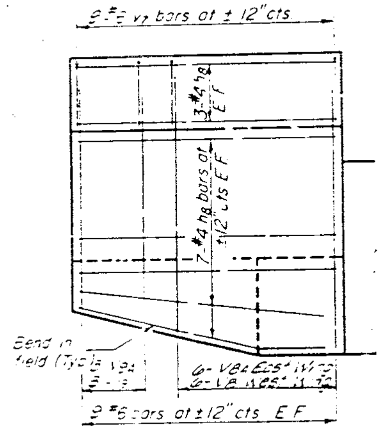
VIEW F-F



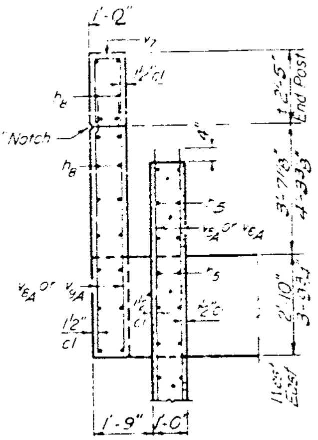
ANCHOR BOLT LOCATION
Steel Beams



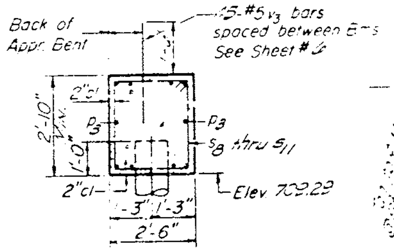
PLAN



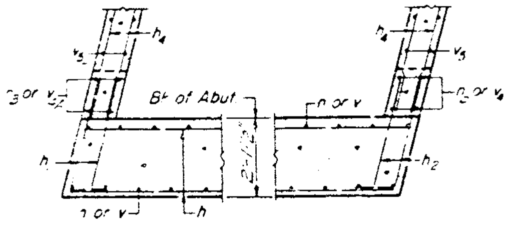
WING WALL REINFORCEMENT



SECTION D-D



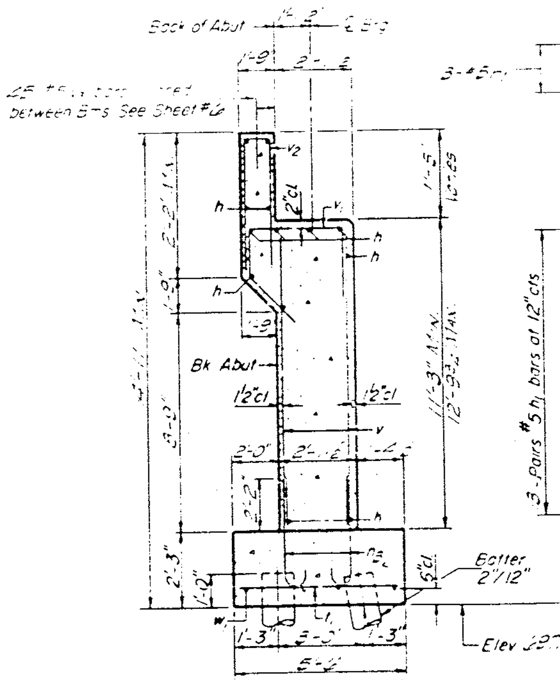
SECTION B-B



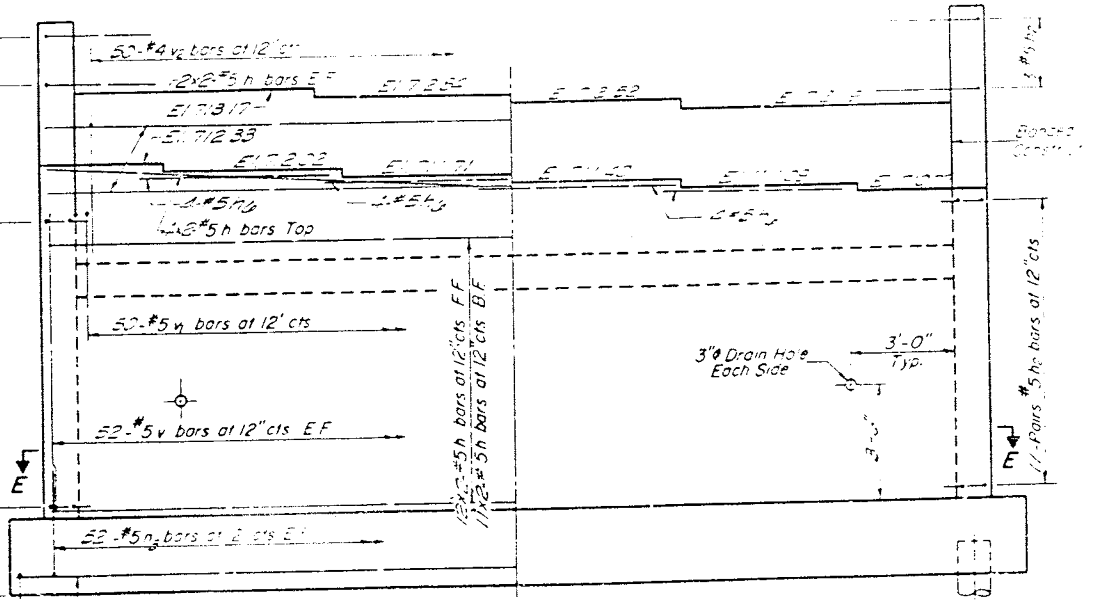
SECTION E-E

PILE DATA

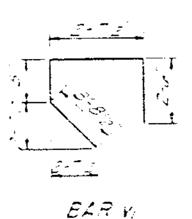
Type - Concrete
Capacity 29 Tons
Est Length 63 Bent
Number 9 Bent
Est Length 23 Abut
Number 22 Abut
Including 1 Test pile



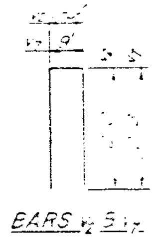
SECTION A-A



VIEW C-C



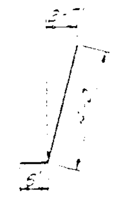
BAR v1



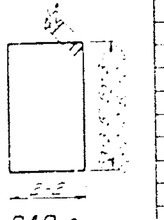
BARS v2 & v7

BAR h3

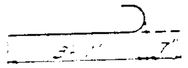
BAR h1



BAR h2



BAR s



BAR n3

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
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[illegible]	[illegible]	#5	[illegible]	
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[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	#5	[illegible]	
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[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	#5	[illegible]	
[illegible]	[illegible]	#5	[illegible]	
[illegible]	[illegible]	#7	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	#4	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	#5	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	#5	[illegible]	
[illegible]	[illegible]	#5	[illegible]	
[illegible]	[illegible]	#5	[illegible]	
[illegible]	[illegible]	#5	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
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[illegible]	[illegible]	[illegible]	[illegible]	
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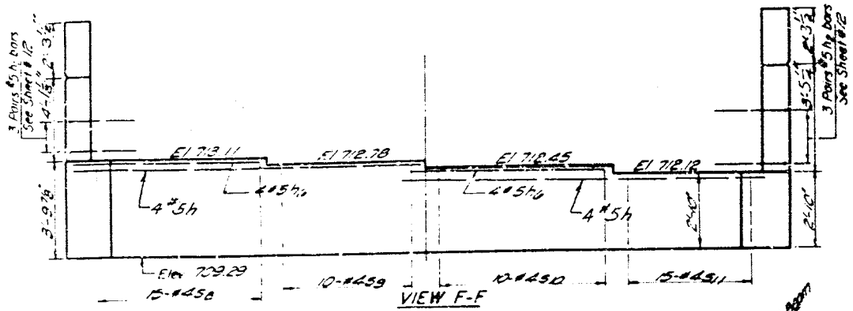
[illegible]	[illegible]	#5	[illegible]	
Reinforcement Bars			[illegible]	[illegible]
Class X Concrete			[illegible]	[illegible]
Concrete Piles			[illegible]	[illegible]
Test Piles Concrete			[illegible]	

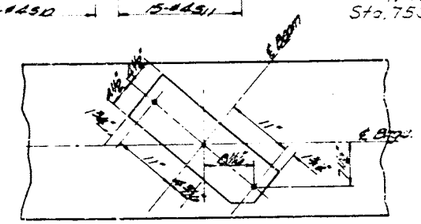
ABUTMENT & APPROACH BENT
SOUTHBOUND ROADWAY - SOUTH
FAI ROUTE 55 SEC. 57-10-B
MC LEAN COUNTY
STATION 753+54.41

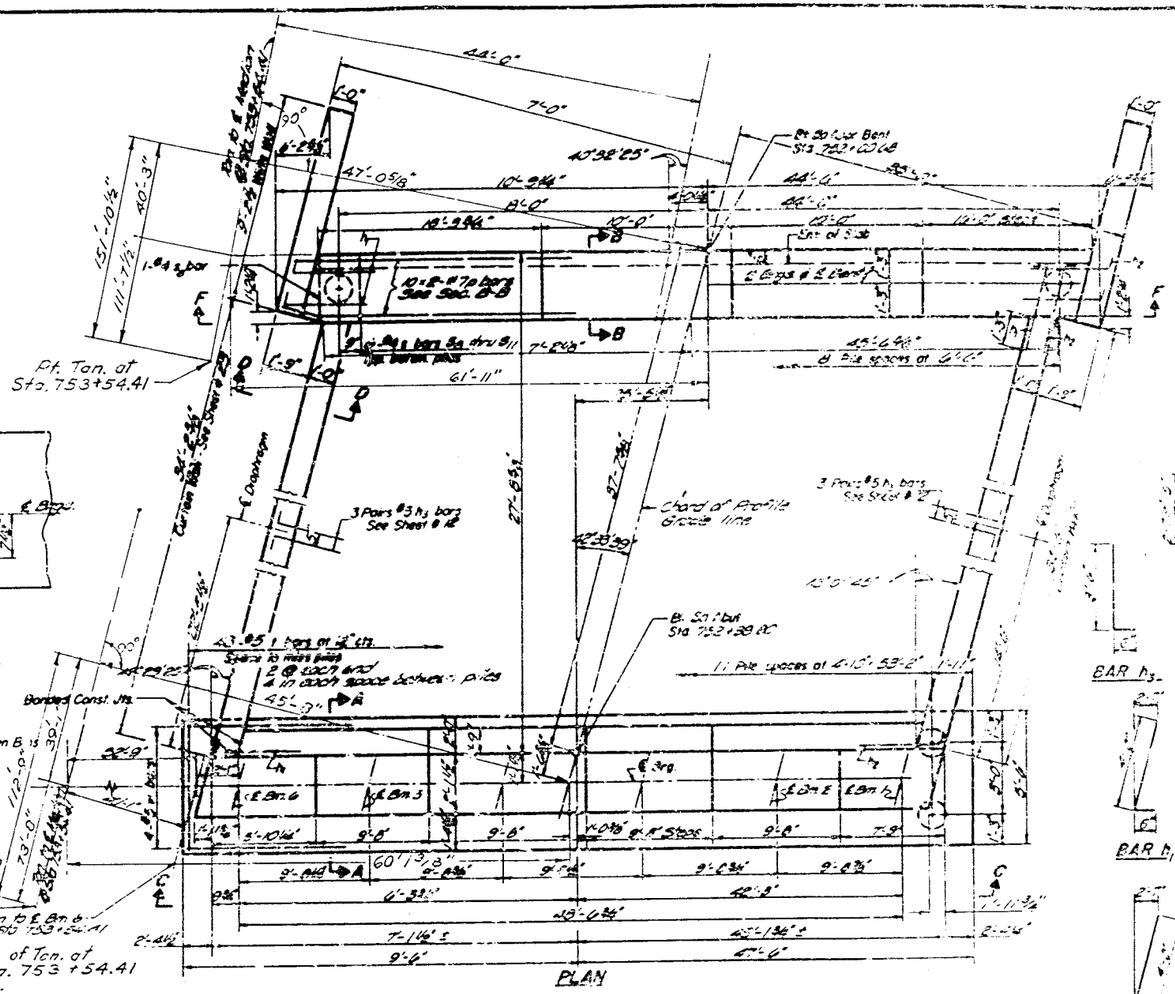
SHEET 9 OF 45 SHEETS

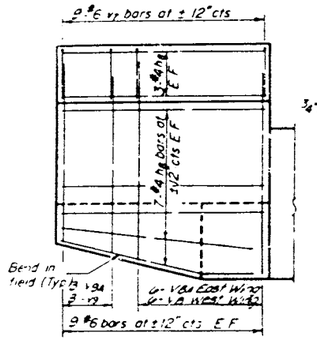
ADDED BILL OF MATERIAL

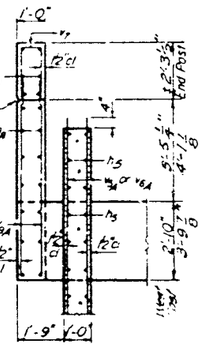
Bar	No.	Size	Length	Shape
n3	4	#5	11'-0"	——
V1A	30	#5	5'-6"	
V2A	33	#5	3'-6"	
Added Reinf. Bars Lbs. 455				

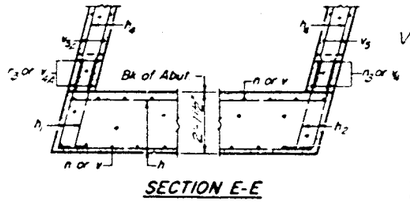


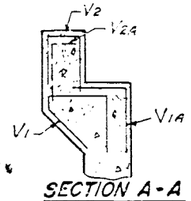






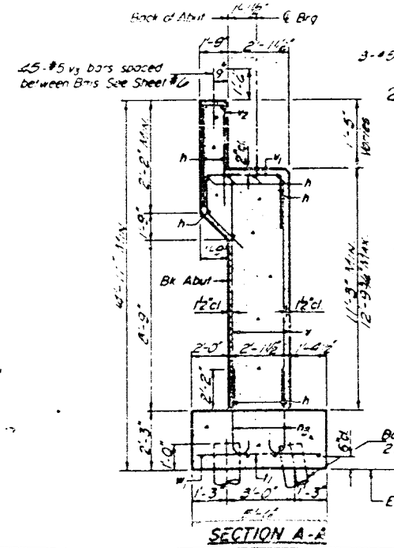


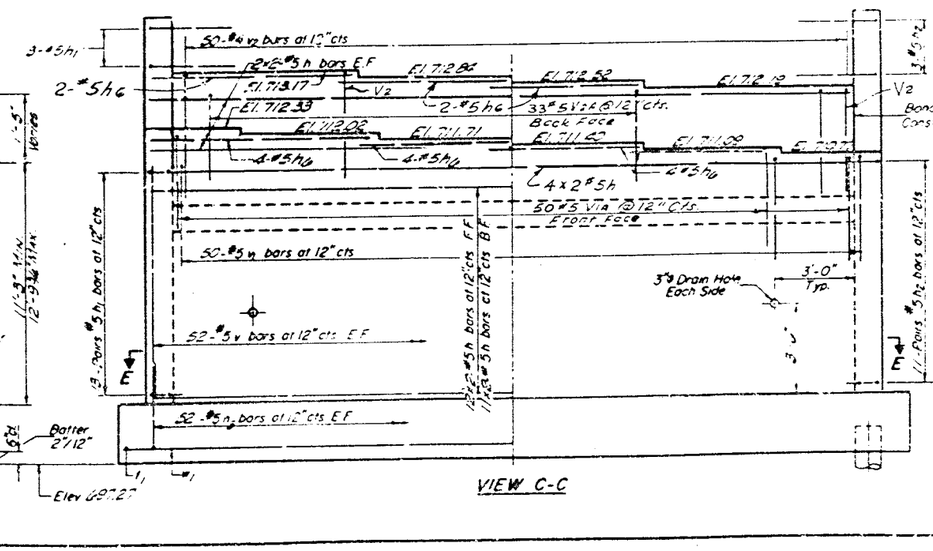




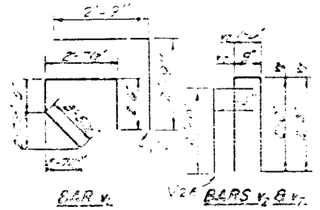
PILE DATA

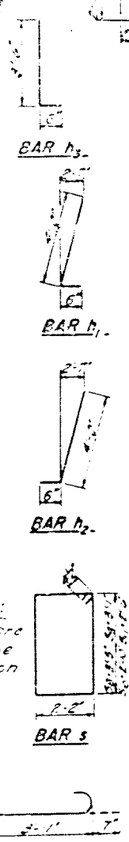
Type - Concrete
Capacity 39 Tons
Est. Length 63 Bent Number - 9 Steel
Est. Length 62 Abut Number - 26 Abut
Increase in Length per Pile





Note: h Bars are not to be Placed on Slope





BILL OF MATERIAL

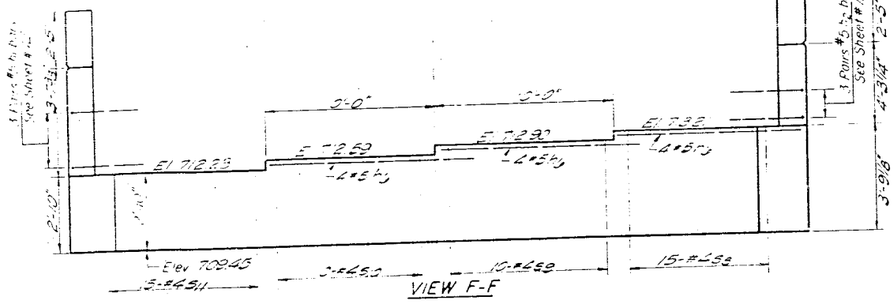
Bar	No.	Size	Length	Shape
f	6	#4	6'-6"	——
h	41	#5	4'-6"	L
h2	37	#5	4'-6"	L
h3	12	#5	3'-0"	L
h4	16	#5	20'-3"	——
h5	28	#5	32'-0"	——
h6	28	#5	11'-0"	——
h7	4	#6	30'-6"	——
h8	40	#4	9'-0"	——
V#1	24	#5	22'-6"	——
h9	112	#5	4'-6"	——
V#A	10	#5	7'-8"	——
B2	20	#7	23'-9"	——
S1	15	#5	11'-0"	——
S2	16	#4	11'-5"	——
S3	10	#4	10'-9"	——
1	43	#5	5'-3"	——
S	5	#4	12'-1"	——
v	104	#5	4'-0"	——
v	21	#5	9'-3"	——
v2	50	#5	4'-0"	——
v3	26	#5	3'-0"	——
v4	6	#5	21'-3"	——
v5	56	#5	10'-6"	——
v6	2	#5	4'-0"	——
v7	8	#5	5'-3"	——
v8	2	#5	7'-0"	——
h0	6	#6	7'-0"	——
V#A	2	#5	9'-3"	——
n	6	#5	20'-3"	——
V#2	6	#5	6'-9"	——
V#3	6	#5	17'-6"	——
Reinforcement Bars			Lbs.	
Class A Concrete			Cu. Yds.	
Concrete in Piles			Lin. Ft.	
"Class A" Concrete			Cu. Yds.	

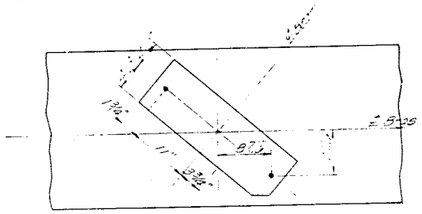
AS REVISED

As Revised 4-25-75

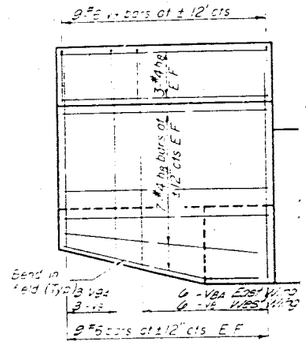
ABUTMENT & APPROACH BENT

SOUTHBOUND ROADWAY -- SOUTH
FAI ROUTE 55 SEC. 57-1DHS
MC LEAN COUNTY
STATION 753+54.41

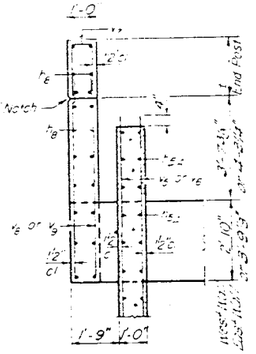




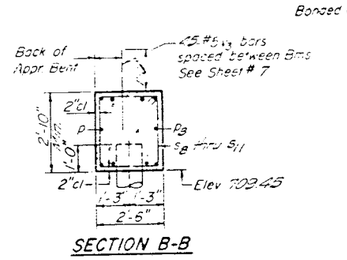
ANCHOR BOLT LOCATION
Steel Beams



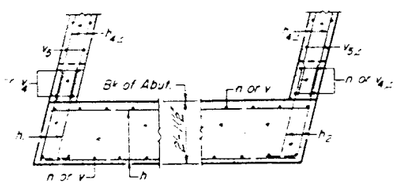
WING WALL REINFORCEMENT



SECTION D-D



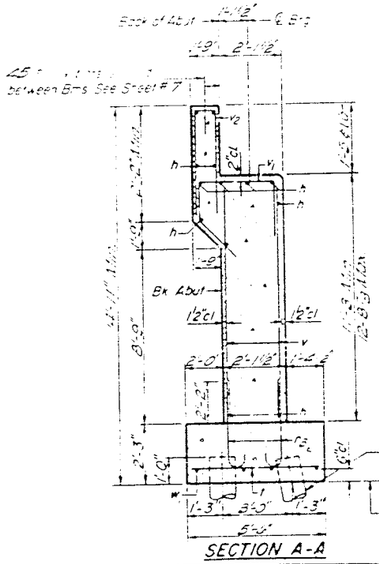
SECTION B-B



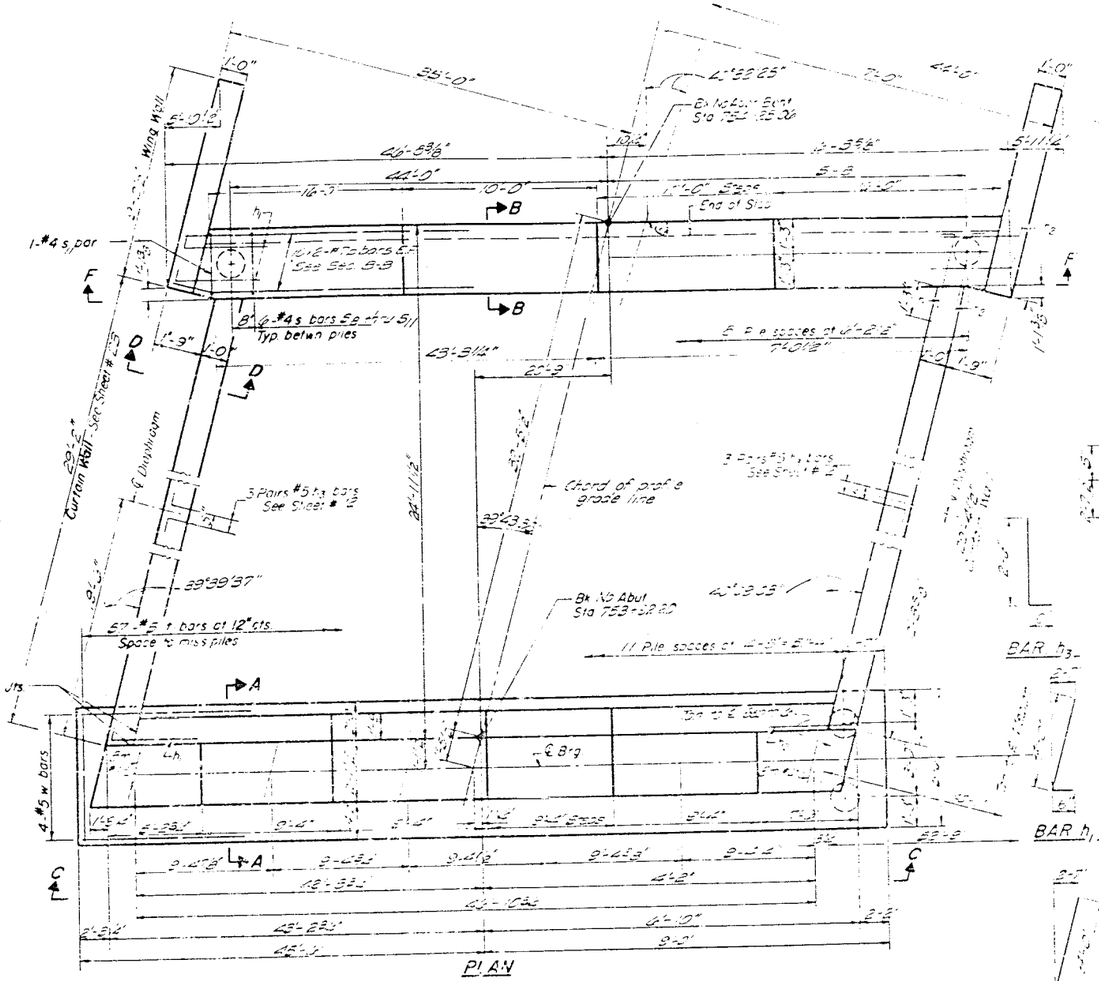
SECTION E-E

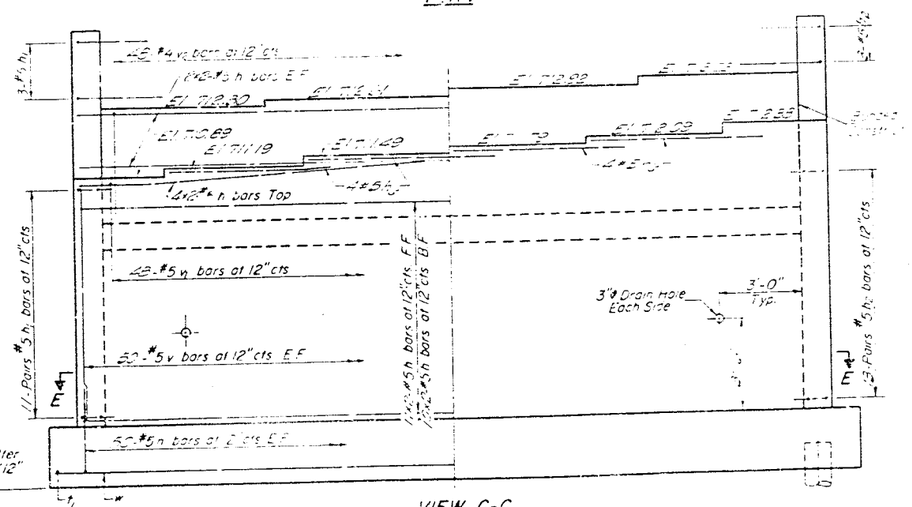
PIPE DATA

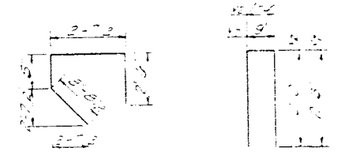
Type - Concrete
Capacity 29 Tons
Est Length Ea Bent
Number 3 Bent
Est Length 22' Abut
Number 2 Abut

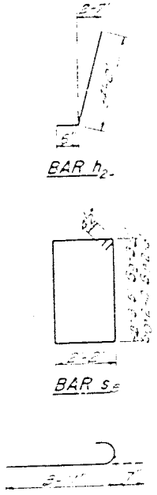


SECTION A-A







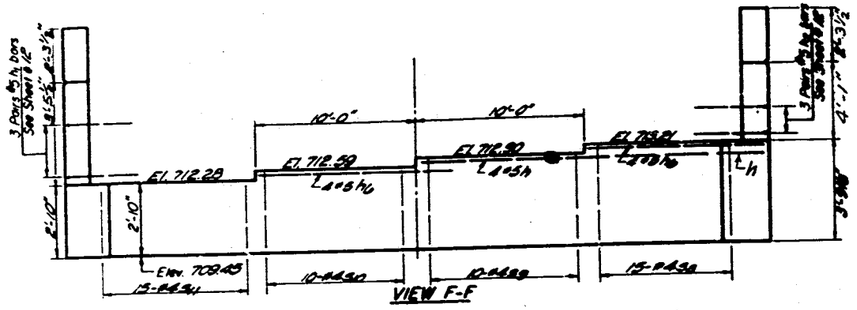


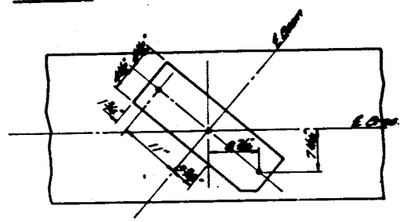
BILL OF MATERIAL

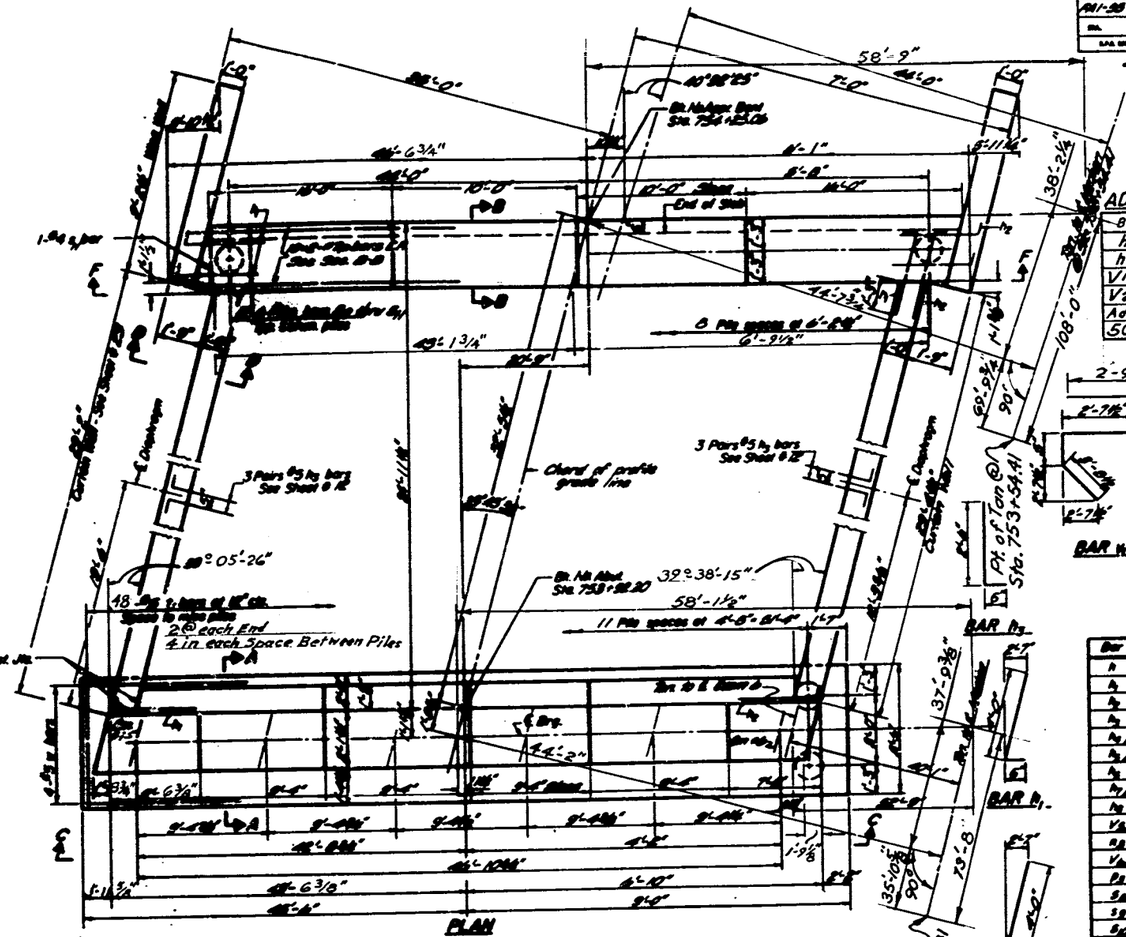
Mark	No	Size	Length	Shape
	24	#5	Curved	
	2	#5	22'-0"	
	2	#5	21'-0"	
	2	#5	20'-0"	
	2	#5	19'-0"	
	2	#5	18'-0"	
	2	#5	17'-0"	
	2	#5	16'-0"	
	2	#5	15'-0"	
	2	#5	14'-0"	
	2	#5	13'-0"	
	2	#5	12'-0"	
	2	#5	11'-0"	
	2	#5	10'-0"	
	2	#5	9'-0"	
	2	#5	8'-0"	
	2	#5	7'-0"	
	2	#5	6'-0"	
	2	#5	5'-0"	
	2	#5	4'-0"	
	2	#5	3'-0"	
	2	#5	2'-0"	
	2	#5	1'-0"	
	2	#5	Curved	
	2	#5	22'-0"	
	2	#5	21'-0"	
	2	#5	20'-0"	
	2	#5	19'-0"	
	2	#5	18'-0"	
	2	#5	17'-0"	
	2	#5	16'-0"	
	2	#5	15'-0"	
	2	#5	14'-0"	
	2	#5	13'-0"	
	2	#5	12'-0"	
	2	#5	11'-0"	
	2	#5	10'-0"	
	2	#5	9'-0"	
	2	#5	8'-0"	
	2	#5	7'-0"	
	2	#5	6'-0"	
	2	#5	5'-0"	
	2	#5	4'-0"	
	2	#5	3'-0"	
	2	#5	2'-0"	
	2	#5	1'-0"	
#4 Horizontal Bars	1	#4	Curved	
Class X Concrete	29	CY		
Reinforcement Bars	1,695	LB		

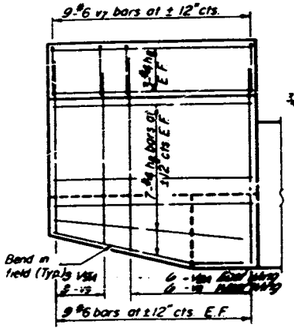
ABUTMENT & APPROACH BENT
SOUTHBOUND ROADWAY - NORTH
FAI ROUTE 55 SEC. 57-1C-R
MC LEAN COUNTY
STATION 753+54.41

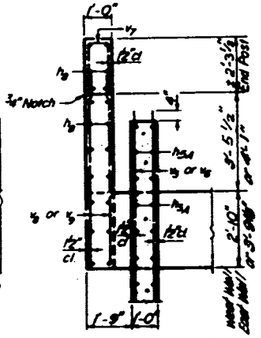
FAI-55	57-1OHB	MCLEAN	224	135A
SHEET 2 OF 20 SHEETS				

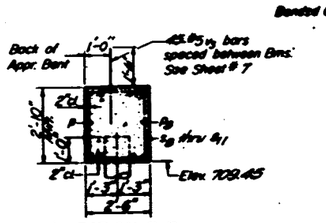


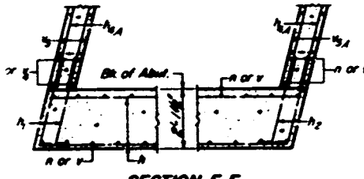


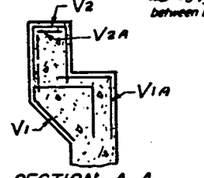






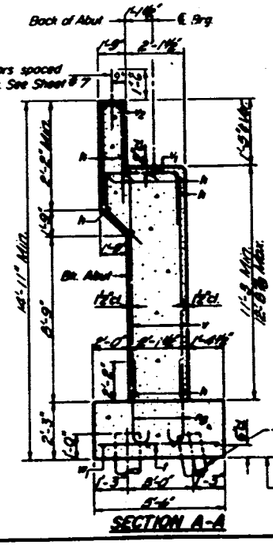


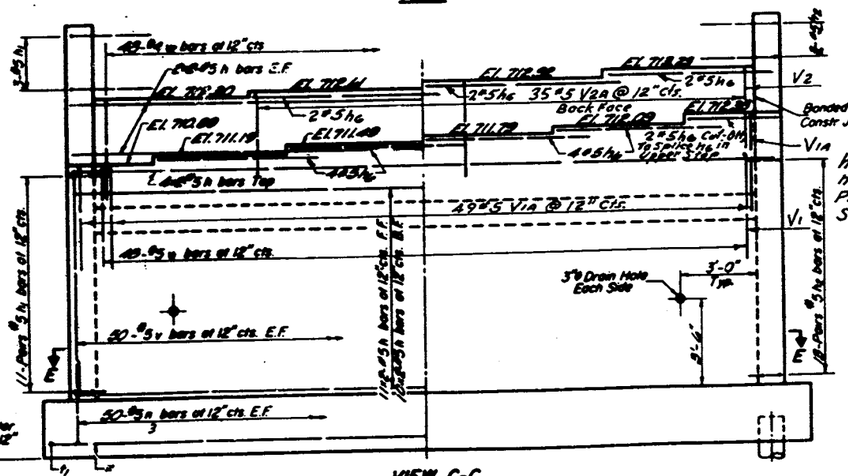


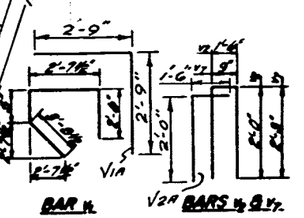


PIPE DATA

Type - Concrete
Capacity 29 Tons
Est. Length at Bent Number 9' Bent 1
Est. Length at Abut. Number 33' Abut.







ADDED BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h6	4	#5	11'-0"	
h3	8	#5	4'-6"	
V1A	49	#5	5'-6"	
V2A	35	#5	3'-6"	
Added Reinf. Bars Lbs.			490	
50 lbs ft. Bars Not Needed				

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	30	#5	26'-6"	
h4	37	#5	4'-6"	L
h5	41	#5	4'-6"	L
h7	12	#5	2'-0"	L
h1A	16	#5	28'-8"	
h1A	28	#5	29'-0"	
h1	28	#5	11'-0"	
h1A	4	#6	29'-0"	
h2	40	#6	2'-0"	
V3A	28	#5	28'-6"	
h8	100	#5	4'-6"	
V4A	10	#5	7'-6"	
h9	20	#7	29'-5"	
S8	15	#4	11'-11"	
S9	10	#4	11'-8"	
S10	10	#4	10'-8"	
S11	18	#4	5'-3"	
S11	15	#4	10'-1"	
v	100	#5	11'-0"	
v1	48	#5	9'-5"	
v2	48	#5	6'-0"	
v3	28	#5	5'-0"	
v4	6	#5	13'-6"	
v5	22	#5	13'-6"	
v6	10	#5	5'-7"	
v7	18	#5	5'-3"	
v8	12	#5	7'-6"	
v9	6	#5	7'-0"	
V8A	12	#5	9'-5"	
W1	8	#5	28'-0"	
V8A	6	#5	8'-8"	
W4	6	#5	17'-0"	
Reinforcement Bars			Lbs.	10,660
Class X Concrete			Cu. Yds.	123.8
Concrete Piles			Lin. Ft.	1,824

Note: h Bars are not to be Placed on Slope

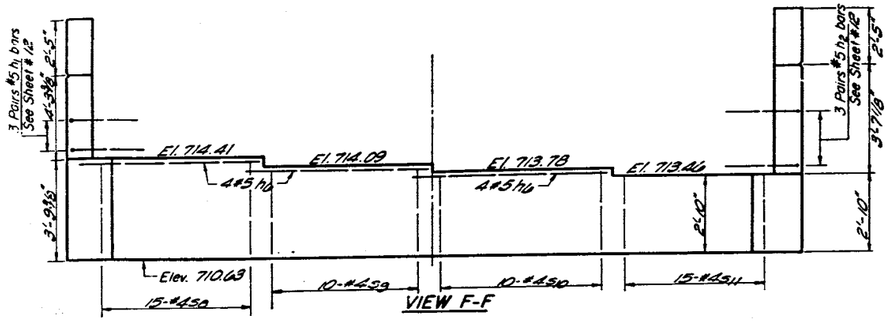
ABUTMENT & APPROACH BENT
SOUTHBOUND ROADWAY - NORTH
FAI ROUTE 55 SEC. 57-1OHB
MC LEAN COUNTY
STATION 753+54.41

AS REVISED

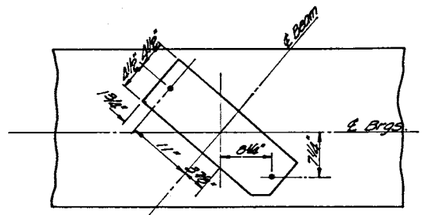
As Revised 4-25-75

FEDERAL AID SERIES NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	57-10HB	McLean	226	136
STA.		TO STA.		
S.F.S. 1986, NO. 4	ILLINOIS	PROJECT		

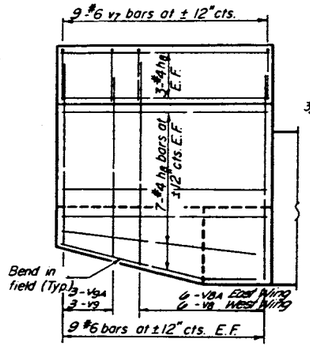
SHEET 21 OF 26 SHEETS



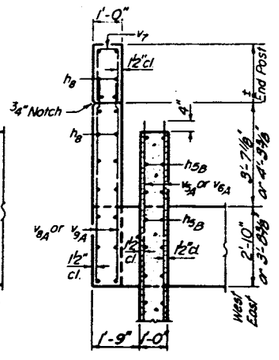
VIEW F-F



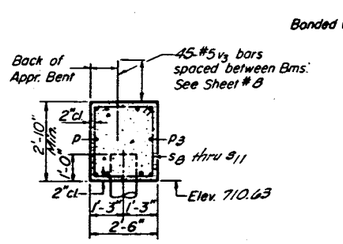
ANCHOR BOLT LOCATION
Steel Beams



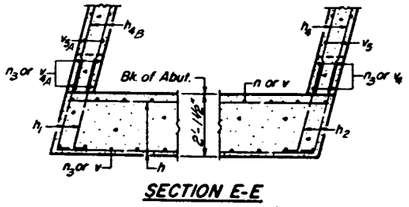
WING WALL REINFORCEMENT



SECTION D-D



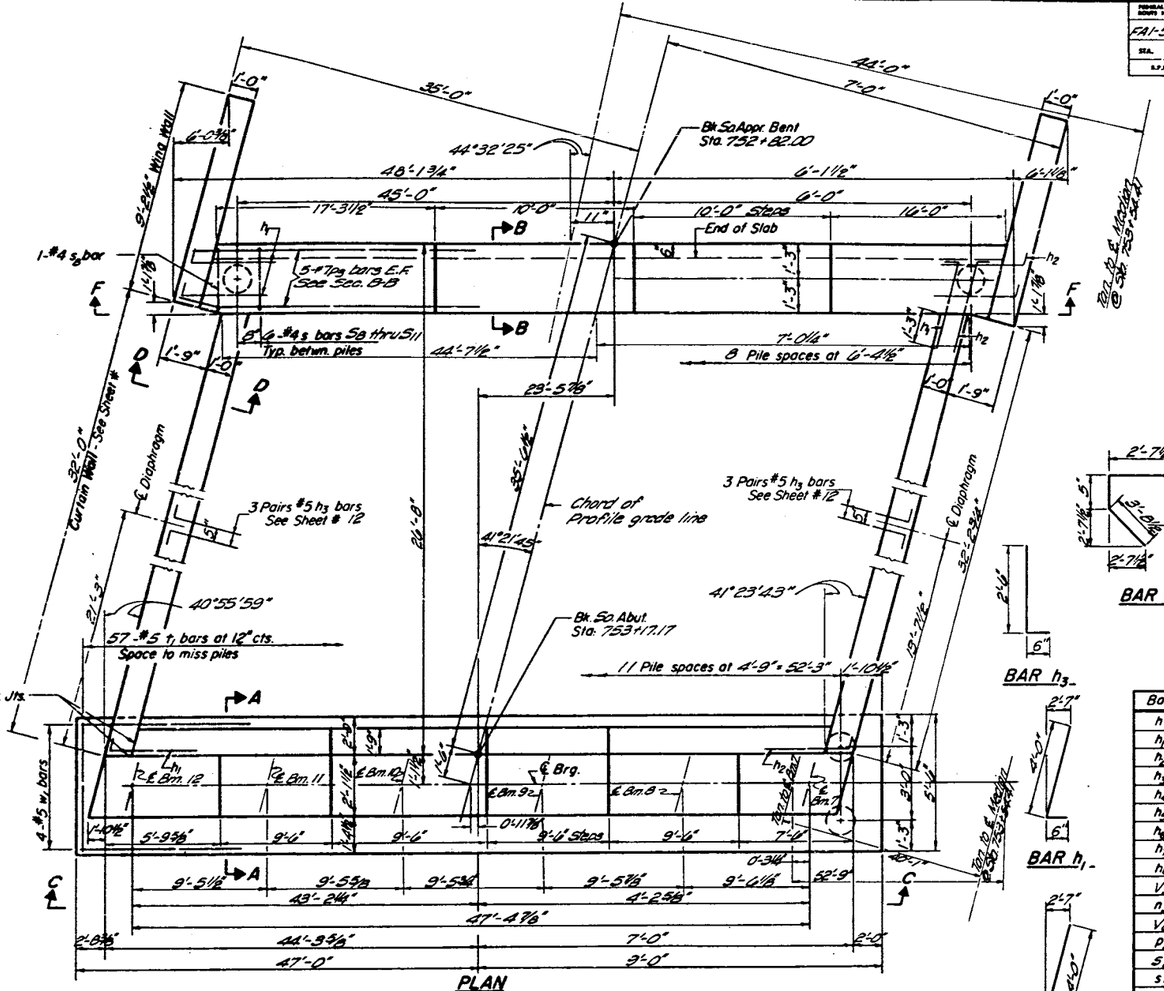
SECTION B-B



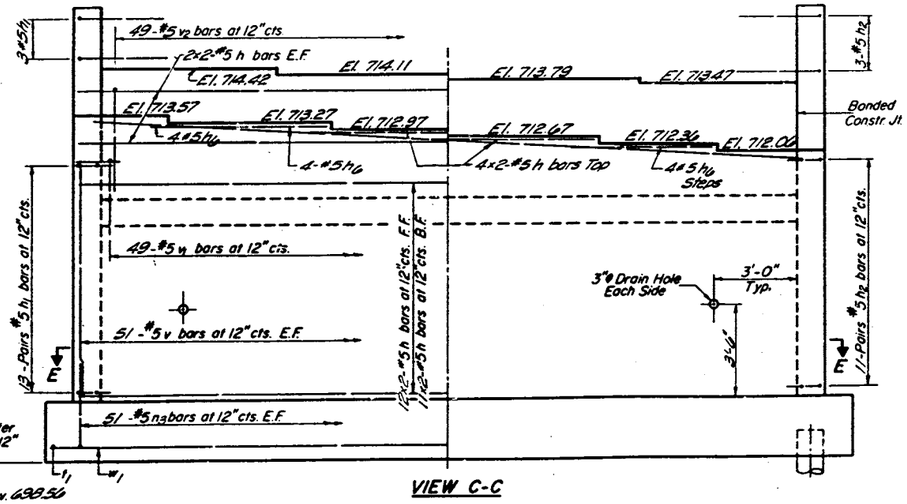
SECTION E-E

PIPE DATA

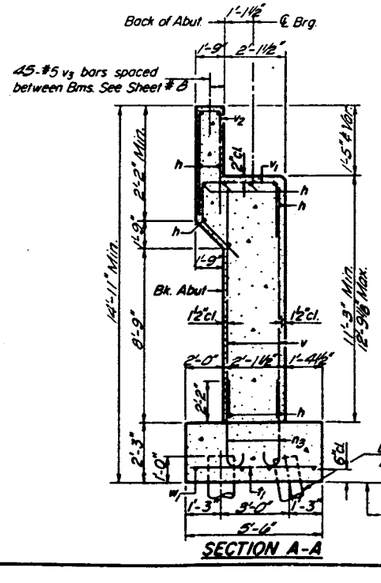
Type - Concrete
Capacity 29 Tons
Est. Length 67 Bent
Number 9 Bent
Est. Length 52 Abut.
Number 8 Abut.



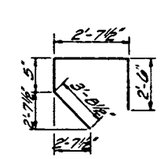
PLAN



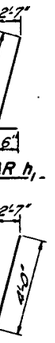
VIEW C-C



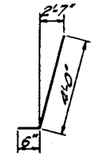
SECTION A-A



BAR h3

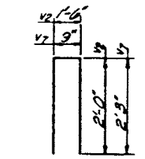


BAR h1

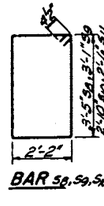


BAR h2

BAR v1



BARS v2 & v7



BAR n3

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	42	#5	26'-6"	—
h1	41	#5	4'-6"	L
h2	37	#5	4'-6"	J
h3	12	#5	3'-0"	L
h4A	16	#5	27'-2"	—
h4B	28	#5	32'-0"	—
h5	28	#5	11'-0"	—
h7A	4	#6	26'-0"	—
h8	40	#4	9'-0"	—
V5A	84	#5	22'-6"	—
n3	102	#5	4'-6"	⌐
V6A	10	#5	7'-2"	—
p3	20	#7	28'-3"	—
S8	15	#4	11'-11"	⌐
s9	10	#4	11'-3"	⌐
S10	10	#4	10'-9"	⌐
t1	57	#5	5'-3"	—
S11	15	#4	10'-1"	⌐
v	102	#5	11'-0"	—
v1	49	#5	9'-3"	⌐
v2	49	#5	6'-0"	⌐
v3	90	#5	3'-0"	—
v4	6	#5	15'-6"	—
v5	84	#5	19'-6"	—
v6	10	#5	5'-7"	—
v7	18	#6	5'-3"	⌐
v8	12	#6	7'-6"	—
v9	6	#6	7'-0"	—
V8A	12	#6	9'-3"	—
w1	8	#5	29'-0"	—
V9A	6	#6	8'-9"	—
V4A	6	#5	17'-0"	—
Reinforcement Bars			Lbs.	11,010
Class X Concrete			Cu.Yds	128.6
Concrete Piles			Ln. Ft.	4,851

ABUTMENT & APPROACH BENT

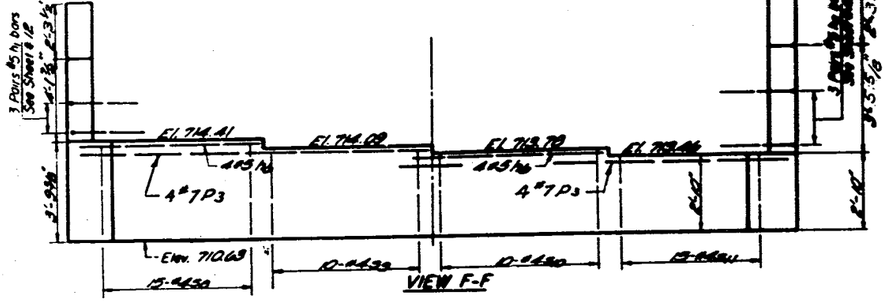
NORTHBOUND ROADWAY - SOUTH
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

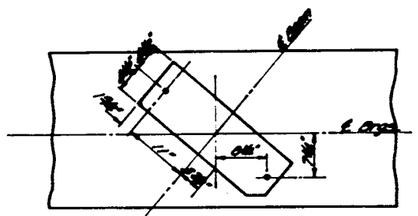
RAI-55	STEVENS	MCLEAN	224	136A

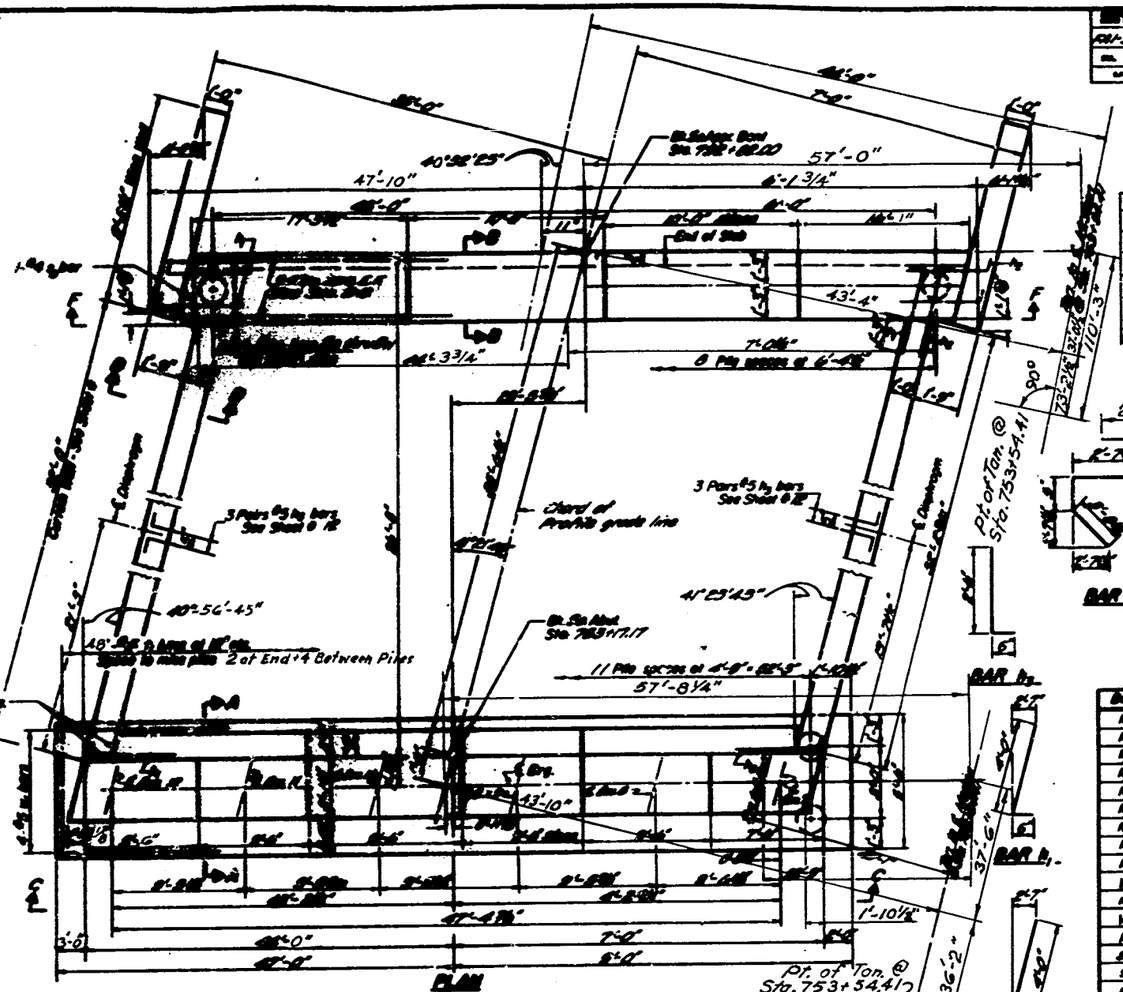
SHEET 8 OF 26 SHEETS

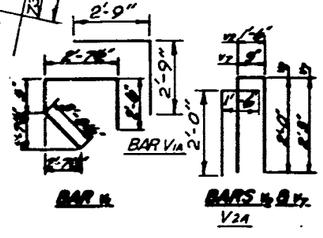
ADDED BILL OF MATERIAL

Bar	No.	Size	Length	Shape
V1A	49	#5	5'-6"	
h3	8	#5	4'-6"	
h6	4	#5	11'-0"	
V2A	33	#5	3'-6"	
Added Reinf. Bars lbs.			485	
50 lbs. ft. Bars Not Needed				



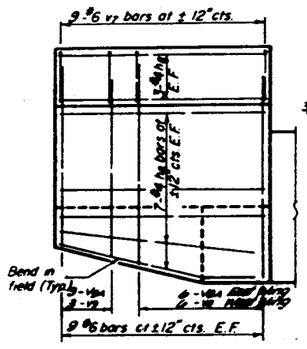




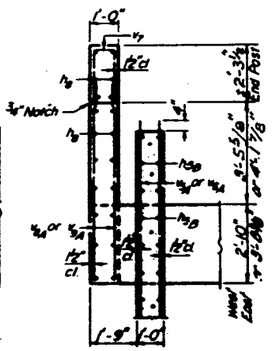


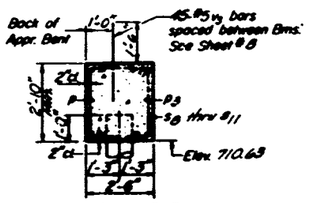
BILL OF MATERIAL

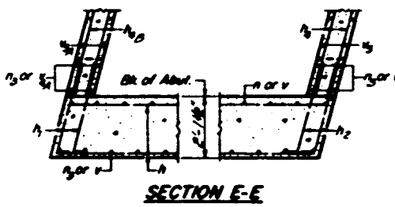
Bar	No.	Size	Length	Shape
h	66	#5	11'-0"	
h2	41	#5	4'-6"	L
h3	37	#5	4'-6"	L
h4	12	#5	3'-0"	
h5	10	#5	12'-6"	
h6	28	#5	11'-0"	
h7	20	#5	11'-0"	
h8	1	#4	11'-0"	
h9	42	#4	3'-0"	
V1A	49	#5	5'-6"	
P2	10	#7	11'-6"	
P3	10	#7	11'-6"	
P4	12	#6	11'-6"	
P5	10	#6	11'-6"	
P6	10	#6	10'-9"	
P7	48	#6	9'-8"	
P11	12	#6	10'-1"	
P	102	#5	11'-0"	
h	49	#5	8'-8"	
h	49	#5	6'-0"	
h	280	#5	5'-0"	
h	6	#5	15'-6"	
h	24	#5	15'-6"	
h	10	#5	5'-7"	
h	10	#5	5'-8"	
h	12	#5	7'-6"	
h	8	#6	7'-0"	
V1A	12	#4	3'-3"	
P1	8	#5	28'-0"	
V1A	6	#4	8'-8"	
V1A	6	#5	17'-0"	
Reinforcement Bars			Lbs.	11,010
Class X Concrete			Cu Yds	128.6
Concrete Piles			Lin. Ft.	1680.1

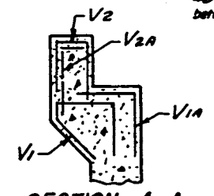


WING WALL REINFORCEMENT



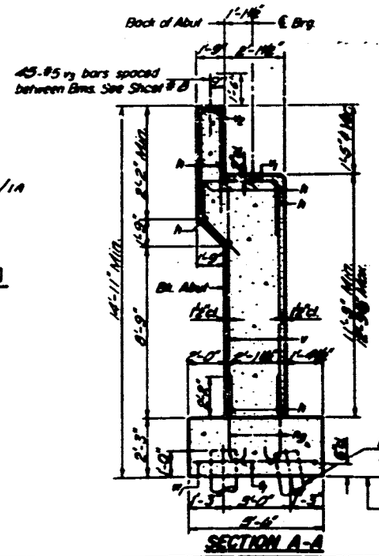


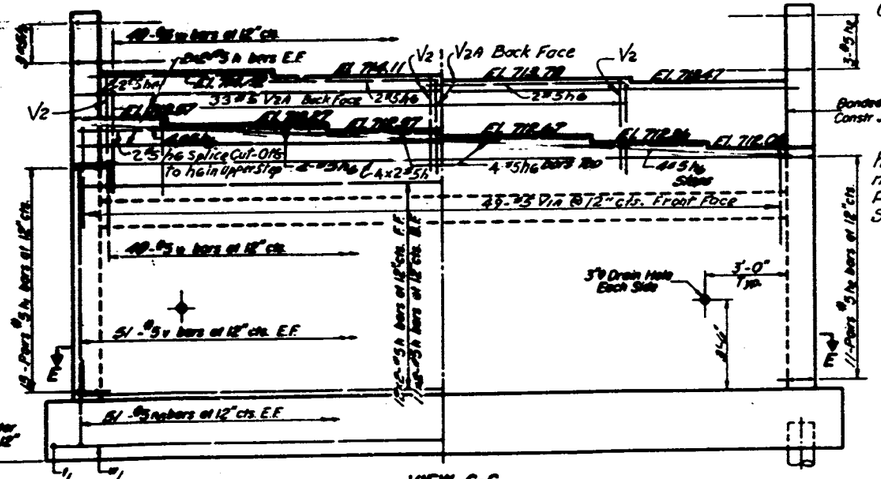


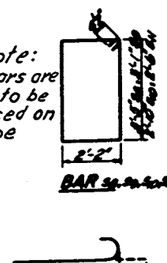


PIPE DATA

Type - Concrete
Capacity 29 Tons
Est. Length 67 Bent Number 9 Bent
Est. Length 32 Abut. Number 8 Abut.







ABUTMENT & APPROACH BENT

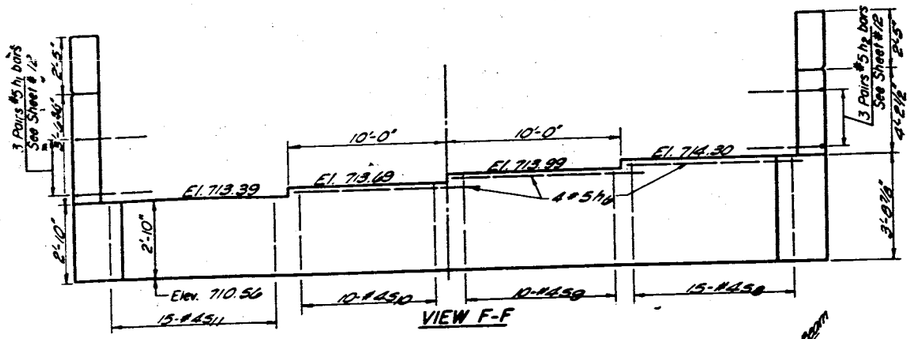
NORTHBOUND ROADWAY - SOUTH
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

AS REVISED

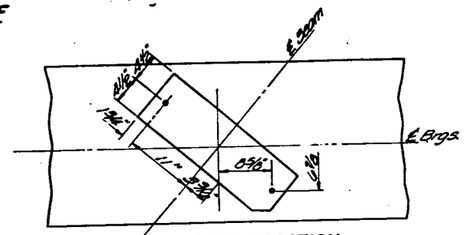
As Revised 4-28-75

STA.	TO STA.
E.F.S. 999. NO. 4	ILLINOIS PROJECT

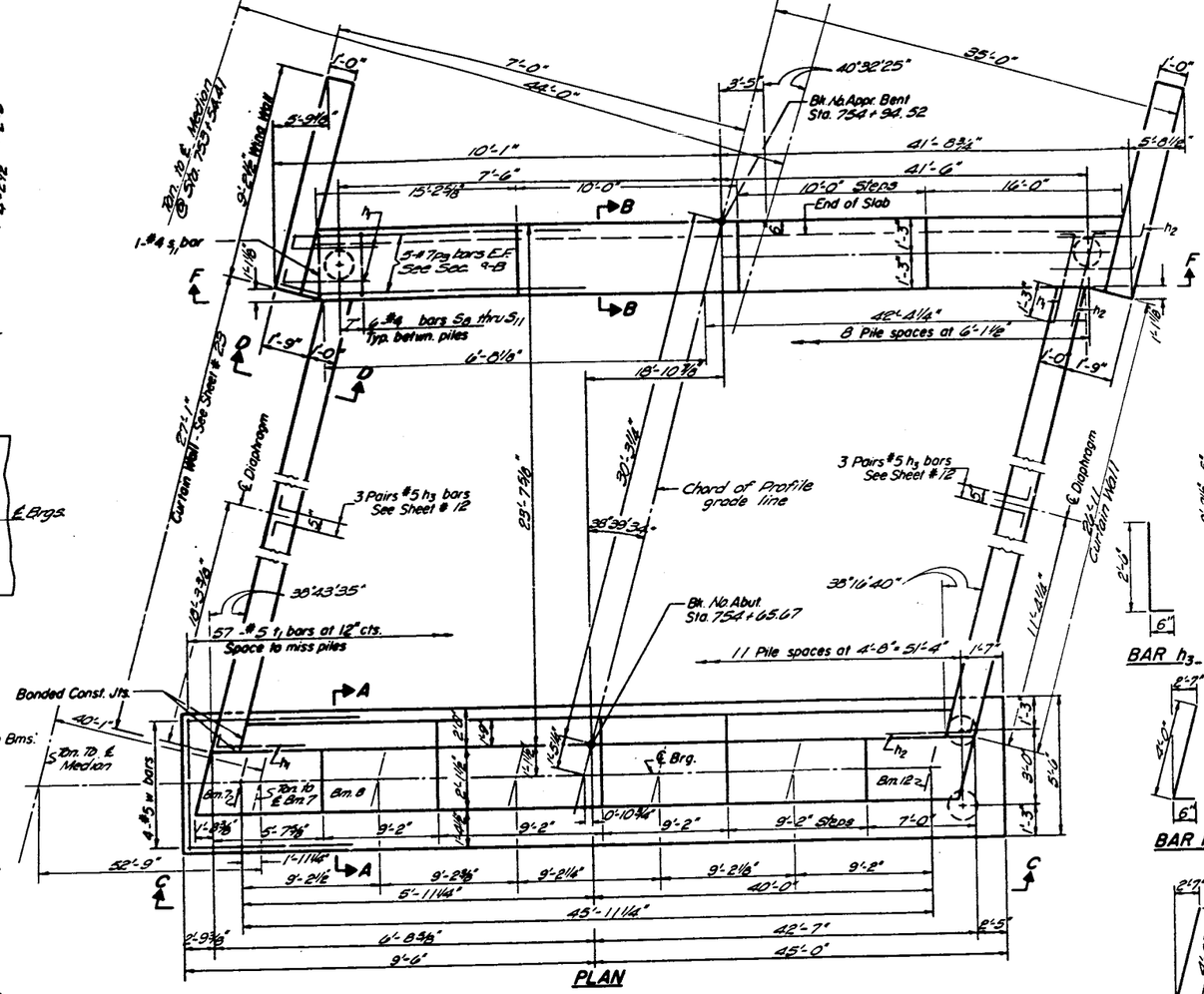
SHEET 22 OF 26 SHEETS



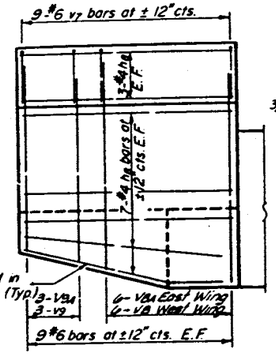
VIEW F-F



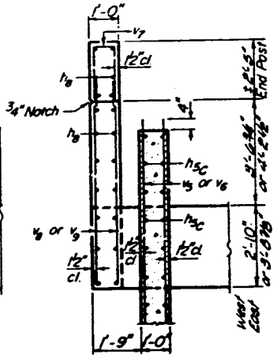
ANCHOR BOLT LOCATION
Steel Beams



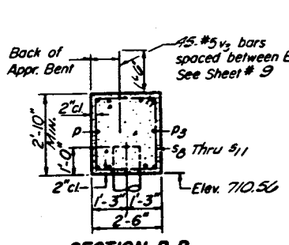
PLAN



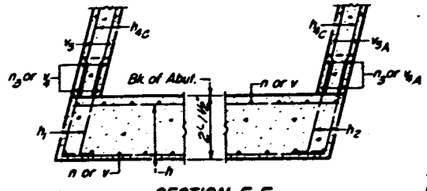
WING WALL REINFORCEMENT



SECTION D-D



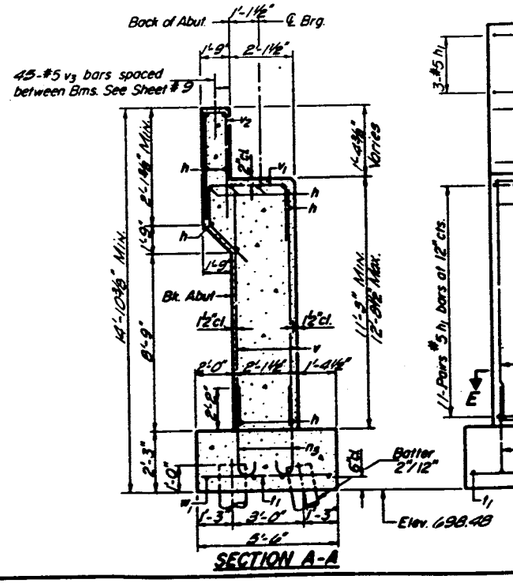
SECTION B-B



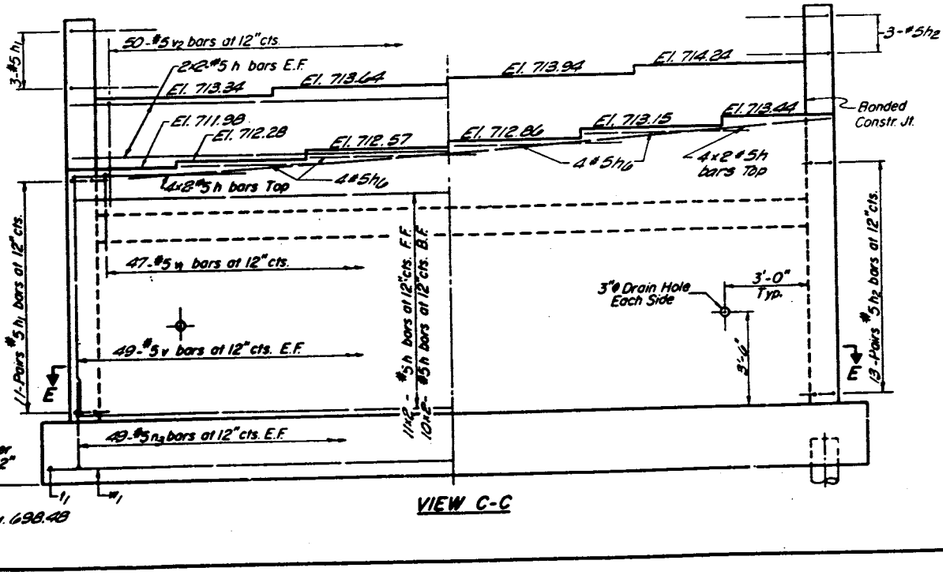
SECTION E-E

PILE DATA

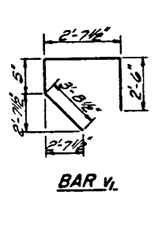
Type - Concrete
Capacity - 29 Tons
Est. Length 64 Bent Number 9 Bent
Est. Length 52 Abut. Number 24 Abut. including 1 Test Pile

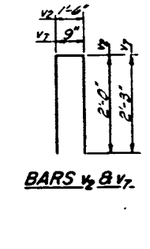


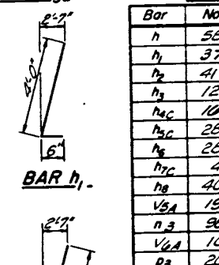
SECTION A-A

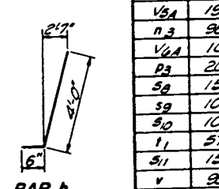


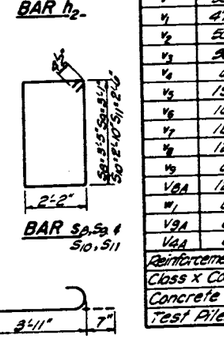
VIEW C-C

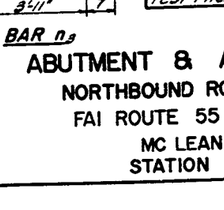












BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	58	#5	26'-6"	
h1	37	#5	4'-6"	L
h2	41	#5	4'-6"	L
h3	12	#5	3'-0"	L
h4C	16	#5	22'-9"	
h5C	28	#5	27'-0"	
h8	28	#5	11'-0"	
h7C	4	#6	28'-3"	
h8	40	#4	9'-0"	
V8A	19	#5	22'-6"	
n3	98	#5	4'-6"	
V4A	10	#5	7'-2"	
P3	20	#7	28'-3"	
S8	15	#4	11'-11"	
S9	10	#4	11'-3"	
S10	10	#4	10'-9"	
t1	57	#5	5'-3"	
S11	15	#4	10'-1"	
v	98	#5	11'-0"	
v1	47	#5	9'-3"	
v2	50	#5	6'-0"	
v3	98	#5	3'-0"	
v4	6	#5	15'-6"	
v5	19	#5	19'-6"	
v6	10	#5	5'-7"	
v7	18	#6	5'-3"	
v8	12	#6	7'-6"	
v9	6	#6	7'-0"	
V8A	12	#6	9'-3"	
w1	8	#5	29'-0"	
V9A	6	#6	3'-9"	
V4A	6	#5	17'-0"	
Reinforcement Bars			Lbs.	10,970
Class X Concrete			Cu. Yds.	120.7
Concrete Piles			Lin. Ft.	1772
Test Piles-Concrete			Each	1

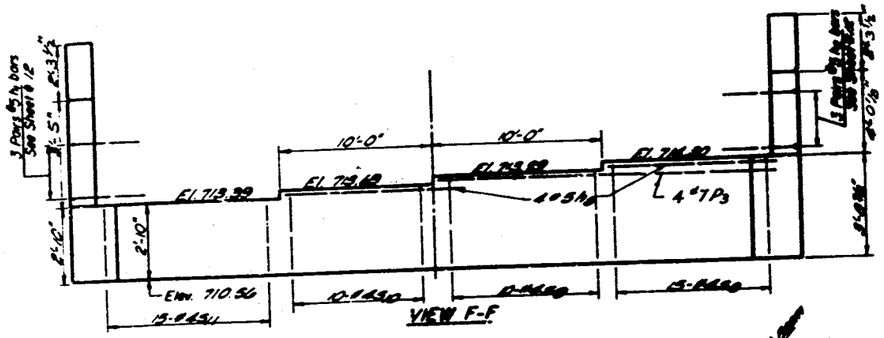
ABUTMENT & APPROACH BENT

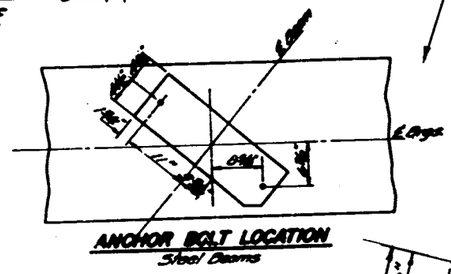
NORTHBOUND ROADWAY – NORTH
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

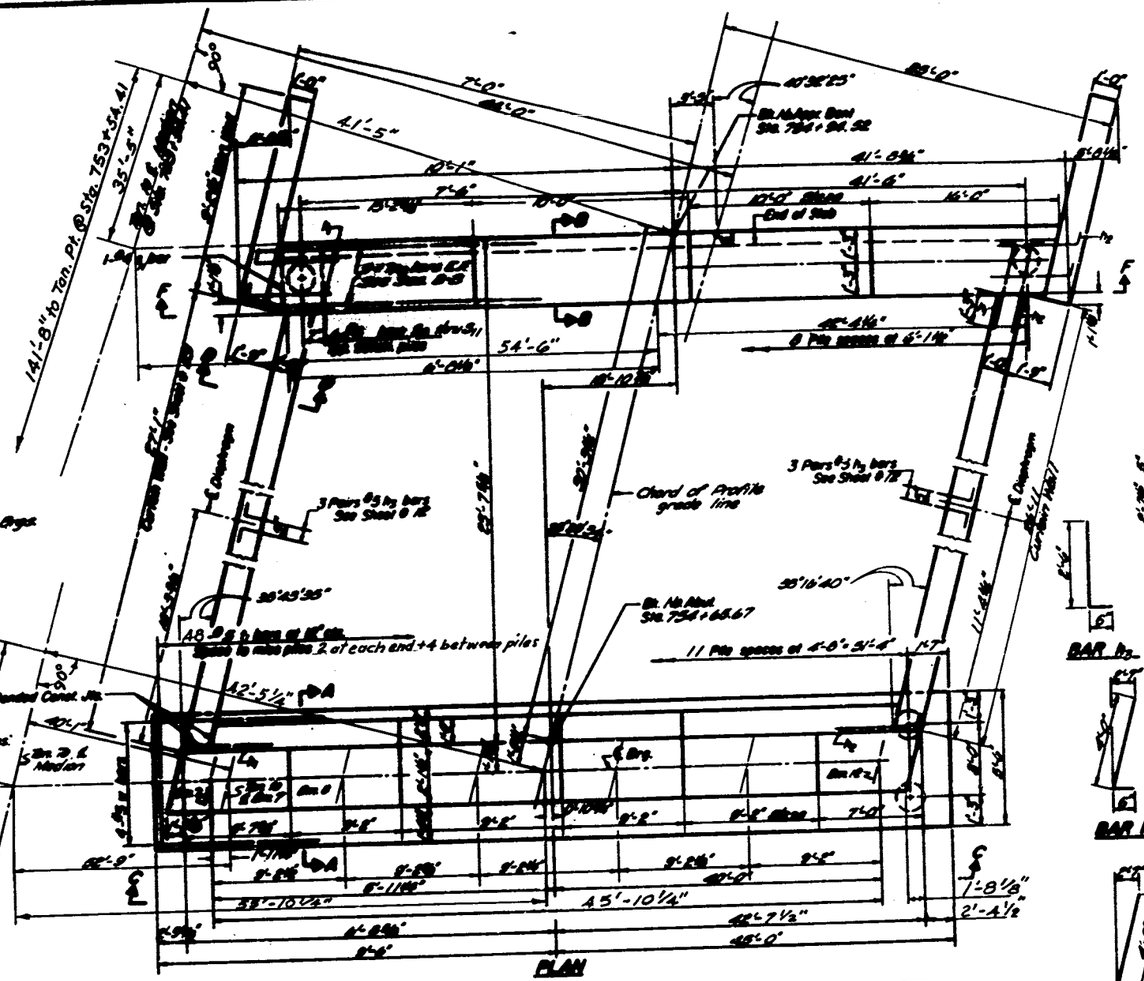
011-38	STATE	McLEAN	224	137A
SHEET 22A OF 26 SHEETS			

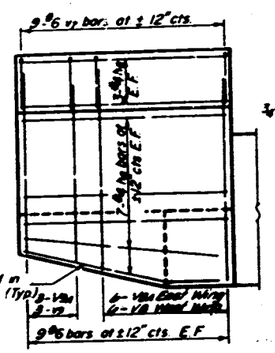
ADDED BILL OF MATERIAL

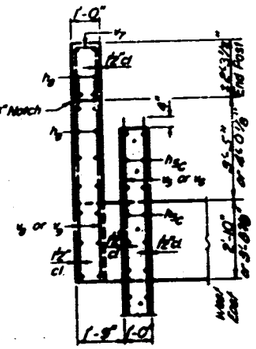
Bar	No.	Size	Length	Shape
V1A	48	#5	5'-6"	⌐
V2A	33	#5	3'-6"	⌐
h3	8	#5	4'-6"	⌐
h6	4	#5	11'-0"	—
Added Reinf. Bars Lbs.			480	
50 Lbs. ± Bars not needed				

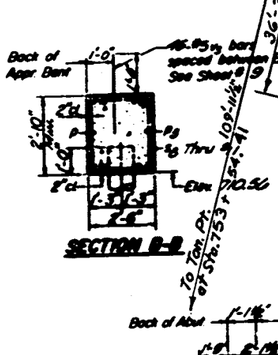


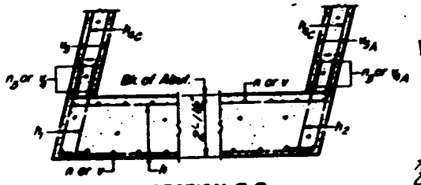


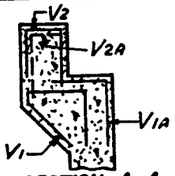






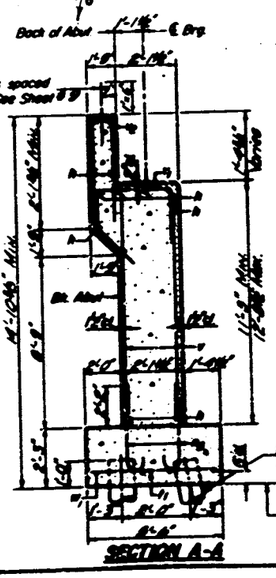


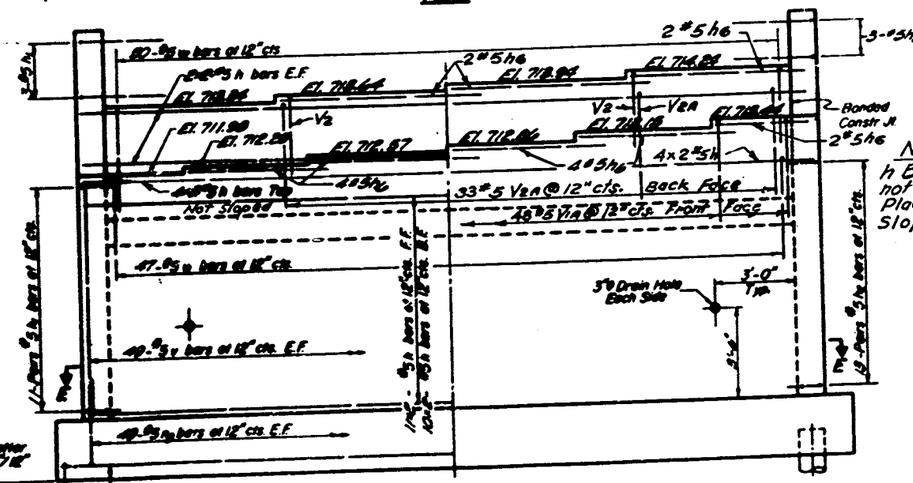




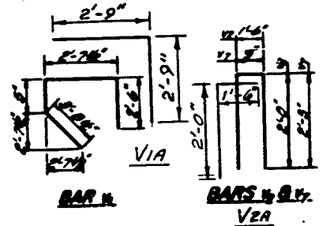
FILE DATA

Type - Concrete
Capacity - 89 Tons
Est. Length 64 Bent
Number 9 Bent
Est. Length 52 Abut.
Number 26 Abut.
including 1 Test Pile





Note
h Bars are not to be Placed on Slope



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1	50	#5	26'-4"	—
h2	37	#5	4'-1"	L
h3	41	#5	4'-6"	L
h4	12	#5	2'-0"	—
h4c	18	#5	2'-10"	—
h5	28	#5	27'-10"	—
h6	20	#5	11'-0"	—
h6c	4	#5	10'-8"	—
h7	40	#5	2'-0"	—
V1A	19	#5	5'-6"	⌐
V1AA	20	#5	5'-0"	⌐
V2	18	#5	11'-4"	⌐
V2A	10	#5	3'-6"	⌐
V2AA	10	#5	3'-2"	⌐
h1	48	#6	26'-8"	—
h1c	15	#6	10'-7"	—
h2	80	#6	11'-0"	—
h2c	67	#6	9'-8"	—
h3	80	#6	8'-0"	—
h3c	88	#6	8'-0"	—
h4	6	#6	15'-6"	—
h5	19	#6	18'-6"	—
h5c	10	#6	5'-7"	—
h6	18	#6	8'-8"	—
h6c	12	#6	7'-6"	—
h7	6	#6	7'-0"	—
V1A	12	#6	9'-3"	—
V1	8	#6	8'-0"	—
V2A	6	#6	6'-8"	—
V1AA	6	#6	17'-0"	—
Reinforcement Bars			Lbs.	49,570
Class X Concrete			Cu. Yds.	690.7
Concrete Piles			Lin. Ft.	1772
Test Piles-Concrete			Each	1

ABUTMENT & APPROACH BENT

NORTHBOUND ROADWAY – NORTH
FAI ROUTE 55 SEC. 57-10HB
MC LEAN COUNTY
STATION 753+54.41

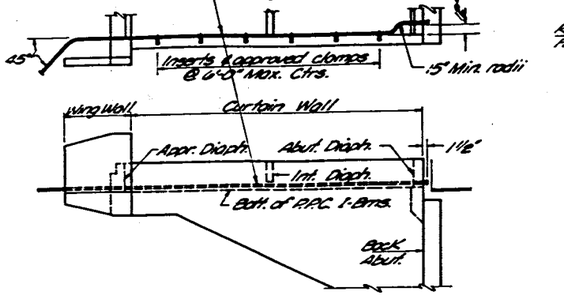
AS REVISED

As Revised 4-29-75

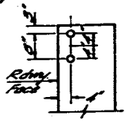
	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
C41-55	57-10HB	McLEAN	224	138
F.A.		TO STA.		
S.F.S. 000 NO. 4	ILLINOIS	PROJECT		

SHEET 23 OF 26 SHEETS

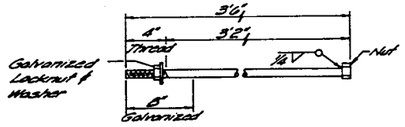
2"ϕ Galv. Conduit (Sch. 40 Pipe) Extend to clear end of wing wall and terminate at a point outside of the shoulder. Thread and cap each end. Place conduit at the two outside corners of each dual bridge and all four corners of a single bridge (4 Req'd.) Cost Incidental.



ELECTRICAL CONDUIT LOCATION

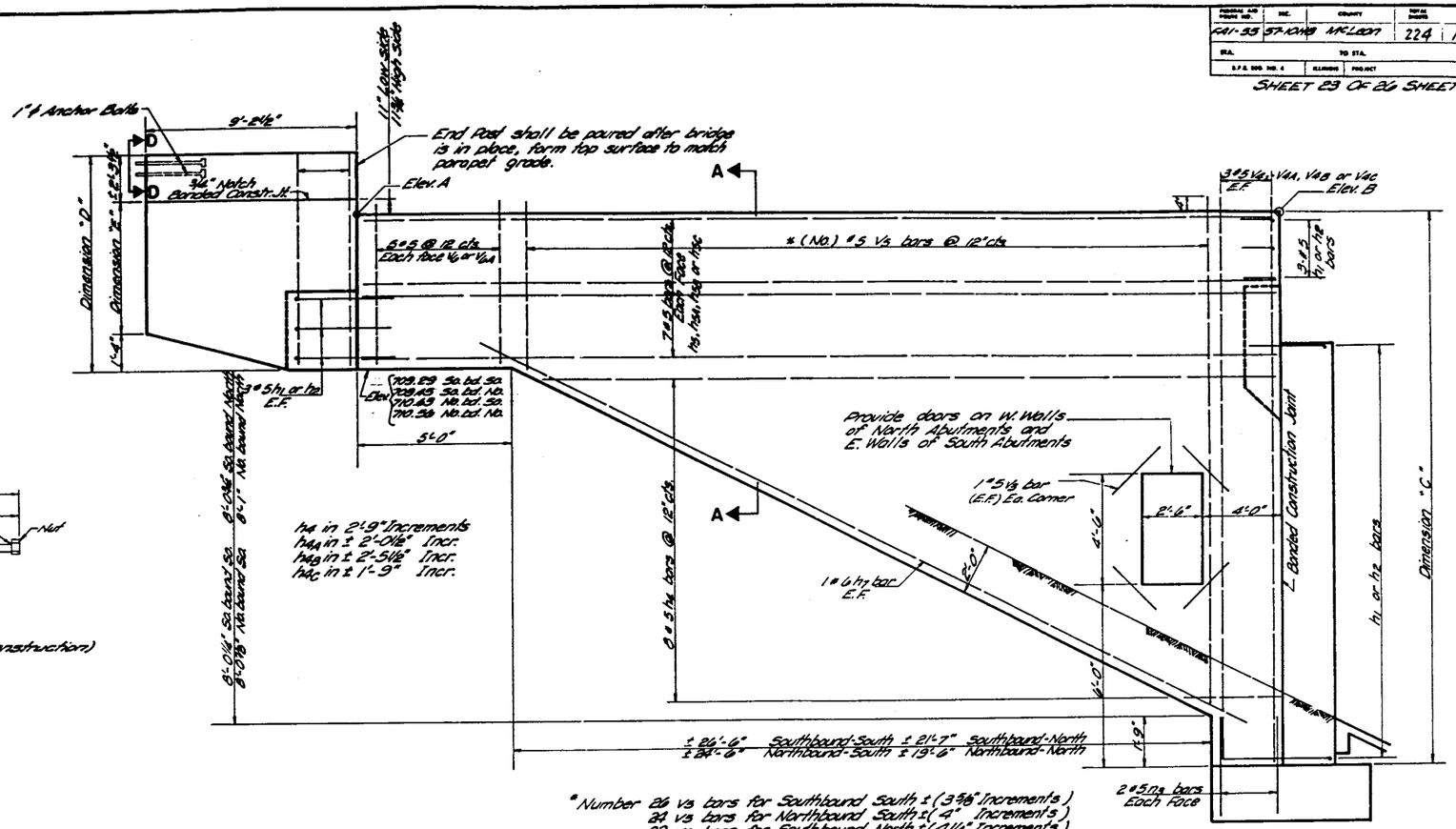


VIEW D-D



1"ϕ ANCHOR BOLT

(Cost Incidental to Bridge Construction)



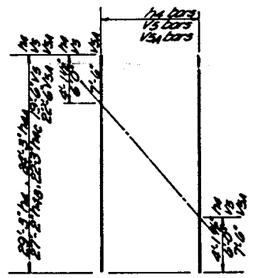
H4 in 2'-9" Increments
H4A in ± 2'-0½" Incr.
H4B in ± 2'-5½" Incr.
H4C in ± 1'-9" Incr.

3'-0¼" So. bound So.
3'-0⅜" No. bound So.
3'-0¼" So. bound North
3'-0⅜" No. bound North

* Number 26 V3 bars for Southbound South ± (3⅜" Increments)
24 V3 bars for Northbound South ± (4" Increments)
22 V3 bars for Southbound North ± (4¼" Increments)
19 V3 bars for Northbound North ± (5" Increments)

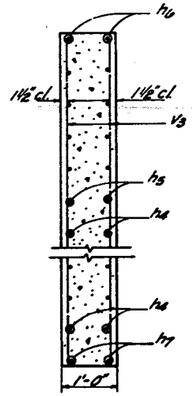
	LOCATION	DIM. "C"	DIM. "D"	DIM. "E"
Southbound Roadway	W. Wall S. Abut.	15'-2½"	8'-0⅜"	4'-11½"
	E. Wall S. Abut.	16'-9⅛"	10'-2½"	6'-7"
	W. Wall N. Abut.	15'-2⅜"	8'-7"	4'-11½"
	E. Wall N. Abut.	16'-0⅜"	10'-1⅝"	6'-6⅛"
Northbound Roadway	W. Wall S. Abut.	15'-2⅜"	8'-7"	4'-11½"
	E. Wall S. Abut.	16'-0⅜"	10'-2"	6'-6½"
	W. Wall N. Abut.	15'-2⅜"	8'-6⅛"	4'-11"
	E. Wall N. Abut.	16'-0"	10'-0½"	6'-5"

	LOCATION	ELEV. A	ELEV. B
Southbound Roadway	W. Wall S. Abut.	714.642	714.712
	E. Wall S. Abut.	716.230	716.800
	W. Wall N. Abut.	714.828	714.843
	E. Wall N. Abut.	716.315	716.337
Northbound Roadway	W. Wall S. Abut.	715.990	716.011
	E. Wall S. Abut.	717.524	717.532
	W. Wall N. Abut.	715.886	715.932
	E. Wall N. Abut.	717.339	717.392

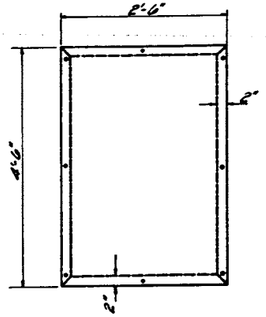


FIELD CUTTING DIAGRAM

* Order H4 & V3 bars Full length Cut to fit as shown and use remainder of bars in other face

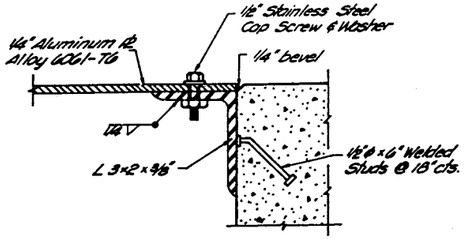


SECTION A-A



DOOR ELEVATION

Cost of doors and frames are incidental



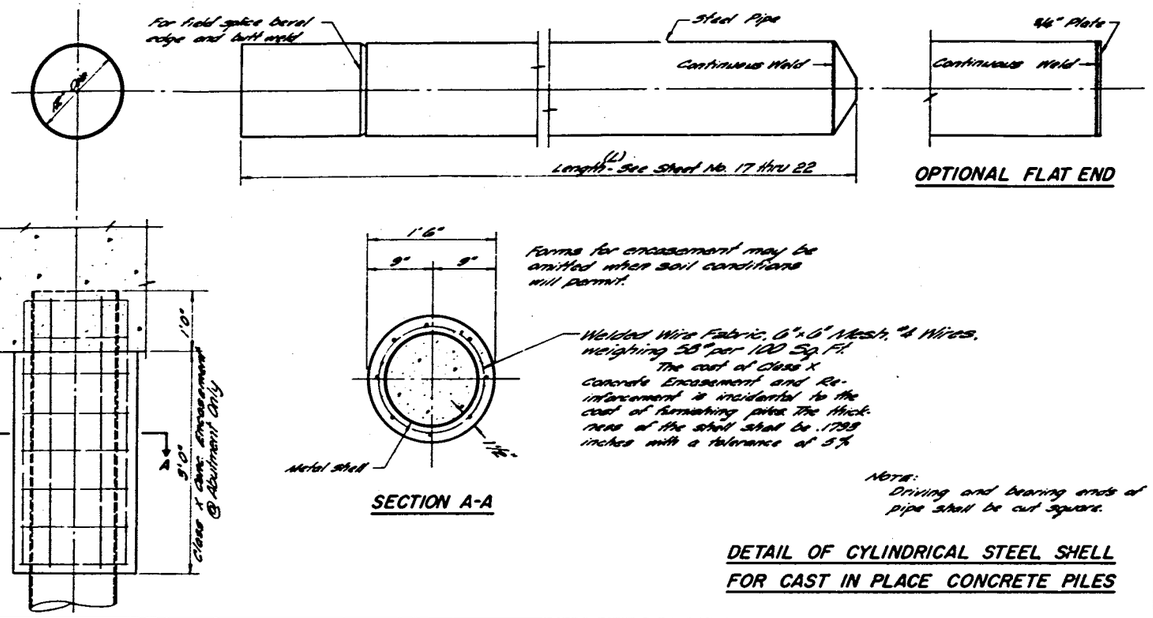
SECTION THRU DOOR FRAME

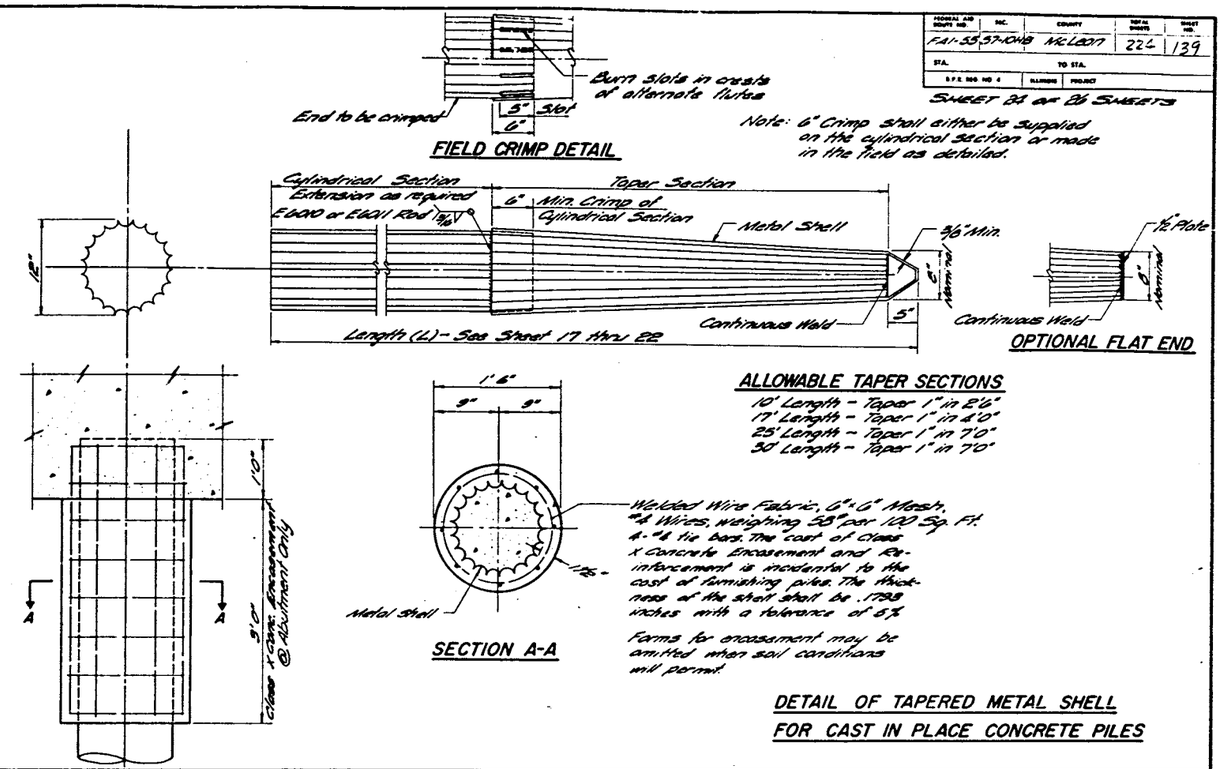
CURTAIN WALL

FAI ROUTE 55 SEC. 57-10HB

MC LEAN COUNTY

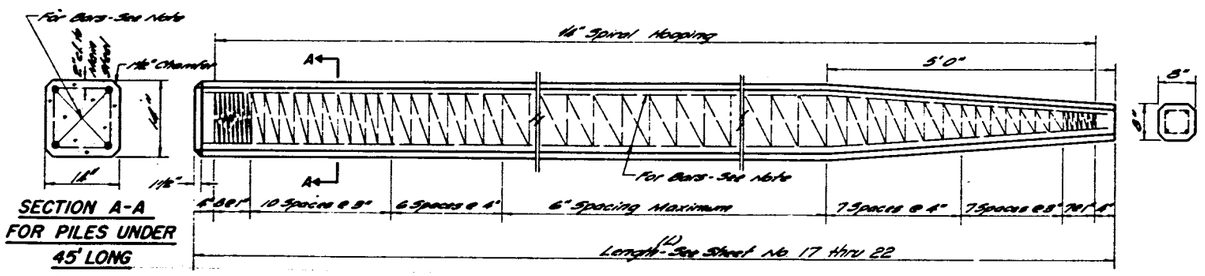
STATION 753+54.41

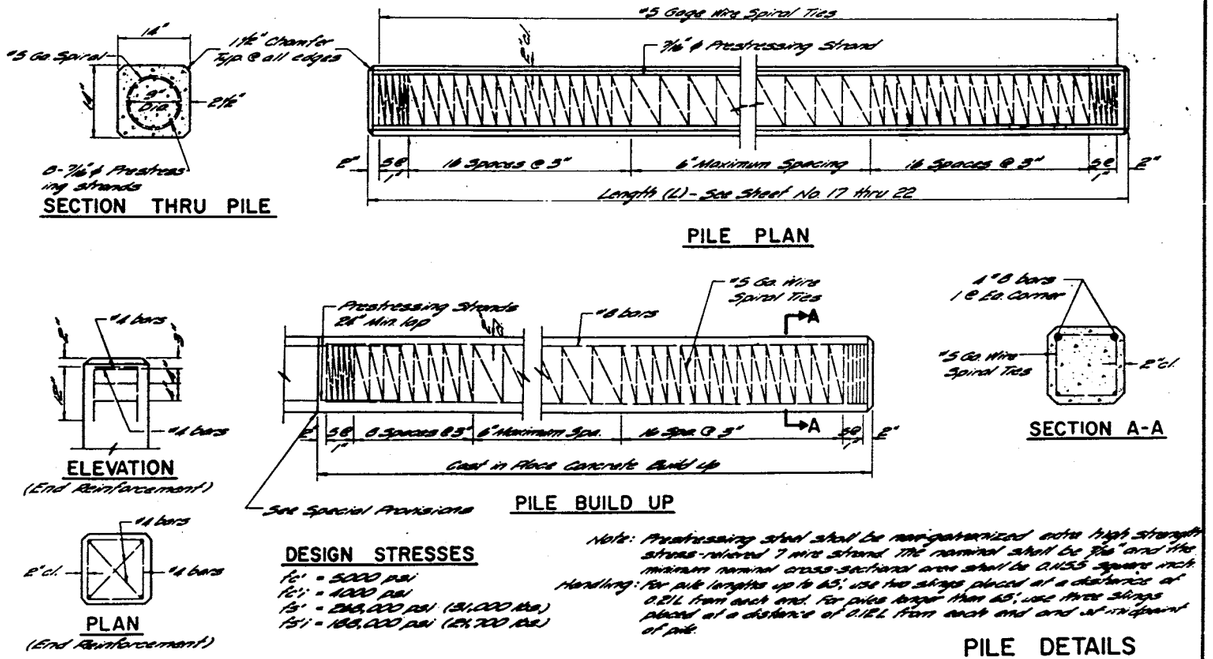




FEDERAL AID SHEET NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	57-10HB	MC LEAN	224	139
STA.		TO STA.		
B.F.P. SEQ. NO. 4	ILLINOIS	PROJECT		

SHEET 23 OF 26 SHEETS





DESIGN STRESSES

f'_c = 5000 psi
f'_{ci} = 4000 psi
f_s = 248,000 psi (31,000 kips)
f_{si} = 189,000 psi (24,300 kips)

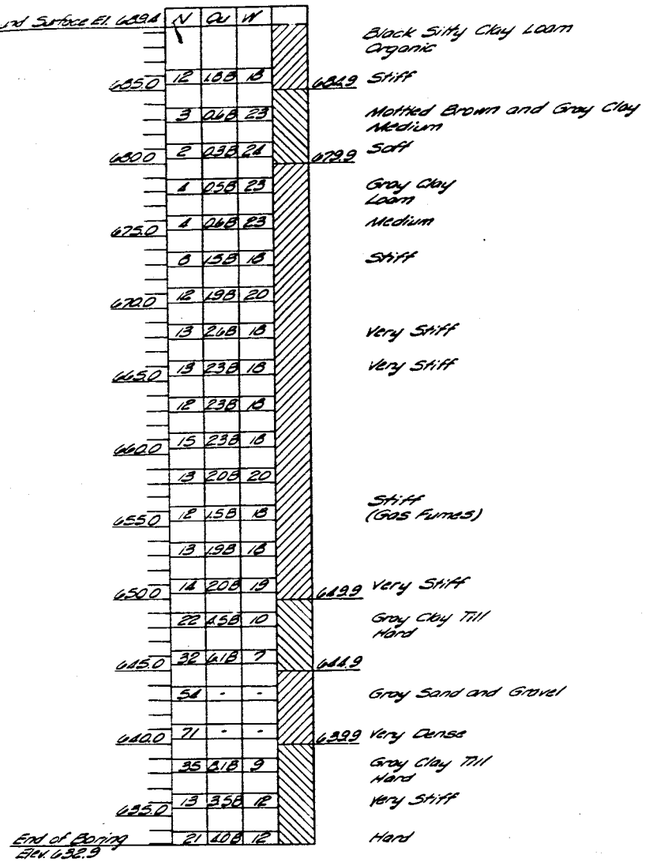
Note: Prestressing steel shall be non-galvanized extra high strength stress-relieved 7 wire strand. The nominal shell be 7/16" and the minimum nominal cross-sectional area shall be 0.1153 square inch

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

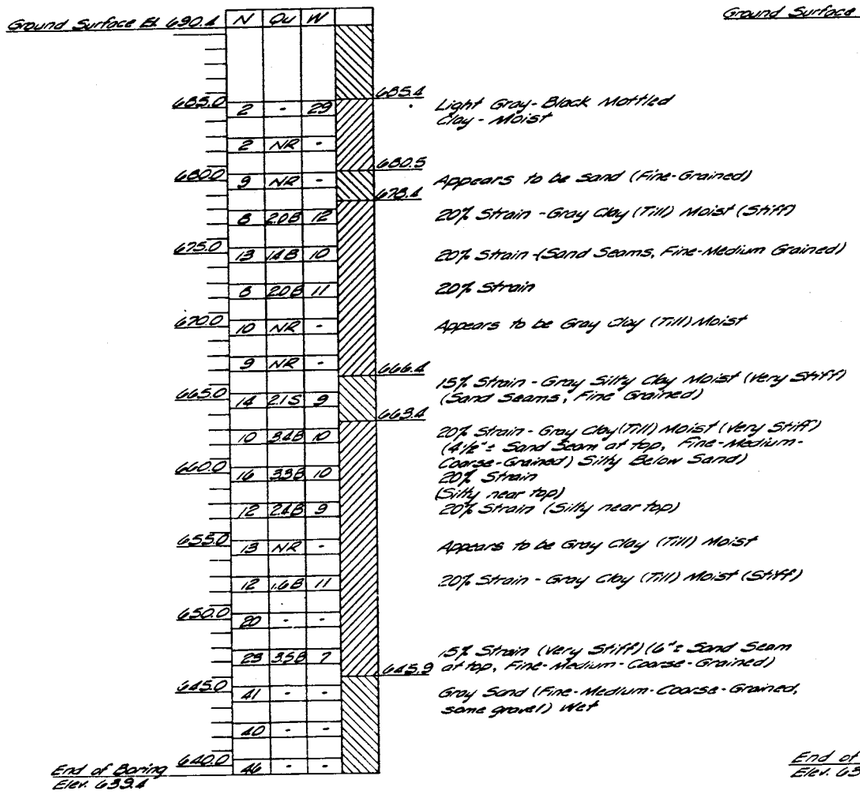
DETAIL OF PRECAST PRESTRESSED CONCRETE PILES

PILE DETAILS
FAI RT. 55 SEC. 57-10HB
MC LEAN COUNTY
STA. 753+54.41

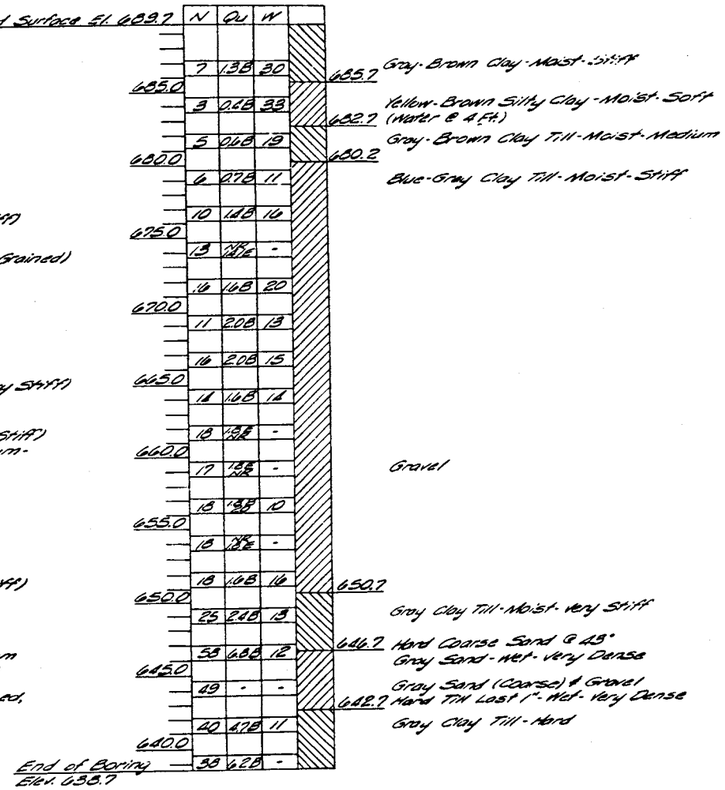
STA.
S.F.A. RTE. NO. 4
SHEET.



B-1
STA. 752 + 33
CL



B-2
STA. 752 + 73
8' RT. CL SB M.



B-3
STA. 753 + 80
CL SB M.

N - Standard Penetration Test - Blows per ft. to drive 2" O.D. Split Spoon Sampler 12" with 140# hammer falling 30".

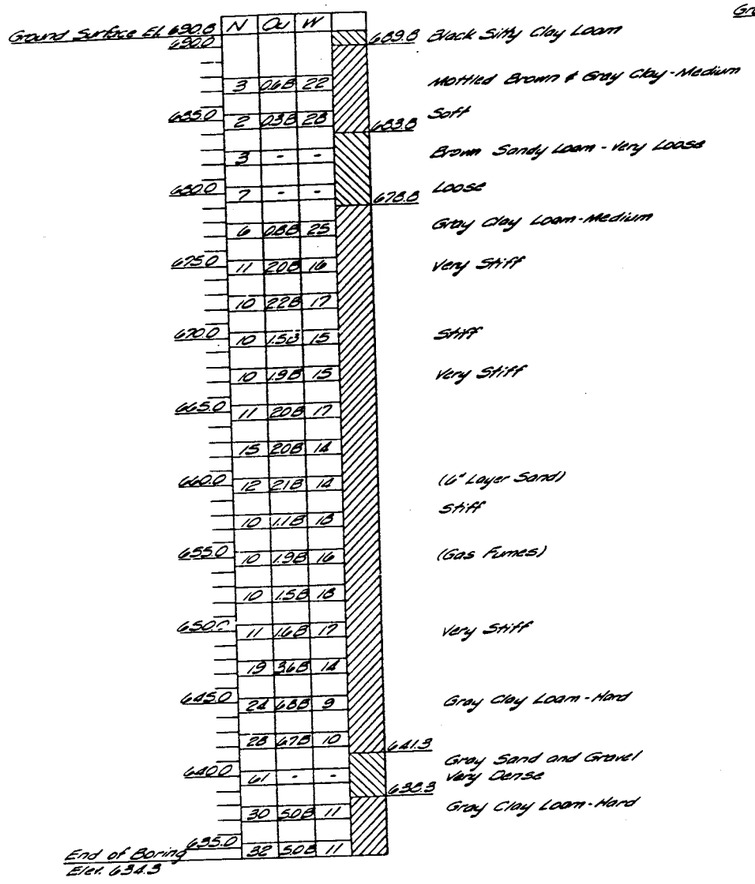
Qu - Unconfined Compressive Strength - Tons per Sq. Ft.

W - Water Content - percentage of Oven Dry Weight - %

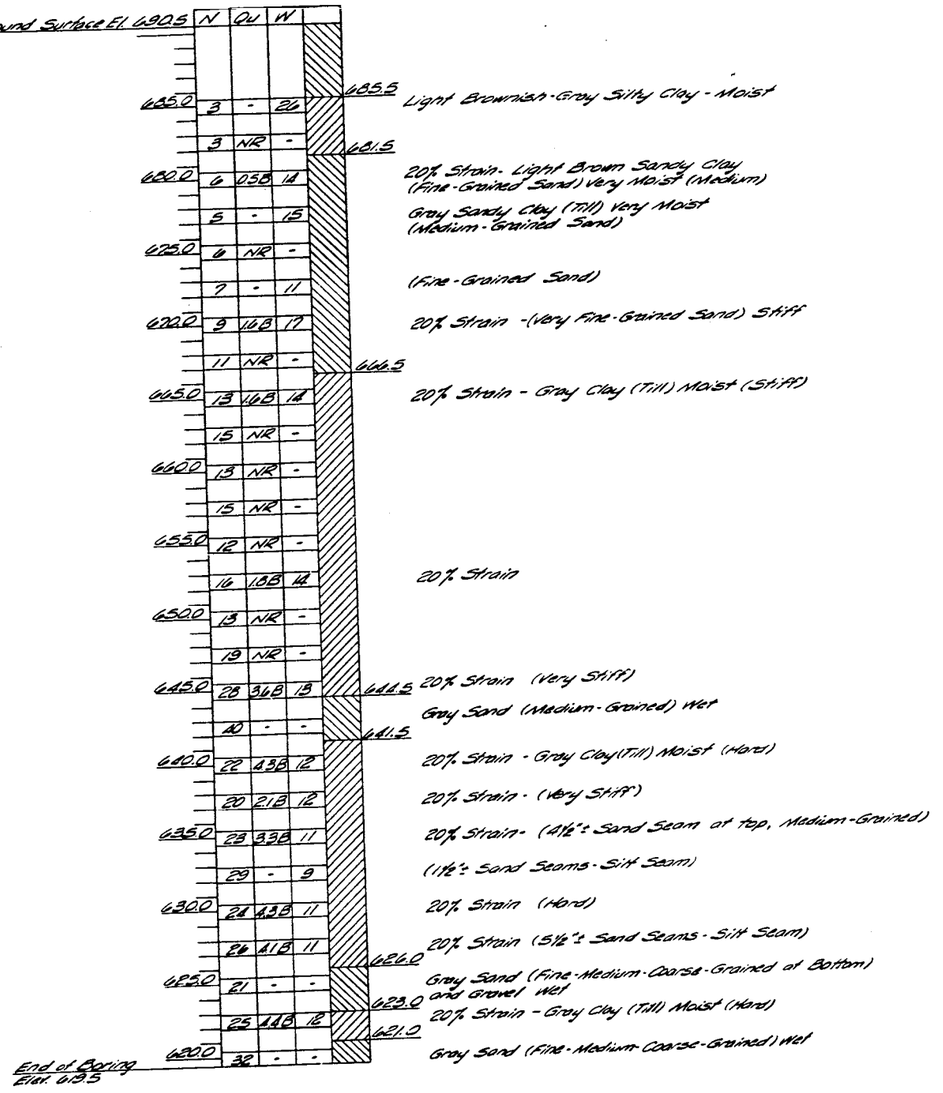
Type Failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value

BORING DATA

FAI ROUTE 55 SEC. 57-10HB
McLEAN COUNTY
STATION 753 + 54.41



B-4
STA. 753 + 28.69
CL



B-5
STA. 754 + 29
8' LT. CL NB ML

N - Standard Penetration Test - Blows per ft. to drive 2'0.0
Split Spoon Sampler 12" with 140 # hammer falling 30".

Qu - Unconfined Compressive Strength - Tons per Sq. Ft.

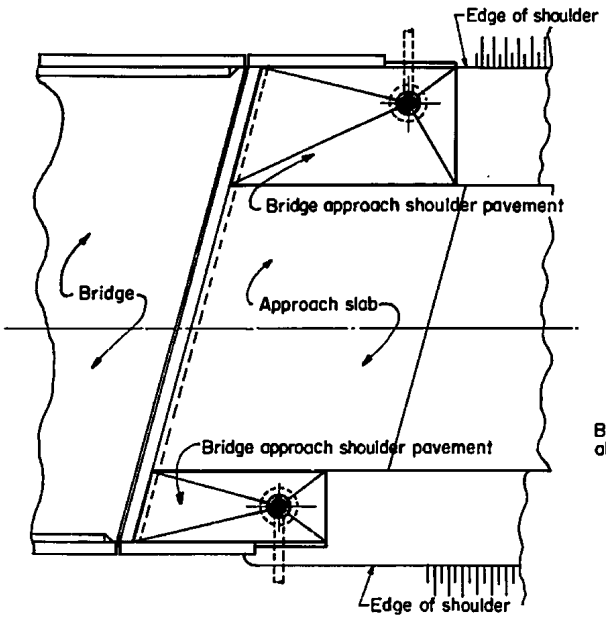
W - Water Content - percentage of Oven Dry Weight - %

Type Failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value

BORING DATA

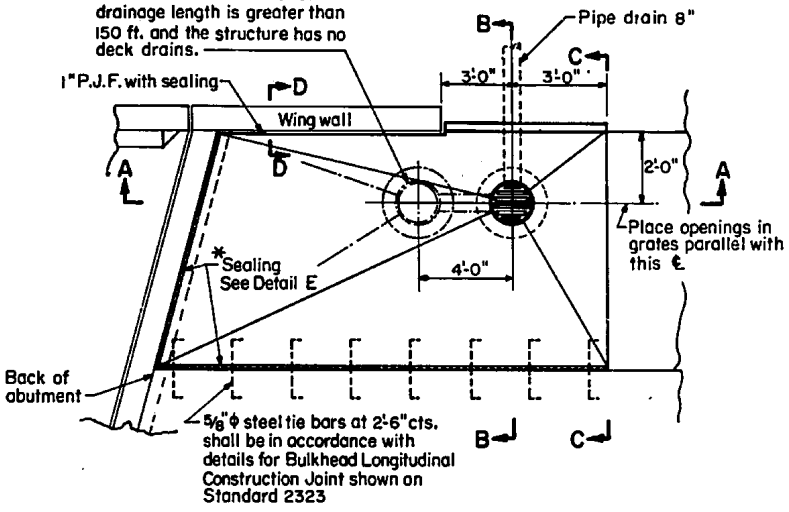
FAI ROUTE 55 SEC. 57-10HB
McLEAN COUNTY
STATION 753 + 54.41

STANDARD DESIGN
BRIDGE APPROACH SHOULDER PAVEMENT

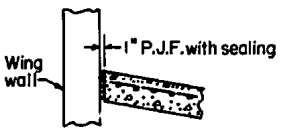


GENERAL PLAN

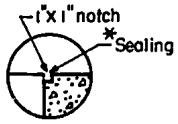
NOTE:
Use two inlets when the total drainage length is greater than 150 ft. and the structure has no deck drains.



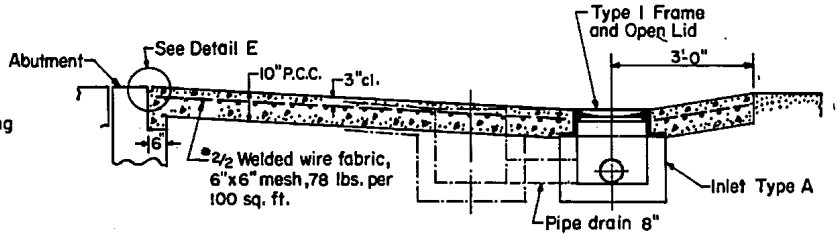
TYPICAL DETAIL PLAN



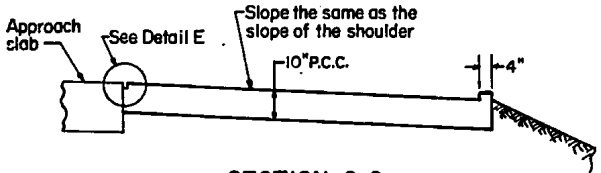
SECTION D-D



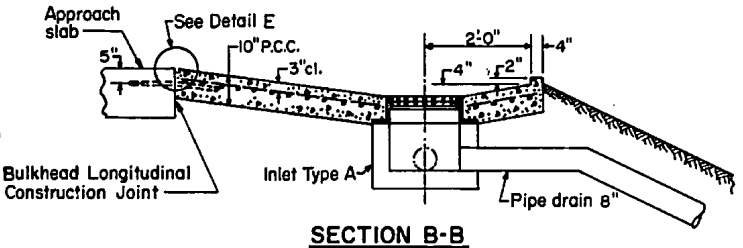
DETAIL E



SECTION A-A



SECTION C-C



SECTION B-B

The material for Pipe Drains 8" shall be either corrugated steel or aluminum alloy pipe.

Inlets and pipe drains will be paid for in accordance with the Standard Specifications.

Bridge approach shoulder pavement will be measured in square yards and paid for as P.C.CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT which shall include the cost of tie bars, reinforcement, joint fillers, and sealing.

GENERAL NOTES

* Where indicated, joints shall be sealed with two component, non-staining, gray, sealing compound with polysulfide liquid polymers, gun grade with primers.

See bridge approach slab plans for location of bridge approach shoulder pavement.

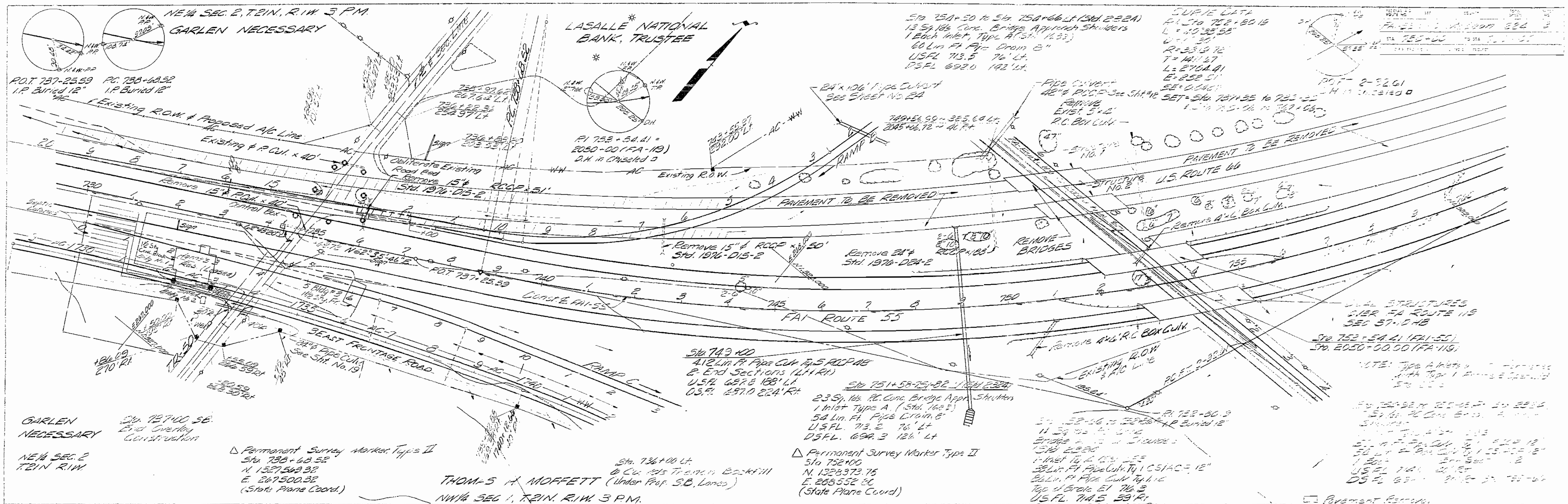
For placement of drainage elements on existing construction with existing rigid approach pavement, substitute expansion anchor bolts for tie bars. For non-rigid approaches, shoulder pavement will be as shown except omit tie bars and inside edge sealing.

For bridges with end posts partially or completely on superstructure, locate the center line of 8" drain pipe a minimum of 6 ft. behind the back of abutment measured as an extension of the outside superstructure edge. If end posts are completely on superstructure, use the outer 2"x 4" lip for full length of shoulder pavement.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 12-1-69	
	REVISIONS	
PASSED Aug. 1 1972	W.F.	12-1-69
Engineer of Road Plans And Contracts	W.F.	3-18-70
APPROVED Aug. 1 1972	W.F.	8-1-72
Engineer of Design		

STANDARD 2324-2

(Half size) W.F.



Sta. 754+50 to Sta. 754+66 Lt. (Std. 2324)
13 Sq. Yds. Conc. Bridge Approach Shoulders
1 Each Inlet, Type A (Std. 1633)
60 Lin. Ft. Pipe Drain 8"
USFL 713.5 76' Lt.
DSFL 692.0 142' Lt.

CURVE DATA
P.I. Sta. 752+80.19
Δ = 40°35'58"
D = 1°30'
R = 3819.72
T = 1411.27
L = 2704.41
E = 252.51
SE = 0.046
SET = Sta. 737+35 to 733-35
… Sta. 763+06 to 767+06

Sta. 749+00
412 Lin. Ft. Pipe Culv. Ty. 5 RCCP 48"
2- End Sections (Lt + Rt)
U.S.F.L. 697.8 188' Lt.
D.S.F.L. 697.0 224' Rt.

Sta. 751+58-751+82 Lt. (Std. 2324)
23 Sq. Yds. P.C. Conc. Bridge Appr. Shoulders
1 Inlet Type A. (Std. 1633)
54 Lin. Ft. Pipe Drain, 8"
U.S.F.L. 713.2 76' Lt.
D.S.F.L. 694.3 126' Lt.

Sta. 752-26 to 752+86 Rt.
11 Sq. Yds. P.C. Conc.
Bridge Appr. Shoulders
(Std. 2324)
1-Inlet Ty. A (Std. 1633)
38 Lin. Ft. Pipe Culv. Ty. 1 CSIACP 12"
86 Lin. Ft. Pipe Culv. Ty. 1 …
Top of Grate El. 716.3
U.S.F.L. 714.5 39' Rt.
D.S.F.L. 692.0 162' Rt.
1 Ea. End Section 12"

NOTE: Type A Inlets … with Type 1 … Std. …

Sta. 754+… Rt. … Sta. 2324
… Sq. Yds. PC Conc. Bridge Approach Shoulders
… Std. 1633
… Lin. Ft. Pipe Culv. Ty. 1 … 12"
38 Lin. Ft. Pipe Culv. Ty. 1 CSIACP 12"
1 Each End Section 12
USFL 714.1 … Rt.
DSFL … Rt. …

△ Permanent Survey Marker Type II
Sta. 738+68.52
N. 1327569.32
E. 267500.32
(State Plane Coord.)

△ Permanent Survey Marker Type II
Sta. 752+00
N. 1328373.75
E. 268552.80
(State Plane Coord.)

B.M. #10 ~ Elev. 705.53 ~ Top of R.O.W. Marker 203' Lt. Sta. 736+94
B.M. #9 ~ Elev. 694.29 ~ Chiseled □ on Top of unused Box Culv. Hdwl. 397' Lt. Sta. 754+33
B.M. #3 ~ Elev. 694.24 ~ Chiseled □ on unused 5'×6' Box Culv. 53' Rt. Sta. 751+02

■ Furnishing & Erecting R.O.W. Markers 6 each

Woven Wire Fence – ⊘

	Station	to	Station	Lin. Ft.
Lt.	730+00	–	2041+40 (FA 119)	1453
Lt.	749+07.39	–	760+00	1020
Rt.	730+00	–	2058+00 (FA 119)	3204
Rt.	758+97.50	–	760+00	124
			Total	5801 Lin. Ft.

NOTE:
For Interchange Plan & Profile See Sheets 24 & 25
For 3 East Frt. Rd. Plan & Profile See Sheets 19 & 20
For FA Rte. 119 Plan & Profile See Sheets 15-18
For Interchange Grading Plan See Sheets 28-31
For Section 57-10HB See Sheets 48-73

▥ Excelsior Blanket
Place 4' Width 80' Lt. 34' Rt.
On Low Side of S.E. Pavt.

Sta. 737+35 to Sta. 767+06 Rt. =	1,224	Sq. Yds.
Sta. 740+70 to Sta. 767+06 Lt. =	1,075	Sq. Yds.
Sta. 749+00 Rt. (Pipe Outlets 35' L.)	47	Sq. Yds.
Total	2,346	Sq. Yds.

APPROACH SLAB STD. 2138 METHOD II

	Reinforcement lbs.	Class X Conc. Cu. Yds.	10½-12-16½ Sq. Yds.
Sta. 751+40.87 to Sta. 752+01.34 Lt.	8637	2.18	133.6
Sta. 752+42.66 to Sta. 752+82.66 Rt.	8637	2.18	133.6
Sta. 754+24.40 to Sta. 754+64.40 Lt.	8637	2.18	133.6
Sta. 754+93.86 to Sta. 755+54.39 Rt.	8637	2.18	133.6
Total	34,550	8.72	534.4

Steel Plate Beam Guard Rail ~ Double Rail

Sta. 751+12 Median	25 Lin. Ft.
Sta. 754+90 Median	25 Lin. Ft.
Total	50 Lin. Ft.

Steel Plate Beam Guard Rail ~ Single Rail

Lt. SBL	Sta. 748+15.30	to	Sta. 751+65.30	350
Rt. NBL	Sta. 750+04.07	to	Sta. 753+04.07	300
Lt. SBL	Sta. 754+02.31	to	Sta. 757+02.31	300
Rt. NBL	Sta. 755+30.63	to	Sta. 758+30.63	300
Median Guardrail				300
			Total =	1550 Lin. Ft.

Terminal Sections

Sta. 748+15.30 Lt.	1 Each
Sta. 750+04.07 Rt.	1 Each
Sta. 754+02.31 Lt.	1 Each
Sta. 755+30.63 Rt.	1 Each
	4 Each

LUG SYSTEM COMPLETE

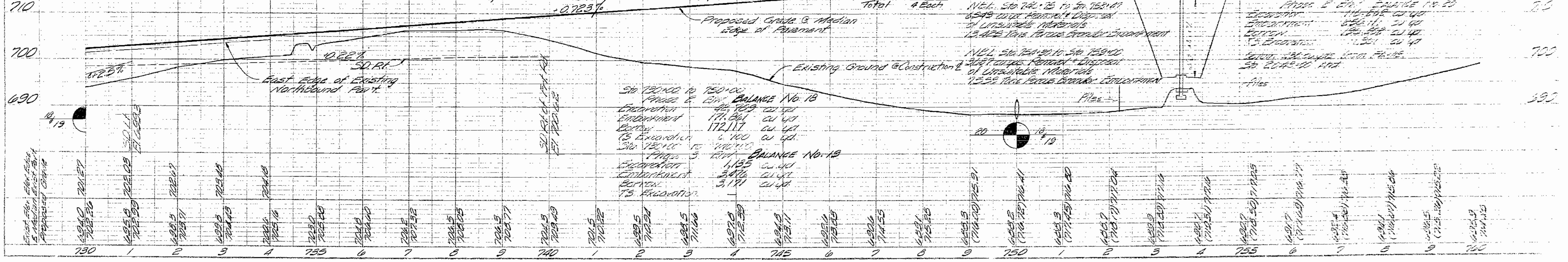
Sta. 750+83.87 to Sta. 751+40.87 Lt.	1 Each
Sta. 751+85.66 to Sta. 752+42.66 Rt.	1 Each
Sta. 754+64.40 to Sta. 755+21.40 Lt.	1 Each
Sta. 755+54.39 to Sta. 756+11.39 Rt.	1 Each
Total	4 Each

1 Ea. Removal of Existing Structures No. 1
1 Ea. Removal of Existing Structures No. 2

☐ Pavement Removal
Sta. 733+… to Sta. 739+50 … Sq. Yds.
Remove Exist. N.B. Pavt.
Sta. 735+30 Lt.
… Sq. Yds.

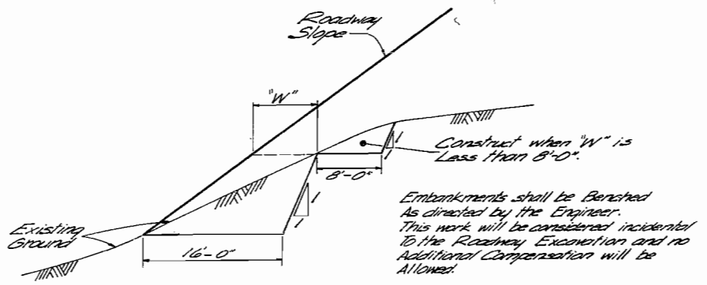
S.B.L. Sta. … to Sta. …
… Cu. Yds. Removal & Disposal of Unsuitable Material
… Tons Porous Gran. Emb.

S.B.L. Sta. … to Sta. …
… Cu. Yds. Removal & Disposal of Unsuitable Material
… Tons Porous Gran. Emb.



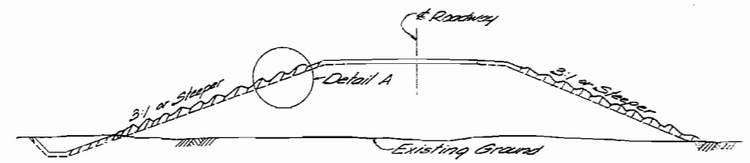
K-E PLATE 1, PLAN-PROFILE

FEDERAL AID ROUTE NO.	SEC	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55 57-10		McLean	224	41
STA.		TO STA.		
B.R.S. RTE NO. 4		ILLINOIS PROJECT		



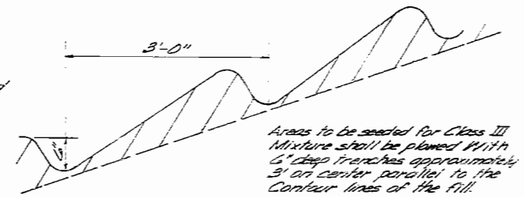
Embankments shall be Benched As directed by the Engineer. This work will be considered incidental to the Roadway Excavation and no additional Compensation will be Allowed.

EMBANKMENT BENCHING DETAIL



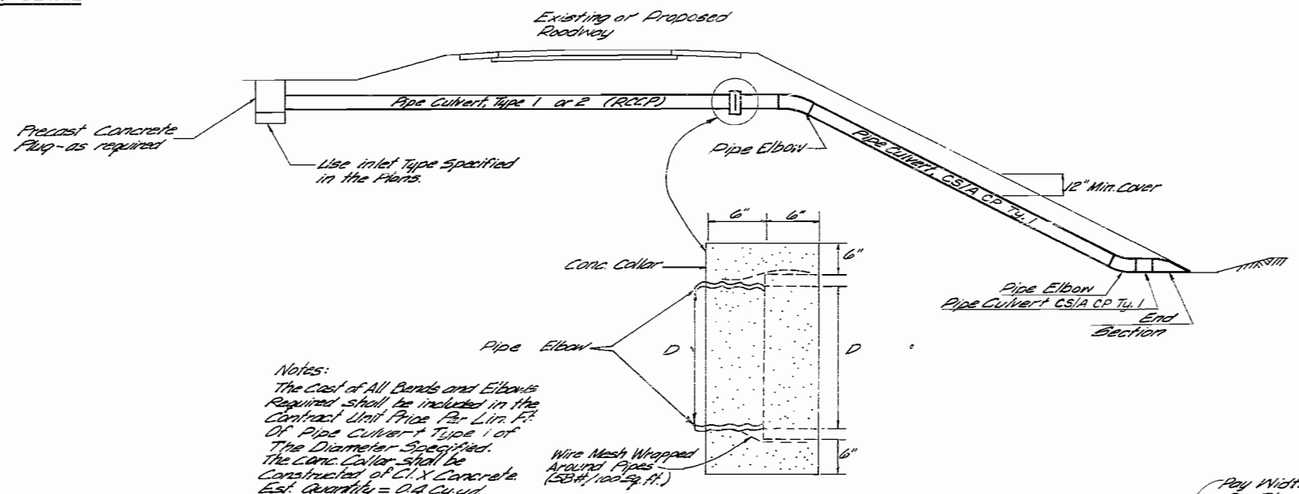
Class III Seeding

Note: Class I seeding to be used Where the slope is flatter than 3:1.



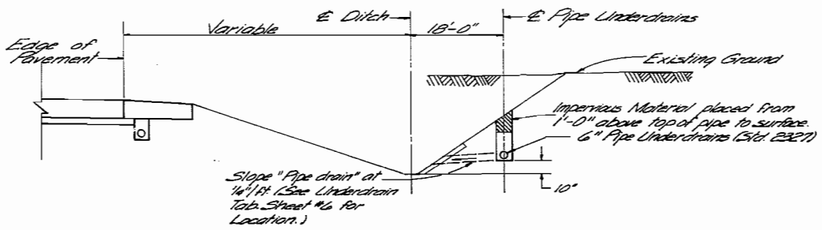
Areas to be seeded for Class III Mixture shall be plowed With 6" deep trenches approximately 3' on center parallel to the Contour lines of the fill.

SEEDING DETAIL

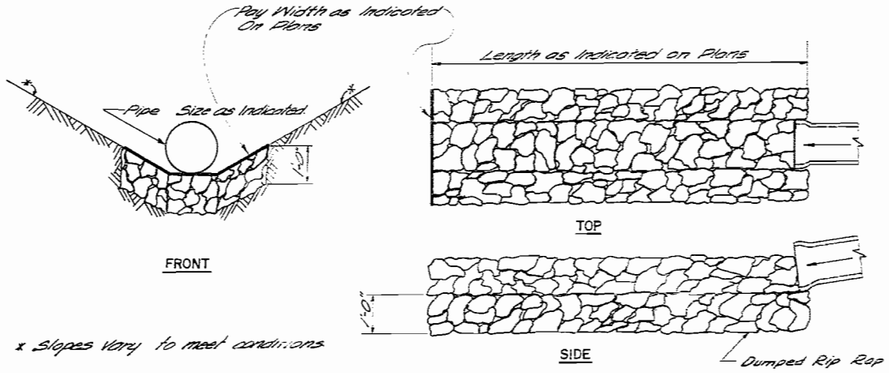


Notes:
The cost of All Bends and Elbows Required shall be included in the Contract Unit Price Per Lin. Ft. Of Pipe Culvert Type I of The Diameter Specified.
The Conc. Collar shall be Constructed of Cl. X Concrete.
Est. Quantity = 0.4 Cu. yd.
The cost of the Wire Mesh Shall be Considered as Incidental to Cl. X Conc. and no additional compensation will be allowed.
Pay Item: Cu. Yd. of Cl. X Concrete For Headwalls

DETAIL OF MEDIAN SLOPE DRAIN

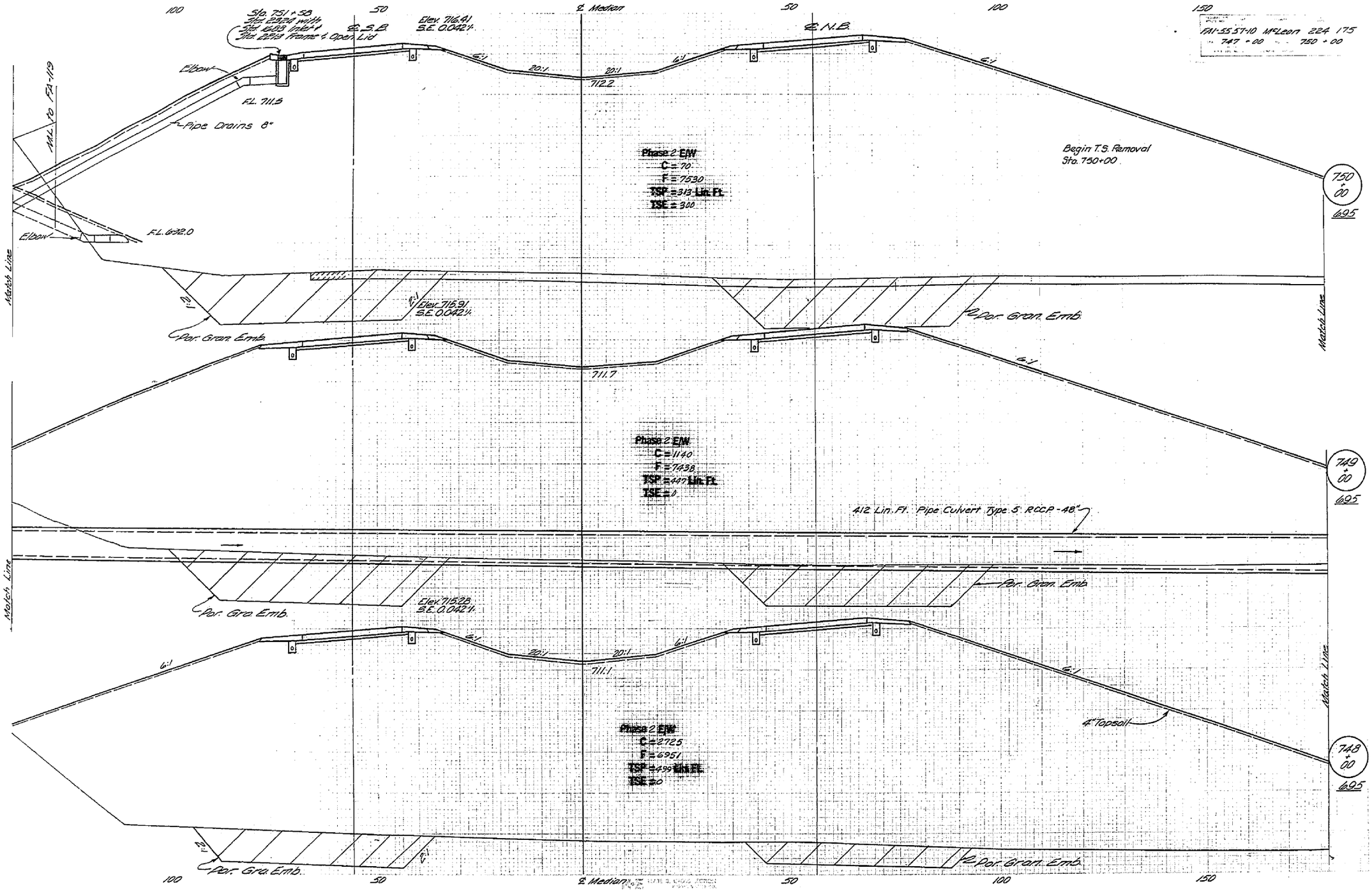


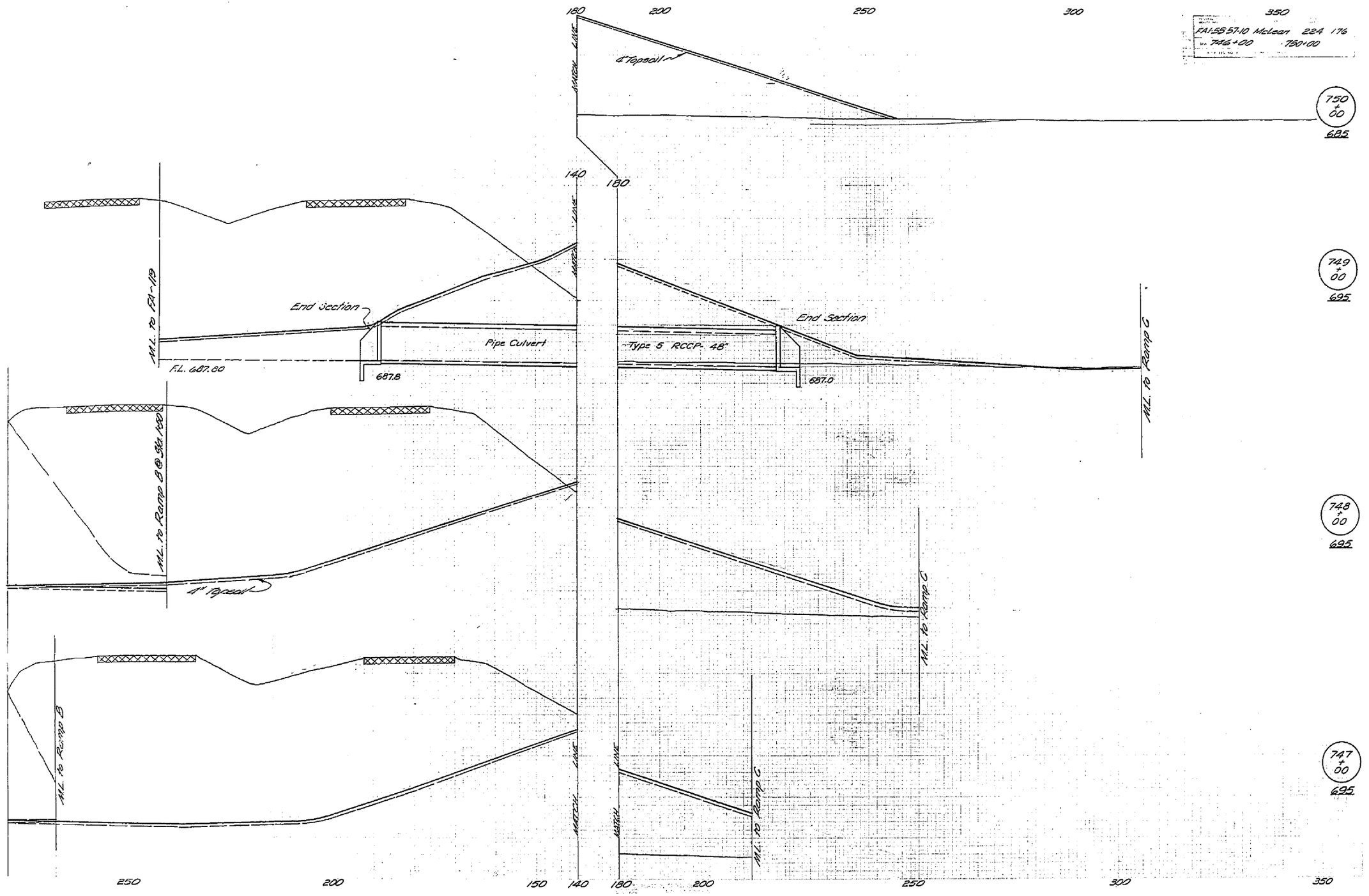
SUB-SURFACE DRAINAGE FOR SEEPAGE CONTROL
SEE SHEET 7 FOR TABULATION

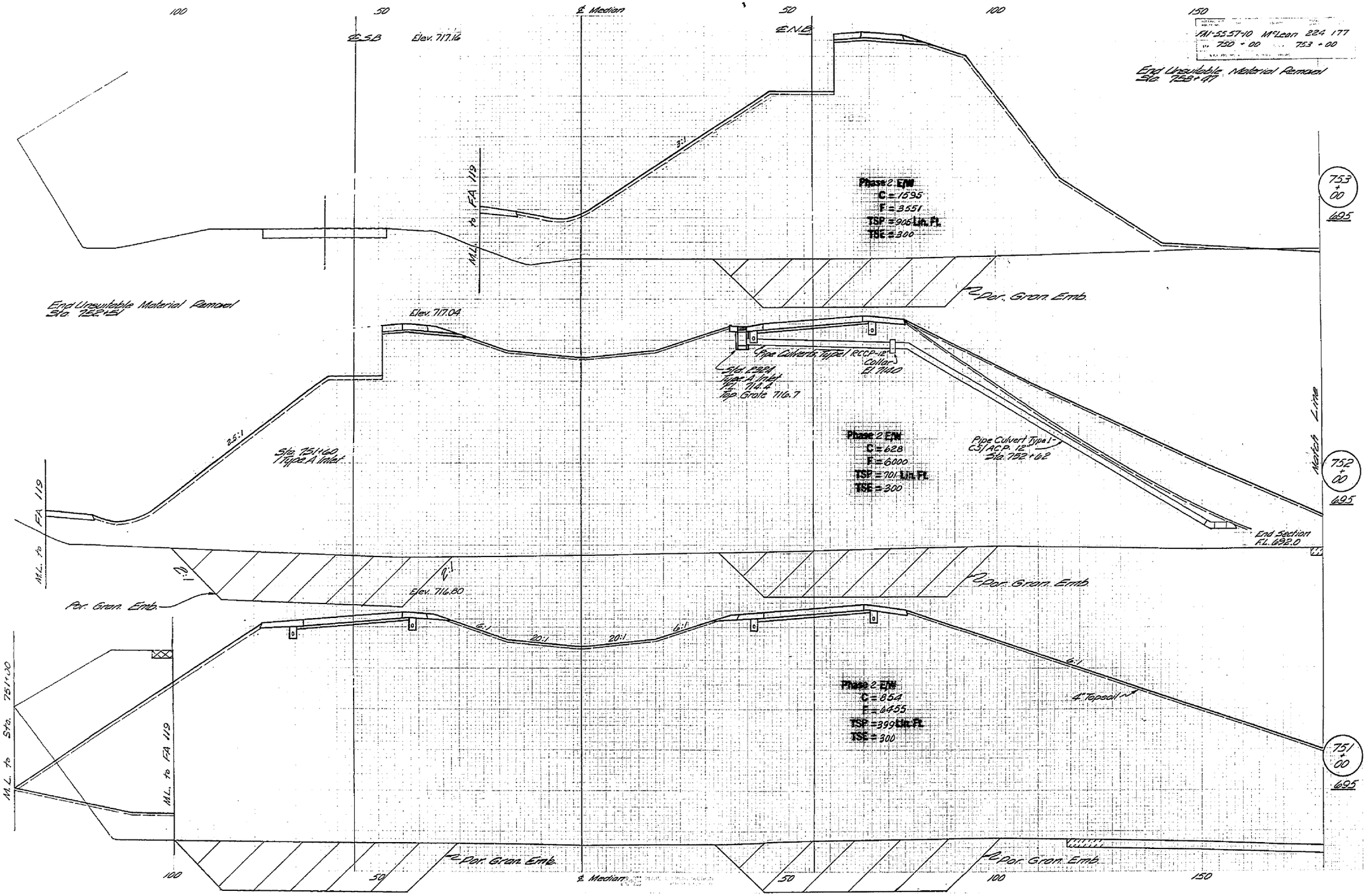


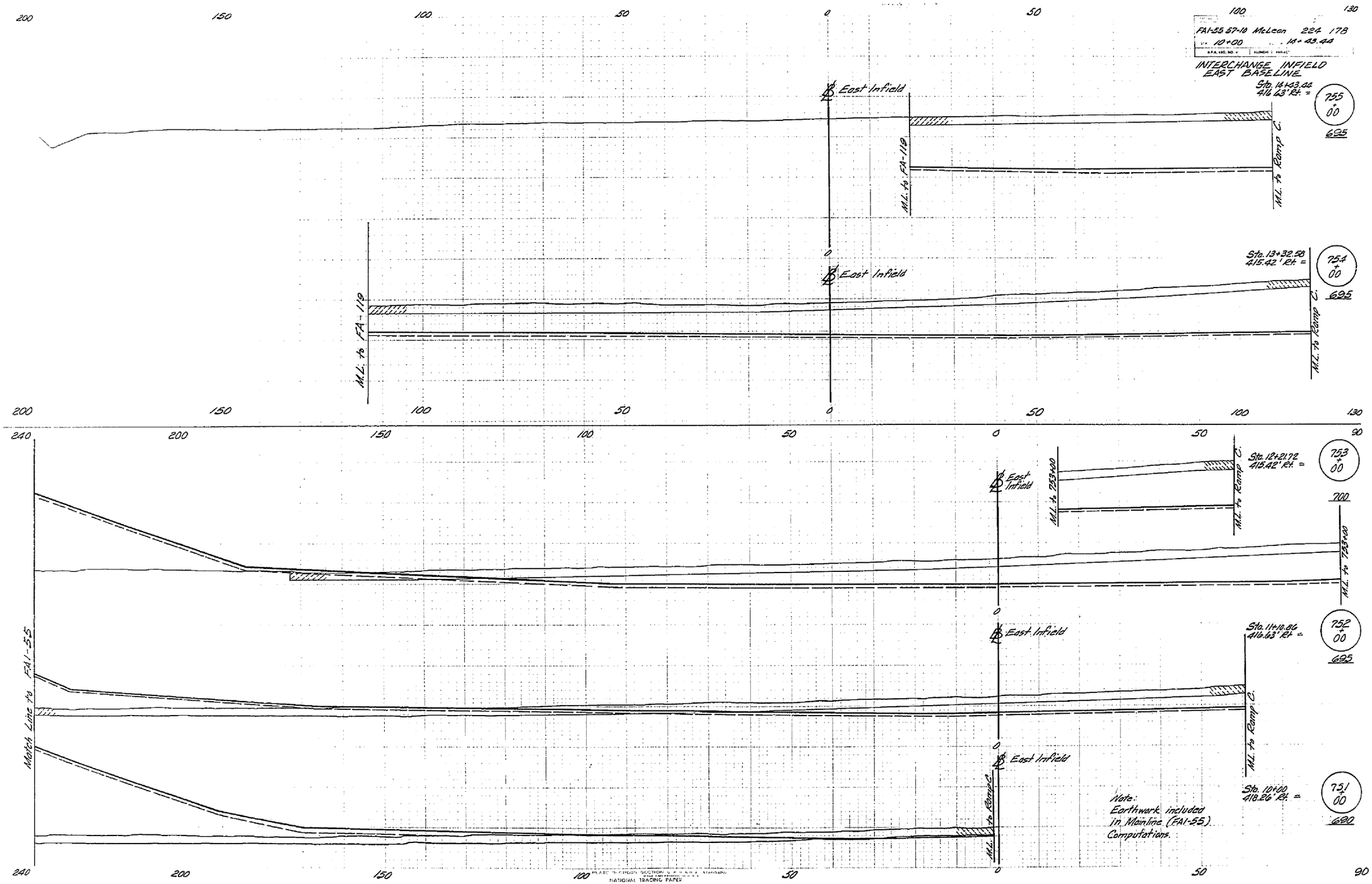
EROSION CONTROL OF CULVERT OUTLETS WITH DUMPED RIP RAP

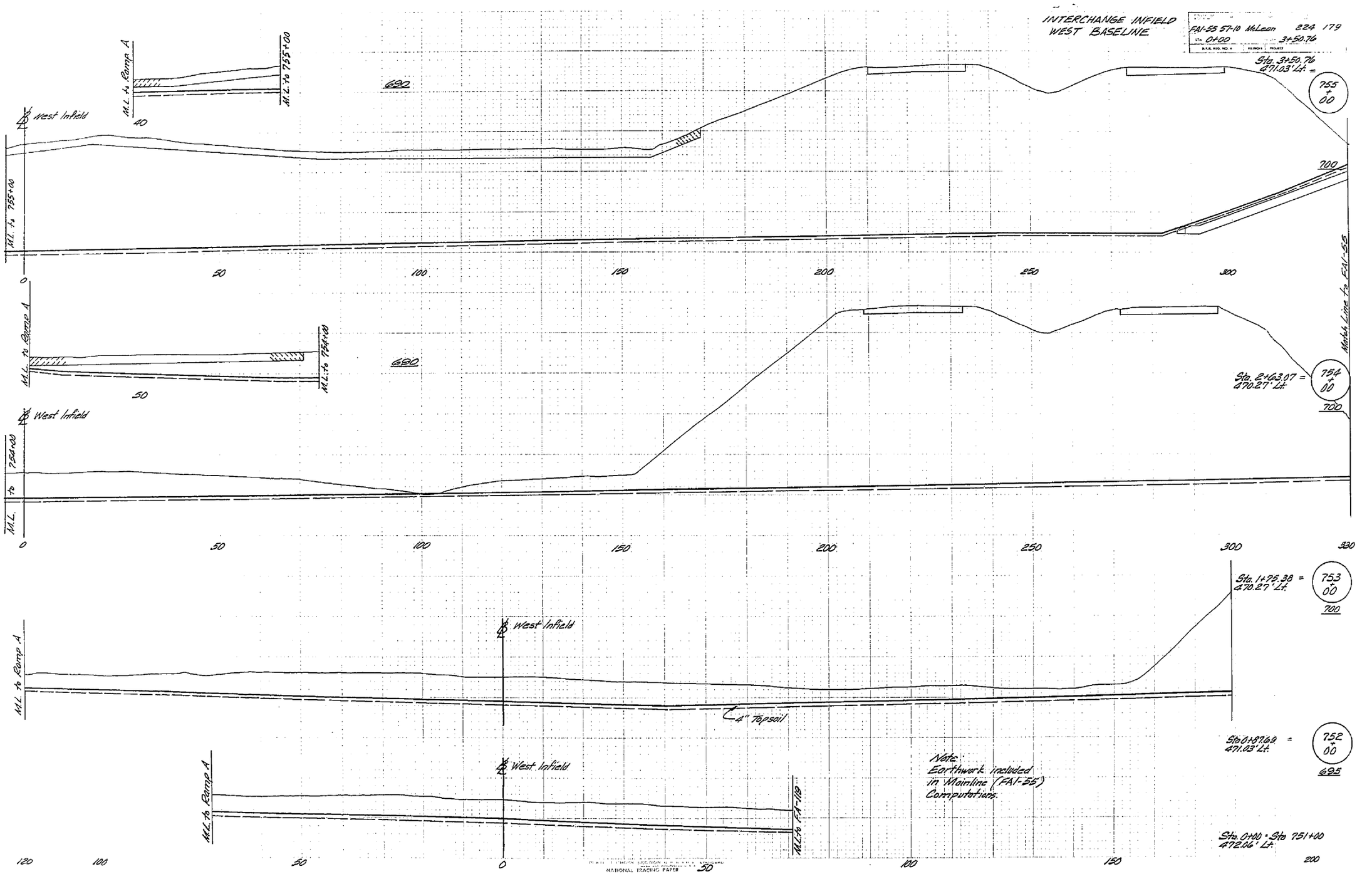
MISCELLANEOUS DETAILS
FAI-55 SECTION 57-10
McLEAN COUNTY


100
50
℄ Median
50
100
150
Sta. 751+58
Sta. 6878 with
Sta. 6883 Inlet
Sta. 2813 Frame & Open Lid
℄ S.B.
Elev. 716.41
S.E. 0.042 ft.
℄ N.B.
FAI-55 ST-10 McLean 224 175
747+00 — 750+00
Elbow
FL. 711.5
Pipe Drains 8"
MAL to FA-119
Elbow
F.L. 692.0
6:1
20:1
712.2
Phase 2 E/W
C = 70
F = 7530
TSP = 313 Lin. Ft.
TSE = 300
Begin T.S. Removal
Sta. 750+00
750 + 00
695
Match Line
Elev. 715.91
S.E. 0.042 ft.
Por. Gran. Emb.
711.7
Phase 2 E/W
C = 1140
F = 7438
TSP = 447 Lin. Ft.
TSE = 0
749 + 00
695
412 Lin. Ft. Pipe Culvert Type 5 RCCP - 48"
Elev. 715.28
S.E. 0.042 ft.
Por. Gra. Emb.
711.1
Phase 2 E/W
C = 2725
F = 6951
TSP = 499 Lin. Ft.
TSE = 0
4" Topsoil
748 + 00
695
2:1
100
50
℄ Median
50
100
150


180
200
250
300
350
FA1-55 57.10 McLean 224 176
sta. 746+00
750+00
4" Topsoil
MATCH LINE
750 + 00
685
140
180
749 + 00
695
End Section
Pipe Culvert
Type S RCCP 48"
End Section
F.L. 687.80
687.8
687.0
ALL to FA-129
ALL to Ramp C
ALL to Ramp B @ Sta 100
4" Topsoil
748 + 00
695
ALL to Ramp B
ALL to Ramp C
747 + 00
695
250
200
150
140
180
200
250
300
350

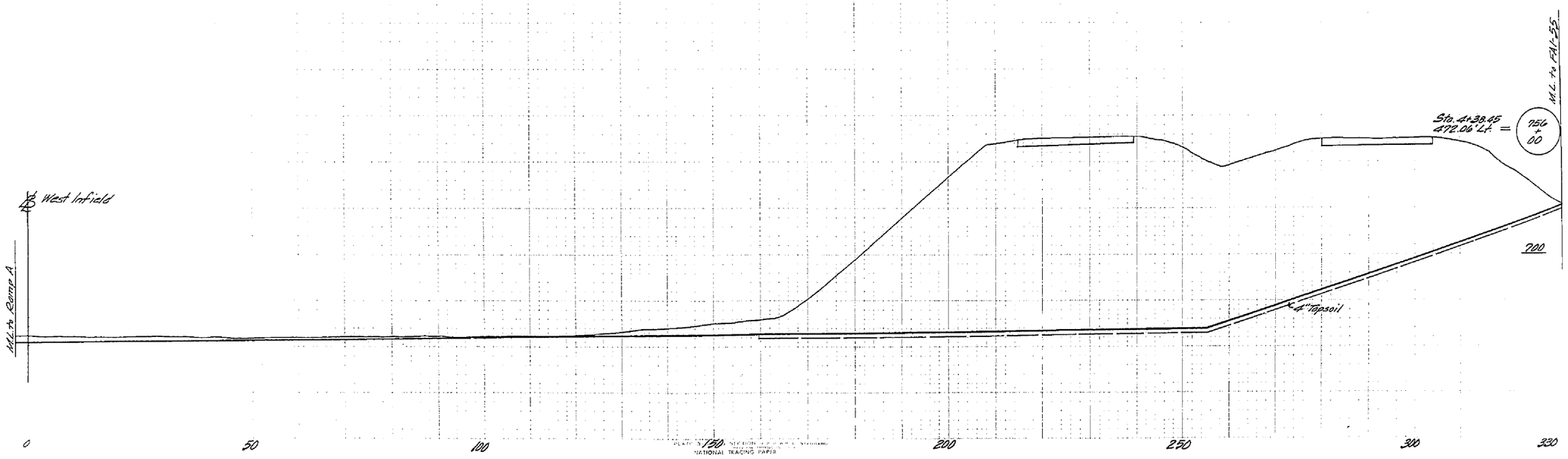

100
50
℄ Median
50
100
150
℄ S.B
Elev. 717.16
E.N.B
AI-5557-10 M°Lean 224 177
Sta. 750 + 00 753 + 00
End Unsuitable Material Removal
Sta. 753+47
Phase 2 E/W
C = 1595
F = 3551
TSP = 906 Lin. Ft.
TSE = 300
753 + 00
695
M.L. to FA 119
2 Por. Gran. Emb.
End Unsuitable Material Removal
Sta. 752+25
Elev. 717.04
Pipe Culverts, Type I RCCP-12" Collar @ 714.0
Sta. 752+31 Type A Inlet FL 714.2 Top Grate 716.7
Phase 2 E/W
C = 628
F = 6000
TSP = 701 Lin. Ft.
TSE = 300
Pipe Culvert Type I C.S./ACP. 12" Sta. 752+62
25:1
Sta. 751+60 Type A Inlet
North Line
752 + 00
695
End Section FL. 692.0
M.L. to FA 119
2:1
4:1
Elev. 716.80
2 Por. Gran. Emb.
Por. Gran. Emb.
6:1
20:1
20:1
6:1
6:1
4" Topsoil
Phase 2 E/W
C = 854
F = 6455
TSP = 399 Lin. Ft.
TSE = 300
751 + 00
695
M.L. to Sta. 751+00
M.L. to FA 119
2 Por. Gran. Emb.
2 Por. Gran. Emb.
100
50
℄ Median
50
100
150

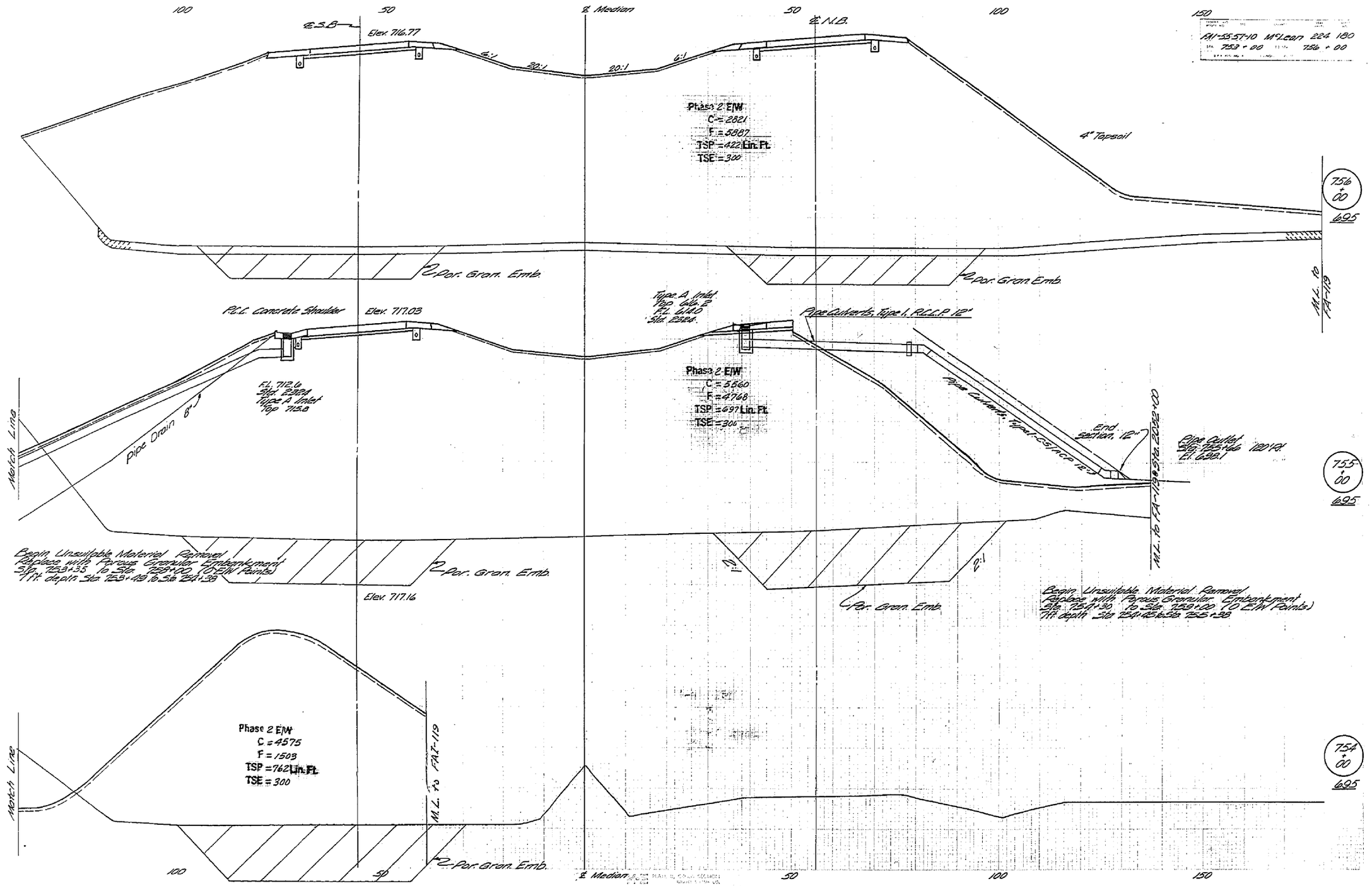

FAI-55 57-10 McLean 224 178
10+00 14+43.44
INTERCHANGE INFIELD
EAST BASELINE
Sta. 14+43.44
416.23' Rt. =
755 + 00
625
East Infield
M.L. to FA-119
M.L. to Ramp C
Sta. 13+32.58
415.42' Rt. =
754 + 00
625
753+00
700
Sta. 12+21.72
415.42' Rt. =
753 + 00
700
Sta. 11+10.86
416.63' Rt. =
752 + 00
695
Sta. 10+00
418.26' Rt. =
751 + 00
690
Match Line to FAI-55
Note:
Earthwork included
in Mainline (FAI-55)
Computations.
200
150
100
50
0
50
100
130
240
90


INTERCHANGE INFIELD
WEST BASELINE
FAI-55 57-10 McLean 224 179
Sta. 0+00 3+50.76
Sta. 3+50.76
471.03' Lt. =
755
+
00
700
M.L. to Ramp A
M.L. to 755+00
680
40
West Infield
M.L. to 755+00
0
50
100
150
200
250
300
Match Line to FAI-55
M.L. to Ramp A
M.L. to 754+00
680
50
Sta. 2+63.07 =
470.27' Lt.
754
+
00
700
West Infield
M.L. to 754+00
M.L.
0
50
100
150
200
250
300
330
Sta. 1+75.38 =
470.27' Lt.
753
+
00
700
M.L. to Ramp A
West Infield
4" Topsoil
Sta 0+87.69 =
471.03' Lt.
752
+
00
695
M.L. to Ramp A
West Infield
M.L. to FAI-118
Note:
Earthwork included
in Mainline (FAI-55)
Computations.
Sta. 0+00 - Sta 751+00
472.06' Lt.
120
100
50
0
50
100
150
200
NATIONAL GRAPHIC PAPER

FAI-55 57-10 McLean 224 179A
Sta. 4+38.85

INTERCHANGE INFIELD
WEST BASELINE




100
50
℄ Median
50
100
150
℄ S.B.
Elev. 716.77
℄ N.B.
FAI-55 ST-10 McLean 224 180
Sta. 753 + 00 756 + 00
6:1
20:1
20:1
6:1
4" Topsoil
Phase 2 E/W
C = 2821
F = 5987
TSP = 422 Lin. Ft.
TSE = 300
2 Per. Gran. Emb.
2 Per. Gran Emb.
M.L. to FAI-119
756 + 00
695
R.C. Concrete Shoulder
Elev. 717.03
Type A Inlet
Top 716.2
Fl. 712.40
Sta. 2584
Pipe Culverts, Type I, R.C.C.P. 12"
Phase 2 E/W
C = 5560
F = 4768
TSP = 697 Lin. Ft.
TSE = 306
Fl. 712.6
Sta. 2584
Type A Inlet
Top 715.8
Pipe Drain 6"
Match Line
Pipe Culverts, Type I, R.C.C.P. 12"
End Section, 12"
Pipe Outlet
Sta. 755+46 180 Rt.
Fl. 698.1
755 + 00
695
Begin Unsuitable Material Removal
Replace with Porous Granular Embankment
Sta. 753+35 to Sta. 753+00 (10 E/W Points)
Max. depth Sta 753+43 to Sta 754+38
2 Per. Gran. Emb.
Elev. 717.16
2:1
2:1
2 Per. Gran. Emb.
Begin Unsuitable Material Removal
Replace with Porous Granular Embankment
Sta. 753+30 to Sta. 753+00 (10 E/W Points)
Max. depth Sta 754+62 to Sta 753+98
Phase 2 E/W
C = 4575
F = 1503
TSP = 762 Lin. Ft.
TSE = 300
M.L. to FAI-119
Match Line
754 + 00
695
100
50
℄ Median
50
100
150